

**Agreement for Transfer  
of Real Estate, and Homeownership Assistance Neighborhood Development  
Funding for the Development and  
Stewardship of Affordable Housing**

This Agreement for the transfer of certain real estate, and make funding available is made and entered into by and between Columbia Community Land Trust, Inc., a Missouri non-profit corporation (“Land Trust”) and the City of Columbia, Missouri, a municipal corporation (“City”), effective on the date of the last signatory noted below.

Whereas, City is committed to developing permanently affordable housing and expanding opportunity for home ownership; and

Whereas City faces a number of housing challenges including affordability for low to moderate income residents; and

Whereas, as identified in the City of Columbia 2020-2024 Consolidated Plan, the City has set forth affordable housing production goals to meet the growing need and demand for affordable housing; and

Whereas, as identified in the Boone County Long Term Recovery Plan under the Boone County Emergency Operations Plan, the onset of the COVID-19 pandemic has provided market conditions further widening the gap between affordable homeownership and median wages for low to moderate income households; and

Whereas, the community land trust model, allows low to moderate income individuals and families to build equity, while maximizing benefits for housing assistance, and protecting affordability for future residents; and

Whereas, Land Trust has been created as a non-profit corporation for the specific purposes set forth in their Articles of Incorporation:

“...to provide opportunities for lower to moderate income people to secure housing that is decent and affordable and controlled by the residents on a long term basis; to preserve the quality and affordability of housing for the future low to moderate income residents; to combat community deterioration in economically disadvantaged neighborhoods by making land available for projects and activities, including buying, selling, leasing, mortgaging and managing real estate, that improve the quality of life and

assisting residents in improving the safety and wellbeing of their community and to protect and promote the ecologically sound use of land and resources for the long term health and safety of the community.”

and

Whereas, at the recommendation of founding board member, Dan Cullimore, the Land Trust adopted the idea of neighborhood representation in the appointment of “Neighborhood Director” Board members as set forth in their Bylaws:

“...Neighborhood Directors” representing the demographics, cultural perspectives and broader interests of the neighborhoods where CLT homes are being developed...”

Whereas, Land Trust, familiar with the goals and desires of the City, promises to faithfully carry out and promote those goals and needs of the City in its home stewardship programs.

Now, THEREFORE, in consideration of the foregoing recitals, covenants and promises, and for other good and valuable consideration the sufficiency of which is hereby acknowledged, City and Land Trust agree as follows:

#### Land

1. City owns unimproved real estate at 1100 Rear Coats St, 1102 Rear Coats St, 1104 Rear Coats Street, 1106 Rear Coats Street and 1108 Rear Coats Street described as follows:

Lots 1-5 & C1 of the Cullimore Cottages Final Plat, A Re-Plat of Lots 4, 5 & 6 of JC Conley’s addition to the City of Columbia in Boone County, Missouri.

2. City shall transfer ownership in the above described real estate to Land Trust, in trust, for the construction of five (5) single family housing units in accordance with current zoning, Cullimore Cottages final plat recorded at the Boone County Recorder’s Office on November 5, 2019, City and, pursuant to the specs as set forth on Exhibit B attached hereto, contractor proposal set forth in Exhibit C, City approved site plan as set forth on Exhibit D and subject to the Columbia Community Land Trust stewardship policies and procedures for administering a portfolio of resale restricted owner occupied homes within the low to moderate income requirements and further subject to the Housing and Urban Development

rules and regulations set forth in Section 24 C.F.R. Housing and Urban Development and the Fair Housing Act.

3. Land Trust shall place all necessary restrictive covenants on said properties at the time of sale to an income qualified buyer consistent with preserving housing affordability, promoting housing quality, protecting housing security, and calculate formula driven resale pricing to allow a seller to appreciate their equity but maintain an affordable resale price to the next qualified buyer, and consist with the rules and regulations of Land Trust owned properties.
4. Land Trust shall secure such additional financing necessary for the construction of the five (5) homes over and above the amount committed by City under this Agreement, and sufficient financing must be demonstrated to City before drawing on the City funds provided for in Section 6 of Funding in this Agreement.
5. Land Trust shall immediately notify City of any foreclosure or default, legal action taken or threatened, tax sale, or imposition of any liens against any of the Land Trust owned or administered property.

#### Funding

6. City agrees to place in an account for the benefit of Land Trust pursuant to all terms and conditions of this Agreement two hundred thirty-two thousand forty-nine dollars (\$232,049.00) in HOME Homeownership Assistance Neighborhood Development (HOA ND) funding for the purpose of funding the affordability gap identified in the cost of developing the lots with five (5) single family owner-occupied housing units as specified on the plans set forth on Exhibit B attached hereto, and providing homeowner assistance to a low to moderate income household purchasing said property subject to all restrictions and limitations established by the Land Trust to comply with the purposes and goals of the Land Trust program. Funds shall be expended only on HOME eligible activities as defined by HOME regulations at 24 CFR Part 92.206. The Agency shall not use these funds for the purposes of prohibited activities as defined by 24 CFR Part 92.214. Land Trust shall verify compliance as required by this Agreement.

City agrees to place in an account for the benefit of the Land Trust fifty thousand (\$50,000) in Water and Light Program funds for the installation of five (5) four kilowatt (4kw) active photovoltaic solar panel systems to decrease utility costs for low to moderate income households and meet carbon reduction goals as identified within the City's Climate and Adaptation Plan. Funds for the installation of the

system will be drawn upon verification of successful completion of homes by both the City of Columbia Housing Programs Division staff and Water and Light Utility Services Division staff. The Land Trust shall retain a portion of the home sales proceeds that equals eighty percent (80%) of the increase in market value to the home due expressly to the installation of the solar panels. Proceeds maintained from the added value of the solar installation shall be used for future solar installation on affordable housing projects. A final report detailing the increase in value and solar proceeds maintained shall be provided to the Housing Programs Division and Water and Light Utility Services Division upon completion of the project. The increase in value shall be verified by a qualified independent appraiser acceptable to the city and shall only apply to first sale.

7. Land Trust shall retain two thousand five hundred dollars (\$2,500.00) per home under construction for a total of twelve thousand five hundred dollars (\$12,500.00) of funding for the sole purpose of providing interim interest payments to construction lender bank between construction completion date and closing on the sale of each house, and any additional City approved contingency costs.
8. The funds provided by City are subject to the rules and regulations of 24 C.F.R. et seq. and the requirements of the Fair Housing Act.
9. Payments may be made to Land Trust as progress payments or upon completion of each home at the City's sole discretion. Each payment request shall be supported by invoices. No payment shall be made until City has completed an inspection to verify successful and satisfactory completion of the work.
10. Land Trust shall satisfactorily demonstrate to City they have effective management control of the development as it progresses.
11. Land Trust shall provide all information needed for compliance monitoring purposes by the City and the U.S. Department of Housing and Urban Development. Land Trust shall permit City to inspect all housing to ensure compliance with required property standards.
12. Upon the sale of each property the Land Trust shall provide a copy of the closing statement and such additional information and data as requested by the City to assess and evaluate the demographics of the participants in the program.
13. Sales price and Land Trust base price to the buyer shall be approved by City and based on an approved Land Trust based appraisal obtained by the Land Trust.



Base price shall be eighty percent (80%) of the Land Trust appraised value and assistance to buyer shall be in the form of a credit to the buyer at closing. Any sales proceeds, as calculated by City, may be retained by the Land Trust and used for additional HOME eligible activities. Eligible activities may include operating costs as defined in 24 CFR Part 92.208, or other HOME eligible project costs defined at 24 CFR Part 92.206 within the City limits of Columbia. Sales proceeds are defined as the sales price less superior development financing loan repayment, Land Trust equity, sales and closing costs charged to Land Trust. The Land Trust shall provide a report to the City on the receipt and use of all proceeds, including operating costs as requested by the City, and provide such supporting documents as the City may require.

14. Land Trust shall retain all records pertinent to the agreement and make same available for inspection to City upon request.
15. In the event Land Trust ceases to exist for any reason or if Land Trust loses its non-profit status, Land Trust shall transfer to City any Land Trust funds on hand, any accounts receivable, and any real estate then owned or managed by the Land Trust.
16. The use of funds must meet the safe harbor requirement for a non-profit land trust corporation as defined by the IRS and as well as state laws for tax exemption.
17. City may in City's discretion require an audit of the Land Trust program by an auditor selected by the City. Land Trust shall prepare and deliver to City annual reports of its activities and financial condition.
18. Expenditure of funds under this agreement is subject to the "Administrative Services" provisions of the "Agreement for Transfer of Real Estate, Establishment of Funding Account and Provision for Administrative Services" between the City of Columbia and Columbia Community Land Trust dated January 10, 2017.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the parties hereto have set their hand on the day and year written below.

**CITY OF COLUMBIA, MISSOURI**

By: \_\_\_\_\_  
John Glascock, City Manager

Date: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_  
Sheela Amin, City Clerk

APPROVED AS TO FORM:

By: \_\_\_\_\_  
Nancy Thompson, City Counselor

CERTIFICATION: I hereby certify that this contract is within the purpose of the appropriation to which it is to be charged, Account No. \_\_\_\_\_  
Account No. 17430908-505008 and that there is an unencumbered balance to the credit of such appropriation sufficient to pay therefor.

By: \_\_\_\_\_  
Matthew Lue, Director of Finance

**Columbia Community Land Trust, Inc.**

By: 

Printed Name: ANTHONY E. STANTON

Date: 7/23/20

ATTEST:

By: \_\_\_\_\_

REQUEST FOR PROPOSAL  
DESIGN-BUILD Cullimore Cottages Affordable Housing  
FOR THE  
**COLUMBIA COMMUNITY LAND TRUST**

STAFF LIAISON, RANDY COLE  
500 E. WALNUT, SUITE 108  
COLUMBIA, MO 65201  
(573) 874-6321

COLUMBIA COMMUNITY LAND TRUST BOARD  
Anthony Stanton, President  
Richard Mendenhall, Vice President  
Alexander LaBrunerie, Treasurer  
Susan Maze, Secretary  
Linda Head  
Shirley Rhoades  
Scott Crystal

Request for Proposal No. 1  
Closing Date: 5:00 p.m., CST, Monday, January 31, 2020

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**ATTACHMENTS**

**A – Form X**

**B – PD Plan-Cullimore Cottages**

**C – Final Designs by Nick Peckham**

# 1. GENERAL REQUIREMENTS

## 1.1 PURPOSE:

The Columbia Community Land Trust (CCLT) is seeking residential home builder quotations for the construction of at least five and up to seven affordable cottage housing style homes at the N. 8<sup>th</sup> Street Cullimore Cottages project site. The PD Plan for Cullimore Cottages and Architectural Plans are included as attachments. Public sanitary sewer line and risers for each home will be installed prior to construction and under separate contract. Storm water infrastructure will also be installed prior to construction under separate contract.

The CCLT will maintain ownership of the land only, and the structures will be sold to CCLT approved buyers. The CCLT intends to enter into a 99-year ground lease with the approved buyer(s). The CCLT shall determine the sales price of the home(s).

The contractor shall have complete and exclusive control over the construction management, subject only to the terms of the agreement and RFP. Contractor must be city licensed to perform, construct or develop new housing and such license must be kept current during the term of this agreement. Respondents will provide cost estimates and total development costs (including Contractor fees) in their responses using Form X. Draws will be made monthly and based upon project costs submitted through CCLT approved bank and title company procedures:

Contractor will provide billing invoice statements with draw requests to CCLT administrative services staff. The Contractor must supply all necessary lien waivers from sub-contractors and/or vendors for which the construction draws are to be made at the time the draw request is made. If requested, Vendor and/or sub-contractor bids and invoices must be provided. To the CCLT's satisfaction, the Contractor, upon notification, must rectify improper payments made by the CCLT to the Contractor.

The Contractor will construct housing plans as identified in this document. The CCLT reserves the right to approve all plans including, but not necessarily limited to, home plans, specifications, allowances, change orders, and costs. Change orders for deviations from previously agreed upon plans and specifications will require the approval of the CCLT and Contractor. The development of the lot shall be a collaborative endeavor between the CCLT and Contractor; provided, however, that should a dispute arise, the CCLT determination on disputed issues shall be final.

The Contractor shall furnish all labor, materials, tools, equipment, supervision, and services required to complete the work to be performed with quality workmanship in compliance with the specifications, plans, Agreements, and applicable codes, laws, and regulations as agreed upon by the Contractor and CCLT. It shall be Contractor's responsibility to resolve all "punch list" items to the CCLT's satisfaction within the project budget.

The Contractor shall begin work only after CCLT issuance of a written "Notice to Proceed" signed by two officers of the CCLT. Project completion as determined by the issuance of a Certificate of Occupancy by the City of Columbia should not take more than 270 days beginning from the issuance of a "Notice to Proceed". This includes the issuance of building permits. Should construction take longer than 270 days, a review will be made by the CCLT and the CCLT may, at its option, terminate this Agreement upon giving a 30 day written notice.

Sale of Homes: Upon completion of the homes, the Contractor will provide to the CCLT the guarantee of work performed, statement of contractor's warranty a minimum of one (1) year and provide the CCLT all manufacturers' and suppliers' written guarantees and warranties covering materials and equipment. Contractor fees will be paid with the final draw and shall not exceed development fee cost provided in the Contractor's response to this RFP.

**Each Contractor’s response shall be reviewed by the CCLT Board of Directors.**

**1.2 DUE DATE FOR PROPOSALS:**

Proposals may be submitted in a sealed envelope at 500 E. Walnut, Suite 108 or via email to [Randall.Cole@como.gov](mailto:Randall.Cole@como.gov). Sealed proposals must be delivered by the closing date and time. Proposals received after the appointed time will be determined non-responsive and will not be opened. Sealed proposals must be submitted as one (1) original copy and so marked. The proposals must be in sealed envelopes and marked in bold letters “RFP #1 Construction of Cullimore Cottages.”

**1.3 QUESTIONS/CLARIFICATIONS OF THE REQUEST FOR PROPOSAL:**

All questions concerning the solicitation and specifications shall be submitted in writing via e-mail to the name below. You are encouraged to submit your questions via e-mail.

Randy Cole  
Phone: (573) 874-6321  
E-mail: [Randall.Cole@como.gov](mailto:Randall.Cole@como.gov)

Any oral responses to any question shall be unofficial and not binding on the CCLT. Questions must be submitted no later than ten (10) days before the Closing Date.

This written *Request for Additional Information* will take place of the normal Pre-Proposal Conference.

**1.4 SCHEDULE OF ACTIVITIES:**

DATE	ACTIVITY
December 24, 2019	RFP Released
December 29, 2019	Newspaper Notice
January 9, 2020	3pm. <i>Informational Meeting Requests for Additional Information</i>
January 15, 2020	5pm. <i>Written Requests for Additional Information due.</i>
January 20, 2020	Written responses to <i>Requests for Additional Information</i> sent out.
January 31, 2020	Proposals due by 5:00 p.m. CST
February 11, 2019	CCLT Board Meeting to Award Bid
The above dates are target dates and may change.	

**1.5 DUE DATE FOR PROPOSALS:**

Proposals must be submitted in a sealed envelope at the Housing and CDBG Programs office. Sealed proposals must be delivered to 500 E. Walnut, Suite 108, Columbia, MO 65201 by the closing date and time. Proposals received after the appointed time will be determined non-responsive and will not be opened. The proposals must be in sealed envelopes and marked in bold letters “RFP #1 Construction of Cullimore Cottages Cottages”.

## **1.6 VALIDITY OF PROPOSALS**

Respondents agree that proposals will remain firm for a period of ninety (90) calendar days after the date specified for the return of proposals.

## **1.7 REJECTION OF PROPOSALS:**

The CCLT reserves the right to reject any or all proposals received in response to this RFP, or to cancel the RFP if it is in the best interest of the CCLT to do so. Failure to furnish all information requested in this RFP may disqualify the proposal. Any exceptions to the requirements specified must be identified in the proposal.

## **1.8 WITHDRAWAL OF PROPOSALS:**

Any Presenter may withdraw his proposal at any time prior to the scheduled closing time for the receipt of proposals. However, no proposal will be withdrawn for a period of ninety days after the scheduled closing time for the receipt of proposals.

## **1.9 ALTERATION OF SOLICITATION:**

The wording of the CCLT's solicitation may not be changed or altered in any manner. Respondents taking exception to any clause in whole or in part should do so by listing said exceptions on their letterhead and submitting them with their proposal; such exceptions will be evaluated and accepted or rejected by the CCLT, whose decision will be final.

## **1.10 RESPONSE MATERIAL OWNERSHIP:**

All material submitted regarding this RFP becomes the property of the CCLT. Any person may review proposals after the "Notice of Intent to Award" letter has been issued, subject to the terms of this solicitation.

## **1.11 INCURRING COSTS:**

The CCLT shall not be obligated or be liable for any cost incurred by Respondents prior to issuance of a Contract. All costs to prepare and submit a response to this solicitation shall be borne by the Respondent.

## **1.12 COLLUSION CLAUSE:**

Any agreement or collusion among Respondents and prospective Respondents to illegally restrain freedom of competition by agreement to fix prices, or otherwise, will render the proposals of such Respondents void.

## **1.13 CONTRACT DOCUMENTS:**

The final Contract between the CCLT and the Respondent will include by reference:

- Respondent's Proposal
- The Specifications contained in this RFP

Any changes, additions or modifications hereto will be in writing and signed by the CCLT staff liaison.

## **1.14 APPLICABLE LAW:**

The proposal and Contract shall be governed in all respects by the ordinances of The City of Columbia and the laws of the State of Missouri, and any litigation with respect thereto shall be brought in the courts in the State of Missouri.

### **1.15 RESPONSIBILITY:**

The CCLT reserves the right to require the apparent successful vendors to file proof of his/her ability to properly finance and execute the Contract, together with his/her record of successful completion of similar Contracts prior. The award of the Contract will be contingent upon providing acceptable proof and record of performance. *This information will become a part of the contents of the file and hence public record unless the Respondent indicates this material confidential and request this information be returned at the expense of the Respondent.*

### **1.16 ASSIGNMENT:**

Firm shall not assign the Contract, subcontract it, or sublet it as a whole without the prior written consent of the CCLT. Assignment, subcontracting, or subletting without such consent will in no way relieve the Firm of any of its obligations unless specifically stated by the CCLT in its consent.

### **1.17 AUDITING OF INVOICES:**

Invoices are subject to audit for a period of five (5) years after the sale of the homes. If during the audit it is revealed that the Respondent charged the CCLT a price higher than the proposed price, the Respondent will reimburse the CCLT the amount of the overcharge.

### **1.18 NONDISCRIMINATION IN EMPLOYMENT**

In connection with the furnishing of supplies or performance of work under this Contract, the Firm agrees to comply with the Fair Labor Standard Act, Fair Employment Practices, Equal Opportunity Employment Act, and all other applicable Federal and State laws and further agrees to insert the foregoing provisions in all subcontracts awarded hereunder.

