2024 PROVO CITY
PUBLIC WORKS DEPARTMENT
DEVELOPMENT DESIGN STANDARDS

provo
PUBLIC WORKS

Contents

INTRODUCTION

This document has been prepared and compiled by the Engineering Staff of the Public Works Department. This document is to assist developers in understanding the current procedures for the review and approval, by the Public Works Department, for developments within the City.

The review process may require multiple reviews and approvals. These include the Concept Plan Approval, Preliminary Plan Approval, and Final Plan Approval.

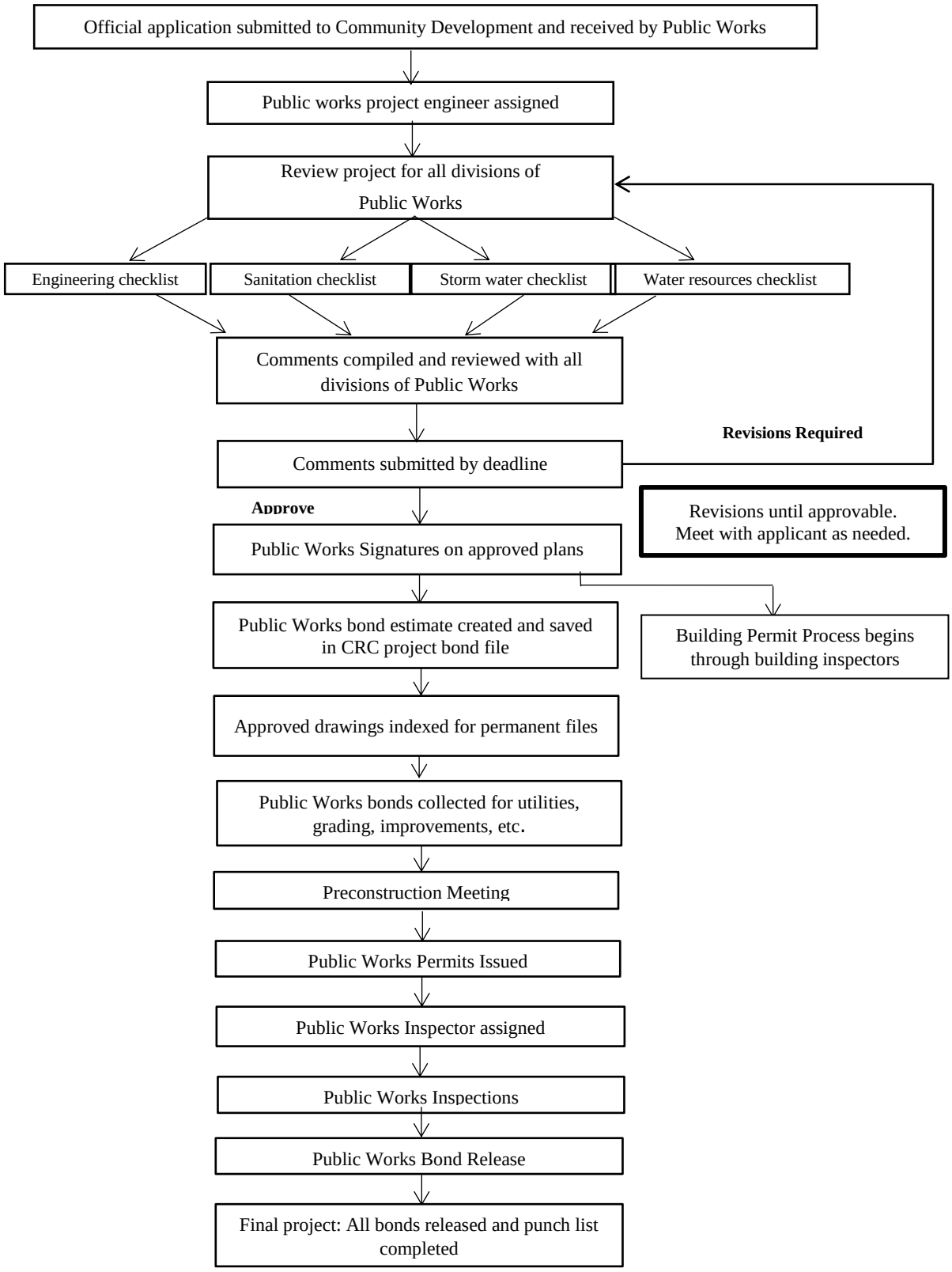
In addition to the previously mentioned reviews and approvals, developments may also require review and approvals for annexation and rezone requests.

This document includes a TABLE OF CONTENTS which directs the user to a specific topic and page; a process to guide the developer through the review and approval process; and information required to be included in the submittal process. All drawings shall be saved in the datum NAD 83, Utah State Plane, Central Zone, US Survey Foot, NAVD 88.

The items contained in the document have been prepared as a supplement to the adopted subdivision ordinances and standards, and are provided as an aid to the Developer. Through the use of this document, the Developer will be able to more closely comply with adopted standards.

This document is not intended to fully represent the current adopted subdivision ordinance, construction standards and drawings, master plans, or other City requirements. The Developer shall be responsible to comply with all of the adopted ordinances and standards of Provo City

PUBLIC WORKS DEVELOPMENT REVIEW PROCESS



CONCEPT PLAN CHECKLIST

This type of application must first be reviewed by the Coordinator's Review Committee (CRC) consisting of Provo City Staff. All submittals shall be submitted to Community Development. The City staff will make a recommendation to the Provo City Planning Commission for consideration. The Planning Commission has the authority to either approve or deny the request.

Below is a list of information that is required to be submitted with the application in order for City staff to process the request. If any of the required information is not submitted, the application will be considered incomplete and will not be accepted.

In compliance with the Provo City Code a concept plan application shall include:

1. Application form submitted it to the City
2. Receipt of all paid application fees
3. Plan submitted electronically showing the proposed development layout with the following information:
    a. Total acreage of the site and the percentages designated for various uses
    b. Proposed traffic circulation pattern
    c. Proposed recreation facilities and improvements
    d. General location of all dwellings and other structures
    e. Indication of proposed population and building densities (units per net acre).
    f. Preliminary elevations or perspectives of all building types including floor plans.
    g. A workable infrastructure plan for providing necessary streets, water, sewer, storm drainage, and electrical distribution for the entire tract.

Based on the size or complexity of the development proposal, staff may require any or all of the following additional information in order to obtain concept plan approval:

1. Complete and accurate legal description of the property
2. Preliminary title search showing legal ownership of the property.
3. Grading plan of the entire site
4. Preliminary subdivision layout
5. Phasing plan with a construction timetable for all phases

Staff will review the application and record that the information has been submitted. Upon receipt of a complete application with all necessary supporting drawings and documents, the plan shall be distributed to the various City departments for review, comments and approval. After each City department reviews the plan, they shall either request revisions to the submittal or approve the project as submitted. If the plan must be revised, then a revised concept plan shall be prepared which addresses the matters raised by City staff and then shall be resubmitted to the Community Development Department for review and approval.

PRELIMINARY PLAN CHECKLIST

This type of application must first be reviewed by the Coordinator's Review Committee (CRC) consisting of Provo City Staff. The City staff will make a recommendation to the Provo City Planning Commission for consideration. The Planning Commission has the authority to either approve or deny the request.

Applicant submits the preliminary project plan with a completed application, required fees and all supporting documents as required. Upon receipt of a complete application with all necessary supporting drawings and documents, the plan shall be distributed to the various City departments for review, comments and approval. After each City department review the plan, they shall either request revisions to the submittal or approve the project as submitted. If the plan must be revised, then a revised preliminary project plan shall be prepared which addresses the matters raised by City staff and then shall be resubmitted to the Community Development Department for review and approval. A preliminary project plan shall demonstrate compliance with application provisions of the Provo City Code. Concurrent with any request to rezone or annex property, a preliminary project development plan shall be submitted to the Community Development Department.

Any development plan that includes a preliminary subdivision greater than three (3) acres shall comply with Section 15.03.300 and Section 15.04.130, Provo City Code.

The preliminary project plan shall be submitted in a pdf electronic format.

Below is a list of information that is required to be submitted with the application in order for City staff to process the request. If any of the required information is not submitted, the application will be considered incomplete and will not be accepted.

Staff will review the application and check the boxes if the information has been submitted. As part of the application provide the following.

1. A complete and accurate legal description of the real property which is the subject of development.
2. A preliminary title search showing legal ownership of the property. If the applicant is not the property owner, the applicant shall also provide written proof that the applicant has sufficient legal claim on the property, and each parcel therein, to proceed with development plans. Such proof may be in the form of options, deeds, or contracts on which the developer shall be entitled to black out confidential information such as the amount of consideration paid or periodic payment amounts.
3. Topographic maps of the entire site, including contour intervals no greater than two (2) feet.
4. A tabulation of the total acreage of the site and the percentages thereof to be designated for various uses, i.e. parking, residential units, open space, public streets, private streets, landscaping, etc.
5. Proposed traffic circulation pattern including private driveways, public and private streets, pedestrian paths, location of parking spaces and ingress or egress.
6. Parks, common opens spaces, playgrounds, school sites, and other public or private recreation facilities and improvements proposed within the planned development.

7. General location of all dwellings and other structures in the planned development, and an indication of proposed population densities and building densities (units per net acre).
8. A general landscaping plan showing what areas are to be landscaped and what types of plants and materials are to be used together with their numbers and sizes.
9. Preliminary elevations or perspectives of all building types proposed within the development including floor plans.
10. Preliminary subdivision plat, if the site is being divided, showing a general layout of all proposed lots.
11. A workable infrastructure plan for providing necessary streets, water, sewer, storm drainage, and electrical distribution for the entire tract including the point from which said services are to be extended.
12. If applicable, a draft of the declaration of covenants, conditions, and restrictions.
13. If applicable, a phasing plan which including a construction timetable for all phases.
14. An existing features site analysis plan which shows the location of severely constraining elements such as steep slopes thirty percent (30%) or greater, wetlands, watercourses, drainage channels, one hundred (100) year flood plains, potential landslide areas, fault lines, rock fall areas, or any other sensitive land area. The site analyses plan shall also show the location of significant features such as but not limited to woodlands, tree lines, open fields or meadows, scenic views, rock outcrops, roads, tracks, underground utilities, power lines, trails, etc.
15. If applicable, a development agreement.
16. For all developments three (3) acres or greater or ten (10) housing units or greater, and as may be required for other developments as reasonably determined by the City Engineer, a traffic study addressing key traffic issues identified by the Provo City Traffic Engineer. In determining whether to require a traffic study the City Engineer shall consider existing and projected traffic patterns and volume, and whether a traffic study will yield information useful for undertaking review of a proposed project plan or other development plan. Items to be addressed in a traffic study shall include but not be limited to the following:
17. Trip generation rates for the development.
18. Threshold volumes and percent of threshold for the surrounding street system.
19. A local area street plan.

