CHAPTER 1

GENERAL CONDITIONS

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1-1 GENERAL REQUIREMENTS

1-1.01 GENERAL

The purpose of the City of Arlington Public Works Design and Construction Standards and Specifications (including City Standard Details) hereinafter referred to as the City Standards or these Standards is to provide minimum standards and guidelines for design and construction performed within the City of Arlington. This includes work in the public right-of-way or easements, and all other work performed pursuant to construction related permits issued by the City. No construction shall start without the City's approval of construction plans, prepared in accordance with these Standards, conditions of any land use permit issued by the City, developer agreement(s) for the property, and the Arlington Municipal Code (AMC). All construction shall conform to these Standards, the *WSDOT/APWA Standard Specifications*, and other applicable standards and regulations of the Federal, State, County, and the City. The City Engineer shall be the final authority in all matters related to design and construction.

These Standards are intended to represent the minimum design standards for public works construction in the City of Arlington. Compliance with these Standards does not relieve the Design Engineer of the responsibility to apply conservative and sound professional judgment to promote the health, safety, and welfare of the general public. The City of Arlington may, at its sole discretion due to special site conditions and/or environmental constraints, require more stringent requirements than would normally be required under these Standards.

Revisions to these Standards may be made periodically to make corrections, clarify procedures and to conform to municipal practice and new technology or State or Federal standards. The users shall ensure that they are using the latest edition of these Standards.

1-1.02 DEVIATION FROM STANDARDS

Permissible alternatives different from these Standards may be approved by the City Engineer upon review of evidence submitted by the Developer if such modifications are equal to or better than the requirements in these Standards, they are in the public interest, they are based upon sound engineering judgment, and the requirements for safety, function, appearance, and maintainability are fully met. Requests for proposed alternatives shall be submitted as soon as possible during the permit process to allow time for decision by the City. Requested alternatives must be reviewed and approved prior to construction. The City Engineer will make the decision as to whether a requested alternative will be considered as permissible.

1-1.03 GOVERNMENTAL AGENCY REQUIREMENTS

A project may involve dealing with the City of Arlington, City of Marysville, and/or Snohomish County. These jurisdictions may have different engineering standards.

If the project is located in the City of Arlington and served by Arlington water and sewer systems, the Design Engineer shall prepare complete site/civil plans including utilities in accordance with the standards of the City of Arlington and submit to the City of Arlington for review and approval.

If the project is located in the City of Arlington and served by Marysville water and sewer systems, the Design Engineer shall prepare site/civil plans in accordance with the *City of Arlington Standards*, and water and sewer plans in accordance with the City of Marysville Standards.

If the project is located in the City of Marysville or unincorporated Snohomish County and served by City of Arlington water and sewer systems, the Design Engineer shall prepare water and sewer plans in accordance with the Standards of the City of Arlington and submit to the City of Arlington for review and approval.

Copies of the site or utility plans from the other jurisdiction will need to be provided if applicable.

All construction within the City, County or State and their right-of-way shall be performed in accordance with the applicable standards and requirements and in accordance with the franchise agreements and/or permit requirements. The Contractor is responsible for determining these requirements prior to construction and meeting the requirements.

Where conflict exists between these Standards and the agency's requirements, the most stringent requirements shall take precedence.

1-2 DEFINITIONS

AMC – The City of Arlington Municipal Code.

Building Official – City of Arlington Building Official or their designee.

City – The City of Arlington, Washington.

City Attorney – City of Arlington City Attorney

City Engineer – City of Arlington City Engineer or their designee.

City Inspector – An authorized representative of the City Engineer performing inspection and testing.

City Standards or these Standards – City of Arlington Public Works Design and Construction Standards and Specifications, latest edition.

City Standard Details or Standard Details – City of Arlington Standard Detail drawings, latest edition.

Contractor – The individual, firm, partnership, corporation, or joint venture entering into a contract with a Developer or the City to perform the work in accordance with these Standards. The term shall also include the Contractor's agents, employees and subcontractors.

Developer – The property owner or their agents/contractors who have made or intend to make an application to the City for a permit or approval for development.

Developer's Engineer or Design Engineer – The Professional Engineer or engineering firm entering into a contract with the Developer and representing the Developer to prepare construction documents and provide other engineering services. The term shall also include its employees and sub-consultants.

Director of Community Development – City of Arlington Director of the Department of Community Development.

Director of Public Works – City of Arlington Director of the Department of Public Works.

DOE Stormwater Management Manual – Department of Ecology Stormwater Management Manual for Western Washington, adopted edition by the City of Arlington.

Fire Chief – City of Arlington Fire Chief or their designee.

Material or Materials - These words shall be construed to embrace machinery, manufactured or fabricated articles, and natural substance to be furnished in connection with the Project.

MUTCD – Manual on Uniform Traffic Control Devices for Streets and Highways, published by U.S. Department of Transportation Federal Highway Administration, latest edition.

Permit Center – The City of Arlington Permit Center.

Plans or Construction Plans – Project drawings subject to City review and approval prior to construction that show the location, character and dimensions of the proposed work such as layouts, profiles, cross-sections, details, methods and general notes.

Project – The structure or improvement to be constructed in whole or in part.

PUD – Snohomish County Public Utility District No. 1

Words and Phrases - Whenever the words, "as directed", "as required", "as permitted", or words of like effect are used, it shall be understood that the direction, requirement or permission of the City Engineer is intended. The words, "sufficient", "necessary", "proper", and the like shall mean sufficient, necessary or proper in the judgment of the City Engineer. The words, "approved", "acceptable", "satisfactory", or words of like import shall mean approved by, acceptable to, or to the satisfaction of the City Engineer.

WSDOT - Washington State Department of Transportation.

WSDOT/APWA Standard Specifications - Standard Specifications for Road, Bridge and Municipal Construction, latest English edition, Washington State Department of Transportation and the American Public Works Association, including all amendments.