### **1.19 TERMINATION FOR DEFAULT**

If, through any cause, the firm shall fail to fulfill, in a timely and proper manner, its obligations under this contract, or if the firm shall violate any of the covenants, agreements, or stipulations of this contract, the CCLT shall thereupon have the right to terminate this contract for cause by giving written notice to the firm of its intent to terminate and at least ten (10) calendar days to cure the default or show cause why termination is otherwise not appropriate. In the event of termination all finished or unfinished documents, data, studies, survey, drawings, maps, models, photographs, and reports or other material prepared by the firm under this contract shall, at the option of the CCLT, become its property, and the firm shall be entitled to receive just and equitable compensation for any services and supplies delivered and accepted. The firm shall be obligated to return any payment advanced under the provisions of this contract.

Notwithstanding above, the firm shall not be relieved of liability to the CCLT for any damages sustained by the CCLT by virtue of any breach of the contract by the firm, and the CCLT may withhold any payment to the firm for the purpose of mitigating its damages until such time as the exact amount of damages due the CCLT from the firm is determined.

If after such termination it is determined, for any reason the firm was not in default, or that the firm's action/inaction was excusable, such termination shall be treated as a termination for convenience, as described herein.

### **1.20 TERMINATION FOR CONVENIENCE:**

The performance of work under this Contract may be terminated by the CCLT in whole or in part, whenever the CCLT Board of Directors determines that such termination is in the best interest of the CCLT. Any such termination will be affected by delivery to the Respondent of a letter of termination specifying the extent to which performance of work under the Contract is terminated and the date upon which such termination is effective.

After receipt of a termination letter the Respondent will:



- Stop work on the Contract on the date and to the extent specified in the letter.
- Place no further orders for materials, services or facilities except as may be necessary to complete any portions of the work under Contract not terminated.
- Complete on schedule such part of the work as will not be terminated by termination letter.

#### **1.21 EMPLOYMENT OF UNAUTHORIZED ALIENS PROHIBITED:**

(a) Contractor agrees to comply with Missouri State Statute section 285.530 in that they shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the state of Missouri.

(b) As a condition for the award of this contract the contractor shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. The Contractor shall also sign an affidavit affirming that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services.

(c) Contractor shall require each subcontractor to affirmatively state in its contract with contractor that the subcontractor shall not knowingly employ, hire for employment or continue to employ an unauthorized alien to perform work within the state of Missouri. Contractor shall also require each subcontractor to provide contractor with a sworn affidavit under the penalty of perjury attesting to the fact that the subcontractor's employees are lawfully present in the United States.

#### **1.22 INSURANCE REQUIREMENTS:**

**CONTRACTORS INSURANCE:** The Contractor shall not commence work under this Contract until they have obtained all insurance required under this paragraph and such insurance has been approved by the CCLT, nor shall the Contractor allow any subcontractor to commence work on their contract until all similar insurance required of subcontractor has been so obtained and approved. All policies shall be in amounts, form, and with companies satisfactory to the CCLT.

**WORKERS COMPENSATION INSURANCE:** The Contractor shall take out and maintain during the life of this Contract Employers Liability and Workers Compensation Insurance for all of their employees employed at the site of the work, and in case any work is sublet, the Contractor shall require the subcontractor similarly to provide Workers Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Contractor.

Workers Compensation coverages shall meet Missouri statutory limits. Employers Liability limits shall be \$500,000.00 each employee, \$500,000.00 each accident, and \$500,000.00 policy limit. In case any class of employees engaged in work under this Contract at the site of the work is not protected under the Workers Compensation Statute, the Contractor shall provide and shall cause each subcontractor to provide Employers Liability Insurance for the protection of their employees not otherwise protected.

**COMMERCIAL GENERAL LIABILITY INSURANCE:** Contractor shall carry Commercial General Liability Insurance written on ISO occurrence form CG 00 01 07 98 or later edition (or a substitute form providing equivalent coverage) and shall cover all operations by or on behalf of the Contractor, providing insurance for bodily injury liability and property damage liability for the limits indicated below and for the following coverage:

Premises and Operations

## Products and Completed Operations

Contractual Liability insuring the obligations assumed by the Contractor under this Contract.  
Personal Injury Liability and Advertising Injury Liability

Except with respect to bodily injury and property damage included within the products and completed operations hazards, the general aggregate limit shall apply separately to the Contractor's project under this Contract. Completed Operations coverage must be maintained for the correction period provided by the agreement.

Limit of Liability. The Commercial General Liability policy limits shall not be less than:  
\$1,000,000 Each Occurrence (Comb. Single Limit for Bodily Injury & Prop. Damage)  
\$2,000,000 Aggregate for Products/Completed Operations  
\$2,000,000 Personal Injury/Advertising Injury  
\$2,000,000 General Aggregate (provide endorsement to apply the General Aggregate per project, if available).

Additional Insured The Owner, all of its officers, directors and employees, shall be named as Additional Insureds under the Commercial General Liability Insurance using ISO Additional Insured Endorsements CG 20 10 or substitute providing equivalent coverage. This endorsement must be stated on the insurance certificate provided to the Owner and a copy of the endorsements confirming coverage should accompany the insurance certificate.

Primary Coverage The Contractor's Commercial General Liability Policy shall apply as primary insurance and any other insurance carried by the Architect or the Owner shall be excess only and will not contribute with Contractor's insurance. This must be stated on the insurance certificate and a copy of the endorsement confirming coverage should accompany the insurance certificate.

**BUSINESS AUTOMOBILE LIABILITY INSURANCE:** The policy should be written on ISO form CA 0001, CA 0005, CA 0002, CA0020 or a substitute form providing equivalent coverage and shall provide coverage for all owned, hired and non-owned vehicles. The limit of liability should be at least \$1,000,000 Combined Single Limit for Bodily Injury and Property Damage each accident and should also cover Automobile Contractual Liability. The policy should name the Owner and all of its officers, directors and employees as Additional Insureds. The policy shall be endorsed to be primary coverage and any other insurance carried by the Owner shall be excess only and will not contribute with Contractor's insurance. To confirm coverage, a copy of the Additional Insured Endorsement should accompany the insurance certificate.

**WAIVER OF SUBROGATION:** The Commercial General Liability and Automobile Liability policies shall each contain a waiver of subrogation in favor of the Owner and its officers, directors and employees.

**CERTIFICATES OF INSURANCE:** As evidence of the insurance, limits and endorsements required, a standard ACORD or equivalent Certificate of Insurance executed by a duly authorized representative of each insurer shall be furnished by the Contractor to the Owner and Architect before any Work under the Contract is commenced by the Contractor. Owner shall have the right, but not the obligation, to prohibit Contractor or any Subcontractor from entering the Project site until such certificates are received and approved by the Owner. With respect to insurance to be maintained after final payment, an additional certificate(s) evidencing such coverage shall be promptly provided to Owner as a precondition to final payment. The Certificate of Insurance shall provide that there will be no cancellation or reduction of coverage without 30 days prior written notice to the Owner. The certificate must also contain a description

of the project or work to be performed. Failure to maintain the insurance required herein may result in termination of the Contract at Owner's option. In the event the Contractor does not comply with the requirements of this section, the Owner shall have the right, but not the obligation, to provide insurance coverage to protect the Owner and charge the Contractor for the cost of that insurance. The required insurance shall be subject to the approval of the Architect, but any acceptance of insurance certificates by the Owner shall in no way limit or relieve the Contractor of their duties and responsibilities in this Agreement.

**SUBCONTRACTORS:** Contractor shall cause each Subcontractor to purchase and maintain insurance of the types and amounts specified herein. Limits of such coverage may be reduced only upon written agreement of Owner. Contractor shall provide to Owner copies of certificates evidencing coverage for each Subcontractor. Subcontractors' commercial general liability and business automobile liability insurance shall name Owner as Additional Insured and have the Waiver of Subrogation endorsements added.

**HOLD HARMLESS AGREEMENT:** To the fullest extent not prohibited by law, Contractor shall indemnify and hold harmless the CCLT, its directors, officers, agents, and employees from and against all claims, damages, losses, and expenses (including but not limited to attorneys fees) arising by reason of any act or failure to act, negligent or otherwise, of Contractor, of any subcontractor (meaning anyone, including but not limited to consultants having a contract with Contractor or a subcontractor for part of the services), of anyone directly or indirectly employed by Contractor or by any subcontractor, or of anyone for whose acts the Contractor or its subcontractor may be liable, in connection with providing these services. This provision does not, however, require Contractor to indemnify, hold harmless, or defend the CCLT from its own negligence.

## 2. SCOPE OF WORK

### 2.1 BACKGROUND:

The City of Columbia's Department of Community Development acquired property at Cullimore Cottages with the intent to redevelop the lots with an affordable cottage housing style development. These lots will be transferred to the Columbia Community Land Trust to maintain ownership and on-going stewardship of the properties through the enforcement of a 99-year ground lease.

The completed homes will be a model for affordable, energy efficient and universally accessible designed cottage style housing.

In order to support home ownership in lower income populations, a subsidy will provide down payment assistance to qualified buyers. Eligible buyer household income must be below 80% of the current HUD determined Area Median Income. Income guidelines can be found in the following table.

Current 80% Area Median Income			
Household Size	Income Range	Household Size	Income Range
1	\$44,450	5	\$68,600
2	\$50,800	6	\$73,700
3	\$57,150	7	\$78,750
4	\$63,500	8	\$83,850

## 2.2 DESIGN REQUIREMENTS:

The CCLT is looking for quotations for homes meeting plans and specifications attached to the RFP:

- 5 Slab on grade single family cottage housing style homes;
- Interested bidders are requested to submit costs on building plans A, B and C included as an attachment to this RFP.
- Plans should include driveways, as well as service lines to sanitary sewer main, water lines to water meter, and landscaping as shown on the PD Plan.

## 3. TECHNICAL REQUIREMENTS

### 3.1 SPECIFICATIONS

#### EXTERIOR WALLS:

A. SIDING – FRONT, SIDES, & REAR: Please provide pricing on both option 1 and 2.

Option 1: Engineered wood, or fiber cement board.

#### ROOF SYSTEM:

B. SHINGLES: 30 year architectural

#### GUTTERS & DOWNSPOUTS:

A. GUTTERS: 4” or 5” k-type Seamless .032 aluminum. Hang with hidden gutter hangers 2’ OC. Ensure gutters drain towards bio retention area.

#### INTERIOR FINISH:

A. PAINT: Walls – primer plus 2 coats of single color, all rooms painted with same color. Ceilings - primer plus 2 coats of “off white”. Garage walls may be painted same color as ceiling.

Trim: Two coats latex semi-gloss.

**INTERIOR DOORS & TRIM:**

- A. DOORS: Pre hung hollow core 6 panel - Prefinished.
- B. TRIM: Pre-primed base, window and door case, window stool and apron. Polystyrene or MDF trim is acceptable.
- C. FINISH: Pre-primed, to be painted by contractor
- D. HARDWARE: Brushed nickel finish
- E. OTHER: All nail holes and gaps larger than 1/16" shall be filled and smoothed for painting, all corners shall be mitered or coped.

**WINDOWS:**

- A. ALL: Vinyl double pane with insect screen.

**EXTERIOR DOORS:**

- A. FRONT DOOR: Insulated steel door with wide view peep.
- B. OVERHEAD GARAGE DOORS: 9x7 insulated overhead residential rated door
- C. AUTO OPENER: 2 remotes to be included

**CABINETS:**

- A. KITCHEN: Cabinets are to have solid wood drawer fronts and doors, concealed hinges, and metal handles/hardware. Countertops are to be laminate material and include a backsplash. Finish floor under sink base.
- B. BATHS: Vanities are to have solid wood drawer fronts, and doors, concealed hinges, and metal handles/hardware. Countertops are to be laminate material and include a backsplash.

**BATH MIRRORS AND ACCESSORIES:**

- A. TOWEL BARS: 2 per bath PAPER HOLDERS: 1 per bath
- B. MIRRORS: 1 per sink bowl, width to approximate vanity top width
- C. TOWEL RINGS: one per bath

**FINISH FLOORING:**

- A. CARPET: \$21.00 / sq yd installed allowance Living, Dining, Bedrooms;
- B. VINYL: \$25.00 / sq yd installed allowance Kitchen, Baths, Entry; finish floor under sink base.
- C. WOOD: n/a
- D. CERAMIC: \$33 / sqyd Kitchen, Bath, Entry; finish floor under sink base.
- E. STAINED CONCRETE: Optional and must be finished and sealed.

**HOME PERFORMANCE:**

- A. INFILTRATION: Final air infiltration rate compliant with current City Building Codes.

**HVAC:**

- A. FURNACE: Forced warm air, natural gas AFUE 95% or greater
- B. HEAT PUMP OPTION: Ducted: 15 SEER minimum; Ductless: 22 SEER minimum, electric back up furnace is allowable.
- C. AIR CONDITIONING: 13 SEER minimum

- D. BATH EXHAUST FANS: 1 each bath – Energy Star rated, vented to exterior
- E. DUCT WORK: Return air shall be ducted from all spaces not prohibited by code, single central return is not allowed; seal all duct work.

## BATH, KITCHEN, PLUMBING

### A. ACCESSIBLE BATH:

- i. Faucets: Chrome single lever, Shower and Lavatory, Delta or Moen.
- ii. Toilet: Low flow; locate in clear space 48" wide, 60" deep, 18" from sidewall; seat height 17"; flush valve on open side of toilet; min 2x10 nominal blocking for grab bars;
- iii. Mirror: Width approximate to vanity top; bottom edge @38" above finished floor; top edge at least 66" above finished floor;
- iv. Electrical: Energy Star rated exhaust fan; one GFCI outlet in easy reach range.

### SECONDARY BATH:

- v. Tub/shower: single piece tub / shower combo with grab bar and seat blocking installed;
- vi. Lavatory Single sink and vanity
- vii. Faucets Chrome single lever, Shower and Lavatory, Delta or Moen
- viii. Toilet: Low flow; locate 18" from sidewall; seat height 15" (17" optional); flush valve on open side of toilet.
- ix. Mirror: Width approximate to vanity top
- x. Electrical: Energy Star rated exhaust fan

### B. KITCHEN:

- i. Sink: Stainless double sink max 7" depth, drain shall be towards the back of the bowl.
- ii. Sink faucet Chrome single lever w/sprayer, Delta or Moen
- iii. Garbage disposal: ½ HP.
- iv. Dish washer: Energy Star rated

MISCELLANEOUS: Run black iron or CSST gas line or equal in house to furnace and hot water heater as required. Run ¾" from meter to home and size water lines in house to provide adequate flow at fixtures. Install PVC building drain, cleanouts and sewer lateral as required. All drain lines in house to be PVC-DWV plastic.

### OTHER:

- i. Sillcocks: Minimum 2 freeze proof
- ii. Floor drains: minimum of 1. One in utility room.
- ii. Laundry box: One
- iii. Water heater: 40-50 gal gas or electric energy star qualified, or on-demand energy star qualified.
- iv. Quarter turn shut off valves at all fixture supply lines.

### ELECTRICAL: Buried 200 AMP SERVICE

- A. HVAC: Per plans and code
- B. DOOR BELL: One, illuminated.
- C. TELEVISION 2 outlets in living spaces, one per bedroom

- D. TELEPHONE 2 outlets in living spaces, one in master bedroom, one in accessible bathroom
- E. OUTLETS AND SWITCHES: Quantity determined by plans and code; receptacle height  $\geq 15$ " to center of outlet, switch height  $\leq 48$ ", 45" if over cabinet or a vanity. Bath GFCI's shall be in easy reach range.
- F. APPLIANCES: Per plans and code.

**APPLIANCES:**

- A. RANGE: Electric range with front controls,
- B. GARBAGE DISPOSAL: 1/2 HP,
- C. REFRIGERATOR: Energy Star rated,
- D. RANGE HOOD: Energy Star rated, vented to the exterior.
- E. DISHWASHER: Energy Star rated,
- F. DRYER: Vented to the exterior,
- G. CLOTHES WASHER: High efficiency washing machine.

Stacked units are acceptable as long as the required floor space for side by side units is provided in the design.

**INSULATION (LIVING AREA ONLY):**

- A. EXTERIOR WALLS: Code compliant assembly. All seams sealed with approved tape. (Exterior rigid foam not required with SIPs)
- B. CEILINGS: Blown cellulose insulation to code compliant level.
- D. VAPOR BARRIER TYPE: Tyvek or equivalent, all seams taped
- E. GARAGE WALLS/CEILINGS: N/A
- F. FOUNDATION: Code compliant assembly.
- G. SUB-SLAB: Code compliant assembly.

**FINAL GRADE AND SEED:**

- A. Finish grade and seed with climate and site appropriate mix. Apply straw mulch or equivalent.

**LANDSCAPING:**

- A. Landscaping in conformance with minimum requirements noted on the approved PD Plan for Cullimore Cottages and around individual homes/lots to be constructed.

**3.2 VENDOR INFORMATION:**

Provide information about your firm to include:

- Name, address, phone and fax number(s) and email address of firm
- Name and title of primary contact person
- Date firm established
- Proposed service team including titles and responsibilities
- Resume on each team member

**3.3 EXPERIENCE**

Provide a current list of three client references.

**3.4 PRICING TO BE QUOTED**

Respondents must provide a signed completed copy of Form X with their submission.

Home is to be Turnkey.

## 4. SUBMISSION OF PROPOSAL

### 4.1 TRANSMITTAL LETTER

All Respondents must submit a transmittal letter prepared on the vendor's letterhead. An individual who is authorized to bind this firm to all statements, services, and prices contained in the proposal for both the primary and sub firms must sign the letter. In addition, a letter from any sub-vendor to be used in the service should be included. This letter must be signed by an individual who is authorized to bind the firm and should give a brief description of the work they are to perform.

### 4.2 SUBMISSION CONTENTS & INSTRUCTIONS

Applicants must submit the following in response to this RFP:

- ORGANIZATION INFORMATION AND CAPACITY
  - Provide an overview of the organization's history and experience in developing affordable housing and homeownership opportunities. Identify your experience in working with City programs, including the CDBG or HOME programs.
  - Provide names and describe the role, experience, and capacity of all personnel (including engineers, architects, contractors, construction managers, etc.) involved in the project.
  - Briefly describe the staff positions and qualifications of those individuals who will carry out the construction project. Describe any existing commitments that would impact your ability to implement the project immediately.
  - Have any persons employed by your agency been debarred by HUD or are otherwise restricted from entering into contracts with any federal agency?
  - Provide current third party financial statements, documentation of line of credit to cover project costs between draws, documentation of liquid assets equaling 3% of total project cost, or other third party information to establish the financial capacity of the Contractor to undertake and complete the proposed project.
- PROJECT INFORMATION
  - Describe the methods you will utilize to ensure cost effectiveness of your project.
  - Provide a projection of the timeframe for completion. Identify key tasks and completion dates that identify how your project is ready to proceed.
  - Provide a project development budget for designs **A, and C**, use Form "X":
    - Cost Estimates: Provide cost estimates for project components;
    - Contractor fee: Indicate the proposed Contractor fee (if any), and all other fees proposed to be earned by affiliates of the Contractor (if any).