PLAT APPROVAL

1. INFORMATION TO BE INCLUDED
    A. The name of the subdivision in bold heading at the top of the drawing.
    B. Section, Township and Range
    C. City and County name
    D. Signature blocks for the Community Development Director, City Engineer, Mayor, and City Recorder.
    E. Signature blocks for owner dedication with proper attest blocks.
    F. Owners dedication narrative
    G. Boundary description narrative
        a. Must include the point of beginning tied to a found PLSS monument.
        b. Must have a tie to a second found PLSS monument for the establishment of the basis of bearing. Two found Provo City Centerline monuments may be used in the Provo City Block System. The exterior boundary must be described in full using bearings and distances.
    H. Boundary description as a drawing, matching the narrative.
    I. Dedication plat restrictions i.e. utility restrictions, setback restrictions, access restrictions, or other are required as part of development.
    J. Types and locations of all existing and proposed easements.
    K. Public utility and drainage easements are required in all subdivisions. The minimum width of easements shall be:
        a. On rear lot lines; eight feet on each side
        b. On front lot lines; eight feet
        c. On side lot lines; eight feet.
    L. In circumstances where a City utility traverses a lot or parcel to be developed the easement width shall be provided as required by the City Engineer.
    M. Slope easements shall be shown where required.
    N. Easements on street frontages shall be labeled as sidewalk and public utility easements.
    O. The placement/location of Public Utility Easements, Drainage Easements, and Sidewalk Easements may be adjusted with the approval from the City Engineer.

2. DESCRIPTION CLOSURE REQUIREMENTS
    A. The boundary must close to within 0.04 feet.
        a. The boundary description shall be traversed in a clockwise direction around the subdivision boundary. The exterior boundary must be described in full using bearings and distances
        b. The street centerline must close to the boundary within 0.04 feet. The centerline is placed using the boundary information.
        c. Individual lot boundaries must close to within 0.04 feet to the street boundary and to the subdivision boundary.
        d. The boundary to conform with adjacent parcels.

3. CENTERLINE INFORMATION
    A. Distances from monument to monument.
    B. Distance from PC to PT.
    C. Curve data to include
        a. Delta
        b. Radius
        c. Arc Length
        d. Chord bearing and distance
        i. Non-tangent curves to the approach and departure segments must also show the bearing to the center of the curve or the bearing for a tangent approach line.
        e. Prepare a table for numerous curves
4. PROPERTY AND LOT INFORMATION
    A. The square footage of the lot shall be shown.
    B. Addresses will be assigned by the Provo City Engineering Department

5. TITLE REPORT INFORMATION
    A. The title report is used to determine the proper owner's signature blocks; the location of existing easements; and to determine that the dedication plat and the property owned are the same parcel.
        a. The Title Report and the Dedication Plat must match exactly or include the entire subdivision and additional property. The report cannot be smaller than the subdivision.
        b. All easements shown on the Title Report must be shown on the Dedication Plat AND the easement owner must sign the Dedication Plat.
        c. The City Surveyor will review the Title Report and may direct the owner to remove specific easements or other encumbrances.
6. UTAH COUNTY RECORDER STANDARDS
    A. The plat shall have a border no larger than 24" X 36"
    B. The notary seal or lettering must be clear and legible.
    C. The subdivision title or heading must be consistent throughout all narratives.
    D. The owner(s)' signatures must be exactly as found on the Title Report.
    E. The scale must be clearly shown and must conform to the accepted standard, i.e. 1"=20', 30', 40', 50', 60' or 100'.
    F. All names shall be consistent on all narratives.

7. MONUMENT PLACEMENT
    A. Monuments shall be installed at all street intersections.
    B. Monuments shall be installed at the PI of all curves, or where the PI is outside
    C. All monuments installed to Provo City Standards

8. PLAT REVIEW CHECKLIST

All plats will be reviewed according to the current plat review checklist

FINAL PROJECT PLAN CHECKLIST

Final project plans must be submitted if the proposed project includes an industrial, commercial, institutional or multiple-family residential building, structure or use.

The following plans shall be submitted in an electronic pdf format. Upon approval CAD files shall be submitted which are applicable to Public Works, including fiber optic, water, sewer, stormwater assets, etc.

Site Plan

1. Legal description of property.
2. Dimensions of existing and proposed property lines.
3. Distances from buildings to property lines.
4. Square footage of existing and proposed structures.
5. Use of existing and proposed structures.
6. Location of all fire hydrants within 500’ or fire suppression methods where applicable.
7. Trash storage container location, size and how enclosed.
8. Eight foot public utility easements along all property lines where applicable.
9. Location of existing and proposed easements and/or right-of-ways.
10. Location of power, telephone, and cable facilities, including poles, anchors, transformers, and connection pedestals.
11. Areas devoted to public or open space use.
12. A proposed density range of each phase/lot.
13. An existing features site analysis which shows the location of significant features and severely constraining elements.

Parking Plan

1. Parking space count.
2. Parking space dimensions, including back up area.
3. Ingress and egress.
4. Parking for people with disabilities.
5. Location of supporting columns in subgrade parking.

Landscaping Plan

1. Location and dimensions of landscaped area, showing existing and proposed landscaping.
2. Types and sizes of existing and proposed landscaping materials, plants, and trees.
3. Percent of landscaping.
4. Location and type of proposed and existing retaining walls, hedges or fences.
5. Proposed and existing sprinkler/irrigation system.

Building Design Plan

1. Exterior elevations of proposed buildings, indicating roofing materials, type of construction, exterior materials and colors.
2. Conceptual sign plans.
3. Total square footage for all floors, including rough floor plans.
4. Note all existing buildings proposed for use or for demolition.

Traffic Study

1. Any project with 3 acres or greater of area or 10 housing units or greater must complete a final traffic report addressing the following:
    a. Trip generation for the development using Provo Transportation Master Plan trip rates;
    b. Threshold volumes and percent of threshold for the surrounding street system;
    c. Local area street plan; and
    d. All other items as determined by the Provo City Engineer.
2. Direction of traffic flow through project.
3. Location and width of proposed and existing ingress and egress.
4. Evidence of Utah Department of Transportation access approval (if applicable.)
5. Proposed street layout and design.

Utility Plan

1. Location and size of existing and proposed water, sewer mains, laterals, power lines and utilities, gas lines and utilities, telephone utilities and connections.
2. A utility site plan for layout and design for new electrical facilities.

Drainage Plan

1. Location of existing and proposed storm drain structures.
2. Proposed drainage system.
3. Location of irrigation pipes, ditches, canals, waterways and detention basins.
4. Detailed drainage plans with calculations based on 10 year storm event, including total impervious surface area, drainage flows from roofs or parking structures.
5. Sump details, storm sewer profiles and construction drawings.

Grading Plan

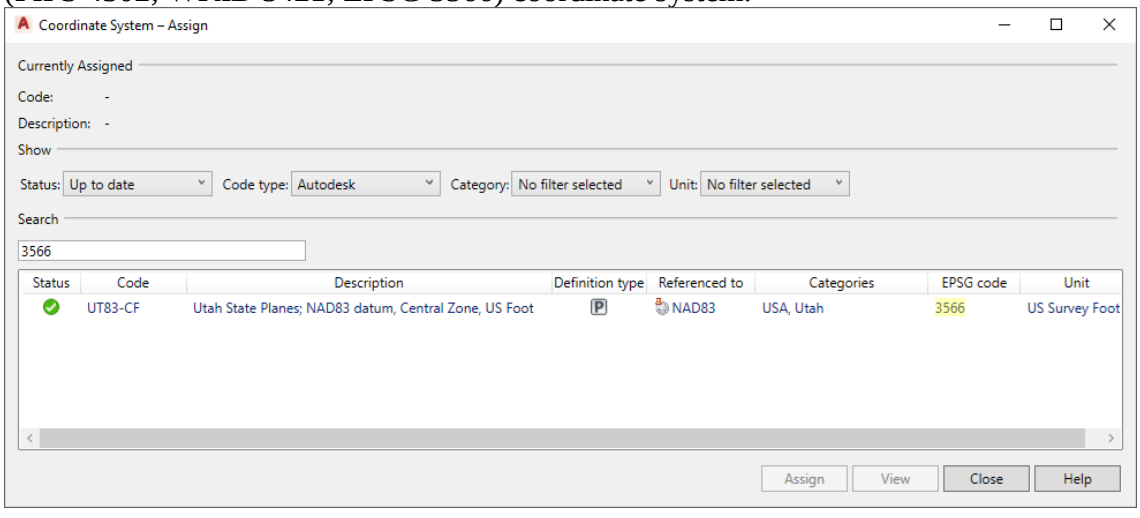
1. Grading shall be defined as any work including filling, cutting, excavation or relocation of material which affects the contour, slope, elevation or drainage features of a parcel of property, or which involves more than fifty (50) cubic yards of material.
2. No grading shall be accomplished without first having obtained a grading permit from the City Engineer. A grading permit may be obtained at the office of the Provo City Engineer after completion of an application for permit complying with any and all permit requirements.

Supporting Documents

1. Submitted plans should be accompanied with:
    a. A completed application,
    b. Required fees,
    c. Engineer or surveyor's computer generated information disc;
    d. Proof of single ownership or control of the subject property by title report, deeds, etc.;
    e. Market study or cost/benefit study if required by the Development Services Director;
    f. Phasing plan if the project is to be completed in phases;
    g. Final subdivision plat when determined applicable;
    h. Development agreement where applicable;
    i. Other information or studies to aid the Planning Commission in its deliberations;
    j. Other documents that require compliance with Provo City Code.

