

SECTION 1
GENERAL RESPONSIBILITIES,
REQUIREMENTS AND PROCESSES

1.1 ENGINEER OF RECORD RESPONSIBILITIES

The Engineer of Record for all projects shall be a Professional Engineer (P.E.) registered in the State of North Carolina who has submitted a Letter of Intent to Lincoln County Public Works (LCPW) designating said engineer as the authorized representative of the Owner/Developer.

LCPW encourages the Engineer of Record to schedule a pre-design meeting with LCPW prior to the initial submittal.

The Engineer of Record shall be responsible for the final design and construction of the project and the submittal of all required documents. All judgment decisions affecting the design or altering the design will be the responsibility of the Engineer of Record, and the quality of the project shall be the responsibility of the Engineer to prove.

The Engineer of Record must obtain any permit required to work within State rights of way prior to the start of construction.

In addition, the Engineer of Record shall monitor the progress and construction of the project to assure quality and to minimize ‘punch list’ items as the project nears completion. The Engineer of Record will be responsible for addressing any and all ‘punch list’ items and will ensure that all required work is completed.

The Engineer of Record or his designated representative shall also be responsible for:

- A. Performing Hydraulic Calculations ensuring any new connections do not adversely affect any existing LCPW infrastructure. Hydraulic calculations shall be based on the criteria set forth in Section 2 and Section 3 of this Manual and must be approved by LCPW prior to granting permission to construct.
- B. Obtaining all applicable permits necessary to construct the proposed infrastructure.
- C. Scheduling of a pre-construction conference a minimum of one week in advance of any construction unless otherwise approved by LCPW.
- D. Attending all Pre-Construction Conferences, Pressure Tests, Lift Station Start-ups, Pre-Final Walk-thru and Final Inspections as well as any other occurrences that may be deemed necessary by LCPW.
- E. Submitting Record Drawings and other necessary documents.

1.2 UNDERGROUND CONTRACTOR'S RESPONSIBILITIES

All construction work performed must be done by a Contractor licensed in the State of North Carolina to do the work intended and with proven underground utility experience. LCPW reserves the right to require the Contractor to provide evidence of licenses and/or references from other municipalities.

The Contractor at all times shall observe and comply with all Federal, State, County, and other laws, codes, ordinances, and regulations in any manner affecting the conduct of the work.

The Contractor shall not enter private property for any purpose without first obtaining permission, and shall use every precaution necessary to prevent damage or injury to any public or private property, trees, fences, monuments, and underground structures on and adjacent to the construction site of the work.

The Contractor shall not do any work that would affect any railway track, pipeline, telephone, electric transmission line, or other structure, or enter upon the right-of-way or other lands appurtenant thereto unless proper authorization has been secured.

The Contractor shall be responsible for all damage or injury to property of any character resulting from any act, omission, neglect, or misconduct in the manner or method of executing said work, from the non-execution of said work, or from defective work or materials, and shall not be released from said responsibility until the work has been completed and accepted and the warranty requirements fulfilled. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect or misconduct in the execution of the work, or in consequence of the non-execution thereof on the part of the Contractor, the Contractor shall restore such property, at the Contractor's expense, to a condition equal to that existing before such damage or injury was done by repairing, rebuilding and/or restoring.

Materials stored at the site of the work shall be protected from contamination and damage at all times. Materials placed on the work site shall at all times be so located as to cause no obstruction to vehicular or pedestrian traffic. A roadway shall not be closed or opened except by express permission of the NCDOT or such other authorized public agency having jurisdiction.

The Contractor shall, prior to commencing construction operations, hire or engage the services of a North Carolina Registered Professional Land Surveyor (PSM) to make a thorough and diligent search for any and all property pins, horizontal and vertical control monuments within the construction area, provide and set in place all construction stakes and marks for lines, grades and measurements necessary or required for the proper control of the work. Any survey control found will be tied out sufficiently in such a manner so that after the construction is completed, all of the points can be re-established to their original positions by the PSM. The Contractor shall be responsible for the accuracy and preservation of the stakes and marks.

