

General Notes for Issaquah Roads and Utilities

1. GENERAL

- 1.1. Contractors shall limit all construction activities and heavy equipment operation to between 7:00am and 6:00pm Monday through Friday, excluding holidays, per [Issaquah Municipal Code \(IMC\) 16.35.010](#). Requests for extended work hours must be submitted via [MyBuildingPermit.com](#) and approved in writing by the City of Issaquah Department of Community Planning and Development (CPD).
- 1.2. All contractors and subcontractors providing service within the City of Issaquah shall obtain a City of Issaquah business license.
- 1.3. Contractors shall have copies of the approved plans and applicable City Standards on-site at all times. The “City Standards” refer to the current approved [Issaquah Street Standards](#), [Issaquah Water Standards](#), [Issaquah Sewer Standards](#), [Issaquah Stormwater Standards](#), and [Issaquah General Standard Details](#).
- 1.4. Contractors shall provide the CPD inspector with a material list a minimum of ten working days before installation. The list shall include manufacturer and/or model number (if applicable) of material and equipment to be installed. The manufacturer’s technical specifications for pipe, appurtenances, and equipment shall be supplied to CPD upon request. Materials must be consistent with the Approved Materials Lists in City Standards.
- 1.5. Materials to be incorporated into public infrastructure that were not identified in City-issued construction permit plans need to be submitted for review via [MyBuildingPermit.com](#). Material submittals shall bear the stamp of the Engineer of Record verifying that the proposed materials meet the project requirements and the City Standards.
- 1.6. Contractors shall lay all water, sewer, and storm drainage pipelines “up-hill” starting at the lowest main elevation. The main shall be positioned so that the bell end is on the higher side of the pipe segment and the plain end inserted into the bell end.
- 1.7. Contractors shall place trench backfill in uniform loose lifts not exceeding 12 inches in thickness in non-traveled areas or 6 inches in traveled areas. Pipe bedding shall conform with CSTC as outlined in [WSDOT 9-03.9\(3\)](#). Trench backfill located above the pipe zone shall meet [WSDOT Spec. 9-03.14\(3\)](#) or as approved by CPD. Trench backfill located within the top 4 feet shall be compacted to a minimum of 95 percent of the soil's maximum dry density as determined using modified proctor. Compaction testing in trenches greater than 4 feet in depth may be accomplished by maintaining a compaction pattern proven to meet compaction requirements. All materials not in the [WSDOT Standard Specifications](#) shall include gradation report for CPD review and approval prior to placement.
- 1.8. Contractors shall not install above-ground copper or galvanized materials other than vault lids or other CPD approved items.

- 1.9.** The Developer shall contract with a geotechnical engineer licensed in the State of Washington to supervise all trench and roadway backfill and significant grading activities. Construction records of soil placement and compaction testing shall be transmitted to CPD on a weekly basis. All tests shall include a map showing the testing location, the Issaquah Site Work (SW) permit number, and name of plan set used for construction. A separate report shall be issued for each SW permit .
- 1.10.** The Developer shall schedule a pre-construction meeting with CPD prior to any construction activity. Please contact PermitTech@issaquahwa.gov for more information.
- 1.11.** The following order of precedence shall apply if there are inconsistencies between the different elements of the construction plans: 1) CPD approved field changes, 2) CPD approved design changes, 3) CPD approved plans and specifications, 4) General Notes for Issaquah Roads and Utilities, 5) WSDOT Standard Specifications.
- 1.12.** A copy of the approved Permit and Plans shall be on-site at all times during construction activities.

