



# TOWN OF GEORGETOWN CONSTRUCTION STANDARDS

2017 EDITION

**TOWN OF GEORGETOWN  
CONSTRUCTION STANDARDS  
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**2017 EDITION**

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## **CHAPTER 1**

### **GENERAL REQUIREMENTS**

#### **1.00.0 INTENT**

The intent of these CONSTRUCTION STANDARDS is to provide MINIMUM standards to safeguard life, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use, location, and maintenance of all public improvements and private improvements of common ownership including, but not limited to, sanitary sewer systems, water supply systems, storm drainage systems, streets, open space, parking lots, and appurtenances thereto.

The intent of these CONSTRUCTION STANDARDS is also to insure that the Town of Georgetown (Town) receives public facilities which are constructed with the quality and materials such that the facility meets or exceeds the normal service life requirements for similar installations and to insure that when said facilities are transferred to the Town's ownership that they will be free from all defects and in suitable working order to provide the service capabilities anticipated with such a facility.

#### **1.01.0 TITLE**

These regulations, together with all future amendments, shall be known as the Town CONSTRUCTION STANDARDS for the Design and Construction of Public Improvements, 2017 Edition, and may be cited as such and will be referred to herein as the CONSTRUCTION STANDARDS.

#### **1.02.0 APPLICABILITY**

Any reference to Town CONSTRUCTION STANDARDS, construction regulations, or the like in any Town ordinance, contract, policy, permit, license or regulations shall be deemed to mean these

CONSTRUCTION STANDARDS. These CONSTRUCTION STANDARDS shall apply to construction, enlargement, alteration, moving, removal, conversion, demolition, repair, and excavation of any public improvements or private improvements of common ownership specifically regulated herein. The provision of these CONSTRUCTION STANDARDS applies to Town contracts, utility extension agreements, and contracts made for the development of property in the Town. In the case of Town capital improvement contracts, the project specifications may supersede or modify these CONSTRUCTION STANDARDS.

Alterations, additions or repairs to existing improvements shall comply with all requirements of these CONSTRUCTION STANDARDS unless specifically exempted, in writing, by the Town. The Town retains the right to require additional information, criteria, or requirements as conditions may warrant. Provisions of Town ordinances inconsistent with these CONSTRUCTION STANDARDS shall control.

#### **1.03.0 INTERPRETATION**

In the interpretation of the provisions of these CONSTRUCTION STANDARDS, the following shall govern:

- (A)** In its interpretation, the provisions of these CONSTRUCTION STANDARDS shall be regarded as the minimum requirements for the protection of the public health, safety, comfort, convenience, prosperity, and welfare of the residents of the TOWN.
- (B)** Whenever a provision of these CONSTRUCTION STANDARDS or any provision in any law, ordinance, resolution, rule, or regulation of any kind, contains restrictions covering

any of the same subject matter, whichever standards produce higher quality shall govern.

#### **1.04.0 ENFORCEMENT RESPONSIBILITY**

It shall be the duty of the Town Manager or his representative to interpret and enforce the provisions of these CONSTRUCTION STANDARDS.

#### **1.05.0 VIOLATIONS**

No person, firm, or corporation shall construct, enlarge, alter, repair, move, improve, remove, excavate, convert, or demolish any public improvements or private improvements in common ownership or permit the same to be done in violation of these CONSTRUCTION STANDARDS. Whenever any work is being done contrary to the provisions of these CONSTRUCTION STANDARDS, the Town Administrator or his/her designee may order the work stopped by a written notice in accordance with Section 1.26.4 of these CONSTRUCTION STANDARDS.

#### **1.06.0 VARIANCES**

The provisions of these CONSTRUCTION STANDARDS are not intended to prevent the use of any material or method of construction not specifically prescribed by these standards, provided any alternate has been previously approved and its use authorized in writing by the Town. Whenever there are practical difficulties involved in carrying out the provisions of these procedures, the Town may grant a variance for individual cases, provided that the Town shall first find that a unique reason makes these standards impractical and that the modification is in conformity with the intent and purpose of these standards, and providing that such variance does not lessen any design requirements or any degree of structural or operational integrity. The Town shall require that sufficient specifications, evidence, justification, and/or proof be submitted to substantiate any claims that may be made regarding the alternate material, detail, or technique. The Town, in its sole discretion, will decide upon the acceptability of any proposed variance.

#### **1.07.0 AMENDMENTS AND REVISIONS**

These CONSTRUCTION STANDARDS may be amended as new technology is developed and/or if experience gained in the use of these CONSTRUCTION STANDARDS indicate a need for revision. The Town shall have full power and authority to promulgate rules, regulations, or new standards of a technical nature, which rules, regulations, or standards shall be effective immediately upon their approval and certification by the Town Administrator or his/her designee. It is the responsibility of the Responsible Party to obtain all revisions to these CONSTRUCTION STANDARDS.

#### **1.08.0 SEVERABILITY**

If any section or article of these CONSTRUCTION STANDARDS is found to be unconstitutional or illegal by any court, the said section or article shall have no bearing on the effectiveness of the rest of these CONSTRUCTION STANDARDS.

#### **1.09.0 DEFINITIONS**

AIR GAP shall mean the unobstructed vertical distance through the free atmosphere between the lowest opening of the potable water system feeding into a vessel and the flood level of the vessel.

BACKFLOW shall mean the undesirable reversal of the direction of flow of non-potable water in the potable water supply.

BACKFLOW PREVENTION DEVICE shall mean a device or means designed to prevent backflow or backsiphonage.

BACKPRESSURE shall mean a condition that results when the downstream pressure in a system connected to the potable water supply exceeds the upstream pressure of the potable water supply.

BACKSIPHONAGE shall mean a type of backflow created by negative pressure or sub-atmospheric pressure in the potable water supply.

TOWN shall mean the Town of Georgetown, in the State of Colorado, acting by and through the Town Manager, Mayor, Town Council, or other authorized representative.

TOWN CODE shall mean the official adopted Municipal Town Code of Georgetown, Colorado.

TOWN REPRESENTATIVE shall mean the Town Administrator or his/her authorized representative acting on behalf of the Town.

CROSS-CONNECTION shall mean a link or channel between a source of a non-potable substance and a potable water supply.

DESIGNATED PRIVATE CONSTRUCTION WORK includes: private sewer systems, water and sewer service lines to buildings, grading, drainage structures, retaining walls, parking lots, private streets and walks, fire lanes, driveways, and associated construction.