1-3 PLAN REQUIREMENTS

1-3.01 GENERAL REQUIREMENTS

Following these Standards for design will help ensure a timely review of the plans and keep review costs to a minimum. Non-standard plans may take longer time to review and increase the costs to the Developer. The City's decision to approve, reject or modify non-standard plans shall be based on the plans conforming to the City's Comprehensive Plans, meeting or exceeding the requirements of these Standards and the applicable codes, and not adversely affecting environmental quality, safety, operation or maintenance of the City's infrastructure.

If the project involves work within the City public right-of-way, or infrastructure to be conveyed to the City after completion, the City reserves the right to accept the Developer's Engineer, or to request that the Developer choose a different Design Engineer.

All construction plans submitted to the City for review must be stamped and signed by a Washington State licensed Professional Engineer (P.E.). All land boundary survey and legal descriptions must be stamped and signed by a licensed Professional Land Surveyor (P.L.S.). As-built plans may be stamped and signed by a licensed P.E. or a P.L.S. Topographic survey data and mapping prepared specifically for a proposed project may be performed by the P.E. stamping the engineering plans as allowed by the Washington State Board of Registration for Professional Engineers and Professional Land Surveyors.

The Design Engineer is responsible for any errors and omissions in the plans. The Design Engineer shall provide adequate quality control before plans are submitted to the City for review.

The City's review is for conformance to the City's Standards. The City's review or approval of the plans does not relieve any of the Design Engineer's responsibility or liability imposed upon it by law or by contract.

At the City Engineer's sole discretion, the plans may be rejected if they are of poor quality, difficult to read, or contain a significant amount of errors and omissions.

The City's plan review, plan approval, and construction inspection do not relieve any of the Developer's responsibility to conform to the AMC and these Standards.

Site civil plans shall be valid for eighteen (18) months from the approval date. One six-month extension may be granted by the City Engineer if requested in writing by the applicant prior to original expiration date. If plans expire again, an additional fee shall be assessed to review the plans for compliance with the current Standards.

1-3.02 SURVEY REQUIREMENTS

Prior to design and construction, the Developer's Professional Engineer or Professional Land Surveyor shall arrange for underground utility locations to be marked on the ground, surveyed and included in the construction drawings. The Engineer/Surveyor shall also research available utility records for use during the design, permit and construction process. The Developer shall provide copies of recorded survey for the property, stamped and signed by a Professional Land Surveyor licensed in the State of Washington.

Use NAVD88 as vertical datum and NAD83 as horizontal datum

1-3.03 DRAFT STANDARDS

1) Drafting Software - Plans shall be prepared using AutoCAD™ Release 2000 or later. Hand drawn submittals (including corrections or alterations) and pasted pieces will not be accepted.

2) Symbols - Use the standard Washington State Chapter of the APWA symbols as supplemented by current City Standard Details.

3) Standard Plan Sizes - All site civil plans shall be on 22"×34" paper.

4) Type of Paper – Construction plan should be on standard drafting paper. As-built plans shall be printed directly on Mylar to the same standards as the original plans. No hand correction, whiteout, or pasted pieces are allowed.

5) Ink and Screening – Plans shall be black ink prints. Screen the base map which shows existing improvements.

6) All existing and proposed improvements shall be located and dimensioned with datum to City of Arlington survey monuments, monument lines or road centerlines. Dimensioning must be completed by stationing and offset from these control lines.

7) Monuments - At least two (2) monuments shall be shown for each street in the plan view. Show coordinates (northing and easting) and descriptions for each monument, bearings and distances between monuments for each road.

8) Bench Marks – Show locations and elevations of permanent and temporary bench marks to be used for vertical control during construction.

9) Stationing – Stationing on plan and profile shall proceed from left to right or from bottom to top if possible.

10) Plans shall be prepared with all utilities, existing and proposed, shown on all sets of plans. For example, on the water plans, the sanitary sewer and storm drain shall be shown half toned with the water portions being heavily highlighted.

11) Plan/Profile - All site civil plans for road improvements and utility systems shall be prepared in a plan/profile format. Drawings shall be laid out in a logical order for easy understanding. Plans will not be approved if the layout is considered confusing. It is advisable to discuss plan layout for a large project at the pre-design meeting. The plan view and profile for the same segment of work shall be shown on the same plan sheet. The profile shall be located and oriented directly below the plan view whenever possible. Plans and profiles may be shown on separate sheets with prior approval by the City Engineer.

12) Scale - Indicate scales in the drawing area and title block on each sheet, utilizing a consistent format. Bar scales shall be used in drawing areas for plan reproduction integrity. The horizontal scale for plan and profile sheets shall be 1” = 10’, 1” = 20’, or 1” = 30’. Drawings at horizontal scales of 1”=40’ or 1”=50’ may be used for simple utility plans if approved by the City. The vertical scale for profiles shall be 1” = 5’ (or 1”=10’ for steep slopes). Architectural scales will not be accepted.

13) Match-lines - Match lines with matched station and sheet number shall be provided where the plan is drawn on two or more sheets. Where the plan is shown on three or more sheets, include a total site plan index map at scale 1” = 100’ or 1” = 200’ to cross reference the portions of the project with their corresponding plan sheet location.

14) Plan View Information - The plan view shall indicate and identify all existing and proposed buildings, structures, utilities (water, sewer, storm drain, power, phone, gas, fiber optics and cable TV), road/street, right-of-way, easements, curbs, gutters, driveways, sidewalks, planters, streams, wetlands, mailboxes, traffic signs, street lighting poles, power poles, topographic data, and other known physical features within

the project area, which may affect the design and construction of the project. Pipes greater than 12 inches in diameter may be drawn in its actual width depending on the scale. Existing or proposed wells and septic systems within 100 feet from the property must be shown on the plans.

15) Profile Information - Profiles shall accurately show existing and finished grades. All existing and proposed utilities shall be shown. Each utility crossing shall be accurately depicted or a calculated clearance shall be shown. All physical characteristics of the utilities shall be shown true to scale. This shall include, but is not limited to, waterline deflection, fittings, valves, fire hydrants, blow-offs, air valves, pipe length/diameter/material, pipe slope, stormwater catch basin inverts, sewer manhole inverts, etc.

16) Division/Phase Lines - All division or phase lines shall be indicated showing proposed limits of construction.