2. WATER

- 2.1.** Contractors shall use Class 52 or thicker ductile iron meeting AWWA C151. Pipe and fittings shall have cement-mortar lining meeting AWWA C104. Fittings shall be ductile iron meeting the requirements of AWWA C110.
- 2.2.** Contractors shall install water mains with a minimum depth of cover of 36” and a maximum depth of cover of 60” unless shown otherwise on the approved construction drawings.
- 2.3.** Contractors shall install all water mains so that they are restrained from unresolved hydrostatic thrust forces in accordance with the approved design plans. Changes to the approved thrust restraint system shall not be made without CPD approval. CPD inspection of pipe restraint systems is required prior to backfill.
- 2.4.** Use Romac style grip rings or domestic alternative. Domestic restrained-joint system components shall be used.
- 2.5.** Contractors shall test all water mains, water main appurtenances, and service connections excluding the meter setter assembly to 150 psi over the normal working pressure. Meter setter assemblies shall be visually inspected for leaks at maximum normal working pressure. Test procedures shall conform to AWWA. Pipe pressure rating shall be at least 150 psi in excess of the working.
- 2.6.** Hydrant laterals less than 50’ long shall be 6”. Hydrant laterals longer than 50’ shall be 8”. Restrain pipe with approved system. Hydrants shall be supplied with 5” STORZ type adapters.
- 2.7.** Contractors shall install air and vacuum release valves per the Issaquah Water Standards, Detail W-07. Valve size shall be indicated on the plans.
- 2.8.** Contractors shall install 2-piece valve boxes.

- 2.9. Contractors shall install saddle service connections with double straps used on 12" or larger sizes. Connections to be made on pressurized water main only.
- 2.10. Contractors shall install 1" service with a minimum depth of 24" and a service line tap of 30° from the spring line of the pipe. See Issaquah Water Standard Detail W-09.
- 2.11. Contractors shall install 1½" and 2" service lines with a minimum depth of 24" and a service line tap of 30° from the spring line of the pipe. See Issaquah Water Standard Detail W-10.
- 2.12. Contractors shall install 1" services in accordance with the Issaquah Water Standards. A PVC pipe spacer shall be installed between the setter. The spacer shall be cut to the appropriate length and it shall contain a 3/8" drilled hole, visible from above. Meters closer than 6 feet shall have a 2" PVC conduit between the meter boxes.
- 2.13. Contractors shall install 1.5" and 2" services in accordance with the Water Standards. A PVC pipe spacer shall be installed between the setter. The spacer shall be cut to the appropriate length, and it shall contain a 3/8" drilled hole, visible from above.
- 2.14. Contractors shall install water meter setters to a horizontal and vertical placement tolerance of plus or minus 2 inches. Water meter boxes shall be centered in the planter strip to a tolerance of plus or minus 2 inches.
- 2.15. All newly installed meters, hydrants, blowoffs, and air-vacs shall be protected from continuing construction activities.
- 2.16. Contractors shall install Washington State Department of Health approved backflow prevention assemblies on all irrigation services. Contractor shall provide independent certification to CPD inspector prior to installation. A separate Plumbing (PLM) permit is required for all backflow assemblies. Please contact PermitTech@issaquahwa.gov for more information.
- 2.17. Contractors shall install one piece of Type K copper from water main to meter setter for all service lines. The service line shall be located perpendicular to the water main.
- 2.18. Contractors shall install resilient seat type (AWWA C-509) gate valves.
- 2.19. Contractors shall not connect new mains to the City's potable water system until the mains have passed pressure and purity testing and have been approved for connection by CPD. Contractors shall perform a high flow flush as directed by CPD immediately after the main is connected to the City water supply.
- 2.20. All flow interruptions shall be requested with CPD at least 7 calendar days ahead. All flow interruptions, individually, shall be no longer than 8 consecutive hours in a 24 hour period, leaving 16 consecutive hours for storage recovery.

3. SEWER

- 3.1. Contractors shall construct all sewer pipelines in accordance with the Issaquah Sewer Standards. Sewer pipe material shall be determined by the engineer and shown on the plans.