CAD Files

1. CAD files are required of approved plans and are submitted to Public Works adhering to the following standards:

    a. DWG file submitted must match the information represented on the mylars at the time of submittal for approval.
    b. DWG file must be defined in the NAD83 State Plane Utah Central Survey Feet (FIPS 4302; WKID 3421; EPSG 3566) coordinate system.
    c. 

    d. DWG file must contain data specific to utilities and reference data only and be named with an underscore "PW" (i.e. PROJECTNAME_PW).
    e. The CAD data must be stored using simple points, polylines and closed polylines representing asset centers, centerlines, and boundary extents.
    f. CAD data stored in the CAD layers must be contiguous and coincident where appropriate. For example, a sewer main pipe will be drawn using a polyline that extends to and whose endpoint is coincident with the end of the adjoining sewer

main pipe. The coincident endpoints will also be coincident with the point representing the center of the sewer manhole located between the two sewer main pipes.

g. Each drawing layer in the CAD file may only store a single data type. For example, if a layer is created to store proposed water valves, only simple points representing water valves may be stored in that layer. Extraneous information such as text blocks, annotation, leader lines, etc. may not be stored in the data layer. CAD layers must adhere to the following naming convention.
    i. A prefix of "EX_" or "PR_" or "_DM" will indicate whether the layer will store Existing, Proposed, or Demolish (remove) utility data.
    ii. A "W_" "S_" or "SW_" will indicate whether the layer will store data associated with the water system, sewer system, or stormwater system respectively.
    iii. The layer name will follow to indicate what type of data is stored in the layer, for example, MAIN for main pipes or LATERAL for lateral pipes. For example, PR_S_MAIN will be the layer storing polylines representing proposed sewer mains. The layer types are as follows:

Prefix	System	Name	Feature Type	Description
EX_, PR_, DM_	W_, S_, SW_	MAIN	Polyline	Represents main pipe centerline. Drawn with straight polyline consisting of two end points. End points will be coincident with points representing a system valve, hydrant, meter, CCCD, pump assembly, reservoir, lift station, network structure, or fitting of all types except wye and true wye.
EX_, PR_, DM_	W_, S_, SW_	LATERAL	Polyline	Represents lateral pipe centerline. Drawn with straight polyline consisting of two end points. End points will be coincident with points representing a system valve, hydrant, meter, CCCD, network structure, cleanout, or fitting of all types.
EX_, PR_, DM_	W_, S_, SW_	CASING	Polyline	Represents extents of pipe encasement, typically drawn as a rectangular, closed polyline overlapping with a MAIN or LATERAL pipe.
EX_, PR_, DM_	W_, S_, SW_	EASEMENT	Polyline	Represents extents of easement drawn as a closed polyline.
EX_, PR_, DM_	W_, S_, SW_	SYSTEM_VALVE	Point	Represents horizontal center of valve operating nut
EX_, PR_, DM_	W_	HYDRANT	Point	Represents horizontal center of hydrant assembly

EX_, PR_, DM_	W_, S_, SW_	VAULT	Closed Polyline	Represents vault horizontal extents
EX_, PR_, DM_	S_, SW_	MANHOLE	Point	Represents horizontal center of manhole (not lid)
EX_, PR_, DM_	W_, S_, SW_	FITTING	Point	Represents horizontal center of fitting (types below)
EX_, PR_, DM_	W_	METER	Point	Represents horizontal center of meter
EX_, PR_, DM_	W_	CCCD	Point	Represents horizontal center of cross connection control device (backflow assembly)
EX_, PR_, DM_	W_, S_, SW_	PUMP_ASSEMBLY	Point	Represents horizontal center of pump assembly
EX_, PR_, DM_	W_	RESERVOIR	Closed Polyline	Represents reservoir horizontal extents. Drawn with straight or curved lines closing to form an area.
EX_, PR_, DM_	S_, SW_	LIFTSTATION	Point	Represents horizontal center of sewer lift station
EX_, PR_, DM_	W_, S_, SW_	NETWORK_STRUCTURE	Point	Represents horizontal center of misc. (types below)
EX_, PR_, DM_	S_	CLEANOUT	Point	Represents horizontal center of sewer cleanout
EX_, PR_, DM_	W_, S_, SW_	SOGI	Point	Represents horizontal center of sand, oil and grease interceptor

FINAL SUBDIVISION CHECKLIST

The following is a brief outline of the submittal requirements that a developer should consider when submitting for an Annexation, Rezone, Concept Plan, Preliminary Plan or Final Plan Approval. This outline also lists the items that the Provo City Public Works Department will review at each approval level.

1. Annexation
    A. The Developer will provide a location map of the proposed annexation.
        a. The map will show the location of the parcel to be annexed, and will include the legal description of the parcel to be annexed.
            1. The legal description for the annexation will match the adjacent annexation parcels as recorded at the Utah County Recorder's Office or on file with the City recorder.
    B. The Public Works Department will provide a report concerning the actual annexation. The report will define the availability of water, sewer, storm drainage and street configuration for the proposed annexation area. This information will be of a general nature, and is not intended to be inclusive of all requirements for the proposed annexation area. The report will include development requirements that will be imposed as a condition of annexation.
    C. The developer shall provide an Annexation Plat to be reviewed and approved by the Provo City Surveyor, City Engineer and Community Development Director.

2. Rezone
    A. The Developer will provide the site plan location map. The map will show the location of the parcel for rezone and will include the legal description for the rezone.
    B. The Public Works Department will provide a statement concerning the ~~actual~~ rezone. This will include a statement which defines the availability of water, sewer, storm drainage and the street configuration for the proposed rezone area. This information will be of a general nature, and is not intended to be inclusive of all requirements for the proposed rezone area.

3. Concept Plan
    A. The purpose of the concept plan approval is to provide a layout and design which is general in nature. The configuration of the lots and streets shall be included.
    B. The Developer will submit:
        a. Lot Configuration
            1. Concept plan with boundary legal description.
                a. The site plan shall include adjacent parcels.
                b. The site plan shall be scaled no smaller than 1" = 100'
            2. Area of each lot
            3. Contour lines with actual elevations referenced to Utah County information.

a. 2 foot intervals shall be required. Additional contour information may be required.

4. Slopes exceeding 30% shown and are required to be avoided by development including grading and landscaping.
5. The site plan will show the location of any retainage structures that exceed a height of 10 feet that maybe will be required to be constructed prior to the construction of any home.

b. Street configuration
    1. Proposed street grades shall be included. Maximum street grade is 12% for local streets though 8% maximum is encouraged.
    2. Proposed street cross section.
    3. Locations of cuts/fills exceeding 2 feet.
c. Location of existing and proposed improvements
    1. Location of water, sewer, storm drainage, streets, and natural drainage path.
    2. Locations of existing easements, i.e. gas lines, irrigation lines, power lines, phone lines, private access easements.

C. The Public Works Department will provide the following information:
    a. A written memorandum addressing the acceptability of the street configuration, the street cross-section, the slope of the lots. The Community Development Department will address the lot size and their configuration.
    b. The memorandum will provide information concerning waterline size, possible off-site utility system improvements, sanitary sewer size and details, storm drain configuration, sub-surface drainage requirements, slope protection requirements (including easements and revegetation), and possibly other items specific to the development.
    c. The memorandum will specify if a geotechnical report will be required. If the report is required, it must be submitted with the Preliminary Plan.

4. Preliminary Plan
    A. The purpose of the Preliminary Plan is to show the feasibility of the proposed development and the conformance to the adopted standards. The Staff~~,~~ and Planning Commission may require alterations to the Preliminary Plan as necessary such that the development conforms to the standards and specifications of the City. The preliminary approval will give the developer the direction needed to complete the improvement plans. The preliminary approval shall terminate one year after the Planning Commission has given approval.
    B. The Developer shall submit a geotechnical study, if necessary, for the development area with the preliminary subdivision plan. The geotechnical report will contain the minimum information required, as shown in the geotechnical section of this booklet, and the improvement plans will reflect the recommendations of the geotechnical report.

C. The developer will submit an electronic pdf copy of the preliminary plan containing the following information.
    a. Lot configuration
        1. Preliminary subdivision plan with boundary legal description.
            a. The preliminary subdivision plan shall include adjacent parcels.
        2. Area of each lot
        3. Contour lines with actual elevations
            a. 2 foot intervals shall be required. Additional contour information may be required.
        4. Slopes exceeding 30% shown and are required to be avoided by development including grading and landscaping.
        5. The site plan will indicate that the maximum slope for a driveway shall be 15%.
    b. Street configuration
        1. Maximum street grade is 12% for local streets. 8% maximum shall be required unless approved by the City Engineer.
        2. Proposed street cross section conforming to City Street Standards.
        3. The preliminary plan shall include cross-section drawings at locations where the slopes will have cuts or fills exceeding two (2) feet on either site of the street. The cross-section drawings shall be spaced no greater than 50 feet.
    c. Location of existing improvements
        1. Location of water, sewer, storm drainage, streets, irrigation (open ditch or pressure lines) and natural drainage paths and/or creeks and streams.
        2. Locations of existing easements, i.e. gas lines, irrigation lines, power lines, communication lines~~,~~ and private access easements.
            a. All easements shall be shown on the preliminary subdivision plat.
        3. Location of all cuts/fills exceeding two (2) feet at the right-of-way line.
    d. Proposed configuration of public utilities, i.e., sanitary sewer, culinary water, storm drainage, sub-surface drainage, pressure irrigation, communication, natural gas, electrical power and cable T.V.
        1. The sizes of the system(s) must be shown but the City has the right to require changes to location and sizes prior to final submittal.
    e. Boundaries of areas subject to flooding or listed on the FEMA flood plan maps and drawings.
        1. Areas subject to flooding may include low areas created by street construction.
    f. Written approval from affected entities.
        1. Stream alteration – State Engineer

2. Irrigation system relocation – Irrigation users and company.
3. Acknowledgement to grant easements on adjacent private property from the property owner(s).

D. The Public Works Department will provide written comments through the CRC review process the following information:
   a. The acceptability of the street configuration, street cross-sections~~,~~ and the grading and slope of the lots. The Community Development Department will address the lot size and their configuration.
   b. Information concerning waterline size, sanitary sewer size and details, storm drain configuration, sub-surface drainage requirements, slope protection requirements (including easements and revegetation), possible off-site utility system improvements and other items specific to the development.
   c. If a geotechnical report will be required for the development, project review will not be completed until the geotechnical report has been submitted and reviewed.