17) Whenever possible, use notes specifying City Standard Detail numbers for common items such as catch basins, manholes, fire hydrant assemblies, water services, blow-offs, air/vacuum valves, etc.

18) Show the existing and proposed right-of-way and channelization of all roads that front the proposed development. Show contours, road improvements, including all curb cuts within two hundred (200) feet of the subject property, on both the adjacent properties and the properties across the road that front the proposed development.

19) Show complete data for the curb radii, utility locations (proposed and existing), curb elevations, road stationing, road widths, existing adjacent improvements, elevations of existing road improvements, utilities, etc.

20) Existing and proposed topography contours shall cover the entire site and minimum of thirty (30) feet beyond the site boundary, existing topography should be screened. Topography contours shall be shown at 2-foot intervals (5-foot intervals for slopes greater than 15% and 10-foot intervals for slopes greater than 30%). Elevations shall be labeled at a maximum of 10-foot intervals.

21) Right-of-Way, Easement, and Property Data - Show and clearly label property lines (with distances and bearings), lot numbers, plat names, right-of-way lines, road names, sensitive areas and set backs, and all existing easements with their recording numbers, and proposed easements.

22) Road Names – Official road names provided by the Building Official in the project shall be used if known. Otherwise, name road by letters (such as Street A, Road B, Tract C, etc.) in construction plans. Official road names shall be included in as-built plans. If the road is private, it shall be identified as such.

23) Engineer Stamp – Plans shall be prepared by a Professional Engineer with current registration in the State of Washington. All plan sheets submitted to the City for review shall be stamped, signed and dated by the Professional Engineer. If all the details shown in a construction detail sheet are the City Standard Details, the Engineer may include a note:

"BY STAMPING AND SIGNING THIS PLAN SHEET, I CERTIFY THAT ALL THE DETAILS SHOWN HEREIN ARE CITY OF ARLINGTON STANDARD DETAILS CURRENT AS OF THE DATE OF SIGNATURE AND THEY ARE NOT ALTERED OR EDITED BY ME OR ANYONE ELSE TO THE BEST OF MY KNOWLEDGE".

1-3.04 REQUIRED DRAWINGS

The number of plan sets specified on the applicable intake checklist and 2 copies of the Storm Drainage Report and Geotechnical Report (if applicable) are required at the time of site civil plan submittal. Generally the following items shall be included in the plan set. Additional elements may be required depending on project requirements:

1) Title Sheet.

2) Site Topographic and Horizontal Control Plan.

3) Temporary Erosion and Sedimentation Control Plan.

4) Grading Plan (separate cross-sections are required for all proposed road construction. Distance between cross section locations shall be typically 50 feet on stations or as determined by the City, based on site topography).

5) Road Improvement Plan.

6) Storm Drainage Plan (may be combined with Road Improvement Plan).

7) Water Distribution Plan.

8) Sanitary Sewer Plan (may be combined with water plan).

9) Composite Utility Plan.

10) Landscaping Plan.

11) Structural Plan.

12) Channelization and Signage Plan.

13) Illumination Plan.

14) Traffic Control Plan.

15) Details and Specifications for the above improvements, including duplicate copies of all standard drawings referenced on the plan and in the notes.

1-3.05 TITLE SHEET

The use of standard title sheets and title blocks developed by the City are strongly recommended. These files in AutoCAD™ format are available on the City's web site at HTTP://WWW.CI.ARLINGTON.WA.US/.

A summary of quantities for all work within the public right-of-way or in easements granted to the City shall be listed on the title sheet or on the first sheet of all plans. The following list can be used as a guideline for the items to be listed but is to be supplemented as necessary for a particular project.

Table 1-1 Summary of Quantities

ITEM	QUANTITY	UNIT
New Impervious Area (list both public & private)		**SQUARE FEET**
Ductile Iron Water Main (Size)		**LINEAR FEET**
Fire Hydrant Assemblies		**EACH**
Gate Valves (Size)		**EACH**
Water Main Blow-Offs		**EACH**
Water Main Air/Vacuum Valves		**EACH**
Residential Water Services		**EACH**
Non-Residential Water Services (≤ 2")		**EACH**
Non-Residential Water Services (≥ 3")		**EACH**
PVC, HDPE or DIP Sewer Main (Size)		**LINEAR FEET**
Sewer Manholes (Type)		**EACH**
Side Sewer (Size)		**EACH**
Storm Drain Pipe (Size)		**LINEAR FEET**
Catch Basins (Type)		**EACH**
Storm Drain Manholes (Size)		**EACH**

1-3.06 SITE TOPOGRAPHIC AND HORIZONTAL CONTROL PLAN

Show all existing underground, surface improvements and topography in proximity to the project. The information must be shown for the full width of the right-of-way or the easement and for a sufficient distance on either side of the right-of-way or easement to show possible impacts on adjacent properties and/or the relationship to related facilities (typically 200 feet). Show adjacent property owners, tax parcel numbers, lot numbers, and name of plat or development.

Information on existing surface and underground City of Arlington utilities may be obtained from the Public Works Department. Other utility information may be obtained from the respective utility owners (i.e. Snohomish County PUD, Verizon, Comcast, Olympic Pipe Line Company. Puget Sound Energy, City of Marysville, etc.).

Stationing shall be provided on all centerlines and reference lines. All intersecting road centerlines, utility crossings, right-of-way lines, property lines, railroad crossings, drainage structures, signal and light poles shall be referenced by station and offset. Curve data shall be provided for roadway centerline and right-of-way curves. All PC's, PT's, PRC's, PCC's and AP's shall be stationed and offset.

1-3.07 TEMPORARY EROSION AND SEDIMENTATION CONTROL PLAN

The temporary erosion and sediment control (TESC) plan shall show the following:

1) Existing and proposed topography.

2) Clearing limits and silt fence.

3) Location and details for construction entrance.

4) Specify the construction sequence.

5) Provisions for perimeter runoff control at property boundaries.

6) Show all cut and fill slopes.

7) Provide all necessary details to illustrate the intent of the TESC plan.

8) Show interim catch basin sedimentation protection.