- 3.2. Contractors shall construct all pressure sewer pipelines with either Class 52 ductile iron or HDPE pipe. HDPE pipe shall include locate wire per Issaquah Sewer Standards .
- 3.3. Contractors shall provide and install frames and covers in accordance with Issaquah General Standard Detail G-11. Manholes located in paved areas shall be located outside of stormwater flow lines. Manholes located in unpaved areas shall have a concrete collar in accordance with Issaquah General Standard Detail G-09.
- 3.4. Contractors shall air and deflection test all gravity sewer pipe. HDPE pressure sewer pipelines shall be pressure tested to 150 percent of the design operating pressure for 30 minutes. Ductile iron pressure sewer pipelines shall be pressure tested to the greater of 150 psi over the design working pressure or no less than 200 psi.
- 3.5. Contractors shall mark all sewer stubs with a 2x4 post stenciled “SEWER” in 2-inch letters with the elevation of the stub invert permanently marked. Marker to be attached to pipe invert with minimum 12 gauge wire. Contractor shall expose, survey, and backfill all sewer stubs installed without 2x4 posts and invert elevations. Providing the depth to the sewer stub is not acceptable. Contractor must provide actual invert elevation.
- 3.6. Contractors shall video inspect all gravity sewer pipe after the entire sewer system is installed and cleaned (including manhole channeling and debris removal). Immediately prior to video inspection, Contractor shall pour 10 gallons of clean water into the upstream manhole. Video inspection to be such that the entire segment of pipe between adjacent manholes is video tested without interruption. The video inspection shall be MP4 file format and, together with the written summary, shall be provided to CPD prior to acceptance of the sewer system. Defects in the system may require video re-inspection at the discretion of the CPD inspector.
- 3.7. Contractors shall install all manhole drops on the exterior of the manhole unless otherwise approved. All drops shall be equipped with a “half-plug”. Inspection of blocking is required prior to backfill on all outside drops.
- 3.8. Contractors shall plug the connection to the downstream system prior to beginning construction. Plug shall not be removed until cleaning of the proposed sewer system is complete.
- 3.9. Pipe bedding shall conform to Issaquah General Standard Detail G-13.

4. STORMWATER

- 4.1. Contractors shall construct storm pipelines as identified on the Approved Materials List. Pipe shall be rated for H25 surface loads when installed in areas subject to traffic.
- 4.2. Contractors shall install vane type catch basin grates unless otherwise approved.
- 4.3. Contractors shall install a 2x4 post stenciled “STORM” in 2-inch letters with the elevation of the stub invert permanently marked. Marker to be attached to pipe invert with minimum 12 gauge wire. Contractor shall expose, survey, and backfill

all stubs installed without 2x4 posts and invert elevations. Providing the depth to the stub is not acceptable. Contractor must provide actual invert elevation.

- 4.4. Contractors shall video inspect all gravity storm pipe after the entire system is installed and cleaned (including debris removal). Immediately prior to video inspection, Contractor shall pour 10 gallons of clean water into the upstream manhole. Video inspection to be such that entire segment of pipe between adjacent manholes is video tested without interruption. The video inspection shall be MP4 file format and, together with the written summary, shall be provided to CPD prior to acceptance of the storm system. Defects in the system may require video re-inspection at the discretion of the CPD inspector.

5. STREETS AND SIDEWALKS

- 5.1. Contractors shall install permanent roadway monuments at all PC's, PT's, and intersections. The monuments shall be in accordance with City Standard Details.
- 5.2. Contractors shall compact roadway subgrade in uniform loose lifts not exceeding 12 inches and compacted to a minimum of 95 percent of the soil's maximum dry density as determined using modified proctor. All subgrades shall be inspected by CPD prior to placement of base course and other roadway materials. Hot Mix Asphalt (HMA) shall be compacted to 92% of the maximum density.
- 5.3. Contractors shall request a pre-final lift (wearing course) inspection from CPD a minimum of three business day prior to final lift placement. The Contractor's third-party geotechnical inspector shall be present during the time of City inspection. CPD will inspect and approve the HMA base course prior to installation of the final lift. Final lift paving that is placed without CPD inspection is subject to removal and repair at the Contractor's sole cost.
- 5.4. Developer shall contract with a third-party geotechnical engineer licensed in the State of Washington to test the subgrade at 200' minimum spacing for compliance with the compaction standard.
- 5.5. Contractors shall request a Right-of-way Formwork inspection in MyBuildingPermit.com a minimum of one business day prior to pouring any Right-of-Way (ROW) concrete. Contractors shall install concrete sidewalks with a broom finish and 4-inch shiners at all expansion joints and all exposed edges, unless otherwise noted. Sidewalks shall be 6 inch to 8 inch minimum thickness depending on the traffic loads and 4 inch minimum thickness elsewhere. Expansion joints shall be placed no more than 20 feet apart. Concrete shall be placed over 4 inches of compacted subgrade conforming to WSDOT 9-03.9(3).
- 5.6. Contractors shall request a ROW Formwork inspection in MyBuildingPermit.com a minimum of one business day prior to pouring any ROW concrete ramps. CPD will inspect and approve the concrete forms for alignment. Concrete ramps that are poured without CPD inspector formwork approval are subject to removal and replacement at the Contractor's sole cost. Inspection for Americans with Disabilities Act (ADA) slope compliance. Detectable warning pattern orientation will be conducted following the concrete pour and cure.