## **CONTRACTOR REQUIREMENTS**

### **1. Women- and Minority-Owned Businesses (W/MBE)**

The Contractor will use its best efforts to afford small businesses, minority business enterprises, and women's business enterprises the maximum practicable opportunity to participate in the performance of this contract. As used in this contract, the terms "small business" means a business that meets the criteria set forth in section 3(a) of the Small Business Act, as amended (15 U.S.C. 632), and "minority and women's business enterprise" means a business at least fifty-one (51) percent owned and controlled by minority group Contractors or women. The Contractor may rely on written representations by businesses regarding their status as minority and women-owned business enterprises in lieu of an independent investigation.

### **2. Access to Records**

The Contractor shall furnish and cause each of its own subcontractors to furnish all information and reports required hereunder and will permit access to its books, records and accounts by the Grantee, HUD or its agent, or other authorized Federal officials for purposes of investigation to ascertain compliance with the rules, regulations and provisions stated herein.

### **3. Equal Employment Opportunity and Affirmative Action (EEO/AA) Statement**

The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that it is an Equal Opportunity or Affirmative Action employer.

### **4. Subcontract Provisions**

The Contractor will include the provisions of Paragraphs XI.A, Civil Rights, and B, Affirmative Action, in every subcontract or purchase order, specifically or by reference, so that such provisions will be binding upon each of its own Contractors or subcontractors.

## **C. Employment Restrictions**

### **1. Prohibited Activity**

The Contractor is prohibited from using funds provided herein or personnel employed in the administration of the program for: political activities; inherently religious activities; lobbying; political patronage; and nepotism activities.

### **2. Labor Standards**

The Contractor agrees to comply with the Copeland Anti-Kick Back Act (18 U.S.C. 874 et seq.) and its implementing regulations of the U.S. Department of Labor at 29 CFR Part 5.

### **3. "Section 3" Clause**

Compliance with the provisions of Section 3 of the Housing and Urban Development Act of 1968, as amended, and as implemented by the regulations set forth in 24 CFR 135, and all applicable rules and orders issued hereunder prior to the execution of this contract, shall be a condition of the Federal financial assistance provided under this contract and binding upon the Grantee, the Contractor and any of the Contractor's grantees and subcontractors. Failure to fulfill these requirements shall subject the Grantee, the Contractor and any of the Contractor's grantees and subcontractors, their successors and assigns, to those sanctions specified by the Agreement through which Federal assistance is provided. The Contractor certifies and agrees that no contractual or other disability exists that would prevent compliance with these requirements.

The Contractor further agrees to comply with the Section 3 requirements and to include the following language in all subcontracts executed under this Agreement:

“The work to be performed under this Agreement is a project assisted under a program providing direct Federal financial assistance from HUD and is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701). Section 3 requires that to the greatest extent feasible opportunities for training and employment be given to low- and very low-income residents of the project area, and that contracts for work in connection with the project be awarded to business concerns that provide economic opportunities for low- and very low-income persons residing in the metropolitan area in which the project is located.”

The Contractor further agrees to ensure that opportunities for training and employment arising in connection with a housing rehabilitation (including reduction and abatement of lead-based paint hazards), housing construction, or other public construction project are given to low- and very low-income persons residing within the metropolitan area in which the project is located; where feasible, priority should be given to low- and very low-income persons within the service area of the project or the neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs; and award contracts for work undertaken in connection with a housing rehabilitation (including reduction and abatement of lead-based paint hazards), housing construction, or other public construction project to business concerns that provide economic opportunities for low- and very low-income persons residing within the metropolitan area in which the project is located; where feasible, priority should be given to business concerns that provide economic opportunities to low- and very low-income residents within the service area or the neighborhood in which the project is located, and to low- and very low-income participants in other HUD programs.

- The Contractor certifies and agrees that no contractual or other legal incapacity exists that would prevent compliance with these requirements.
  - b. Notifications
- The Contractor agrees to send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or understanding, if any, a notice advising said labor organization or worker’s representative of its commitments under this Section 3 clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment or training.

c. Subcontracts

The Contractor will include this Section 3 clause in every subcontract and will take appropriate action pursuant to the subcontract upon a finding that the subcontractor is in violation of regulations issued by the Grantee’s agency. The Contractor will not subcontract with any entity where it has notice or knowledge that the latter has been found in violation of regulations under 24 CFR Part 135 and will not let any subcontract unless the entity has first provided it with a preliminary statement of ability to comply with the requirements of these regulations.

D. Conduct

1. Assignability

The Contractor shall not assign or transfer any interest in this Agreement without the prior written consent of the Grantee thereto and HUD; provided, however, that claims for money due or to become due to the Contractor from the Grantee under this contract may be assigned to a bank, trust company, or other financial institution without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Grantee.

## 2. Hatch Act

The Contractor agrees that no funds provided, nor personnel employed under this Agreement, shall be in any way or to any extent engaged in the conduct of political activities in violation of Chapter 15 of Title V of the United States Code.

## 3. Conflict of Interest

The Contractor agrees to abide by the provisions of 24 CFR 84.42 and 570.611, which include (but are not limited to) the following:

a. The Contractor shall maintain a written code or standards of conduct that shall govern the performance of its officers, employees or agents engaged in the award and administration of contracts supported by Federal funds.

b. No employee, officer or agent of the Contractor shall participate in the selection, or in the award, or administration of, a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved.

c. No covered persons who exercise or have exercised any functions or responsibilities with respect to activities, or who are in a position to participate in a decision-making process or gain inside information with regard to such activities, may obtain a financial interest in any contract, or have a financial interest in any contract, subcontract, or agreement with respect to the activity, or with respect to the proceeds from the activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for a period of one (1) year thereafter. For purposes of this paragraph, a "covered person" includes any person who is an employee, agent, consultant, officer, or elected or appointed official of the Grantee, the Contractor, or any designated public agency.

## 4. Lobbying

The Contractor hereby certifies that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of it, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement;

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, it will complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions; and

c. It will require that the language of paragraph (d) of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all Contractors shall certify and disclose accordingly:

### d. Lobbying Certification

- This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

## 5. Copyright

If this contract results in any copyrightable material or inventions, HUD reserves the right to royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use and to authorize others to use, the work or materials for governmental purposes.

## 6. Religious Activities

The Contractor agrees that it will comply with 24 CFR 570.200(j) so that funds are not used to support inherently religious activities.

### 4.3 FORMAT OF PROPOSAL

Proposals are to be kept within 50 pages with a minimum font size of 11.

## 5. EVALUATION AND AWARD

### 5.1 EVALUATION

The CCLT reserves the right to reject any or all proposals, to negotiate with any respondent considered qualified, or to make an award without further discussion.

#### **Application Evaluation Criteria**

Applications will be subject to threshold review to determine eligibility for funding,

Threshold criteria include:

- 1) Application must be complete and received by the application submission deadline;
- 2) Applicant must demonstrate capacity to complete proposed project within the required timeframe;
- 3) Project sponsors must agree to adhere to all contracting and hiring requirements;
- 4) Applicant must meet minimum energy efficiency and universal design elements.

Applicants that do not meet the threshold requirements may be deemed ineligible for further consideration.

Evaluation will be based on all elements of response to proposal criteria.

#### **Proposal Evaluation**

It is the purpose of this request for proposal to obtain data as complete as possible from each respondent that will enable the CCLT to determine which prospective firm is best able to serve all the criteria which are to be considered in the award of this contract. Evaluation of the respondents qualifying as finalists will be based on the following criteria with a rating of low-1, medium-2 or high-3:

#### **1. Costs**

Proposal contains competitive bid prices consistent with the current market.

#### **2. Applicant Capacity**

Proven record of development and/or redevelopment experience with comparable activities in similar neighborhoods; Applicants demonstrating "capacity" will:

- Have a recent history of development and/or redevelopment in the City that includes high quality affordable residential products delivered on-schedule and on-budget
- Have an existing business office/entity located in the City of Columbia, Boone County or surrounding counties.
- Have adequate staffing levels with appropriate skills & qualifications to complete proposed project within stated timeframe.
- Have relevant real estate and construction experience, including experience working with federally-funded housing development or other similar programs.

- Provide realistic estimated cost projections and schedules and show a track-record of meeting projected time-lines for any previously authorized City funded projects
- Be able to provide the insurance coverage noted in this RFP.

### **3. Readiness to Proceed**

Ability to implement program activities within 30-45 days of commitment of funds. Applicants demonstrating “readiness” will:

- Submit an application with as specific and detailed a proposal as possible.
- Present clear preliminary financial analysis that includes cost estimates for construction, price estimates/appraisal for sale.
- Ability to submit ALL required contract-related documents (insurance certifications, etc.) within two weeks of preliminary notification of recommendation for funding.

### **4. Section 3, MBE, WBE Sub Contractors**

Respondents providing proof of Section 3, minority business enterprise, and/or woman business enterprise status of General Contractor, Sub Contractors or employees employed for the project will be rated higher.

Note: Section 3 qualification statements and proof of MBE/WBE status as defined in this document, are required for credit.

Failure of the Respondent to provide in his/her proposal any information requested in this RFP may result in disqualification of the proposal and shall be the responsibility of the proposing individual or firm.

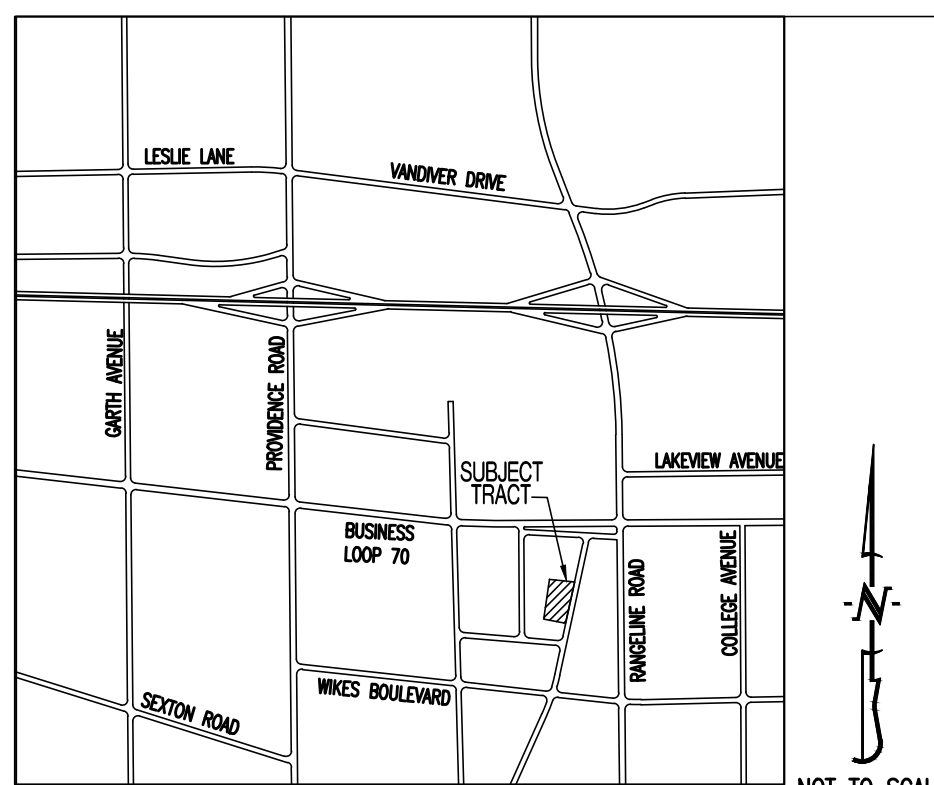
During the evaluation process, discussions may be conducted with Respondents who submit proposals determined to be reasonably susceptible of being selected for award.

## **5.2 SELECTION AND AWARD**

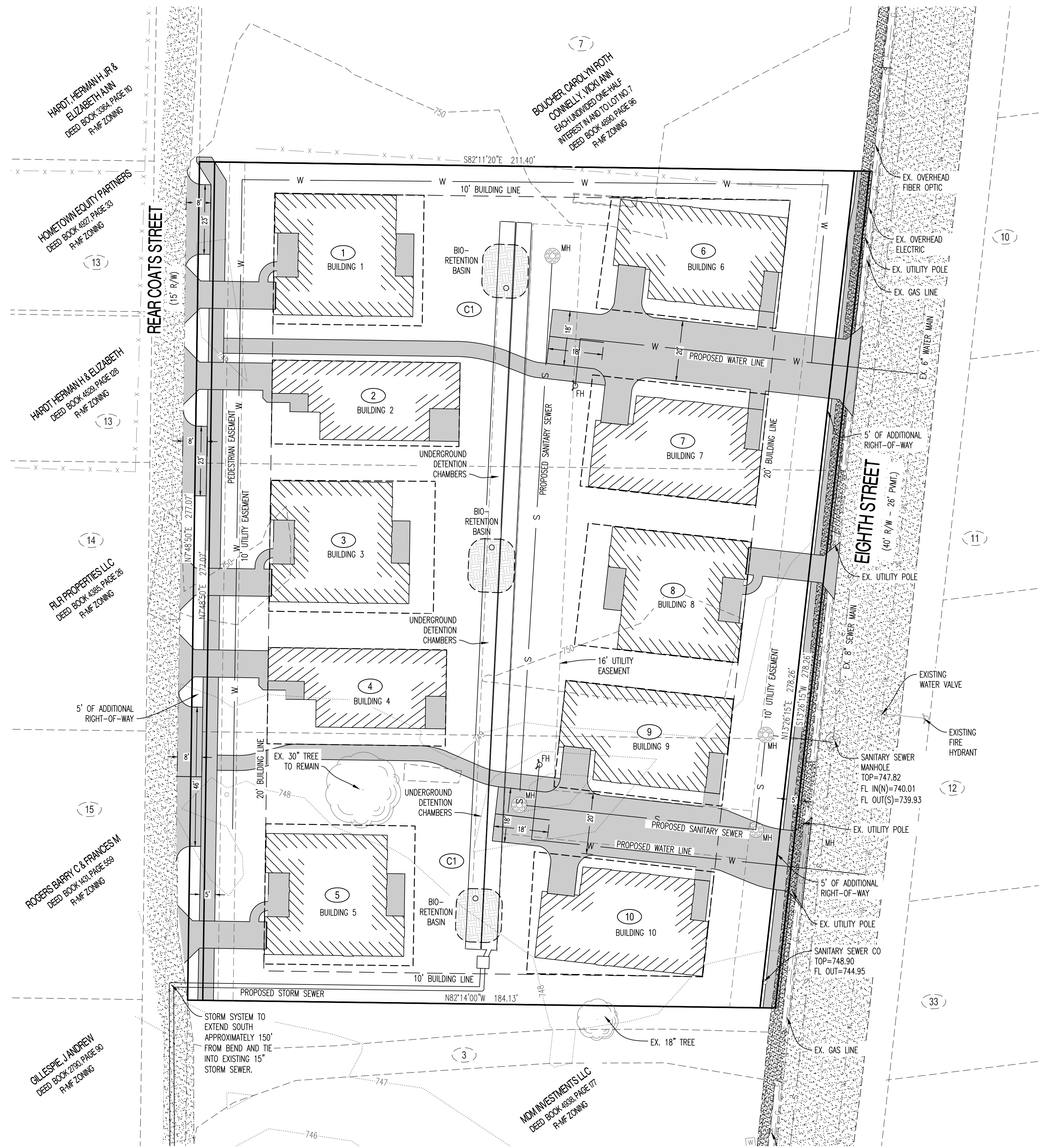
The CCLT reserves the right to reject any or all proposals, to negotiate with any respondent considered qualified, or to make an award without further discussion.

# PD PLAN FOR CULLIMORE COTTAGES

LOCATED IN SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI



- LEGEND:**
- 805--- EXISTING 2FT CONTOUR
  - 820--- EXISTING 10FT CONTOUR
  - CURB
  - - - - - EXISTING SANITARY SEWER
  - - - - - PROPOSED SANITARY SEWER
  - MANHOLE/CLEANOUT
  - W — PROPOSED WATERLINE
  - L — PROPOSED LIGHT POLE
  - F — PROPOSED FIRE HYDRANT
  - S — EXISTING STORM SEWER
  - S — PROPOSED STORM SEWER
  - BUILDING LINE
  - - - - - EASEMENT
  - ⓧ LOT NUMBER
  - ⓧ EXISTING LOT NUMBER
  - ▨ PROPOSED PAVEMENT
  - ▨ PROPOSED DETENTION/BIORETENTION
  - EXISTING TREE
  - - - - - EXISTING OVERHEAD ELECTRIC
  - - - - - EXISTING GAS
  - - - - - EXISTING WATER LINE
  - - - - - DETENTION FACILITY
  - - - - - ESTIMATED BUILDING ENVELOPE



- NOTES:**
1. SITE CONTAINS 1.32 ACRES.
  2. IT IS THE INTENT OF THIS DEVELOPMENT TO BE COMPLETED IN MULTIPLE PHASES.
  3. EXISTING ZONING IS R-MF. PENDING REZONING TO PD.
  4. THIS TRACT IS NOT LOCATED IN THE 100-YEAR FLOOD PLAN AS SHOWN BY FEMA FIRM, PANEL NUMBER 29019C0280E, DATED APRIL 19, 2017.
  5. ALL LIGHTING SHALL BE IN ACCORDANCE WITH THE CITY OF COLUMBIA LIGHTING ORDINANCE. ALL LIGHTING SHALL BE SHIELDED AND DIRECTED INWARD AND DOWNWARD AWAY FROM RESIDENCES, NEIGHBORING PROPERTIES, PUBLIC STREETS, AND OTHER PUBLIC AREAS.
  6. NO PART OF THIS TRACT IS LOCATED WITHIN CITY STREAM BUFFER AS DETERMINED BY THE USGS MAP FOR COLUMBIA QUADRANGLE, BOONE COUNTY, MISSOURI AND ARTICLE X OF CHAPTER 12A OF THE CITY OF COLUMBIA CODE OF ORDINANCES.
  7. THE MAXIMUM HEIGHT OF ANY BUILDING WILL NOT EXCEED 35', AS MEASURED BY THE CITY OF COLUMBIA STANDARDS.
  8. STORM WATER QUALITY STANDARDS SHALL BE MET BY USING BMP'S COMPLYING WITH THE CITY OF COLUMBIA STORMWATER REGULATIONS OFF-SITE. SOME BMP'S MAY BE ALLOWED OFF-SITE UPON APPROVAL BY THE CITY'S STORM WATER ENGINEER.
  9. ALL DRIVE, ROADWAY, AND ACCESS AISLE ARE SUBJECT TO FIRE DEPARTMENT APPROVAL AT THE TIME OF FINAL DESIGN.
  10. THE MAXIMUM RELEASE RATE FROM THIS DEVELOPMENT SHALL BE CONTROLLED BY LIMITING THE POST-DEVELOPMENT STORM WATER RELEASE RATES TO THE PREDEVELOPMENT RATES FOR THE 1, 2, 10 AND 100 YEAR STORMS.
  11. A 5' SIDEWALK SHALL BE CONSTRUCTED ALONG EIGHTH STREET AS SHOWN.
  12. THE INTENT OF THIS PLAN IS TO ALLOW AS MUCH FLEXIBILITY AS POSSIBLE WITH RESPECT TO FUTURE SUBDIVISION OF THE PROPERTY. IT IS THE INTENT OF THE OWNER TO SUBDIVIDE THE PROPERTY UTILIZING "POSTAGE STAMP" LOTS AROUND EACH BUILDING WITH THE REMAINING PROPERTY CONTAINED IN A COMMON LOT.

