

Construction Observations Guidelines



**Town of Alton
New Hampshire
Guidelines Dated**



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1.0 MUNICIPAL AUTHORITY

The "Construction Observation Guidelines (COG)" document has been specifically prepared for the Town of Alton municipal construction observation services. The **Municipal Authority** section will briefly discuss the intended COG's authority, adoption and purpose.

1.1 Authority

Under the authority vested in the Alton Planning Board by vote of the Town Meeting on March 14, 1967 and in accordance with Chapter 674, Section 43 and 43, N.H. Revised Statutes Annotated, as amended, the Alton Planning Board adopts the following guidelines governing **Construction Observations** in the Town of Alton.

1.2 Adoption

These guidelines shall be adopted and known as the Town of Alton Construction Observations Guidelines (COG), and hereinafter referred to as "COG" with direct applicability and supportive municipal regulatory content in specific support and supplementation to both the Site Plan Review and Subdivision Regulations.

1.3 Purpose

The COG's purpose is to provide municipal construction observation guidance through specific standardized structure, organization and functionality for all planning board approved land development projects in the Town of Alton requiring municipal observations. Whether public, private, internal or external clients, all municipal construction observation services shall be performed with uniformity, consistency and efficiency, providing the highest quality service possible. Construction observations shall be performed by competent, experienced and trained individuals mentored and managed by senior staff representatives having proven successful experience in engineering and construction.

These COGs are provided to insure compliance with orderly and planned growth of undeveloped areas within the Town of Alton, to foster economically and environmentally sound land development, to insure a stable community, safeguard and protect the public's interests, while protecting Alton taxpayer's from the consequences of non-compliant construction practices

The three (3) main tenants of responsible constructions observations are as follows:

1. Compliance with all applicable approved municipal documents, state and federal permits as well as accepted municipal, state and federal construction regulatory guidelines/specifications
2. Protection and preservation of human life and public safety.
3. Protection and preservation of private and public lands, including but not limited to property values and aesthetic, historical, natural & environmental sensitive areas.

2.0 GLOSSARY OF TERMS & NOMENCLATURE

- ❑ Administrator: Town of Alton Administrator.
- ❑ Approved Plans: Complete set of drawings demonstrating the overall proposed improvements design intent and layout prepared by a licensed professional and approved/signed by the Town of Alton Planning Board Chairperson.
- ❑ As-Built Plans: Drawing or Drawings documenting completed construction elements, confirming actual installed location, elevation and design information.
- ❑ Base Pavement: Bottom course of hot bituminous pavement, as defined by NHDOT.
- ❑ Bituminous Curb: Hot bituminous asphalt curb machine placed with a form, typically placed on base course pavement, prior to wearing course pavement, shape and form varies, depending on specific application.
- ❑ Blue Top: Vertical grade field marker usually used in a roadway or large areas to indicate desired finish grade.
- ❑ BMP: Acronym for “Best Management Practices”, which relates to common soil erosion and sediment control devices, measures and practices, as defined in the NH Stormwater Manual, latest edition.
- ❑ Borrow: Material from outside the limit of work, typically hauled onto the project from an off-site source.
- ❑ Cape Code Bern: Specific shape of formed hot bituminous asphalt along roadway sections typically placed on base course, prior to wearing course pavement.
- ❑ Catch Basin: Circular 4.0 ft diameter precast concrete drainage structure capable of conveying stormwater from pipe to pipe within a closed drainage system, having a 2.0 ft minimum sump and a cast iron casting frame & grate set at finish grade.
- ❑ Clearing & Grubbing: Removal of organic materials within the limit of work.
- ❑ Client: Individual, Municipality or Entity mutually under contract with municipal engineer specifically to provide/perform construction observations.
- ❑ Contractor: Company, Entity or Person representing the Owner/Developer responsible for construction of the proposed land improvements in accordance with the approved plans and specifications.
- ❑ Construction Layout: Establishment and maintenance of all horizontal and vertical survey control points, bench marks and structure locations to assure that all improvements will conform to the locations, lines, levels and grades indicated on the approved plans.
- ❑ Construction Observation Agreement (COA): Written agreement defining municipal construction observation project specific scope, estimated escrow and COR.
- ❑ Construction Observation Escrow (COE): Funds provided by the Owner/Develop/Applicant to the Town of Alton to pay for all municipal construction observations services.
- ❑ Construction Observation Representative (COR): Individual responsible for construction observations, as specified in the CO agreement.