- 5.7. Existing sidewalks, ramps, and driveways that provide pedestrian-accessible routes shall comply with the following: changes in level up to 0.25-inch may be vertical and without edge treatment; changes in level between 0.25-inch and 0.5-inch shall be beveled with a slope no greater than 2h:1v; changes in level greater than 0.5-inch are not allowed. New surfaces shall not have any vertical surface discontinuity greater than 0.25 inch vertical. Refer to the [WSDOT Field Guide for Accessible Public Rights-of-Way](#).

6. CLEARING, GRADING, AND EARTHWORK

- 6.1. Contractors may work using the Washington State Department of Ecology (DOE) approved Temporary Erosion and Sediment Control (TESC) measures shown on the issued permit plans. Contractors shall keep all roadways clean and free of sediment, mud, rock, and debris.
- 6.2. Contractors shall compact all building and pavement areas located outside of public ROWs in uniform loose lifts not exceeding 12 inches and shall be compacted to a minimum of 95 percent of the soil's maximum dry density as determined using modified proctor.
- 6.3. TESC Coordination
- a. The applicant must designate a TESC supervisor who shall be responsible for the performance, maintenance, and review of TESC measures and for compliance with all permit conditions relating to TESC. The TESC supervisor shall be a Certified Erosion and Sediment Control Lead (CESCL) for projects greater than 1 acre. At the City's discretion, a third party CESCL may be required.
 - b. An on-site TESC pre-construction meeting shall be held before any work begins to review implementation of the TESC plans.
- 6.4. Any permanent flow control or water quality facility used as a temporary settling basin shall be modified with the necessary erosion control measures and shall provide adequate storage capacity. Infiltration facilities shall not be used for TESC, unless specifically recommended by the Geotech/Design Engineer. Storm facilities used for TESC must be cleaned (filters replaced, sediment removed, etc) prior to acceptance.
- 6.5. TESC Installation
- a. TESC facilities are required year-round.
 - b. The TESC facilities required by the permit must be constructed prior to or in conjunction with all clearing and grading to ensure that the sediment-laden water does not enter the City drainage system, surface waters, or wetlands. Adjacent properties shall be protected from sediment-laden runoff.
 - c. The boundaries of any clearing limits must be clearly marked. No disturbance beyond the clearing limits is allowed. The clearing limits shall be maintained by the TESC supervisor for the duration of construction, until final landscaping or other permanent site stabilization.
 - d. Tree protection shall be fenced prior to construction and the fence location approved by the City inspector prior to proceeding with construction.

- e. Any stabilized construction entrances shall be installed at the beginning of construction and maintained for the duration of the project. On-site roads and paved areas shall be kept clean to minimize turbidity in runoff. Additional measures, such as constructed wheel wash systems or wash pads, shall be required and maintained, as needed, to ensure sediment is not tracked out to City streets. Any dirt tracked out to City streets shall be swept as needed or as directed by the City of Issaquah. Street sweeping is not considered a TESC measure.
- f. TESC measures shall be applied in accordance with City Standards, the [2019 DOE Stormwater Management Manual for Western WA](#), and the [2022 Issaquah Stormwater Design Manual Addendum](#).
- g. Any areas of exposed soils, including roadway embankments, that will not be disturbed for two consecutive days during the wet season (October 1 to April 30) or seven days during the dry season (May 1 to September 30) shall be immediately stabilized with approved TESC methods, such as seeding, mulching, plastic covering, etc. These time limits may be modified by the City to address specific site conditions.
- h. Prior to the beginning of the wet season (October 1), all disturbed areas shall be reviewed to identify which ones can be seeded or otherwise covered in preparation for winter rains. If cover measures are not established by October 1, additional TESC measures shall be required.

