Liberty Water

Because water matters every day

12725 W. Indian School Rd., Suite D101 Avondale, AZ 85392 623-935-3967

Litchfield Park Service Company (LPSCO) dba Liberty Water

www.libertywater.com

For Maricopa County Properties

Prepared by Development Services

Revised October 22, 2009

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

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CHAPTER ONE

GENERAL DEVELOPMENT INFORMATION

CONTACT LIST

NAME	TITLE	RESPONSIBILITY	DIRECT	MOBILE #	FAX #
MAIN OFFICE		GENERAL INQUIRIES	935-9367		935-1020
CUSTOMER SERVICE		SERVICE REQUESTS	935-9367		935-1020
DON DEBRULAR	CONSTRUCTION INSPECTOR	INSPECTIONS		(602) 757-6064	935-1020
ROVELL FOGGY	PLAN REVIEWER	PLAN REVIEW	298-3760		935-1020
JULIE BALDWIN	DEVELOPMENT SERVICES COORDINATOR	GENERAL COORDINATION LINE EXTENSION AGREEMENTS & WILL SERVE LETTERS	298-3738		935-1020
JAMES HUMBLE	DEVELOPMENT SERVICES MANAGER	DEVELOPMENT SERVICES MANAGER, MASTER PLAN REPORTS & NEW DEVELOPMENT	298-3747		935-1020

NOTE: ALL AREA CODES ARE 623 UNLESS OTHERWISE NOTED.

To apply for Water and or Wastewater service (online or printable application) and for the rates in your community please visit **www.libertywater.com**

POLICY CONCERNING UTILITY OWNERSHIP OF FACILITIES, FINAL PLAT INFORMATION, AND UTILITY OWNERSHIP INFORMATION

All water facilities on the Utility side of the service meter, including meter, shall be Utility owned. Fire sprinkler taps, isolation valves, and that portion of fire sprinkler services in the street right-of-way or dedicated public utility easement shall be Utility owned.

All main sewer lines shall be Utility owned. The portion of individual service lines located in the street right-of-way or dedicated public utility easement shall be Utility owned. The customer shall be responsible for owning and maintaining the remainder of the service line. In any event, the Utility will only be responsible for line stoppages in the main sewer line and service line within the right of ways.

The facilities described above shall become the sole property of the Utility when accepted, and full legal and equitable title thereto shall be vested in utility, free and clear of any liens.

All final plats shall contain Liberty Water's plat dedication verbiage or a separate easement will be required. See page 13 for dedication verbiage. See Page 12 for easement exhibit requirements.

All plan cover sheets shall have Liberty Water's owner information. See Chapter Three, Construction Plan Requirements.

Note: Utility means Liberty Water

Project/Developer Information

Liberty Water
Because water matters every day

GENERAL INFORMATION

Applicant Name: _____
Address: _____
Phone #: _____ Email: _____

Applicant Name: _____
Address: _____
Phone #: _____ Email: _____

Name of Development: _____
Location: _____
APN (Parcel #): _____

Owner Name: _____
Contact Name: _____
Address: _____
Phone #: _____ Email: _____

Project Engineer: _____
Contact Name: _____
Address: _____
Phone #: _____ Email: _____

PROJECT INFORMATION

Project Description: _____
_____
_____

Have preliminary plans been developed? If yes, please attach a copy.

Water: Yes ☐ No ☐

Sewer: Yes ☐ No ☐

Estimated Start Date: Water: _____ Estimated Completion Date: Water: _____

Sewer: _____ Sewer: _____

RESIDENTIAL PROJECTS - SINGLE FAMILY

Total residential acreage: _____

Number of lots: _____

RESIDENTIAL PROJECTS - MULTI-FAMILY

Condominiums/Apartments

Total acreage: _____

Number of units: _____

COMMERCIAL PROJECTS

☐ **Retail**

(a) Total Site Acreage: _____

(b) Square Footage of store area: _____

☐ **Office**

(a) Total Site Acreage: _____

(b) Square Footage of office space: _____

(c) Total occupancy: _____

☐ **Restaurant**

(a) Total Site Acreage: _____

(b) Square Footage of building: _____

(c) Total occupancy: _____

(d) Estimated number of meals served per day: _____

☐ **School**

(a) Total Site Acreage: _____

(b) Number of Staff: _____

(c) Number of Students: _____

(d) Circle all that apply:

Cafeteria Gym Showers Boarding

☐ **Other**

(a) Total Site Acreage: _____

(b) Square Footage of Building(s): _____

(c) Relevant Information: _____

_____

I hereby certify:

1) The information contained on this form is true and correct to the best of my knowledge. **I understand that this information will be used to determine my initial administrative deposit, which will be due prior to the review of Construction Plans and Master Plans.**

2) I have been provided a copy of Utility's Development Guide; which outlines procedural requirements for water and/or sewer line extensions and additions, as well as A.A.C. R14-2-406.

3) I understand I will be responsible for all costs related to the design, construction, installation and testing of the facilities.

_____	_____
Name	Title
_____	_____
Signature	Date

LINE EXTENSION AGREEMENT (LXA) INFORMATION

In order to complete the water and/or sewer agreements, the following information is needed, separately for water and sewer (as applicable for your project):

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).
- 8 1/2" X 11" legal description of property, including acreage, stamped and signed by an P.E. or R.L.S.
- Metes & bounds an 8 1/2" X 11" exhibit showing outline of development that matches the legal description, exhibit is to be stamped and signed by an P.E. or R.L.S.
- 8 1/2" X 11" water and/or sewer facilities map showing the facilities that we will own, including services. This information should be presented separately for water and sewer.
- 8 1/2" X 11" cost estimate of materials, quantities, unit costs, and total line item costs of water/wastewater facilities that will be owned by Liberty Water (for example, 8-inch ductile iron pipe, 1,200 ft., $60 per foot, $72,000) stamped and signed by an P.E. Engineering, labor costs, permits, traffic control, etc. This information should be presented separately for water and sewer components as separate agreements are developed for water and sewer.

FOR EXHIBIT REQUIREMENTS SEE PAGE 9

We will also need the following information to submit the agreement to the Arizona Corporation Commission for approval:

- Copy of the Approval to Construct issued by Maricopa County. When a project is exempt, a letter stating exemption issued by Maricopa County Environmental Services Department with an itemized cost estimate shall be submitted to Liberty Water. NO EXCEPTIONS.

Additionally, your project may be of a scope, size, or complexity to warrant a master plan or hydraulic modeling. You will be advised of this project as part of the review effort.

The Line Extension Agreement will also stipulate other conditions, such as requirements for as-builts or "conformed to" plans, copies of the Approval to Construct form, copies of invoices and actual costs summary exhibits, a bill of sale transferring ownership of the facilities to Liberty Water, advance for CC&N expansion legal and administrative costs (if applicable), payment of applicable capacity fees, hook-up fees, and/or Treatment Plant & Effluent Disposal (TPED) fees, etc. If your project involves a CC&N expansion, a MAG 208 or CAAG 208 amendment may be required.

1. Developer must execute water and/or sewer Line Extension Agreement for Utility owned facilities prior to plan approval of required facilities.
2. Developer must provide an easement for all Utility owned water and sewer mains and related facilities to be placed on private property, or have Liberty Water plat dedication verbiage on the final plat and to be shown on the water/sewer plans.
3. "Advances in Aid of Construction" are refunded to the Developer in accordance with Arizona Corporation Commission Rules and Regulations. Typically, the yearly refund amount is 10% of gross revenues generated by the extension. This refund is made for ten years, and the total refund cannot exceed the total funding provided by the developer. Any amount not refunded at the end of ten years becomes a contribution to the Utility.

EXHIBIT REQUIREMENTS

All exhibits submitted to the development services department for review shall be prepared in accordance with the guidelines listed below. Water and sewer exhibits are to be separate.

Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Legal Description.
3. Each page of the exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Call out acres.
6. Each page needs to have the name of the engineering firm that prepared the exhibit.

Meets and Bounds Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Meets and Bounds.
3. Each page of the exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
4. Project name is to be on the exhibit.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.
6. Show streets and nearest cross streets.

Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "B"**, Facilities Map.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or Building.
11. For larger projects multiple pages will be allowed.

Cost Estimate Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "C"**, Cost Estimate.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Exhibit needs to have material costs, engineering costs, traffic control costs and permitting cost.
6. Exhibit is to be signed and stamped by a P.E.
7. Cost estimate must be itemized, see example below.

Example:

Item	Quantity	Unit	Unit Cost	Total
8" DIP CL 350	1,200	LF	60.00	72,000.00
8" RW Gate Valve	3	EA	1,300.00	3,900.00

WATER SERVICE INSTALLATION ON EXISTING FACILITIES

When a water service is being installed on an existing water main and the facilities are public, review/ approval of the proposed water service will be required.

When a water service is being installed from an existing service and meter box to the building and the facilities are private, no plans or approval will be required.

Water meter boxes shall be supplied by Liberty Water and installed by the contractor. Contact Liberty Water Construction Inspector 602-757-6064 with lot/ building count to order meter boxes, meter boxes will be delivered to the construction site. After the meter boxes have been delivered any additional meter boxes due to damage, miss ordered, etc will be the responsibility of the contractor/ developer.

Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to placement of water meters.

A Water Service Agreement may be required for non-LXA Water projects. In the event the water facilities are private, or require only a service to be installed on an existing Liberty Water water line a Water LXA will not be required. However, developer may be required to enter into a Water Service Agreement with Liberty Water, and pay associated fees.

Developer may be required to execute a Water Service Agreement prior to plan approval of required facilities.

In order to complete the Water Service Agreement, the following information is needed:

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).

An 8 1/2" X 11" water facilities map showing the facilities that we will own.

Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Facilities Map.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or Building.
11. For larger projects multiple pages will be allowed.

SEWER SERVICE INSTALLATION ON EXISTING FACILITIES

A Sewer Service Agreement may be required for non-LXA Sewer projects. In the event the sewer facilities are private, or require only a service to be installed on an existing Liberty Water sewer line a Sewer LXA will not be required. However, developer may be required to enter into a Sewer Service Agreement with Liberty Water, and pay associated fees.

Developer may be required to execute a Sewer Service Agreement prior to plan approval of required facilities.

In order to complete the Sewer Service Agreement, the following information is needed:

- Name of corporation entering into this agreement.
- Name, title, and address of individual who will sign the agreement.
- State of incorporation of company.
- State & County where agreement will be notarized.
- Type of company (LLC, Inc., partnership, etc.).

An 8 1/2" X 11" sewer facilities map showing the facilities that we will own.

Facilities Map Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. The top of each page of the exhibit is to be labeled **Exhibit "A"**, Facilities Map.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Existing Facilities are to be shown as dashed lines.
6. Label connection point to the existing facilities.
7. Exhibit must have a legend and be legible.
8. Show streets and nearest cross streets.
9. Call out line sizes and show services.
10. Show lots and/or Building.
11. For larger projects multiple pages will be allowed.

EASEMENT

A separate easement shall be provided when the Utilities plat dedication verbiage is not on the final recorded plat and the Utility owned facilities are outside of the dedicated right of ways. Use 10pt font at a minimum. Easement(s) shall be signed by the developer or appropriate parties prior to plan approval.

- An 8 1/2" X 11" easement legal description of property, including acreage.
- An 8 1/2" X 11" exhibit showing outline of the easement legal description.

All exhibits submitted to the development services department for review shall be prepared in accordance with the guidelines listed below.

Easement Legal Description Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
3. Project name is to be on the exhibit.
4. Call out acres.
5. Each page needs to have the name of the engineering firm that prepared the exhibit.

Metes and Bounds Exhibit

1. Exhibit should be on letter-sized paper (8 1/2 x 11). NO EXCEPTIONS.
2. Exhibit is to be signed and stamped by a P.E. or R.L.S. registered in the state of Arizona.
3. Project name is to be on the exhibit.
4. Each page needs to have the name of the engineering firm that prepared the exhibit.
5. Show streets and nearest cross streets.