- ❑ Construction Sign: An information placard or device, as defined by the “Manual on Uniform Traffic Control Devices” for the purpose of informing, warning or advising the general public of construction activities.
- ❑ Construction Standards: Document(s) or Drawing(s) containing instructions, specifications and relative information pertaining to construction directives or details.
- ❑ Corporation Stop: A mechanical fitting attached to the exterior of water main pipe, for the purpose of small diameter water service.
- ❑ Crushed Gravel: Processed sand and stone material, typically meeting the gradation criteria of NHDOT item number 304.3.
- ❑ Crushed Gravel Grade: Crushed gravel material placed, shaped, graded and compacted to the specific horizontal and vertical specification indicated on the approved plans.
- ❑ Curb Stop: A mechanical valve installed within a typical domestic water service, usually located at the right of way demarcation.
- ❑ Cut: Material excavated from within the limit of work.
- ❑ Detention Basin: Depression of land used to detain, retain or store stormwater.
- ❑ Drainage Pipe: A round horizontal cylinder, which transports stormwater from one point to another.
- ❑ Drain Manhole: Circular 4.0 ft diameter precast concrete drainage structure capable of conveying stormwater from pipe to pipe within a closed drainage system, having a formed or constructed invert and a cast iron casting frame & cover set at finish grade.
- ❑ ELT: “Eccentric Loader Terminal” guardrail end unit, generally installed on a taper against the direction of traffic.
- ❑ Engineer: A New Hampshire licensed professional civil engineer.
- ❑ Environmentally Sensitive: An area of land, water body or water course of significant natural resource importance.
- ❑ Field Book: A book containing field sketches, measurements and notes related to the project specific as-built location, material type, size, date, project and contractor of water, sanitary sewer, drainage and utility installations.
- ❑ Fill: native earthen or processed material placed, shaped and compacted to acceptable specifications within the limit of work.
- ❑ Filter Fabric: Geo-textile material membrane.
- ❑ Frame & Cover: Steel casting installed at finished grade, typically on manholes.
- ❑ Frame & Grate: Steel casting installed at finished grade, typically on catch basins.
- ❑ G-2: Guardrail end unit generally not installed on a taper with the direction of traffic.
- ❑ Gas Main: Underground utility supply line typically within 42” of the surface in a steel or plastic pipe.
- ❑ Gate Valve: Mechanical shut off valve usually in water or gas mains.

- ❑ Grade Stake: Wooden stake typically used in roadway construction layout for horizontal and vertical elevation control.
- ❑ Gravel: Processed earthen material typically meeting the requirements of NHDOT item number 304.2.
- ❑ Gravel Grade: Area of a roadway located above subgrade shaped, graded and compacted to the horizontal and vertical specifications of the approved plans.
- ❑ Guardrail: Roadside barrier device in accordance with the AASHTO – roadside design manual.
- ❑ Hay Bales: Square or rectangular bundle of straw or hay used in soil erosion and sediment control.
- ❑ Headwall: Vertical structural unit designed to secure the invert elevation of a pipe.
- ❑ Hydrant: Mechanical device designed to provide access to an underground water source.
- ❑ Invasive Species: Any non-native species that adversely affect the habitats and bioregions they invade economically, environmentally, and/or ecologically.
- ❑ Invert: A defined or specified elevation, usually related to a pipe inlet/outlet at a control device, such as a catch, basin, manhole or headwall.
- ❑ Ledge: Naturally occurring solid, hard or rock material.
- ❑ Limit of Clearing: Point of no disturbance as typically delineated with vinyl flagging, silt fence or orange construction fence.
- ❑ MELT: “Modified Eccentric Loader Terminal” guardrail end unit, generally installed on a taper against the direction of traffic.
- ❑ Monument: Permanent and recoverable object placed at a distinctive point along the property boundary, typically granite or concrete.
- ❑ Municipal Engineering Consultant: Licensed professional engineering company contracted by the Town of Alton to provide municipal construction observations.
- ❑ Observation Log: Daily record of project status, completed by the construction observation representative.
- ❑ Outlet Structure: Precast concrete device designed to control stormwater flow rates at an outlet.
- ❑ Owner/Developer: Person or company financially responsible for the proposed development.
- ❑ Pipe Laser: Electronic laser device used to provide horizontal and vertical grade in underground pipe installations.
- ❑ Preconstruction Meeting: Initial project meeting typically hosted by the municipality to discuss the proposed project, construction schedule, construction standards, construction observation and municipal expectations.
- ❑ Regulations: Authoritative construction policies, procedures and details adopted by the federal, state and local governments.
- ❑ RipRap: Erosion control stone having specific gradation, usually processed materials having a fractured/angular face.

- ❑ Roadway Sign: Roadway information device as defined by the “Manual on Uniform Traffic Control Devices” for the purpose of informing, warning or advising the general public of roadway guidelines.
- ❑ Sanitary Manhole: Precast concrete structure designed to provide access to underground sanitary sewer pipe.
- ❑ Sediment Control: Any and all BMP’s designed to reduce or eliminate soil migration.
- ❑ Silt Boom: BMP device – A floating impenetrable curtain like device deployed within a water body and anchored to either the sides or bottom while floating at the surface designed to contain floatable construction debris. Alternative names include turbidity or silt curtain.
- ❑ Silt Fence: BMP device - Woven material mounted on grade stakes placed at the downstream limits of unstable material designed to minimize the effects of soil migration.
- ❑ Slope Granite Curb: Granite curb installed on an angle in a roadway at the edge of pavement having a reveal of at least 4 inches.
- ❑ Soil Erosion: The degradation and transportation of solid material through wind, rain or mechanical energy.
- ❑ Stabilized Construction Entrance: BMP - Graded stone with filter fabric liner at site entrance designed to minimize the off site soil migration.
- ❑ Stone Check Dam: BMP device – graded stone placed in a waterway designed to reduce stormwater velocity, stormwater quality and potential soil erosion.
- ❑ Subgrade: Area of a roadway located below the gravel grade shaped, graded and compacted to the horizontal and vertical specifications of the approved plans.
- ❑ Sump: Lowest section or portion of a catch basin below the pipe invert.
- ❑ Swing Ties: Field measurements from either existing or newly installed utilities to fixed reference points, usually recorded in the field book.
- ❑ Temporary Pavement Markings: Pavement striping, stop lines or text designed to encourage safe traffic movements.
- ❑ Traffic Control: All devices positioned in the right of way around an active construction activities such as signs, barrels, cones, barriers and flaggers designed to manage and direct safe traffic flow.
- ❑ Treatment swale: Defined open channel waterway having geometry capable of stormwater treatment.
- ❑ Underdrain: Underground perforated drainage pipe designed to collect and transport groundwater from within the roadway box materials.
- ❑ Units: a specified amount of like characteristics describing a quantity of measurement for construction estimating purposes, whether singular or plural, such as distance, volume, area, weight or time.
- ❑ Utility Conduit: All underground pipe capable of carrying electrical and communications cable.
- ❑ Vertical Granite Curb: Granite curb installed vertically in a roadway at the edge of pavement having a reveal of at least 6 inches.