6.6. Turbidity Monitoring:

- 6.6.1 Discharge from the project site shall not exceed the Nephelometric Turbidity Unit (NTU) limit at all times up to the 10-year/24-hour storm event. This event is defined as 3.5 inches of rainfall over a 24-hour period, as measured at the City's rain gage. The discharge limit to a natural water body is 5 NTU. Otherwise, the limit shall be 100 NTU. Exceedance of the NTU limit is considered a violation of the permit and is subject to Stop Work and code violation penalties.
- 6.6.2 The TESC Supervisor (or their designee) will measure the turbidity of the discharge at the designated turbidity monitoring points to verify compliance with the discharge limit. The TESC Supervisor shall take action for discharges above background or 25 NTUs and notify the CPD Inspector to specify the corrective measures taken to keep discharges below these threshold levels. For project sites where designating a monitoring point is not feasible (for example, flat sites), the monitoring locations will be at the discretion of the City of Issaquah.
- 6.6.3 Monitoring points shall be readily accessible to the City of Issaquah at all times for all phases of construction.
- 6.6.4 Any discharge at 25 NTU or higher requires notification to City Inspector. Any discharge at 100 NTU or higher is subject to fines and penalties.
- 6.6.5 Any discharge to a stream, lake or wetland shall not exceed water quality standards per [WAC 173-201A](#). Failure to meet WAC 173-201A is considered a violation of the permit and is subject to Stop Work and code violation penalties.

6.7. Routine TESC Maintenance

- 6.7.1 TESC facilities shall be inspected by the TESC supervisor daily or more often during rainfall and maintained to ensure proper functioning. Written

documentation is required for discharges above the threshold levels and shall be readily available at the project site.

- 6.7.2 The TESC facilities shown in this plan set are the minimum requirements for anticipated site conditions. During the construction period, these TESC facilities shall be modified as needed for unexpected storm events, changing site conditions, or other unforeseen circumstances.
- 6.7.3 The TESC supervisor shall notify the CPD Inspector prior to pumping any discharge off-site or to critical areas. Off-site discharge, whether pumped or not pumped, must be monitored and logged by the TESC Supervisor.
- 6.7.4 TESC facilities on inactive sites shall be inspected and maintained a minimum of once per month or within 24 hours following a storm event.

6.8. Updated TESC Plans

- 6.8.1. Revised TESC plans shall be submitted to the City of Issaquah for review and approval prior to significant revisions to TESC measures, as needed, to address project phasing or changed conditions.
- 6.8.2. A Wet Season TESC Plan is required to be submitted to CPD for approval to initiate or continue clearing and grading activity during the wet season (October 1 through April 30), per [IMC 16.26.050](#). The Wet Season TESC Plan must include a dewatering plan for runoff capture, containment, turbidity monitoring, potential treatment, and a discharge or disposal method.
- 6.8.3. Failure to provide and maintain approved TESC facilities at construction sites is considered a violation of the permit and is subject to Stop Work and code violation penalties.

6.9. Other Pollution Control Measures

- 6.9.1. The contractor shall use the appropriate pollution control measures to ensure that no liquid products or contaminated water (such as runoff from concrete slurry) enters the storm drainage system, surface waters, or otherwise leaves the project site.

6.10. Engineered retaining walls and rockeries

- 6.10.1. The Engineer of record (EOR) must provide construction monitoring and/or testing and submit construction inspection reports to CPD via [MyBuildingPermit.com](#) for all engineered retaining walls and rockeries.
- 6.10.2. The EOR shall submit a final wall certification letter/report prior to final inspection summarizing results of construction monitoring for each wall or rockery and verifying the wall or rockery construction meets geotechnical recommendations and design guidelines.

