

COMMERCIAL SITE DEVELOPMENT CHECKLIST

Site Plan-

1. Location(s) of existing and proposed easements shall be shown.
2. The north arrow and proper drawing scale shall be shown.
3. The site plan will need to show site configuration including buildings, parking, sidewalk, curb and gutter, landscaping, fencing, and all nearby existing driveways especially those across the street from the development.
4. The site plan shall include design TBC elevations and TOA elevations, other spot elevations, grade breaks and ridges.
5. The locations of existing utilities including culinary water, sanitary sewer, storm drain, irrigation, land drain, streets, etc. shall be shown on the site plan. If the developer is to connect to existing laterals or meters, they shall verify the condition meets current Layton City Standards.
6. The proposed location(s) for the sewer, storm drain (including inlets), water (including valves and hydrants), land drain, irrigation, lighting for public right of way and other public utilities shall be shown on the site plan.
7. Identify boundaries of the 100-year flood plain area as defined by FEMA map, if applicable.
8. Written approval for utility easements, stream alterations, irrigation alterations, and/or street access alterations shall be submitted prior to scheduling a pre-construction meeting.

Storm Water –

1. A grading and drainage plan must be submitted with the calculations for the proposed storm drain pipe system and 100 year storm water detention basin. The grading and drainage plan must include pipe material, sizes, lengths, slopes, flow elevations, rim elevations and contours to verify proper runoff.
2. Storm drainage calculations for pipes shall clearly identify the “C” value, rainfall intensity, inlet sub-basin area, total flow and required flow for each pipe section. Pond calculations must show the “C” value, rainfall intensity, acreage, allowable discharge, orifice size and required 100 year storage. (See Layton City Development Guidelines and Design Standards for Storm Drain Systems for design values.)
3. Storm drainage detention basins shall be sized for the 100-year return storm. Underground detention will only be allowed in high density urban areas and must be approved by the City Engineer. Volume in a pipe system will not be considered as storage. The dimensions, volume, and high water elevation of detention areas shall be clearly indicated on the plan. Typically, the maximum depth of water for the detention ponds is 3.0 feet. Depths greater than three (3) feet require approval by the City Engineer. The bottom slope shall be designed to prevent permanent stagnation of water. A bypass pipe for low flows may be required as part of the detention basin. In addition, 12 inches of freeboard above the high water mark is required for the detention pond. The side slopes of the detention pond shall be 3:1 (H:V) or flatter (walls not allowed in ponds). The detention basin shall include a separate inlet and outlet pipe with a control structure located in the pond berm. A detail of the control structure shall be shown on the plans and must include an orifice and overflow wall in the structure. (See Layton City ST-SD-16 for standard inlet/outlet structure drawing).

4. Detention ponds will be surveyed by the City, prior to being landscaped, to verify required capacity is available.
5. Storm drain pipes shall connect to and discharge into an approved storm drain system that is owned or maintained by Layton City, or a natural channel maintained by Davis County Flood Control, with approval, specified by county ordinance. Use of irrigation ditches, pipes, or other private drain systems for discharge of storm water from the development is not allowed.
6. Storm drain pipe within Layton City right-of-way shall conform to city standards.
7. Twenty-five percent (25%) of a required parking stall can be used for detention. All hard surfaces, not required for parking, can be used for detention.

Storm Water Pollution Prevention Plan-

1. The developer shall submit a Storm Water Pollution Prevention Plan with all site plans which implements the 'Best Management Practices' adopted by the Layton City Storm Water Management Plan.
2. For sites greater than 1 acre, the developer is required to obtain a UPDES Construction Storm Water Permit from the State and submit a copy to Layton City before scheduling a pre-construction meeting.

Sewer –

1. The proposed location(s) for the sanitary sewer shall be shown and the site plan shall specify the size, slope, and material of the sewer lateral.
2. Sewer lateral(s) shall have a minimum slope of 2% for 4-inch laterals, and 1% for 6-inch laterals. This shall be specified on the site plan.
3. Clean-outs along the sewer lateral shall be spaced at a minimum of 90 feet.
4. All commercial connections shall have individual connections based on unit ownership.
 - A. If one building site has one or more buildings and has one owner or one group of owners, (such as a partnership or a condominium venture) but is divided into two or more units, only one connection per building will be allowed. An example may be a strip center, which is built on one lot but contains several stores. Only one service per building is provided.
 - B. If several buildings are built on separate lots as part of an over-all development scheme, one connection per unit will be required. An example is a business park similar to the Traveler's Inn location.
5. Commercial connections will be required to submit calculations showing the anticipated peak flow demand OR the number of fixture units for the sanitary system. The International Plumbing Code will dictate the size of the line depending on the submitted information.
6. The sewer connection shall be made directly to the city sewer main for 4-inch laterals. For laterals 6-inches or larger, the connection shall be made into a manhole. The flow line of the new sewer service shall match the flow line of the manhole bottom. The sewer is not allowed to drop from a higher elevation inside the manhole. For connections into existing manholes, the manhole shall be cored and a trough created in the bottom.
7. Sewer improvements within Layton City right-of-way shall conform to City standards. If the development is to connect to a North Davis Sewer District main, the site plan shall indicate this and the developer will be required to submit to Layton City a letter from the sewer district approving the connection or alterations.

8. There must be a minimum of 1 ½ feet vertical clearance between water and sewer mains. Sewer mains must cross under water mains.
9. A minimum 10-foot horizontal separation is required between sewer and water mains.

Water –

1. The proposed location(s) for the culinary water (including isolation valves and fire hydrants) shall be shown on the site plan. The site plan shall indicate pipe sizes and material. Pipe material for a 2-inch water service and less shall be type K copper tubing or HDPE CTS-OD SDR-9 poly tubing from the water main to the water meter. Pipe material for water services between 3 inches and 12 inches shall be C-900 DR14 PVC pipe. All water lines larger than 12 inches in diameter shall be class 51 ductile iron pipe.
2. Meters shall not be installed within asphalt areas. Commercial meters 1.5” and larger shall be installed behind the sidewalk, meters smaller than 1.5” shall be located in the park strip.
3. Multi-family units and private residential subdivisions will require a master meter. Meters 3 inches and larger will require a backflow assembly in a separate manhole/vault after the master meter vault. Adequate access and 12 inches of clearance on all sides of an APWWA approved backflow assembly is required. The backflow assembly and vault will be privately owned and maintained. The level of protection of the backflow assembly is determined by the type of development being proposed.
4. Fire lines with hydrants connected on the line into a commercial development shall connect to the water main in the street, and shall be a minimum of 8 inches in the public right of way. No other service connections can be made to this line, unless it is a looped line. (See 9.C below). A gate valve shall be installed at the connection in the street.
5. Bends are not allowed on the connection of a public fire hydrant to the city water main.
6. Fire sprinkler lines shall be separate lines from the service lines, and shall connect to the main in the street. A gate valve shall be installed at the connection in the street. The line shall be a minimum of 6 inches within the city’s right-of-way. Behind the right-of-way, the sprinkler line size will be according to the fire protection engineer’s calculations. If another connection is made to the fire sprinkler line (i.e. fire hydrants), the line will need to be a minimum of 8 inches.
7. A minimum fire flow of 3,000 gpm is required for commercial development. The fire flow requirement may be reduced to 1,500 gpm if approved by the City Fire Marshall. The fire flow may be increased as determined by the City Fire Marshall.
8. A list of all water fixtures and quantities that are to be installed as part of the development shall be submitted. Water fixture unit counts shall be submitted to verify that water meters and laterals are appropriately sized to handle demands. Commercial connections shall be sized according to the peak domestic fixture count and outdoor use as determined by the City Engineer.
9. All commercial connections shall have individual connections based on unit ownership.
 - A. If one building site has one or more buildings and has one owner or one group of owners, (such as a partnership or a condominium venture) but is divided into two or more units, only one connection per building will be allowed. An example may be a strip center, which is built on one lot but contains several stores. Only one service per building is provided.

- B. If several buildings are built on separate lots as part of an over-all development scheme, one connection per unit will be required.
- C. A water service line may be connected to a fire hydrant line system where a loop system exists, or is proposed, through a large commercial development, and the following items are considered:
 - (1) The fire hydrant system is isolated from the culinary system with isolation valves. The fire line shall be able to be removed from service without affecting the culinary system, and the culinary line shall be able to be removed from service without affecting the fire line system. The City is responsible for the meters and meter boxes. All water lines, from the valves at the connection to the city mains, are privately owned and maintained.
 - (2) An isolation valve will be required on the City main between the fire hydrant loop system. This will apply when the loop connection is made to the same culinary waterline.
 - (3) Master meters are installed at each connection to a Layton City main.
 - (4) The fire hydrant line size shall be increased to accommodate the increased demands.
 - (5) The minimum combined system line size shall be 8 inches.
 - (6) The dedication plat and CCR's for the development shall specify waterline responsibility and ownership.
 - (7) Lateral connections to a single hydrant line stub are not allowed.
- 10. Water exactions – Layton City passed an ordinance on November 4, 2004 requiring all development to provide irrigation water shares to Layton City. This is required for all development. The water exaction requirement is based on the required water meter size for the development. The water shares shall be dedicated to the city before scheduling a pre-construction meeting.
- 11. If a fire flow meter is installed, the water exactions requirement will be based on the meter size required for a supply line only.
- 12. An 11" x 17" utility plan and a "water/sewer crossing table" must be submitted for approval by the State Division of Drinking Water.

Street –

- 1. Drive approaches shall be 20 feet from the nearest property line, 80 feet from intersections, and 200 feet from existing or future signalized intersections.
- 2. The site plan shall show the proposed street improvements such as sidewalk, park strip, curb and gutter, driveways and lighting in the public right of way.
- 3. Sidewalk through a drive section shall be 6 inches thick in commercial areas.
- 4. Disabled ramps with ADA paver sections (truncated domes, red brick in color), shall be constructed at each street corner, and other locations as determined by the city engineer.
- 5. Waterways shall be used only at locations not served by a storm drain system.
- 6. Plans will need to show adjacent drive approaches.

General –

- 1. Once a development has received final approval, six full sets of plans must be submitted prior to scheduling a pre-construction meeting. All sheets shall be stamped and signed by a professional engineer.

2. Other residential requirements may be applied to the commercial site plan checklist.