9) Show all drainage pipes and ditches. Include pipe inverts, minimum slopes and cover, and ditch grades and dimensioning.

10) Specify areas to receive special treatment such as jute matting, rock lining, sod, mulching and seeding.

11) Provide all necessary dimensioning and details for sediment traps, berms, pond storage, pond outlet structure, filtering devices, inlet/outlet stabilization techniques, control/restrictor devices, rock check dams, silt fences, pond inlet baffles, and other design elements.

12) In addition, the plan shall comply with the regulations listed in the *DOE Stormwater Management Manual*.

1-3.08 GRADING PLAN

The site grading work shall show all existing and proposed contours, and may be incorporated or combined with the Road Improvement Plan.

Provide road cross-sections at maximum 50 foot intervals and major topographical features (closer spacing may be required based on conditions) to ensure that proposed improvements will correspond with existing conditions, and with AMC requirements for improvements. Provide spot elevations at centerline of roadway, edge of existing asphalt, and face of proposed curb. Show retaining walls and elevations at the top and base of retaining walls at fifty (50) feet intervals with a minimum of two (2) call-outs per wall. Provide quantities of the cut and fill.

Show the location of rockeries and include section details for rockeries in grading plans.

1-3.09 ROAD IMPROVEMENT PLAN

Roadway Improvements include but are not limited to paving, curbs, gutters, sidewalks, planter strips, driveways, curb ramps, storm drainage structures, street lighting, traffic signals, traffic signs, channelization and landscaping plans.

1) Establish a base line or centerline adequately dimensioned from at least 2 known reference points or monuments approved by the City.

2) Adequately dimension all improvements off of the established base line or centerline.

3) All plans shall be stationed, with true point of origin for stationing dimensioned from monument. If 0+00 stationing point does not coincide with the monument, tie in with station equation.

4) When possible, road improvements in the right-of-way should have profile drawing beneath plan view.

5) Provide adequate information on roadway geometry, including PC, PT, PRC, PCC, AP, radius, curve angle, tangent length, curve length and all other information required to adequately establish the geometry. Provide adequate information on roadway profile, including vertical curve approach grades, length of vertical curve and all other information required to adequately establish the profile.

6) Provide spot elevations and slope call-outs where improvements abut with existing pavement. Show top of curb elevation at suitable intervals along curb line, and all break in grades. If the plan is separate from the profile, show top of curb elevation at all curb returns at intersections and at the back of cul-de-sacs.

7) Provide profile drawings for all private roads and for driveways with slope exceeding 5%.

8) Show bearings for all proposed roadway alignments.

9) Clearly label existing and proposed right-of-way and dimensions.

10) Show all existing and proposed easements as required on plans.

11) Show the mailbox locations and details in the road plan, channelization, signage plan, or landscaping plan. These drawings shall be reviewed and approved by the U.S. Postmaster (Arlington Station) before installation.

A "Driveway Schedule" shall be provided for a proposal with 3 or more proposed access points. The schedule shall list all of the driveways, both residential and commercial being constructed and shall include the following information pertaining to each driveway, in tabular form:

1) Location of driveway.

2) Width.

3) Length.

4) Surface type.

5) Profile grade (drawing maybe required).

6) Separation distance on either side of a driveway to nearby driveways or intersections.

1-3.10 STORM DRAINAGE PLAN

Use plans and profiles to show storm drainage facilities.

1) Label sequential number, type, size, station, offset from baseline, rim elevation, and invert elevations of each catch basin and manhole.

2) Label pipe length, size, material and slope in both the plan and profile.

3) Include flow direction arrows at the end of pipes entering the catch basins and manholes in plan view.

4) Include benchmarks on the plan.

5) Show spot elevations of the pavement in parking lots and runoff flow direction arrows.

6) Show roof leaders and footing drains connecting into conveyance system.

7) Show all stub-out locations for future connections.

8) Show the following for all stormwater detention facilities:

   - Show and label at least two cross-sections through the detention pond. One cross section shall show the control structure.

   - Show the location and details of emergency overflows and spillways.

   - Provide invert elevations of all pipes, inlets, tanks, vaults and spot elevations of the pond bottom. Label the pond volume, dimensions and design surface elevation.

   - Provide plan and section views with details of all rock protection and energy dissipaters.

   - Section and plan view of flow control structure must be shown with adequate detail, including size and elevation of orifices.

   - Show length, width, as well as the bottom width for all bio-filtration and water quality swales along with stormwater conveyance swales. Include sectional view, showing side slopes and design depth of flow.

   - Include seeding material information.

- Show types or classifications of streams and/or wetlands adjacent to the project or receiving stormwater from the project.

1-3.11 WATER DISTRIBUTION PLAN

Use plans and profiles to show proposed water distribution facilities. Profiles may be waived if approved by the City Engineer (depending on the length of the water main, variation of the ground elevations, and utility conflicts).

1) Label all existing water main size and material (e.g., EX. 8 inch DI). Show all existing fire hydrants, meters, and other appurtenances.

2) Show "before" and "after" connection details for the water main connections.

3) For utility crossings which involve vertical offsets in the water line, provide details showing the crossing, including vertical bends, blocking, shackle rods, and pipe invert elevations.

4) Label all types of fitting connections (MJ = mechanical joints, FL = flanged, PE = plain end, RJ = restrained joint).

5) Fire hydrants shall be free and clear of all obstructions, including landscaping or other interferences, for a minimum of 3 feet of clearance around the hydrant.

6) Standard Water Notes are required.

1-3.12 SANITARY SEWER PLAN

Use plans and profiles for all proposed sanitary sewer.

1) Existing Sanitary Sewer - Label all existing sewer main size and material (e.g. EX. 12 inch PVC SS).

2) Proposed Sanitary Sewer - Label proposed sewer mains including pipe length (measured horizontally from center of manhole to center of manhole), size, material and slope in plan and profile (e.g. 150 L.F. 8" PVC @ 0.50%). Slope is calculated based on I.E. OUT of upstream manhole, I.E. IN of downstream manhole, and horizontal distance between centers of the manholes.

3) Use arrows at the end of pipes entering manholes to show sanitary sewer flow directions in the plan.