DOUBLE CHECK VALVE ASSEMBLY shall mean an assembly of two independently operating check valves between two tightly closing shut-off valves with four properly located test cocks for the testing of each check valve.

EXPRESSIONS: Wherever the words "as directed", "as required", "as permitted", or words of like meaning are used, it shall be understood that the direction, requirements, or permission of the Town Representative is intended. Similarly, the words "approved", "acceptable", "satisfactory" shall refer to approval by the Town Representative.

Whenever the words "CONSTRUCTION STANDARDS" are used it shall be understood that reference is made to the "Town of Georgetown", CONSTRUCTION STANDARDS for the Design and Construction of Public Improvements.

GRAVITY GREASE INTERCEPTOR (GGI): A plumbing appurtenance or appliance that is installed in a wastewater drainage system to separate non-petroleum fats, oils, and greases (FOG's) and solid food particles from wastewater and is identified by outdoor (usually below grade) installation, 300-gallon minimum volume, 30-minute minimum retention time, baffles, a minimum of two compartments, and gravity separation.

GREASE TRAP: A generic term used to refer to all forms of grease separation and retention, no longer officially used in codes and standards.

HYDROMECHANICAL GREASE INTERCEPTOR (HGD): A plumbing appurtenance or appliance that is installed in a wastewater drainage system to separate non-petroleum fats, oils, and greases (FOG's) from wastewater and is identified by indoor installation, separation and retention efficiency, and flow rate. The design incorporates air entrapment, hydromechanical separation, internal baffling

and/or barriers in combination or separately, and one of the following:

- 1) External flow control with air intake, directly connected
- 2) External flow control without air intake (vent), directly connected
- 3) Without external flow control, directly connected
- 4) Without external flow control, indirectly connected.

Certified under POI G-101 and ASME A112.14.3

OWNER shall mean a person, company, firm, or corporation holding title to land that is being developed or modified within the Town.

PUBLIC IMPROVEMENTS include: all work in the public right-of-way, Town property, easements dedicated to the Town, private property that will become Town property or an easement to the Town in the future, and projects or utilities that will become the Town's responsibility to maintain.

RECORD DRAWINGS: A set of drawings prepared by a registered Professional Engineer in the State of Colorado which reflect the information of record for construction of any public improvements. Commonly referred to as "As-Built".

REDUCED PRESSURE ZONE ASSEMBLY shall mean an assembly of two independently operating check valves with a hydraulic automatic operating differential relief valve between the two check valves and located between two tightly closing shut-off valves with four properly located test cocks.

RESPONSIBLE PARTY: These "CONSTRUCTION STANDARDS" are for the Design and Construction of Public Improvements. Therefore the Responsible Party shall be anyone liable for the design and/or construction of public improvements projects related to these CONSTRUCTION STANDARDS and may include but not be limited to the Contractor, Developer, Permittee, Builder, Engineer, Consultant, and Owner.

SUBCONTRACTOR: Any person, company, firm, or corporation performing work within the Town limits which has a direct or indirect contract with the Responsible Party or other subcontractors and furnishes and/or performs on-site labor, and/or furnishes materials in connection with the performance of the work.

SURETY: shall mean the entity that is bound with and for the Responsible Party for the performance of the work as described in these specifications. (Bonded)

TESTING AGENCY: Any individual, partnership, or corporation which is qualified and licensed to perform the required sampling, analysis, testing, and professional recommendation service.

VACUUM BREAKER shall mean a device designed to prevent backsiphonage.

## 1.10.0

### ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	American Disabilities Act
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
APWA	American Public Works Association
ASA	American Standards Association

ASTM	American Society for Testing and Materials
ATSSA	American Traffic Safety Services Association
AWWA	American Water Works Association
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health & Environment
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CPSC	Consumer Product Safety Commission
CUHP	Colorado Urban Hydrograph Procedure
CWCB	Colorado Water Conservation Board
DIP	Ductile Iron Pipe
FEMA	Federal Emergency Management Agency
FHA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
HERCP	Horizontal Elliptical Reinforced Concrete Pipe
HDPE	High Density Polyethylene
HPSP	Handbook for Public Playground Safety
IAAF	International Amateur Athletic Federation
IMSA	International Municipal Signal Association
ITE	Institute of Transportation Engineers
MUTCD	Manual on Uniform Traffic Control Devices
NCAA	National Collegiate Athletic Association
NFIP	National Flood Insurance Program
NPDES	National Pollution Discharge Elimination System
OSHA	Occupational Safety and Health Association
PUD	Planned Unit Development
PVC	Polyvinyl Chloride
RCBC	Reinforced Concrete Box Culvert
RCP	Reinforced Concrete Pipe
ROW	Rights-of-Way
SCS	Soil Conservation Service
SPP	Structural Plate Pipe
SPPA	Structural Plate Pipe Arch
SWMM	Stormwater Management Manual
UNCC	Utility Notification Center of Colorado
USC FCCCHR	University of Southern California Foundation for Cross-Connection Control and Hydraulic Research
USGS	United States Geological Survey



## **1.20.0 GENERAL CONDITIONS**

## **1.21.0 RESPONSIBILITY FOR DESIGN AND CONSTRUCTION**

The Town shall have full authority to review and approve all submittals and construction for compliance with these CONSTRUCTION STANDARDS. An approval or acceptance by the Town does not relieve the Responsible Party from responsibility for ensuring that the calculations, plans, specifications, construction, and record drawings are in compliance with these CONSTRUCTION STANDARDS. Any approval or acceptance by the Town shall not result in any liability to the Town or its employees for any claim, suit, loss, damage, or injury resulting from the use or implementation of the approved documents.

## **1.22.0 WORK CONDITIONS**

### **1.22.1 Site Conditions**

The Responsible Party shall maintain the condition of the work site such that public safety and welfare is protected. This shall include but not be limited to providing proper sanitary facilities for the duration of the construction of any public improvement project. The Responsible Party shall also take care in "tracking" debris onto any public street and will be responsible for the cleaning of such debris that is "tracked". Responsible party shall also provide a designated pedestrian route that is ADA compliant, if appropriate, to help pedestrians safely pass through the work zone. If the Town representative sees any unsafe work condition at any time, they shall cause a stop work order to be issued in conformance to Section 1.26.04.