- ❑ Waste: Excess earth material typically generated from earth or rock cut exercises to be removed off site and may or may not include both useable or unusable materials.
- ❑ Water Service: Pipe or pipes conveying water from the water main to a point of service, usually ¾" or 1" type K copper tubing.
- ❑ Wattle: BMP device - man made cylinders/tubes filled with filter media and installed at the downstream limits of unstable material designed to minimize the effects of soil migration. Alternative names include bio-log, sil-log and noodles.
- ❑ Wearing Course Pavement: Final course of pavement applied on top of the existing pavement, usually type E or F as defined by NHDOT.
- ❑ Weir: Structural device designed to control the water elevation at an outlet.
- ❑ Wetland: (As defined by NHDOT)
- ❑ Wetland Flagging: Distinctive colored markings, usually vinyl survey tape or flagged stakes marking the location or territory of a delineated wetland.

Note: In addition to the terminology provided in this section, please also refer to the definitions and terms provided in following related regulatory specifications:

- Alton Site Plan Review Regulations
- Alton Subdivision Regulations
- Alton Highway Policies & Regulations
- NHDOT Standard Specifications for Road And Bridge Construction
- NHDES Stormwater Manual
- NPDES Construction General Permit

3.0 ADMINISTRATION

The “Construction Observation Guidelines (COG)” document has been specifically prepared for the Town of Alton municipal construction observation services. The administration section will briefly discuss the intended COG’s familiarization, compliance, waivers and reference standards & specifications.

3.1 Familiarization

All project representatives and their assigned agents, including but not limited to the following individuals or entities, shall read, review and otherwise become completely familiar with the COG in its entirety;

- ❖ Land Owner(s)
- ❖ Project Owner(s)
- ❖ Project Developer(s)
- ❖ Contractor, including Project Manager and Site Supervisor(s)

Any and all questions, comments or clarifications regarding the overall intent, meaning and direct project relevancy of this document shall be directed to the Planning Board and/or their assigned municipal consultant for further discussions and clarifications.

3.2 Compliance

All construction activities shall comply with all applicable municipally approved documents, in addition to associated State and Federal project permits and their respective special conditions. It’s these compliance expectations by which construction observations will be performed. Construction observation services will be compliant with these guidelines in concert with approved project documents and permits.

In addition to specific project design documents, both construction activities and observations shall comply with usual and customary local, state and federal regulations/specifications, as defined in section 3.4.

3.3 Waivers

Written construction observation waivers are possible and will be determined, discussed and approved by the Planning Board during the land use application approval process. All waivers shall be specifically defined and enumerated within the municipally approved project permit(s).

Project representatives are encouraged to discuss construction observation related waiver requests with applicable municipal representatives during the land use permit design review process and again during the pre-construction meeting.

3.4 Standards (Municipal, State & Federal)

In addition to the project specific permit approvals, all construction activities and subsequent observations shall comply with the most restrictive standard regulations and specifications: (latest editions)

- I. Alton – Site Plan Review Regulations
- II. Alton – Subdivision Regulations
- III. Alton – Highway Policies and Regulations
- IV. NHDOT – Standard Specifications for Road and Bridge Construction
- V. NHDOT – Standard Plans for Road and Bridge Construction
- VI. NHDES – Stormwater Design Manual
- VII. AASHTO – “Green Book” A Policy on Geometric Design of Highways and Streets
- VIII. FHWA – Manual on Uniform Traffic Control Devices
- IX. EPA – Construction General Permit

4.0 CONSTRUCTION OBSERVATIONS INTRODUCTION

The construction observations introduction will briefly discuss the intended COG's scope of services, organization, escrow and notification with respect to program communications, performance and documentation.

The Construction Observations Guidelines (COG) document has been specifically prepared for the Town of Alton. This document serves a guide and common communication document specifically intended for municipal construction observation services.