4) Manhole - Label all proposed manholes and cleanouts in sequential order. Label station, offset from baseline, rim elevations and invert elevations and manhole size and type in both the plan and profile.

5) Utilities Crossing - Where a sewer main crosses or potentially conflicts with other utilities, show the location and pipe elevation in the plan with clearance in the profile.

6) Sewer Stubs - Show all sewer stub locations for future connections and side sewer connection stubs.

7) Side Sewer - On the plan, indicate the station of side sewer tee from nearest downstream manhole. Indicate the length of the side sewer stub from main to plug at the end of the line. Label invert at the plugged end of the stub.

8) Standard Sanitary Sewer Notes are required.

9) Other Utilities - Other existing and proposed utilities shall be shown in the plans and profiles if the information is available.

10) Pavement Restoration - If working in existing roadways, indicate the type of pavement restoration required, or refer to the right-of-way permit.

11) At connection to the existing sewer system, add a note "Contractor shall physically plug all new sewer connections until all tests have been completed and the City approves the removal of the plugs".

1-3.13 COMPOSITE UTILITY PLAN

Include a composite utility plan sheet showing existing utilities (half tone) and all proposed utilities. The composite utility plan shall show underground utilities and associated surface improvements that include the locations of sewer and storm drain laterals, water meters, fire hydrants, street lighting standards, traffic signal poles, mail boxes, transformers, telephone risers, utility vaults, etc. to establish clearances. Underground utilities of concern include sanitary sewer, storm drain, water, power, cable TV, telephone, street lighting, traffic signal wiring, gas, and overhead electric/telephone/cable facilities. Show locations of relocated overhead utilities and poles where applicable.

1-3.14 LANDSCAPING PLAN

The development of landscaping is to conform to the basic concepts and principles set forth in the AMC and these Standards. A copy of the Zoning Code is available for review from the Permit Center.

In consideration of providing adequate sight lines for visibility, all plans with center boulevard medians shall have plantings so as to minimize sight obstructions. In addition, no one shall plant any vegetation, erect any structure, or perform any action which results in obstructing the view of a fire hydrant for a distance of 10 feet on either side of the fire hydrant along the roadway. The owner/occupant of any area in which a hydrant is located shall be responsible for removing weeds and tree growth from around the hydrant for a distance of no less than 10 feet.

Landscaping plans for critical areas or their buffers must be reviewed by the Natural Resources Manager.

1-3.15 STRUCTURAL PLAN

Structural plans shall be prepared by a Professional Engineer licensed in the State of Washington.

1-3.16 CHANNELIZATION AND SIGNAGE PLAN

Channelization and signage plans may be combined with the Road Improvement Plan.

1-3.17 ILLUMINATION PLAN

Street light pole locations must be shown in the site civil plans. Street light plans shall be prepared in accordance with PUD Standards and approved by PUD. The Developer shall provide the City with a copy of the approved street light plans before site civil plan approval.

1-3.18 TRAFFIC CONTROL PLAN

Traffic control plan may be prepared by the Developer's Engineer as part of the site civil plan submittal, or by the Contractor before construction starts. All traffic control plans shall comply with *MUTCD* and be reviewed and approved by the City prior to initiating any work.

1) General

   The Contractor shall conduct their operations so as to offer the least possible obstruction and inconvenience to the public and shall have under construction no greater length or amount of work than they can prosecute properly with regard to the rights of the public. The Contractor shall not open up sections of the work and leave them unfinished, but shall finish the work in progress as practicable.

   Unless otherwise approved in writing by the City Engineer, all public traffic shall be permitted to pass through the work with as little inconvenience and delay as possible. The Contractor shall keep existing roadways with streets adjacent to or within the limits of the project open to the public in addition to being maintained in a good and safe condition for traffic at all times. The Contractor shall remove any deposits or debris and

shall repair any damage resulting from their operations. Convenient access to driveways, houses and buildings along the line of work shall be maintained. Emergency access shall be maintained to all residences and businesses at all times unless special arrangements have been prepared by the Contractor and approved by the Fire Chief prior to starting work.

2) Detours, Lane and Road Closures

Approval must be received from the City Engineer in advance for all proposed detours, lane and roadway closures. A formal traffic control plan complying with the *MUTCD* shall be submitted for review at least ten (10) working days prior to a scheduled closure.

Longer review times may be necessary where notices to the public are required. The City will give 48 hours advanced notification to the Police, Fire, Postmaster, School District, solid waste provider and Community Transit to allow advance planning of travel routes. Roadway closures shall require the posting of an advanced roadway closure sign placed for each direction of affected travel seven (7) days in advance of the closure.

3) Haul Routes

The City shall have the authority to determine truck haul routes related to grading/construction activities. Where reasonable alternative routing of construction related vehicles can occur to the arterial system as determined by the City, the approved haul routes may be conditioned so as to minimize construction related impacts on residential roadways or other roadways not intended for heavy truck use.

4) Flaggers, Barricades and Signs

Licensed flagger(s), barricades and signs shall conform to the requirements established in the latest edition of the *MUTCD*. The Contractor shall prepare a traffic control plan showing the required construction signing, barricades and flagger(s) for the project. The plan shall be submitted to the City Engineer at least ten (10) working days in advance for review and approval for signage and barricades to be required. All equipment and materials required for traffic control shall be furnished, installed and maintained by the contractor to the satisfaction of the City Engineer.

During construction activity at signalized locations, an off-duty, uniformed police officer shall be required at all times the signal or beacon is turned off, or when the traffic signal indicator is countermanded or if the City Engineer determines it is necessary for traffic control. Officers are also required for new traffic signal work. A uniformed police officer shall be provided at the expense of the Developer. For information on police officer availability, call the City of Arlington Police Department at 360-403-3400.

1-3.19 EASEMENTS

Utility improvements that are to be part of the public system and represent part of the City's capital improvements shall be constructed in the public's right-of-way or easements. Easements to accommodate utilities shall also be provided for projects which require new roadway construction or widening of existing roadways. This shall include subdivisions, short plats, planned unit developments, binding site plans, and certain building projects. The Zoning Code may establish additional requirements for right-of-way dedications, setbacks, and site improvements.