CULINARY WATER SYSTEMS

1. WATER MAIN LINE UPSIZING OR EXTENSIONS
    A. The developer of a project which requires the extension or upsizing of water main lines shall pay the cost of such work.
    B. All subdivisions shall have a complete water distribution system installed before such subdivisions are accepted by the City.
        a. The design and construction of such a water distribution system shall meet all applicable standards and be approved prior to installation.
        b. The developer shall install the water distribution system at the developer's own expense for all water mains which are necessary to provide all required water per State and City design standards. Minimum static pressure at the point of use shall be 50 psi. Maximum shall be 120 psi.
        c. The system shall include a properly designed redundant feed from the nearest adequately supplied locations in the City water distribution system. Provo City will use a hydraulic model where required by State Code to verify that the capacity for fire flow and water demand as specified in the project plans are available. The proposed system shall be modified to comply with the model findings.
        d. If the Director requires increased capacity above that required for the project, the developer may be eligible for reimbursement for the difference in material cost between the main required for the development and the larger diameter main actually installed.
    C. When any street is to be paved from curb to curb with a permanent type of pavement, an eight (8) inch or larger water main shall be installed in that street prior to the paving of the street. The cost of installation of such water main shall be borne by the developer.
    D. If a person installs a water main line extension to serve a parcel, said main line extension shall extend completely across the parcel of property being developed.
    E. If a new water main line is installed, all new and existing service connections shall be connected to the new main line without splicing and all appurtenances shall meet current standards as shown in Standard Detail P-521.
    F. Multiple water main lines in street are only permitted in exceptional circumstances (e.g., varying pressure zones in the area).
    G. A developer who pays the cost of an off-site water main line extension may have the right of reimbursement described in Provo City Code Chapter 10.02.050.

2. CULINARY WATER MAIN STANDARDS
    A. All water system installation and design must conform to Provo City's Water System Master Plan and all applicable state administrative rules, particularly R309-550.
        a. Minimum allowable water main diameter shall be eight inches (8").

b. Main lines larger than the minimums shown above may be required if necessary for fire flow or pressure. Developer shall be responsible for an upsize based on providing sufficient capacity for the development.
c. If the Master Plan requires a larger pipe size than described in paragraphs (a) and (b), City may require the developer to install the larger size.

B. Waterline shall be Ductile Iron with polywrap, grease on bolts and #14 copper tracer wire per Provo Standard Drawing P-594 and installed per AWWA Standard C600-10. C900 PVC Pipe may be allowed with approval from director. HDPE, Steel, or other pipe material are not allowed unless expressly permitted by the Public Works Division of Water Resources. All construction and installation shall conform to standards referenced in R309-550-8 of the Utah Administrative Code.
    a.. Continuity of tracer wire shall be confirmed by an independent tester prior to requesting verification of continuity by Provo City and positive test results presented to City inspectors before City inspectors will check for continuity. Failure of a continuity test conducted by a City inspector will result in a re-inspection fee as set forth in the Consolidated Fee Schedule.

C. Waterline shall be installed within the street section in the location shown on Provo Standard Drawing P-914, unless otherwise approved.

D. Provide a minimum of ten (10) feet horizontal clearance between a water and sewer edge to edge per Utah Administrative Code R317-3-2 and R309-550-7 (laterals, services and main lines).
    a. Where a water main and a sewer line must cross, the water main shall be at least 18 inches above the sewer line. Separation distances shall be measured edge-to-edge (i.e. from the nearest edges of the facilities).
    b. Water mains and sewer lines shall not be installed in the same trench.
    c. Where local conditions make it impossible to install water or sewer lines at separation distances required by subsection (a), the sewer pipes are in good condition, and there is not high groundwater in the area, it may be acceptable if the design includes a minimum horizontal separation of 6 feet and a minimum vertical clearance of 18 inches with the waterline being above. In order to determine whether the design is acceptable, the following information shall be submitted as part of the plans for review.
        1. reason for not meeting the minimum separation standard;
        2. location where the water and sewer line separation is not being met;
        3. horizontal and vertical clearance that will be achieved;
        4. sewer line information including pipe material, condition, size, age, type of joints, thickness or pressure class, whether the pipe is pressurized or not, etc.;
        5. water line information including pipe material, condition, size, age, type of joints, thickness or pressure class, etc.;
        6. ground water and soil conditions; and,
        7. any mitigation efforts.

E. Minimum cover required shall be 52 inches (52”).

F. All new water infrastructure shall be pressure tested by maintaining 200 psi for two hours.
G. All materials that may come in contact with drinking water, including pipes, gaskets, lubricants and O-Rings, shall be ANSI-certified as meeting the requirements of ANSI/NSF Standard 61, Drinking Water System Components - Health Effects. To permit field-verification of this certification, all components shall be appropriately stamped with the NSF logo.
H. Pipe, joints, fittings, valves, and fire hydrants shall conform to ANSI/NSF Standard 61, and applicable sections of AWWA Standards C104-A21.4-08 through C550-05 and C900-07 through C950-07.

3. VALVES
   A. Valves shall be provided in all intersections and shall equal number of legs.
   B. Mainline valves on either side of tee shall be located a minimum of three feet (3') off a tee or cross and shall be MJ x MJ valves.
   C. Mainline Valves shall be located a minimum of three feet (3') from any fitting and shall be MJ x MJ valves.
      a. An exception would be a flanged connection on the stem of a tee.
   D. All valves larger than 12 inches (12") shall be butterfly design.
   E. All butterfly valves shall be of the double offset design and shall meet or exceed the requirements of AWWA C504-15.
   F. Provide concrete collars on valve boxes at ¼" below finished asphalt.
   G. Place valves at intersections per Provo Standard Drawing P-914.

4. WATER SERVICES
   A. No service line connections shall be made to Provo City's water distribution system or to main water lines on private property without authorization. The party making the connection shall be required to obtain a permit for the same and to pay the fees associated with that permit as shown on the Consolidated Fee Schedule.
   B. Water taps on public or private mains shall be installed by a qualified and licensed plumber or a pre-qualified utility contractor and inspected by the City.
   C. Minimum size shall be one-inch (1") diameter for service lines and meter yokes.
   D. Engineering calculations shall be required to show that meter size is adequate to meet demand for any uses other than detached single family residential or townhomes.
   E. The water service shall extend perpendicularly from the main line to meter in front of the property it services and shall not cross through other properties.
   F. No common use water services shall be allowed unless approved by the Water Resources Director.
      a. Service lines must be so arranged that the supply to each separate house or premises are controlled by a separate valve, placed within and near the line of the street curb.

b. Common use water services shall be eliminated as redevelopment of the site occurs, or if repair or replacement is needed. The construction or repair cost will be the responsibility of the Owner.
c. Master meter(s) or combined building meters may be allowed for private developments if approved by the Water Resources Director. All lines within the private development shall be private including those from the private mainline to the meter. The developer shall provide the City with an agreement defining who is responsible for maintenance and show the lines as private on the plat and utility plans. Individual shutoffs located near the curb are required for each unit.
d. Legal and physical access shall be provided to all meters.
e. All service lines shall be capped downstream of the meter box until connected for service.

5. ABANDONMENT OF WATER UTILITIES
   A. Whenever a water service line is abandoned in favor of a different service line, the old service line shall be disconnected from the main line and the old service tap shall be plugged at the main line. The cost of all such work shall be the responsibility of the owner of the property being serviced by the new water service line. Any work described in this Section shall be inspected by Provo City before backfilling. Prior to demolition of proposed site, water services and fire lines shall be abandoned per Provo City standards.

6. FIRE HYDRANTS
   A. Provide minimum fire flow required by the Uniform Fire Code for proposed structures and fire flow calculations at all hydrant locations. Unless project specific information is provided, the following will be assumed:

Provo City Minimum Operational and Performance Criteria for Planning and Design

Component	Criteria
Fire Flow Requirements (flow [gpm] @ duration [hours]) [a]	
Single-Family Residential	1,500 gpm @ 2 hrs
Other	IFC or Fire Marshall
Water Distribution Line Sizing	
Max day plus Fire Flow or Average Peak Day Demand Condition	
Minimum Pressure, psi	50 psi (20 psi for fire flow)
Maximum Velocity, ft/sec	7 fps (excluding fire flow)

[a] Typical minimum flow will be verified by City on a case by case basis

   B. Install fire hydrants per Provo Standard Drawing P-511.
      a. Hydrants shall be connected to a minimum eight-inch (8") main using a minimum six-inch (6") diameter pipe.
      b. No bends are allowed on fire hydrant laterals.
      c. No services shall be allowed on fire hydrant laterals.
   C. Replace fire hydrant if the hydrant is to be moved.

D. Fire Hydrant spacing:
    a. Shall not exceed three hundred feet (300') in areas of multi-family dwellings, commercial and manufacturing uses.
    b. In single family dwelling use areas hydrant spacing shall not exceed five hundred feet (500 ft).
    c. Major roads shall have fire hydrants placed on both sides of the roadway to provide for Fire Department access to such hydrants.
E. Place fire hydrant within 100 feet (100') of the fire department connection (FDC).
F. Provide fire hydrants at the end of dead-end lines for flushing purposes.
G. Private fire service lines designed to provide fire protection to a building or buildings shall be constructed according to Provo City Standards at the expense of the owner of the building being serviced according to the following requirements:
    a. Maintenance associated with such fire service lines shall also be at the expense of said owner.
    b. Water service lines and meters may be connected to fire service lines when approved by the Director if the fire line has a redundant connection and said fire lines are intended to provide water to the building being serviced by the fire service line. In this case, the fire lines and service lines will be private and only appurtenances inside the meter box will be maintained by the City.
    c. Provide a valve on the mainline. Fire line after the valve shall be private.
    d. Fire suppression system and hydrants are not allowed on the same line unless the fire line has a redundant connection.
    e. Provide approved backflow prevention.

7. WATER VAULTS/METER BOXES
    A. Whenever a new service line is installed connecting any premises to an unmetered private line which is supplied water from the water mains of Provo City, or whenever a service pipe is connected directly to the water system of said City, a water meter must be installed.
    B. All water meters shall be installed in easily accessible locations.
    C. No meter box shall be allowed in any street, driveway, driveway flare, or sidewalk without express written permission of Provo City.
    D. At the time of a significant remodel or new construction, existing services and meter sets must be brought up to current standard with dual check valves in meter yoke and new can. If the service line is damaged, deteriorated, or galvanized pipe, the OWNER shall replace the water service from the mainline to the meter. Splices between the mainline and meter yoke are not allowed so if a meter location is changed to be farther from the mainline, a new service line from the main to meter yoke is required.
    E. Water meters shall be furnished and installed by Provo City.
    F. Water meters shall not be installed until:
        a. Proper demolition of old water lines and services has been completed or a bond for such demolition has been received.

b. Newly installed main lines have been pressure tested, disinfected, and approved and service lines, including meter boxes and appurtenances, have been inspected and approved.
c. No meters shall be installed until all applicable fees have been paid including water connection fees, impact fees and main line extension fees as appropriate.

8. THRUST RESTRAINTS
    A. Concrete thrust blocks:
        a. Provide concrete thrust blocks at all taps, temporary dead ends and at the base of all hydrants.
        b. Place thrust blocks directly against undisturbed earth.
        c. Provide bond breakers on all thrust blocks.
        d. All other locations shall rely on restrained joints to handle thrust unless directed otherwise by City
    B. Joint Restraints:
        a. The number of joints that need to be restrained back from thrust producing fittings shall be determined by the design engineer and approved by the City.

9. BACKFLOW PREVENTION DEVICE
    A. Install a backflow prevention assembly approved by the State of Utah downstream of all meters larger than 2-inch, residential services connected to a private water source and ahead of all outside irrigation systems. The backflow prevention device shall meet all requirements of Utah Administrative Rule R309-105 and the International Plumbing Code.
    B. Reduced Pressure Zone (RPZ) backflow prevention and a swing check connection is required between all private water sources and the City water system.
    C. Comply with City Standard Drawings.
    D. Contact cross connection coordinator at (801) 852-6788 for inspection of the backflow prevention devices other than dual check valves inside meter boxes.

10. WATER LINE LOOPING
    A. Looping of water lines creates a vulnerability in the system; therefore, looping is highly discouraged. All other alternatives should be investigated prior to proposing looping, which should be the option of last resort.
    B. If looping of water lines is approved by Provo, the Director may assess a fee for shutting down the existing line and to provide for future maintenance of the loop. The fee will vary based on the size of the line being looped.

11. EASEMENTS
    A. Provide a minimum twenty feet wide (20') public utility easement for all public water mains installed outside of the street right of way or other City owned property. Unless otherwise approved, the water line should be installed in the center of the easement.

12. OTHER APPURTENANCES

A. Provide pressure reducing stations if required by Water Resources Director.

B. Air relief valves and blow-offs at high points may be required if other means of air release are not provided. If used, air relief valves and blow-offs shall comply with the following:

a. The open end of the air relief vent pipe from automatic valves shall be provided with a #14 mesh, non-corrodible screen and a downward elbow, and where possible, be extended to at least one foot above grade. Alternatively, the open end of the pipe may be extended to as little as one foot above the top of the pipe if the valve's chamber is not subject to flooding, or if it meets the requirements of Chamber Drainage.

b. Blow-offs or air relief valves shall not be connected directly to a sewer.

c. Adequate number of hydrants or blow-offs shall be provided to allow periodic flushing and cleaning of water lines.

d. The air relief valve shall be installed in a manner to prevent it from freezing. A shut-off valve shall be provided to permit servicing of an air relief valve.

C. All booster proposed stations and storage tanks subject to Water Resources Director approval and shall meet all the following requirements:

a. All booster stations and storage tanks shall be identified as part of the City's master plan and shall be designed to service large City areas and not individual developments. Private booster stations are not allowed.

b. No booster stations shall be constructed without a storage tank of sufficient size to meet all sizing requirements of Utah Administrative Code R309-510. Said tank shall be located at an elevation sufficient to provide gravity flow to its service area and shall be designed to work cooperatively with all other components of the water source, storage and distribution system.

c. The booster station shall be located on a main with sufficient size and pressure to provide the required flow without causing any part of the water system to fail to meet pressure requirements.

D. Chambers, pits, or manholes containing valves, blow-offs, meters, or other such appurtenances to a distribution system, shall not be connected directly to a storm drain or sanitary sewer. Chambers shall be provided with a drain to daylight, if possible. Where this is not possible, underground gravel-filled absorption pits may be used if the site is not subject to flooding and conditions will assure adequate drainage. Sump pumps may also be considered if a drain to daylight or absorption pit is not feasible.

13. SOURCE PROTECTION

A. Comply with 10.06.030 Provo City Code Annotated and R309-600 of Utah Administrative Code which require the protection of all sources of drinking water, including groundwater. Potential contamination sources such as gas stations, dry cleaners, and surface water infiltration are not allowed in areas where a spill, leak, or contamination may adversely impact drinking water wells, springs, or other drinking water sources.

SANITARY SEWER SYSTEMS

All Sanitary Sewer installation and design shall comply with Provo City's Wastewater Collection System Master Plan.

1. SEWER MAIN LINE UPSIZING OR EXTENSIONS
    A. The developer of a project which requires the extension or upsizing of sewer main lines shall pay the cost of such work.
    B. All subdivisions shall have a complete sewer distribution system installed before such subdivisions are accepted by the City.
        a. The design and construction of such a sewer distribution system shall meet all applicable standards and be approved prior to installation.
        b. The developer shall install the sewer distribution system at the developer's own expense for all sewer mains which are necessary to provide all required sewer per State and City design standards.
            1. Design 8"-15" pipes to flow no more than Half Full at Peak Flow.
            2. Design 18" and Larger Pipes to flow no more than 75% Full at Peak Flow.
            3. Include inflow and infiltration in sizing calculations.
            4. Provo City may use a sewer model to verify sewer capacity is available for the proposed project as specified in the project plans. The proposed system shall be modified to comply with the model findings and offsite improvements may be required prior to development.
            5. Ensure that transmission pipes sizes are sufficient for future growth in the area per the most recent Provo City's Wastewater Collection System Master Plan. If the Master Plan requires a larger pipe than the development, City may pay for the difference in material cost between the size required for the development and the larger size.
    C. When any street is to be paved from curb to curb with a permanent type of pavement, an eight (8) inch or larger sewer main shall be installed in that street prior to the paving of the street. The cost of installation of such sewer main shall be borne by the developer.
    D. If a person installs a sewer main line extension to serve a parcel of property, said main line extension shall extend completely across the parcel of property being developed.
    E. A developer who pays the cost of an off-site sewer main line extension may have the right of reimbursement described in Provo City Code Chapter 10.03.040.
2. SEWER PIPE MAIN STANDARDS
    A. Minimum mainline size shall be 8" in diameter. Actual size of mainlines shall provide adequate flow for current and future development.
    B. Provide green PVC (polyvinyl Chloride) SDR 35 or approved equal.
    C. Sewer mainlines and laterals shall be marked with a detectable green colored locator tape.

D. Minimum depth of the sewer mainlines shall be seven (7) feet below finish grade. In areas where basements are allowed, sewer mains shall be deep enough to service basements.

E. Sewer mainline grades are as follows:

Minimum Sewer Main Pipe Slope*	
8 inch sewer lines**	0.40%
10 inch sewer lines	0.28%
12 inch sewer lines	0.22%
15 inch sewer lines	0.15%
18 inch sewer line	0.12%
21 inch and larger sewer lines	0.10%
* Sewer mains may not be upsized only for the purpose of installing at a flatter slope unless information is provided by the engineer showing that there is adequate scour volume to keep the line clean without increased maintenance. ** The first segment(s) of 8 inch sewer mains may be required to be placed at 1% min slope if there is not sufficient flow to provide adequate scour volume.	

F. All sewers which are designed to flow at 10 feet per second or greater shall be reviewed by City for approval or alternate design consideration. Suitable thrust blocks, concrete anchors or equivalent restraints shall be provided per R317-3-2 of the Utah Code when pipe slopes are 10% or greater.

G. Horizontal clearance to any culinary water line shall be at least 10 feet (10') edge of pipe to edge of pipe per R309-550 and R317-3-2.
   a. Utilities crossing sewer mains shall cross as close to a right angle as possible.
   b. Provide a minimum vertical clearance of eighteen inches (18") between water and sewer with water main lines and service above the sewer measured from the outside of the pipes.
   c. When utilities are bored near sewer mains, laterals and all crossings, the sewer utilities shall be TV inspected.

H. No curvilinear sewer mains shall be allowed.

3. MANHOLE DESIGN STANDARDS

A. Manholes shall conform to Provo Standard Drawing P-411.

B. Depth transitions shall occur between manholes. Drop manholes are discouraged and may only be used with explicit written approval and shall conform to Provo Standard Drawing P-433.

C. Sewer manholes shall be installed:
   a. At a maximum spacing of four hundred (400) feet.
   b. At all changes in grade, size or alignment, and at all intersections with other mainlines.
   c. At the end of main lines (no cleanouts allowed on mainlines).
   d. All six-inch (6") and larger laterals on commercial or multi-family laterals require a manhole at the connection to the public main.

D. Sewer manholes shall be sized based on the following:
    a. Five (5) foot Diameter manholes required at three-way manholes, 90° bends, over 15" and 18" pipes, manholes over 10' deep, and in manholes with over one foot of drop across manhole.
    b. Six (6) foot Diameter manholes required over pipes 24" and greater, and at three-way manholes where the deflection exceeds 90° and height of manhole exceeds 16'.

4. ABANDONMENT OF SEWER UTILITIES
    A. Whenever an existing sewer lateral(s) is abandoned in favor of a new lateral, the Owner shall disconnect the existing sewer lateral from the main and plug the lateral tap into the main. All costs associated with labor and material for such work shall be the responsibility of the property owner causing the lateral to be abandoned. All work shall be inspected by Provo City before backfilling. Prior to demolition of proposed site, sewer lateral shall be abandoned per Provo City standards.
5. SEWER LATERAL DESIGN STANDARDS
    A. Sewer taps will be performed by the contractor and inspected by a City Inspector.
        a. Sewer taps into an existing eight (8) inch main shall not be greater than four (4) inches.
            1. Direct nose-on connections may only be used when connecting to an existing mainline. The installation must be inspected and a saddle used when warranted.
            2. Connections to new mains shall be with a wye and a forty-five degree (45º) bend.
        b. Minimum distance between connections shall be four feet.
        c. Sewer laterals shall connect to sewer main lines and not discharge into manholes.
    B. At the time of significant remodel or change of use, reuse of existing laterals may be allowed for use only if the following conditions are met:
        a. The existing lateral is of sufficient size and slopes for the proposed use.
        b. The existing lateral is in good condition, free from damage, bellies, leaks, or deviations in slope.
        c. If the above criteria cannot be met the Owner shall abandon the existing lateral at the main and provide a new lateral that meets all current Provo Standards and Specifications.
        d. The existing lateral is ABS (Acrylonitrile-Butadiene-Styrene) or PVC
    C. Allowable sanitary sewer lateral pipe material shall be as follows:
        a. ABS (Acrylonitrile-Butadiene-Styrene) schedule 40, black in color. For use in sewer laterals only.
        b. PVC (Polyvinyl Chloride) SDR 35 or other approved wall thickness for laterals (green in color).
        c. Lining is allowed only after review and approval of CCTV of lateral by Provo City personnel.

D. Minimum lateral size shall be as follows:
    a. Single family residential: four (4) inches in diameter with 2% minimum slope.
    b. Individual lateral serving five (5) or fewer residential equivalent units: four (4) inches in diameter with a minimum slope of 2%.
    c. All other uses: minimum six inches (6") diameter with a slope of 2%. A 1% minimum slope may be used if approved as part of the City review.
        1. The sewer lateral size shall be based on actual project flows, but in no case shall the lateral be less than six inches (6") in diameter.
        2. The sewer lateral shall be in front of the property it services and shall not cross through other properties.

E. The policy of the City regarding the number of separate service laterals for residential and commercial structures is as follows:
    a. Each separate lot, parcel, dwelling unit, building, house, business or premises shall be served by an individual lateral except as allowed in paragraph (c).
    b. For one- and two-family dwelling structures, a separate service lateral for each dwelling unit is required.
    c. For multiple-family dwelling structures, stacked dwelling units, or commercial structures separate service laterals for each unit shall be the general rule. However, where design dictates otherwise, a common lateral for multiple units (or fewer laterals than the number otherwise specified) may be permitted where the applicant provides adequate documentation, including signed and stamped engineering calculations, and guarantees to assure adequacy of sewer/wastewater collection and responsibility for payment and maintenance. Easements may also be necessary where common laterals cross property lines. In any such case, the Water Resources Director has sole discretion to permit or reject a reduction in the required number of service laterals accordingly.
    d. Common sewer laterals approved under paragraph (c) shall be have a minimum diameter of six (6) inches for all laterals serving more than five residential equivalent units.

F. Sewer laterals shall not be allowed to connect into any private sewer system without permission from the owner of said system.

G. Cleanouts shall be required at a minimum of every 100 feet (100') and at bends forty-five degrees (45°) or greater. All laterals shall have at least one cleanout.

H. Sump pumps (ground water) shall not be discharged into the street or into the sanitary sewer system: but shall require outfall into a storm drain.

6. PRETREATMENT

A. Pretreatment
    a. Pretreatment will be required for each use producing excessive grease, sand, oil or sewer load different from a standard residential unit.
    b. All covered parking lots, car washes, restaurants, auto shops and interior floor drains that are subject to receipt of sand, silts, chemicals, petroleum products, or other contaminants must have a grease trap, sand/oil separator, or other

appropriately designed system to pretreat all process waste water before it enters the collections system.

c. Grease Interceptors shall be sized according to the current manual of the Uniform Plumbing Code (UPC) with a minimum size of 750 gallons and be installed per Provo Standard Drawing P-441.
    1. All drainage fixtures in any food and beverage preparation area or any process which produces fats, oils, or greases (FOG) shall be routed through a grease interceptor.
    2. Food grinders or disposals are heavily discouraged.
    3. Restroom waste shall not be routed through grease interceptor.
d. Include note on plans to contact the Pretreatment Coordinator at 801-852-6793 regarding required pretreatment and grease interceptors.
e. The Interceptor shall have manhole rings and covers rated for traffic loading.
f. A sampling manhole shall be installed no more than 10 feet (10') downstream from any interceptor.
    1. The required vault will be a four-foot (4') manhole unless otherwise approved by the pretreatment coordinator.
    2. Sampling vault should be at flowline with no hydraulic jumps.
    3. A six inch (6") minimum clearance is required from the end of the inlet pipe to the bottom of the sampling manhole flowline.
    4. The bottom of the sampling manhole shall be formed to slope the water towards the outlet pipe.
    5. If the inlet is greater than six inches (6") a plan will need to be submitted and approved by the City.

7. EASEMENTS
    A. Provide a minimum twenty feet wide (20') public utility easement for all public sewer mains installed outside of the street right of way or other City owned property. Unless otherwise approved, the sewer line should be installed in the center of the easement.

8. LIFT STATIONS
    A. No temporary or private lift stations shall be allowed.
    B. In extenuating circumstances, a single grinder pump servicing a single residential home may be allowed with prior approval.

9. SHALLOW SEWER
    A. Provide the following note on the plat for sewer main line depths less than 10 feet (10'):
        a. "Shallow Sewer Depths! Contractor shall verify sewer lateral depth and set foundation elevation to provide adequate fall into sewer lateral. Buildings with a basement may not have sewer service available for basement."

B. Provide the following note on the plat for property on one side of the street is low enough to make providing sewer to the property from the street difficult:
   a. "Low Lots! Contractor shall verify sewer lateral depth and set foundation elevation to provide adequate fall into sewer lateral. Buildings with a basement may not have gravity sewer service available for basement."

STORM DRAIN SYSTEM

This section of the Development Design Standards is intended as a "quick guide" to storm drainage requirements. More complete guidance is contained in the Provo City Storm Drainage System Design and Management Manual (Drainage Manual), which can be found on the Provo City Public Works – Storm Water web page.

1. DRAINAGE SUBMITTAL REQUIREMENTS (Chapter 3 of the Drainage Manual)
   A. A geotechnical report identifying groundwater elevation is required for all developments that lie within the high Water Table Area, as defined in Section 15.03.010(2), Provo City Code, and for other areas determined by the Public Works Director or their designee as likely to have shallow ground water.
   B. Sites proposing retention and infiltration are required to submit a field infiltration analysis measuring the in-situ infiltration rate. The design infiltration rate must use a safety factor of at least 2 in order to account for plugging, silting, and the creation of biofilms over time.
   C. A Lot Grading Plan shall be submitted for single-family residential lots, meeting the requirements of Section 3.2 of the Drainage Manual.
   D. Concept Plan drawings submitted as part of a rezone request shall include the information required in Section 3.3 of the Design Manual.
   E. A Storm Drainage Report and Management Plan shall be submitted for all developments requiring Project Plan approval, following the requirements in Section 3.4 of the Drainage Manual
   F. Regular Maintenance and inspections of private drainage facilities is the responsibility of the owner(s) of said facility. See Section 18.03.040 for minimum maintenance and inspection requirements.
   G. All development located wholly or partially within the FEMA floodplain must obtain a Floodplain Development Permit from the City. Permit requirements are identified in Section 15.05.180, Provo City Code.
   H. Storm Water Pollution Prevention Plans (SWPPPs) are required for all projects disturbing more than 1 acre, and for residential lots meeting the criteria for Common Plans of Development.

2. HYDROLOGY (Chapter 4 of the Drainage Manual)

A. Acceptable hydrologic methods are the Rational Method (up to 200-acre drainage area for peak flow calculations, or up to 20-acre drainage area for volume calculations) and the SCS Curve Number Method using the Farmer-Fletcher distribution.
B. Base criteria is that storm drains, minor ditches, detention, and retention facilities control the 10-year design storm. Single-family residential development and public streets may discharge flows to downstream storm drain facilities un-detained. All other development types must detain 10-year flows onsite, with a maximum discharge of 0.2 cfs/acre.
C. If a project cannot show a positive overflow path for the 100-year design storm to downstream streets, major channels, or the Provo River without flooding homes, buildings, or other critical facilities, the 100-year design storm must be controlled onsite.
D. Values used for rainfall depths and intensities are provided for three weather stations around Provo, as contained in Tables 4-2A through 4-3C in the Drainage Manual. The exhibit in Appendix A of the Drainage Manual shows the location of the three weather stations, and the areas where the corresponding table should be used.
E. Rational Method Runoff Coefficients are contained in Table 4-4 of the Drainage Manual
F. Rainfall distribution patterns for the Farmer-Fletcher distribution are contained in Tables 4-5 and 4-6 of the Drainage Manual.
G. SCS Curve number models shall use a "base" curve number based on Table 4-7 of the Drainage Manual, with impervious cover accounted for separately.

3. STREET DRAINAGE (Chapter 5 of the Drainage Manual)
   A. Street inlets shall conform to Provo City Standard Details P-315a through P-315d.
   B. Inlets shall be placed on both sides of street at a distance of no more than four hundred (400) lineal feet of street curb and gutter, when gutter flows are =>3 cfs, and upstream of every intersection, ADA ramp, and reverse grade driveway. Additional inlets may be required to capture the 10-year design flow.
   C. A minimum of double inlets shall be required at low points of vertical curves and on steep slopes (5% or greater). Downhill-sloping cul-de-sacs and dead end are generally not allowed, but if they are specifically approved they shall require double inlets and a 100-year overflow path.
   D. The use of combination inlet type of structures is generally not allowed, and shall require special permission in rare cases where a separate inlet and manhole is not feasible.
4. STORM DRAIN (Chapter 6 of the Drainage Manual)
   A. The minimum allowable pipe diameter is 18 inches for mainline and 15 inches for laterals from inlet to manhole.
   B. Public storm drain shall be reinforced concrete pipe (RCP).

C. Storm drain manholes shall conform to APWA Standard Detail 341. Manholes shall be located no further than 400-feet apart, and at all pipe transitions including changes in direction, elevation, slope and pipe size.

D. Normal depth calculations can be used for sizing only when calculations show all pipes are no more than 75% full. Alternatively, full hydraulic modeling can show flow under full pipe capacity, with the HGL no high than 1-foot below grade.

5. OPEN CHANNELS (Chapter 7 of the Drainage Manual)
   A. Open channel design shall be dictated by the maximum permissible velocity of the channel material/lining. See Table 7-1 in the Drainage Manual.
   B. Unless otherwise approved, channel side slopes shall not be steeper than 3H:1V.
   C. Open channels shall have a minimum of 1 foot of freeboard from design depth to top of bank.
6. CULVERTS AND BRIDGES (Chapter 8 of the Drainage Manual)
   A. Large bridges (more than just RCP or RCB) shall be design using UDOT bridge design criteria.
   B. A culvert blockage factor of 50 percent shall be used for culverts placed in drainages with upstream debris potential as determined by the City.
   C. A minimum of 2 feet of freeboard is required unless otherwise approved. Culverts within the FEMA floodplain may be subject to additional freeboard requirements.
7. DETENTION/RETENTION BASINS (Chapter 9 of the Drainage Manual)
   A. Sizing criteria is based on design storm and maximum discharge requirements shown in Chapter 4 of the Drainage Manual)
   B. The maximum ponding depth is 3 feet during the 10-year design storm for above ground basins. A minimum 1 foot of freeboard for the 10-year storm is required.
   C. Side slopes shall be 3H:1V or flatter for above ground basins.
   D. Minimum bottom slope for detention ponds is 2%, unless a flatter slope with a low flow channel or soil amendments to promote infiltration is approved by the Public Works Director or their designee.
   E. Retention/infiltration facilities are not allowed in well protection Zones 1 and 2.
8. SENSITIVE LANDS (Chapter 10 of the Drainage Manual)
   A. A geotechnical report identifying groundwater elevation is required for all developments that lie within the high Water Table Area, as defined in Section 15.03.010(2), Provo City Code, and for other areas determined by the Public Works Director or their designee as likely to have shallow ground water.
   B. All development located wholly or partially within the FEMA floodplain must obtain a Floodplain Development Permit from the City. Permit requirements are identified in Section 15.05.180, Provo City Code.
   C. Development must a minimum of 1-foot above the Utah Lake base flood (100-year) elevation, including roadways, residential lots, and residential finished floors (including basements). Commercial buildings must either be 1 foot above or be flood proofed to that elevation.
   D. Developments located within or adjacent to the Provo River floodplain and other floodplains identified on the FEMA FIRMs, must be 1-foot above the base flood

(100-year) elevation, including roadways, parking lots, and residential finished floors (including basements).

E. The American Society of Civil Engineers (ASCE) Standard 14, adopted by reference in the International Building Code (IBC), has additional freeboard requirements of critical structures.

9. WATER QUALITY (Chapter 11 of the Drainage Manual)
    A. Development project that disturb land greater than or equal to one acre, including project that are part of a larger common plan of development or sale which collectively disturbs land greater or equal to one acre, are subject to the water quality requirements in Chapter 11 of the Drainage Manual.
    B. New development must retain the 80th percentile storm (see Table 11-1 of the Drainage Manual). Redevelopment projects must either provide a net gain to onsite retention or net reduction to impervious surface. Redevelopment projects increasing the impervious surface by greater than 10% must retain the net increase in the volume associated with the 80th percentile storm.
    C. A Storm Water Quality Report shall be submitted for all projects meeting the applicability standard, using the template in Appendix F of the Drainage Manual.
    D. See Chapter 11 of the Drainage Manual for approved Best Management Practices (BMPs), and alternative methods if meeting the full retention standard is determined to be infeasible.
    E. Standard Details for common BMPs are included in the Provo Standard Drawing Details (Supplement to the APWA Manual of Standard Plans).
10. MAINTENANCE ACCESS AND EASEMENTS (Chapter 12 of the Drainage Manual)
    A. Storm water facilities located on private property shall generally be maintained at the expense of the property owner, unless it collects or conveys public storm water.
    B. Private facilities that are owned or maintained by someone other than the property owner (such as irrigation lines owned and maintained by private irrigation companies, or drainage facilities maintained by the HOA) must be located in an easement in favor of the facility owner. Coordinate with the private facility owner for easement size requirements.
    C. Easement and maintenance access requirements for facilities to be owned or maintained by the City are detailed in Chapter 12 of the Drainage Manual.
    D. Regardless of ownership, open channels shall be a minimum of 20-feet from structures such as buildings, sheds, etc. Detention and retention basins shall be a minimum of 40-feet from structures, or provide engineered water proofing measures. Storm drain shall be located a minimum of 10-feet from structures.

SUB-SURFACE DRAIN – (AS REQUIRED)

1. SUB-SURFACE DRAIN SIZE DETERMINATION
    A. The minimum sub-surface drain size shall be eight (8)-inches.
    B. The sub-surface drain shall be sized to carry 0.8 cfs per 100 acres of developed area.
    C. The sub-surface drain shall have a minimum flow velocity of one (1) foot per second.
    D. The minimum slope on a sub-surface mainline drain shall be 0.4%.
    E. A sub-surface drain shall be a separate system from the storm drain system. A sub-surface lateral shall not connect to storm drain lines.

2. SUB-SURFACE DRAIN LINE PLACEMENT
    A. The sub-surface drainage system shall be installed as determined by the City.
    B. Sub-surface drain lines shall not be placed in side lot or rear lot property lines unless approved by the City.
        a. Sub-surface drain lines that are approved for side lot or rear lot installation shall have a 20-foot easement provided.
        b. Sub-surface drain lines that are approved for side lot or rear lot installation shall provide for vehicular access to all manholes.
    C. The lines shall be installed with a minimum cover of 4.5 feet from the top of the pipe to the finish ground elevation.
    D. The design should insure that there will be no conflict between the land drain line and the sanitary sewer line.
    E. The lateral line will be installed within 5 feet of a common property line. The contractor will install identifier tape one foot over the lateral, running the length of the lateral, with the wording ‘Drain Line’ on the tape.

3. MANHOLE SIZE AND PLACEMENT DETERMINATION
    A. Manholes shall be installed as follows:
        a. Maximum spacing is 400 feet.
        b. Change in alignment.
        c. Change in slope.
        d. Junction with other lines.
    B. Minimum size manhole is four-foot (4) inside diameter.
    C. Five-foot (5) inside diameter manholes shall be used for all locations as follows:
        a. Intersection of three land drain lines.

1. A 6-inch multi-user/commercial line connecting to an 8 inch or larger requires a manhole.

b. Change of grade with an algebraic difference of five percent (5.0%)

c. Change in alignment where the interior angle is greater than 70 degrees but less than 90 degrees.

D. Manholes shall be placed at the end of all lines, including temporary dead-ends.

4. SUB-SURFACE DRAIN SERVICE LATERAL SIZE AND PLACEMENT

A. All residential connections shall have an individual service connection. Sharing or joint use of lines is not allowed.

B. Residential service lines shall be 4 inch White PVC pipe.

a. The service lateral shall be installed as per Provo City Standards.

b. The service lateral shall extend to the property on a minimum slope of 2.0%.

c. The contractor will install identifier tape one foot over the top of the lateral the entire length of the lateral and the tape will say "Land Drain."

C. All commercial connections shall have individual connections based on unit ownership.

a. If one building is divided into units one connection per unit will be required.

5. PIPE LINE MATERIALS, CONSTRUCTION AND TESTING

A. 4 inch and 6 inch service lines shall be PVC ASTM 3034 pipe.

B. 8 inch and 10 inch sub-surface drain lines may be concrete or PVC ASTM 3034 pipe.

a. PVC pipe shall have a minimum of 6 inches of 1-1/2" drain rock placed for bedding and covering the line.

b. PVC lines shall be tested for deflection after the trench has been backfilled and compacted.

c. Concrete pipe shall be bedded as per Provo City Standards.

d. The backfill around and over the concrete pipe shall be compacted to a minimum of 95%.

C. Manhole bases may be pre-cast using the design as a guide for stub orientation.

a. Pre-cast manhole bases shall be placed on a minimum of 8 inches of gravel bedding.

D. Poured-in-place manhole bases shall conform to the following standards:

a. The concrete base shall be at least 10 inches thick.

b. The sub-grade material shall be gravel bedding.

E. Manhole sections shall be tongue & groove, pre-cast concrete sections with cast-in-place vinyl steps.

F. The frame and cover shall be cast iron.

IRRIGATION SYSTEM IMPROVEMENTS

Submit a written approval for the relocation of the system.

1. FLOOD IRRIGATION SYSTEMS
    A. The developer shall provide adequate conveyance for flood irrigation wastewater to pass around or through a developed subdivision.
        a. The conveyance may be either a pipe system or open channel.
            1. A pipe shall be required if the system crosses any street or access way.
            2. The City Engineer and the owner shall approve the conveyance system.
    B. The developer will be required to install a pipe system to convey any supply ditch that passes through the proposed subdivision.
        a. The pipe size shall be determined by the owner and approved by the City Engineer and by the owner.
        b. The location of the pipe system shall approved by the City Engineer.

GRADING PLAN

1. Grading shall be defined as any work including filling, cutting, excavation or relocation of material which affects the contour, slope, elevation or drainage features of a parcel of property, or which involves more than fifty (50) cubic yards of material.
2. No grading shall be accomplished without first having obtained a grading permit from the City Engineer. A grading permit may be obtained at the office of the Provo City Engineer after completion of an application for permit complying with any and all permit requirements.

STREET IMPROVEMENTS

1. STREET WIDTHS
    A. Proposed street shall have the minimum width for the rights-of-way. The width is measured from lot line to lot line. Street widths shall comply with street classifications as defined by the Master Street Plan or as approved by the City Engineer.
    B. The minimum asphalt width shall be attained whenever curb and gutters are installed.
    C. The asphalt on all public streets shall be bordered on both sides by Type E curb & gutter or as approved by the City Engineer.

2. STREET INTERSECTIONS
    A. On collector and local streets, four (4) way intersections may be designed with a roundabout according to Provo City Standards and as approved by the City Engineer.
    B. Streets shall intersect each other as near as possible at right angles.
    C. Offsets between intersections from ten (10) feet to one hundred twenty (120) feet, measured from street center line to street center line, shall be prohibited.
    D. Residential streets and alleys shall not extend more than five hundred (500) feet in length without an off-setting intersection to another street.
    E. Curb at all intersections shall be rounded with curves having a minimum lip of curb radius as per city standards.

3. STREET LAYOUT
    A. The arrangement of streets in new developments shall make provision for the continuation of the existing streets in adjoining areas or their proper projection where adjoining land is not subdivided.
        a. New streets shall be made at the same or greater width as the existing road, but in no case less than the required minimum width.
    B. Street alignments shall be selected to relate to the natural topography and other natural conditions.

C. Direct driveway access from residential property to collector and arterial streets shall not be permitted without approval of the City Engineer. Access to new residential development shall be provided by local streets.

4. STREET CURVE DESIGNS
   A. Where the street lines within a block deflect from each other, there should be a connecting curve that meets the minimum curve radii as per city standards.
   B. Local streets shall be designed with horizontal and vertical curves. (Refer to AASHTO– A Policy on Geometric Design of Highways and Streets.)

5. STREET SLOPES
   A. Street slopes shall be kept within minimum and maximum allowable slopes.
   B. Cross slope shall be designed at 2%. A minimum cross slope of 1% and a maximum cross slope of 4% is allowed by the City Engineer.

6. CURB & GUTTER/ SIDEWALK / WATERWAY / DRIVEWAY
   A. Curb & Gutter shall be placed on each side of developed streets.
      a. 24" Type E curb & gutter shall be used on all streets.
      b. See APWA Plan 205 for design guidelines.
   B. Sidewalk shall be placed on each side of developed streets.
      a. Sidewalks shall be six (6) feet in width except where other widths are deemed appropriate by the City Engineer and comply with the latest Americans with Disabilities Act requirements. No boxes, lids or structures.
      b. Planter strips of a minimum seven (7) feet in width shall be used in all street cross sections except as determined by the City Engineer
      c. See Provo City Standards and Specifications for design guidelines.
   C. Waterways
      a. Design street drainage to eliminate waterways. Waterways will only be allowed as approved by the City Engineer.
      b. Refer to APWA Plan 211 for design guidelines.
   D. Driveway
      a. Driveways shall comply with standard drawings with one driveway for each property and a maximum width of 30 feet except as determined by the City Engineer.

7. CUL-DE-SAC REQUIREMENTS
   A. Each cul-de-sac shall have a minimum right-of-way of fifty (50) feet and a radius of fifty (50) feet of right-of-way for the cul-de-sac bulb.
   B. The maximum length of a cul-de-sac shall not exceed five hundred (500) feet, unless;
      a. Physical conditions necessitate providing a longer cul-de-sac.

b. A cul-de-sac street which exceeds five hundred (500) feet shall include an intermediate turnaround near the midpoint of the street as approved by the City Engineer.

C. In no case shall a cul-de-sac street length exceed one thousand (1,000) feet.

8. SECOND ACCESS REQUIREMENTS
   A. A second street access is required under the following conditions:
      a. A development that has fourteen (14) or more residential lots. (250 ADT)
      b. A development that extends more than one thousand (1,000) feet from a connecting street. (Comply with the Fire Code)
9. ALLEYS
   A. Where access is desired to the side or rear of abutting properties, an alley may be provided. Alleys shall have a minimum width of twenty-four (24) feet of asphalt or concrete pavement measured from face of curb to face of curb. The design grade and alignment design of an alley shall conform to local street standards, except that the centerline radius may be reduced where appropriate, as determined by the City Engineer.

10. PRIVATE STREETS
   A. Private streets shall be designed to meet Provo City Street Standards. Any modifications require the approval of the City Engineer.
   B. Provo City shall not open, grade, pave, or perform any maintenance work on any private or undedicated street, road or alley
   C. Provo City shall refrain from laying utility lines in any street which has not:
      a. Been accepted by the City as a public street or alley
      b. Received approval of the Mayor as part of a final subdivision plat or development, unless an easement is granted therefor.
   D. The City shall not accept or maintain streets unless such streets have been constructed in accordance with Provo City standards and specifications.

11. RIGHT-OF-WAY SLOPE REQUIREMENTS
   A. The developer shall provide cross-section drawings of the right-of-way when the cut or fill exceeds 2 feet at the right-of-way line.
   B. The developer shall provide slope easements on the dedication plat when the cut or fill exceeds two (2) feet.
   C. The developer shall provide engineering drawings for slope retaining when the cut or fill requires retaining walls or structures.

12. GRADING PLAN
   A. Grading shall be defined as any work including filling, cutting, excavation or relocation of material which affects the contour, slope, elevation or drainage features of a parcel of property, or which involves more than fifty (50) cubic yards of material.

B. No grading shall be accomplished without first having obtained a grading permit from the City Engineer. A grading permit may be obtained at the office of the Provo City Engineer after completion of an application for permit complying with any and all permit requirements.

13. TRAFFIC STUDY

A. A traffic study shall be required for all developments three (3) acres or greater or ten (10) units or greater, and may be required for other developments as reasonably determined by the City Engineer.

B. The Developer and or Engineer shall be required to meet with the City Engineer prior to initiating the traffic study.

C. Items considered in a traffic study shall include:

a. A study of existing area conditions

b. Traffic projections (determined by trip generation rates obtained from the Provo Transportation Master Plan trip rates or approved by the City Engineer)

c. Traffic analysis

d. On- and off-site improvement analysis, conclusions, and recommendations

Street Standard Values

	Arterial Street	**Minor Arterial Street**	**Collector Street**	**Local Street**
Minimum Street Width	128 ft	80 ft	80 ft	54 ft, 60 ft, 66 ft
Minimum Asphalt Width	78 ft	50 ft	50 ft	• 24 ft where: land use is residential and connects to local roads and projected AADT is less than 400 and on-street parking on one side only • 30 ft where: land use is residential or connects to collector road or projected AADT is greater than 400 and on-street parking is not prohibited • 36 ft where: land use is commercial or industrial or connects to arterial road or projected AADT is greater than 1400 and on-street parking is not prohibited
Minimum Lip of Curb Radius at Intersection	30 ft	30 ft	30 ft	15 ft
Minimum Curve Radius at Street Deflection	510 ft	335 ft	335 ft	200 ft
Minimum Street Slope	0.4%	0.4%	0.4%	0.4%
Maximum Street Slope	8.0%	8.0%	8.0%	12.0%
Street Cross Slope	2%	2%	2%	2%

GEOTECHNICAL INFORMATION

If the City Engineer determines that a geologic report is required as described in Section 15.05, Provo City Code, in relation to the subject property, the developer shall submit a geologic report which complies with the 2020, Guidelines for investigating geologic hazards and preparing engineering-geology reports, with a suggested approach to geologic-hazard ordinances in Utah, second edition: Utah Geological Survey Circular, 128 Bowman, S.D., and Lund, W.R., editors or current version of this document and shall include:

1. MINIMUM INFORMATION REQUIRED
    A. Project plan showing boring locations.
        a. Boring logs shall include the following:
            1. Elevation
            2. Drill or backhoe type
            3. Samples
            4. Field tests
            5. Ground water level fluctuations
    B. Laboratory Tests – Performed in general accordance with ASTM
        a. Sieve analysis
        b. Atterberg Limits
        c. CBR
        d. Direct Shear
        e. Consolidation
        f. Identify Soils according to USCS
        g. Moisture density curve(s)
    C. Engineer Analysis and recommendations
        a. Foundations and Retaining Walls
            1. Allowable bearing capacity
            2. Lateral loads friction coefficients
            3. Settlement
            4. Drainage – Backfill information
            5. Seismic loading
        b. Pavements
            1. Traffic loads
            2. Subgrade support value (CBR)
            3. Pavement thickness
        c. Special Considerations
            1. Site preparation – use of on-site materials
            2. Expansive soils
            3. Collapsible soil
            4. Slope stability
            5. Rock Fall
            6. Shallow ground water level – drainage, etc.

7. Surcharge / preloading (if used, developer needs to install settlement monitors and elevations benchmark.)
8. Identification of geological hazards.

The number and depth of borings/pits are to be determined for each specific project shall be determined by the geotechnical engineer. However, as a minimum, the depth should be deeper than any anticipated excavation (cuts, foundations, utilities, etc.). The number of borings shall be determined by the geotechnical engineer/geologist and shall be compatible with the complexity/simplicity of the geology, subsurface conditions and the type of project.

D. Following the construction of the utilities in the street(s) within the development and prior to the final paving of the street(s), the Developer must submit written documentation from the consulting Geotechnical Engineer, the Design Engineer and the Contractor, indicating that each have received and read the Geotechnical Report and have incorporated the recommendations into the design and construction of the development.

2. USE OF FILTER FABRIC FOR STREET CONSTRUCTION
   A. Normal woven or non-woven filter fabric is a viable material to use when a separation layer is needed over a soft subgrade and beneath granular fill. These materials provide some minor reinforcing for supporting loads, but primarily act to prevent the movement of many fines up into the overlying crushed base or other clean granular material.
   B. If reinforcement of soft subgrade is desired, a geo grid should be designed for the intended purpose.

3. FLOWABLE FILL
   A. Utility excavations and subsequent backfill are the source of many problems for paved streets. It is extremely difficult to nearly impossible to place the utility, and backfill the trench, so that some subsequent differential settlement does not occur at the pavement surface. Cost associated with supplying, placing in lifts and compaction conventional backfill materials is high and results are unsatisfactory to marginal. Therefore, “flowable fill” is a preferential backfill alternative for utility installations beneath paved streets where hydraulic equipment is difficult to use such as a trench narrower than 36 inches.

4. TRENCHLESS TECHNOLOGY
   A. Trenchless technology/directional drilling is encouraged to be used for many utilities placed beneath streets without making a pavement utility cut. This procedure should be used whenever feasible.

WARRANTY PERIOD

The warranty period for the culinary water system, sanitary sewer system, sub-surface drainage system, storm drainage system, and street improvements as defined in Provo City Code 15.03.260.

The developer will be responsible for the placement of all sidewalks within the development. The placement of the sidewalk may be delayed until the actual construction of a house, but the developer will be required a keep a bond in place until the installation of the sidewalk has been completed.