4.1 CO Scope of Services

Municipal construction observation scope of services will vary from project to project. Not all projects will require construction observations – see waivers section 3.3. Also, since each project is unique, construction observations are not identical from project to project and will require specific project observations. However, most land development projects will have several common activities requiring CO services. In this case, the COG will make every effort to identify the most common construction observation services. Typically, municipal construction observations will occur during the following typical construction activities or project involvement:

- ❖ Pre-construction Meeting
- ❖ Material Submittal Review – drawings, cut sheets, gradation reports, etc.
- ❖ Erosion Control – establishment, maintenance & removal
- ❖ Clearing & Grubbing – site preparation and layout/control
- ❖ Cuts & Fills – material gradation, layout, placement and compaction
- ❖ Utility Construction – water, sewer, drainage and underground utilities
- ❖ Site/Road Construction – subgrade, crushed gravel & gravel placement, curbing, guardrail, fencing, paving operations, signage, pavement markings
- ❖ Site Restoration – turf establishment, sod placement, landscaping, lighting, etc.

All projects CO scope will be assessed, identified and presented to the applicant/owner during the pre-construction meeting by the Planner or assigned municipal engineer consultant, as contained in the pre-construction meeting outline.

Construction observations glossary of terms & nomenclature are contained within section 2 of this document. Please refer to section 2 for specific terms and definitions.

Projects that commence construction activities, without prior municipal notification and municipal construction observation participation will be subject to potential municipal consequences including, but not limited to the following:

- Inability to obtain building permits and or occupancy permits
- Municipal acceptance
- Bond Revocation

The breadth, depth and severity of municipal consequence will be project specific and addressed on a case by case basis.

4.2 CO Organization

Construction observation services will be managed through Town of Alton planning department with guidance and direction provided by the Planning Board. The planner will coordinate and assign each project a construction observation representative. The construction observation representative may either be a municipal employee or a municipal consultant, depending on the project's scope, complexity, duration and location.

4.3 CO Escrow

The construction observation escrow estimate will be determined by either the planner or the municipal engineer consultant. The planner will determine an estimated CO escrow, if observations will be performed by a municipal employee. The municipal engineer consultant will determine the CO escrow, when observations are to be performed by the Planning Board assigned municipal engineer consultant. All CO escrows shall be prepared in writing and reviewed/approved by the Planner, prior to posting with the planning department.

No pre-construction meeting shall be scheduled or conducted until the CO escrow has been posted in accordance with the applicable municipal regulations.

Escrow accounts will be managed by the Planner. All unused funds shall be returned, upon project close-out and final acceptance.

Construction observations may be suspended by the Planner, if the escrow account falls below 20% of the posted amount and additional observations are required. If necessary, the Planner will request additional escrow funds to be posted by Applicant, in an amount commensurate with remaining or outstanding services.

Construction observations cannot be scheduled or performed unless the escrow account is current, as reviewed and monitored by the Planner.

4.4 CO Notification

All initial construction observations communications will be directed to the Town of Alton Planner. Once the project escrow has been established and posted, the Planner will schedule a preconstruction meeting. The Planner will prepare a preconstruction meeting outline to be distributed at the meeting. The preconstruction meeting outline will specifically include a notification and communications section, which will identify all essential interested parties/entities and their respective contact information.

Following the pre-construction meeting, the project Owner/Developer and Site Contractor are jointly responsible to request all construction observations in a timely manner. In general, the construction observation notification process is as follows:

- Primary: Contact the COR via phone at least 48 hours, PRIOR to requested specific field observations.
- Secondary: Contact the COR via email at least 48 hours, PRIOR to requested specific field observations.
- Third: Contact the Planner & Highway Administrator via email at least 48 hours, PRIOR to requested specific field observations, as a courtesy notification

The COR will confirm and schedule observations, within 24.0 hrs of requested notification or provide specific written explanation of scheduling alternatives. The COR is also responsible to maintain reasonable and timely project status communications with both the Planner and Highway Administrator.

5.0 OBSERVATIONS PROCESS

The COG document has been specifically prepared for the Town of Alton municipal construction observation services. The observation process section will briefly discuss the intended COG's general guidelines, communications, pre-construction meeting, and construction observations.

5.1 General Guidelines

The construction observation general guidelines will be the same whether performed by a municipal representative or municipal engineer consultant. In general all major Site Plan Review and Subdivision projects approved through the municipal land-use process will require construction observations, unless specifically waived by the planning board.

Construction observations are ordinarily on site observations of active construction activities. However, construction observation services may also include meetings and other office project related activities such as log creation, photo manipulation, communications, submittal and/or plan/specifications review.

In general, the following typical process will be followed by all project COR's:

- ❖ Review & become familiar with all approved project documentation
- ❖ Attend Pre-construction Meeting
- ❖ Maintain communications with Town and Project representatives
- ❖ Respond to Observation requests
- ❖ Perform on-site construction observations
- ❖ Accurately record & document construction activities

All above defined CO general guidelines will be performed in a timely manner, in accordance with all applicable reference regulations and guidelines.

5.2 Communications

All construction observations communications, following the pre-construction meeting will be handled by the project Owner/Developer and the COR. The project Owner/Developer or their assigned agent(s) are encouraged to maintain consistent and frequent contact with the COR. At all times, it is the project Owner/Developer or their assigned agent(s) responsibility to initiate and maintain all project CO communications.

Please refer to the pre-construction meeting outline for specific identification and associated contact information of all interested parties/entities.

5.3 Preconstruction Meeting

Once a project is municipally approved, has signed plans by the planning board including met any/all conditions of approval, obtained all applicable permits, has posted escrow and has provided the appropriate project security **Construction Observations** may begin. The primary kick-off CO event is the scheduling and conducting of the preconstruction meeting. The preconstruction meeting will be coordinated and scheduled by the Town Planner and take place at the Town Hall, with a site walk likely to occur immediately following the meeting.