A permanent non-exclusive easement shall be reserved for and granted to all utilities (and their respective successors and assigns) serving the Developer's project. The exterior easement shall be ten (10) feet wide, located parallel to and contiguous to the road right-of-way, across the frontage of all lots, tracts, and common areas. The utility companies may use the easement to install, lay, construct, renew, operate, maintain and remove underground conduits, cables, pipes, and wires, together with other necessary facilities and equipment. The easement shall provide right-of-entry upon the easement at all times for maintenance and repair of necessary facilities. Utility easements shall not be located lineally in critical areas or their buffers, but if necessary they may be allowed to cross through perpendicularly in a manner not impacting naturally occurring functions.

All other easements for public utilities shall be a minimum of fifteen (15) feet in width. The City may require greater easement width to accommodate larger pipe sizes, deeper cover depths, access needs, or other special requirements.

All easements shall have a five (5) foot minimum building setback line (BSBL) from each edge of the easement. BSBL from vegetated stormwater easements shall be fifteen (15) feet for natural vegetation. All easements shall be located to run within single lots adjacent and parallel to property lines rather than being split by a lot line, unless otherwise approved by the City due to special circumstances. No permanent structures are allowed to be constructed within the easement area.

Landscaping within easements shall be restricted to low growing, non-invasive type shrubs, grasses, beauty bark, etc. In addition, paved vehicular access will be provided to all manholes, except as specifically approved by the City Engineer.

All easements shall be dimensioned and accurately drawn on the construction plans and as-built plans. All easements not directly related to the recording of a final plat shall be recorded before final plat, or project is accepted, or before any Certificates of Occupancy are issued. The following information shall be provided to the City for the examination of all easements:

1) A legal description(s) of the easement certified by a licensed Professional Land Surveyor.

2) A current title report covering the properties to be encumbered by the easement.

3) A scaled drawing on a letter size sheet (8½ inch x 11 inch) shall accompany all legal descriptions, showing the easement in a clear and legible manner, with bearings and distances along all sides, the center line and distances to any visible physical appurtenances such as fences and structures.

The following information shall be provided to the City on the construction plans for the examination of all easements:

1) Easement width and location.

2) Location of the utility within the easement.

3) Distance from the utility line to the easement centerline.

4) Water mains, sanitary sewers, and storm drain lines shall normally be located at the center of the easement.

5) AF# of easements.

6) Label all easements granted to the City as "Public Utility Easement" (e.g., 15' Public Utility Easement to the City of Arlington).

Easements granted to the City of Arlington for the placement of public utilities shall be on the City's standard easement form. The easements shall be recorded with the County after acceptance of the dedication is acknowledged on the face of the document by the appropriate City official.

If the easements dedicated to the City are in a plat located in unincorporated Snohomish County, the easements may be recorded in the County plat or recorded separately. If the Developer chooses to record the easement in the County plat, the Developer shall,

- Show the City easements and include proper easement language on the face of the plat,
- Provide a signature line for the City Engineer's approval of the easement, and
- Submit four (4) copies of the plat for the City Engineer to review.

The City Engineer will sign off on the County's plat after obtaining the authorization from the City Council.

1-4 GUARANTEES, BONDS AND INSURANCE

Guarantees in the form of performance and maintenance bonds and insurance will be required for all public works improvements.

Acceptable methods of performance guarantees will be as follows:

1) Performance Bond.

2) Assignment of Funds.

Standard forms of the above referenced documents acceptable to the City will be available from the Permit Center. Changes or substitutions for the above noted forms will require advance review and approval by the City Attorney. The Developer will be responsible for all legal expenses incurred by the review. A written request for deviation to the standard form may be presented to the City.

The Developer shall provide a detailed cost of construction estimate to the City, prepared by a Professional Engineer licensed in the State of Washington, for the cost of improvements based on the approved plans. The estimate shall itemize descriptions, quantities and unit costs. The submitted data will be reviewed by the City for use in establishing the bond amounts. The bond amount will equal one hundred and fifty percent (150%) of the approved Engineer's cost of construction estimate. The estimate shall be provided during the initial site civil permit submittal.

1-4.01 PERFORMANCE BONDS

Performance bonds will be required for all improvements located in the public right-of-way, including all roadway, utilities and drainage construction as detailed on the approved plans. Performance bonds will also be required for all City utility improvements in easements. Following is a summary of typical bonds required;

- Road / Alley (Public)
- Drainage / Grading (Public)
- Utilities (Public)
- T.E.S.C. (Private and Public)

The initial guarantee and subsequent extensions will be limited to 2 year increments. If time extensions are approved, the bond amount shall be revised to reflect inflation and/or other cost impacts.

Before the City will release the performance bond or surety, the Developer shall:

1) Dedicate right-of-way to the City is required.

2) Record all easements with the County.

3) Request a final inspection, complete and obtain approval on corrections as identified by the City Inspector.

4) Provide Mylar and electronic copies of as-built plans.

5) Provide the Bill of Sale for water utility, sanitary sewer utility and/or storm drainage utility.

6) Post a maintenance bond or other surety accepted by the City as described in Section 1-4.02.

1-4.02 MAINTENANCE BONDS

Maintenance bonds will be required at the time of final acceptance of the constructed public works and/or improvements required by City ordinance. The maintenance bond amount will be equal to twenty percent (20%) of the documented final cost of the improvements. The maintenance bond must be in place prior to the City's release of the performance bond. Methods of posting a maintenance bond shall be the same as for performance bond and shall be for two (2) years.

1-4.03 INSURANCE

Certificates of insurance shall also be provided by the Permittee, the Developer, and/or the Contractors on forms approved by the City Attorney prior to issuance of permits for construction. The insurance shall be in the amount of $1,000,000.00 per occurrence. The Certificate of Insurance shall name the City of Arlington as additional insured and shall not be cancelable without thirty (30) days prior written notice to the City. The surety company shall be authorized to transact business in the State of Washington.

