

CHAPTER 3
SUBMITTAL REQUIREMENTS
FOR
CONSTRUCTION PLANS

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Graphics: Title Sheet Example
Title Sheet Approval Block

The following documentation is required in conjunction with the Submittal of Construction Plans for any improvement which, will ultimately be maintained by the Town of Bennett Public Works Department.

3.1 GENERAL

These are the minimum Standards and Specifications to be adhered to in the design, construction and installation of Water, Re-use and Sewer Works facilities. All subdivision plats, planned building groups or any other proposed construction submitted for approval shall include adequate detail drawings and specifications of the entire water, re-use, sanitary sewer and storm sewer utility systems. Designs including all private water and sanitary service lines, water meters and all related appurtenances before approval of any phase of construction will be made by the Department of Public Works, the Department of Engineering and the Department of Planning and other applicable Departments.

3.1.1 All construction plans and reports, shall be prepared by or under the direction of, a professional Engineer, registered in the State of Colorado, and shall be reviewed for the minimum requirements set forth herein. The Engineer should be aware that whenever unusual or serious problems are anticipated in conjunction with a proposed construction, additional information and analysis beyond the minimum requirements of those specifications and criteria will be required.

3.1.2 Certification.

3.1.2.1 Construction plans submitted for review and comment shall be prepared by a professional Engineer registered in the State of Colorado. The plans must include a statement on the cover sheet as follows.

"These construction plans for (name of subdivision, development or project) were prepared by me (or under my direct supervision) in accordance with the

requirements of the Town of Bennett's Design and Criteria Manuals.

Name of Engineer
Name of Firm

The statement shall be signed and stamped by the Registered Professional Engineer who prepared or directed preparation of the construction plans.

3.1.2.2 The Town Engineer may lessen or modify the requirements of paragraph 3.1.1 and 3.1.2 at his discretion.

3.1.2.3 Unless otherwise identified or noted, all construction plan submittals are assumed to comply with the provisions of these Standards and Criteria. Variances or waivers should be requested as set forth in Section 3.2. Failure to follow prescribed procedures may result in review delays, additional fees or both.

3.1.3 The Town of Bennett is not responsible for the accuracy and adequacy of the design or dimensions and elevations on the plans. The Town of Bennett through the acceptance of the construction plan or report; assumes no responsibility for the completeness and/or accuracy of said construction plans or reports.

3.2 VARIANCES AND APPEALS

3.2.1 General. If the special District, Developer, Contractor or Utility responsible to the Town for public improvements desires to design and construct such improvements in variance to criteria in these standards, such variance(s) should be identified in the initial submittal of construction plans. The variance request(s) shall consist of:

3.2.1.1 Identification of the criteria provision to be waived or varied.

3.2.1.2 Identification of the alternative design or construction criteria to be adhered to.

3.2.1.3 A thorough justification of the variance request including impact on capital and maintenance requirements and cost.

3.2.2 Appeal of variance Decisions.

3.2.2.1 Levels of Appeal. If, upon review and denial of the report, and/or plans by the Engineering Division staff, the Developer chooses to appeal the decision, he shall make his final appeal to the Town Board of Trustees (TBTTB). The Developer shall give the Engineering Division at least 5 working days notification prior to date of appeal to the TBTTB. The Developer shall make appeal to the TBTTB within 60 days from receipt of denial from the Engineering Division.

PLAN FORMAT AND CONTENT OUTLINE

3.3 SUBMITTAL CHECKLIST

- 1) Cover Sheet. A cover sheet as per the outline provided in exhibit "A" within the back of the Section containing an approval block as per exhibit "B".

In addition the cover sheet shall contain the following information:

3.4 VICINITY MAP

3.4.1 Minimum scale is 1"-2000' showing the location and name of all arterial roadways within one-mile of the proposed construction and all other roadways in the vicinity of the proposed construction. The project area shall be indicated, by shading. The map is required on the cover sheet of all submittals. All submittals must have a title sheet as per exhibit "A" and "B" within the back of this Chapter.