The following materials will be required to be on file with the Town Planner, prior to scheduling a preconstruction meeting:

- Approved, Signed and Dated Project Plans
- Approved, Signed and Dated Applicable Permits
- Project Security
- Construction Observations Escrow

The project Applicant/Owner/Developer is responsible to provide the following information to the Town Planner at least one (1) week prior to the Preconstruction Meeting, NO construction observations may be scheduled or performed without complete compliance:

- ❖ Full Size (22"x34") Colorless Project Plans – Two (2) sets
- ❖ Electronic (pdf) Colorless Project Plans – Two (2) separate zip drives
- ❖ Project Contact List: Owner, Developer, Contractor, Etc.

The Planner will prepare a preconstruction meeting outline with sign in sheet to be distributed at the preconstruction meeting (see appendix). In addition, the planner will provide one (1) copy of the Construction Observations Checklist to the project Owner at the preconstruction meeting.

5.4 Construction Observations

Construction Observations include field operations, office activities and project management tasks. Typically, a Construction Observation Representative (COR) reviews project submittals, observes construction activities, prepares observation logs/reports, communicates with project representatives and documents project progress, compliance or non-compliance. COR's, regardless of affiliation, are working on behalf of the Town. COR's do not have authority or jurisdiction to direct, accept, reject or stop work on any job at any time.

The primary objective of a CO Representative is construction observation. In all observations, the CO Representative will document, photograph and record pertinent construction activity in concert with the approved plans, permits, municipal standards and state/federal regulations.

In all situations, CO Representatives will conduct themselves in a professional manner, free from slander, malice or discrimination.

6.0 CONSTRUCTION OBSERVATIONS

The COG document has been specifically prepared for the Town of Alton municipal construction observation services. The construction observation section will briefly discuss the what, when and how of municipal construction observation services.

6.1 Permits, Approved Drawings & Security

All major subdivisions and major site plans within the Town of Alton will require construction observation services, unless specifically waived by the Planning Board. In order to be eligible to begin construction, all projects must receive final approvals, including but not limited to the following:

- ❖ Federal Permits: EPA Noi, SWPPP, Army Corp, Etc.
- ❖ State Permits: NHDOT, NHDES (Water, Sewer, AOT, Wetland)
- ❖ Municipal Permits: ZBA, Site Plan, Subdivision, Etc.

In association with the above mentioned typical project approvals, the Owner/Applicant/Developer must also have signed, dated and sealed approved drawings to be stamped "Approved for Construction" by the Town Planner at the preconstruction meeting. No construction may commence and no observations may be performed, unless working directly from the latest approved project documents.

No project may commence construction activities, including construction observations without the appropriate and approved project security in place in accordance with the Town of Alton land development regulations;

- ⇒ Security: Site Plan – Section III, part 3.09
- ⇒ Security: Subdivision - Section III, part J

All project security will be determined through the municipal planning process, as defined by the applicable land use regulations noted above. All project security documents will be provided by the Owner/Applicant/Developer to the Town Planner for execution. The Owner/Applicant/Developer is responsible to track and maintain project security to be certain the security has not lapsed or is insufficient.

6.2 Access to Work

All construction sites will be safely accessible at all times. The Owner and Contractor are responsible to insure safe, reasonable and timely access to all construction activities both prior and during construction observations. The construction observation representative has the right to not only refuse observations, but also notify OSHA of any dangerous or suspiciously dangerous construction practices.

All construction access shall conform to the construction standards specified on the approved plans, as well as those related construction references contained in the Town of Alton land use codes. The construction observation representative is not responsible to provide any specialized safety equipment or apparatus, in order to safely perform usual and customary construction observation services.

6.3 Construction Layout

All baseline horizontal and vertical construction layout control in the Town of Alton shall be laid out by a licensed professional surveyor or civil engineer. Minimum control is defined in the applicable land use codes, but shall include no less than the following typical items:

- Two (2) permanent benchmarks on site having horizontal and vertical control
- Limit of Clearing
- Environmentally Sensitive areas and Buffer/Set-Back Placards

- Two (2) building corners at footing grade, if applicable
- Two (2) foundation/slab elevations at finish grade, if applicable
- All Stormwater Basin(s), Swales and Outlet Control Devices
- At least one third (1/3) of all proposed drainage structures (catch basins)
- At least one third (1/3) of all proposed sewer structures (sewer manholes)
- All hydrants, gate valves and service locations
- Any and All additional items as requested by the Planning Board, Highway Agent or Construction Observation Representative

Contractors utilizing GPS equipment must first submit an electronic base map to the Town Planner for review by the municipal engineer and COR. All electronic base map information for specific use by the contractor to self-perform construction layout or utilize automated grading equipment must be prepared by a licensed land surveyor or professional engineer.

In all cases, should any construction layout not appear to be in accordance with the approved plans & permits, the COR may request independent verification. Independent verification will be performed by a licensed professional surveyor or engineer, at the expense of the Owner, Developer and or Contractor. The as-built plan generated by the independent consultant will be compared to the approved plan of record and if significant and measureable differences are discovered, the Owner, Developer and or Contractor will be required to remove and replace all deficient work, prior to compliance certification, occupancy permit, roadway acceptance and security release.