1-4.04 PERMITS

Various permits may be required for an individual project, based upon the scope of the project proposal and conditions established during the pre-application and/or pre-design meetings, or during the permit approval process. The applicant is responsible for submitting all necessary applications accompanied by the required number of plans, details, calculations, specifications, estimates, and bonds as established by the Public Works Department. The applicant shall contact the Permit Center and request a list of submittal requirements prior to applying for City permits.

Proof must be submitted that all contractors and subcontractors are licensed in the State of Washington.

No permit(s) shall be submitted unless the written application for the applicable permit(s) has been completed.

Questions regarding permit requirements should be directed to the Permit Center. Applicants may be required to schedule and attend a pre-application meeting with City staff, depending on the type of project, prior to completing documents for permit submittal.

The approved applicant's copy of all the permit(s), together with a set of plans approved by the City shall be available on the job site whenever work is in progress on any portion of the project.

It is unlawful for any person to exhibit a permit at or about any project not covered by such permit, or to misrepresent the number of the permit or the date of expiration of the permit.

Following is a list of the City permits that may be required for various site civil projects:

1) Right-of-Way Permit.

2) Grading Permit.

3) Utility Permit (Stormwater, Sanitary Sewer and Water).

4) Underground Fire Sprinkler Permit

Other agencies such as those listed below may require review and approval for a proposed project. The applicant shall be responsible to coordinate with those agencies and provide the City with copies of the approval and/or permits. It is the Developer's responsibility to obtain approval/permits not listed here.

Agency	**Permit/Approval**
Developer/Local Agency Agreement	WA State Department of Transportation
Construction Plan Approval	WA State Department of Transportation
Channelization Plan Approval	WA State Department of Transportation
Right-of-Way Permit	WA State Department of Transportation
Construction Stormwater Permit	WA State Department of Ecology
Short Term Water Quality Modification	WA State Department of Ecology
Industrial Stormwater Permit	WA State Department of Ecology
Underground Injection Control Permit	WA State Department of Ecology
401 Water Quality Permit	WA State Department of Ecology
Hydraulic Project Approval (HPA)	WA State Department of Fish & Wildlife
Grading in Cultural Areas	WA State Office of Historic Preservation

Grading in Cultural Areas	Stillaguamish Tribe
Section 10 Permit	U.S. Army Corps of Engineers
Section 404 Permit	U.S. Army Corps of Engineers
On-Site Sewage and Well Permits	Snohomish County Health District
Right-of-Way Permit	Snohomish County Public Works
Street Light Plan Approval	Snohomish County PUD
Water/Sewer Permits	City of Marysville Public Works
Mailbox Approval	U.S. Postmaster (Arlington Station)

1-5 LEGAL RELATIONS AND RESPONSIBILITIES

The permittee shall at all times comply with all Federal, State and Local laws and ordinances, and any regulations which in any manner affect the project.

The permittee and their contractor shall release, indemnify and promise to defend and hold harmless the City, its officers, employees and consultants from and against any and all liability, loss, damage, expense, actions and claims, including costs and reasonable attorney fees incurred by the City in defense thereof, asserting or arising directly or indirectly on account of any violation of laws, ordinances or regulations whether such violations are by the contractor, their subcontractors, their employees, or their agents.

1-6 CONSTRUCTION HOURS

Except in the case of emergency or unless otherwise approved by the City, per AMC 11.01.120, the normal hours for construction and development activity, or operation of any heavy equipment shall be between 7:00 am and 7:00 pm, Monday through Saturday. No construction is allowed on Sunday or the following City recognized holidays.

New Years Day
Presidents Day
Independence Day
Veterans Day
Martin Luther King birthday recognition
Memorial Day
Labor Day
Thanksgiving and the Friday after
Christmas Day

1-7 CONSTRUCTION INSPECTION

1-7.01 PRE-CONSTRUCTION CONFERENCE

A pre-construction conference shall be held at the City prior to any construction work being performed by the Developer. Prior to the pre-construction meeting, the Developer shall have in their possession, construction plans approved by the City, performance bond, and all required City permits, which may include but not be limited to right-of-way permits, grading permits and underground fire sprinkler permit necessary to perform the work. The Contractor shall also have any and all permits required by other outside agencies.

The person who will be responsible for completion of the work shall be present during the entire pre-construction conference. It is the Developer's responsibility to contact the Permit Center to schedule the pre-construction conference.

1-7.02 MATERIALS SAMPLING & TESTING

It shall be the responsibility of the Developer to provide test reports certified by a Professional Engineer licensed in the State of Washington to verify compliance of materials used in the project. Sampling and/or testing shall be at a frequency and magnitude determined by the City. Copies of all test reports shall be furnished to the City Engineer. All costs incurred for testing or sampling, as required, shall be the responsibility of the Developer.

1-7.03 INSPECTION OF WORK

Construction or improvement work performed within the City, whether on private property or within the public right-of-way, shall be completed in accordance with the approved plans and specifications to the satisfaction of the City.

No work shall be started until such plans are approved. Any revision to such plans shall be submitted by the Developer's Engineer to the City Engineer for approval prior to performance of the work.

The City Engineer and other City officials will have the authority to enforce these Standards as well as other referenced or pertinent specifications and will appoint project engineers, assistants and inspectors, as necessary, to inspect the work for compliance.

The Contractor shall give the City timely notice that the work, or any part thereof, which has been constructed and is ready for inspection. In no event shall the work or any portion thereof, be covered up or placed into operation until the City Inspector has directed otherwise. If any work has been covered up without prior inspection or authorization by the City Inspector, it may be dug up for inspection at the discretion of the City Inspector, at the Developer's expense.

For inspections required on private property due to issuance of permits by the City, the City retains the right to enter the subject property at reasonable times for purposes of inspection for compliance with permit conditions. The Contractor shall provide access for the City Inspector.

To ensure the Inspector's safety and access during these inspections, the Contractor shall provide any equipment needed, such as walkways, railings, ladders, and platforms. When the City Inspector requests the Contractor shall (without cost to the City) provide samples of materials used or to be used in the work. Inspection by the City does not relieve the Developer/Contractor of their obligation to furnish satisfactory material and workmanship.