### **1.22.2 Emergency Work**

When, in the opinion of the Town, the Responsible Party has not taken sufficient precautions for the safety of the public or the protection of the work to be constructed, or if adjacent structures or property which may be damaged by processes of construction on account of such neglect, and an emergency arises and immediate action is considered necessary in order to protect private or public interests, the Town, WITH OR WITHOUT NOTICE to the Responsible Party, may provide suitable protection by causing such work to be done and material to be furnished and placed as the Town may consider necessary and adequate. The cost and expense of such work and material so furnished will be borne by the Responsible Party and will be paid within 30 days of presentation of the bills. The Town may also draw from the developer's surety to cover any non-payment, including accrued interest and applicable overhead costs. The performance or non-performance of such emergency work under the direction of the Town will in no way relieve the Responsible Party of responsibility for damages which may occur during or after such precaution has been taken.

### **1.22.3 Final Clean-Up**

Upon completion of the work and prior to any inspection by the Town, the Responsible Party shall remove from the project area all surplus and discarded material, rubbish, and temporary structures and leave the project area in a neat and presentable condition. The Responsible Party shall restore all work that has been damaged by his operations to general conformity with the specifications for the item(s) involved. The Responsible Party shall inspect the interior of all manholes and catch basins within the construction limits for construction materials, dirt, stones, or other debris and remove same prior to any inspection by the Town.

**1.23.1 Authority of Town**

The Town will have the authority to stop work whenever such stoppage may be deemed necessary. The Town will resolve all questions that arise as to the quality and acceptability of materials furnished, work performed, interpretation of the plans and specifications, and acceptable fulfillment of the requirements of these CONSTRUCTION STANDARDS. The Town representative shall resolve all questions that may arise relative to the performance of the work with respect to these CONSTRUCTION STANDARDS.

Town inspectors are authorized to inspect all work and all material furnished. Inspections may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. The inspector is not authorized to revoke, alter, or waive any requirements of these CONSTRUCTION STANDARDS. They are authorized to call the attention of the Responsible Party to any failure of the work or materials to conform to these CONSTRUCTION STANDARDS. The Inspector will have the authority to reject materials until the Town resolves any and all questions at issue.

The Inspector will, in no case, act as foreman or perform other duties for the Responsible Party nor interfere with the management of the work performed by the Responsible Party. Any "advice" or "opinion" which the inspector may give the Responsible Party will not be construed as binding upon the Town representative or the Town in any way or release the Responsible Party from fulfilling all of the terms of these CONSTRUCTION STANDARDS. The presence or absence of the inspector will not relieve, in any degree, the responsibility or the obligation of the Responsible Party.

The Town and its inspector will, at all times, have reasonable and safe access to the work whenever it is in preparation or progress and the Responsible Party will provide proper facilities for such access and inspection.

**1.23.2 Responsibilities of the Responsible Party**

In case of suspension of work for any cause whatsoever, the Responsible Party, before leaving the job site, will take such precautions as may be necessary to prevent damage to the project, provide for public safety, normal drainage, and erect any necessary barricades, signs, or other facilities at his expense as directed by the Town and required by these CONSTRUCTION STANDARDS. The Responsible Party is responsible for ensuring that all construction and construction activities and materials are in compliance with these CONSTRUCTION STANDARDS. He shall be solely responsible for all construction means, methods, techniques, sequences, and procedures. The Responsible Party shall be responsible for the acts and omissions of his employees, subcontractors, and their agents and employees. The Responsible Party shall be solely responsible for locating all existing underground installations, including service connections, in advance of excavating. Town maps and databases are intended to be used for general information only, and the location of any utilities or property lines as found on the maps or databases shall be verified in the field. The Responsible Party is responsible for all testing and quality control, including providing equipment necessary to perform any necessary tests, of material and workmanship unless specified elsewhere. Town may cause such testing to be completed at the expense of the responsible party if deemed necessary. If quality control testing indicates unacceptable work, Section 1.24.3 will govern.

### **1.23.3 Unauthorized and/or Unacceptable Work**

Work which does not conform to the plans and these CONSTRUCTION STANDARDS and which result in an inferior or unsatisfactory product will be considered unacceptable work. Unacceptable work, whether the result of poor workmanship, poor design, use of defective materials, damage through carelessness, or any other cause which is found to exist prior to the final acceptance of the work will be immediately removed and acceptably replaced or otherwise satisfactorily corrected by and at the expense of the Responsible Party. This expense includes total and complete restoration of any disturbed land or surface to original or better than the original condition that existed before the repairs or replacement.

### **1.23.4 Samples and Tests**

To ascertain that materials and procedures comply with contract requirements, testing will be taken at the source or at the job destination at the discretion of the Town and as often as the Town deems it advisable or necessary. Taking of samples will be in accordance with standard practices except where methods and procedures for sampling materials are otherwise set forth in these CONSTRUCTION STANDARDS.

The Responsible Party will furnish, without charge, any and all reports, summaries, field notes, etc. collected and compiled after tests are conducted. The Responsible Party may be required to furnish, when requested by the Town, a written statement giving the origin, composition, and process of manufacture of a material.

Whenever any of the provisions of these CONSTRUCTION STANDARDS or evidence that any material or construction does not conform to the requirements herein, the Town may require that the Responsible Party have tests performed, at his expense, which will be used as proof of compliance. Test methods will be as referenced by these CONSTRUCTION STANDARDS. If there are no recognized and accepted test methods for the proposed alternate, the Town will determine the test procedures. All tests will be made by an agency approved by the Town. The Town will retain reports of such tests.

### **1.23.5 Storage of Materials**

Materials will be stored so as to ensure the preservation of their quality and suitability for the work. Stored materials, even though approved prior to storage, will be subject to inspection prior to their use in the work and will meet all requirements of these CONSTRUCTION STANDARDS at the time they are used. Stored materials will be located so as to facilitate inspection. With the prior written approval of the Town, portions of the right-of-way not required for public travel may be used for storage purposes and for the placing of the Responsible Party's plants and equipment, but any additional space required will be provided by the Responsible Party at his expense. All Federal, State, and Local requirements pertaining to storage and handling of materials must be followed.

### **1.23.6 Defective Materials**

Materials not in conformance with requirements of these CONSTRUCTION STANDARDS will be considered defective and will be rejected. Rejected materials will be removed from the work site at the Responsible Party's expense, unless otherwise permitted by the Town.