The Underground Contractor or his designated representative shall also be responsible for:

- A. Procuring all permits and licenses, paying all charges and fees, and giving all notices necessary and incidental to the due and lawful prosecution of the work. LCPW has no responsibility, real or implied, for the actions of the Contractor in the performance of his contract or any damage or injuries which result from the contractual work as performed by the Contractor, his agents, or employees.
- B. Obtaining any permit required to work within rights-of-way prior to the start of construction.
- C. Providing and maintaining neat and sanitary accommodations for the use of employees as may be necessary to comply with the requirements and regulations of the State, local health department, or other agencies having jurisdiction.
- D. Providing LCPW with a minimum of 72 hours' notice prior to the start of construction. In addition, all materials intended to be contributed to LCPW shall be available for inspection at least 72 hours prior to installation.
- E. Notifying LCPW of any inspection requests at least 72 hours in advance.
- F. Investigating with LCPW staff, the location of existing valves in the vicinity of the project so that in the event of an emergency, the valves can be quickly operated. All valves are to remain uncovered, visible, and operational throughout the length of the project and shall be operated by LCPW staff or their designated personnel only, except in emergency cases.
- G. Performing operations necessary for connecting to the existing system at times of minimum flow rate. Said operations shall be accomplished expeditiously in order to minimize service disruption including performing such work at night when deemed necessary by LCPW. All schedules shall be coordinated with and approved by LCPW or the appropriate utility involved. A minimum of two (2) weeks' notice is required prior to any disruption of service.
- H. Conforming to LCPW Approved Construction Plans. The entire installation and each part thereof shall be constructed in the position required, the finished surfaces of structures shall conform to the elevations and gradients specified, and all parts of both substructures and superstructures shall be in proper alignment and adjustment. Whenever a material or article required is specified or shown on the approved plans by using the name of the proprietary product or of a particular manufacturer or vendor, it shall be considered that this was done only for the purpose of establishing a standard of quality for the specified materials. Any deviation from the plans and working drawings or substitutions that may be required must have prior written approval from the Engineer of Record and LCPW.
 1. Materials not conforming to the requirements of the LCPW Design Manual shall be removed immediately from the site and replaced with satisfactory material by the Contractor at his own expense.
 2. Providing all frames, forms, false-work, shoring, guides, anchors and temporary structures that may be required to assure these results.

3. Upon reasonable cause and prior to final acceptance, LCPW may require the Contractor to uncover portions of constructed facilities for inspection. After inspection, the Contractor shall restore the portions affected to the conditions required by the approved plans and specifications.
4. Existing LCPW equipment and materials that are to be removed during the course of construction, including pumps, motors and pump parts; pipe, valves and fittings; electrical and control parts; and other salvageable items, shall remain the property of LCPW. The Contractor shall be responsible for transporting salvaged items to the storage area designated by LCPW. Special care shall be taken for protection and elimination of damage to said items. Material shall be cleaned prior to delivery to LCPW.
5. Existing LCPW equipment and materials removed during construction, designated by LCPW for disposal, shall be disposed of in a proper and legal manner at the Contractor's expense. The size, type and quality of all materials removed for salvage and or disposal are to be noted on the record drawings and shall be included on the Certification of Contributory Assets along with the cost associated with said removal.
- I. Providing all other agencies including but not limited to: the USEPA, the U.S. Department of Labor, NCDEQ, OSHA and other governmental agencies having legal interest in the project, free access to the site for inspecting materials, work, and the Contractor doing so.
- J. Any requirements to the Contractor resulting from these inspections shall be given through the Engineer of Record or his designated representative.
- K. Attending all Pre-Construction Conferences, Pressure Tests, Lift Station Start-ups, Pre-Final Walk-thru and Final Inspections as well as any other occurrences that may be deemed necessary by LCPW.
- L. Providing the following documents to the Engineer of Record to be included in the Final Acceptance Package:
 1. Bacteriological Tests
 2. Compaction Test Reports
 3. Closed Circuit Television Inspection Reports and DVD.
 4. Certification(s) of Contributory Assets (Potable Water, Sanitary Sewer and/or Reclaimed Water)
 5. Waiver and Release of Lien Upon Final Payment
 6. One Year Warranty
 7. As-Built Drawings (Geospatial TIFF/PDF and 2 hard copies)
 8. Applicable Operations and Maintenance Manuals
 9. Backflow Prevention Device Test Report(s)
 10. Directional Drill Logs (if applicable)

1.3 GENERAL REQUIREMENTS

A. LCPW Easement Grant(s)

Individual LCPW Easement Grants will be required for each parcel under separate ownership.

