ALTA SURVEY REQUIREMENTS

PURPOSE

All projects requiring an American Land Title Association (ALTA®) Survey shall be prepared in accordance with the Minimum Standard Detail Requirements for ALTA®/NSPS Land Surveys published by the American Land Title Association and National Society of Professional Surveys.

REQUIREMENTS

In addition to the general requirements/standards for an ALTA® Survey, the following TABLE A - Optional Survey Responsibilities and Specifications shall be included with the ALTA® survey:

A. Optional Item Numbers 1 through 5

B. Optional Item Numbers 8 and 9

C. Optional Item Number 11

D. Optional Item Numbers 13 and 14

E. Optional Item Numbers 18 and 19

All other optional items may be included however, the items listed above shall be considered the minimum requirements for an ALTA® surveys submitted to the City of Longmont.

The list of optional items is based on the Minimum Standard Detail Requirements for ALTA®/NSPS Land Title Survey, effective on February 23, 2021 published by the American Land Title Association (ALTA®) and the National Society of Professional Surveyors (NSPS).

LONGMONT POWER & COMMUNICATIONS (LPC)
BASIC REQUIREMENTS

GENERAL AND ADDITIONAL CONTACT INFORMATION

If any of the following items apply to the development application, include them with the submittal. Please contact the LPC staff member assigned to the project with any questions.

A. General Contact Information

Phone: (303) 651-8386
Fax: (303)651-8796
1100 S. Sherman St., Longmont, CO, 80501
www.longmontcolorado.gov/LPC

B. Additional Contact Information

FE Coordinator:
Jeremy Rachak, (303) 774-3632
Jeremy.Rachak@longmontcolorado.gov

Construction Coordinator:
Brad Kaufman, (303) 651-8842
Brad.Kaufman@longmontcolorado.gov

Meter Shop Supervisor:
Kari Spotts, (303) 651-8458
Kari.Spotts@longmontcolorado.gov

PLAT GUIDELINES

A. Provide easements for the purposes of:

(1) Surveying, locating, installing, constructing, using, operating, maintaining, inspecting, repairing, altering, removing and replacing cable, conduit and equipment in whole or in part, and all necessary subsurface and surface appurtenances; and

(2) Right of ingress and egress over and on the Easement Area that is necessary and appropriate.

PLAT COMMENTS

A. Identify the width and label all electrical easements as LPC easements.

B. Identify the width and label all combined electrical and water easements as LPC/Water Easement.

C. Place a note on the plat describing the use of the Out-lots and include the use for utilities.

D. Place the following note/s on the plat:

(1) Architectural features such as porches, overhangs, cantilevers, and window wells are not permitted in easements.

(2) Fences, landscaping with plant shrubs, woody plants, nursery stock or other crops may be located within easements provided they do not interfere with the use of, obstruct the operation of or access to said easement. Any fence, landscaping, or other improvement that obstructs the operation of or access to said easements may be removed by grantee without liability for damages arising there from.

(3) LPC and/or Water Easements are for the purpose of surveying, locating, installing, constructing, using, operating, maintaining, inspecting, repairing, altering, removing and replacing cable, conduit, equipment, and all necessary subsurface and surface appurtenances or other uses approved by LPC. Together with a perpetual right of ingress and egress for installation, operation, maintenance, repair and/or replacement of such.

SUBDIVISION GUIDELINES

A. Single Family Residential**:**

(1) Shall include a corridor seven feet in width adjacent to the right-of-way. The use of the specific easement will be shared with Water/Wastewater and labeled as "7' LPC/Water Easement."

B. Multi-family Residential**:**

(1) Shall have a minimum five-foot wide easement throughout the site with:

a. 10ft pocket easements around each 1ph transformer

b. 12.5ft pocket easements around each 3ph transformer

(2) Once the electrical design has been completed, this easement may be provided by choosing one of the following options:

a. Provide a specific easement on the Final Plat; or

b. Provide an easement over the entire lot or out-lot, exclusive of buildings, for LPC on the Final Plat; or

c. If a Re-plat or Final Plat is not available then provide an easement by separate document. This option must be completed before Final Approval.

C. Commercial

(1) Shall have a minimum five-foot wide easement throughout the site with:

a. 10ft pocket easements around each 1ph transformer

b. 12.5ft pocket easements around each 3ph transformer.

(2) A 12-foot wide easement will be required along any main feeder network path. Any deviations to this must be approved by LPC.

(3) Once the electrical design has been completed, this easement may be provided by choosing one of the following options:

a. Provide a specific easement on the Final Plat; or

b. Provide an easement over the entire lot or out-lot, exclusive of buildings, for LPC on the Final Plat; or

c. If a Re-plat or Final Plat is not available then provide an easement by separate document. This option must be completed before Final Approval.

D. Street Lighting

(1) LPC will place street lighting along the right-of-way only.

(2) Additional easements may be required for lighting in areas where primary electric facilities are not installed adjacent to the right-of-way.

E. Alleys

(1) Alley installations or areas not adjacent to the right-of-way will require a minimum 5' wide easement, as well as potential pocket easements for any equipment locations, in order to maintain the clearance requirements for electrical equipment from traveled roadways.

F. Ditches

(1) The Customer is responsible for negotiating, licensing and installing utility crossings of ditches.

PUBLIC IMPROVEMENT PLAN (PIP) OR SITE PLAN COMMENTS (THE CONSTRUCTION DOCUMENTS)

A. Create a section called "LPC CONSTRUCTION NOTES" and include all applicable notes:

(1) The Customer is responsible for obtaining utility locates. Call the Utility Notification Center of Colorado at 1-800-922-1987.

(2) The Customer shall organize the utility construction from deepest to shallowest; this includes private lighting and irrigation. Should LPC mobilize for construction efforts and find conflicts with shallow installations, the scope of the project may require extra charges.

(3) LPC shall not be held responsible for any delay in the project due to the Customer's failure to properly coordinate the installation of utilities as described in the item above.

(4) Longmont Power and Communications underground electric cable that exists near the project work area cannot be de-energized for crossing purposes. The Customer must take all precaution necessary to prevent damage to the cables or injury to the construction crew. Should the Customer damage these facilities, contact Longmont Power & Communications immediately at (303)651-8386. Longmont Power & Communications will repair the facilities and bill the Customer for all associated costs.