7. RECORD DRAWINGS / AS-BUILTS

- 7.1. Record Drawings / as-builts are required for all construction projects conducted in the City of Issaquah. The basis for the Record Drawings shall be the design plans that were approved for construction by the City of Issaquah. The information shown on the Record Drawings shall reflect the actual construction completed under the permit with any and all deviations from the design plans.

- 7.1.1. Each utility shall be shown on separate sheets with detailed information.
- 7.1.2. Include a composite plan with all utilities shown together, without detailed information and focused on utility crossings.
- 7.1.3. Record Drawings shall show all easements on and adjacent to the project site. Please include the King County Recording Number associated with each easement.
- 7.2.** The horizontal and vertical datum to be used are NAD 83/91 and NAVD 88. Tie monumentation to at least two recognized and approved City monuments on-site or off-site, with x, y, and z coordinates for each. AutoCAD drawings are to be drafted using this datum.
- 7.3.** The Developer shall maintain hand-drawn or electronic redlines to include field notes and photographs as necessary (“Field Documentation”) of all improvements as the work progresses. Contractor’s Field Documentation shall be maintained on-site and shall be available at all times for CPD review. The CPD Inspector will periodically review the Contractor’s Field Documentation to verify that the Contractor is maintaining adequate records.
- 7.4.** The Developer shall contract with a professional surveyor licensed in the State of Washington to acquire all the field data required to create the Record Drawings. The Contractor’s surveyor shall be the Surveyor of Record for the Record Drawings. All field locations shall be tied to an easily measured object in the field such as light pole, manhole, catch basin, curb hub, etc.
- 7.5.** The Developer shall contract with a professional engineer licensed in the State of Washington to prepare the Record Drawings. Record Drawings shall be generated using the following information:
 - 7.5.1. Contractor-supplied survey information
 - 7.5.2. Contractor’s Field Documentation.
 - 7.5.3. Engineer of Record’s Field Documentation.
 - 7.5.4. CPD Inspector’s Field Documentation.
 - 7.5.5. Field changes and design changes.
 - 7.5.6. The approved Construction Drawings.
- 7.6.** Each sheet of the Record Drawings shall include the following statements and shall be stamped and signed by the Engineer of Record and the Surveyor of Record:
 - 7.6.1. The Surveyor of Record shall sign the following statement on each sheet of the Record Drawings:

“I _____ (the Surveyor of Record) hereby certify that the survey information shown on these Record Drawings accurately reflects the field conditions as of _____.”
 - 7.6.2. The Engineer of Record shall sign the following statement on each sheet of the Record Drawings:

“I _____ (the Engineer of Record) hereby certify that the facilities shown on these Record Drawings _____ meet the intent of the design.

The information shown on these Record Drawings was compiled from the following sources: *[note sources used – typical sources follow]* 1) Survey of visible features, 2) Contractor notes, red-lines, and survey data, 3) City Inspector Comments, 4) Approved Construction Plans.

The Engineer of Record certifying these Record Drawings has not witnessed all elements of construction and is not responsible for errors or omissions in data provided by the Contractor, the City, or the Surveyor of Record.”

7.7. Sewer Record Drawings shall include the following information plus any additional information that, based on good engineering practice and the specific project features, the Engineer of Record feels is warranted:

7.7.1. All sewer-related structures are to be labeled regarding public or private ownership, type, size, function, and inverts of all pipes connected to the structure.

7.7.2. Sewer pipeline plan and profiles with pipe material, size, location, slope, and length.

7.7.3. Sewer service line size, location, slope, and material.

7.7.4. Manhole type, size, location, rim elevation, invert elevations, and drop structure features.

7.7.5. Side sewer material, size, location, and invert elevation.

7.7.6. Details of any unique structures or features.

7.8. Water Record Drawings shall include the following information plus any additional information that, based on good engineering practice and the specific project features, the Engineer of Record feels is warranted:

7.8.1. All water-related structures are to be labeled regarding public or private ownership, type, size, function, and inverts of all pipes connected to the structure.