1. Location and size requirements for LCPW easements shall be determined using the following guidelines:
 - a. All potable water, sanitary sewer, and reclaimed water infrastructure to be owned and maintained by LCPW shall be installed in NCDOT owned rights-of-way or within dedicated LCPW easement(s).
 - b. Easements shall be a minimum width of twenty (20) feet in order to ensure that neither structures nor trees, etc., are placed closer than ten (10) feet to a LCPW owned and maintained pipe or facility.
 - c. Easements for a single main shall be a minimum width of twenty (20) feet and must extend ten (10) feet beyond the terminus of the main. LCPW may approve the minimum width to be reduced to ten (10) feet if the easement is parallel to and contiguous to a public right of way and if required separations can be met. Any such approval is on a case by case basis and must be obtained in writing.
 - d. Easements for two mains shall be a minimum width of thirty (30) feet with a minimum of ten (10) feet between the two mains and must extend ten (10) feet beyond the terminus of the main. LCPW may approve the minimum width to be reduced to twenty-five (25) feet if the easement is parallel to and contiguous to a public right of way and if required separations can be met. Any such approval is on a case by case basis and must be obtained in writing.
 - e. Hydrant easements shall extend to ten (10) feet beyond each side of the hydrant.
 - f. Lift Station easements shall be a minimum thirty (30) feet by twenty (20) feet for standard lift stations. The size of easements for master pump stations shall be determined on a case-by-case basis.
 - g. Easements for potable water services shall be a minimum of ten (10) feet wide and shall extend a minimum of five (5) feet beyond the point of service.
2. Additional requirements are as follows:
 - a. A minimum of ten (10) feet horizontal separation is also required between other public and/or private utilities, structure(s), building(s), wall(s), fountain(s), fence(s) and LCPW infrastructure unless specifically approved by LCPW.
 - b. The root ball of trees shall be a minimum of 10' from any existing or proposed LCPW easement boundary.
 - c. TV cable, phone lines, and irrigation lines may cross LCPW facilities with a minimum of twelve (12) inches of vertical clearance.
 - d. Gas mains and electric power cables shall cross LCPW facilities with a minimum of eighteen (18) inches of vertical clearance.
 - e. **LCPW will require a minimum vertical separation of 12" between water, sanitary sewer, and storm sewer regardless of pipe material specified.**
3. LCPW Easement Legal Descriptions and Sketches Requirements:
 - a. Shall include a list of all of the Parcel numbers subject to the easement.
 - b. Legal Descriptions must:

- i.* be described as metes and bounds (centerline and offset methods are not admissible),
 - ii.* include northing and easting coordinates to the nearest hundredth at the Point of Beginning (POB), Point of Commencement (POC) and an opposite corner of the described easement. Northing and Easting coordinates provided shall be referenced with respect to the NAD 1983 State Plane North Carolina (feet) Coordinate System (SPC 3200), and
 - iii.* wherever possible, be described from a verified section corner.
- c. Must include the actual square footage of the easement area along with a sketch of the legal descriptions,
 - d. Must be in recordable form and printed on sheet(s) eight and one-half (8.5) inches by eleven (11) inches in size,
 - e. The easement perimeter shall be clearly identified on the sketch with a heavy (bold) line; and,
 - f. Must be signed and sealed by a Professional Surveyor registered in the State of North Carolina.

Please note that the legal descriptions and sketches for proposed utility easements shall be submitted to LCPW for review prior to recording. LCPW reserves the right to reject any legal description that is not sufficiently detailed so as to locate the easement on the County's Geographic Information System (GIS).