(5) Where Longmont Power & Communications overhead facilities exist in the development area, the Customer must keep all equipment operation a minimum of 10 feet from existing overhead electric lines. If this is not feasible, or conditions warrant additional protection or pole stabilization, the Customer must contact the LPC Operations Construction Coordinator at (303)651-8386. It is the Customer's responsibility to arrange protective covering and or pole stabilization, 48 hours in advance. Should the electric facilities be damaged, the Customer must contact LPC at (303)651-8386. Additionally, all costs associated with repairs will be the responsibility of the Customer.

(6) For cost effectiveness, streets, parking surfaces and sidewalks should not be paved or concrete placed until the conduit crossing for use by Longmont Power & Communications has been installed. The Customer is responsible for installing sleeves under roadways, culverts, ditches, sidewalks and existing utility facilities for the use of Longmont Power & Communication's facilities. Notification and coordination of the ditch crossings is a Customer responsibility. Refer to section 700 in the City of Longmont Design Standards and Construction specifications.

(7) An electric community investment fee will be charged for any new or upgraded services. The charge is calculated and based on the panel rating of the electric service and will be collected with the building permit fee.

(8) The cost to extend the electric utility system to the site and within the site, relocations or other changes is at the Customer's expense.

(9) Electric service lines and metering equipment are installed by the Customer. Refer to Detail 700-16 in the city of Longmont's metering standards and construction specifications for further details.

(10) The Customer is responsible for the preparation of their site to meet the specifications provided below. Engineering project designs and costs for the installation of LPC facilities are based on the Customer

meeting all site readiness requirements referenced in section 702.01. Additional charges may be incurred if the site is not properly prepared prior to the start of work by LPC. These charges may result from soil conditions, inadequate grading, surveying, road crossings, or construction phasing of other utilities.

(11) Customer installed street and sidewalk crossings shall be located and installed in accordance with City Standards. Reference detail 700-03 **(For All Development Types)**

(12) A ten (10) foot corridor along LPC's trench path must be graded to within 2 tenths of final grade at the time of LPC's installation. This path must be sloped relatively flat and smooth to facilitate trencher access and cable installation**. (For All Development Types)**

(13) LPC's trench path must be free of construction equipment, materials, scrap, concrete, or any object(s) that may inhibit trenching operation.

(14) The Customer is to coordinate the installation of facilities according to specifications, from deepest to shallowest, (i.e., sewer, water, electric, gas, communications, irrigation, landscaping). Facilities requiring an installation depth less than LPC utilities, which are installed prior to LPC facilities, will require a change order and may result in additional installation charges**. (For All Development Types)**

(15) Customer installed facilities shall be placed as shown on the master utility plan, back-filled, and compacted **(i.e., sewer, water, storm drainage, etc.) (For All Development Types)**

(16) The Customer shall provide utility locates for underground infrastructure installed but not currently owned and maintained by the City, i.e., sewer, water and storm drainage. Additionally, all empty conduits used as sleeves for irrigation and dry utilities must be located and clearly identified. LPC shall not be responsible for repairs to underground utility infrastructure that is not properly located and marked by using standard utility locating materials, paint, stakes, locating flags, per the typical locating procedure. Minimum accuracy of all locate marks must be within 18" either side of the underground infrastructure to be considered properly located**. (For All Development Types)**

(17) The Customer is responsible for accurate survey information, including elevations, for the center of LPC's trench path and five (5) foot offsets for two corners of each of LPC's equipment locations. **(All types of development; except for Single Family Residential)**

(18) Concrete sidewalks, curbs, gutters and pavement shall be installed. **(Single Family Residential only)**

(19) Concrete Driveways, landscaping and irrigation shall not be installed prior to LPC's facilities**. (Single Family Residential only)**

(20) Sidewalks shall be free of all debris with front property lines painted on the sidewalk and the rear property lines clearly staked. The Customer shall not place property pins within LPC's prepared path until the installation of LPC's infrastructure has been completed. **(Single Family Residential only)**

(21) The Customer is responsible for the cost to repair or replace any electric facilities damaged by the Customer or their agents during construction activities.

(22) LPC's warehouse can be accessed through the south gate at 1100 S. Sherman St, Longmont, CO 80501. Follow the instructions on the sign outside of the gate to gain access.

B. Landscape Plans

(1) Add the following notes to the Landscape Plans:

a. Installation of the landscaping within the ROW, electric easement and in the vicinity of the on-site electric distribution system cannot begin until the installation of Longmont Power &

communications facilities is complete. Expenses for any repairs of landscaping due to the electric installation will not be the responsibility of the City.

b. Landscaping is to maintain 3ft of clearance on the sides and back, and 10ft of clearance in the front of LPC's equipment (transformers/switches/vaults). In addition, any deep rooted trees must maintain 3 ft. of clearance from any of LPC's underground infrastructure (cables/conduits). Location of landscape material may be altered to provide adequate clearance from the final location of the electric distribution facilities to the satisfaction of Longmont Power & Communications. Refer to Details 700-01 Trench Clearances and **700-02** Equipment Clearances of the City of Longmont Design Standards and Construction Specifications.

C. Irrigation Plans

(1) Add the following notes to the "Irrigation Notes":

a. The electric services for the irrigation controllers are installed, owned and maintained by the owner or HOA.

b. The irrigation controller's metered electric service must be built to the National Electric Code (NEC), require a building permit and a one-line diagram. The one-line diagram must be shown as cold sequenced and labeled with the service size & voltage requirements.

(2) Show and label all irrigation controllers, lift station & pump locations that require electric service.