PLAT DEDICATION VERBIAGE

The following plat dedication verbiage shall be on the final recorded plat if Utility owned facilities are outside of dedicated right of ways and separate easements are not provided:

PERPETUAL WATER AND SEWER EASEMENT ('EASEMENTS") AS DESCRIBED IN THE PLAT ARE GRANTED TO LIBERTY WATER, AND THEIR SUCCESSORS AND ASSIGNS (COLLECTIVELY, "GRANTEE"), TO CONSTRUCT, OPERATE, AND MAINTAIN WATER AND SEWER LINES AND APPURTENANT FACILITIES (COLLECTIVELY, "FACILITIES") UPON, ACROSS, OVER AND UNDER THE SURFACE OF THE EASEMENTS, TOGETHER WITH THE RIGHT TO OPERATE, REPAIR, REPLACE, MAINTAIN, AND REMOVE THE FACILITIES FROM THE PREMISES; TO ADD OR TO ALTER THE FACILITIES, AND TO PROVIDE GRANTEE WITH REASONABLE INGRESS AND EGRESS TO THE FACILITIES. GRANTEE WILL HAVE UNRESTRICTED ACCESS TO THE EASEMENT FOR THE ACTIVITIES DESCRIBED ABOVE AND FORMAL NOTIFICATION OR APPROVAL BY ANY ASSOCIATION PRIOR TO ACCESSING THE EASEMENT WILL NOT BE REQUIRED.

GRANTOR SHALL NOT ERECT, CONSTRUCT OR PERMIT TO BE ERECTED OR CONSTRUCTED ANY BUILDING OR OTHER STRUCTURE WITHIN THE LIMITS OF THE EASEMENT; PROVIDED, HOWEVER, GRANTOR SHALL HAVE THE RIGHT TO CONSTRUCT AND ERECT FENCES, TO INSTALL LANDSCAPING, PARKING FACILITIES AND DRIVEWAYS, AND TO ESTABLISH OTHER USES WHICH ARE NOT INCONSISTENT WITH USES WITHIN THE LIMITS OF SAID EASEMENT IN A MANNER WHICH WILL NOT UNREASONABLY INTERFERE WITH GRANTEE'S ACCESS TO THE FACILITIES.

THIS EASEMENT IS GRANTED SUBJECT TO THE CONDITION THAT GRANTEE SHALL HOLD GRANTOR AND GRANTOR'S SUCCESSORS AND ASSIGNS HARMLESS FROM ANY AND ALL DAMAGES, CLAIMS, LIABILITIES OR EXPENSES WHICH MAY RESULT FROM GRANTEE'S USE OF THE EASEMENT. BY ACCEPTING THE EASEMENT, THE GRANTEE AGREES TO EXERCISE REASONABLE CARE TO AVOID DAMAGE TO THE PREMISES AND ALL PROPERTY THAT MAY AT ANY TIME BE THEREON.

SPECIFIC REQUIREMENTS FOR DEVELOPER DESIGNED AND BUILT WATER/SEWER MAIN EXTENSIONS

1. Developer shall prepare and submit Water and/or Sewer Plans in accordance with the Utility's "Minimum Water and/or Sewer Plan Requirements", see Chapter Three Construction Plan Requirements.

2. Easement legal descriptions and exhibits for Utility owned facilities shall be required for all Utility owned facilities not within dedicated right of ways. Easements shall have a minimum width of 16 feet and shall be centered about the centerline of the Utility owned facilities, minimum width of 20 feet when two lines are in the same easement. The easement legal description and exhibits shall be submitted on 8½" X 11" sheets also signed and sealed by a Professional Civil Engineer or Land Surveyor registered in the State of Arizona. See page 12 for easement exhibit requirements. Easement(s) shall be signed by the developer or appropriate parties prior to plan approval.

3. Developer must supply the Utility with an "Approval to Construct" (ATC) as issued by the Maricopa County Environmental Services Department prior to commencing construction. If the project is exempt, water projects less than $50,000 that do not require plat approval. When a project is exempt, a letter stating exemption issued by Maricopa County Environmental Services Department with an itemized cost estimate shall be submitted to Liberty Water. An ATC or exemption letter shall be submitted prior to plan approval.

4. Developer shall construct system in accordance with the Standards and Specifications of the Arizona Department of Environmental Quality, Maricopa Association of Governments, and Utility.

5. Utility will conduct periodic inspections of the installation. Utility does not provide full time on-site inspection. Responsibility for proper installation rests with the developer. Such inspection, as Utility personnel may perform, in no way relieves the developer of this responsibility.

6. Developer shall not make any changes from approved plans and specifications without prior approval of the Utility. Change orders authorizing changes in the approved plans and specifications must be co-signed by the Utility and engineer of record prior to construction.

7. Utility will give final acceptance upon completion of all construction, including final adjustments of all valve boxes, manholes, meter boxes, etc. and submittal of any other required documentation as outlined in the Line Extension Agreement and development guide.

8. The date of final acceptance shall be the date of the letter from the Utility to the developer. The developer shall be responsible for the repair of the facilities installed for two years from the date of final acceptance.

9. After Operational Approval and placement of curb/ gutter and or side walk also including asphalt concrete a percentage of the water meters (20% + -) will be released. The remaining meters <u>will not</u> be released until completion of the project. After the project has been granted final approval and all required paperwork has been received and reviewed the remaining meters will be released .

   A. Developer must supply the Utility with an Approval of Construction (AOC) as issued by Maricopa County Environmental Services Department.

   B. Bill of Sale for water and/or sewer

   C. Projects requiring a backflow prevention assembly for domestic/ irrigation water services and or double check detector valve backflow prevention assembly must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to placement of water meters.

Invoice package to establish actual cost of construction, developer shall provide the following:

A. Copies of all invoices (pay applications) from the underground utility contractor for material and labor for that portion of the work to be owned by the Utility. The invoices must be itemized and should include engineering; construction supervision, actual installation costs, and any other costs directly associated with the project.

B. Developer shall provide all unconditional final lien releases from all contractors, subcontractors and material suppliers for all water and sewer construction.

C. itemized cost breakdown similar to Exhibit C in the LXA. (for example, 8-inch ductile iron pipe, 1,200 ft., $60 per foot, $72,000). Engineering, labor costs, permits, traffic control, taxes, etc. should be provided as well, water and sewer are to be separate. See below example.

Example:

Item	Quantity	Unit	Unit Cost	Total
8" DIP CL 350	1,200	LF	60.00	72,000.00
8" RW Gate Valve	3	EA	1,300.00	3,900.00

10. Developer shall provide an "As-Built" plan of facilities installed. The "As-Built" plans shall include the locations of all vertical and horizontal pipe bends, valves, manholes, sewer taps, etc., by station/offset. The plan must be produced on 4 mil Mylar and certified for correctness by a Professional Civil Engineer or Land Surveyor registered in the State of Arizona. Reference the "As-Built" section, Chapter Three Construction Plan Requirements, for detailed "As-Built" plan requirements. One set of 4-mil Mylar, two sets of black-line on bond and AutoCAD files on CD. "As-Built" plans are required upon approval by Liberty Water. As-Built plans need to be submitted and approved by Liberty Water prior to final Inspection being conducted.

11. Refunds for "Advances in Aid of Construction" will be made after project receives Final Approval and Utility receives receipt of bill of sale, invoices; Itemized cost breakdown, lien waivers, AOC and approved "As- Built" plans.

DEPOSITS AND FEES ASSOCIATED WITH LINE EXTENSION AGREEMENT

Initial Administrative deposit

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

Administrative Costs

Upon execution of the Line Extension Agreement, the Developer shall submit the Deposit to Utility for Utility's reasonable fees, costs and expenses incurred in connection with its review of the engineering plans and specifications for the Facilities, and inspection and testing of the Facilities during and after their construction, and other fees, costs and expenses reasonably and necessarily incurred by Utility with respect to preparation of this Agreement, as well as other necessary administrative, engineering or legal services (collectively, "Administrative Costs"). The amount of the Deposit shall be 5% of the estimated cost of construction of the Facilities with a minimum Deposit of $5,000 and a maximum Deposit of $25,000. In the event Utility's Administrative Costs exceed the amount of the Deposit, Utility shall provide Developer invoices supporting such Administrative Costs, and payment shall be made by Developer on or before the fifteenth (15th) day of the calendar month following the month in which Utility's invoice is received by Developer.

Central Arizona Groundwater Replenishment District ("CAGRD")

In the event the Developer enrolls, or applies to enroll, the Property within the Development as "membership land" in the Central Arizona Groundwater Replenishment District ("CAGRD") pursuant to ARS § 48-4401 et seq., or the property in any way becomes subject to that law as it may be amended, then and in that event the Developer shall pay a one-time charge of $1,000.00, which shall be consider an advance to the Utility for the establishment of the reporting procedure mandated by the CAGRD. For all Lots within the Development that become subject to the CAGRD, the Developer shall provide to the Utility the following information for each parcel. (i) the APN number as assigned to that Lot by the applicable taxing authority as and when available; (ii) the street address of each Lot; and (iii) any other information necessary for the Utility to comply with the requirement of the CAGRD. Said information for all Lots and parcels within the Development shall be provided to the Utility prior to the Utility's obligation to serve water to any Lot or parcel within the Development. Payment of the CAGRD fee shall be made upon execution of the line extension agreement.

Capacity Fees

Contact Development Services Department for water and or sewer capacity fees.

100 YEAR ASSURED WATER SUPPLY, GRANDFATHERED RIGHTS "EXTINGUISHMENT CREDITS"

Prior to the approval of a plat and the issuance of a public report for a new development, Arizona law requires that the development secure a 100-year Assures Water Supply. The developer secures a Certificate of Assured Water Supply (CAWS) for the proposed development. Currently, Liberty Water does not possess a DAWS and it is therefore the developer's responsibility to secure a Certificate of Assured Water Supply for the proposed development. Liberty Water requires that developers of subdivisions and commercial properties on lands having Irrigation Grandfathered Rights (groundwater pumping rights) file with the state to "extinguish" the rights and deed the rights to Liberty Water. This requirement is included in the Line Extension Agreement.

If Irrigation Grandfathered Rights or Type I Non-Irrigation, Grandfathered Rights are associated with the land to be developed, the developer shall, within 30 days of plat recordation or prior to execution of a Membership Agreement with the Central Arizona Groundwater Replenishment District (CAGRD), whichever occurs first, submit to the Director of the Arizona Department of Water Resources, a notarized Statement of the Intent to Extinguish the Grandfathered Rights, including the Certificate of Grandfathered Right to be Extinguished. If the Grandfathered Right is a Type I right, proof of ownership of the land shall be submitted with the statement of intent. Any forms required to be submitted by ADWR shall also be included with the Statement of Intent.

The Statement of the Intent to Extinguish the Grandfathered rights shall include the statement, "It is requested that the Director of the Department of Water Resources make the extinguishment credits available for later use by Algonquin Water Services in its application for a designation of assured water supply for the "Liberty Water". A statement granting the credits to Liberty Water shall also be indicated as appropriate on the extinguishment forms submitted. A copy of the Statement of the Intent to Extinguish Grandfathered Rights with all enclosures shall be mailed to:

Liberty Water
Attn: Development Services
12725 W. Indian School Rd Suite D101
Avondale, AZ 85392

Note: The following verbiage is required if Liberty Water is to sign the plat for Certificate of Assured Water Supply.

CERTIFICATE OF ASSURED WATER SUPPLY

THIS DEVELOPMENT IS LOCATED WITHIN THE SERVICE AREA OF LIBERTY WATER AND HAS BEEN GRANTED A CERTIFICATE OF ASSURED WATER SUPPLY FROM THE ARIZONA DEPARTMENT OF WATER RESOURCES.

_____ _____

LITCHFIELD PARK SERVICE COMPANY dba LIBERTY WATER DATE

Title 14, Ch. 2 *Arizona Administrative Code*
Corporation Commission – Fixed Utilities

ARTICLE 4. WATER UTILITIES

R14-2-406. Main extension agreements

A. Each utility entering into a main extension agreement shall comply with the provisions of this rule which specifically defines the conditions governing main extensions.

B. An applicant for the extension of mains may be required to pay to the Company, as a refundable advance in aid of construction, before construction is commenced, the estimated reasonable cost of all mains, including all valves and fittings.

1. In the event that additional facilities are required to provide pressure, storage or water supply, exclusively for the new service or services requested, and the cost of the additional facilities is disproportionate to anticipated revenues to be derived from future consumers using these facilities, the estimated reasonable cost of such additional facilities may be included in refundable advances in aid of construction to be paid to the Company.
2. Upon request by a potential applicant for a main extension, the utility shall prepare, without charge, a preliminary sketch and rough estimate of the cost of installation to be paid by said applicant. Any applicant for a main extension requesting the utility to prepare detailed plans, specifications, or cost estimates may be required to deposit with the utility an amount equal to the estimated cost of preparation. The utility shall, upon request, make available within 45 days after receipt of the deposit referred to above, such plans, specifications, or cost estimates of the proposed main extension. Where the applicant accepts utility construction of the extension, the deposit shall be credited to the cost of construction; otherwise the deposit shall be nonrefundable. If the extension is to include oversizing of facilities to be done at the utility's expense, appropriate details shall be set forth in the plans, specifications and cost estimates.
3. Where the utility requires an applicant to advance funds for a main extension, the utility shall furnish the applicant with a copy of the Commission rules on main extension agreements prior to the applicant's acceptance of the utility's extension agreement.
4. In the event the utility's actual cost of construction is less than the amount advanced by the customer, the utility shall make a refund to the applicant within 30 days after the completion of the construction or utility's receipt of invoices related to that construction.
5. The provisions of this rule apply only to those applicants who in the utility's judgment will be permanent customers of the utility. Applications for temporary service shall be governed by the Commission's rules concerning temporary service applications.

C. Minimum written agreement requirements

1. Each main extension agreement shall include the following information:

a. Name and address of applicant(s)
b. Proposed service address
c. Description of requested service
d. Description and map of the requested line extension
e. Itemized cost estimate to include materials, labor, and other costs as necessary
f. Payment terms
g. A clear and concise explanation of any refunding provisions, if applicable
h. Utility's estimated start date and completion date for construction of the main extension

2. Each applicant shall be provided with a copy of the written main extension agreement.

D. Refunds of advances made pursuant to this rule shall be made in accord with the following method: the Company shall each year pay to the party making an advance under a main extension agreement, or that party's assignees or other successors in interest where the Company has received notice and evidence of such assignment or succession, a minimum amount equal to 10% of the total gross annual revenue from water sales to each bona fide consumer whose service line is connected to main lines covered by the main extension agreement, for a period of not less than 10 years. Refunds shall be made by the Company on or before the 31st day of August of each year, covering any refunds owing from water revenues received during the preceding July 1st to June 30th period. A balance remaining at the end of the ten-year period set out shall become non-refundable, in which case the balance not refunded shall be entered as a contribution in aid of construction in the accounts of the Company, however, agreements under this general order may provide that any balance of the amount advanced thereunder remaining at the end of the 10 year period set out, shall thereafter remain payable in whole or in part and in such manner as is set forth in the agreement. The aggregate refunds under this rule shall in no event exceed the total of the refundable advances in aid of construction. No interest shall be paid by the utility on any amounts advanced. The Company shall make no refunds from any revenue received from any lines, other than customer service lines, leading up to or taking off from the particular main extension covered by the agreement.

E. Amounts advanced in aid of construction of main extensions shall be refunded in accord with the rules of this Commission in force and effect on the date the agreement therefore was executed. All costs under main extension agreements entered into after the adoption of this rule shall be refunded as provided herein.
F. The Commission will not approve the transfer of any Certificate of Public Convenience and Necessity where the transferor has entered into a main extension agreement, unless it is demonstrated to the Commission that the transferor has agreed to satisfy the refund agreement, or that the transferee has assumed and has agreed to pay the transferor's obligations under such agreement.
G. All agreements entered into under this rule shall be evidenced by a written statement, and signed by the Company and the parties advancing the funds for advances in aid under this rule or the duly authorized agents of each.
H. The size, design, type and quality of materials of the system, installed under this rule location in the ground and the manner of installation, shall be specified by the Company, and shall be in accord with the requirements of the Commission or other public agencies having authority therein. The Company may install main extensions of any diameter meeting the requirements of the Commission or any other public agencies having authority over the construction and operation of the water system and mains, except individual main extensions, shall comply with and conform to the following minimum specifications:
1. 150 p.s.i. working pressure rating and
2. 6" standard diameter. However, single residential customer advances in aid of construction shall not exceed the reasonable cost of construction of the 6-inch diameter main extension.
I. All pipelines, valves, fittings, wells, tanks or other facilities installed under this rule shall be the sole property of the Company, and parties making advances in aid of construction under this rule shall have no right, title or interest in any such facilities.
J. The Company shall schedule all new requests for main extension agreements, and for service under main extension agreements, promptly and in the order received.
K. An applicant for service seeking to enter into a main extension agreement may request that the utility include on a list of contractors from whom bids will be solicited, the name(s) of any bonded contractor(s), provided that all bids shall be submitted by the bid date stipulated by the utility. If a lower bid is thus obtained or if a bid is obtained at an equal price and with a more appropriate time of performance, and if such bid contemplates conformity with the Company's requirements and specifications, the Company shall be required to meet the terms and conditions of the bid proffered, or to enter into a construction contract with the contractor proffering such bid. Performance bond in the total amount of the contract may be required by the utility from the contractor prior to construction.
L. Any discounts obtained by the utility from contracts terminated under this rule shall be accounted for by credits to the appropriate account dominated as Contributions in Aid of Construction.
M. All agreements under this rule shall be filed with and approved by the Utilities Division of the Commission. No agreement shall be approved unless accompanied by a Certificate of Approval to Construct as issued by the Arizona Department of Health Services. Where agreements for main extensions are not filed and approved by the Utilities Division, the refundable advance shall be immediately due and payable to the person making the advance.

Historical Note

Adopted effective March 2, 1982 (Supp. 82-2). Amended subsections (D) and (K) effective September 28, 1982 (Supp. 82-5). Amended to correct subsection numbering (Supp. 99-4).

NON-RESIDENTIAL "WATER" PROJECTS LESS THAN $50,000

Pursuant to A.R.S. § 49-353 and A.A.C. R18-4-505, water line revisions, additions, extensions, or modifications are exempt from the application of the Maricopa County Environmental Services Department (MCESD) plan review requirements provided:

1) The total project cost for Liberty Water owned water facilities is less than $50,000, as verified by a cost estimate prepared by a professional engineer who is registered in Arizona.

2) The project is planned and designed by a professional engineer who is registered in Arizona.

3) The construction of the project is reviewed for conformance with contract documents and design by a professional engineer who is registered in Arizona.

4) The project is not a water supply system for a new subdivision requiring plat approval by a city, town, or county.

Liberty Water will require plan review and approval, by Liberty Water, for all projects regardless of size. Upon completion of the project, a notice of compliance may be required.

When a project is exempt, a letter stating exemption issued by Maricopa County Environmental Services Department with an itemized cost estimate shall be submitted to Liberty Water. NO EXCEPTIONS.

Water meter boxes shall be supplied by Liberty Water and installed by the contractor. Contact Liberty Water Construction Inspector 602-757-6064 with lot/ building count to order meter boxes, meter boxes will be delivered to the construction site. After the meter boxes have been delivered any additional meter boxes due to damage, miss ordered, etc will be the responsibility of the contractor/ developer.

Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to placement of water meters.

CHAPTER TWO

MASTER PLAN AND DESIGN CRITERIA

REQUIREMENT FOR 8" DIAMETER SECONDARY DISTRIBUTION MAIN

Liberty Water requires that distribution systems be designed in accordance with Liberty Water's design requirements, applicable state and county requirements, sound engineering practices, and other applicable codes or recognized standards. Distribution systems should be designed with sufficient "looping" and other redundancies as may be necessary to minimize outages to customers in the event of main breaks, routine maintenance, and repairs. Distribution systems should be sized to accommodate sufficient fire flows as may be required. The design and sizing of the distribution systems should include a main break analysis to ensure the provision of adequate fire flows and service to our customers.

As a condition of service, Liberty Water requires that distribution systems include a secondary 8" diameter distribution main in addition to normally required "backbone" or larger diameter distribution mains. This requirement is most easily achieved by increasing the size of portions of typically 6" diameter distribution piping to 8" diameter. The selected alignment of the secondary 8" distribution main would ideally traverse the center of the development or phase of development, originating and terminating at larger "backbone" mains. This requirement is not to be construed as a request for over sizing, rather as a sound engineering design condition. In accordance with Arizona Corporation Commission rules and regulations, no waterlines less than 6" in diameter will be accepted.

Plan submittals will be reviewed for the inclusion and acceptability of the 8" secondary distribution main and its alignment. Developers are strongly encouraged to coordinate this important design element with Liberty Water during the preliminary master planning and design process.

An approved water distribution analysis is required to accompany all waterline Construction Plans. The analysis shall identify proper distribution sizing based on the required flow parameters, as well as the criteria listed above.

GENERAL MASTER PLAN (REPORT) CRITERIA FOR WATER STORAGE, BOOSTER, AND DISTRIBUTION SYSTEMS

A spiral bound hydraulic analysis using the current version of Water CAD, or approved equal must be performed for the proposed water distribution system and submitted as part of the Master Plan. The Master Plan shall be prepared in accordance with Liberty Water's master plan outline. 24"X36" color exhibit showing water line locations, sizes, property boundaries, demand nodes, contour elevations, etc. shall be submitted as part of the Master Plan. The Master Plan shall be signed and sealed by a Registered Professional Civil Engineer in the State of Arizona and submitted to Liberty Water for review and approval. Any and all criteria not listed herein shall be in accordance with, but not limited to, the following governmental agency requirements and any such criteria presented in the Master Plan shall be referenced appropriately for Liberty Water review: Environmental Protection Agency (EPA), Arizona Department of Environmental Quality Engineering Bulletin No. 8 and 10 as administered by the Maricopa County Environmental Services Department, Arizona Department of Water Resources, Maricopa Association of Governments, Maricopa County Health Code Chapter V, Uniform Fire Code, Maricopa County Planning and Zoning Requirements, and appropriate municipality regulations, if development is in a municipality serviced by Liberty Water.

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

Land Use	Ave Day Demand (gpcd)	Capita/DU	Max Day Peaking Factor	Peak Hour Peaking Factor
Active Adult	160	1.9	1.8	3.0
Single Family	150	3.2	1.8	3.0
Multi Family	110	2.0	1.8	3.0
Commercial	1,700 gpd/acre	n/a	1.8	3.0
Developed Open Space	1,800 gpd/acre	n/a	n/a	n/a

'Please contact Liberty Water for Resource

Pressures

Minimum Pressures:

55 psi static and 40 psi @ peak hour, 20 psi @ max day + fire flow In accordance with the Uniform Plumbing Code, any structure experiencing pressures greater than 80 psi shall have an individual pressure reducing valve on the customer side of the meter. Maximum system pressures in excess of 90 psi static shall be approved by Liberty Water in writing prior to submittal of any master plan.

Velocity & Headloss:

8 fps maximum velocity for distribution system; 2 fps minimum and 6 fps maximum velocity.
For well transmission lines 5 ft headloss per 1,000 linear feet of pipe for well transmission lines.

Hazen-Williams Coefficient:

for all design instances utilizing the Hazen-Williams coefficient a factor of 130 Shall be used. The Darcy-Weisbach equation must be used for booster station design.

Fire Flows[2]

One and two-family dwellings <_ 3,600 sq. ft.:	1,500 gpm for 2 hours
One and two-family dwellings > 3,600 sq. ft.:	In accordance with the 1997 UFC
All other development:	3,000 gpm for 3 hours (minimum)

[2]may be subject to jurisdictional Fire Marshall
A letter from the local Fire Chief/ Marshall having jurisdiction may be required.

Minor Losses

Need to be accounted for in PRV's and PSV's, but can be neglected in long pipe runs. It is the engineer's judgment to determine long pipe runs.

A fire flow test shall be conducted on the line connecting the proposed development to the Liberty Water system for purposes of demonstrating sufficient fire flow for the development. This effort shall be coordinated with Liberty Water operations and results shall be documented in the Executive Summary of the Water Master Plan.

The fire flow test must also be scheduled with Liberty Water. **If a Liberty Water employee is not present during the fire flow test Liberty Water will consider the fire flow test invalid.**

CRITERIA FOR WATER STORAGE, BOOSTER, AND DISTRIBUTION SYSTEMS

Storage Requirements
Equalization 30% of max day
Emergency reserve 10% of max day
Fire flow- non-single family residential for 3 hours (3,000gpm X 3 hrs = 540,000 gal minimum)

Booster Pump Station
Firm Capacity: shall meet or exceed the greater peak hour flow or max day + fire flow with the largest pump out of service for the pressure zones that the booster station serves.

Water Valves
Number of Valves = number of radiating mains at intersection - 1
Valve spacing shall be in accordance with ADEQ Bulletin #10
Valves in well transmission mains shall be kept to a minimum.

Wells
Firm Capacity: Any well field feeding a booster station must meet the maximum day demand for the entire station with one well out of service

Fire Hydrants
Fire Hydrant spacing shall be in accordance with the Uniform Fire Code, the Arizona State Fire Code, in addition, any applicable local jurisdictional agency.

Air Release/Combination Valves
Air release/combination valves shall be located at all the high points, at vertical realignments of the water line.

Pressure Reducing Valves
Pressure reducing valves shall be located on "trunk" transmission/distribution mains to maintain design pressure ranges in accordance with established or proposed water master plans. These locations must be in accordance with and approved by, Liberty Water. PRV sizing shall be based on anticipated minimum/maximum flow ranges.

Wash Crossings
All waterlines crossing washes shall be MEG-A-LUG restrained joint ductile iron pipe min. 60' thru the wash and both sides. Minimum cover shall be 2' below the 100-yr storm scour depth, 4'minimum below the wash bottom for minor wash crossings. Minimum cover shall be 4' below the 100 yr storm scour depth, 8' minimum below the wash bottom for major wash crossings.

Service Lines
Every Residential unit must have its own separate water service connection and meter. Except for apartment developments or similar projects, any other application must be submitted for Liberty Water approval. Minimum service line size shall be 1 inch for residential. Minimum service line size shall be 2 inches for commercial and apartment developments or similar projects. Minimum service line for irrigation shall be 1½ inches and a shut off valve is required on the customer side of the service.

Residential Potable Water Meter Criteria (minimum)
All residential meters shall be sized as follows or per the current Uniform Plumbing Code (UPC) Section 610. Meters sized per the UPC shall be based on the maximum expected fixture units. Floor plans showing fixtures, fixture count, and meter sizing calculations shall be submitted to Liberty Water for review and approval prior to approval of construction plans. When the water meter is a lesser size then the service line two reducers are to be installed at meter box.

Meter Location
Meters need to be doubled up on lot lines where possible, and not be installed at road intersection corners or be adjacent to fire hydrants.

Water meter sizing for Landscape/Commercial
1½" 2" 4" 8" 10" 12"

WATER MASTER PLAN (REPORT) OUTLINE

The following outline needs to be used for the preparation of the master plan reports:

1. Cover Sheet
   a) Title (Development Name), Date, Revision Date(s)
   b) Developer and engineer's contact information.
   c) Sealed by a Professional Engineer registered in the state of Arizona.
2. Table Of Contents
   a) Sealed by a Professional Engineer registered in the state of Arizona.
3. Executive Summary
   a) 1 or 2 pages with emphasis on proposed facilities to serve the development.
4. Introduction
   a) Plan Objective - state purpose of the report
   b) Site Location w/ vicinity map
   c) Proposed Development
5. Design Criteria
   a) Demands, Pressures, Storage, Booster Pumps, Wells, Distribution System (pipe sizing)
      i. Liberty Water Development Guide criteria
      ii. MAG, ADEQ, other governmental agency criteria as applicable
      iii. Generally accepted engineering standards (requires Liberty Water approval)
6. Demands
   a) Single family, multi family, commercial, school, open space, parks, etc.
   b) Quarterly projections of demands from beginning of construction (construction water) to build out.
   c) Summary of demands table. Discuss which demand scenario governs design (Peak Hour or Maximum Day plus fire flow)
   d) Tabular calculations (spreadsheet) of all demands.
7. Existing Facilities/Conditions
   a) Reference previous master plans as applicable.
8. Proposed Facilities
   a) Required storage, proposed location, or expansion of existing if applicable.
   b) Required booster pump capacity.
   c) Required well capacity, number of wells if applicable.
   d) Distribution system piping, onsite as well as any offsite infrastructure needed.
   e) PRV's if applicable.
   f) Phasing if applicable.
9. Water Model
   a) Describe modeling software used.
   b) Method
      i. Pump curves obtained from fire flow tests or addition to existing approved master plan.
      ii. Criteria used in the model.
   c) Results/Discussion - proposed facilities are adequate to serve development based on hydraulics etc.

10. Summary/Conclusions
    a) Discuss how the objective of report has been met, i.e. proposed facilities will serve the proposed development in accordance with established criteria.
    b) List major facilities required and phasing as applicable.
11. Appendices
    a) Water Modeling Results Organized by:
        i. Average Day
        ii. Maximum Day
        iii. Peak Hour
        iv. Maximum Day plus Fire Flow
    b) The following information is to be included for the above scenarios:
        i. Junction/Node report showing node label, elevation, demand, hydraulic grade line in feet, and pressure in psi.
        ii. Pipe report showing pipe label, to/from node, length, diameter, Hazen-Williams "C" value, - discharge, velocity, head loss, and head loss gradient.
        iii. Pump report showing pump label, elevation, discharge, discharge pump grade, and pump head.
        iv. Valve report showing valve label, elevation, diameter, valve status, discharge, and from/to hydraulic grade line.
        v. Tank report showing tank label, base elevation, maximum elevation, volume, hydraulic grade line, and outflow.
        vi. Reservoir report showing reservoir label, elevation, hydraulic grade line, and outflow.
        vii. A separate fire flow report for the maximum day plus fire flow scenario may be submitted. The fire flow report is to show the following information for all nodes: node label satisfies fire flow constraint, needed fire flow, available fire flow, available fire flow, total flow available, residual pressure, minimum system pressure, and minimum system pressure node.
        viii. An extended period model showing storage tank levels varying with time may be required to verify adequate fire flow storage for complex system designs.
    c) Plans - 11" x 17" (24" x 36" for large developments as applicable) color exhibit for peak hour. Average day and maximum day exhibits may be required. Exhibits to include:
        i. Pipes and nodes labeled.
        ii. Pressures at nodes.
        iii. Major roadways labeled.
        iv. Pipe size shown by color.
        v. Major contour lines shown.
    d) Cost Estimate Figures, exhibits, tables, spreadsheet tabulations, etc. to placed in the body of the report. Electronic files of all drawings and models shall also be provided on CD ROM and included in the Appendix.

GENERAL MASTER PLAN (REPORT) CRITERIA FOR WASTEWATER COLLECTION SYSTEMS

A hydraulic analysis must be performed for the proposed wastewater collection system and submitted as part of the Master Plan. The design methodology shall be presented and appropriately referenced. The results of this analysis shall be spiral bound presented in tabular form using sewer CAD or excel, with at least the following information presented: pipe number, to/from manhole number, pipe size, pipe slope (slopes which are greater than minimum design shall be noted), average daily flow, peak hour flow, d/D ratio at peak hour, and velocity at peak hour. An analysis of sewer force mains must be performed, including impacts due to pump surge, and submitted as part of the master plan. Force main hydraulic losses shall be performed using the Darcy-Wiesbach equation. A 24"X36" color exhibit showing flow contributing area, sewer line number, and manhole number locations, flow direction, property boundaries, contour elevations, etc. shall be submitted as part of the Master Plan. The Master Plan shall be signed and sealed by a Registered Professional Engineer and submitted to Liberty Water for review and approval.

All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.

Average Daily Flow	100 gpcd
Commercial/Industrial Average Daily Flow	1,500 gal/acre/day
Population Density	
Active Adult	1.9 persons per DU
Single Family	3.2 persons per DU
Multi Family	2.0 persons per DU
Peak Hour Factor	3.0
Sewer Depth of Cover	7'-6" minimum for trunk-lines 5'-0" minimum for all other provided that service lines have 4'.5" minimum cover at the property line.
Rim Elevations	Above 100 year floodplain
Manning's Roughness Coefficient	n = 0.013
Sewer Pipe Material	Epoxy lined D.I.P. or concrete encased PVC SDR 35 at wash crossings. PVC SDR 35 for all other.
Velocities	2.0 fps minimum at peak hour 2.0 fps minimum at average daily flow for trunk lines. 10.0 fps maximum
Manhole Spacing	500 ft maximum for lines less than 18" in diameter. Reference A.A.C. R18-9-E301 for larger diameter lines.
Cleanouts	At end of lines less than 200 ft
Sewer Capacity Ratio	d/D = 0.75 maximum at peak hour
Minimum Pipe Diameter	8", 12" along section lines, 6" for force mains

Minimum Manhole Diameter	5' with 30" ring and cover (no steps)

Note: Manhole covers shall be labeled "LPSCO Sanitary Sewer" per M.A.G. Detail 424

Force Main Velocities	3.0 fps minimum 7.0 fps maximum
Force Main Air Release Valves	Sized and located per manufacturer's recommendation at high points.
Wash Crossings	Epoxy lined DIP or Concrete encased PVC SDR 35 with the following cover: 2' below the 100-yr storm scour depth, 5' minimum below the wash bottom for minor wash crossings 4' below the 100-yr storm scour depth, 8' minimum below the wash bottom for major wash crossings
Manhole Invert Drops < 45° direction change >_ 45° direction change	 0.1' drop across manhole 0.2' drop across manhole
Manhole lining	Sewer Shield 100, Sauereisen 210, Raven 405/A10 applied by a certified applicator for: Q or T Loc All force main connection manholes. All manholes on sewer lines >_ 15" diameter and Sewer lines that have >_ 1.44 MGD flow. MAG STD DTL 426 Type `A' drop manholes if the sewer line serves more than 200 homes.  MAG STD DTL 426 Type `B' drop manholes except for sewer lines that serve less than 50 homes. All wet wells.

CHAPTER THREE

CONSTRUCTION PLAN REQUIREMENTS

MINIMUM WATER AND/0R SEWER CONSTRUCTION PLAN REQUIREMENTS

1. All new projects will be subject to an initial deposit prior to review of the master plan (report) and construction plans.
2. Submit address and lot number list.
3. The plans need to be labeled "Water and/or Sewer Plan", as applicable.
4. The plans need be signed and sealed by a Professional Civil Engineer registered in the State of Arizona.
5. The plan needs to meet the requirements of the Arizona Department of Environmental Quality, Engineering Bulletin #10 for water, #11 for sewer and A.C.C. R18-9-E301.
6. The plans need to be on 24"x36" black line on bond.
7. Three copies of the plans shall be submitted to the utility for approval.
8. Water/ Sewer Reports (master plan) as outlined in the development guide needs to be reviewed/ approved by the Development Services Manager prior to plan approval.
9. An LXA (Line Extension Agreement) and or Services Agreement needs to be executed and fees paid prior to plan approval.
10. The plans, along with an application for "Approval To Construct", shall be submitted to Maricopa County Department of Environmental Quality (MCESD). Plans are to be approved by MCESD and "Approval to Construct" must be forwarded to Utility or if the project is exempt, non-residential water projects less than $50,000, a letter stating exemption issued by MCESD with the cost estimate must be submitted to Liberty Water prior to plan approval.
11. Full legal description shall be on the cover sheet for residential properties, this excludes condominiums and apartments.
12. Total acreage shall be shown on the cover sheet. For commercial properties, also show building square footage.
13. Water and Sewer may be combined on the same plan set; plans that include paving may not be accepted.
14. If the plan covers Developer-owned facilities, a clear distinction between Utility owned and Developer owned facilities shall be made.
15. Liberty Water's approval signature block shall be on the cover sheet of the plans "Litchfield Park Service Company dba Liberty Water".
16. Liberty Water's As-built signature block shall be on the cover sheet of the plans.
17. Itemized quantities shall be separate for water/ sewer and Utility owned and private facilities and shall be on the cover sheet.
18. The cover sheet shall contain a vicinity map.
19. The cover sheet shall contain a key map showing water and or sewer facilities as well as corresponding sheet numbers, include line size, services, valves, manholes with manhole number, etc., existing facilities are to be dashed. Facilities need to be legible. For larger projects key map may be on sheet two or three.
20. Liberty Water's "General Notes" shall be shown on the plans. Water and Wastewater General Notes including separate Water General Notes and Wastewater General Notes are provided in the development guide. General notes are to be on the cover sheet or sheets 2 or 3. All notes must be on the same page.
21. The sewer plans should include sewer services to the easement or right-of-way line.
22. The water plans should show the size and location of all water services and meters.
23. Water meters, backflow prevention assembly for domestic/ irrigation water services and double check detector valve backflow prevention assemblies shall be placed as close as possible to the Utility owned water line.

24. Construction notes on plan sheets shall be separate for water and sewer and Utility owned and private facilities. See below example.

    Example:

    Public Water Construction Notes

    8" DIP CL 350

    Private Water Construction Notes

    2" domestic RPZ backflow prevention device

    Public Sewer Construction Notes

    8" SDR 35 PVC

    Private Sewer Construction Notes

    6" Clean-out

24. Waterlines 12" or larger shall be shown in profile with appropriate elevations. Vertical deflections of waterlines shall be profiled regardless of size, call out entire joint restraint lengths. Utility crossing of waterline shall be shown in profile and dimensioned for minimum clearances and/or separations.
25. The plans shall show easements for Utility owned facilities on private property.
26. The plans shall show existing ROW.
27. Pipeline shall be located via roadway centerline stationing and centerline offset.
28. Sewer tap on grinder pump system, install 1 ½" PVC check valve at curb (just outside of ROW or easement) and an 1 ½" PVC ball valve (just upstream of check valve) with valve box and cover and shall be imprinted "Sewer" per MAG Detail 270. See below example.

    ————————Street————————Curb

    O----1 ½" FM Sewer------Check Valve------Bal Valve--------→House

29. A sewer valve shall be called out and detail shall be shown on plans for all sewer service lines. (for projects where Liberty Water only owns/ operates the sewer facilities).
30. Grease Interceptors shall be shown for commercial projects as applicable.
31. The following Liberty Water information shall be on the cover sheet of plans:

UTILITY OWNER INFORMATION

WATER AND/OR SEWER* OWNER/OPERATOR

Liberty Water

Because water matters every day

12725 W. Indian School Rd., Suite D101
Avondale, AZ 85392
Main Office (623) 935-9367
Construction Inspector
(602) 757-6064

***As Appropriate**

32. Blue Stake Callout Logo included at the bottom of the sheet.
33. REFER TO LIBERTY WATER'S GENERAL NOTES FOR FURTHER INFORMATION AND SPECIFICATIONS.

LIBERTY WATER – "WATER AND WASTEWATER" GENERAL NOTES

1. It is the Contractors responsibility to field verify the location of all facilities prior to construction.

2. All construction is to conform to the latest MAG Specifications and Details and to any MAG supplements provided by Liberty Water unless otherwise indicated on the approved plans.

3. Liberty Water shall be contacted 48 hours (2 business days) prior to any construction **CONSTRUCTION INSPECTOR (602-757-6064)**. Construction work concealed without prior inspection by Liberty Water or its designated representatives shall be subject to removal and replacement at the contractor's expense.

4. Liberty Water is not responsible for errors in development guide and or plans, and Liberty Water has the right to require correction of errors in plans, which are found to be in violation of any law or Liberty Water standard.

5. This plan set shall automatically terminate if Developer fails to begin construction within ONE YEAR from the plan approval date, unless otherwise agreed to in writing by Utility.

6. The contractor shall contact the **BLUESTAKE CENTER (602-263-1100)** at least 48 hours prior to commencing any underground excavation.

7. The contractor is responsible to obtain all necessary permits prior to starting construction.

8. A signed and approved set of Liberty Water construction plans must be on the job site at all times.

9. Water and sewer line separation shall be as defined in MAG Standard Detail 404.

10. Minimum 2-foot separation is required between Liberty Water owned lines and storm drain and dry utilities.

11. Storm drain and dry utilities will not be installed within the same trench or Liberty Water easements when parallel to Liberty Water owned lines.

12. Liberty Water testing will not be done until after the contractor has pre-tested 100% of the mains. Final testing must be scheduled with Liberty Water 48 hours (2 business days) in advance **CONSTRUCTION INSPECTOR (602-757-6064)**.

13. All mains shall be chlorinated per MAG Specification Section 611. Mains shall be flushed through fire hydrant meters supplied by Liberty Water and paid for by the contractor. Final bacteria sampling will be performed by Liberty Water and must be coordinated 24 hours in advance.

14. The contractor shall not make more than one connection to the existing Liberty Water water system until all testing is complete and has passed laboratory analysis. Liberty Water will advise the contractor when lab results indicate satisfactory completion.

15. All new and active underground facilities installed in any real property after December 31, 2005 shall be installed with a detectible underground location device unless the facility is capable of being detected from above ground with an electronic locating device per ARS 40-360.22 - J.

16. Grease, oil, or sand interceptors must be provided for restaurants, fast food establishments, auto repair shops, carwashes and other facilities, where oil and grease may be discharged into a public sewer and must meet all city, county, UPC and Liberty Water requirements, except that such interceptors shall not be required for private living quarters or dwelling units. All systems must be approved by the Liberty Water Pretreatment Department before receiving water/sewer service. All industrial facilities must meet Liberty Water Pretreatment requirements before receiving water/sewer service.

17. One set of 4-mil Mylar, two black line on bond as-builts and an AutoCAD disc of construction drawings must be submitted to and approved by Liberty Water prior to receiving a Final Approval. The As-Built plans shall include the locations of all vertical and horizontal pipe bends, valves, manholes, sewer taps, etc., by station/ offset. As-builts shall be submitted and approved prior to final inspection being conducted.

18. The contractor shall follow OSHA guidelines and regulations at all times.

19. Existing waterline valves shall only be operated by Liberty Water personnel.

20. Liberty Water will furnish and install all water meters once prevailing fees are paid and any other applicable requirements have been fulfilled.

21. After Operational Approval and placement of curb/ gutter and or side walk also including asphalt concrete a percentage of the water meters (20% + -) will be released. The remaining meters will not be released until completion of the project being the project has been granted final approval and all required paperwork has been received and reviewed. After project has been granted Final Approval and all required paperwork has been received and reviewed project will be issued Final Acceptance. See LXA (line extension agreement) and Liberty Water development guide for required paperwork.

22. Projects requiring a backflow prevention assembly as outlined in the development guide for domestic/ irrigation water services and or double check detector valve backflow prevention assembly must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to all water meters being released.

23. Liberty Water will provide fire hydrant meters to contractors for the use of charging and chlorinating water lines once the prevailing fees are paid. Contractors should note that the unlawful extraction of water from a fire hydrant is a criminal offense. Liberty Water will actively and aggressively pursue prosecution of persons illegally extracting water from water system hydrants. Hydrant meters can be obtained by calling 623-935-9367. All construction water (regardless of use) is to be metered.

24. All pavement replacement shall conform to MAG Specifications and Details or any additional agency standards, whichever are greater.

25. The contractor is hereby advised that the products and workmanship for this project are warranted to Liberty Water for a period of two (2) years from the date of the signed Liberty Water Final Acceptance letter.

26. The Contractor will coordinate work efforts with any curb and gutter contractors for the placement of "W" and "S" symbols into the wet concrete at time of installation. The "W" and "S" symbols will be at each location where a water or sewer service connection crosses the curb and gutter.

27. All construction materials are to be brought to the current standards.

Water Mains

1. Water pipelines shall be constructed of ductile iron pipe class 350.

2. Water line excavation, backfill and compaction will conform to MAG Standard 601 and any subsequent MAG Specifications and Details. Backfill and bedding material shall consist of imported aggregate base course (ABC) at a minimum of 4" beneath and 12" above all water mains. Pipe line bedding shall conform to MAG Specification 601.4 modified to Mechanical Compaction Only. Water settling of pipelines may be allowed with prior approval by Liberty Water. Any water required for backfill operations will be metered through a Liberty Water provided fire hydrant meter.

3. Pipeline blow-offs and sampling taps shall be required for each 1500 lineal feet of pipe placed. Blow-offs shall have a 2" brass ball valve and a 2" copper riser to a point 3 feet above grade. Upon completion of water sampling station, the riser will be shortened to fit into a concrete water meter box.

4. "Megalug" or other approved mechanical joint restraint system shall be installed on every dip section. Joint restraint lengths will follow MAG standard details 303-1 and 303-2.

5. Thrust blocks shall be installed per MAG Standard Details 301,380, and 381.

6. Transmission mains 24 inches and larger will be constructed of ductile iron pipe or steel cylinder pipe as an option with Liberty Water approval.

7. In accordance with AAC R18-4-119, all materials, which come into contact with drinking water, shall conform to National Sanitation Foundation Standards 60 and 61.

Fire Hydrants and "Private Fire Systems/ fire lines"

1. Fire hydrants shall be dry barrel type Waterous Pacer or Mueller Centurion, Clow Medallion or equal and shall be installed according to MAG Standard Detail 360. A valve shall be placed at the tee between the water main and each fire hydrant.

2. All private fire hydrants are to be painted red.

3. Prior to final inspection, the contractor shall repaint all hydrants OSHA Safety Yellow (T-12).

4. Each fire hydrant shall be flow tested at walkthrough and the main steamer nozzle cap shall be color-coded based upon the hydrant discharge flow. Liberty Water will provide color-coding information to the contractor prior to the final walkthrough.

5. All fire hydrant piping shall be restrained joint ductile iron.

6. All fire hydrants must be marked or indicated as "OUT OF SERVICE" until Final Approval.

7. Any facilities installed on the customer side of backflow prevention devices are considered "Private" and will not be owned, operated, or maintained by Liberty Water.

8. Fire lines require a double check detector valve backflow prevention assembly with bypass RPZ backflow prevention assembly and Sensus water meter. A valve shall be placed at the tee between the water main and backflow prevention assembly. Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to Final Approval.

Water Services

1. All water services shall be installed to Liberty Water standards.

2. Every residential unit must have its own separate water service connection and meter this excludes condominiums and apartments.

3. All water services shall use double strap bronze service saddles, brass corporation stops, and all service lines shall consist of one continuous piece (non-spliced) type "K" copper (with flared or compression fittings) from the main corporation stop to the meter location. Polyethylene or plastic pipe is NOT allowed. All service lines for meters 3-inch and larger shall be ductile iron.

4. Minimum water service line size diameter shall be 1-inch for residential. Minimum service line size shall be 2-inch for commercial and apartment developments or similar projects. Minimum service line size diameter shall be 1-1/2-inch for irrigation.

5. Water meters 2-inch and smaller shall be Sensus or equal approved by Liberty Water.

6. When water meter is a lesser size than the service line, adapters (reducers) are to be furnished and installed by contractor. Adapters are to be a one-piece Ford meter adapter or approved equal.

7. All meter services shall have a shut off valve installed in line after the meter on the customer's side of the service that must meet Liberty Water standards for pressure and material, that is placed within 18 inches of the outside of the meter box and must be accessible at all times.
8. Water meter boxes shall be installed by the contractor and shall be set 12 inches behind the sidewalk. If no sidewalk is present, the meter box shall be set 12 to 36 inches behind the curb and be 2.5 inches higher than the back of the curb. Compaction around and under the water meter boxes shall be performed using mechanical compactors.

9. Water services installed for commercial and apartment development or similar projects shall be outfitted with an approved RPZ backflow prevention device located 24 inches past the water meter box. A certified test must be submitted to Liberty Water prior to installation of a permanent water meter. The device must be inspected by an Arizona certified backflow technician and passing test results sent to Liberty Water prior to placement of water meters.

10. Liberty Water representative will inspect the final placement and elevation of each meter box prior to final approval.

Valves and Valve Boxes

1. All valves shall be resilient-seat non-rising stem gate valves and shall open to the left. Approved manufacturers shall include Clow or Mueller, Kennedy, or Waterous.

2. Valve extensions shall be installed so that the maximum depth to operating nut is 16 inches from final grade.

3. All valve boxes shall be concrete and installed per MAG Standard Detail 391-1 Type "A" (PVC or other material is not acceptable).

4. All valves shall conform to MAG Specifications 610.6 and 630.

5. Three valves shall be present on any cross, and two valves on any tee connections. Valves shall be flanged by mechanical joint and be located free of the curb, gutter, valley gutter or apron.

Sewer Mains

1. Sewer pipelines shall be constructed of Protecto 401 Ceramic Epoxy lined ductile iron pipe or product approved by Liberty Water and or Liberty Water approved PVC materials, SDR 35 PVC sewer pipe.

2. Sewer line excavation, backfill and compaction will conform to MAG Standard 601 and 615 and any subsequent MAG Specifications and Details. Liberty Water reserves the right to require the design engineer to provide trench loading and backfill calculations for the type of pipe designed. Backfill and bedding material shall consist of imported aggregate base course (ABC) at a minimum of 4" beneath and 12" above all sewer lines and services. Pipeline bedding shall conform to MAG Specification 601.4 modified to Mechanical Compaction Only. Water settling of pipelines may be allowed with prior approval by Liberty Water. Any water required for backfill operations will be metered through a Liberty Water provided fire hydrant meter.

3. Prior to beginning any pipe installation, contractor shall furnish and place a watertight plug in the existing sewer mains at all points of connections to the existing sewer system. The plugs shall remain in place throughout the project until the project is given Operational Approval. Under no circumstance shall the developer/ contractor allow flow from the new sewer main to flow into the existing sewer system until authorized by Liberty Water.

4. No sewer line will be accepted or placed into service until it has passed all testing and inspections as required by Liberty Water and other government agencies. Only at this time will sewer service be provided.

5. ALL installed sewer mains will be videotaped and a DVD submitted to Liberty Water for inspection. Any portion of the pipeline installation deemed unacceptable by Liberty Water shall be removed and replaced at the contractor's expense. The maximum allowable sewer sag is 0.5-inches. The final DVD and inspection report shall be submitted to Liberty Water as part of the permanent record. The costs for the video taping and video inspection shall be the contractor's responsibility. The sewer line must have been cleaned and free of any debris prior to submitting sewer video to Liberty Water for review/ approval otherwise sewer video will be rejected prior to a full review of the sewer video.

Sewer Manholes and Cleanouts

1. All sewer manholes will be 5-foot in diameter with 30" ring and cover. NO steps in any manholes.

2. All manhole construction shall conform to MAG Specifications and Details and any supplemental specifications and details provided by Liberty Water.

3. Watertight manhole covers are required when the edge of the manhole covers are constructed within 2-feet of the edge of gutter, in areas that are unpaved and areas prone to flooding. Manhole should be set 2-tenths of a foot above finish grade in all unpaved areas.

4. All manhole lids and rings shall be cast iron and shall be imprinted "LPSCO Sanitary Sewer".

5. Drop manholes shall conform to MAG Detail 426.

6. Sewer clean-outs may be installed at the end of lines that do not exceed 200 feet from the nearest manhole. Sewer clean-outs shall conform to MAG Specification 615.7 and MAG Detail 441.

7. Sewer clean-outs shall be fitted with iron access covers and shall be encased in concrete.

8. All manholes are to be treated with a roach pesticide paint type application. Pesticide shall be effective for a minimum of two (2) years.

9. After all paving adjustments have been made; all sewer lines will be hydrovac and certified to be clean and clear of any obstructions. A copy of the certification is required prior to any acceptance.

10. All manholes will be water tightness tested as per A.A.C. R18-9-E301.

11. All sewer manhole adjustments will not exceed 24" from top of the corbel to finish grade.

Sewer Service Taps

1. Every residential unit must have its own separate sewer service connection.

2. All sewer connections shall conform to MAG Specification 615.6 and MAG Detail 440-2.

3. All taps shall be WYE type and shall be at least 4.5 feet deep at the property line and shall conform to MAG Specifications 615.7 and MAG Detail 440 1-4. Sewer Service shall be installed at 2 o'clock and 10 o'clock position. (NO EXCEPTIONS)

4. A sewer valve shall be installed on all sewer service lines (for projects where Liberty Water only owns/ operates the sewer facilities).

5. Sewer tap on grinder pump system, install 1 ½" PVC check valve at curb (just outside of ROW or easement) and an 1 ½" PVC ball valve (just upstream of check valve) with valve box and cover and shall be imprinted "Sewer" per MAG Detail 270.

LIBERTY WATER – "WATER" GENERAL NOTES

1. It is the Contractors responsibility to field verify the location of all facilities prior to construction.

2. All construction is to conform to the latest MAG Specifications and Details and to any MAG supplements provided by Liberty Water unless otherwise indicated on the approved plans.

3. Liberty Water shall be contacted 48 hours (2 business days) prior to any construction **CONSTRUCTION INSPECTOR (602-757-6064)**. Construction work concealed without prior inspection by Liberty Water or its designated representatives shall be subject to removal and replacement at the contractor's expense.

4. Liberty Water is not responsible for errors in development guide and or plans, and Liberty Water has the right to require correction of errors in plans, which are found to be in violation of any law or Liberty Water standard.

5. This plan set shall automatically terminate if Developer fails to begin construction within ONE YEAR from the plan approval date, unless otherwise agreed to in writing by Utility.

6. The contractor shall contact the **BLUESTAKE CENTER (602-263-1100)** at least 48 hours prior to commencing any underground excavation.

7. The contractor is responsible to obtain all necessary permits prior to starting construction.

8. A signed and approved set of Liberty Water construction plans must be on the job site at all times.

9. Water and sewer line separation shall be as defined in MAG Standard Detail 404.

10. Minimum 2-foot separation is required between Liberty Water owned lines and storm drain and dry utilities.

11. Storm drain and dry utilities will not be installed within the same trench or Liberty Water easements when parallel to Liberty Water owned lines.

12. Liberty Water testing will not be done until after the contractor has pre-tested 100% of the mains. Final testing must be scheduled with Liberty Water 48 hours (2 business days) in advance **CONSTRUCTION INSPECTOR (602-757-6064)**.

13. All new and active underground facilities installed in any real property after December 31, 2005 shall be installed with a detectible underground location device unless the facility is capable of being detected from above ground with an electronic locating device per ARS 40-360.22 - J.

14. One set of 4-mil Mylar, two black line on bond as-builts and an AutoCAD disc of construction drawings must be submitted to and approved by Liberty Water prior to receiving a Final Approval. The As-Built plans shall include the locations of all vertical and horizontal pipe bends, valves, manholes, sewer taps, etc., by station/ offset. As-builts shall be submitted and approved prior to final inspection being conducted.

15. The contractor shall follow OSHA guidelines and regulations at all times.

16. Existing waterline valves shall only be operated by Liberty Water personnel.

17. Liberty Water will furnish and install all water meters once prevailing fees are paid and any other applicable requirements have been fulfilled.

18. After Operational Approval and placement of curb/ gutter and or side walk also including asphalt concrete a percentage of the water meters (20% + -) will be released. The remaining meters will not be released until completion of the project being the project has been granted final approval and all required paperwork has been received and reviewed. See LXA (line extension agreement) and Liberty Water development guide for required paperwork.

19. Projects requiring a backflow prevention assembly as outlined in the development guide for domestic/ irrigation water services and or double check detector valve backflow prevention assembly must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to all water meters being released.

20. Liberty Water will provide fire hydrant meters to contractors for the use of charging and chlorinating water lines once the prevailing fees are paid. Contractors should note that the unlawful extraction of water from a fire hydrant is a criminal offense. Liberty Water will actively and aggressively pursue prosecution of persons illegally extracting water from water system hydrants. Hydrant meters can be obtained by calling 623-935-9367. All construction water (regardless of use) is to be metered.

21. All pavement replacement shall conform to MAG Specifications and Details or any additional agency standards, whichever are greater.

22. The contractor is hereby advised that the products and workmanship for this project are warranted to Liberty Water for a period of two (2) years from the date of the signed Liberty Water Final Acceptance letter.

23. The Contractor will coordinate work efforts with any curb and gutter contractors for the placement of "W" symbol into the wet concrete at time of installation. The "W" symbol will be at each location where a water or sewer service connection crosses the curb and gutter.

24. All construction materials are to be brought to the current standards.

Water Mains

1. Water pipelines shall be constructed of ductile iron pipe class 350.

2. Water line excavation, backfill and compaction will conform to MAG Standard 601 and any subsequent MAG Specifications and Details. Backfill and bedding material shall consist of imported aggregate base course (ABC) at a minimum of 4" beneath and 12" above all water mains. Pipe line bedding shall conform to MAG Specification 601.4 modified to Mechanical Compaction Only. Water settling of pipelines may be allowed with prior approval by Liberty Water. Any water required for backfill operations will be metered through a Liberty Water provided fire hydrant meter.

3. Pipeline blow-offs and sampling taps shall be required for each 1500 lineal feet of pipe placed. Blow-offs shall have a 2" brass ball valve and a 2" copper riser to a point 3 feet above grade. Upon completion of water sampling station, the riser will be shortened to fit into a concrete water meter box.

4. "Megalug" or other approved mechanical joint restraint system shall be installed on every dip section. Joint restraint lengths will follow MAG standard details 303-1 and 303-2.

5. Thrust blocks shall be installed per MAG Standard Details 301,380, and 381.

6. Transmission mains 24 inches and larger will be constructed of ductile iron pipe or steel cylinder pipe as an option with Liberty Water approval.

7. In accordance with AAC R18-4-119, all materials, which come into contact with drinking water, shall conform to National Sanitation Foundation Standards 60 and 61.

Fire Hydrants and "Private Fire Systems/ fire lines"

1. Fire hydrants shall be dry barrel type Waterous Pacer or Mueller Centurion, Clow Medallion or equal and shall be installed according to MAG Standard Detail 360. A valve shall be placed at the tee between the water main and each fire hydrant.

2. All private fire hydrants are to be painted red.

3. Prior to final inspection, the contractor shall repaint all hydrants OSHA Safety Yellow (T-12).

4. Each fire hydrant shall be flow tested at walkthrough and the main steamer nozzle cap shall be color-coded based upon the hydrant discharge flow. Liberty Water will provide color-coding information to the contractor prior to the final walkthrough.

5. All fire hydrant piping shall be restrained joint ductile iron.

6. All fire hydrants must be marked or indicated as "OUT OF SERVICE" until Final Approval.

7. Any facilities installed on the customer side of backflow prevention devices are considered "Private" and will not be owned, operated, or maintained by Liberty Water.

8. Fire lines require a double check detector valve backflow prevention assembly with bypass RPZ backflow prevention assembly and Sensus water meter (touch read). A valve shall be placed at the tee between the water main and backflow prevention assembly. Backflow prevention assemblies must be inspected by an Arizona certified technician and passing test results sent to Liberty Water prior to Final Approval.

Water Services

1. All water services shall be installed to Liberty Water standards.

2. Every residential unit must have its own separate water service connection and meter this excludes condominiums and apartments.

3. All water services shall use double strap bronze service saddles, brass corporation stops, and all service lines shall consist of one continuous piece (non-spliced) type "K" copper (with flared or compression fittings) from the main corporation stop to the meter location. Polyethylene or plastic pipe is NOT allowed. All service lines for meters 3-inch and larger shall be ductile iron.

4. Minimum water service line size diameter shall be 1-inch for residential. Minimum service line size shall be 2-inch for commercial and apartment developments or similar projects. Minimum service line size diameter shall be 1-1/2-inch for irrigation.

5. Water meters 2-inch and smaller shall be Sensus or equal approved by Liberty Water.

6. When water meter is a lesser size than the service line, adapters (reducers) are to be furnished and installed by contractor. Adapters are to be a one-piece Ford meter adapter or approved equal.

7. All meter services shall have a shut off valve installed in line after the meter on the customer's side of the service that must meet Liberty Water standards for pressure and material, that is placed within 18 inches of the outside of the meter box and must be accessible at all times.

8. Water meter boxes shall be installed by the contractor and shall be set 12 inches behind the sidewalk. If no sidewalk is present, the meter box shall be set 12 to 36 inches behind the curb and be 2.5 inches higher than the back of the curb. Compaction around and under the water meter boxes shall be performed using mechanical compactors.

9. Water services installed for commercial and apartment development or similar projects shall be outfitted with an approved RPZ backflow prevention device located 24 inches past the water meter box. A certified test must be submitted to Liberty Water prior to installation of a permanent water meter. The device must be inspected by an Arizona certified backflow technician and passing test results sent to Liberty Water prior to placement of water meters.

10. Liberty Water representative will inspect the final placement and elevation of each meter box prior to final approval.

Valves and Valve Boxes

1. All valves shall be resilient-seat non-rising stem gate valves and shall open to the left. Approved manufacturers shall include Clow or Mueller, Kennedy, or Waterous.

2. Valve extensions shall be installed so that the maximum depth to operating nut is 16 inches from final grade.

3. All valve boxes shall be concrete and installed per MAG Standard Detail 391-1 Type "A" (PVC or other material is not acceptable).

4. All valves shall conform to MAG Specifications 610.6 and 630.

5. Three valves shall be present on any cross, and two valves on any tee connections. Valves shall be flanged by mechanical joint and be located free of the curb, gutter, valley gutter or apron.

LIBERTY WATER – "WASTEWATER" GENERAL NOTES

1. It is the Contractors responsibility to field verify the location of all facilities prior to construction.

2. All construction is to conform to the latest MAG Specifications and Details and to any MAG supplements provided by Liberty Water unless otherwise indicated on the approved plans.

3. Liberty Water shall be contacted 48 hours (2 business days) prior to any construction **CONSTRUCTION INSPECTOR (602-757-6064)**. Construction work concealed without prior inspection by Liberty Water or its designated representatives shall be subject to removal and replacement at the contractor's expense.

4. Liberty Water is not responsible for errors in development guide and or plans, and Liberty Water has the right to require correction of errors in plans, which are found to be in violation of any law or Liberty Water standard.

5. This plan set shall automatically terminate if Developer fails to begin construction within ONE YEAR from the plan approval date, unless otherwise agreed to in writing by Utility.

6. The contractor shall contact the **BLUESTAKE CENTER (602-263-1100)** at least 48 hours prior to commencing any underground excavation.

7. The contractor is responsible to obtain all necessary permits prior to starting construction.

8. A signed and approved set of Liberty Water construction plans must be on the job site at all times.

9. Water and sewer line separation shall be as defined in MAG Standard Detail 404.

10. Minimum 2-foot separation is required between Liberty Water owned lines and storm drain and dry utilities.

11. Storm drain and dry utilities will not be installed within the same trench or Liberty Water easements when parallel to Liberty Water owned lines.

12. Liberty Water testing will not be done until after the contractor has pre-tested 100% of the mains. Final testing must be scheduled with Liberty Water 48 hours (2 business days) in advance **CONSTRUCTION INSPECTOR (602-757-6064)**.

13. All new and active underground facilities installed in any real property after December 31, 2005 shall be installed with a detectible underground location device unless the facility is capable of being detected from above ground with an electronic locating device per ARS 40-360.22 - J.

14. Grease, oil, or sand interceptors must be provided for restaurants, fast food establishments, auto repair shops, carwashes and other facilities, where oil and grease may be discharged into a public sewer and must meet all city, county, UPC and Liberty Water requirements, except that such interceptors shall not be required for private living quarters or dwelling units. All systems must be approved by the Liberty Water Pretreatment Department before receiving water/sewer service. All industrial facilities must meet Liberty Water Pretreatment requirements before receiving water/sewer service.

15. One set of 4-mil Mylar, two black line on bond as-builts and an AutoCAD disc of construction drawings must be submitted to and approved by Liberty Water prior to receiving a Final Approval. The As-Built plans shall include the locations of all vertical and horizontal pipe bends, valves, manholes, sewer taps, etc., by station/ offset. As-builts shall be submitted and approved prior to final inspection being conducted.
16. The contractor shall follow OSHA guidelines and regulations at all times.

17. Existing waterline valves shall only be operated by Liberty Water personnel.

18. After project has been granted Final Approval and all required paperwork has been received and reviewed project will be issued Final Acceptance. See LXA (line extension agreement) and Liberty Water development guide for required paperwork.

19. All pavement replacement shall conform to MAG Specifications and Details or any additional agency standards, whichever are greater.

20. The contractor is hereby advised that the products and workmanship for this project are warranted to Liberty Water for a period of two (2) years from the date of the signed Liberty Water Final Acceptance letter.

21. The Contractor will coordinate work efforts with any curb and gutter contractors for the placement of "S" symbol into the wet concrete at time of installation. The "S" symbol will be at each location where a water or sewer service connection crosses the curb and gutter.

22. All construction materials are to be brought to the current standards.

Sewer Mains

1. Sewer pipelines shall be constructed of Protecto 401 Ceramic Epoxy lined ductile iron pipe or product approved by Liberty Water and or Liberty Water approved PVC materials, SDR 35 PVC sewer pipe.

2. Sewer line excavation, backfill and compaction will conform to MAG Standard 601 and 615 and any subsequent MAG Specifications and Details. Liberty Water reserves the right to require the design engineer to provide trench loading and backfill calculations for the type of pipe designed. Backfill and bedding material shall consist of imported aggregate base course (ABC) at a minimum of 4" beneath and 12" above all sewer lines and services. Pipeline bedding shall conform to MAG Specification 601.4 modified to Mechanical Compaction Only. Water settling of pipelines may be allowed with prior approval by Liberty Water. Any water required for backfill operations will be metered through a Liberty Water provided fire hydrant meter.

3. Prior to beginning any pipe installation, contractor shall furnish and place a watertight plug in the existing sewer mains at all points of connections to the existing sewer system. The plugs shall remain in place throughout the project until the project is given Operational Approval. Under no circumstance shall the developer/ contractor allow flow from the new sewer main to flow into the existing sewer system until authorized by Liberty Water.

4. No sewer line will be accepted or placed into service until it has passed all testing and inspections as required by Liberty Water and other government agencies. Only at this time will sewer service be provided.

5. ALL installed sewer mains will be videotaped and a DVD submitted to Liberty Water for inspection. Any portion of the pipeline installation deemed unacceptable by Liberty Water shall be removed and replaced at the contractor's expense. The maximum allowable sewer sag is 0.5-inches. The final DVD and inspection report shall be submitted to Liberty Water as part of the permanent record. The costs for the video taping and video inspection shall be the contractor's responsibility. The sewer line must have been cleaned and free of any debris prior to submitting sewer video to Liberty Water for review/ approval otherwise sewer video will be rejected prior to a full review of the sewer video.

Sewer Manholes and Cleanouts

1. All sewer manholes will be 5-foot in diameter with 30" ring and cover. NO steps in any manholes.

2. All manhole construction shall conform to MAG Specifications and Details and any supplemental specifications and details provided by Liberty Water.

3. Watertight manhole covers are required when the edge of the manhole covers are constructed within 2-feet of the edge of gutter, in areas that are unpaved and areas prone to flooding. Manhole should be set 2-tenths of a foot above finish grade in all unpaved areas.

4. All manhole lids and rings shall be cast iron and shall be imprinted "LPSCO Sanitary Sewer".

5. Drop manholes shall conform to MAG Detail 426.

6. Sewer clean-outs may be installed at the end of lines that do not exceed 200 feet from the nearest manhole. Sewer clean-outs shall conform to MAG Specification 615.7 and MAG Detail 441.

7. Sewer clean-outs shall be fitted with iron access covers and shall be encased in concrete.

8. All manholes are to be treated with a roach pesticide paint type application. Pesticide shall be effective for a minimum of two (2) years.

9. After all paving adjustments have been made; all sewer lines will be hydrovac and certified to be clean and clear of any obstructions. A copy of the certification is required prior to any acceptance.

10. All manholes will be water tightness tested as per A.A.C. R18-9-E301.

11. All sewer manhole adjustments will not exceed 24" from top of the corbel to finish grade.

Sewer Service Taps

1. Every residential unit must have its own separate sewer service connection.

2. All sewer connections shall conform to MAG Specification 615.6 and MAG Detail 440-2.

3. All taps shall be WYE type and shall be at least 4.5 feet deep at the property line and shall conform to MAG Specifications 615.7 and MAG Detail 440 1-4. Sewer Service shall be installed at 2 o'clock and 10 o'clock position. (NO EXCEPTIONS)

4. A sewer valve shall be installed on all sewer service lines (for projects where Liberty Water only owns/ operates the sewer facilities).

5. Sewer tap on grinder pump system, install 1 ½" PVC check valve at curb (just outside of ROW or easement) and an 1 ½" PVC ball valve (just upstream of check valve) with valve box and cover and shall be imprinted "Sewer" per MAG Detail 270.

WATER SYSTEM MATERIAL SPECIFICATIONS

Disribution Piping
Ductile Iron Pipe, motar-lined (D.I.P.) in accordance with AWWA standard C153
Equivalent O.D., pressure class 350 minimum. Motar lining shall be in accordance with M.A.G. section 750 & AWWA C104.

Distribution Fitting
Push-on or mechanical joint in accordance with AWWA C111 and M.A.G. Section 750.4. Joint restriants, where required,shall be MEG-A-LUG or flanged joint for lenths in accorance with M.A.G. Detail 303-2.

Water Line Valve
Mueller,Clow,Kennedy, or Waterous resilent wedge seated Gate Valve in accordance with M.A.G. Section 630.Valve box and cover in accordance with M.A.G. Detail 391-1 Type A.

Water Service
Pipe material for water services through 2" size shall be Type "K" copper, 3" size and larger shall be ductile iron. Minimum water service line size diameter shall be 1" for residenual, 2" for commercial and 1 ½" for irrigation. Approved double strapped saddles, fittings, all IPT, Ford, Mueller, or Jones. A shut off valve shall be installed on customers side of service. Water meter boxes shall be supplied by Liberty Water and installed by the contractor.

Fire Hydrant
Mueller "Centurion", "Clow Medallion", Kennedy "K81 D" or Waterours with National Waterous Standard hose threads in accorance with MAG standard detail 360.

Dip Sections
Dip sections Joint restriants shall be installed at all dip sections.
Joint restriants shall be MEG-A-Lug for lengths inaccordance with the M.A.G. STD. DET. 303-2

Backflow Prevention Assemblies
Watts, Febco Backflow Prevention Assemblies or approved equal shall have a certificate of approval issued by USC-FCCCHR or other approved third-party certifying entity unrelated to the product manufacture or vendor, in accordance with AAC R-18-4-115. A certified test must be submitted to Liberty Water Water Quality Specialist (Backflow Prevention) for approval.

Air Release Valve (ARV)
Apco ARV or approved equal. Above ground vandal enclosure to be GS-1 Guardshack. Below ground 36" Dia. FRP manhole W/H2O load rating in accordance with ASTEM D-3753 with 24" frame & cover per MAG Standard Detail 424.

All Other Items
In accordance with M.A.G. specifications

SEWER SYSTEM MATERIAL SPECIFICATIONS

Collection Mains
SDR35 PVC sewer pipe in accordance with M.A.G. Specifications, ASTM D-3034, and ASTM F-679 or American Protecto 401 ceramic epoxy lined ductile iron pipe.

Sewer Service
SDR35 PVC sewer pipe in accordance with M.A.G Specifications and ASTM D 3034.
Kodiak Valve or approved equal (for projects Liberty Water only owns/ operates the sewer facilities).

Manhole
Manhole Precast Concrete in accordance with M.A.G. Specifications. All sewer manholes will be 60 inches in diameter (No steps in any manholes) with 30" ring and cover, cast iron and shall be imprinted "LPSCO Sanitary Sewer" in accordance with M.A.G. Detail 424. All sewer manhole adjustments will not exceed 24" from the top of the corbel to finish grade. Manholes shall be treated with "Insecta" insect treatment and vacuum tested as soon as manhole is raised to grade and prior to final approval. Manholes susceptible to hydrogen sulfide shall be lined with Sewer Shield 100 or approved equal.

All other Items
In accordance with M.A.G. Specifications.

Force Mains
Griffin H_2Sewer Safe or US Pipe, American Protecto 401 Ductile Iron Pipe, minimum pressure class 250.

RECLAIMED WATER SYSTEM MATERIAL SPECIFICATIONS

Piping
Ductile Iron Pipe (D.I.P.) In accordance with AWWA Standards C150, C151 and C104. Equivalent O.D., Pressure Class 250 minimum. All pipes shall be appropriately identified through integral coloring and wording of the pipe, stenciling of the pipe, or pipe sleeving (pipe socks) in accordance with M.A.G. Section 616. Marking tape shall be installed in accordance with The Blue Stake Law.

Fittings
Push-on or mechanical joint in accordance with M.A.G. Section 750. Joint restraints, where required, shall be MEG-A-LUG for lengths in accordance with M.A.G. STD. DET.303-2.

Valves
Mueller, Clow, Kennedy, or Waterous resilient wedge seated Gate Valve in accordance with M.A.G. Section 630.3 with valve box and cover in accordance with Liberty Water STD. DET. 640-1, M.A.G. Section 616, and M.A.G. STD. DET. 391-1 Type "A" square box design.

Valve riser pipes shall be painted purple (Seymour Safety Purple) inside and out. Debris caps with identification, tag shall be installed in accordance with M.A.G. STD. DET. 392, M.A.G. Section 616.

Water Service
Pipe material for water services through 2" size shall be Type "K" copper, 3" size and larger shall be ductile iron. Approved double strapped saddles, fittings, all IPT, Ford, Mueller, or Jones. A shut off valve shall be installed on customers side of service. Water meter boxes shall be supplied by Liberty Water and installed by the contractor.

Dip Section
Joint Restraints shall be installed at all dip sections. Joint restraints shall be MEG-A-LUG for lengths in accordance with MAG STD DET 303-2.

Air Release Valve (ARV)
Apco ARV or approved equal. Above ground vandal enclosure to be GS-1 Guardshack. Below ground 36" Dia. FRP manhole W/H2O load rating in accordance with ASTEM D-3753 with 24" frame & cover per MAG Standard Detail 424.

All Other Items In accordance with M.A.G. Specifications.

"AS-BUILT" PLAN REVIEW REQUIREMENTS

1. Plans size 24"x36" (Mylar and two black line on bond copies).
2. Plans must be fully approved and signed by all required agencies.
3. Stamped and signed by a Professional Civil Engineer or Land surveyor registered in the State of Arizona.
4. Station/offset on all water fittings: including valves, tees, and bends, all vertical and horizontal changes, etc.
5. Station/offset on all sewer manholes, clean-outs and other facilities.
6. Swing ties to fixed points may be required for commercial projects that do not have a roadway centerline for stationing within a reasonable distance from the project.
7. Distances from lot lines to sewer taps.
8. Call out all water and sewer pipe lengths between fittings and branches.
9. Elevations at all bends for all dip sections regardless of the pipe diameter.
10. As-Built profiles for all sewer lines 8" and larger including manhole rim and invert elevations.
11. As-Built profiles for all water lines 12" and larger.
12. As-Built all changes in pipe materials and sizes.
13. Correct Street names, addresses and lot numbers.

WATER/SEWER "AS-BUILT" CERTIFICATION

The following "As-Built" certification shall be on the cover sheet of the plans:

WATER/SEWER "AS-BUILT" CERTIFICATION

I hereby certify that the "as-built" measurements as shown hereon were made under my supervision or as noted, and am correct to the best of my knowledge and belief. Additionally, I hereby certify that all mains and services have been installed within the limits of dedicated LIBERTY WATER easements or inside dedicated street right-of-ways.

Seal

CHAPTER FOUR

CONSTRUCTION INSPECTION

SCHEDULING OF WATER LINE CONSTRUCTION INSPECTIONS

To schedule appointments, contact Liberty Water Construction Inspector (602) 757-6064.

Open trench before Pipe is installed in trench.

After pipe, bends, fittings, joint restraints, etc. has been installed in trench, but before backfilling is started to verify position and type.

Blocking and thrust blocks where required.

After bedding (from bottom of trench to one [1] foot above pipe) has been placed into trench and properly compacted.

Installation of marking tape and prior to other backfilling of trench.

After each lift of backfill, material has been placed into the trench and properly compacted.

Compaction sampling.

Pressure test for tapping sleeve.

Pressure test for waterline.

Waterline chlorine injection and sampling.

Bacteriological sampling.

Operational Inspection, Final Inspection, and re-inspection if required.

NOTE: When appointments are arranged at least 48 hours (2 business days) in advance, the inspection/test will be conducted as scheduled. When appointments are requested for the same day, the Construction Inspector will conduct the inspection/test based upon his availability.

NOTE: If Contractor proceeds with construction before having approval of Construction Inspector, Contractor will be required to expose the pipeline, valve, thrust blocks, etc., at no cost to Utility, to permit inspection by the Construction Inspector. The required exposure of pipeline by Contractor shall not deem acceptance of facility. Utility reserves the right to reject any facility not properly scheduled for inspection by Utility for any reason. The rejection shall be final.

SCHEDULING OF SEWER LINE CONSTRUCTION INSPECTIONS

To schedule appointments, contact Liberty Water Construction Inspector (602) 757-6064.

Open trench before pipe is laid into trench.

After pipe has been installed in trench and before backfilling is started.

After bedding (from bottom of trench to one [1] foot above pipe) has been placed into trench and properly compacted.

Installation of marking tape and prior to other backfilling of trench.

After each lift of backfill, material has been placed into the trench and properly compacted.

Compaction sampling.

Installation of manhole bases.

Each connection to an existing manhole and or stub.

Deflection test on sewer line.

Low-pressure air test on sewer line.

Insecticide coating of manholes

The contractor shall uniform slope test all sewer lines by videotape and vacuum or water test all Manholes in accordance with A.A.C. R18-9-E301. These tests shall also be coordinated with the Construction Inspector. Documented results and videotape shall be submitted to Liberty Water for approval.

Operational Inspection, Final inspection and re-inspection if required.

NOTE: When appointments are arranged at least 48 hours (2 business days) in advance, the inspection/test will be conducted as scheduled. When appointments are scheduled for the same day, the Construction Inspector will conduct the inspection/test based upon his availability.

NOTE: If Contractor proceeds with construction before having approval of Construction Inspector, Contractor will be required to expose the pipeline, manhole, etc., at no cost to Utility, to permit inspection by the Construction Inspector. The required exposure of pipeline by Contractor shall not deem acceptance of facility. Utility reserves the right to reject any facility not properly scheduled for inspection by Utility for any reason. The rejection shall be final.

WATER LINE OPERATIONAL/ FINAL APPROVAL

To schedule Operational or Final inspections, contact Liberty Water Construction Inspector (602) 757-6064.

The following must be completed prior to issuing a passing operational inspection:

1. All facilities have been installed and constructed per approved plans and or any discrepancies have been resolved and facilities are connected to a distribution system that is operational
2. All water services (verify correct size) installed, excluding water meter boxes
3. Pressure testing
4. Disinfection/ flushing/ bacteriological testing (passing results from lab)
5. All water valves including FH valves are accessible and keyed to ensure that they are in the open position to provide adequate water service and fire flows
6. Compaction sampling test results
7. Projects requiring a backflow prevention assembly must be inspected by an Arizona certified technician and passing test results sent to Liberty Water

The following must be inspected prior to issuing a passing final inspection:

As-builts must be received prior to final inspection

1. Fire Hydrant
   a) Installed per MAG STD DTL 360 and 362, location as shown on as-builts, pumper nozzle pointed in correct direction, and good condition in appearance
   b) Painted yellow (Flow color coded if required by jurisdictional fire agency/ department)
   c) Painted RED if private and not utility owned
   d) Flange is at proper grade
   e) Chains and caps are on and secure
   f) Caps are on and threads not damaged
2. Valve & box
   a) Installed per MAG STD DTL 391 'A' location as show on as-builts
   b) Verify valve is fully open and then close ¼ turn
   c) Type 'A' box
   d) Box is at grade with concrete collar if in pavement
   e) Box and lid not damaged, no gaps where dirt can enter
3. Meter box
   a) Installed per Liberty Water specifications and location as shown on as-builts
   b) Box is level and just above/ at grade (1" above grade typical)
   c) Box is uniform with other boxes
   d) Box is not damaged or cracked and lid is not missing
   e) No apparent leak at meter connections
4. Blow-off
   a) Install per MAG STD DTL 390 'A' and location as show on as-builts
   b) Box is level and just above/ at grade (1" above grade typical)
   c) Box is not damaged or cracked and lid is not missing
   d) Corporation stop is in serviceable condition and threads not damaged. If corp. is capped, remove cap and check for leaky valve
   e) No apparent leaks
5. Air release valve
   a) Install per Liberty Water specifications and location as shown on as-builts

SEWER LINE OPERATIONAL/ FINAL APPROVAL

To schedule Operational or Final inspections, contact Liberty Water Construction Inspector (602) 757-6064.

The following must be completed prior to issuing a passing operational inspection:

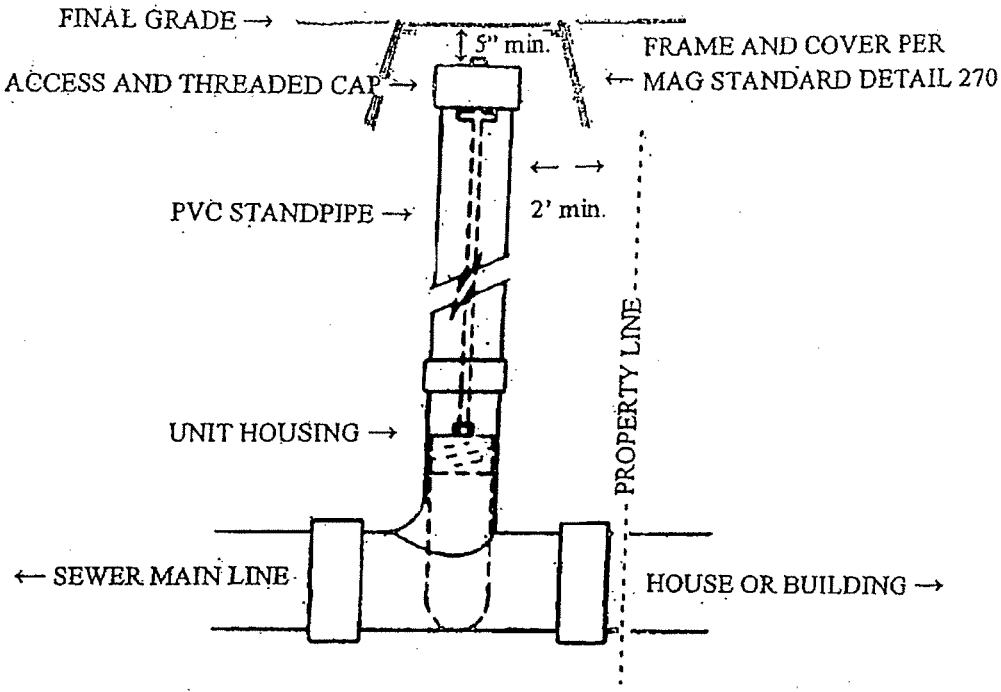
1. All facilities have been installed and constructed per approved plans and or any discrepancies have been resolved and facilities are connected to a collection system that is operational
2. Low Pressure Air Test of pipe
3. Mandrel Test of pipe, Inspector to OD tape measure diameter of mandrel to verify correct dimension prior to and after testing:
   8" pipe, SDR 35, 5% deflection = 7.28"
   10" pipe, SDR 35, 5% deflection = 9.08"
   12" pipe, SDR 35, 5% deflection = 10.79"
   15" pipe, SDR 35, 5% deflection = 13.20"
   18" pipe, SDR 35, 5% deflection = 16.13"
4. Videotape (DVD) of 100% of pipe
5. Compaction sampling test results
6. The collection system must be free of dirt and debris and must be connected to a downstream collection system that is operational
7. If applicable verify watertight manhole frame and cover were installed in accordance with approved plans
8. Sewer valve or approved equal has been installed in accordance with approved plans (for projects where Liberty Water only owns/ operates the sewer facilities)

The following must be completed prior to issuing a passing final inspection:

1. As-builts must be received prior to final inspection
2. Manhole
   a) Installed per MAG STD DTL 420,423,424,426 (as specified on plans) with a 30" ring and cover, cover has appropriate labeling, no steps and location as show on as-builts
   b) Manhole is at grade with a concrete collar if in pavement
   c) Inside completely grouted and grout is secure to walls and grade rings
   d) No debris or trash inside manhole, verify that there is no dirt or debris in the pipe
3. Insecticide coating inside manhole
4. Vacuum test of manholes
5. Hydrogen-sulfide protective coating (SewerShield 100 or approved equal), installed by a certified applicator, as called out on the plans
6. Cleanout
   a) Installed per MAG STD DTL 441 and location as show on as-builts
   b) No standing water observable
   c) No concrete of foreign material
   d) Pipe is not damaged

METER INSPECTION CHECKLIST

- ☐ Meter box is level
- ☐ Meter box is in new condition
  (I.e. no cracks,broken,chipped,or damaged)
- ☐ Meter box is set 1 to 2 ft on all four sides from any curb or concrete barrier
  (Allowance for meter repair and service line repair)
- ☐ Meter box lid with touch read hole must be in new condition
  (I.e. no cracks,broken,chipped,or damaged)
- ☐ Service line needs to be 100% level
- ☐ Meter should have an 8" clearance from the top of the meter box
- ☐ Meter box needs to be cleaned out and a 2" clearance from the bottom of meter
- ☐ Meter is not leaking at any coupling
- ☐ Meter box is at grade or no higher than 1" above grade
- ☐ Meter shutoff valve needs to have clearance of no less than 3" from the front of box
- ☐ Customer's shutoff valve within 18" of the meter box on the customer's side
- ☐ Meter box and customer's service shutoff valve box shall be visible and not obstructed.



SEWER SERVICE WITH VALVE

A KODIAK VALVE OR APPROVED EQUAL IS TO BE IN STALLED ON ALL SEWER SERVICE LINES (FOR PROJECTS WHERE LIBERTY WATER ONLY OWNS? OPERATES THE SEWER FACILITIES)

THE SEWER VALVE IS TO BE INSTALLED WITHIN THE ROW, PUE OR LIBERTY WATER'S EASEMENT

UNDER NO CIRCUMSTANCE SHALL A SEWER VALVE BE INSTALLED WITHIN A PAVED AREA, CURB & GUTTER OR SIDEWALK