6.4 Submittals

The Owner, Developer and Contractor are responsible to provide project submittals. Submittals come in many forms and typically involve the following examples: (the list below is a guide only and should be considered the absolute minimum requirement)

- Approved and Signed Project Drawings & Permits
- Shop Drawings: Retaining Walls, Box Culverts, Hand Rails, Signs, Lighting, Etc.
- Structural Material Submittals: Drainage/Sewer Structures, Pipe, Valves, Castings
- Earthen Material Submittals: Sand, Gravel, Concrete, Steel, Curb, Etc.
- O & M Manuals: SWPPP, Pump Station, Control Devices
- Testing: Material Proctors, Sieves, Field Density Reports, Concrete, Steel
(Includes mix design – pavement, biofilter media, etc.)

The construction observation representative will review all project submittals for compliance, according to the approved plans, permits and applicable land use and construction reference specifications. Construction activities may not commence, until all submittals have been submitted and reviewed by the COR. The COR may or may not request additional submittals as warranted by specific nature of the proposed project.

All project submittals will be submitted to the COR, both in paper form and in electronic form (pdf).

The COR will provide written documentation of receipt and review of project submittals. Only non-compliant submittals will be returned to the Owner/Developer/Contractor for re-submittal.

6.5 Testing

The Owner, Developer and Contractor are responsible to perform all project testing. The associated testing results will be submitted to the COR for Town of Alton record purposes. The COR will immediately notify the Town and Contractor of any non-compliant test results, at the time of observations. All Non-compliant test results will be the responsibility of the Owner, Developer and Contractor to correct, prior to compliance certification, occupancy permit, roadway acceptance and security release.

The following is a list of typical construction activities testing: (the list below is a guide only and should be considered the absolute minimum requirement)

- Earthen Materials Gradation: Sand, Gravel, Concrete, Pavement, Grout
- Earthen Materials Density: Sand, Gravel, Concrete, Pavement, Grout
- Earthen Materials Quality: Loam – Organic Content, Moisture, pH
- Pipe(s): Deflection, Slope, Pressure
- Structures: Pressure/Leakage, Inverts, Elevation

All project test results will be submitted to the COR, both in paper form and in electronic form (pdf).

The COR will provide written documentation of receipt and review of project test results. Only non-compliant test results will be returned to the Owner/Developer/Contractor for notice of non-compliance.

6.6 Frequency and Duration

The frequency and duration of construction observations will be determined by the complexity of the project, size of the project and compliance with the approved drawings, permits and municipal reference specifications. Normally, construction observations are not full time and may be performed intermittently, according to the construction schedule.

Compliant projects are likely to require usual and customary observations, while non-compliant projects may require more frequent observations.

Please also refer to the Construction Observations (CO) Check List contained in the appendix of this document. The CO check list may be amended as required, depending on the specific project requirements, on a project by project basis. All CO check list amendments or revisions will be discussed and identified during the preconstruction meeting.

7.0 PROJECT CLOSE OUT

The COG document has been specifically prepared for the Town of Alton municipal construction observation services. The project close out section will briefly discuss the intended COG's as-built drawings, final site walk and security release processes.

7.1 As-Built Drawings

As-built drawings will be required to be prepared, reviewed and accepted by the Town or their assigned agents, prior to final project close out, project acceptance and release of project surety. As-built drawings may be prepared by either a licensed professional surveyor or engineer in the state of New Hampshire. As-built drawings are ultimately the responsibility of the Owner or Developer and are required for all major Site Plan and Subdivision projects. As-built drawings will closely align with the approved project drawings and contain all major plan elements, including but not limited to the following: (sample guide only)

- Plan sheet border, title block, date, graphic scale, project name, revision block
- Property and or applicable parcel boundary, easements, etc.
- Limit of work
- All impervious cover – buildings, pads, walks, drives, parking, etc.
- All underground utilities – water, sewer, drain, power, cable, data, gas, etc.
- Stormwater improvement maintenance notes & agreements
- Certification block signed, dated, sealed by the preparer, testifying to the following:

***To the best of my knowledge, as confirmed by field observations and measurements, I
(name & company), attest to the substantial project completion and
"As-Built" conditions graphically represented on this plan and additional and or amended
plan notes as contained herein.***

Signature

License Number (PE or LS)

Date

The Town of Alton planning board, highway administrator, municipal engineer consultant and COR representative may or may not require specific plan as-built plan information to be included, based on specific and unique project circumstances.

Each professional signing and stamping the as-built drawings shall comply with the applicable state statutes.

7.2 Final Site Walk

All major Site Plans and Subdivision projects will require a final onsite walk through prior to final project close out, project acceptance and release of project surety. The Owner/Developer is responsible to provide the Town Planner with a written request to schedule and perform the final project walk through. The project Owner/Developer is responsible to provide all final project documentation (as-built plans, bond, reports, etc.) to the planner, as specified in the applicable municipal land use codes, prior to requesting the walk through.

The following interested parties will be invited to attend the final project walk through by the Town Planner:

Town Officials: Town Administrator, Planning Board Representatives, Conservation Commission Representatives, Planner and Highway Agent

Municipal Review Agent and COR

Owner/Developer and Site Contractor

Utilities: Power, Cable, Phone, Gas, etc.