D. Electrical Details

(1) Please add a new sheet labeled Electrical Details and add the following details as the apply to the development (for any questions contact the LPC staff member assigned to the project):

a. (700-10) 3ph pad spec

b. (700-16) Metering single Family

c. (MTR-1) UG temp service

d. (MTR-2) post type temp service

e. (MTR-3) OH temp service

f. (MTR-4) Residential point of delivery

g. (MTR-8) clearance requirements

h. (MTR-9) gang metering

i. (MTR-10) CT cab specs

j. (MTR-11) installation specs

k. (MTR-13) meter house 1ph 150a & less

l. (MTR-14) meter house 1ph 200a

m. (MTR-16) wire configuration 3ph self-contained

n. (MTR-17) meter house 120/208 200a

E. One-Line Details

(1) Create a section called "LPC NOTES"

(2) Place the following notes under "LPC NOTES":

(3) The electric service lines and metering equipment are installed, owned and maintained by the Customer. **(Commercial)**

(4) The electric service lines and metering equipment are installed by the Customer and are required to maintain a direct line of site from the utility source to the meter. **(Residential)**

(5) Concrete transformer pads are to be installed, owned and maintained by the Customer. Refer to Detail **700-10** of the City of Longmont Design Standards and Construction Specifications. Timing for the construction of the transformer pad must be coordinated with LPC. **(Commercial 3ph, Multi-Family 3ph)**

(6) Meter housings for all types of services shall be located on the outside of the building or structure and accessible to meter readers as referenced in LPC Rates and Regulations Governing Electric Service.

(7) Badging of single, commercial and multiple meter sockets are the Customer's responsibility. Each meter of a multiple meter socket and all individual meter sockets will have a permanent phenolic badge showing which home, apartment, office, unit or room is metered by each meter.

(8) An additional 2" pvc conduit (provided by LPC) will be installed by the Customer in the service lateral trench from the Broadband J-Box located at the transformer to the telecom demarcation point on/in the building.

(9) Secondary cabinets are supplied/installed/owned and maintained by the Customer. Secondary cabinets can be installed a minimum of 5' and a maximum of 10' from the servicing LPC transformer.

(10) The Customer is responsible for the installation of (X)-4" PVC conduits with 90 degree, 48" radius sweep, in the secondary window of the transformer pad to a depth of 38" top of pipe and then brought into the Customer's secondary cabinet.

(11) LPC will be responsible for installing the cables between the transformer and secondary cabinet and terminating the cables in the transformer. The Customer is responsible for terminating the cables within the secondary cabinet.

NEXTLIGHT FIBER

A. Longmont's City owned broadband network will be installed to the point of service on the project.

B. The point of service will generally be adjacent to a buildings electrical source. Whether that is a transformer or electric junction box.

C. To complete the path to the unit reach out to the assigned LPC staff member or Ian Carmichael / Jonathan Keen with the Broadband Services department all of whom can be reached at (303) 651-8386.

DRC SUBMITTAL INFORMATION

A. Provide an Electric Service Request Form

B. PC will complete a design with the first submittal of the Public Improvement Plans or the first submittal of the Site Plan if no Public Improvement Plans are required.

C. Multi-phase developments may require LPC to complete an overall capacity design with the first phase submittal.

D. Charges for the development review and design effort are billable and collected with charges for the installation of the electric distribution system. If the project does not move forward to the construction phase, review and design charges will be invoiced to the Customer and are due upon receipt.

E. Provide an electric one-line diagram for all commercial and multi-family developments that shows the proposed service size/ampacity and voltage. All unit numbers, as well as house panels must be labeled on the one-line document.

F. The one-line diagram must be a part of the construction documents.

G. **With the initial submittal and all subsequent submittals the Owner/Customer shall provide LPC with:**

(1) An updated CAD file that shall include a minimum of the site, utilities, contours, landscaping and irrigation.

a. This file must be a single, compressed, 2D, unenhanced (dwg) or (dgn).

b. All drawings are to be spatially correct, to allow information to be transferred to the City's geographic information system.

c. The basis of bearing of the proposed development must be in the Colorado State Plane Coordinate System, based on the 1992 HARN adjustment of the 1982 North American Datum (HPGN NAD 83/92).

d. Upon submittal of the actual Preliminary Plat and/or Final Plat, the surveyor must include a location and a written description of coordinate values for monumentation on the plat. At least two (2) control points must be labeled on the plat using the state plane coordinate values.

e. The primary and secondary control points and other GIS land points, which may be used as initial starting values are provided free through the Boulder County web page. However, the information being provided by Boulder County does include a disclaimer. Please note that these GIS Land points cannot be used for determining legal boundaries. Please note that the GIS land points cannot be used for determining legal boundaries. Boulder County accepts no liability for the accuracy of these data points.

f. The primary and secondary control point data can be found at:

g. https://bouldercounty.gov/property-and-land/surveyor/control-networks/

h. Or by calling the Boulder County information line at: (303) 441-1700

(2) An updated One-Line diagram.

a. This must be a sheet within the site's construction documents.

(3) Updated pdf files (The pdf files and CAD file must match each other)

(4) The current submittal date must be incorporated at the end of each file name with the following scheme "_MM.DD.YYYY". This will help ensure we are always working with the most recent file.

(5) Attach LPC's CAD file to the design file (do not redraw it).

(6) LPC expects a clean CAD file from the applicant, if the CAD file from LPC isn't clean, notify LPC, and clean file will be provided.

(7) LPC's trench path, conduit crossings and equipment locations must be shown in all of the utility plan and profile views.

(8) Electrical equipment serving residential subdivisions adjacent to the right-of-way straddles property lines to provide service to two parcels. Refer to the Water Department standards for the installation of water service lines and fire hydrants. The locations and clearances from electric facilities are established to provide adequate clearances and access for the two utilities sharing an easement.

(9) Traffic signs shall not be installed on top of the electric distribution facilities. Maintain clearance requirements as outlined in the General Section and subject to utility locates.

(10) Electrical equipment requires clearance or setback on all sides from vehicular traffic. This includes driveways, alleys, parking lots, etc. Protection such as bollards will be installed at the Customer's expense, Refer to detail **700-18** in the City of Longmont Design Standards and Construction Specifications.

(11) Other than single family residential sites, LPC will allow for a joint trench operation with other telecommunication utilities. **This must be coordinated by the Customer.**

LPC CLEARANCES

A. Keep the LPC clearances in mind while designing other utilities as well as landscaping and irrigation.

B. 5' of clearance on sides and back, and 10' of clearance in front from structures, signs and any landscaping *(transformers)*

C. 5' of clearance from structures, signs and deep rooted landscaping *(trench)*

D. 5' from fire hydrants *(trench/transformers/junction facilities)*

E. 12" of clearance from storm inlets *(trench)*

F. 5' of horizontal & 12" of vertical clearance from Gas with 18" recommended

G. 5' of Horizontal & 12" of vertical clearance from Water with 18" recommended

H. 10' of Horizontal & 12" of Vertical clearance from Storm, SS and irrigation pipes/ditches with 18" recommended *(LPC understands that this isn't always possible and will allow our infrastructure to lay on top when crossing perpendicularly)*

I. The bottom of LPC' typical electric distribution trench will be at 42" deep with a 36" min and 48" maximum amount of cover.

J. 4" PVC standard LPC sleeves installed by the Customer **(These are to be used at road crossings and if the 36" min clearance from top of pipe to final grade can't be met)**

K. Typical Street light / fiber only trench will be at 24" deep

Additional specifications can be found online at: https://longmontcolorado.gov/planning-and-development-services/development-process/development-and-design-standards/

LONGMONT POWER & COMMUNICATIONS (LPC)
DRC SUBMITTAL CHECKLIST

REQUIREMENTS

A. General

Yes	No	N/A	Requirement
			1. Provide an Electric Service Request Form.
			2. LPC will complete a design with the first submittal of the Public Improvement Plans or the first submittal of the site plan if no Public Improvement Plans are required.
			3. Multi-phase developments may require LPC to complete an overall capacity design with the first phase submittal.
			4. Charges for the development review and design effort are billable and collected with charges for the installation of the electric distribution system. If the project does not move forward to the construction phase, review and design charges will be invoiced to the customer and are due upon receipt.
			5. Provide an electric one-line diagram for all commercial and multi-family developments that shows the proposed service size/ampacity and voltage. All unit numbers, as well as house panels, shall be labeled on the one-line document.
			6. The one-line diagram must be a part of the construction documents.

B. CAD File – Initial submittal and updated with each subsequent submittal

Yes	No	N/A	Requirement
			1. CAD file shall include a minimum of the site, utilities, contours, landscaping, and irrigation.
			2. CAD file shall be a single, compressed, 2D, unenhanced (.dwg) or (.dgn).
			3. All drawings are to be spatially correct, to allow information to be transferred to the City's geographic information system (GIS).
			4. The basis of bearing of the proposed development shall be in the Colorado state plane coordinate system, based on the 1992 Harn adjustment of the 1982 north American datum (hpgn nad 83/92).
			5. Upon submittal of the actual preliminary plat and/or final plat, the surveyor shall include a location and a written description of coordinate values for monumentation on the plat. At least two (2) control points shall be labeled on the plat using the state plane coordinate values.
			6. The primary and secondary control points and other GIS land points which may be used as initial starting values are provided for free through the Boulder County web page. However, the information being provided by Boulder County does include a disclaimer. Please note that GIS land points cannot be used for determining legal boundaries. Boulder County accepts no liability for the accuracy of the data points provided.
			7. The primary and secondary control point data can be found at: https://bouldercounty.gov/property-and-land/surveyor/control-networks/ - **OR** – Obtain each by calling the Boulder County Information Line at (303) 441-1700

C. One-Line Diagram - Initial submittal and updated with each subsequent submittal			
Yes	**No**	**N/A**	**Requirement**
			1. Diagram shall be a sheet within the site's construction documents.
			2. One-Line Diagram shall include updated pdf files (the pdf files and CAD file shall match each other).
			3. The current submittal date shall be incorporated at the end of each file name with the following scheme "mm.dd.yyyy". This will help ensure we are always working with the most recent file.
			4. LPC's trench path, conduit crossings, and equipment locations shall be shown in all of the utility plan and profile views.
			5. Electrical equipment serving residential subdivisions adjacent to the right-of-way straddles property lines to provide service to two parcels. Refer to Section 500 of the City Standards for the installation of water service lines and fire hydrants. The locations and clearances from electric facilities are established to provide adequate space and access for the two utilities sharing an easement.
			6. Traffic signs shall not be installed on top of the electric distribution facilities. Maintain clearance requirements as outlined in Section 100 of the City Standards.
			7. Electrical equipment requires clearance or setback on all sides from vehicular traffic. This includes driveways, alleys, parking lots, etc. Protection such as bollards will be installed at the customer's expense, refer to detail 700-18 in the City Standards.
			8. Other than single family residential sites, LPC will allow for a joint trench operation with other telecommunication utilities. This shall be coordinated by the Developer.

RESERVED (FIRE LINE DESIGN CHECKLIST)

RESERVED (CONCEPT LANDSCAPE PLAN CHECKLIST)

RESERVED (PRELIMINARY LANDSCAPE PLAN CHECKLIST)

RESERVED (FINAL LANDSCAPE PLAN CHECKLIST)

RESERVED (ARTERIAL ROW LANDSCAPING)

REQUIREMENTS

A. Formatting & General Requirements

Yes	No	N/A	Requirement
			1. Scale: Plan Sheet 1" = 50' horizontal or in greater detail (example: 1" = 30'). Bar scale.
			2. Scale: Profile 1" = 5' vertical or in greater detail (example: 1" = 1'). Grid scale.
			3. North Arrow
			4. Title Block: Including name of Engineer of Record, Owner/Developer, and revisions table.
			5. Size: 22"x34" on 24"x36" paper, such that it is scalable to 11"x17" (50%).
			6. Revision table: Submittal date and revision dates, as applicable.
			7. Professional Engineer's Certification in Title Block.
			8. Project boundaries and ownership information: Show project boundaries, property lines, adjacent property ownership information, lot and block numbers, section corners and rights-of-way (ROW) with dimensions. Provide recorded document reception numbers where available
			9. Easements: Show all existing and proposed easements, including type, width, and recordation information.
			10. Street Names: Show all adjacent street names and label ROW width on either side of centerline. All streets shall be clearly labeled Public or Private.
			11. Limits of Construction: Clearly demark the limits of construction.
			12. Existing & Proposed improvements: Show existing items screened back/lighter line type and proposed items in a darker line type.
			13. Key Map: Provide key map on each sheet of the plan set. Plan and profile shall provide a key map showing the area being detailed.
			14. Label the following for all proposed utility mains: size, material and type.
			15. Provide unique numbering system for manholes, cleanouts, and inlets and label each.
			16. All abbreviations used as callouts shall be defined.
			17. A legend defining all symbols used shall be included. As a minimum, the legend shall show different symbols and line types for all existing and proposed utility lines, fittings, and manholes, with the proposed items shown more prominently than the existing.
			18. Match lines and sheet numbers.

B. Cover Sheet

Yes	No	N/A	Requirement
			1. Project Name: Subdivision Name shall be placed in large letters at the top center of the page with the title "Public Improvement Plans" located below.
			2. Project Location: Legal description of the project shall be placed below the "Public Improvement Plans" title.
			3. Planning Annexation Number shall be centered below the Public Improvement Plans title.
			4. Provide names, addresses and phone numbers for the Developer(s), Owner(s), and Consultant Engineer.

Yes	No	N/A	Requirement
			5. Sheet Index: Number sheets consecutively and place sheet numbering in bottom right corner of each sheet to allow for indexing of multiple sheet plan sets.
			6. Vicinity Map: Adequately shows the project location including nearest two Arterial streets, existing street system, street names for major streets, City limits, and major public facilities.
			7. Vertical Survey Datum: Benchmark description and elevation conforming to NAVD88.
			8. Horizontal Control: Basis of bearings description shall be in the Colorado State Plane Coordinate System, based on the 1992 HARN adjustment of the 1982 North American Datum (HPGN NAD 83/92).
			9. All lineal units of measurement shall be defined in U.S. Survey Foot.
			10. Legend: Legend for all sheets with symbols pertaining to the sheet.
			11. Signature Block for City approval for Public Works, Natural Resources, LPC, and Fire.
			12. Signature Block for Professional Engineer's Certification: "These Public Improvement Plans were prepared by me or under my direct supervision in accordance with the requirements of the City of Longmont and State of Colorado Statutes. I am fully responsible for the accuracy of all design, revisions, and record conditions that I have noted on these plans."
			13. Floodplain statement and when applicable, delineation of the 100 year floodplain: "This property is located in ZONE AE (the based flood elevations determined) and Zone X (areas determined to be outside the 500-year floodplain) according to the Flood Insurance Rate Map (FIRM) for Boulder County, Colorado and incorporated areas, map number 08013CO268 K, effective October 24, 2024."

C. Construction Notes Plan Sheet

Yes	No	N/A	Requirement
			1. General Construction Notes.
			2. Landscape General Construction Notes.
			3. Longmont Power & Communications Construction Notes.
			4. Sanitary Sewer Construction Notes.
			5. Storm Sewer Construction Notes.
			7. Underdrain Construction Notes.
			8. Water Distribution Construction Notes.
			9. Wildlife Restrictions Construction Notes

D. Typical Section Sheet

Yes	No	N/A	Requirement
			1. Provide a typical section for each roadway type planned within the Project. Provide as either a separate sheet or as part of the roadway plan and profile sheets.
			2. Include dimensions for flow line to flow line; back of walk to back of walk; and ROW width.
			3. Label the type of curb, gutter, sidewalk, pavement section (or reference Pavement design report), and cross slopes.
			4. Provide any applicable horizontal or vertical dimensions in addition to providing a section of all improvements within the Right-of- Way.
			5. Include with each distinct section a list of streets to which the section applies.

E. Control Sheet			
Yes	**No**	**N/A**	**Requirement**
			1. Project control shall be tied to a minimum of two points that are Sectional Corners used as Horizontal Control.
			2. If State Plane coordinates HPGN NAD 83/92 are used and converted to Project Coordinates (Ground), include the Grid Factor (Sea level factor combined with scale factor). Show the Grid Factor to nine decimal places. If the Project Coordinates (Ground) were truncated, note what number was subtracted from the north and east coordinates. Project coordinates are to be shown to four decimal places.
			3. Include a table titled "Control Points" listing the HPGN NAD 83/92 Coordinates (Grid) compared to the Project Coordinates (Ground) on the same section and/or quarter section corners. In the table include all control points used for the project and found or set property pins noting the point numbers, the coordinates, elevations, and description sufficiently detailed to allow others to locate and identify the monuments. Clearly identify whether the Project Coordinates are modified to Ground, were truncated, or are assumed.
			4. Use Benchmarks from the City of Longmont Interactive Surveying Vertical Benchmark Map. Elevations shall be shown to two decimal places. Include a note listing the benchmark name, a complete description, and elevation, and clearly identify NAVD 88 is the basis for all elevations.
			5. Any Public Land Survey System corner that was occupied and has been re-monumented shall be noted and a Colorado State Monument Record shall be filed with the State, per Colorado Revised Statutes.
			6. Right-of-way shall be shown with adjoining subdivision names. The right-of-way limits shall be used to establish the street centerline stationing for plan and profiles. Include centerline curve and line data by labeling on plan or in a table format.
			7. The survey control drawing shall be stamped and signed by a Professional Land Surveyor, licensed in the State of Colorado, under whose supervision the drawing was prepared. Signature and date shall be written over the PLS stamp.
			8. Uniquely identify project control on the construction plans to show the relationship of the project control to the construction site.

F. Demolition & Removal Plan Sheet			
Yes	**No**	**N/A**	**Requirement**
			1. Clearly depict and label existing improvements that are being demolished or removed.
			2. Provide legend for material removals.
			3. Provide notes for removal including identifying areas to be sawcut.
			4. Provide existing contours.
			5. Identify protect in place items.
			6. Show existing infrastructure including utilities, meters, and service lines etc.
			7. Show abandonment of any existing utilities.

G. Overall Utility Plan

Yes	No	N/A	Requirement
			1. Provide an overall utility layout for the site on one sheet and include a key map for any additional utility plan sheets required to show sufficient detail.
			2. Show existing and proposed public and private infrastructure including transportation components (e.g. traffic signals, handicap ramps, sidewalks,curbs, gutters, bike paths) and utility components (e.g. street lights, sanitary, storm, water supply.).
			3. Show locations of proposed structures, including walls, fences, trash enclosures, etc.
			4. Provide horizontal water distribution system alignment including valves, tees, connections to existing system, future stub outs, hydrants, services, water meters, irrigation meter(s) and POC's, backflow devices, and any other proposed appurtenances.
			5. Show and depict dimension to nearest valve at proposed connections to the existing water system.
			6. Provide horizontal sanitary sewer collection system alignment, connections to existing system, future stub outs, manholes, and services.
			7. Provide horizontal storm sewer system alignment, connections to existing system, manholes, inlets, swales, ditches, detention, and water quality facilities.
			8. Provide horizontal electric system alignment, connections to existing systems, electrical equipment locations, and trench alignment.
			9. Provide horizontal underdrain collection system alignment, connections to existing system, future stub outs, manholes, cleanouts, and services. For larger sites provide symbol/legend combining sewer and underdrain utility.
			10. Show abandonment of existing utility lines.
			11. Provide service layout detail for residential lots.

H. Grading Plan

Yes	No	N/A	Requirement
			1. Provide an overall grading plan for the site on one sheet showing proposed and existing grades at five-foot contours and include a key map for any additional grading plan sheets required to show sufficient details.
			2. Show limits of construction and any required additional temporary construction easements.
			3. Show existing and proposed public and private infrastructure including transportation components (e.g. traffic signals, handicap ramps, sidewalks,curbs, gutters, bike paths, storm sewer system, and irrigation ditches).
			4. Show proposed and existing grades at one-foot contours at a scale of 1"=20', or in greater detail.
			5. Show existing site topography and contours on adjacent properties extending a minimum of 50 feet past property line.
			6. Label elevations of all lot corners, finished floors, grade breaks, high points, and low points.
			7. Label slopes of swales, gutters, pavement, driveways, sidewalks, sidepaths, ditches, and any other required facilities.
			8. Streets with separate plan and profile sheets do not need elevations and slopes.

Yes	No	N/A	Requirement
			9. If the plan does not warrant separate sheets for intersection details, grading plan shall include spot elevations and flowlines for crosspans, handicap ramps, and radius of curb returns. Include stationing and cross-sections for radius of curb returns.
			10. Label all catch and spill gutters.
			11. Show location of fences, retaining walls, and other physical site improvements impacting site drainage. Cross-sections may be necessary to detail these features.
			12. Show all retaining walls and label top of wall and bottom (bottom of footer) of wall elevations and setback to property lines. Walls greater than 4 feet from bottom of footing to top of wall require a separate submittal (with a structural design) for a building permit.
			13. Show stormwater conveyance features and the location of all stormwater facilities.
			14. Show boundary of the existing and proposed one-hundred-year floodplain limits and base flood elevations.
			15. Show drainage channels and other significant natural features and wetlands within the property boundary. Dashed lines shall be used to show any proposed modification to drainage channels and floodplains.
			16. Information on the Neighborhood Grading Plan (NGP) shall include lot elevations at all corners, finish floor or top of foundation grades with building envelope, grading pattern around the building with spot elevations and arrows indicating directions of flow, and lot designation as Type A or B. On the plan include a detail for typical lot grading for each of proposed Type A or B.
			17. For NGP concentrated flows shall be conveyed in drainage easements located on common property lines. Where more than 2 lots convey flows to the common property line of another lot, the drainage easement shall be located in a outlot owned by an HOA, district, or other responsible entity and no lot shall receive inflow from a tributary area exceeding 1.5 times the receiving lot area. A note shall be added to the Plat allowing only split rail fencing on these losts.
			18. For the NGP include the Neighborhood Grading & Drainage Notes.
I. Transportation Improvements			
Yes	**No**	**N/A**	**Requirement**
1. General			
			1. Plan and profile sheets shall include all existing and proposed utilities.All applicable transportation and utility information shall be shown on a single profile. However, if information is not able to be shown sufficiently, separate plan and profiles may be requested.
			2. Call out and include pertinent details related to the transportation improvements. Use City of Longmont Section 200 standard details, as applicable.
2. Roadway Plan View			
			1. Define the roadway horizontal alignment and show centerline stationing at 50-foot intervals.
			2. Annotate and dimension curves including point of curvature, horizontal curve radius and length, degree of curvature, and superelevation. Label PC, PT, and return radii at intersection connections and access locations as applicable.

Yes	No	N/A	Requirement
			3. Annotate and dimension each tangent with point of tangency (PT), tangent length and bearing.
			4. Annotate the PI stationing at intersections (Intersection equations).
			5. Label the flowline-flowline and right-of-way width dimensions.
			6. Include traffic calming elements.
			7. Label existing and proposed curb and gutter type and sidewalks on or adjacent to site. Label begin and end stations and offsets of roadway features such as pavement construction, curb and gutter, sidewalk, etc.
			8. Label existing and proposed sidewalk widths.
			9. If plan does not have separate intersection details; include spot elevations and flow lines for cross pans, handicap ramps and radius of curb returns and include stationing and cross-sections for radius of curb returns.
3. Roadway Profiles			
			1. Label the profile along the roadway centerline and label grade. Include curb and gutter flowline profiles as requested.
			2. Label roadway stationing and existing and proposed profile grade elevations.
			3. Show profile of connecting streets at a minimum of 50 feet beyond the proposed roadway connection or as requested by the City Engineer.
			4. Annotate vertical curve data, e.g. stationing at point of curvature (PVC), point of vertical intersection (PVI), curve length, k-value, beginning and ending grades.
			5. For crosspans identify stationing and elevations for edge of pan and flowline and start of transition from street crown to crosspan.
			6. Label beginning and end crown transition stations.
			7. Show plan and profiles for at least 100ft beyond the interim terminus for dead end streets slated for future extension.
			8. Provide flowline profiles at all intersecting streets (where flowlines are not symmetric with centerline profile.) This can also be shown on the Intersection Grading Details.
			9. Provide flowline profiles at cul-de-sacs.
			10. Show culverts or bridges.
4. Intersection Grading Details			
			1. Provide key map uniquely labeling each intersection location.
			2. Provide curb and gutter flowline match elevations, spot elevations, arrows, and percent grade in the plan view.
			3. Include return radii flowline profiles at all intersections and include stationing.
			4. Provide match elevations and spot elevations for all handicap ramps.
5. Roadway Cross Sections			
			1. Include cross-sections for all Principal/Minor Arterial and Collector streets at 50-foot intervals and extend 50-foot beyond the project limits and/or as determined by the City Engineer.
			2. Show existing and proposed surface grade, roadway, curb and gutter, sidewalk, catch slopes, roadside swales, ROW lines, and utilities. Label ROW lines and proposed slopes and grades.

Yes	No	N/A	Requirement
			3. Cross-section width shall extend a minimum of 25-foot beyond property lines or as required by the City Engineer.
6. Signage and Striping Plan			
			1. Provide permanent and temporary traffic signing and pavement markings.
			2. Show locations of signs and pavement markings. Each shall be indicated by station/offset or other specific dimensions indicating exact locations.
			3. Pavement marking and sign types shall be indicated on these plan sheet(s) (i.e., epoxy paint with x/x glass-to-bead ratio, R1-1 Stop Sign, etc.)
			4. This sheet shall also contain any construction or application notes (i.e., application temperatures, surface cleaning methods to be used prior to application, etc.).
			5. Include a note that relevant signage per paragraph 606.03 is to be provided per Longmont Parks & Greenways Signage Manual for all publicly owned park and greenway areas.
			6. Include a signage schedule with sign type, message, size of panel, type of post, and symbol key for all publicly owned park and greenway areas. Include Courtesy signs, Regulation Signs, Entry Identification signs and Temporary signs, Specialty signs, and MUTCD Bike Route signs.
			7. Include a site furnishings schedule with amenity type and symbol key for all publicly owned park and greenway areas.
7. Sight Distance Plan			
			1. The construction plan set shall have a sight distance sheet that indicates all criteria, assumptions, and calculations for the proposed sight distance triangles showing compliance to AASHTO sight distance criteria.
8. Traffic Signal Plan			
			1. These sheets(s) shall show all Plan views and details necessary to construct a traffic signal. Equipment, materials, and installation shall conform to the City of Longmont's Traffic Signal Adopted Standards and Technical Specifications and the National Electrical Code. Signal poles on state highways shall conform to CDOT Standard Specifications for Road and Bridge Construction but shall otherwise defer to City of Longmont standards. The traffic signal(s) shall also contain an emergency vehicle preemption device as specified by the TCR.
J. Storm Sewer Plans			
Yes	**No**	**N/A**	**Requirement**
1. General			
			1. Provide plan and profile, vertical and horizontal alignments, connections, manhole and inlet rim and invert elevations, manholes, inlets, culverts, and sizing (annotated with Hydraulic Grade Line) as identified.
			2. Include plan, profile, cross-sections, notes, and details of all minor and major drainageway improvements. Annotate with water surface elevations.
			3. Call out and include pertinent details related to the storm sewer improvements. Use City of Longmont Section 300 standard details, as applicable.
2. Storm Sewer Plan Views			
			1. Label station, offset, unique ID, size, and material type of existing and proposed utility lines, and horizontal clearance from existing and proposed utilities and edge of gutter.
			2. Show proposed tie-in/connection to existing improvements with stationing.

Yes	No	N/A	Requirement
			3. Show existing and proposed obstructions such as vaults, catch basins, traffic islands, street lights, walls, or other permanent structures on or adjacent to site.
3. Storm Sewer Profile			
			1. Provide existing and proposed grade lines.
			2. Label appurtenances (manholes and inlets) with unique ID, station, and elevation of manhole and inlet rims inverts (with direction), and sizes of all pipes coming into and going out of manholes and inlets.
			3. Provide length and slope of main between each manhole or inlet.
			4. Show all utility crossings – include types and sizes of mains, stationing, and vertical clearance dimension between mains.

K. Underdrain Plans

Yes	No	N/A	Requirement
1. General			
			1. Show on utility sheets as unique line symbology for sewer and underdrain in same trench, sewer only and underdrain only.
			2. Call out and include pertinent details related to the underdrain collection system improvements. Use City of Longmont Section 300 standard details, as applicable.
2. Underdrain Sewer Plan Views			
			1. Label station, offset, unique ID, size, and material type of existing and proposed utility lines, and horizontal clearance from existing and proposed utilities and edge of gutter.
			2. Show proposed tie-in/connection to existing improvements with stationing.
			3. Show existing and proposed obstructions, such as vaults, catch basins, traffic islands, street lights, walls, or other permanent structures on or adjacent to site.
1. Underdrain Profiles			
			1. Show existing and proposed grade lines.
			2. Label appurtenances (manholes and clean-outs) with unique ID, station, and elevation of manhole and clean-out rims; inverts (with direction) and sizes of all pipes coming into and going out of manholes and clean-outs.
			3. Label length and slope of main line between each manhole or cleanout.
			4. Show all utility crossings – include types and sizes of mains, stationing, and vertical clearance dimension between mains.

L. Sanitary Sewer Collection System Plan & Profiles

Yes	No	N/A	Requirement
1. General			
			1. Provide plan and profile, vertical and horizontal alignments, connections, manhole rim and invert elevations, and sizing.
			2. Call out and include pertinent details related to the sanitary sewer collection system improvements. Use City of Longmont Section 400 standard details, as applicable.
2. Sanitary Sewer Plan View			
			1. Label station, offset, unique ID, size, and materials of existing and proposed utility lines, casings, and appurtenances.

Yes	No	N/A	Requirement
			2. Show proposed tie-in/connection to existing improvements with stationing.
			3. Show existing and proposed obstructions such as vaults, catch basins, traffic islands, street lights, walls, or other permanent structures on or adjacent to site.
3. Sanitary Sewer Profiles			
			1. Show existing and proposed grade lines.
			2. Label appurtenances (manholes and clean-outs) with unique ID, station, elevation of manhole rims, inverts (with direction), and sizes of all pipes coming into and going out of manholes.
			3. Label length and slope of main line between each manhole.
			4. Show all utility crossings – include types and sizes of mains, stationing, vertical clearance between mains, and stationing for each end of pipe encasement (if applicable).
M. Water Distribution Plans			
Yes	**No**	**N/A**	**Requirement**
1. General			
			1. Provide plan and profile, vertical and horizontal alignments, connections, and graphically depict water distribution appurtenances on the main including valves, thrust blocks, restraints, tees, fittings, hydrants, services, and any other appurtenances that are part of the potable water system.
			2. Call out and include pertinent details related to the water distribution system improvements. Use City of Longmont Section 500 standard details, as applicable.
2. Water Distribution Plan Views			
			1. Label station, offset, size, and materials of existing and proposed utility lines, casings and appurtenances.
			2. Show proposed tie-ins to existing improvements with station, fittings, valves, and tapping or connection method.
			3. Show existing and proposed obstructions, such as vaults, catch basins, traffic islands, street lights, walls, or other permanent structures on or adjacent to site.
3. Water Distribution Profiles			
			1. Provide existing and proposed grade lines.
			2. Label valves and fittings with stations (with direction), elevations and sizes of all pipes and fittings. Label all vertical deflection station and elevations.
			3. Provide length of main between each fitting and/or deflection.
			4. Show all utility crossings – include types and sizes of mains, stationing, and vertical clearance dimension between mains, and stationing for each end of pipe encasement (if applicable).
			5. Depict water line lowering with stationing and elevations for all bends.
N. Landscape Plans			
Yes	**No**	**N/A**	**Requirement**
			1. On the first sheet of the landscape design include the Landscape Plan Notes located in Appendix B of the City Standards.

Yes	No	N/A	Requirement
			2. Landscape designs for City owned areas shall be separate plan sheets from the areas that are private or common areas within the PIP set that contain an individualize legend, notes and details.
			3. Separate landscape schedules shall be provided for each regulated area. Shall include quantity per species, botanical name, common name, size and condition purchased (e.g., balled & burlapped / B&B, mature height and spread, etc.).
			4. Individual plant layout at 2/3 mature size with specific plant species for each plant group as identified by a key that relates to a full landscape schedule.
			5. Provide soil test results and recommendations. Imported topsoil shall require soil testing.
			7. Existing topography at one (1) foot contour interval for all public areas including rights-of-way and greenways (primary and secondary).
			8. Proposed topography that ties to existing contours indicating cut and fill areas clearly.
			9. Slope arrows for sidewalks, sidepaths and landscaped areas indicating minimum and maximum slopes allowable labeled in ratio format.
			10. Location and general dimensions of sidewalks, sidepaths, and greenways with surface grades (vertical and horizontal), showing connections and curve radii.
			11. Logical demarcation of public vs. private lands for ownership and maintenance purposes utilizing fences, sidewalks, sidepaths, shrub beds, or other permanent objects.
			12 Existing and proposed utilities labeled with associated easements and graphically shown in correct alignment, underground or overhead, and easement width dimensions.
			13. Label 100-year floodplain boundary and 10% of 100-year floodplain boundary as required.
			14. Ultimate curbline alignment (horizontal and vertical) and existing edge of asphalt along arterial ROWs slated for future expansion.
			15. Show sight distance triangles and obstruction free zones at each intersections. These areas shall be free of obstructions taller than 30 inches.

O. Irrigation Plan

Yes	No	N/A	Requirement
			1. Include the Irrigation Plan Notes located in Appendix B of the City Standards on the first sheet of the irrigation design.
			2. Irrigation system designs for City owned areas shall be separate plan sheets within the PIP set from the areas that are private common areas and shall contain individualized legend, notes and details.
			3. Provide two separate irrigation schedules for City owned and private common areas that show a key for each piece of equipment that describes the manufacturer and provides model number and/or other designation.
			4. Provide an overall irrigation sheet that shows each irrigation tap and the areas (outlots, ROWs, etc.) that each tap will irrigate. The area being served by each irrigation tap should have a unique hatch pattern corresponding to that tap. This sheet will be similar to a phase map for the irrigation system.
			5. Show irrigation plan information including irrigation mains and laterals, heads, valves, tap, controller and other miscellaneous equipment layout.

Yes	No	N/A	Requirement
			6. Provide gpm, valve size, and valve number for each remote-control zone valve.
			7. Provide pipe sizes for each section of mains and lateral.
			8. Meter pits with taps larger than two (2) inches shall require approval by the City Engineer.
			9. Provide and label minimum design pressure.
			10. All irrigation taps and electric services shall have an address and building permit before installation.
			11. Drip irrigation shall be provided for all trees and shrubs located in shrub beds and in all native seeded areas (even those native seed areas approved for temporary irrigation). Trees located in irrigated turf areas shall not receive drip. Drain valves shall be included at the end of each drip lateral pipe.
			12 Denote the location of the electric meter for irrigation controllers.

P. General

Yes	No	N/A	Requirement
			1. Section 100 Details: General Requirements (Utility Trenching).
			2. Section 200 Details: Transportation.
			3. Section 300 Details: Storm Drainage Improvements.
			4. Section 400 Details: Sanitary Sewer.
			5. Section 500 Details: Water Distribution.
			6. Section 600 Details: Landscaping and Irrigation.
			7. Section 700 Details: Longmont Power & Communication.

Q. Phasing Plan Sheet (as applicable)

Yes	No	N/A	Requirement
			1. Depict the phase plan for the site on one sheet.
			2. Show property boundaries lot lines, rights-of-way, easements (e.g. street lights, sanitary, storm, water supply).
			3. Show existing and proposed public and private infrastructure including transportation components (e.g. traffic signals, handicap ramps, sidewalks,curbs, gutters, bike paths) and utility components (e.g. street lights, sanitary, storm, water supply).
			4. Show locations of proposed structures, including walls, fences, trash...etc.
			5. Show project phase boundaries using wide, dashed lines and annotateeach phase.
			6. Include notes for each phase specifying phase order.
			7. List temporary and permanent improvements required in each phase, i.e. interim turnarounds for dead end roads.