**PROTECTION OF PUBLIC INTERESTS****1.24.1 Public Convenience and Safety**

Unless otherwise specified, the Responsible Party will give notice, in writing, to the proper authorities in charge of streets; gas and water pipes; electric service, cable television, and other conduits; railroads; poles; manholes; catch basins; and all other property that may be affected by the Responsible Party's operations at least two (2) business days after approval of permit prior to any construction. The Responsible Party will not hinder or interfere with any person in the protection of such property or with the operation of utilities at any time. The Responsible Party must obtain all necessary information in regard to existing utilities, protect such utilities from injury, and avoid unnecessary exposure so that they will not cause injury to the public.

The Responsible Party will obtain all necessary information in regard to the planned installation of new utilities and cables, conduits and transformers, make proper provision and give proper notification so that new utilities and appurtenances can be installed at the proper time and location without delay to the Responsible Party, nor cause unnecessary inconvenience to the owner or the public. New underground utilities and appurtenances will not be covered with pavement prior to the Town's inspection and approval of such facilities. When the work involves excavation adjacent to any building or wall along the work, the Responsible Party will give property owners due and sufficient notice thereof, in writing with a copy to the Town.

**1.24.2 Protection of Property and Monuments**

The Responsible Party will use every reasonable precaution to prevent the damage or destruction of public or private property such as, but not limited to, poles, trees, shrubbery, crops, fences, monuments and all overhead structures such as, but not limited to, wires or cables which are either within or outside of the right-of-way. The Responsible Party will protect and support all water, gas, sanitary sewer, storm sewer or electrical pipes, and conduits and all railway tracks, buildings, walls, fences, or other properties that are liable to be damaged during the execution of his work. The Responsible Party will take all reasonable and proper precautions to protect persons, animals and vehicles from injury or damage and, wherever necessary, or as directed by the Town, will erect and maintain a fence or railing around any excavation and place a sufficient number of amber lights about the work and keep them operational from twilight until sunrise. The Responsible Party will employ one or more watchmen as an additional security wherever they are needed or required by the Town. The Responsible Party will not prevent the flow of water in the gutters of the street and will use proper means to permit the flow of surface water along the gutters while the work is progressing.

The Responsible Party will protect and carefully preserve all land boundary and Town survey control monuments until the owner's authorized registered land surveyor has referenced their location for replacement. All monuments disturbed or removed by the Responsible Party through negligence or carelessness on his part or on the part of his employees or subcontractors will be replaced by a land surveyor registered in the State of Colorado, at the Responsible Party's expense. The Responsible Party will be responsible for the repair of any damage or destruction of property resulting from neglect, misconduct, or omission in his manner or method of execution or non-execution of the work or caused by defective work or the use of unsatisfactory materials. The Responsible Party will restore such property to a condition equal to or better than that existing before such damage or injury was done by repairing, rebuilding, or replacing it as may be directed by the Town, or they will otherwise make good such damage or destruction in a manner acceptable to the Town. The Responsible Party will be responsible for the repair of underground pipes, wires or conduits damaged by them or their subcontractors.

#### **1.24.3 Installation of Survey Monuments**

Permanent survey monuments, range points, and lot pins, other than those required hereby for marking the centerlines of streets, shall be set in the manner specified by the most current revision of Colorado Revised Statutes, 38-51-104 and 38-51-105. Permanent survey monuments shall also be installed at all street centerline intersections and at all points of change in the direction of street centerlines (either angle or curvature), which, in the opinion of the Town are significant enough to warrant monumentation for the sake of proper location of improvements. Only those survey monuments marking street centerlines must be installed in the manner specified by the drawing in the Appendix of Chapter 6 of the Town CONSTRUCTION STANDARDS. Such monuments shall be set to the Town Geographic Information System coordinate system.

#### **1.24.4 Explosives**

When blasting is permitted and approved in writing by the Town, the Responsible Party will use the utmost care to protect life and property. Signals warning persons of danger will be given before any blast. Excessive blasting or overshooting will not be permitted. The Town will have authority to order any method of blasting discontinued that leads to overshooting, is dangerous to the public, or destructive to property, environment or natural features.

Before any blasting is to be performed by the Responsible Party, a certificate of insurance indicating special blasting coverage in the following minimum amounts will be filed with the Town:

Property damage, each accident	\$1,000,000
Public liability, bodily injury	\$1,000,000
single limit or equivalent, each accident	

The Town reserves the right to require additional insurance coverage if the circumstances warrant.

The Town has the right to require detailed inspections by an independent consultant or by Town inspectors on any structures or properties located in the vicinity of the blasting, both before and after the blasting activity. The cost for such inspections shall be the responsibility of the Responsible Party.

#### **1.24.5 Protection of Streams, Lakes, and Reservoirs**

The Responsible Party will take all necessary precautions to prevent pollution of streams, lakes, and reservoirs by sediment, fuels, oils, bitumens, calcium chloride, fertilizers, insecticides, or other harmful materials. They will conduct and schedule their operations to avoid or minimize siltation of streams, lakes, and reservoirs. A plan for erosion protection shall be submitted to the Town, approved by the Town, and all required erosion control measures in place before starting work. All work must conform to all applicable local, state, and federal regulations.

### **1.25.0**

#### **WORK IN PUBLIC RIGHT-OF-WAY**

##### **1.25.1 Relocation of Facilities**

The Town may order the owner of facilities located in its rights of way, whether subject to a permit or not, to relocate its facilities, in order to allow the Town to make any public use of streets or rights-of-way, or if required because of changing the grade, improving, repairing, constructing, or maintaining any street or rights-of-way, because of traffic conditions, public safety, installation of public improvements, or any general program for the under-grounding of such facilities, or other reasons deemed to require relocation in the Town's sole discretion. The Town shall notify the owner of the facilities a reasonable time in advance, except in the case of emergency. The permittee shall thereupon, at its sole cost and expense, accomplish the necessary relocation, removal or change within a reasonable time from the date of the notification but in no event later than three working days prior to the date the Town has specified, immediately in the case of emergencies. Upon the permittee's failure to accomplish such work, the Town may cause such work to be completed at the permittee's expense and the permittee shall reimburse the Town within 30 days after receipt of a written invoice. Following relocation, all affected property shall be restored to the condition which existed prior to construction by the permittee at the permittee's expense. A new permit, or amended permit, shall be issued by the Town for the relocated facility.