APPROVED BY THE CITY OF COLUMBIA PLANNING AND ZONING COMMISSION THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2018.

\_\_\_\_\_  
RUSTY STRODTMAN, CHAIRPERSON

ACCEPTED BY ORDINANCE OF THE COUNCIL OF COLUMBIA, MISSOURI, THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2018.

\_\_\_\_\_  
BRIAN TREECE, MAYOR

\_\_\_\_\_  
SHEELA AMIN, CITY CLERK

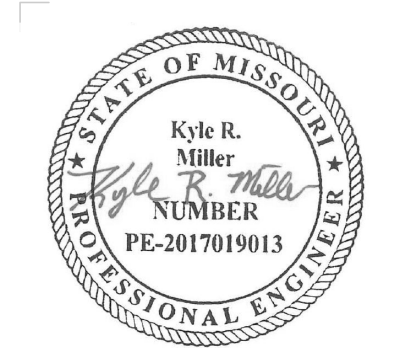
PARKING CALCULATIONS:	
SPACES REQUIRED	
SINGLE FAMILY DETACHED: 2 SPACES/DWELLING UNIT	20 SPACES
SPACES PROVIDED	
TOTAL SPACES PROPOSED:	28 SPACES
AREA & DENSITY CALCULATIONS:	
TOTAL LOT AREA =	1.32 ACRES
PROPOSED NUMBER OF UNITS:	10
PROPOSED DENSITY:	7.57 UNITS / ACRE
APPROXIMATE IMPERVIOUS AREA =	24,120 S.F. (42%)

NOTE: IMPERVIOUS AREA CALCULATIONS ABOVE REFLECT THE SITE PLAN ON THIS SHEET. IMPERVIOUS AREA MAY CHANGE DURING FINAL PLANS. TOTAL IMPERVIOUS AREA SHALL NOT EXCEED 60%.

**LEGAL DESCRIPTION:**

LOTS 4, 5 & 6 OF THE J C CONLEY'S ADDITION TO THE CITY OF COLUMBIA, BOONE COUNTY, MISSOURI

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER, P.E. 2017019013

PREPARED BY:  
**CROCKETT**  
ENGINEERING CONSULTANTS  
1000 W. Nifong Blvd., Bldg 1  
Columbia, Missouri 65203  
(314) 447-0292  
www.crockettengineering.com



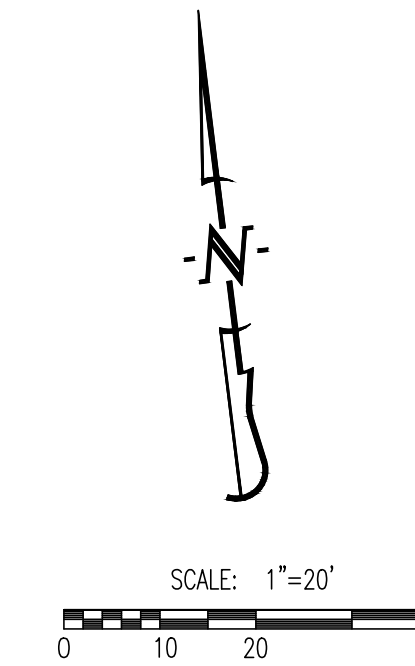
PD PLAN FOR  
**CULLIMORE COTTAGES**

LOCATED IN SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI



**LEGEND:**

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- - - - - EXISTING SANITARY SEWER
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- PROPOSED STORM SEWER
- BUILDING LINE
- - - - - EASEMENT
- XX LOT NUMBER
- XX EXISTING LOT NUMBER
- ▨ PROPOSED PAVEMENT
- ▨ PROPOSED DETENTION/BIORETENTION
- EXISTING TREE
- OE — EXISTING OVERHEAD ELECTRIC
- GAS — EXISTING GAS
- W — EXISTING WATER LINE
- - - - - ESTIMATED BUILDING ENVELOPE



CITY OF COLUMBIA  
PO BOX 6015  
COLUMBIA, MO 65203  
573-874-7214

**PLANTING NOTES:**

SYMBOL	QUANTITY	PLANT SPECIES
○	7	LARGE/MEDIUM TREE
●	7	SMALL/ORNAMENTAL TREE
⊙	10	UPRIGHT EVERGREEN TREE
⊖	10	LANDSCAPE BED

- LANDSCAPING NOTES:**
- ALL DISTURBED AREAS SHALL BE SEEDED & MULCHED AFTER CONSTRUCTION.
  - LANDSCAPING MAY BE ENHANCED BY THE DEVELOPER AS TIME AND BUDGET ALLOWS.
  - ALL PLANT MATERIALS AND FINAL LANDSCAPE PLAN SHALL BE IN ACCORDANCE WITH THE LANDSCAPING GUIDELINES AND STANDARDS OF THE CITY OF COLUMBIA.
  - LANDSCAPING SHALL COMPLY WITH SECTIONS 12A-49 (e) AND (f) OF THE CITY OF COLUMBIA CODE OF ORDINANCES.
  - EACH LOT SHALL BE LANDSCAPED ACCORDING TO TYPICAL LOT LANDSCAPING DETAIL. THERE SHALL BE A MINIMUM OF AN ADDITIONAL 5 TREES LOCATED WITHIN THE LIMITS OF THE COMMON LOT AREA.
  - THIS LANDSCAPING PLAN IS CONCEPTUAL IN NATURE. PRECISE LOCATION AND SPECIES INFORMATION MUST BE APPROVED AT THE SITE PLAN STAGE AND MAY NOT EXACTLY MATCH WHAT IS SHOWN GRAPHICALLY.

APPROVED BY THE CITY OF COLUMBIA PLANNING AND ZONING COMMISSION THIS \_\_\_\_ DAY OF \_\_\_\_, 2018.

\_\_\_\_\_  
RUSTY STRODTMAN, CHAIRPERSON

ACCEPTED BY ORDINANCE OF THE COUNCIL OF COLUMBIA, MISSOURI, THIS \_\_\_\_ DAY OF \_\_\_\_, 2018.

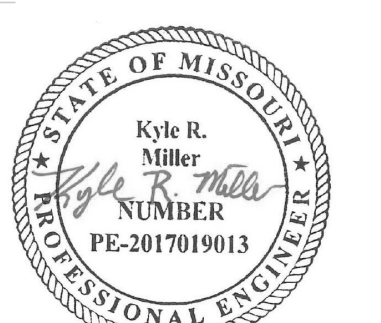
\_\_\_\_\_  
BRIAN TREECE, MAYOR

\_\_\_\_\_  
SHEELA AMIN, CITY CLERK

**LANDSCAPE COMPLIANCE:**

<b>29-4.4(c) - GENERAL PROVISIONS:</b>	
EXISTING CLIMAX FOREST:	0 AC.
CLIMAX FOREST TO REMAIN:	0 AC.
REQUIRED 15% OF TOTAL SITE TO BE LANDSCAPED:	0.20 AC.
PROPOSED AREA OF TOTAL SITE TO BE LANDSCAPED:	0.77 AC.
<b>29-4.4(d) - STREET FRONTAGE LANDSCAPING:</b>	
(1) LENGTH OF PAVED AREA (OVER 40' IN LENGTH) WITHIN 25' OF R/W TO HAVE 6' WIDE LANDSCAPED BUFFER: (REFER TO TYPICAL SCREENING BED PLANTING DETAIL)	0 L.F.
1 TREE (2" CALIPER, 10' TALL AT TIME OF PLANTING) PER 200 S.F. OF BUFFER AREA	0 TREES
(A) (2)(i) 1 TREE PER 40' STREET FRONTAGE: (556' STREET FRONTAGE)	14 TREES
(ii) 30% LARGE TREES MIN.	5 TREES
(iii) 30% MEDIUM TREES MIN.	5 TREES
<b>29-4.4(e) - PROPERTY EDGE BUFFERING:</b>	
(1) SEE PLAN FOR TABLE 4.4-4 DETERMINED LEVEL OF SCREENING AND BUFFERING.	
NO BUFFER REQUIRED	
<b>29-4.4(f) - PARKING AREA LANDSCAPING:</b>	
(1) IF PARKING AREA CONTAINS MORE THAN 100 SPACES, PARKING SPACE AREA TO INCLUDE LANDSCAPING AREA EQUAL TO 10% OF PAVED AREA, WITH 1 TREE PER 40' L.F. OF LANDSCAPED AREA.	N/A
(B) (4) 1 TREE PER 4,000 S.F. OF PARKING PAVED AREA - 6,405 S.F.	2 TREES
1 EXISTING PARKING LOT TREES	-1 TREES
NET PARKING LOT TREES TO BE PLANTED	1 TREES
<b>29-4.4(g) - PRESERVATION OF EXISTING LANDSCAPING:</b>	
TOTAL SIGNIFICANT TREES: 1 TREES	

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER, P.E. 2017019013

PREPARED BY:  
**CROCKETT**  
ENGINEERING CONSULTANTS

1000 W. Nifong Blvd., Bldg 1  
Columbia, Missouri 65203  
(573) 447-0292

www.crockettengineering.com



PROJECT NUMBER-1919  
**CULLIMORE  
 COTTAGES**  
 NORTH 8TH STREET  
 OWNER:  
**CITY OF COLUMBIA**  
 500 E WALNUT  
 COLUMBIA MO 65205

PECKHAM ARCHITECTURE  
 2009 COUNTRY CLUB DRIVE  
 COLUMBIA MO 65201  
 P: 573-777-4444  
**PROJECT ARCHITECTS**

CROCKETT ENGINEERING  
 1000 W NIFONG BLVD, BLDG 1  
 COLUMBIA MO 65203  
**CIVIL ENGINEER**



2009 N Country Club Dr.  
 Columbia, MO 65201  
 573-777-4444

I:\Volumes\projects\1919 Cullimore Cottages\Final Drawing Revisions\2020\Cullimore Cottages Plan A.1 (G100).pln Wednesday, January 8, 2020 4:06 PM

**ABBREVIATIONS LEGEND**

ABBR	DESCRIPTION		
A/C	AIR CONDITIONING		
AFF	ABOVE FINISH FLOOR ARCHITECT OR ARCHITECTURAL	MIN	MINIMUM
ALUM	ALUMINUM	MISC	MISCELLANEOUS
APPROX @ &	APPROXIMATE AT AND	M.O.	MASONRY OPENING
		MTL	METAL
BD	BOARD	NIC	NOT IN CONTRCT
BLDG	BUILDING	NO	NUMBER
B.O.	BY OTHERS	NOM	NOMINAL
		NTS	NOT TO SCALE
CAB	CABINET	O.C.	ON CENTER
CFM	CUBIC FEET PER MINUTE	O.D.	OUTSIDE DIAMETER
CL	CLOSET	OPNG	OPENING
CLG	CEILING	OPP.	OPPOSITE
CLR	CLEAR		
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PLAS	PLASTER
C.T.	CERAMIC TILE	PLAM	PLASTIC LAMINATE
		PLYWD	PLYWOOD
DIA	DIAMETER	POL	POLISHED
DN	DOWN	PR	PAIR
DTL	DETAIL	P.T.	PRESSURE TREATED
DW	DISHWASHER	PTD	PAINTED
DWG	DRAWING		
		R	RISER OR RADIUS
EA	EACH	R.A.	RETURN AIR
EJ	EXPANSION JOINT	RAD	RADIATOR
ELEC	ELECTRICAL	REF	REFRIGERATOR
EL	ELEVATION	REQD	REQUIRED
ENCL	ENCLOSURE	REV	REVISED OR REVISION
EQ	EQUAL	RM	ROOM
EQUIP	EQUIPMENT	R.O.	ROUGH OPENING
EXIST	EXISTING		
		S.C.	SOLID CORE
FD	FLOOR DRAIN	SCHED	SCHEDULE
FF	FINISH FLOOR	SECT	SECTION
FIN	FINISH	SF	SQUARE FEET
FIX	FIXTURE	SHT	SHEET
FLR	FLOOR	SIM	SIMILAR
F.R.	FIRE RETARDANT	SPEC	SPECIFICATIONS
	FIRE RATED	S.S.	STAINLESS STEEL
FT	FOOT OR FEET	STD	STANDARD
		STL	STEEL
		STRUCT	STRUCTURAL
GA	GAUGE OR GAGE		
GAVL	GALVANIZED	T	TREAD
GC	GENERAL CONTRACTOR	TEL	TELEPHONE
GFI	GROUND FAULT INTERRUPTER	T&G	TOUNGE & GROOVE
GWB	GYPSUM WALL BOARD	T.O.	TOP OF
		T.O.B.	TOP OF BEAM
H.C.	HOLLOW CORE	T.O.C.	TOP OF CONCRETE
H.M.	HOLLOW METAL	T.O.S.	TOP OF SLAB
HOR	HORIZONTAL	T.O.W.	TOP OF WALL
HR	HOUR	TYP	TYPICAL
HT	HEIGHT		
HVAC	HEATING, VENTILATION & AIR CONDITIONING	UON	UNLESS OTHERWISE NOTED
IBC	INTERNATIONAL BUILDING CODE	VCT	VINYL COMPOSITION TILE
I.D.	INSIDE DIAMETER	V.I.F.	VERIFY IN FIELD
IN	INCH OR INCHES		
INCL	INCLUDING	W/	WITH
		W/O	WITHOUT
LAM	LAMINATED	WC	WATER CLOSET
LAV	LAVATORY	WD	WOOD
		WR	WATER RESISTANT
		WWF	WELDED WIRE FABRIC

**GENERAL NOTES**

- ALL CONTRACTORS AND SUBCONTRACTORS, INCLUDING PLUMBING, HVAC AND ELECTRICAL SHALL FURNISH ALL MATERIALS LABOR AND EQUIPMENT FOR A COMPLETE JOB IN ACCORDANCE WITH ALL STATE, LOCAL, NATIONAL AND INTERNATIONAL CODES. REPORT ANY CONFLICTS OR INCONSISTENCIES TO THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK.
- ALL CONTRACTORS SHALL REVIEW ALL DRAWINGS. ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR A COMPLETE REVIEW OF ITEMS AFFECTING ALL TRADES PLACED THROUGHOUT THIS SET OF DRAWINGS. ANY INCONSISTENCIES, CONTRADICTIONS, OR OMISSIONS SHALL BE PRESENTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- OBTAIN ANY MISSING DIMENSIONS OR INFORMATION FROM THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
- SOME DETAILS, SYSTEMS AND MEANS OF CONSTRUCTION ARE SHOWN TYPICALLY FOR A SINGLE UNIT OR CONSTRUCTION DETAIL, BUT ARE INTENDED TO BE USED WITH REASONABLE MODIFICATIONS BY THE CONTRACTOR TO APPLY TO ALL REMAINING UNITS OR DETAILS.
- ALL CONTRACTORS SHOUD NOTE THAT A COMPLETE SET OF CONSTRUCTION DOCUMENTS CONSIST OF THE REGULATORY CODES AND THE AIA GENERAL CONDITIONS. THE LEVEL OF WORK WILL BE THE GREATER STANDARDS OR GREATER VALUE IN THE EVENT OF A CONFLICT BETWEEN DOCUMENTS.
- ANY MATERIALS OR LABOR, EITHER NOT SHOWN ON THE DRAWINGS OR NOT SPECIFIED BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK INTENDED TO BE PERFORMED SHALL BE FURNISHED WITHOUT COST TO THE OWNER OR ARCHITECT.
- ALL WORK SHALL COMPLY WITH THE HIGHEST LEVELS OF APPROPRIATE INDUSTRY STANDARDS.
- ALL WALLS AND EQUIPMENT ARE PERPENDICULAR TO THE 90-DEGREE GRID UNLESS SHOWN AND/OR SPECIFICALLY NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO THE FACE OF INTERIOR STUD PARTITIONS. FIELD VERIFY ALL ANGULAR WALL INTERSECTION DISTANCES.
- REFER TO WALL TYPE SCHEDULE FOR DESCRIPTION OF WALL TYPES AS INDICATED ON THE PLANS.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO COMMENCEMENT OF WORK TO DETERMINE ACTUAL SITE CONDITIONS.
- ALL CEILING HEIGHTS SHALL BE TO THE UNDERSIDE OF THE FINISH MATERIAL ABOVE.
- ALL WALLS SHALL HAVE SUFFICIENT SIZE AND BRACING TO MEET REQUIREMENTS TO RESIST 80 MPH EXTERIOR WIND LOADS.
- ALL WOOD BLOCKING AND GROUNDS SHALL BE THE RESPONSIBILITY OF THE FRAMING CONTRACTOR
- CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR REQUIRING THE WORK
- CONTRACTOR SHALL DETERMINE ERECTION PROCEDURE AND SEQUENCE AND PROVIDE WHATEVER TEMPORARY BRACING AND RELATED ITEMS THAT MAY BE REQUIRED TO COMPLETE THE WORK
- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS OWN WORK UNTIL FINAL ACCEPTANCE. ALL ASSEMBLIES ARE DESIGNED TO BE SELF-SUFFICIENT WHEN IN PLACE AND SHALL HAVE ANY MEANS NECESSARY OF TEMPORARY PROTECTION PRIOR TO FINAL COMPLETION.
- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY REMOVAL OF THEIR SPOILS, CUTTINGS, DROPPINGS, EXCESS MATERIAL AND DEBRIS.
- IN THE EVENT OF A RESPONSIBILITY CONFLICT FOR PART OF THE WORK, THE CONTRACTOR WHO IS RESPONSIBLE FOR THE CSI DIVISION IN WHICH THE WORK IS CUSTOMARILY PLACED WILL PERFORM THE WORK.
- ALL MATERIAL FINISH AND COLOR SELECTIONS WILL BE DETERMINED BY THE OWNER AND THE ARCHITECT.
- ALL MECHANICAL AND ELECTRICAL COORDINATION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
- LOCATION OF EQUIPMENT AND WORK BY SUBCONTRACTORS IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. FIELD VERIFY ALL DIMENSIONS REQUIRED BY EQUIPMENT PRIOR TO INSTALLATION. COORDINATE WITH GENERAL CONTRACTOR TO ACCOMMODATE ACTUAL SIZES REQUIRED BY EQUIPMENT INCLUDING CLEARANCES.
- ALL FINISHED SURFACES SHALL BE PAINTED UNLESS SPECIFICALLY NOTD TO REMAIN UNFINISHED.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE SOLEY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY MEASURES, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE ARCHITECT AND ENGINEER CONSULTANTS SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION NOT HEREIN SPECIFIED.
- REFERENCE GROUND FLOOR ELEVATION IS 0.00. REFER TO CIVIL ENGINEERING SITE DRAWINGS FOR ACTUAL REQUIRED ELEVATIONS.
- ALL FIRE RATED ASSEMBLIES MUST FULLY COMPLY WITH THE U.L. ASSEMBLY NOTED ON THE DRAWINGS.
- PROVIDE TRANSITION STRIPS AT ALL INTERSECTIONS OF DIFFERENT FLOORING MATERIALS.
- PROVIDE VENTILATION FOR ALL AREAS OF ENCLOSED INSULATION IN ACCORDANCE WITH THE IBC 2012.