The Town planner is not required to provide public notice or legal notification for the final project walk through. All notices will be given based on the preconstruction sign in sheet and a public posting on the bulletin board at Town Hall located outside the planning offices.

The purpose of the final walk through is to demonstrate final project completion and compliance with the approved plans, permits and reference municipal specifications. Upon completion of the final walk through, the COR will generate a final punch-list summary memo, documenting any project deficiencies to be corrected, if required.

Once the final walk through has been completed and all punch list items have been resolved as confirmed by the COR, the Owner/Developer may request security release and the project warranty period will commence, as defined in the applicable (Site or Subdivision) municipal regulations.

7.3 Security Release

All major Site and Subdivision projects will require project financial security or surety in accordance with the Town of Alton land use codes. Security releases may be requested periodically throughout the project as construction progresses. All security releases will be requested in writing to the Planner by the Owner/Developer and not the contractor. All security releases will be reviewed by the COR to confirm project completion and project compliance of specific completed items. The requested security release must be formatted in accordance with the engineer's opinion of probable construction costs, as submitted at the time of project approval. At no time shall the security release be more than fifty (50) percent of the project's surety total. Also, at no time shall the remaining project surety be less than fifteen (15) percent of the total project surety, with the exception of final release at the end of the project warranty period.

The Owner/Developer is responsible to provide and maintain project security at all times.

8.0 CERTIFICATION

The Construction Observations Guidelines dated March 20, 2015 are hereby adopted by the Planning Board on May 5, 2015.

Certified to be a true copy, attest:

Chair

Vice-Chair

Secretary



TOWN of ALTON NEW HAMPSHIRE

PLANNING DEPARTMENT

1 MONUMENT SQUARE – ALTON, NH 03809

Phone: (603) 875-2162

Email: planner@alton.nh.gov



A-1 PRE-CONSTRUCTION MEETING AGENDA

DATE: _____
PROJECT: _____

LOCATION: _____
TAX MAP & LOT: _____

- ⇒ Introduction of Personnel
 - Preconstruction Meeting Sign-In Form
- ⇒ Communications & Notifications - Contacts
- ⇒ Contractor shall have competent Superintendent on site @ all times when work is taking place.
- ⇒ Use of the Site - Contractor will be in charge of secure and safe site within the project limits.
- ⇒ Staging Area and Job Site Use
 - Plans & Specs Requirements
 - Site Access
 - Job Signs
 - Material and/or debris storage & disposal
 - Erosion Control
 - Emergency Contacts
 - Safety - Compliance
- ⇒ Job Site Noise & Dust Control
- ⇒ Existing Utilities – DIG SAFE Notification
- ⇒ Scheduling / Coordination
 - Construction Duration
 - Contract dates
 - Start date
 - Completion date
 - Hours of operation
 - Construction Phasing / Sequencing of work
 - Blasting
- ⇒ Design Intent / Contract Documents
 - Applicant – Project Introduction & brief explanation of design & special features
 - Approved Drawings & Permits
 - Errors, inconsistencies or omissions

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A-3 Project Security - Worksheet

Project Name:				Date:	
Map & Lot:					

Disclaimer: The quantities, units costs and calculations contained on this worksheet are project specific and may not be re-used, duplicated or altered. The intent of this worksheet is to provide a reasonable opinion of probable construction costs for the infrastructure improvements & site restoration activities (clearing, roadway & roadway grading and drainage).

Item	Item #	Unit	Quantity	Unit Price	Price
Subdivision - Erosion Control					
Stormwater Pollution Prevention Plan	645.7	LS			\$0.00
Monitor SWPPP	645.71	HR			\$0.00
Temporary Silt Fence	645.531	LF			\$0.00
Temporary Stone Check Dam	--	EA			\$0.00
Temporary Stabilized Entrance	--	EA			\$0.00
Treatment Swale	--	EA			\$0.00
Level Spreader	--	LF			\$0.00
Subdivision - Roadway					
Clearing & Grubbing	201.1	AC			\$0.00
Strip/Stockpile Loam	203.65	CY			\$0.00
Common Excavation	203.1	CY			\$0.00
Common Fill	203.6	CY			\$0.00
Bank Run Gravel	304.2	CY			\$0.00
Crushed Gravel	304.3	CY			\$0.00
Hauling, Binder Course - 2"	403.11	TON			\$0.00
Deck Coat	410.21	SY			\$0.00
Hauling Prepwork & Cleaning	214	LF			\$0.00
Hauling, Wearing Course - 1.0"	403.11	TON			\$0.00
Guardrail	606.12	LF			\$0.00
Traffic Signage	615	LS			\$0.00
Pavement Marking	632	LF			\$0.00
Soil Establishment w/ Mulch	646.11	SY			\$0.00
Soam (Screen/Spread Stockpile)	641	CY			\$0.00
Subdivision - Storm Drain					