In the event the affected utility is an existing overhead electric and communication facility, the facility or facilities may be converted to underground locations in the following manner:

- (A) Pursuant to the procedures of CRS 29-8-101 et seq.
- (B) When ordered by the Town where the Town is willing to pay and assume the costs of conversion for the applicable utility.
- (C) When ordered by the Town in connection with incidental and episodic conversions associated with public improvements, such as street widening or sewer construction, at the cost of the public utility or cable operator.

The provisions of this section shall be applicable and supersede any inconsistent requirements in any existing permit as an exercise of the Town's police powers.

#### **1.25.2 Permit Required-Right-of-Way and Revocable Encroachment and Utility Connect Permit (Excavation Permit)**

It shall be unlawful for any person or entity to perform work within public right-of-way of the Town without first obtaining written permission from the Town in the form of an excavation permit. If the work to be performed involves a Town utility in a State of Colorado Highway right-of-way, both an excavation permit from the Town and the appropriate permit from the Colorado Department of Transportation shall be required. A separate written application for that work done under an excavation permit shall be submitted to the Town on a form provided by the Town for each job. The application shall be submitted at least 48 hours prior to the planned start of work to allow for review and approval by the Town. The Responsible Party may be required to increase this time up to 10 days when the work consists of more than a single spot excavation.

The Town may require submission of plans and specifications. No work shall commence until the Town has approved the plans and specifications and/or permit application, except in emergency conditions. A permit application shall be required for emergency conditions within 72 hours after the performance of the work and all conditions of an excavation permit shall apply. An application form (when approved) shall constitute a valid "excavation permit." Incomplete permit applications will not be reviewed or processed by the Town.



### **1.25.3 Issuance of Permits**

The Town may grant permits to work in, construct, or excavate within the public way or to close traffic lanes or work in connection with a Town utility system to any Responsible Party filing an application as herein provided, which application shall pertain to work which shall comply with the requirements of this chapter. All permits shall be issued according to the provisions of applicable chapters of the Town Municipal Code.

### **1.25.4 Liability for Damage & Utility Locates**

Any person or entity who shall undertake work pursuant to a permit issued under the provisions of this chapter, or to perform work under contracts with the Town, or to perform work under the terms of a Utility Extension Agreement, or by virtue of permission obtained from the Board of Selectmen in accordance with the provisions adopted by the said Board, shall be liable for any damage or injury to persons, animals, or property as a result of any circumstances of such work. Prior to any excavation within the public right-of-way, the Responsible Party shall contact the Utility Notification Center of Colorado.

### **1.25.5 Suspension or Revocation of Permits -- Stop Work Order**

- (A) Any permit may be revoked or suspended by the Town and a stop work order may be issued after notice to the Responsible Party for:
  - 1. Violations of any condition of the Utility Extension Agreement, or the approved construction drawings or specifications; or
  - 2. Violation of any provision of these CONSTRUCTION STANDARDS; or
  - 3. Violation of any other ordinance of the Town, state law, or federal law pertaining to the work; or
  - 4. Existence of any condition or the occurrence of any act which may constitute or cause a condition endangering health, life, or safety, or serious damage to property.
- (B) A suspension or revocation by the Town and stop work orders shall take effect immediately upon notice to the person performing the work in the field and shall remain in effect until such time as the Town cancels the order in writing. A failure to abide by the terms of the suspension or revocation will be considered a violation of Town ordinance.
- (C) Upon receipt of a stop work order, the Responsible Party shall be responsible for taking such precautions as may be necessary to prevent damage to the project, prevent inconvenience or hazardous conditions for the general public, provide for normal drainage, and to erect any necessary barricades, signs, or other facilities which may be necessary or directed by the Town.

### **1.25.6 Application Form**

Application for a permit to work in the public way shall be made on a form provided by the Town

and shall recite specifically and illustrate by sketch or plan the exact location, depth, extent, nature, and purpose of the excavation desired to be made, the purpose for which the privilege is requested, and the duration of the time required for the work.

Applicants shall pay a fee to the Town before issuance of such permit. The amount of that fee shall be established by the Town and displayed on the permit. Applicants shall also post a Performance or Contract Bond, clean irrevocable Letter of Credit, or Cash Bond in the amount as specified on the permit form. The responsible party warrants to the Town that all materials and equipment incorporated in the work will be new unless otherwise specified, and that all work be of good quality, free from faults and defects and in conformance with these CONSTRUCTION STANDARDS. All work not conforming to these standards shall be considered defective. No permit issued under the provisions hereof shall be for more than one excavation project for which a definite time limit shall be established by the Town.

#### **1.25.7 Exhibition of Permit**

Such permit shall be kept at the site of the excavation while the work is in progress and shall be exhibited upon request to any police officer or other authorized representative of the Town. Failure to comply with this provision shall be grounds for a revocation of the permit and the issuance of a stop work order.

#### **1.25.8 Correction Period**

All public improvements shall be subject to a correction period of at least one (1) year after the date of the acceptance from the Town Representative. The Responsible Party shall be responsible for the maintenance of all public improvements during the correction period. The Town Representative will notify the Responsible Party of any maintenance that may be necessary during this time. Routine maintenance normally performed by the Responsible Party includes, but shall not be limited to, the cleaning of streets, patching of potholes, and removal of blockages from water, storm and sanitary sewer facilities. The cost of any routine maintenance not performed by the Responsible Party that must be performed by the Town will be billed to the Responsible Party at cost plus fifteen percent (15%).

In the event of a water main break, sanitary sewer main blockage, street or bridge failure, or other emergency that may occur during the correction period, it may become necessary for the Town to undertake immediate repairs to the facilities and/or make the area safe to residents, pedestrians, or motorists. The Town will attempt to contact the Responsible Party in the event of such emergency. However, if the Responsible Party or his representative cannot be contacted quickly or if the Responsible Party is unable to take immediate action to relieve the urgent situation, the Town may proceed with such action as deemed necessary by the Town Representative, and the Responsible Party will be billed for all costs of these actions at cost plus fifteen percent (15%).

#### **1.25.9 End of Correction Period**

At approximately nine (9) months into the correction period, the Responsible Party will schedule an inspection of the public improvements within the development to be performed by the Town Representative. The Responsible Party or his representative will be invited to accompany the Town's representative on all such inspections. The condition of the public improvements will be inspected for conformance with the approved plans, the Public Improvements Agreement, these CONSTRUCTION STANDARDS, and any other Town Codes. If due to excessive dirt or snow on streets, poor weather conditions, inaccessibility, or other reasons the inspection cannot be performed, the Responsible Party will be notified of the need to postpone these activities until the cause of the delay can be rectified.