B. Minimum Drawing Requirements

1. Drawings shall be 24" x 36" sized sheets, folded if practical.
2. Sheets shall be numbered with some form of sequential number system.
3. A drawing index and phasing plan (if applicable) shall be included on the cover sheet or first sheet following the cover sheet.
4. A drawing Key Map shall be required for plans with greater than five (5) plan/profile sheets.
5. The general order of sheets in the plan set shall be as follows: Cover Sheet, Key Map Sheet (if required), Utility Plan and Profile Sheets, and LCPW Standard Detail Sheets.
6. Shall include all applicable language and standard plan notes as outlined in Section 5.
7. All proposed easements must be shown on the construction plans.
8. Horizontal scale shall not be greater than 1" = 40' and not less than 1" = 60', unless otherwise approved by LCPW.
9. Vertical scale shall not be greater than 1" = 4' and not less than 1" = 6', unless otherwise approved by LCPW.
10. Larger scaled details may be required in congested areas.
11. Plans are to include profiles showing all potable water, sanitary sewer and storm piping systems delineating any conflicts and have the profiles below the plan view.
12. All plan and profile sheets shall have the same scale.
13. Each Sheet(s) shall include:
 - a. Project name.
 - b. Title block.
 - c. North arrow preferably oriented to the top or right of the plan view.

- d. Engineer of Record's name and North Carolina registration number.
 - e. Signed, dated in ink, and sealed by the Engineer of Record.
 - f. Graphic bar scale.
 - g. Date of current version.
 - h. Revision block, updated to reflect each revision to each sheet
14. Cover Sheet shall include all of the above and:
- a. Vicinity map.
 - b. Location map.
 - c. Parcel number(s) for the subject parcel(s).
 - d. Zoning & Planning Number if applicable (Zoning Compliance Letter attached).
15. Plan & Profile Sheets shall include all information noted in item #13 above as well as:
- a. All revisions shall be noted in revision block.
 - b. Match lines and/or key plan to assist in sheet to sheet navigation.
 - i. Phase and match lines must be clearly labeled and delineated.
 - c. All existing and/or proposed, Rights-of-Way, public utility easement(s), LCPW easements and property lines. Include recording instrument number(s) if known.
 - d. Driveway locations if known.
 - e. Legible callouts and labels using proper label placement and text size.
 - f. Elevations of conflicting pipes indicating top and bottom pipe elevations. Pipes shall cross in a perpendicular fashion where ever possible.
 - g. Manhole rim and invert elevation.
 - h. All paved non-asphalt surfaces (pavers, stamped concrete, etc.) proposed over LCPW owned facilities shall be identified on plans.
 - i. All meters and Backflow Prevention Device shall be shown including types and sizes.
 - j. All plans shall indicate the location of perimeter walls, fences, gates, hardscape areas, signs, and proposed/existing utilities.
 - k. The size, material, and material classification of each main at least once on each sheet and at every transition/change in size, material, etc.

Potable water mains and sanitary sewer force mains shall also include:

 - i. vertical alignments (elevations) and **horizontal stationing** every 100 feet and at each fire hydrant, fitting (bend, tee, reducer, etc.) and valve,
 - ii. labels in both the plan and profile identifying:
 - The size and angle of each bend,
 - the size and type of each valve,
 - the material of each fitting if different from that of the main's material or unless specified in a note or detail,
 - l. Gravity Collections Systems shall also include:
 - i. the length of pipe and slope between manholes,
 - ii. vertical alignments (elevations) and **horizontal stationing** at each manhole and clean-out,
 - iii. rim and invert elevations, pipe slopes, and run lengths,
 - iv. invert elevations at both ends of gravity main stub-outs,

- v. the size and material of each service lateral (unless specified in a note or detail),
 - vi. sewer lateral stationing from the nearest downstream manhole (123' = 1+23); and,
 - vii. offset / distance in linear feet, from the centerline of the pipe to the clean-out locations (for example: 32'L or 32'R).
 - m. Each service and lateral shall be marked with its size and material unless specified in a note or detail.
 - n. Each bend shall be marked with its angle.
 - o. Each fitting shall be marked with its material if the material is different than the main's material or unless specified in a note or detail.
 - p. Each valve shall be marked with the size and type.
 - q. Profiles shall show all potable water, sanitary sewer and storm piping systems delineating any conflicts.
 - r. Plans shall show any covered parking and all structures (if applicable).
16. The LCPW Standard Details Sheet(s):
- a. Shall include only LCPW Standard Details that are applicable for the construction of the project.
 - b. LCPW Standard Details may not be altered from their original format unless otherwise approved by LCPW Staff.
 - c. The borders, LCPW Standard Detail Number and revision blocks are not to be deleted or altered.
17. Drawings shall NOT contain:
- a. More than two (2) plan and / or profiles per sheet.
 - b. Aerial photography as a background.
 - c. Color line work.
 - d. Field sketches.
 - e. Free-hand modifications.
 - f. Proposed terminology
18. Electronic Drawing Requirements
- a. Electronic drawing files must be AutoCAD format or compatible (i.e. DWG or DXF file).
 - b. AutoCAD Drawings will only be acceptable if drawn with respect to the NAD 1983 NC State Plane (feet) Coordinate System .
 - c. All fonts and line types shall be from the standard AutoCAD library or be AutoCAD compatible.
 - d. Any ex-referenced (xref) drawings and/or other applicable related records shall be included.
 - e. Drawing files shall utilize the model space and paper space components of AutoCAD as applicable.
 - f. Wherever possible, separate pages shall be created using layout tabs in paper space in a single drawing file.
 - g. Individual electronic TIFF files of each page.
- C. Record Drawings
1. In addition to the items noted in the Minimum Drawing Requirement Section the Record Drawings must include the following:

- a. 'Record Drawing' marked in bold text on each sheet.
 - b. Record Drawing information in bold text.
 - c. The exact location of all changes in vertical / horizontal alignment and the distance between each major fitting. A major fitting is considered to be anything 11 .25 degree and above.
 - d. Coordinates with respect to NAD 1983 NC State Plane (feet) Coordinate System (x, y, and z) to the nearest hundredth for all fire hydrants, fittings (bends, tees, reducers, etc.), manholes, valves, and cleanouts. (i.e., E: 698055.12 N: 839365.27) Elevations to the nearest tenth shall also be required at these locations.
 - i. Coordinates shall not be displayed in tabular form
 - e. Sewer lateral locations stationing from the nearest downstream manhole (123' = 1+23) and offset, in linear feet, from centerline of pipe to the cleanout location.
 - f. Should only contain record information. Design information that is not record information shall be struck thru and not deleted.
2. No statements shall be made by the certifying PE disclaiming responsibility for accuracy of the Record Drawings.
- D. As-Built Drawings
1. In instances where LCPW is accepting existing infrastructure, surveyed As-Built Drawings shall be required addressing the following:
 - a. The drawings shall adhere to the requirements outlined above in the Minimum Drawing Requirements and Record Drawings sections above.
 - b. All sheets must be signed and sealed by a North Carolina Licensed Surveyor and must comply with applicable North Carolina Statutes.
 2. No statements shall be made by the certifying surveyor disclaiming responsibility for accuracy of the As-Built Drawings.

1.4 APPROVAL TO CONSTRUCT PROCESS

- A. Before or Upon Planning & Zoning submittal, the engineer shall submit a master utility plan along with sanitary and water system layout for the entire project.
- B. Once LCPW staff has reviewed and approved the master utility plan the Engineer of Record can submit documents noted in Section C below to LCPW's office located at 115 West Main Street, Lincolnton, North Carolina 28092. All submittal documents must be approved LCPW Forms.
- C. Approval to Construct Documents:
 1. New Project: Project Information/Submittal Form
 2. Requests for Availability
 3. Engineer's Opinion of Probable Cost utilizing LCPW's Standard Form(s) for the following as may be applicable:
 - a. Potable Water and Fire Protection
 - b. Sanitary Sewer
 - c. Lift Station
 4. **One** Set of Specifications
 5. **Two Copies** of Hydraulic Calculations (Signed and Sealed):
 - a. Water System
 - b. Sewer System.
 6. **Letter of Intent** Signed and Sealed by the Engineer of Record utilizing LCPW's Standard Form.
 7. Two Original, **Complete** Permit Applications **and all applicable supplementary documents** for:
 - a. NCDEQ (Public Water Supply)
 - b. NCDEQ (Division of Water Quality - Sewer)
 8. Construction Plans
 - a. Two sets of plans signed and sealed
 - b. ~~One CD in AutoCAD Format of the Utility Plans and Profiles~~
 9. Shop Drawings
 - a. For Developer Contributed Asset Projects, shop drawings are only required when requests are made to deviate from LCPW's approved material list and must be approved prior to any construction.
 10. **Zoning Compliance Letter (Provided by Lincoln County Zoning)**
- D. LCPW will make every effort to have submittals reviewed within ten (10) working days, but shall there be a minimum of five (5) working days for review, approval, rejection and or any recommended revisions.
- E. Upon receipt of a complete Approval to Construct Submittal Package, LCPW staff will review for compliance with the standards set forth within this Design Manual.
 1. Once approved, Subdivision Technical Review Committee (STRC) will then schedule the project for Approval to Construct.
 2. Once LCPW Staff has approved the plans and Approval to Construct has been granted, LCPW staff will execute any necessary NCDEQ permit applications and notify the Engineer of Record that the executed documents are ready for pick-up and submittal to applicable agencies in order to obtain actual permits.
 3. Upon receipt of all necessary permits **and project approval by all STRC members,**