If at any time during construction the City finds that the Contractor is not adhering to these Standards, the City Inspector has the right to stop work on the project until full compliance has been met.

1-7.04 FINAL INSPECTION OF WORK

All materials and completed work shall, before acceptance by the City, be subject to final inspection by the City Inspector.

Prior to final acceptance, all items as identified by the City Inspector, needing additional work shall be completed and re-inspected to the satisfaction of the City Inspector.

1-8 PROTECTION OF PROPERTY AND UTILITIES

1-8.01 PROPERTY

The Contractor shall protect and preserve from damage, interference and destruction all private and public property on or in the vicinity of the work. If such property is damaged or destroyed or its use interfered with by the Contractor or their agents, it shall be restored immediately to its former condition or better by the Contractor at their expense and such interference terminated.

1-8.02 UTILITIES

The Contractor shall protect from damage to private and public utilities, including telephone lines, cable television lines, power lines, sewer, water lines, storm drain, railroad tracks, street lighting, traffic signals, and similar facilities. Before beginning any excavation, the Contractor shall provide notice of commencement to all owners of underground facilities through the one-call locator service, phone number 1-800-424-5555; or notice shall be given to all individual utility owners. Such notice shall not be less than two (2) and no more than ten (10) business days before the scheduled date of excavation.

1-9 SITE MAINTENANCE

The Developer and Contractor shall schedule and control their work so as to prevent all hazards to public safety, health and welfare.

1) The Developer shall ensure that no project-related dust, dirt, or construction debris remains on any public roadway. Roadways shall be cleaned of dirt and debris, on no less than a daily basis, at the end of each day. In addition, the Developer shall supply a roadway sweeper to clean up public roadways, which have been burdened by the project's construction debris, within twenty-four hours of verbal or written notice by the City.

2) Pedestrian facilities shall be kept free of obstruction, and continuity shall be maintained at all times unless otherwise approved by the Department of Public Works.

3) On existing roadways, two-way traffic shall be maintained at all times unless lane closures or detour plans have been approved in advance by the City.

4) Pedestrian and vehicular access to occupied buildings shall be maintained at all times except where approval from the building owner has been obtained.

5) Access to mail boxes shall be provided during construction.

6) City owned infrastructure (i.e., manholes, fire hydrants, valve boxes, meters, etc.) shall be accessible at all times.

7) Contractor shall protect the City's storm drain system, streams, and wetlands from sediments. Any critical areas or their buffers impacted by construction shall be restored by the Developer/Contractor at their expense.

1-10 ASBESTOS CONTROL

The Contractor shall refer to *Puget Sound Air Pollution Control Authority (PSAPCA*) Guidelines for identification, inspection, reporting, handling and removal of materials containing asbestos. Asbestos containing material (ACM) may be encountered during a construction project in the form of asbestos cement pipe, pipe insulation, or as insulation in a structure that is being demolished. It can be found in pipe for water and sewer mains, electrical conduits, drainage pipe, and vent pipes, etc. Normal breakage and crushing of the material can cause an asbestos fiber release which presents a serious respiratory hazard. It is imperative that asbestos fiber release be controlled. Citations by regulatory agencies for an asbestos fiber release carry substantial fines.

When required by applicable laws and regulations, the Contractor shall have all asbestos legally removed from the site and properly disposed of by a State licensed Asbestos Contractor in accordance with the practices specified by the *State of Washington Department of Ecology*, Snohomish County Solid Waste Division and all other pertinent State and Federal Regulations. See WAC 296-62-077.

1-11 AS-BUILT DRAWINGS

Before any work is accepted by the City, the Developer or their Engineer shall supply the City with as-built plans (construction corrected record drawings) on Mylar bearing the stamp and signature of either a licensed Professional Engineer or a Professional Land Surveyor and approved by the City Engineer. Paper and electronic copies of the as-built plans shall be provided by the Developer as directed by the City Engineer.

As-built plans shall be prepared based on

1) Construction plans,

2) As-built survey,

3) Contractor's redlines, and

4) City Inspector's review comments.

Sheets containing Temporary Erosion and Sediment Control (T.E.S.C.) Plan, T.E.S.C. Details and Notes, City of Arlington Standard Details, Traffic Control Plan, and Landscaping Plan are not to be included in the as-built plans. In the Index to Sheets on the Title Sheet, the titles of these sheets shall be struck through and labeled as "NOT INCLUDED", for example,

~~SHT. 3 TEMPORARY EROSION AND SEDIMENT CONTROL PLAN~~ (NOT INCLUDED)

~~SHT. 8 SANITARY SEWER STANDARD DETAILS~~ (NOT INCLUDED)

As-built corrections shall be done by striking through the original design information and adding the correct as-built information using bold face letters/numbers.

The Developer's Engineer shall submit as-built plans printed on standard drafting paper to the City for review. The City will notify the Developer's Engineer to submit as-built plans on Mylar as well as the electronic copy, if the submittal is approved. After the City Engineer approves the Mylars, the City will direct the Developer or Developer's Engineer to submit paper copies of the signed as-built plans.

The electronic format of the as-built plans shall be in AutoCAD™ Release 2000 or later ".DWG" files. Zipped or compressed files will not be accepted. The AutoCAD™ files shall include all plans, profiles, notes, x-reference files, and details of the system extension. The plot style table (pen assignments) file shall also be included so that the drawings are reproducible at the City. The electronic copy shall match the Mylar and paper copies.

As-built plans shall be considered an item on the Contractor's punch list. The project will not be accepted or approved by the City until the as-built plans are submitted and approved.

1-12 PROJECT ACCEPTANCE

The following items shall be completed before the City will accept the project and release the project's performance bond.

1) All right-of-way must be dedicated to the City and recorded; all easements must be reviewed, approved and recorded, if required.

2) All proposed improvements shown on the plans, or required by the land use permit have been completed, tested, inspected, accepted and approved by the City Inspector.

3) The City Engineer shall have received, reviewed and approved the Mylar and electronic copies of the as-built plans.

4) The Bill of Sale has been provided, approved and notarized.

5) The City must receive a satisfactory maintenance bond.

6) The balance of any remaining fees has been paid.