Deficiencies noted during the correction inspection will be compiled in a corrections list to be mailed to the Responsible Party.

Correction list items should be corrected within 2 months of the date of the correction list, and all corrections must be completed no later than ten (10) working days prior to the scheduled end of the correction period. If all of the noted deficiencies are not corrected within this time, the public improvements may be reinspected, a revised correction list may be issued, and the end of the correction period may be adjusted at the discretion of the Town Representative to allow ample time for the completion of the corrections. The end of the correction period will not be acknowledged until all noted deficiencies are corrected within the proper time frame. The appropriate Town Representative shall be notified before any corrective work commences and immediately upon the completion of the repairs.

Upon completion of the correction of all deficiencies noted in the correction list, the Town Representative will issue a written acknowledgment of the end of the correction period for the public improvements.

#### **1.25.10 Performance**

**(A) Inspection.**

There shall be continuous inspections for each permit. The first shall occur upon notification by the Responsible Party that the work is ready for inspection and the second inspection as indicated in section 1.26.9 above.

**(B) Barricading and Traffic Control.**

1. All work within a traveled public roadway area shall be protected at all times by safety devices as prescribed by the MUTCD and in such manner as to minimize the disruption of the flow of traffic in the vicinity of the work. Normally, only one side of a street may be closed at any given time. Traffic must be provided a minimum lane width of 10 feet in the construction area. 24 hours before the start of construction, the Responsible Party shall notify emergency services and any other critically affected vehicular or pedestrian traffic or service.
2. All work within the roadway shall take place between 8:30 a.m. and 3:30 p.m. unless otherwise stipulated on the excavation permit.
3. Unless prior approval is given by the Town Representative, street excavations must be backfilled prior to leaving the site at the end of the workday, even if the work has not been completed.
4. No person shall dig or cause to be dug any hole, drain, ditch, or any other excavation in any street, alley, sidewalk, or other public place within the Town without providing, during the nighttime, sufficient amber lights to be placed with a suitable barricade or temporary fence around such hole, drain, or other excavation in order to prevent persons, animals, and vehicles from sustaining injury. During the daytime the barricades shall be maintained but warning lights are not required. All barricades and lights shall be left in place until a permanent patch or temporary cold-mix patch can be made to the excavation.

**(C) Removal of Safety Devices or Barricades.**

No person shall damage, displace, remove, or interfere with any barricade warning light or any other safety device which is lawfully placed around or about any street, alley, sidewalk, or other excavations or construction work in the Town.

**1.30.0**

**CONSTRUCTION DRAWING SUBMITTAL REQUIREMENTS**

Construction drawings shall contain the information and be in the format outlined in the separate documents titled "Checklist for Preliminary Plat Requirements" and "Drawing Standards Checklist" as provided in the Appendix of this chapter.



# TOWN OF GEORGETOWN CONSTRUCTION STANDARDS

Chapter 1 – General

Requirements

Appendix

# DRAWING STANDARDS CHECKLIST

Different opinions exist regarding the content and information that should be provided on a drawing with a given title. In order to avoid confusion and to establish consistency, Drawing Standards Checklists have been prepared by the Town. These checklists establish the minimum requirements for each drawing. The Staff may require additional drawings and/or detail, as it deems necessary in their sole discretion.

All drawings required for submittal shall conform to the drawing standards presented in this list. Checklists are provided in the order drawings should be collated and presented to the Town for review and approval.

## Index of Checklists

Page Number	Checklist
2	Title Sheet
3	Notes Sheet
4	Phasing Plan
5	Site Plan
6	Grading/Drainage Plan
7	Utility Composite
8	Combined Street and Water Line Plan/Profile
10	Sanitary Sewer Plan/Profile
11	Storm Drainage Plan/Profile
12	Irrigation Plan
13	Parks/Landscaping Plan
14	Details Sheet
15	As-Built Grading/Drainage Plan
16	As-Built Combined Street and Water Plan/Profile
17	As-Built Sanitary Sewer Plan/Profile
18	As-Built Storm Drainage Plan/Profile
19	As-Built Irrigation Plan
20	As-Built Parks/Landscaping Plan



# **DRAWING STANDARDS CHECKLIST**

## **TITLE SHEET**

- ☐ Name of Project or Subdivision
- ☐ Developer/Owners Name and Contact Information
- ☐ Engineer/Designer Name and Contact Information
- ☐ Current Vicinity Map
- ☐ Index of Sheets
- ☐ Utility Notification Center of Colorado contact information
- ☐ List of Utility Contacts
- ☐ Sheet size is 24" X 36", landscape orientation.

# **DRAWING STANDARDS CHECKLIST**

## **NOTES SHEET**

- ❑ Project Notes for General, Water, Sanitary Sewer, Storm Sewer, Grading, Roadway
- ❑ List of Abbreviations
- ❑ Legend of all line types and symbols used throughout project drawings
- ❑ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## PHASING PLAN

- ☐ Lot and block layout
- ☐ Street names
- ☐ Lot numbers
- ☐ Phase lines and numbering
- ☐ Parks, open space, trails, detention/retention areas
- ☐ Utility phasing including end of line fire hydrants, sewer manholes, etc.
- ☐ Street phasing including temporary cul-de-sac locations
- ☐ Legend of symbols and line types used on this drawing
- ☐ Notes if applicable
- ☐ Scale
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation.



# DRAWING STANDARDS CHECKLIST

## SITE PLAN

- ☐ Site boundary including lot lines and dimensions, adjacent property lines, and adjacent property owners.
- ☐ Identify all existing and proposed easements, streets, and ROWs.
- ☐ Identify all existing and proposed utilities, including appurtenances (i.e. fire hydrants, manholes, etc)
- ☐ Identify all existing and proposed drainage and appurtenances (i.e. culverts, channels, etc.)
- ☐ Top and toe of slopes for retention/detention basins or other embankments
- ☐ Identify all paving, concrete walks, pads, ramps, and other surface treatments
- ☐ Identify all parking areas, striping, stalls, wheel chocks
- ☐ Identify parks, trails, opens space, etc.
- ☐ Identify all existing and proposed miscellaneous structures, fences, walls, septic facilities, etc.
- ☐ Do not show existing or proposed contours
- ☐ For perimeter streets, show roadway width from curb to curb or curb to edge of asphalt, ROW width, and section lines if applicable
- ☐ Identify all access points to adjacent properties within 200' of proposed access points.
- ☐ Identify building footprints, if applicable.
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation.

# **DRAWING STANDARDS CHECKLIST**

## **GRADING/DRAINAGE PLAN**

- ☐ Use site plan as a base drawing or otherwise provide similar information.
- ☐ Show all existing and proposed drainage facilities.
- ☐ Show all existing and proposed buried facilities that cross drainage facilities.
- ☐ Show and identify all encasement or structural pipe where applicable
- ☐ Station and label all manholes, inlets, and culverts. Provide rim and invert information if not provided elsewhere.
- ☐ Show existing and proposed surface contours with contour labels.
- ☐ Show 500 and 100-year flood and floodway boundaries, if applicable.
- ☐ Show flow direction with arrows and percent slope callouts.
- ☐ Show detention/retention facilities and cross sections with 5 year and 100 year high water surface elevations.
- ☐ Show outlet work details, if applicable.
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## UTILITY COMPOSITE

- ❑ Use the site plan as a base drawing or otherwise provide similar information.
- ❑ Show and differentiate all proposed and existing utilities.
- ❑ Show all existing and proposed public and private utilities (i.e. sanitary, storm, water, gas, phone, power, CATV, etc.)
- ❑ Show all utility appurtenances (i.e. manholes, fire hydrants, water valves, etc.). Identify rim and invert information if not provided elsewhere.
- ❑ Show all water and sewer tap locations.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## COMBINED STREET AND WATER LINE PLAN/PROFILE

- ❑ Use the site plan as a base drawing or otherwise provide similar information.
- ❑ Segmentize plan view as required to provide profiles below plan views. Stationing on plan view shall align with stationing on profile.
- ❑ Show all existing and proposed profiles at  $C_L$  and right and left  $F_L$ s. Provide slopes with “+” or “-”.
- ❑ Cross sections may be required in addition to profiles, to review special circumstances or to evaluate situations where a road is being widened or where flowline grades differ from the centerline grade. If required, cross sections shall include: station, existing and proposed cross sections, existing and proposed ROWs and easements, cross slopes, and existing and proposed buried utilities.
- ❑ Show existing and proposed profiles at edge of pavement if there is no gutter.
- ❑ Note adjustment of all MH rims and valves and covers for final grade.
- ❑ Elevation of  $F_L$  at fillet/valley pan interface.
- ❑ Station & elevation of  $F_L$  PCs (BCRs), PTs (ECRs), and handicap ramps.
- ❑ Stationing of  $C_L$  PCs and PTs
- ❑ Station and elevation of pavement  $C_L$  and  $F_L$  VPIs, VPCs, VPTs, and high and low points.
- ❑ Station and elevation at all grade changes and  $C_L$  pavement warp at intersections.
- ❑ Provide pavement, base, and subgrade specifications.
- ❑ Barricades, turn-arounds, tapers, delineators, driveways.
- ❑ Streetlights, signing, and other traffic controls.
- ❑ Show future road extension alignment to support current design, where applicable.

- ❑ Show proposed permanent benchmark (for new subdivision) and all proposed horizontal control survey markers at street intersections.
- ❑ Show all existing and proposed water facilities and sizes in plan and profile.
- ❑ Show all existing and proposed buried facilities that cross water line.
- ❑ Dimension separation between water and other buried utilities (i.e. sanitary, storm, irrigation, etc.)
- ❑ Add water services to plan view and relate to C<sub>L</sub> stationing.
- ❑ Station and label all water appurtenance locations (i.e. fire hydrants, valves, tees, crosses, plugs, bends, etc.)
- ❑ Show and identify encasement or structural pipe where applicable.
- ❑ Add existing and proposed surface profiles.
- ❑ Call out water pipe type in notes.
- ❑ Call out water minimum cover in notes. Dimension minimum cover on profile.
- ❑ Provide note regarding separation of sewer and water mains.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6' or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## SANITARY SEWER PLAN/PROFILE

- ☐ Use the site plan as a base drawing or otherwise provide similar information.
- ☐ Segmentize plan view as required to provide profiles below plan views. Stationing on plan view shall align with stationing on profile
- ☐ Show all existing and proposed sewer facilities and sizes in profile.
- ☐ Show all existing and proposed buried facilities that cross the sewer.
- ☐ Dimension separation between sewer and other buried facilities (i.e. water, storm, irrigation, etc.)
- ☐ Show and identify encasement or structural pipe where applicable.
- ☐ Add sewer services to plan view and relate to sewer line stationing.
- ☐ Station and label all manholes, add rim and invert elevations.
- ☐ Add sewer main slopes and distances between manholes (centerline to centerline).
- ☐ Add existing and proposed surface profile.
- ☐ Call out sewer pipe types in notes.
- ☐ Call out minimum cover over sewer in notes. If sewer is less than 8' from finished grade to top of pipe add note: "Lots served by shallow sewer".
- ☐ Provide note regarding separation of water and sewer mains.
- ☐ Provide note regarding service line markers and endpoint locations.
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6' or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## STORM DRAINAGE PLAN/PROFILE

- ❑ Use the site plan as a base drawing or otherwise provide similar information.
- ❑ Segmentize plan view as required to provide profiles below plan views.  
Stationing on plan view shall align with stationing on profile
- ❑ Show all existing and proposed drainage facilities in profile.
- ❑ Show all existing and proposed buried facilities that cross the drainage facilities.
- ❑ Dimension separation between storm drains and other buried facilities (i.e. water, sanitary, irrigation, etc.)
- ❑ Show and identify encasement or structural pipe where applicable.
- ❑ Station and label all manholes, inlets, culverts, add rim and invert elevations.
- ❑ Add storm drain slopes and distances between manholes and/or inlets (centerline to centerline).
- ❑ Add existing and proposed surface profile.
- ❑ Call out pipe and culvert types in notes.
- ❑ Call out minimum cover over pipes and culverts in notes.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6' or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation.

# DRAWING STANDARDS CHECKLIST

## IRRIGATION PLAN

- ☐ Use the site plan as a base drawing or otherwise provide similar information.
- ☐ Show proposed surface contours.
- ☐ Call out minimum cover over irrigation lines.
- ☐ Identify irrigation head to head spacing and head and nozzle capabilities.
- ☐ Specify all irrigation system materials.
- ☐ Show existing and proposed ground, ditch, pipe, and/or flowline profile. Indicate all proposed covering or piping of existing ditches, as required.
- ☐ Identify existing and proposed irrigation facilities, including back flow preventors, pumps, timer locations, electrical services, and tap locations and sizes, if applicable.
- ☐ Identify existing and proposed utilities, drainage, and road crossings.
- ☐ Station and elevation of all manholes, standpipes, gates, and other appurtenances.
- ☐ Elevation of all existing and proposed pipe and ditch flowlines.
- ☐ Lengths and slopes of ditches and pipes.
- ☐ Show hydraulic gradeline, flows, velocities, and “n” values
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1”=10’, 1”=20’, 1”=30’, 1”=40’, 1”=50’, 1”=60’, or 1”=100’ horizontal and 1”=1’, 1”=2’, 1”=3’, 1”=4’, 1”=5’, 1”=6’, or 1”=10’ vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24” X 36”, landscape orientation.



# DRAWING STANDARDS CHECKLIST

## PARKS/LANDSCAPING PLAN

- ☐ Use the site plan as a base drawing or otherwise provide similar information.
- ☐ Identify areas to be covered with specific landscaping materials.
- ☐ Identify boulders, mounds, swales, water courses, rock outcroppings.
- ☐ Identify living planting material in a legend including: common and botanical names, quantities, minimum purchase sizes, mature height, ground cover/perennial material and spacing, types of soils, types of turf grasses, and other remarks.
- ☐ Specification of soil type and preparation.
- ☐ Landscaping irrigation layout, design, materials and details.
- ☐ Planting/staking and other details as required.
- ☐ Identify locations of parks equipment (i.e. benches, picnic tables, playground equipment, etc.)
- ☐ Identify parks equipment specifications in a legend.
- ☐ Location of maintenance building and pump houses, if applicable.
- ☐ Trail cross sections shall be included, if applicable.
- ☐ Calculation used to derive required landscaping.
- ☐ Location of overhead utilities if crossing proposed landscaped areas.
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation.

# **DRAWING STANDARDS CHECKLIST**

## **DETAIL SHEET**

- ☐ Separate detail sheet for water, sanitary, storm, roadway, and miscellaneous details.
- ☐ Use City provided details available in digital format.
- ☐ Roadway detail sheet to contain roadway cross-section profile as specified in soils report.
- ☐ Other details as required to appropriately construct project.
- ☐ Scale: As required.
- ☐ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT GRADING/DRAINAGE PLAN**

- ☐ Use the grading and drainage plan as a base drawing.
- ☐ Show only newly constructed grading contours.
- ☐ Show all newly constructed drainage facilities.
- ☐ Show all newly constructed buried facilities that cross drainage facilities.
- ☐ Show all as-built locations for manholes, inlets, and culverts. Provide as-built rim and invert information if not provided elsewhere.
- ☐ Show as-built flow arrows and percent callouts.
- ☐ Provide as-built pad elevations for all lots that are in or are adjacent to the 100-year floodplain.
- ☐ Show detention/retention basin as-built contours and cross sections with slopes.
- ☐ Indicate volume verification of detention/retention and outlet works.
- ☐ Show drainage channel and swale as-built information, if applicable.
- ☐ Legend of symbols and line types applicable to this drawing
- ☐ North Arrow
- ☐ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ☐ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT COMBINED STREET AND WATER LINE PLAN/PROFILE**

- ❑ Use the combined street and water line plan/profile and as base drawing.
- ❑ All vertical, horizontal, and other design information required for primary features on the street and water line plan/profile must have corresponding as-built information provided, including pavement width, curb/gutter/sidewalk width and type, base course, and pavement thickness, geosynthetics, sub-grade stabilization, elevations, horizontal control, valves, vaults, bends, tees, crosses, fire hydrants, and other appurtenances, etc.
- ❑ As-built information for all significant changes from the approved design plans.
- ❑ Provide elevations for all PC's, PT's, ECR's, angle points, grade breaks, and all locations where elevations were shown on the design drawing.
- ❑ End of service locations must be tied to lot corners or be located by station and offset.
- ❑ Pipe type and type of pipe connections (MJ, SJ, FL, etc.)
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6', or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT SANITARY SEWER PLAN/PROFILE**

- ❑ Use the sanitary sewer plan/profile as a base drawing.
- ❑ All horizontal, vertical, and other design information required for primary features on the sewer plan and profile must have corresponding as-built information provided, including elevations, station and offset etc. for manholes, cleanouts and other appurtenances.
- ❑ Ends of services must be tied to lot corners or be located by station and offset. The top of the pipe or invert elevation or the depth from finished grade shall be shown.
- ❑ As-built information for all significant changes from the approved design plans.
- ❑ Pipe type shall be shown.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6', or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT STORM DRAINAGE PLAN/PROFILE**

- ❑ Use the storm drainage plan/profile as a base drawing.
- ❑ All horizontal, vertical, and other design information required for primary features in the storm drainage plan and profile must have corresponding as-built information provided, including elevations, station and offset, pipe and culvert slopes and distances, basin structures, etc.
- ❑ As-built information for significant changes from the approved design plans.
- ❑ Pipe and culvert type.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6', or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT IRRIGATION PLAN (Only Required for Town Facilities)**

- ❑ Use the irrigation plan as a base drawing.
- ❑ All horizontal, vertical, and other design information required for primary features on the irrigation plan and profile must have corresponding as-built information provided.
- ❑ As-built information for all significant changes from the approved design plans.
- ❑ Pipe and culvert type.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' horizontal and 1"=1', 1"=2', 1"=3', 1"=4', 1"=5', 1"=6', or 1"=10' vertical, respectively and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation

# **DRAWING STANDARDS CHECKLIST**

## **AS-BUILT PARKS/LANDSCAPING PLAN**

- ❑ Use the Parks/Landscaping Plan as a base drawing.
- ❑ All horizontal, vertical, and other design information required for primary features on the irrigation plan and profile must have corresponding as-built information provided.
- ❑ As-built information for all significant changes from the approved design plans.
- ❑ Legend of symbols and line types applicable to this drawing
- ❑ North Arrow
- ❑ Scale must be 1"=10', 1"=20', 1"=30', 1"=40', 1"=50', 1"=60', or 1"=100' and may necessitate more than one sheet depending on the size of the development or subdivision. Key map may be required if there are several match lines.
- ❑ Sheet size is 24" X 36", landscape orientation