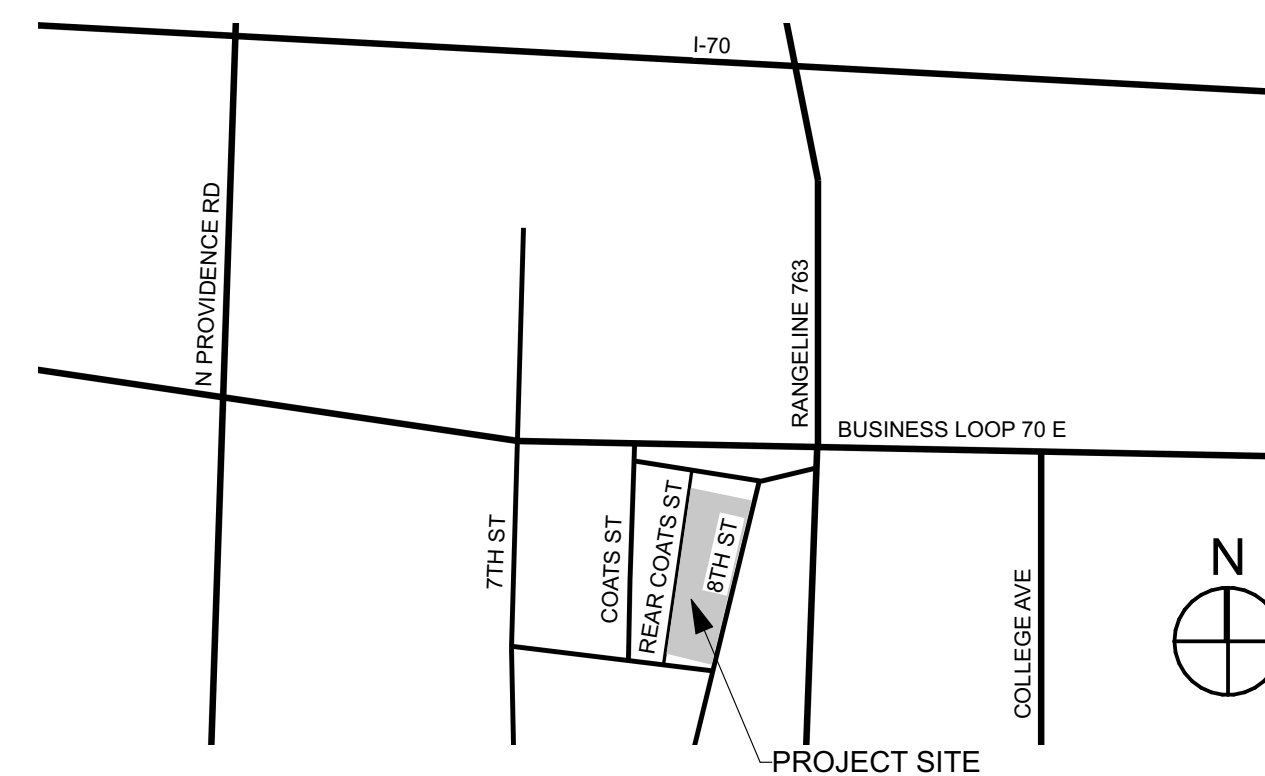
**SURFACE LEGEND**

No.	Fill	Name
1	[Pattern]	Earth
2	[Pattern]	Stonework
3	[Pattern]	Brick
4	[Pattern]	Concrete
5	[Pattern]	Roof Tile
6	[Pattern]	Wood
7	[Pattern]	Thermal or Sound Attenuation batt Insulation
8	[Pattern]	Rigid Insulation

**ARCHITECTURAL SYMBOLS LEGEND**

- BUILDING SECTION REFERENCE SHOWING DWG. NO. OVER SHEET NO.
- EXTERIOR ELEVATION REFERENCE SHOWING DWG. NO. OVER SHEET NO.
- DETAIL REFERENCE SHOWING DWG. NO. OVER SHEET NO.
- PLAN DATUM SHOWING REFERENCE SURFACE AND ELEVATION HEIGHT
- DOOR INDICATOR SHOWING DOOR TYPE
- WINDOW INDICATOR SHOWING WINDOW TYPE
- WALL INDICATOR SHOWING WALL TYPE
- CENTERLINE
- HIDDEN LINE ABOVE
- DIMENSION TO OR FROM INDICATED SURFACE
- REVISION SYMBOL

**LOCATION MAP**



**SHEET INDEX**

ARCHITECTURAL	
G100 01 - ...	COVER SHEET
A100	SITE PLAN
A101	FOUNDATION PLAN
A102	MAIN AND SECOND FLOOR PLAN
A103	ROOF PLAN
A200	ELEVATIONS
CIVIL	
CE1	EROSION CONTROL PLAN
CE2	GRADING PLAN
CE3	UTILITY PLAN
CE4	STORM & SEWER PROFILE
CE5	SITE PLAN
CE6	BIORETENTION PLAN
CE7	UNDERGROUND DENTENTION DETAILS
LS1	LANDSCAPE PLAN

**CULLIMORE COTTAGES**

PROJECT NO: 1919  
 DRAWN BY: MEGAN NICK  
 CHECKED BY: NICK  
 DATE: 1/8/20

COVER SHEET

CONSTRUCTION SET

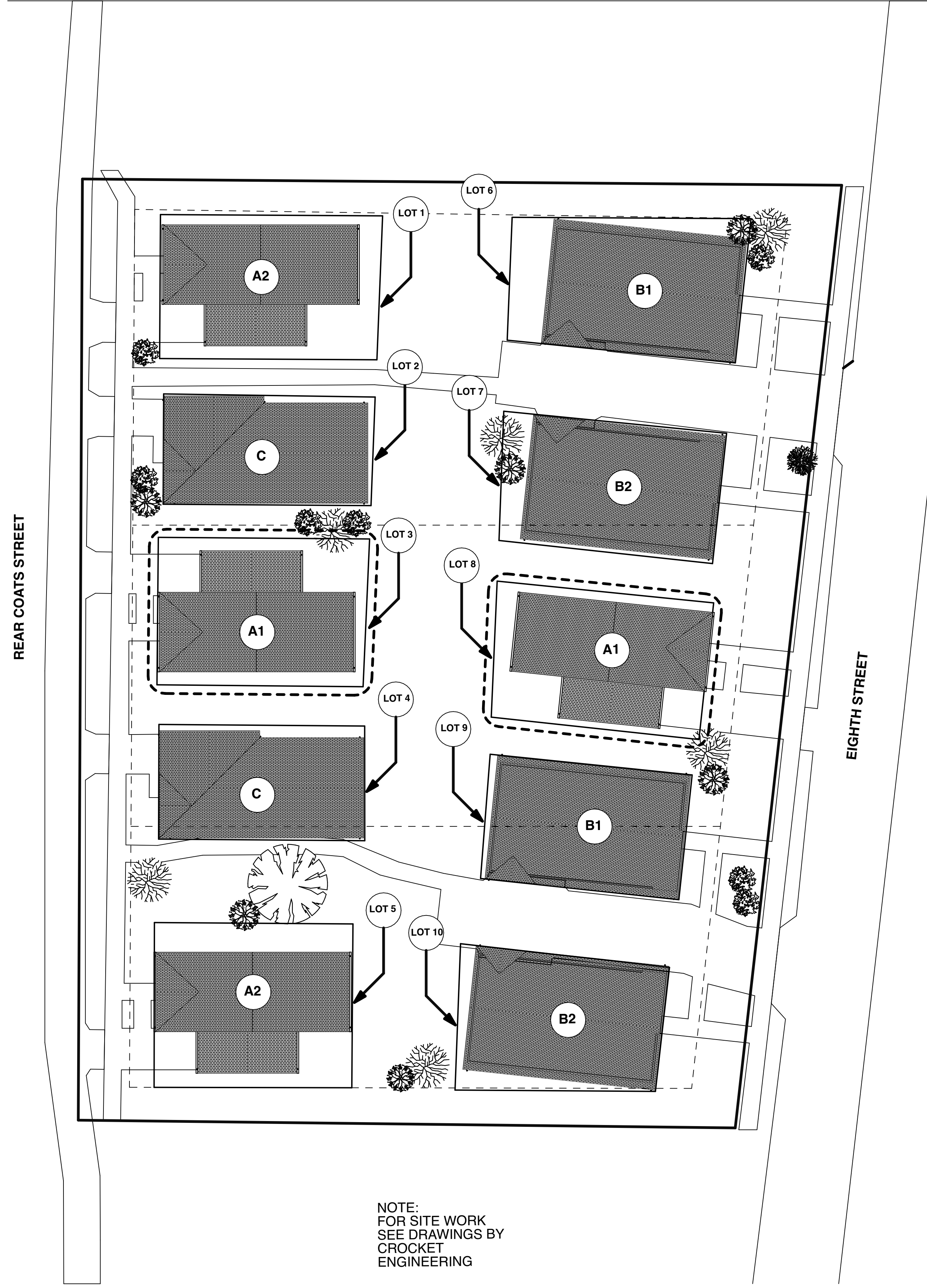
RANDY COLE  
 573-874-6321  
 500 E WALNUT SUITE 108  
 COLUMBIA MO 65205

REVISIONS: 2019

PLAN A-2  
**G100**

01/06/2020





1 SITE PLAN A-1  
SCALE: 1" = 20'



**CULLIMORE  
COTTAGES**

1919  
IAN  
NICK  
1/6/20

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

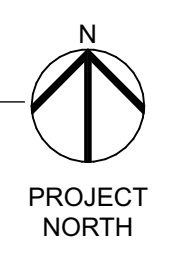
RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
COLUMBIA MO 65205

**SITE PLAN**  
**PLAN A-1**

**A100**

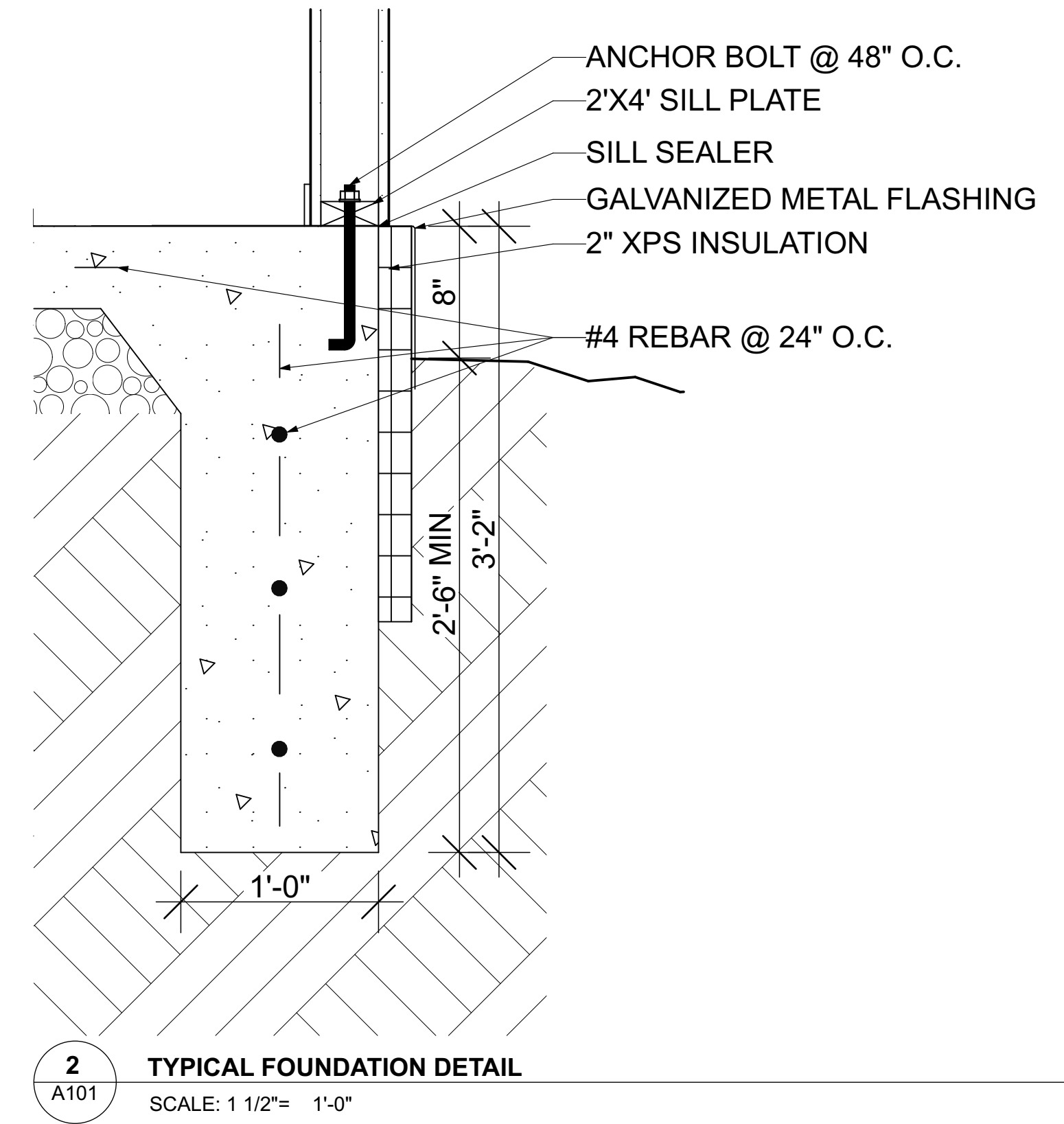
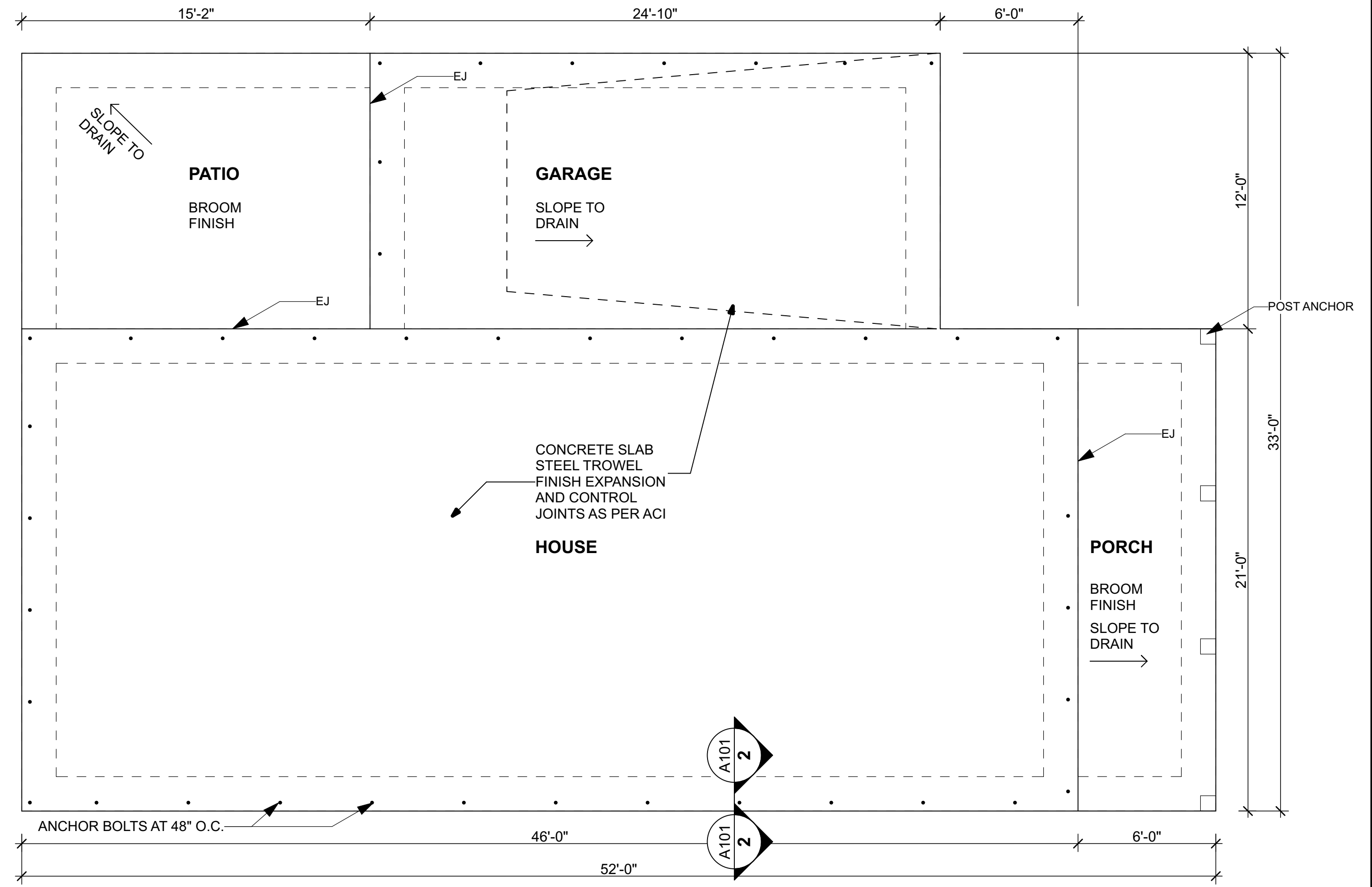
**CONSTRUCTION SET**  
01/06/2020

REVISIONS:





**1**  
A101 FOUNDATION PLAN  
SCALE: 1/4" = 1'-0"



**FOUNDATION PLAN**  
**PLAN A-1**  
**A101**  
CONSTRUCTION SET  
01/06/2020

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

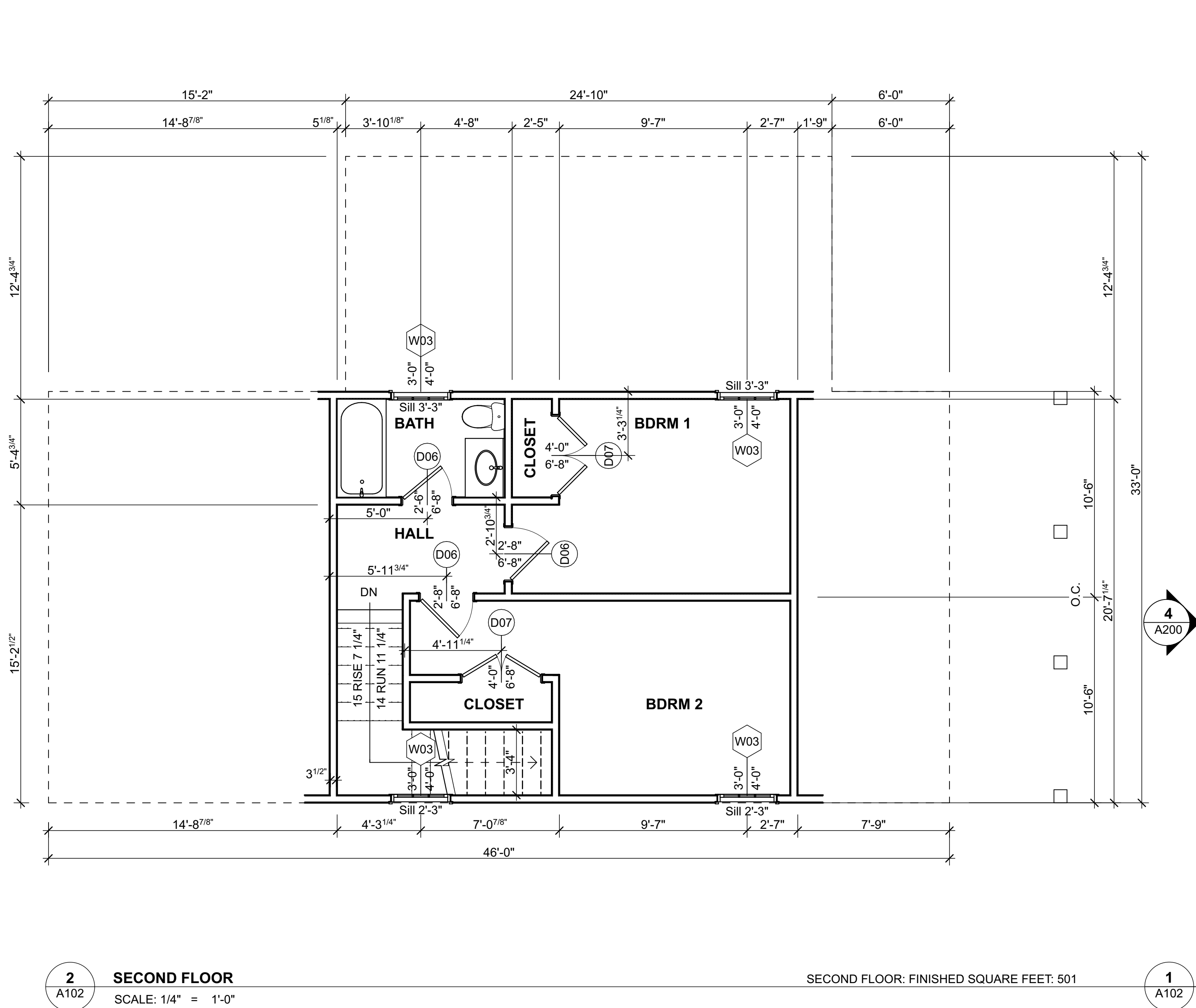
1919  
MEGAN  
NICK  
1/6/20

**CULLIMORE COTTAGES**  
RANDY COLE  
573-874-6321  
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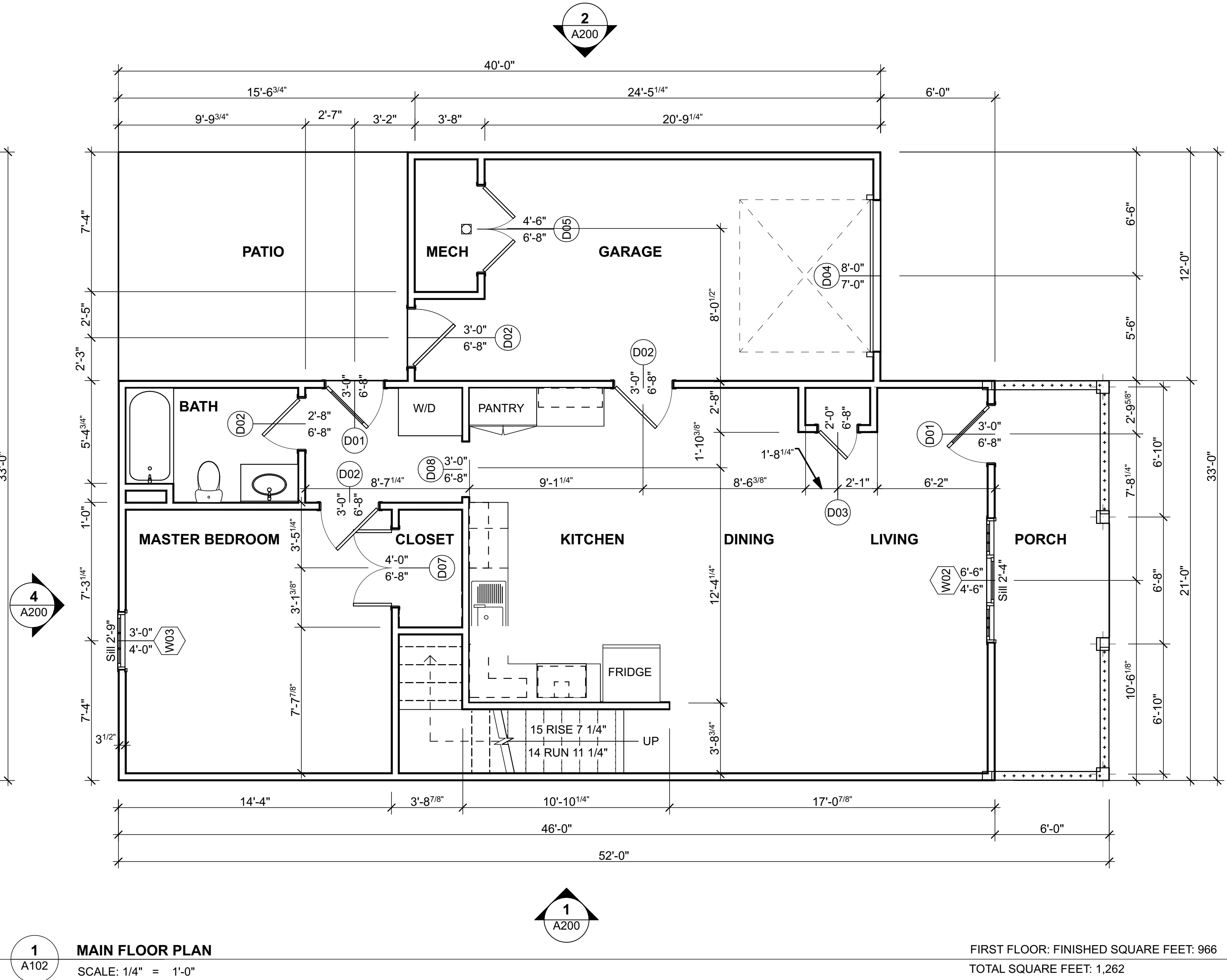
**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*

2009 N Country Club Dr.  
Columbia, MO 65201  
573-777-4444



**2**  
A102 **SECOND FLOOR**  
SCALE: 1/4" = 1'-0"

SECOND FLOOR: FINISHED SQUARE FEET: 501



**1**  
A102 **MAIN FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

FIRST FLOOR: FINISHED SQUARE FEET: 966  
TOTAL SQUARE FEET: 1,262

**MAIN AND SECOND  
FLOOR PLAN  
PLAN A-1**

**A102**

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

1919  
MEGAN  
NICK  
1/6/20

REVISIONS:

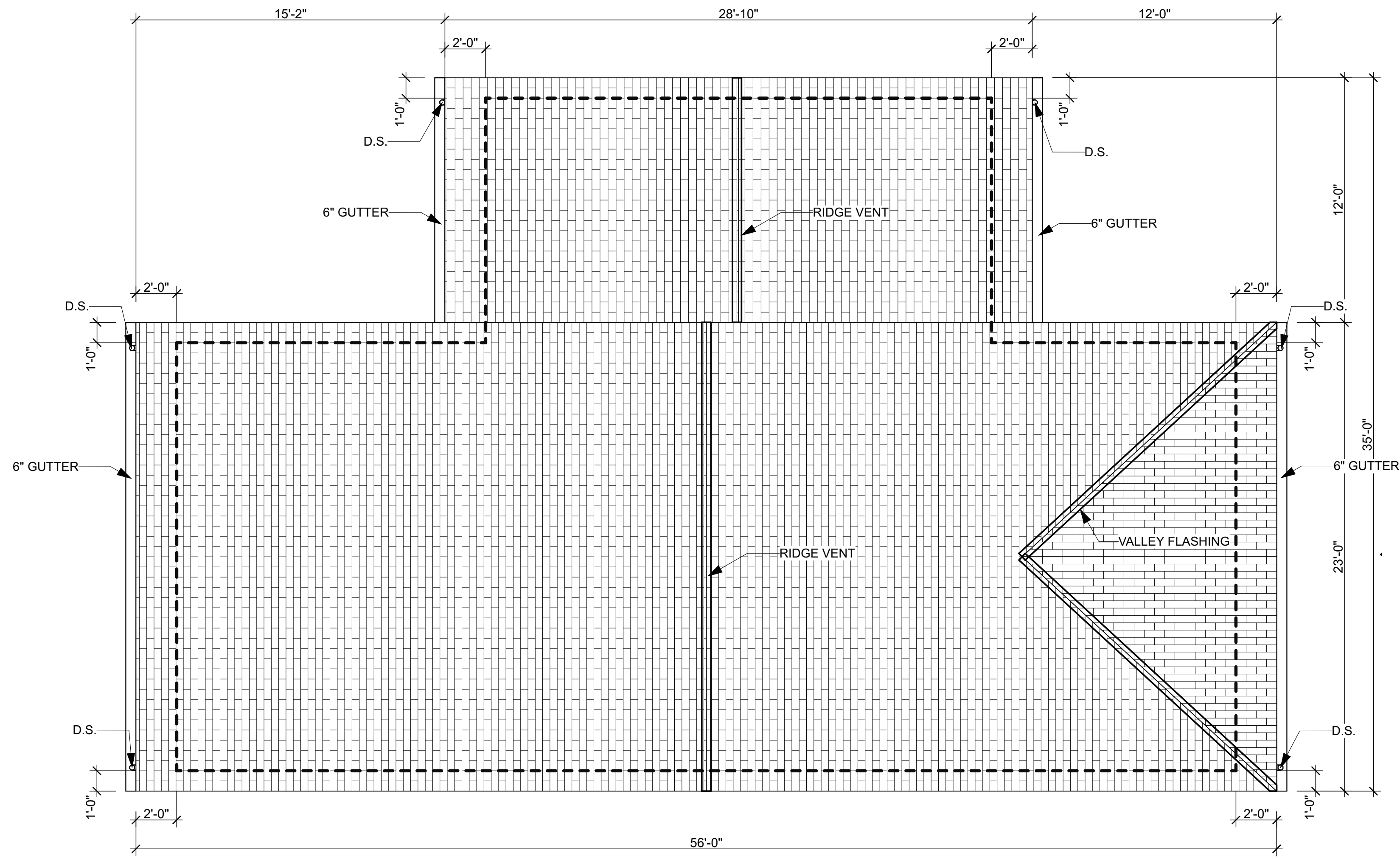
**CULLIMORE COTTAGES**

RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
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**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*



2009 N Country Club Dr.  
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573-777-4444



1  
A103

**ROOF PLAN**  
SCALE: 1/4" = 1'-0"

**ROOF PLAN**

**PLAN A-1**

**A103**

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

1919  
MEGAN  
NICK  
1/6/20

REVISIONS:

**CULLIMORE COTTAGES**  
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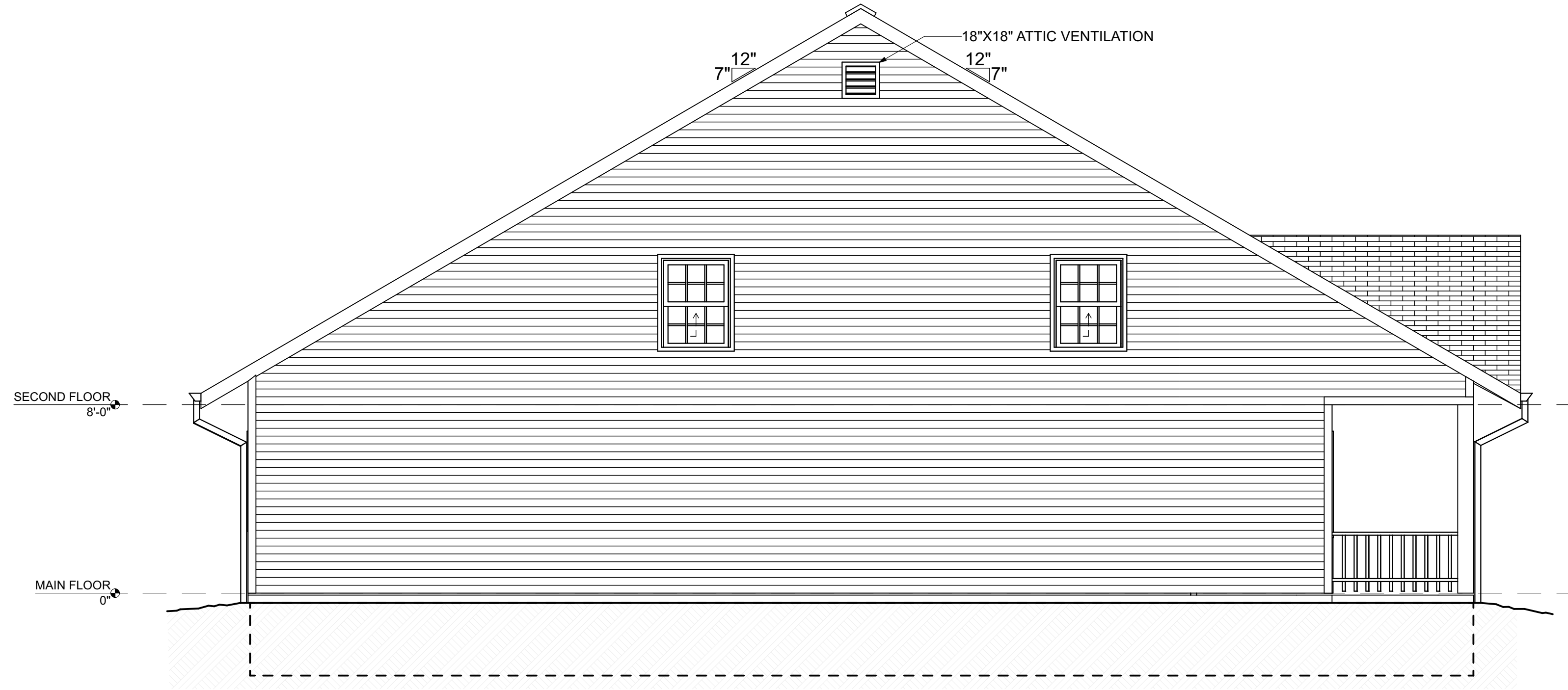
**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*



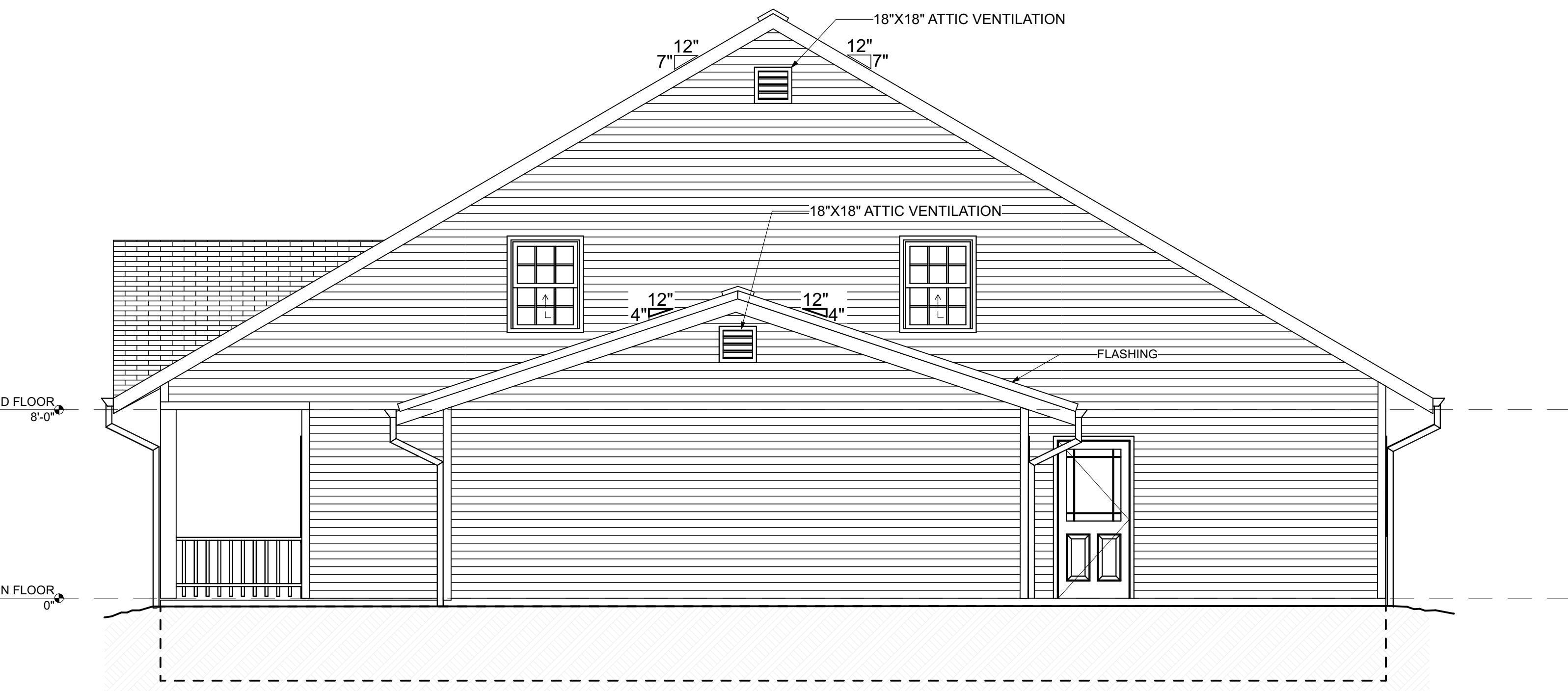
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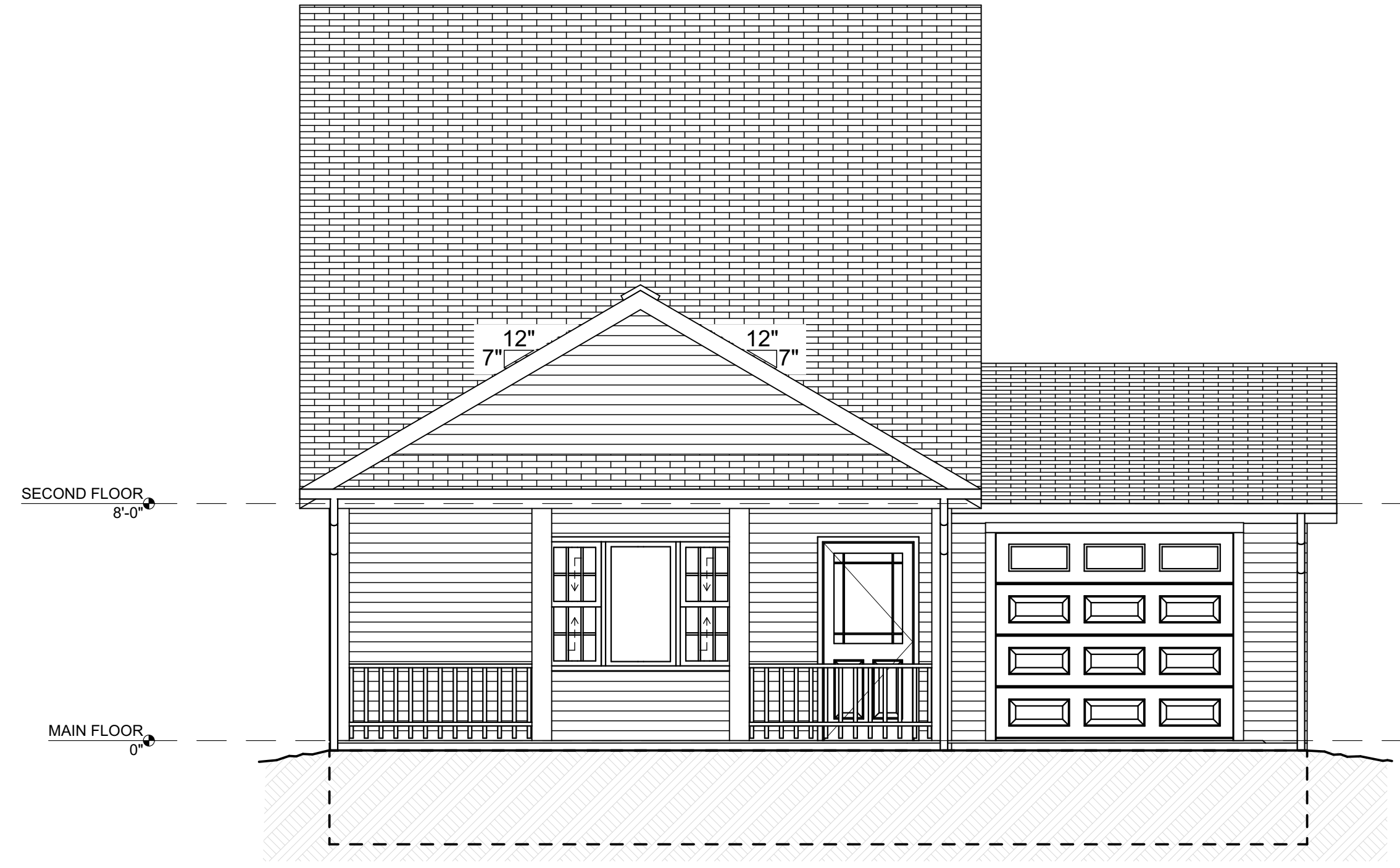
\\Volumes\projects\1919 Cullimore Cottages\Drawings\Working Drawings\Cullimore Cottages Plan A.pln Monday, January 6, 2020 3:59 PM