3.4.2 Minimum size of vicinity map shall be 3"x3".

3.5 KEY MAP

3.5.1 Minimum scale is 1" - 500' showing the location and name of all roadways within and adjacent to the proposed construction and all future roadways. Scale should be indicated. Key map should be oriented consistent with detail in the sheet, i.e. same north.

3.5.2 The key map is to appear on every sheet showing proposed improvements. The roadway or area that the design pertains to will be shaded as shown on the example Key Map on Figure 3.1 of these Standards.

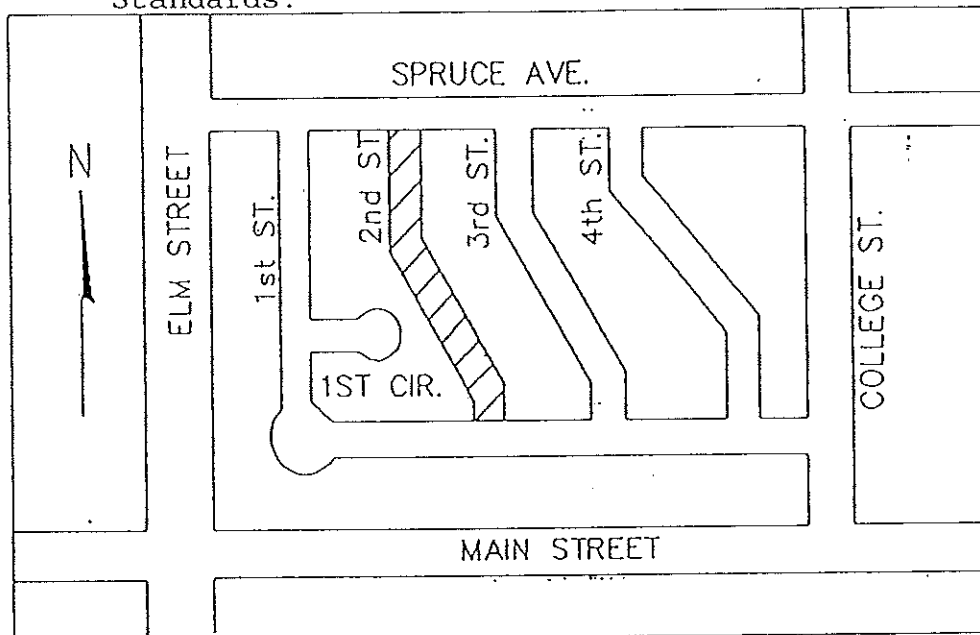


Figure 3.1

3.6 CONSTRUCTION PLANS AND DETAIL SHEETS

All Construction Plans and Detail shall conform to the following criteria and show the following information. Additional specific requirements are discussed in other parts of these Standards.

3.7 TITLE BLOCK

3.7.1 A title block is required on every sheet other than the cover sheet submitted for review and acceptance. The Subdivision name and filing number; Planned Development name (if applicable); the type of improvement; name, address, including zip code and telephone number of the Consulting Engineer; name address, including zip code, telephone number

and name of the contact person at the Developer; and sheet number (consecutive, beginning with the cover sheet) shall all be included in the title block.

3.7.2 The title block shall be located in the extreme lower right hand corner, the right side margin, or along the bottom edge of the sheet.

3.8 ACCEPTANCE BLOCK

3.8.1 All construction plans or other improvement construction plans, and privately or publicly maintained facility construction plans at a minimum must show the acceptance signatures of the Town Engineer Director of Public Works and Director of Planning as a condition for having construction permits issued.

3.8.1.1 Plans for traffic control during construction must be accepted prior to issuing construction permits.

3.8.2 In addition to the main cover sheet acceptance block (as per exhibit "A" and "B" within the back of this Chapter), an additional acceptance block shall be located in the lower right hand quadrant of each subsequent sheet.

3.8.3 An example of these additional acceptance blocks is shown in Figure 3.3.

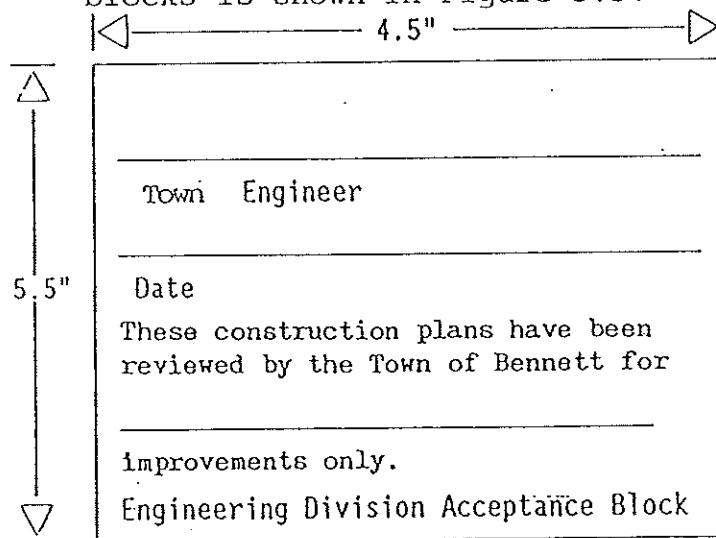


Figure 3.3

3.9 REQUIRED NOTES

These notes shall also appear on the cover sheet.

- 1) The Town of Bennett approval signature(s) affixed to this document indicates that the pertaining Departments have reviewed the document and found it in general conformance with the Bennett Regulations or approved variances to those Regulations. The Town of Bennett through acceptance of this document assumes no responsibility, other than stated above, for the completeness and/or accuracy of these documents. The Owner and Engineer understand that it is the responsibility for the engineering adequacy of the facilities depicted in this document lies solely with the Registered Professional Engineer whose stamp and signature is affixed to this document.
- 2) All construction shall conform to the Town of Bennett's Design and Construction Standards.
- 3) All materials and workmanship shall be subject to inspection by the Town's Public Works and Engineering Division. The Town reserves the right to accept or reject any such materials and workmanship that does not conform to its Standards and Specifications.
- 4) The Contractor shall notify the Engineering Division or the Department of Public Works a minimum of 48 hours and a maximum of 96 hours prior to starting construction.
- 5) Location of existing utilities shall be verified by the Contractor prior to actual construction.
- 6) The Contractor shall have on (1) signed copy of the plans (accepted by the pertaining Town Department Heads) and (1) copy of the Design and Construction Standards at the job site at all times.
- 7) All proposed street cuts to existing pavements for utilities, storm sewer or for other purposes are listed and referenced below:

- 8) A plan for traffic control during construction shall be submitted to the Town for acceptance with the permit application. An excavation or public improvements construction permit will not be issued without an approved traffic control plan for traffic control during construction.
- 9) The construction plan shall be considered valid for one (1) year from the date of Town acceptance, after which time these plans shall be void and will be subject to re-review and re-acceptance by the Town of Bennett.

3.10 SCALE

Scales listed are minimum. Larger scales may be required where necessary to clearly show details.

- 1) Plan and profile plans; Horizontal 1"-50';
Vertical 1"-5'.
- 2) Master, preliminary and final drainage plans;
site plans, etc.: from 1"-50' to 1"-100'.

3.11 NORTH ARROW

North shall point to the top or to the left margin of the sheet only; all other detail and drawings on the sheet shall be oriented consistently with the North arrow.

3.12 DATE OF PLAN

The original date of the plans and any subsequent revisions must be shown on the title block.

3.13 SEAL AND SIGNATURE

The seal and signature of the professional Engineer, registered in the State of Colorado, under whose supervision the plans were prepared shall be located next to the Acceptance Block on each sheet.

3.14 UNDERGROUND UTILITIES

The type, size, location and number of all underground utilities shall be shown. Field verified elevations (USGS Adjusted Datum and date) and locations may be required on the construction plans for all underground

utilities which will potentially affect the design or construction. It will be the responsibility of the Contractor to verify the existence and location for all underground utilities along his route of work prior to commencing any new construction. Field located utilities not shown on accepted construction plans shall be added to the record drawings submitted as a condition of probationary acceptance of the public improvements.

3.15 PRIVATE IMPROVEMENTS

3.15.1 Private improvements such as roadways, driveways, utilities, etc. shall be clearly shown and labeled as such on each sheet of the construction plans. The note below shall appear on each sheet of the construction plans that private improvements occur:

"The Town of Bennett shall not be responsible for the maintenance of improvements, including storm drainage structures and pipes, for the following private streets." (List)

3.15.2 When a request is made for the Town to assume maintenance of any private improvement, it shall be the responsibility of the person(s) making the request to satisfactorily demonstrate that the private improvement is in fact constructed in accordance with the Town's Standards.

3.15.3 The Town will review these requests under normal review procedures as outlined previously in these Standards.

3.15.4 Private improvements that were not constructed in accordance with the applicable Design and Construction Standards and Specifications will not be accepted for maintenance by the Town.

3.16 REQUIREMENTS FOR WATER AND RE-USE SYSTEM PLAN AND PROFILE DRAWINGS

Plan and profile sheets will be required on all water main designs, unless waived or modified in writing, by the Town Engineer. Double plan and profile sheets will not be allowed. In addition to the requirements set forth in Chapters 7 & 8 of these Standards, the

following information shall be shown on all water main construction plans submitted for review and approval.

3.16.1 Plan View.

The plan view shall include, but not be limited to, the following:

3.16.1.1 Existing and proposed Property and/or R.O.W. lines, easement and/or tracts. Type and dimension of easement or tract is to be clearly labeled. Property lines and R.O.W. lines are to be dimensioned.

3.16.1.2 Survey lines and stations, based on centerline only; other profiles may be included but shall be referenced to centerline stationing. Stationing is to be equated to and from flowline stationing at horizontal radius curves, and other departures from normal roadway cross sections.

3.16.1.3 Roadways and roadway names.

3.16.1.4 Existing utilities and structures, including, but not limited to:

Street R.O.W.	sewer mains
Centerline	water mains
Flowline to Flowline	water valves
Type of paving	fire hydrants
Type if curb & gutter	fence lines
Sidewalk location & dimension	gas
Bike trail/Horse trail	telephone
Sanitary sewer manholes	electric
Storm drainage facilities	CATV
Ditches or swales	curbs & gutters
Pavement limits	guardrails, etc
Bridges or culverts	re-use mains

3.16.1.5 Station and critical elevation (flowline, invert of pipe, size of pipe, type of pipe, etc.) of all utility or drainage appurtenances, existing and proposed; including all box culverts, pre-cast or cast-in-place, in right-of-way or in drainage

easements. Location of utilities shall be dimensioned horizontally and vertically from roadway centerline profile grade.

- 3.16.1.6 Station and critical elevation (USGS) of all proposed and existing water main valves and pipeline intersections.
 - 3.16.1.7 Length, size and type of proposal water main.
 - 3.16.1.8 Station and location of all existing and proposed water main stub-outs onto adjacent lots.
 - 3.16.1.9 Match lines and consecutive sheet number, beginning with cover sheet.
 - 3.16.1.10 North arrow and scale(s).
 - 3.16.1.11 U.S.G.S. datum and benchmark (when not on title sheet).
 - 3.16.1.12 Complete Horizontal curve data - radius, length of curve, tangent length and central angle. (R, L,T)
 - 3.16.1.13 Centerline stations of all non-single family residential driveways and all intersecting roadways.
 - 3.16.1.14 Survey tie lines to section corners or quarter corners, consistent with that accomplished on the plat.
 - 3.16.1.15 Basis of plan view and profile elevations shall be the same.
- 3.16.2 Profile.
The profile shall include, but not be limited to, the following:
- 3.16.2.1 Original ground (dashed) and design grade (heavy, solid). Both grades are to be plainly labeled (road).