5" HDPE	603.83215	LF			\$0.00
4" underdrain	605.506	LF			\$0.00
Crushed Stone - Underdrain	304.4	CY			\$0.00
Filter Fabric - Underdrain	593.121	SY			\$0.00
Catch Basin / Inlets (4' dia)	604.12	EA			\$0.00
Frame & Grate	604.72	EA			\$0.00
Chip-Rap (d50 = 4") - Inlet/Outlet	584.3	CY			\$0.00
Chip-Rap (d50 = 4") - Ditch	585.3	CY			\$0.00
Filter Fabric - Ditch/inlet/outlet	593.221	SY			\$0.00
HDPE Flared End Section	603.33	EA			\$0.00
Subdivision - Sanitary Sewer					
Existing MH Removal	202.5	EA			\$0.00
Existing Curb Removal	202.6	LF			\$0.00
Existing Guardrail Removal	202.7	LF			\$0.00
4" Sewer Main	--	LF			\$0.00
Sewer Manhole	--	EA			\$0.00
Resting - Frame & Cover	--	EA			\$0.00
Subdivision - Water					
4" Water Main	611.05206	LF			\$0.00
4" Water Main	611.05208	LF			\$0.00
4" Gate Valve	611.71008	EA			\$0.00
4" Fittings	611.70008	EA			\$0.00
Hydrant	611.81	EA			\$0.00
Subdivision - Utilities (Electric, Phone, Cable, Data, Gas)					
Not Included - Installed by Others	--	n/a			\$0.00
Miscellaneous Items					
As-Built Plans (1 Mylars)	--	LS	1.0		\$0.00
Monumentation - Bounds/Pins	--	LS	1.0		\$0.00
General Clean Up	1008.7	LS	1.0		\$0.00
Mobilization/Demobilization (4% max.)	--	LS	1.0		\$0.00
				Subtotal	\$0.00
				Contingencies (10%)	\$0.00
				Total (rounded)	\$0.00
General Notes:					
1. Plan reference: (approved plan)					
2. All construction methods and materials shall conform to the Town of Alton Highway Construction Standards and NHDOT Standard Specifications for Road and Bridge Construction, latest edition.					
3. Whenever possible all construction activities should align with NHDOT descriptions, items numbers and units to the extent possible and practical, depending on the type and size of associated project.					



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A-4 CONSTRUCTION OBSERVATIONS CHECK LIST

PROJECT:

LOCATION:

CONTRACTOR:

TAX MAP & LOT:

IN GENERAL, ALL MAJOR SITE and SUBDIVISION PROJECTS WILL REQUIRE THE FOLLOWING MINIMUM CONSTRUCTION OBSERVATIONS:

- PRECONSTRUCTION MEETING & REVIEW OF APPROVED PROJECT PLANS/PERMITS
- PROJECT SUBMITTAL REVIEW
- ENVIRONMENTALLY SENSITIVE or LIMIT OF CLEARING FLAGGING/DELINEATION
- EROSION CONTROL MEASURES – INITIAL INSTALLATION, MAINTENANCE & REMOVAL
- SIGNIFICANT EARTHWORK ACTIVITIES – EARTH CUT or FILL OPERATIONS OF LARGE SCALE WHETHER INCIDENTAL TO CONSTRUCTION or NOT
- UTILITIES – WATER, DRAINAGE and BURIED MATERIALS **NOT** OBSERVED BY OTHERS
- ALL STRUCTURAL ELEMENTS – LARGE CULVERTS or RETAINING WALLS
- SELECT MATERIAL PLACEMENT & COMPACTION – CRUSHED GRAVEL & GRAVEL
- CURBING, GUARDRAIL, FENCING, LIGHTING and LANDSCAPE OPERATIONS
- PAVING OPERATIONS
- TURF ESTABLISHMENT
- FINAL PROJECT CLOSE OUT and PUNCH LIST MEMO GENERATION

SPECIAL NOTE: FREQUENCY & DURATION OF ON SITE OBSERVATIONS WILL BE FIELD DETERMINED BASED ON THE COMPLEXITY OF THE PROJECT, NATURE OF WORK PERFORMED, NUMBER AND SIZE OF CREWS OPERATING, QUALITY and/or COMPLIANT WORK ACTIVITIES AND WEATHER.

NOTES:



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A-5 PROJECT CLOSE-OUT CHECK LIST

PROJECT: _____
LOCATION: _____

CONTRACTOR: _____
TAX MAP & LOT: _____

IN GENERAL, ALL MAJOR SITE and SUBDIVISION PROJECTS WILL REQUIRE THE FOLLOWING MINIMUM PROJECT CLOSE-OUT ITEMS TO BE REVIEWED, OBSERVED and/or CONFIRMED BY THE ASSIGNED MUNICIPAL ENGINEER CONSULTANT:

- COMPLIANCE WITH APPROVED PROJECT PLANS/PERMITS AS DOCUMENTED THROUGH THE CONSTRUCTION OBSERVATION PROCESS
- PROJECT SURETY (as applicable)
- CERTIFICATE OF OCCUPANCY (as applicable)
- AS-BUILT DRAWINGS
- FINAL PROJECT CLOSE OUT OBSERVATION and PUNCH LIST MEMO COMPLETION
- ROADWAY ACCEPTANCE (as applicable)

SPECIAL NOTE: DEPENDING ON THE COMPLEXITY OF THE PROJECT, ADDITIONAL PROJECT SPECIFIC ITEMS MAY BE ADDED or REMOVED FROM THE ABOVE CHECK LIST. THE ABOVE ITEMS SERVE ONLY AS A GUIDE AND SHOULD NOT BE CONSIDERED ABSOLUTE.

NOTES:
