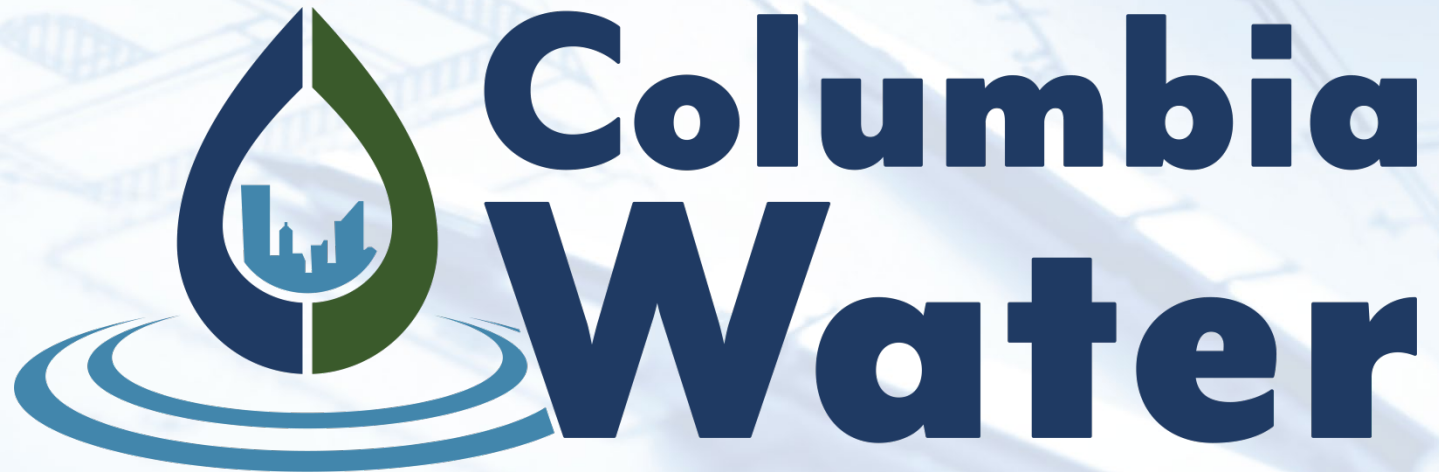




Columbia Water: Engineers/Developers Workshop

November 13, 2019



Drinking Water • Wastewater • Stormwater

Agenda

- **Introductions**
- Energov/Electronic Submittals Update
- Electronic Tap Sales
- Engineering Regulations Update
- New Approval Letter
- CAP Analysis
- Record Drawing Review
- Beta Testing Items

Introductions

- Teresa Wilson, City Manager
- Clint Shealy, Columbia Water Assistant City Manager
- Dana Higgins, Director of Engineering
- Andrea Bolling, Deputy Director of Engineering
- Byron Greene, Engineering Administrator
- Gale Nash, Real Estate Manager
- John Riggs, Wastewater Project Manager

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Energov Update

- COC Self Service Portal
- Electronic Submittals & Review
- Go-Live – TBD 2020

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Electronic Tap Sales

- New Email Inbox – all tap sales and availability requests/inquiries can be sent to EngSpecialServices@columbiasc.gov
- If no office visit necessary, customers will have the option to sign the contract and scan to Special Services
 - Contact Special Services staff member to confirm fees due and request an electronic copy of contract
 - Copy of Drivers license **mandatory** to accompany signed contract for confirmation of identity
 - If owned by a business, the Articles of Organization also **mandatory** to confirm signatory authority
 - Payment will be made through SC.gov

Electronic Tap Sales

- Fire Hydrant Flow Test
 - Engineering Department can no longer accept credit card payments over the phone
 - Options include:
 - Payment in person at 1136 Washington Street, 7th floor
 - Send in a check ATTN to Special Services with application
- Engineering Department currently working on alternatives
- Electronic Tap Sale option will begin in 2020

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Engineering Regulations

- Technical Sections 16 and 17 are being over hauled
 - Look for update in coming months
 - Water: 12” or greater:DIP
Service lines serving $\frac{3}{4}$ ” meter shall be 1”
 - Sewer: Less than 3’ or greater than 12’ cover: DIP
No Steps in Manholes
- Section 1 (1.6): Development requirements-construction
- Section 5: Sidewalks 4’ on both sides for residential

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New Approval Letter



Engineering Division
PO Box 147 | Columbia, SC 29217 | (803) 545-3400

November 13, 2019

Re: (Project Name)

(Engineer/Developer)

Dear (Sir or Madam),

The referenced plans received (date) have been examined and are approved with the following exceptions and provisions:

Note: This is not a grading/building permit, please consult with the Development Center for steps required to obtain these permits. www.columbiadevelopmentservices.net or 803-545-3483.

1. This approval letter indicates that the overall construction plans are in general compliance with the City's Engineering Regulations; however, the project engineer is fully responsible to ensure that all project drawings, specifications, work and materials for this development are in full compliance with all applicable City Engineering Regulations, City and County Regulations, Ordinances and SCDOT roadway specifications. The City shall not be held accountable for errors, omissions, misinformation, data not shown, details that are not shown, and improvements that are not labeled on the drawings that have been submitted for review and approval.
2. Please refer to Engineering Regulations Part 1, Section 1.6 Approved Plans Construction Requirements for mandatory additional requirements concerning this project.
3. The proposed water and sanitary sewer plans have been submitted to the South Carolina Department of Health and Environmental Control for permitting under the Delegated Review Program.
4. Static pressure will exceed 75 psi at elevations below pipe elevation 358 feet mean sea level. The developer shall be responsible for

ColumbiaSCWater.Net



Subdivision 2 11/7/2019

- providing pressure-reducing devices to protect building plumbing systems.
5. All water mains below 358 MSL pipe elevation must be ductile iron pipe.
 6. The City of Columbia reserves the right to request additional easements as needed for access, ingress, egress, operation, maintenance and repair of the utilities to be conveyed to this City of Columbia for this project.
 7. The above referenced plans have been submitted and approved as three phases (phases 2A, 2B and 2C). These phases shall be constructed in sequential order. Any other construction order other than sequential order shall be formally submitted for further review and written approval by the City's Engineering Department.
 8. Prior to any construction, the attached "Agreement to Comply" statement shall be signed and returned to the City.
 9. Construction plan approval is valid for only three (3) years. In the event improvements have not been completed within that time, plans must be submitted for approval and shall be subject to ordinances and regulations in effect on that date

Special Conditions:

Items that do not comply with Engineering Regulations but are approved

Should you require additional information, please feel free to contact Scott Rogers at 545-3290.

Yours very truly,

Andrea Bolling, P.E., CFM
Deputy Director of Engineering

SR
cc:

City of Columbia / Utilities and Engineering
1136 Washington Street / PO Box 147 / Columbia, SC 29217 / (803) 545-3400

Requirements added to Part 1

~~CiTy OF COLuMbiA EnginEERing~~
~~REGulATIOnS~~ City of Columbia Engineering
Regulations PART 1: ~~SubMiSSiOn OF~~
PIAnS New Development
~~TAble OF CONTenT~~ Table of Contents

Paragraph	Description	Page no.
1.1	General	1-1
1.2	Engineer's Report	1-1
1.3	Plans	1-3
1.4	Revisions to Approved Plan	1-6
1.5	Specifications	1-6
<u>1.6</u>	<u>Approved Plans Construction Requirements</u>	<u>1-6</u>
1.67	Record Drawings	1-67
1.78	Resubmission of Plan	1-78
1.89	Vicinity Map	1-89

Section 1.6

1.6 Approved Plans Construction Requirements

1.6.1 The developer must provide the City Engineer forty-eight (48) hours' notice prior to

City of Columbia Engineering Regulations - 1-

beginning construction. This request can be made to the Utilities Project Coordinator at 803-545-3400. Once the developer's contractor provides a work notice and the City confirms all preconstruction requirements have been met (permits, insurance, etc.), the contractor must hold an on-site pre-construction conference with the City inspector prior to performing any work on the project. The purpose of this meeting is to allow the contractor and inspector to review the plans and approval letter, as well as discuss concerns either party may have. This is a mandatory meeting, no exceptions! The contractor shall call the inspector at 803-545-3400 to schedule the meeting. The best time to contact the inspector is from 8:00 a.m. - 9:30 a.m.

1.6.2

The developer through his engineer must provide the project contractor a copy of the approval letter which must be maintained on site until construction is completed (permit to operate issued).

1.6.3

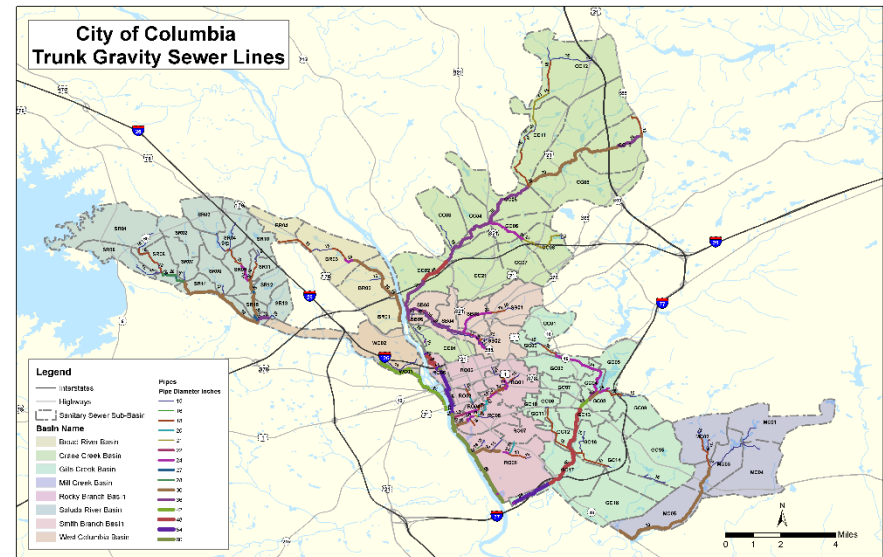
In the event any of the work related to water and sanitary sewer on the project is to be performed within public street or road rights-of-way or in an existing City easement by other than City of Columbia forces, indemnification of the City in accordance with Chapter 11, Article III, Section 11-71 of the City Code is required. Proof of insurance must be

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Capacity Assurance Program

- Purpose of Capacity Assurance Program (CAP)
 - EPA Requirement in Consent Decree
 - A review program that manages and tracks new sewer connections and increases in sewer flow
 - Goal of eliminating future capacity related SSOs
 - Manages and tracks available wastewater system capacity



What Requires a CAP Review?

- As part of the City's Clean Water 2020 program, all new sewer service connections and increases in flow from existing sewer system connections must be reviewed in accordance with the Capacity Assurance Program
- The current requirement is to review each individual project with an average daily flow of 4,000 GPD or greater
- Flows less than 4,000 GPD are tracked internally and reviewed periodically
- Types of Flow include:
 - Changes in use
 - New sewer connections
 - Residential developments
 - Industrial developments
 - Anything that discharges to the sewer system

Two Types of CAP Reviews

- Pre-CAP Review
 - Earliest stages of planning/Due diligence
 - Optional and non-binding for applicant and City
 - Snap shot in time of the system's hydraulic ability to collect, transmit, and treat the wastewater from the point it enters the system to the WWTP
- CAP Review
 - Part of the subdivision plan review process
 - Final assessment of the system's ability to collect, transmit, and treat the proposed flow within the bounds set by the Consent Decree and program requirements
- Currently no charge for Pre-CAP or CAP reviews

The Review

- Submittal Requirements
 - Completed CAP Request Form
 - Design plans (not needed for Pre-CAP)
 - Discharge/system connection location
 - Flow calculations using SCDHEC Unity Contributory Loadings R61-67 (Must be signed by Engineer for CAP Reviews)
 - Peaking factor of 2.5 is typical but may vary depending on flow source
 - Additional information for industrial developments (visit IPP website for more information)



Capacity Assurance Program Analysis Request Form

See form instructions for definitions and further entry details.

I. **Date of Application:** Click here to enter a date.

II. **Name of Proposed Project:** Click here to enter text.

III. **CAP# (Assigned by City):** Click here to enter text.

IV. **Wastewater Service Area:**
 In City Service Area
 Fort Jackson
 West Columbia
 Ni America
 ERPSD
 Other
 Click here to enter text.

V. **Type of Development:** Choose an item.

VI. **Pre-CAP or CAP:** Choose an item.

VII. **FMS# of proposed development:** Click here to enter text.

VIII. **Street address of proposed development:** Click here to enter text.

IX. **Proposed development includes: (ex. 40 single family homes)** Click here to enter text.

X. **Is this project part of a phase II project?** Yes No **If Yes, Phase** Click here to enter text. **Click here to enter text.**

XI. **Is this project a revision to a previously permitted project?** Yes No **If Yes, Permit #/CAP #** Click here to enter text.

Date Approved: Click here to enter a date. **Project Name (if different):** Click here to enter text.

XII. **Estimated ADF:** Click here to enter text.

XIII. **Estimated Peak Flow:** Click here to enter text.

Please provide calculations to show total flow being requested, and peaking factors for peaking (ex. for timing unit) if above 2.5

XIV. **Estimated Calendar Quarter when additional flow from connection will begin:** *(ex. Q1 2015)* Click here to enter text.

XV. **Submittal must include the following:**

- Provide Original CAP Analysis Request Form with one copy
- Provide a sketch, map, or plan of the location where the proposed flow will enter the City of Columbia's System
- Provide a scanned copy of the signed SCDHEC Construction Permit application form (for CAP reviews)
- Provide two (2) sets of wastewater flow calculations (signed and sealed if for CAP review)
- Provide two (2) sets of utility plans (signed and sealed if for CAP review) (In City service area only. See IV. above.)
- For industrial developments, please contact the City for additional information that may be required

CAP Analysis Request Form
 Original Date: February 18, 2015
 Revision Date: February 18, 2015 For a fillable or printable version of this form go to www.columbiawater.net/wastewater Pg. 1
 You created this PDF from an application that is not licensed to print to novaPDF printer (<http://www.novapdf.com>)

Review Timeline

- Full detailed package helps to limit review timeline
- Applicant can coordinate with CAP team for meetings if needed
- Open communication and review of alternatives if capacity-related issues are identified
- Typical review – 7-14 days
- Causes for delays
 - Field investigation
 - Pump drawdown testing
 - Potential capacity limitations

CAP Results

- Pre-CAP
 - Letter emailed to applicant indicating if capacity is currently available, available with conditions, or not available at this time
 - Non-binding
 - CAP review will be required as part of the City's Utility Plan Review Process
- CAP
 - Letter emailed to City's Utility Plan Review Manager indicating if capacity is currently available, available with conditions, or not available at this time
 - An approval or approval with conditions will be issued as party of the City's Utility Plan Review Process if capacity is available
 - If capacity is not available, the City will notify the developer or entity that system upgrades are required

Contact Information

- Submit CAP and PreCAP requests to: Scott Rogers at Michael.Rogers@columbiasc.gov
- Capacity Assurance Program Contact (Primary): John Riggs at John.Riggs@columbiasc.gov
- Capacity Assurance Program Contact (Secondary): Kathryn Nexsen at Kathryn.Nexsen@columbiasc.gov
- IPP Contact: Stephen Sealey at Stephen.Sealy@columbiasc.gov

<https://columbiascwater.net/about-wastewater/capacity-assurance-program/>

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- Introductions
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- **Record Drawing Review**
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Record Drawing Review

- New Email Inbox – All Record Drawing Review items can be submitted to EngProjects@columbiasc.gov
- Due diligence for Record Drawing Submittal
 - Projects including meters 4” and above & approved as Water Service Construction will require Record Drawing Review
- Flowchart
 - Important Items
 - The following items must be submitted for Record Drawing Review:
 - Form 2 (Must be signed by the developer)
 - Form 3 (Lien Waiver)
 - Property Deed
 - Materials List (must be on contractors letterhead)
 - Completed Record Drawing Checklist
 - Record Drawings

Special Note: Submittal is incomplete if all items are not submitted

Record Drawing Review

- Flowchart
 - Important Items
 - Record Drawing Checklist
 - The checklist should be completed and all items should be addressed
 - The completed checklist submittal signifies that the Engineer has addressed all the basic necessary items to move the project through the review
 - **Failure to submit the checklist and complete the checklist in its entirety will delay the project**
 - No concurrent review!
 - Utilities Project Coordinator Review
 - Real Estate Division Review

Record Drawing Review

- Important Items
 - Record Drawing Checklist
 - Missing items will be highlighted and returned to the Engineer for revisions ***Special Note: If revisions are necessary, project will lose its place in review***
 - After Real Estate's review, items are sent to Legal Review for approval
 - Sampling Process
 - Labs must pass a total of two times within a 48 hour period before UPC receives notification
 - Labs expires within 30 days. If labs expire during review process, owner/developer is responsible for second test

Record Drawing Review

- Cover Sheet Sample

WATER RECORD DRAWING

PROJECT NAME

PREPARED FOR

DEVELOPER &
LOCATION

OWNER
INFORMATION

ENGINEER
INFORMATION

STORM
DRAINAGE
INFORMATION

SEWER
INFORMATION

THE ABOVE INFORMATION IS
THE PROPERTY OF THE
ENGINEER. IT IS NOT TO BE
REPRODUCED OR TRANSMITTED
IN ANY FORM OR BY ANY MEANS
WITHOUT THE WRITTEN
CONSENT OF THE ENGINEER.

RECORD DRAWING DATE: MONTH, DAY, YEAR

ENGINEERING FIRM

NOTES AND REFERENCES

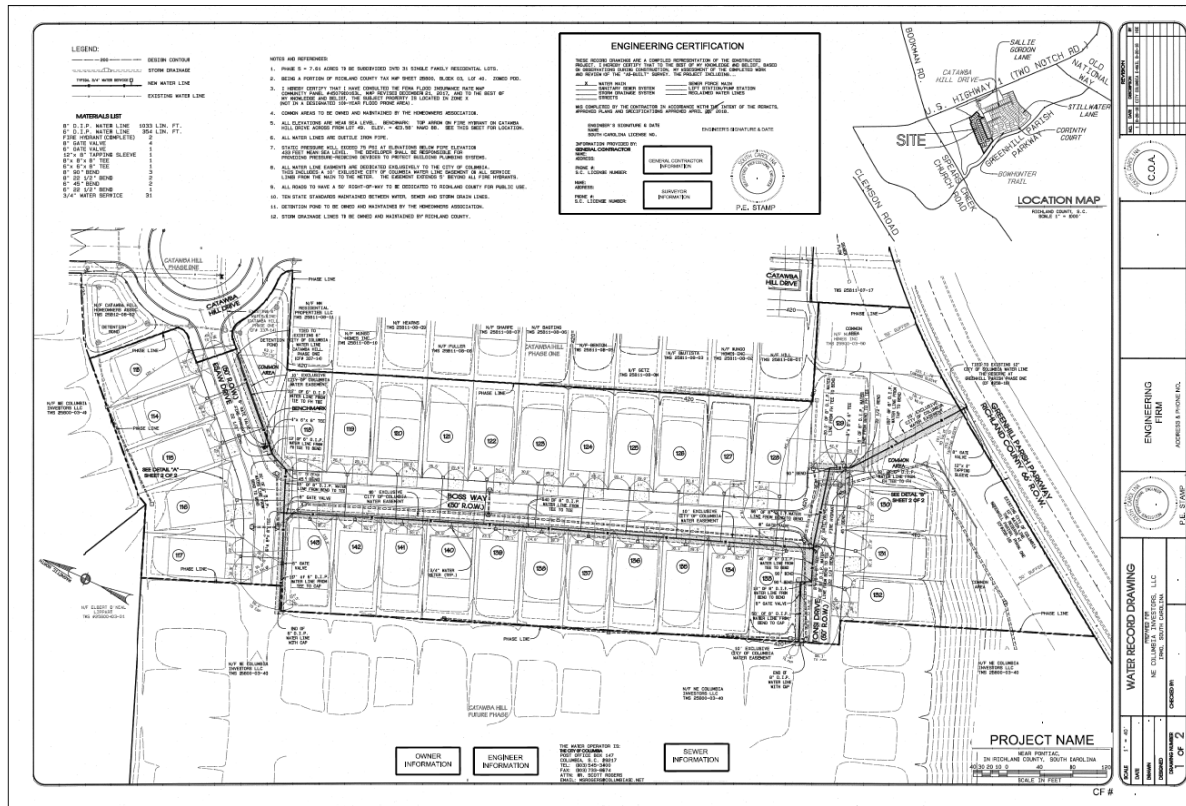
1. PLOTTING SHALL BE ACCORDING TO THE REQUIREMENTS OF THE CITY OF COLUMBIA.
2. BEFORE A PERMIT OF OCCUPANCY IS ISSUED BY THE CITY OF COLUMBIA, THE DRAWING SHALL BE REVIEWED BY THE CITY OF COLUMBIA AND APPROVED BY THE CITY ENGINEER.
3. THE ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT.
4. THE ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT AND SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT.
5. ALL ELEVATIONS AND HEADS OF LEVEL, INCLUDING THE HEAD OF THE MAIN LINE OR BRANCH LINE, SHALL BE TO THE CENTER OF THE PIPE.
6. ALL WATER LINES ARE CAST-IRON PIPE.
7. ALL WATER LINES SHALL BE INSTALLED AT A DEPTH OF 48" BELOW FINISH GRADE UNLESS OTHERWISE SPECIFIED.
8. ALL WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF COLUMBIA WATER MAIN LINES SPECIFICATIONS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF COLUMBIA WATER MAIN LINES SPECIFICATIONS.
9. ALL MAINS TO HAVE A 10% SLOPE TO BE MAINTAINED TO THE CITY OF COLUMBIA.
10. THE STATE OF IOWA MAINTAINS SEPARATE WATER, SEWER AND STORM DRAIN LINES.
11. SEWERAGE SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
12. STORM DRAINAGE LINES TO BE MAINTAINED BY KIDLAND COUNTY.

REVISION		
NO.	DATE	DESCRIPTION

SHEET 1 OF 3
CP #

Record Drawing Review

- Plan Sheet Sample



Sample will be available on our website at <https://columbiascwater.net/business-resources/record-drawing-application-process/>

Record Drawing Review

- Frequently Missed Items
 - General Format – Record Drawing Checklist page 1
 - Title Block – Record Drawing Checklist page 2
 - Cover Sheet – Record Drawing Checklist Page 2
 - Plan Sheet(s) – Record Drawing Checklist page 3
 - Plan Sheet(s) – Record Drawing Checklist page 4
 - Profile Sheet(s) – Record Drawing Checklist page 4
 - Record Drawing Notes/General Notes – Record Drawing Checklist pages 4 & 5
 - Engineer’s Certification – Page 7

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Beta Testing Items

- Outside Attorney to provide deeds/easements
- Secure COC GIS Access
- Bonding Record Drawings



Final Questions?