- 3.16.2.2 Elevation and location of all utilities in the immediate vicinity of the construction shall be shown on the profile.
 - 3.16.2.3 Vertical curves, when necessary, with VPI, VPC and VVPT, high or low point (if applicable).
 - 3.16.2.4 Station and elevation of all vertical grade breaks, existing (as-built) or proposed (road).
 - 3.16.2.5 Distance, grade or slope between grade breaks and curves (road).
 - 3.16.2.6 Length, size, type and grade (if applicable) at the proposed water main.
 - 3.16.2.7 Appropriate Construction Detail sheets, including Standard Details referenced in this Manual.
 - 3.16.2.8 Station and critical elevation (USGS) of all proposed water main high points and low points with their associated appurtenances such as blow-off valves and air relief valves.
- 3.16.3 Additional Notes. In addition to the notes in Section 3.8 of these Standards, the following notes shall appear on the cover sheet of all plan submittals.
- 3.16.3.1 Inspection: Construction shall not begin until a permit has been issued. If a Bennett Inspector is not available after proper notice of construction activity has been provided, the permittee may commence work in the Inspector's absence. However, the Town reserves the right not to accept the improvement if subsequent testing reveals an

improper installation.

3.17 REQUIREMENTS FOR SANITARY SEWER SYSTEM PLAN AND
PROFILE DRAWINGS

Plan and profile sheets will be required on all sanitary sewers. Double plan and profile sheets will not be allowed.

In addition to the requirements set forth in Chapter 10 of these Standards, the following information shall be shown on all sanitary sewer construction plans submitted for review and approval.

3.17.1 Plan View. The plan view shall include, but not be limited to, the following:

3.17.1.1 Existing and proposed property and/or tracts. Type and dimension of easement or tract is to be clearly labeled. Property lines and R.O.W. lines are to be dimensioned.

3.17.1.2 Survey lines and stations, based on centerline only; other profiles may be included but shall be referenced to centerline stationing. Stationing is to be equated to and from flowline stationing at horizontal radius curves, and other departures from normal roadway cross sections.

3.17.1.3 Roadways and roadway names.

3.17.1.4 Existing utilities and structures, including, but not limited to:

Street R.O.W.	sewer mains
Centerline	water mains
Flowline to Flowline	water valves
Type of paving	fire hydrants
Type if curb & gutter	fence lines
Sidewalk location & dimension	gas
Bike trail/Horse trail	telephone
Sanitary sewer manholes	electric
Storm drainage facilities	CATV
Ditches or swales	curbs & gutters
Pavement limits	guardrails, etc
Bridges or culverts	re-use mains

- 3.17.1.5 Station and critical elevation (flowline, invert of pipe, size of pipe, type of pipe, etc.) of all utility or drainage appurtenances, existing and proposed; including all box culverts, pre-cast or cast-in-place, in right-of-way or in drainage easements. Location of utilities shall be dimensioned horizontally and vertically from roadway centerline profile grade.
- 3.17.1.6 Station and critical elevations (USGS) of all proposed and existing sanitary sewer manholes.
- 3.17.1.7 Length, size and type of the proposed sanitary sewer main.
- 3.17.1.8 Station and location of all existing and proposed sanitary sewer stub-outs onto adjacent lots.
- 3.17.1.9 Match lines and consecutive sheet number, beginning with cover sheet.
- 3.17.1.10 North arrow and scale(s).
- 3.17.1.11 U.S.G.S. datum and benchmark (when not on title sheet).
- 3.17.1.12 Complete Horizontal curve data - radius, length of curve, tangent length and central angle. (R,L,T)
- 3.17.1.13 Centerline stations of all non-single family residential driveways and all intersecting roadways.
- 3.17.1.14 Survey tie lines to section corners or quarter corners, consistent with that accomplished on the plat.

3.17.1.15 Basis of plan view and profile elevations shall be the same.

3.17.2 Profile.

The profile shall include, but not be limited to, the following:

3.17.2.1 Original ground (dashed) and design grade (heavy, solid). Both grades are to be plainly labeled. (Road)

3.17.2.2 Elevation and location of all utilities in the immediate vicinity of the construction shall be shown on the profile.