the Engineer of Record or the Underground Contractor may contact LCPW staff to schedule a pre-construction conference. LCPW requires a minimum of 72 hours notification prior to conducting the pre-construction conference. Pre-construction conferences are conducted by LCPW Staff and must be attended by the Engineer of Record or his designee and the Underground Contractor.

Approval to construct is valid for a two-year period. If construction has not been **initiated** within this two-year period, a request for an extension can be requested and will be issued on a case by case basis. If an extension is not issued new approvals must be requested and shall meet LCPW standards in effect at that time.

1.5 CONSTRUCTION PROCESS

- A. LCPW will not conduct any test or inspections until all dry utilities are installed. Once all dry utilities have been installed, the following shall occur:
1. Pressure Test(s) witnessed by LCPW Staff, Engineer of Record or his designee and the Underground Contractor. The Underground Contractor must pre-test the pipeline prior to scheduling the Pressure Test. A minimum of 72 hour notice must be provided to all parties.
 2. Pipeline Flushing to be coordinated with LCPW Inspection Staff.
 3. Bacteriological Tests.
 4. Invoice for Water Usage for flushing and testing of pipelines will be generated by LCPW Inspection Staff, and then billed to the underground contractor. Note: This invoice must be paid prior to Final Acceptance of the infrastructure.
 5. Concrete Test Results (when applicable) All concrete strength test reports shall be signed, sealed, and submitted by a North Carolina Registered, Professional Engineer from a qualified Testing Laboratory.
 6. Compaction Test Reports shall be signed, sealed by a North Carolina Registered, Professional Engineer from a qualified Testing Laboratory and are to be submitted by the Engineer of Record prior to the Closed Circuit Television Inspection and the Low Air Pressure Testing. Passing Compaction Test Reports shall be included for all locations where testing is performed.
 7. Closed Circuit Television Inspection including Mandrel and Low Air Pressure Testing of all Gravity Mains.
 - a. LCPW Inspection Staff must be present during the television inspection. The Engineer of Record or his designee, LCPW Inspection Staff and the Underground Contractor must be present for the Low Air Pressure Testing. For sanitary sewer gravity lines, the Owner/Developer or Contractor shall obtain the services of a private firm to perform a video inspection of the newly completed gravity sewer mains. One (1) complete copy of the video inspection in DVD format shall be furnished to LCPW. In addition, the report shall include any observations noted in the field. Gravity Main Inspections shall be performed in accordance with the National Association of Sewer Service Companies (NASSCO) standards for Pipeline Assessment and Certification Program (PACP).
 - b. Lincoln County Public Works requires all CCTV inspection databases and video files be submitted in a format so that the information may be imported and/or attached to the Public Works GIS. The video shall be submitted in a format that can be opened and viewed by the most recent version of Windows Media Player (i.e. jpeg, mpeg, wmv).
 - c. All videos and databases will be submitted in electronic format to LCPW. Each line segment and video log sheet will be a separate electronic file, identified by using the asset number as part of the file name. Submittals will be on CD's, DVD's, or portable hard drives. VHS tapes will not be accepted. If submittals are made with videos grouped in one electronic file name, the submittal will be rejected and the contractor will correct and make a new submittal at no cost to LCPW.

- d. LCPW shall have the right to conduct its own, independent video inspection of the new gravity sewer system. LCPW's video inspection does not replace the Owner/Developer's video inspection, nor does it relieve the Owner/Developer of the video inspection responsibilities above.
8. Testing of Reduced Pressure Backflow Prevention Devices and/or Double Detector Check Valve Assemblies is to be performed by a Certified Tester.
 9. Lift Station Start Up to be performed by the Underground Contractor with the Engineer of Record or his designee and LCPW Inspection Staff. A minimum of a 72 hour notice must be provided.
 10. Final Inspection upon completion of the project. The Engineer of Record or his designee, LCPW Inspection Staff and the Underground Contractor must be present. LCPW Inspection Staff will perform two Final Inspections at no additional charge, however, if additional inspections are necessary, the underground contractor may be billed for re-inspections.

1.6 FINAL ACCEPTANCE PROCESS:

- A. Upon completion of construction the following documents shall be submitted by the Engineer of Record for review to LCPW's office located at 115 West Main Street, Lincolnton, North Carolina 28092. Only complete Final Acceptance Packages including all documents identified in the LCPW Final Submittal Checklist provided to the Engineer of Record and a satisfactory Final Inspection will be accepted for review. Incomplete packages will be returned to the Engineer of Record.
1. Pressure Test Reports
 - a. Water Mains
 - b. Force Mains
 - c. Gravity Mains (low air pressure test reports)
 2. Satisfactory Bacteriological Test Reports
 - a. One (1) day, dated within the last 30 days
 3. Closed Circuit Television Inspection Report that includes the Mandrel of all Gravity Mains
 - a. Digital format
 - b. Hard copy reports including field observations
 4. Pre-Final Inspection Report (if applicable) submitted by LCPW Inspection Staff
 5. Final Inspection Report submitted by LCPW Inspection Staff. LCPW will perform two (2) Final Inspections at no cost.
 6. [Letter of Completion](#) From Engineer of Record utilizing LCPW's Standard Form
 7. One Draft Set of Record Drawings for Review Purposes
 8. One Signed and Sealed Set of Record Drawings (upon approval of draft set)
 9. CD of Record Drawings in AutoCAD format
 10. Two Original, Complete Engineer Certification Forms (One Water, One Sewer)
The Engineer of Record will be responsible for submitting all Engineer Certifications and applicable documents to NCDEQ. LCPW will submit the Applicant Certification and the Sewer Name Change Form upon final acceptance of the water and sewer system. The system will not be made active until final approval is received from NCDEQ.
 11. **Two Original, Complete NCDEQ Sewer System Name Change/Change of Ownership Forms**
 12. [LCPW Easement Grant](#)(s) (if required) utilizing LCPW's Standard Form
 - a. Please see 'General Requirements' section for specific LCPW Easement criteria.
 13. Certification(s) of Contributory Assets utilizing LCPW's Standard forms which shall include the cost of all constructed infrastructure and related appurtenances intended to be dedicated to LCPW:
 - a. [Potable Water](#)
 - b. [Sanitary Sewer](#)
 - c. [Lift Station\(s\)](#)
 14. [One Year Warranty](#) utilizing LCPW's Standard Form
 - a. All applicable utility infrastructure intended to be dedicated to LCPW is subject to an unconditional warranty. The warranty shall cover all materials and labor for a minimum of one (1) year starting on the date of final acceptance by the LCPW.
 15. [Waiver and Release of Lien upon Final Payment](#) utilizing LCPW's Standard Form **from the Prime and all Subcontractors.**

- a. The contractor **and subcontractors** waive any rights to claim liens for the cost of all infrastructure intended to be dedicated to LCPW.
 - 16. Lift Station Start- Up Report with the Pump(s) Operations and Maintenance Manual
 - 17. Reduced Pressure and/or Double-Detector Check Valve Assembly Test Report(s)
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- B. LCPW reserves the right to comment and request changes on all aspects of the Final Acceptance Package and shall withhold final acceptance of the project until all requirements set forth within this Design Manual have been met.
 - C. Once LCPW Staff has completed review of the Final Acceptance Package and found to be in compliance with this Design Manual, LCPW will issue a Final Acceptance Letter.
 - D. Once the applicable NCDEQ Certification(s) of Completion have been received and the project has been accepted by the LCPW via Final Acceptance Letter, LCPW Staff will authorize the system(s) to be placed into service.
 - E. **LCPW reserves the right to make any proposed water and/or sewer system private at any time prior to acceptance by LCPW and inclusion in the Lincoln County Public Distribution and Collection System is not guaranteed.**