7.8.2. Water pipeline plan and profiles with pipe material, size, location, and length.

7.8.3. Water service line size, location, and material.

7.8.4. Water valve type, manufacture date, size, top of pipe elevation, and location.

7.8.5. Water fitting type, size, invert elevation, blocking dimension, and location.

7.8.6. Water main top of pipe elevations at 50’ spacing for all pipe installed at a depth greater than 5’.

- 7.8.7. Type and location of thrust restraint system.
- 7.8.8. Fire hydrant location, including valves.
- 7.8.9. Fire sprinkler connections: type, line size, line location, detector vault location, service valve location
- 7.8.10. Blow-off size and location.
- 7.8.11. Air and Vacuum Relief valve size and location.
- 7.8.12. Water meter size, location, and type (Domestic, Irrigation, Fire).
- 7.9.** Storm Record Drawings shall include the following information. Include additional information to support sound engineering practice and specific project features as required by the Engineer:
 - 7.9.1. All storm-related structures are to be labeled regarding public or private ownership, type, size, function, material, cast-in-place or pre-cast, and inverts of all pipes connected to the structure.
 - 7.9.2. Storm pipeline plan and profiles with pipe material, size, location, slope, and length.
 - 7.9.3. Storm service line size, location, slope, and material.
 - 7.9.4. Catch basin type, size, location, rim elevation, and invert elevations.
 - 7.9.5. Flow control structure type, size, location, rim elevation, orifice size, and overflow elevations.
 - 7.9.6. Lot/yard/roof drain size, location, and invert elevation.
 - 7.9.7. Flow control and water quality treatment system plan and profiles with volume, operating levels, overflow elevations, and other pertinent engineering and operational components.
 - 7.9.7.1. Swales: plan and profiles, locations, length, width, and slope.
 - 7.9.7.2. Oil/water separators: location, size, type, all rim/invert elevations.
 - 7.9.7.3. Retention/detention systems: volume of storage provided, storage elevation, storage/ponding limits, pond bottom elevations, overflow elevations and locations, spillway, emergency overflow, berm elevations, piping with inverts.
 - 7.9.8. Private storm systems including collection, flow control, and water quality facilities.
- 7.10.** Roadway Record Drawings shall include the following information plus any additional information that, based on good engineering practice and the specific project features, at the discretion of the Engineer of Record:
 - 7.10.1. All roadway-related structures are to be labeled regarding public or private ownership, type, size, function, and inverts of all pipes connected to the structure.
 - 7.10.2. Centerline elevations at PT, PC, or angle points for all vertical and horizontal curvatures.
 - 7.10.3. Centerline slope, bearings, and curve data (vertical and horizontal).

- 7.10.4. Gutter line elevations at PT, PC, or angle points for all vertical and horizontal, curvatures.
 - 7.10.5. Gutter line slopes and curve data if not standard crown.
 - 7.10.6. Gutter line elevations at intersections.
 - 7.10.7. Driveway location, width, type, and cross-section.
 - 7.10.8. Channelization type and location.
 - 7.10.9. Signalization location, type, height, foundation depth, and sizes.
 - 7.10.10. Signage type and location.
 - 7.10.11. Illumination type, location, height, wattage, bulb type, and voltage.
 - 7.10.12. Right-of-way location, width, and monumentation.
 - 7.10.13. Bridge structure and details, as applicable.
 - 7.10.14. Culvert structure and details, as applicable.
 - 7.10.15. Service cabinets location and type
 - 7.10.16. Conduits/Wiring location, type, size, and depth.
 - 7.10.17. Controller location and type.
 - 7.10.18. Traffic signal cabinet field wiring diagrams and a list of the equipment model, serial number, and IP addresses used at each location.
 - 7.10.19. Junction box location and type
- 7.11.** Developer shall provide CPD with the following once the Record Drawings are approved:
- 7.11.1. Full size mylar (one set)
 - 7.11.2. PDF files
 - 7.11.3. CAD files

8. SITE SAFETY

- 8.1.** Contractors shall comply with all applicable local, state and, federal agency safety standards.