3.17.2.3 Vertical curves, when necessary, with VPI, VPC and VPT, high or low point (if applicable). (Road)

3.17.2.4 Station and elevation of all vertical grade breaks, existing (as-built) or proposed. (Road)

3.17.2.5 Distance, grade or slope between grade breaks and curves. (Road)

3.17.2.6 Manhole station, rim elevation, invert(s) in and out (N,E,S or W) and cut or fill.

3.17.2.7 Length, size, type, class and grade of the proposed sanitary sewer main.

3.17.2.8 Appropriate Construction Detail sheets, including Standard Details referenced in this Manual.

3.17.3 Additional Notes. In addition to the notes in Section 3.8 of these Standards, the following notes shall appear on the cover sheet of all plan submittals.

3.17.3.1 Inspection: Construction shall not begin until a permit has been

issued. If a Bennett Inspector is not available after proper notice of construction activity has been provided, the permittee may commence work in the Inspector's absence. However, the Town reserves the right not to accept the improvement if subsequent testing reveals an improper installation.

3.18 SUPPLEMENTAL DATA REQUIREMENTS

If applicable the following additional data may be required:

- A) Plan for traffic control during construction.
- B) Erosion and Sedimentation Control Plans
- C) Public improvements cost estimate.

3.19 RANGE POINTS - PROPERTY MONUMENTS - BENCHMARKS

3.17.1 All monuments delineating boundaries of property or witness thereof shall be set in accordance with all applicable State of Colorado Laws and Regulations and the pertaining Town Standards.

3.20 DRAFTING STANDARDS

3.20.1 General. All Development plans submitted for approval and record shall meet the following minimum standards:

A) Plans shall be 24"x36" blue or black line and bound. Final "As Built" plans shall be mylar reverse reading, 3 millimeter mylar sepias of the original, clean, clear and free from objectionable background.

B) Double plan and profile sheets will not be allowed.

3.20.2 Lettering. Letter size shall not be less than one-tenth (0.10) of an inch. (Number 100 Leroy template)

LETTERING USED ON ENGINEERING DRAWINGS EITHER BY FEEHAND, TYPED OR THE USE OF A LETTERING GUIDE WILL BE GREATER THAN OR EQUAL TO ALL NUMBER 100 LETTERING GUIDE (0.10"). ALL LETTERING MUST BE IN SHARP CONTRAST WITH THE BACKGROUND OF THE ORIGINAL.

When plans or reports have been accepted by the Engineering Division, the Consultant shall submit a minimum of three (3) sets, signed by a professional Engineer, of blue-line copies of the plans/reports to the Town. Two (2) signed sets of plans will be returned to the Consultant and one (1) set will be kept by the Town during construction. The Consultant may also submit, up to four (4) more unsigned sets of blue-line copies for signature for use by the Consultant, Owner/Developer, Contractor, etc.

EXHIBIT "A" (24" X 36" STANDARD TITLE SHEET)

NAME OF PROJECT

ASSIGNED # OF PROJECT (IF APPLICABLE)

LOCATION OF PROJECT

(1/4 SECTION, RANGE, TOWNSHIP, ETC.)

DATE

VICINITY MAP

SUBMITTED BY:

SHEET INDEX

APPROVAL BLOCK

U.S.G.S. BENCHMARK
(IF APPLICABLE)

Exhibit "B"

The plans are reviewed for concept only, and the review does not imply responsibility be the reviewing Department, the Town Engineer, City Engineer or the Town of Bennett for accuracy and correctness of calculations. The review does not imply that quantities of items indication the plan(s) are the final quantities required. The review shall not be construed for any reason as acceptance of final responsibility by the Town or reviewing Departments for additional items and additional quantities of items shown that may be required, during the construction phase.

ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH
THE TOWN OF BENNETT
STANDARD SPECIFICATIONS

Accepted

-Approved for one year from this date:

Required
YES NO

_____	_____	_____	_____
Town Engineer	Date		
_____	_____	_____	_____
Dir. of Planning (or Town Planner	Date		
_____	_____	_____	_____
Director of Public Works	Date		
_____	_____	_____	_____
Building Department	Date		
_____	_____	_____	_____
Fire Chief	Date		