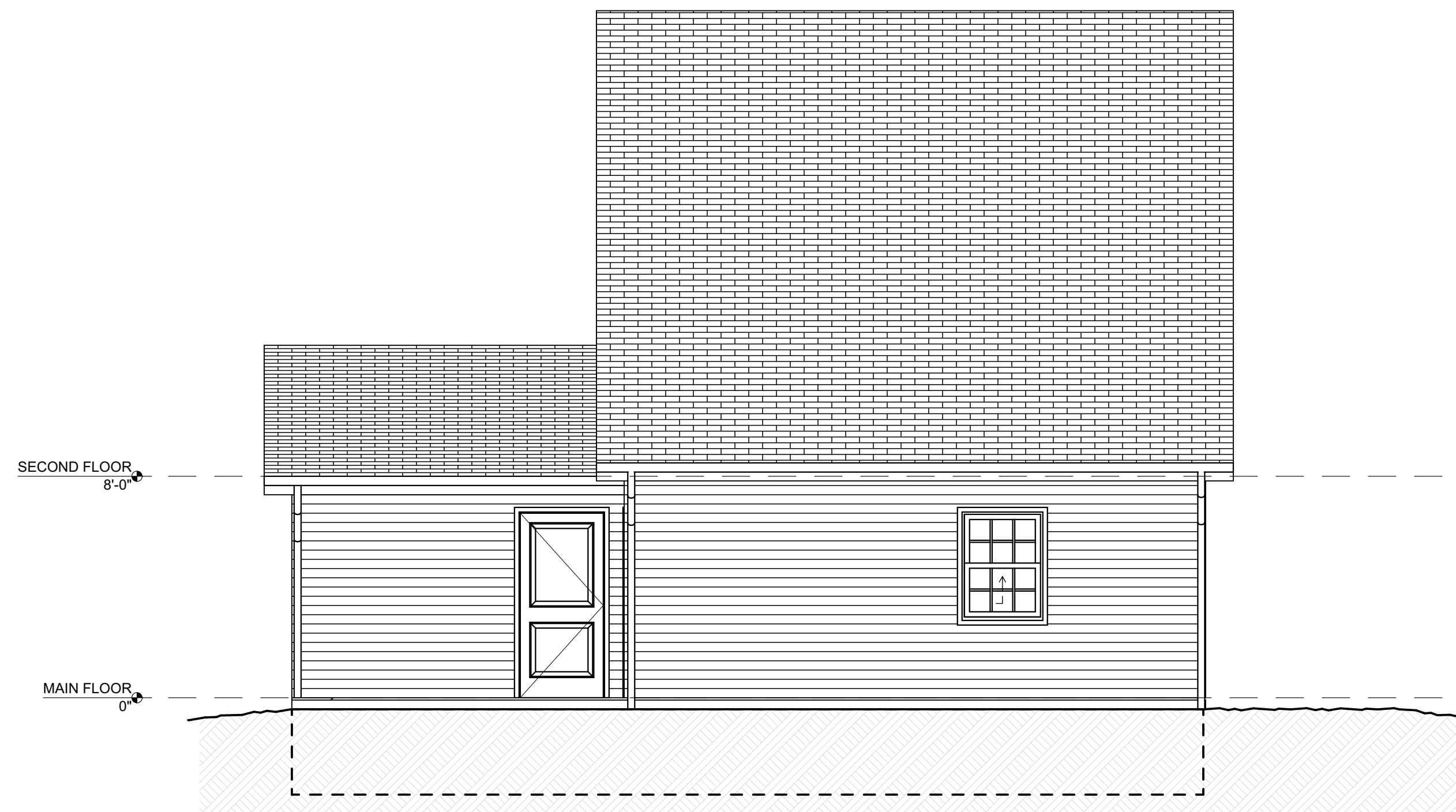
**1 SIDE ELEVATION**  
A200 SCALE: 1/4" = 1'-0"



**2 SIDE ELEVATION**  
A200 SCALE: 1/4" = 1'-0"



**3 REAR ELEVATION**  
A200 SCALE: 1/4" = 1'-0"



**4 FRONT ELEVATION**  
A200 SCALE: 1/4" = 1'-0"





PROJECT NUMBER-1919  
**CULLIMORE COTTAGES**  
 NORTH 8TH STREET  
 OWNER:  
**CITY OF COLUMBIA**  
 500 E WALNUT STREET  
 COLUMBIA MO 65201

PECKHAM ARCHITECTURE  
 2009 COUNTRY CLUB DRIVE  
 COLUMBIA MO 65201  
 P: 573-777-4444  
**PROJECT ARCHITECTS**

CROCKETT ENGINEERING  
 1000 W NIFONG BLVD, BLDG 1  
 COLUMBIA MO 65203  
**CIVIL ENGINEER**



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MATL	MATERIAL	WWF	WELDED WIRE FABRIC
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		

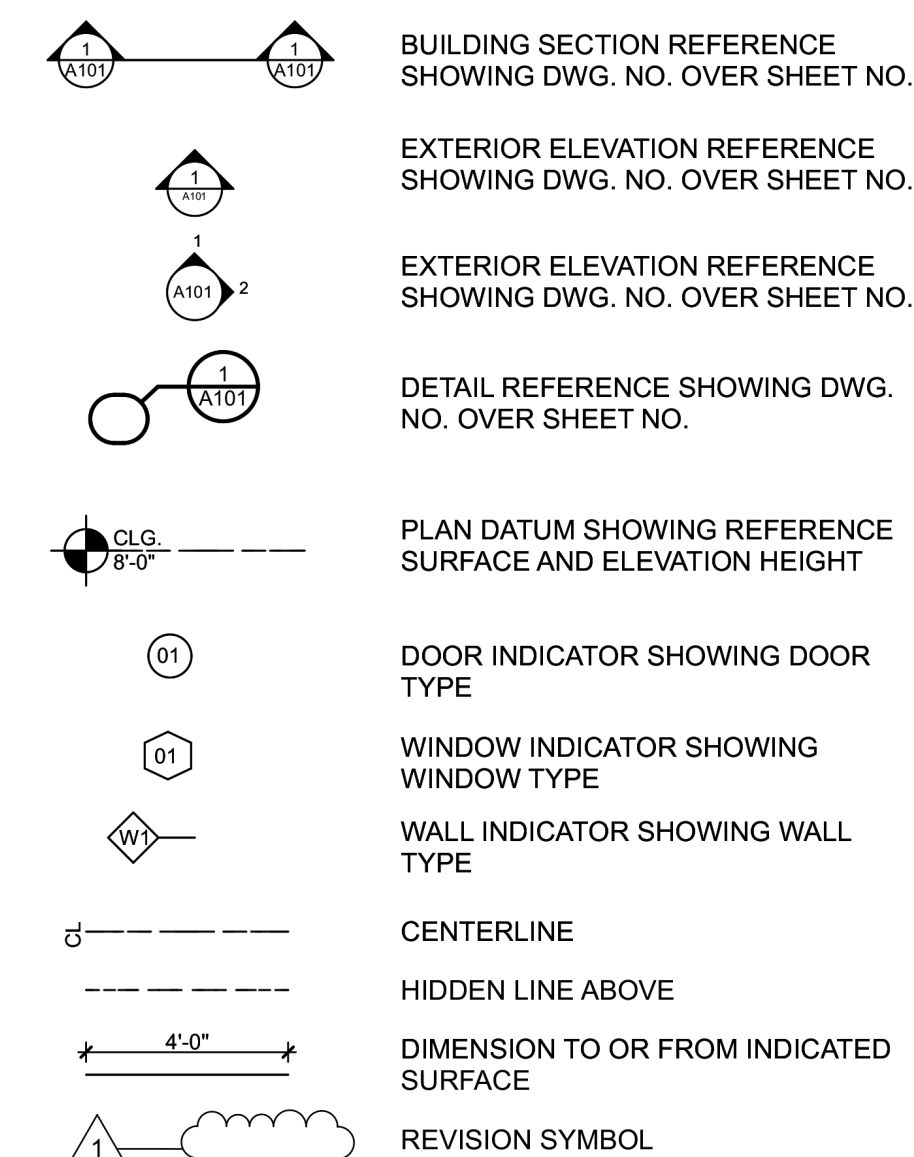
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- ALL CONTRACTORS AND SUBCONTRACTORS, INCLUDING PLUMBING, HVAC AND ELECTRICAL SHALL FURNISH ALL MATERIALS LABOR AND EQUIPMENT FOR A COMPLETE JOB IN ACCORDANCE WITH ALL STATE, LOCAL, NATIONAL AND INTERNATIONAL CODES. REPORT ANY CONFLICTS OR INCONSISTENCIES TO THE ARCHITECT BEFORE PROCEEDING WITH ANY WORK.
- ALL CONTRACTORS SHALL REVIEW ALL DRAWINGS. ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR A COMPLETE REVIEW OF ITEMS AFFECTING ALL TRADES PLACED THROUGHOUT THIS SET OF DRAWINGS. ANY INCONSISTENCIES, CONTRADICTIONS, OR OMISSIONS SHALL BE PRESENTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- OBTAIN ANY MISSING DIMENSIONS OR INFORMATION FROM THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK. DO NOT SCALE THE DRAWINGS.
- SOME DETAILS, SYSTEMS AND MEANS OF CONSTRUCTION ARE SHOWN TYPICALLY FOR A SINGLE UNIT OR CONSTRUCTION DETAIL, BUT ARE INTENDED TO BE USED WITH REASONABLE MODIFICATIONS BY THE CONTRACTOR TO APPLY TO ALL REMAINING UNITS OR DETAILS.
- ALL CONTRACTORS SHOUD NOTE THAT A COMPLETE SET OF CONSTRUCTION DOCUMENTS CONSIST OF THE REGULATORY CODES AND THE AIA GENERAL CONDITIONS. THE LEVEL OF WORK WILL BE THE GREATER STANDARDS OR GREATER VALUE IN THE EVENT OF A CONFLICT BETWEEN DOCUMENTS.
- ANY MATERIALS OR LABOR, EITHER NOT SHOWN ON THE DRAWINGS OR NOT SPECIFIED BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK INTENDED TO BE PERFORMED SHALL BE FURNISHED WITHOUT COST TO THE OWNER OR ARCHITECT.
- ALL WORK SHALL COMPLY WITH THE HIGHEST LEVELS OF APPROPRIATE INDUSTRY STANDARDS.
- ALL WALLS AND EQUIPMENT ARE PERPENDICULAR TO THE 90-DEGREE GRID UNLESS SHOWN AND/OR SPECIFICALLY NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO THE FACE OF INTERIOR STUD PARTITIONS. FIELD VERIFY ALL ANGULAR WALL INTERSECTION DISTANCES.
- REFER TO WALL TYPE SCHEDULE FOR DESCRIPTION OF WALL TYPES AS INDICATED ON THE PLANS.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO COMMENCEMENT OF WORK TO DETERMINE ACTUAL SITE CONDITIONS.
- ALL CEILING HEIGHTS SHALL BE TO THE UNDERSIDE OF THE FINISH MATERIAL ABOVE.
- ALL WALLS SHALL HAVE SUFFICIENT SIZE AND BRACING TO MEET REQUIREMENTS TO RESIST 80 MPH EXTERIOR WIND LOADS.
- ALL WOOD BLOCKING AND GROUNDS SHALL BE THE RESPONSIBILITY OF THE FRAMING CONTRACTOR
- CUTTING AND PATCHING SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR REQUIRING THE WORK
- CONTRACTOR SHALL DETERMINE ERECTION PROCEDURE AND SEQUENCE AND PROVIDE WHATEVER TEMPORARY BRACING AND RELATED ITEMS THAT MAY BE REQUIRED TO COMPLETE THE WORK
- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS OWN WORK UNTIL FINAL ACCEPTANCE. ALL ASSEMBLIES ARE DESIGNED TO BE SELF-SUFFICIENT WHEN IN PLACE AND SHALL HAVE ANY MEANS NECESSARY OF TEMPORARY PROTECTION PRIOR TO FINAL COMPLETION.
- EACH CONTRACTOR SHALL BE RESPONSIBLE FOR WEEKLY REMOVAL OF THEIR SPOILS, CUTTINGS, DROPPINGS, EXCESS MATERIAL AND DEBRIS.
- IN THE EVENT OF A RESPONSIBILITY CONFLICT FOR PART OF THE WORK, THE CONTRACTOR WHO IS RESPONSIBLE FOR THE CSI DIVISION IN WHICH THE WORK IS CUSTOMARILY PLACED WILL PERFORM THE WORK.
- ALL FINISHED SURFACES SHALL BE PAINTED UNLESS SPECIFICALLY NOTD TO REMAIN UNFINISHED.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE SOLEY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY MEASURES, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE ARCHITECT AND ENGINEER CONSULTANTS SHALL NOT BE RESPONSIBLE FOR THE MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION NOT HEREIN SPECIFIED.
- REFERENCE GROUND FLOOR ELEVATION IS 0.00. REFER TO CIVIL ENGINEERING SITE DRAWINGS FOR ACTUAL REQUIRED ELEVATIONS.
- ALL FIRE RATED ASSEMBLIES MUST FULLY COMPLY WITH THE U.L. ASSEMBLY NOTED ON THE DRAWINGS.
- PROVIDE TRANSITION STRIPS AT ALL INTERSECTIONS OF DIFFERENT FLOORING MATERIALS.
- PROVIDE VENTILATION FOR ALL AREAS OF ENCLOSED INSULATION IN ACCORDANCE WITH THE IBC 2012.

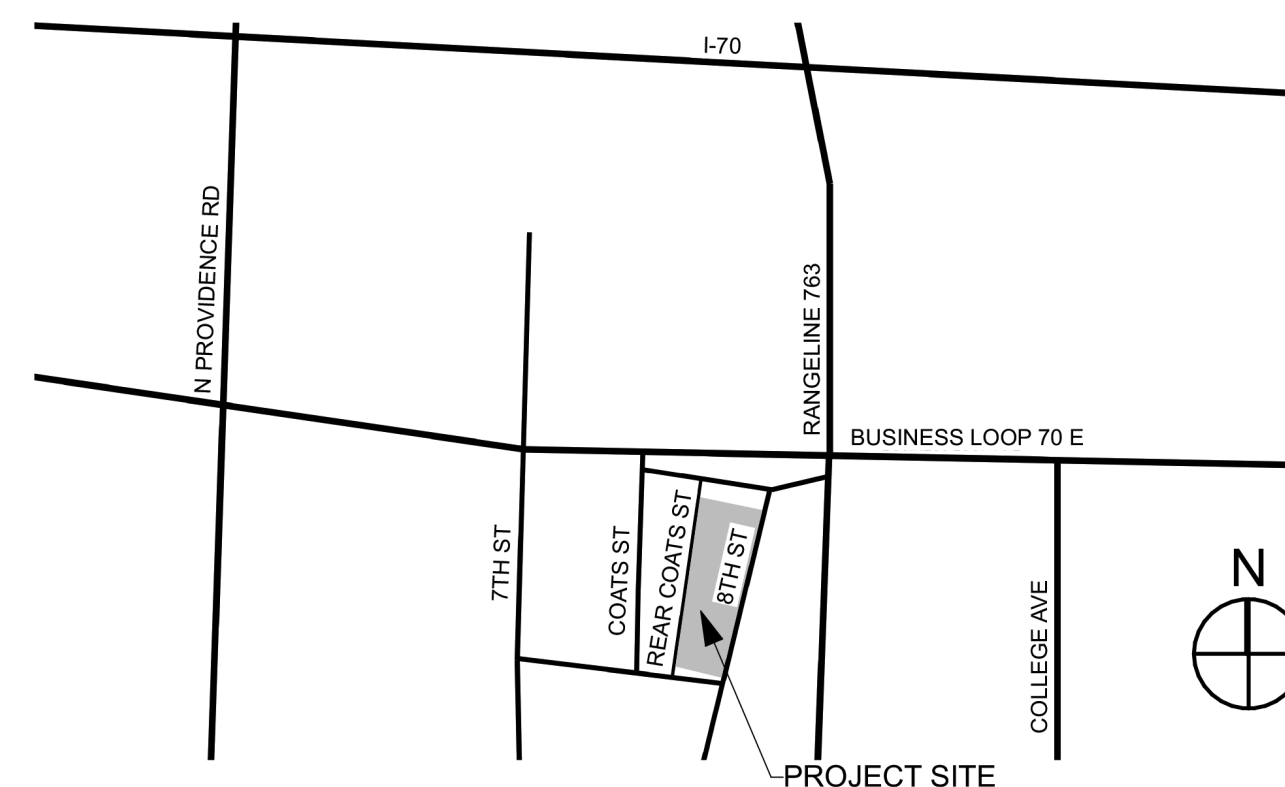
**SURFACE LEGEND**

No.	Fill	Name
1	[Pattern]	Earth
2	[Pattern]	Stonework
3	[Pattern]	Brick
4	[Pattern]	Concrete
5	[Pattern]	Roof Tile
6	[Pattern]	Wood
7	[Pattern]	Thermal or Sound Attenuation batt Insulation
8	[Pattern]	Rigid Insulation

**ARCHITECTURAL SYMBOLS LEGEND**



**LOCATION MAP**



**SHEET INDEX**

ARCHITECTURAL	
G100	COVER SHEET
A100	SITE PLAN
A101	FOUNDATION PLAN
A102	MAIN FLOOR PLAN
A103	ROOF PLAN
A200	ELEVATIONS
CIVIL	
CE1	EROSION CONTROL PLAN
CE2	GRADING PLAN
CE3	UTILITY PLAN
CE4	STORM & SEWER PROFILE
CE5	SITE PLAN
CE6	BIORETENTION PLAN
CE7	UNDERGROUND DETENTION DETAILS
LS1	LANDSCAPE PLAN

Volumes/projects/1919 Cullimore Cottages/Working Drawings/Cullimore Cottages/January 6, 2020 11:41 AM

**CULLIMORE COTTAGES**

PROJECT NO: 1919  
 DRAWN BY: MEGAN NICK  
 CHECKED BY: NICK  
 DATE: 1/6/20

COVER SHEET

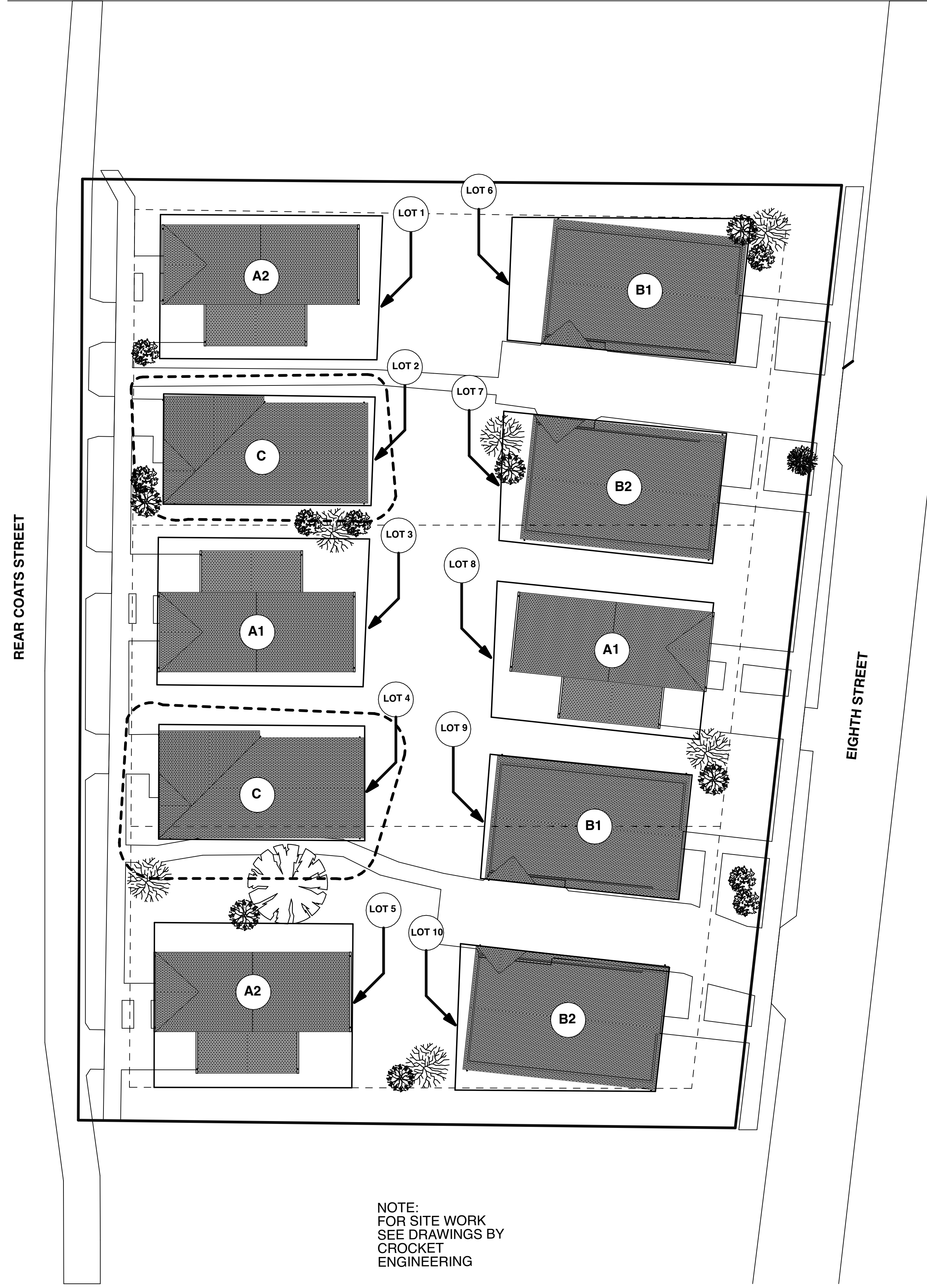
**PLAN C**  
**G100**

CONSTRUCTION SET  
 01/06/2020

RANDY COLE  
 573-874-6321  
 500 E WALNUT SUITE 108  
 COLUMBIA MO 65201

REVISIONS:





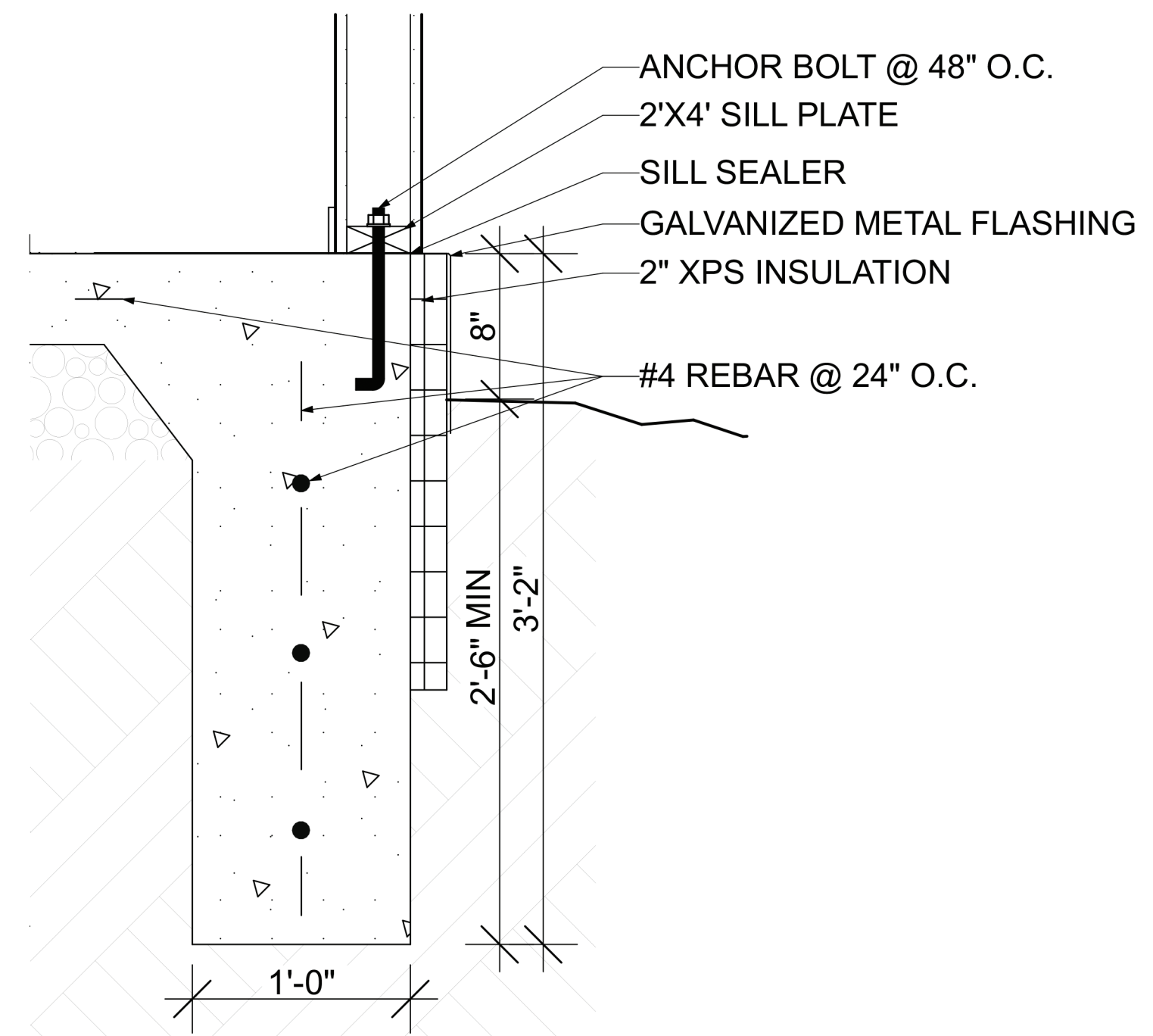
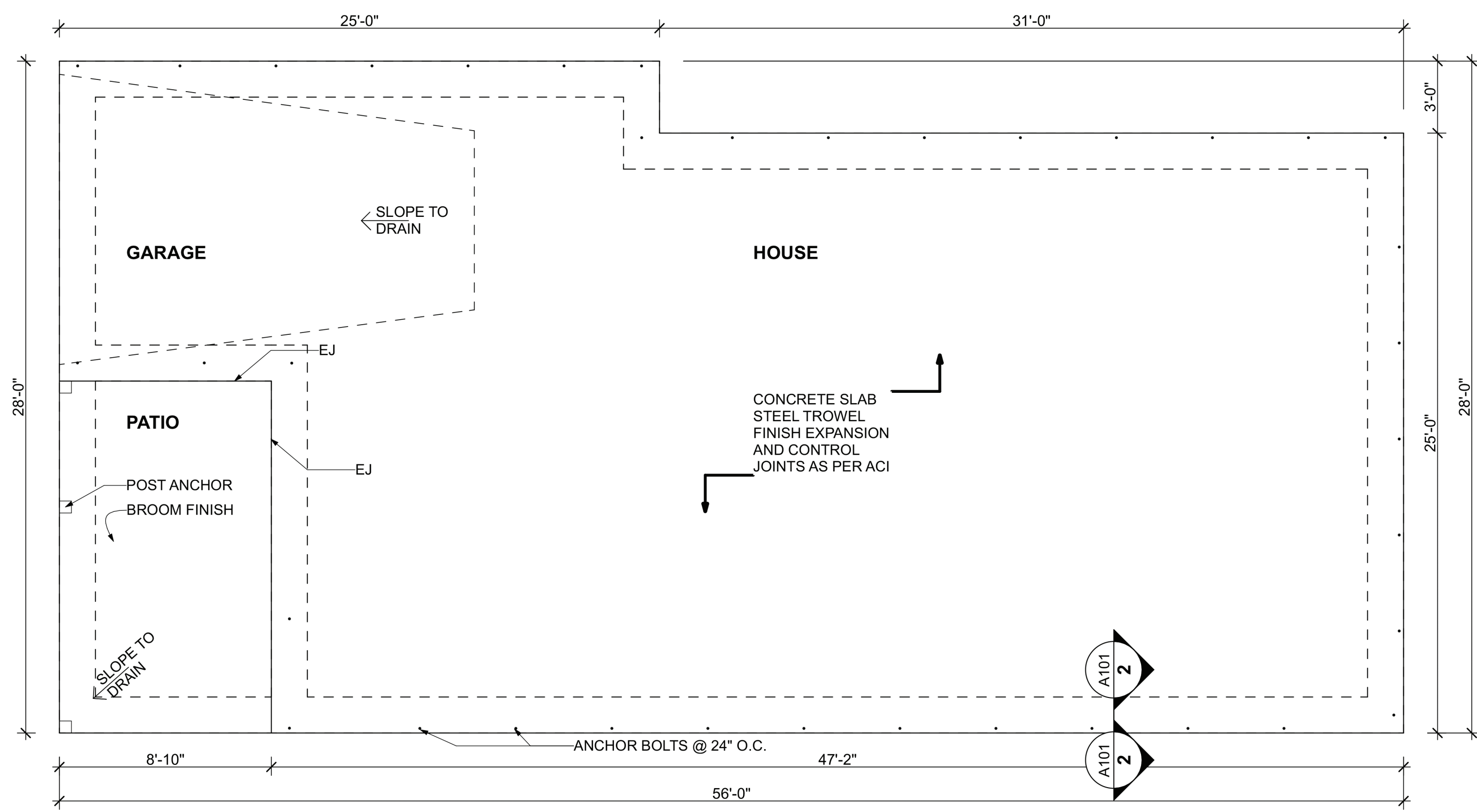
1 SITE PLAN A-1  
SCALE: 1" = 20'





/Volumes/projects/1919 Cullimore Cottages/Drawings/Working Drawings/Cullimore Cottages/Plan C1.pln Monday, January 6, 2020 1:43 PM

**1**  
A101 **BASEMENT FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



**2**  
A101 **TYPICAL FOUNDATION DETAIL**  
SCALE: 1 1/2" = 1'-0"

**FOUNDATION PLAN**

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

1919  
MEGAN  
NICK  
1/6/20

**CULLIMORE COTTAGES**

RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
COLUMBIA MO 65201

**PLAN C**

**A101**

CONSTRUCTION SET  
01/06/2020

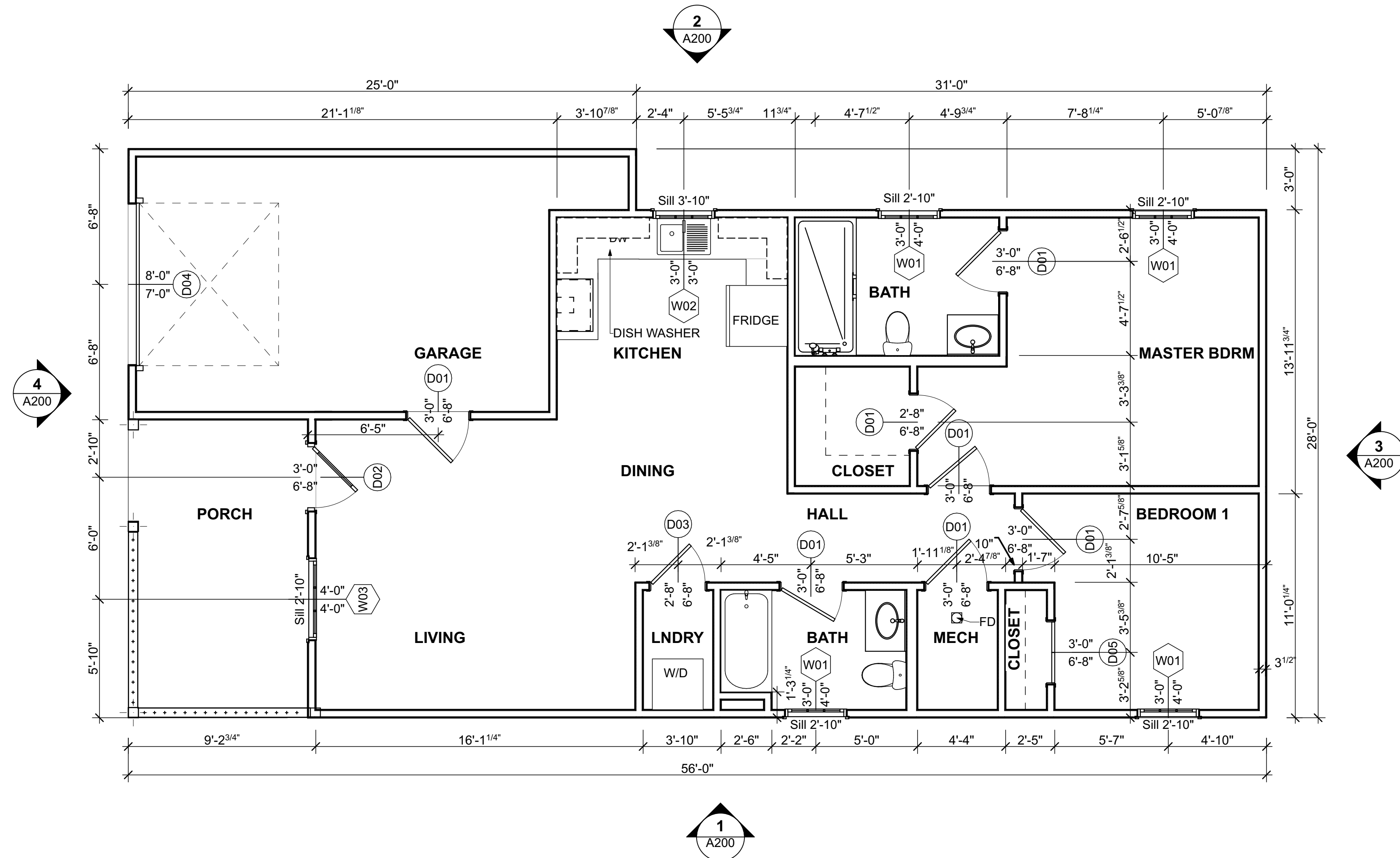




1  
A102

**MAIN FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

FINISHED SQUARE FEET: 1,075  
TOTAL SQUARE FEET: 1,363



**MAIN FLOOR PLAN**  
**PLAN C**  
**A102**

PROJECT NO: 1919  
DRAWN BY: MEGAN  
CHECKED BY: NICK  
DATE: 1/6/20

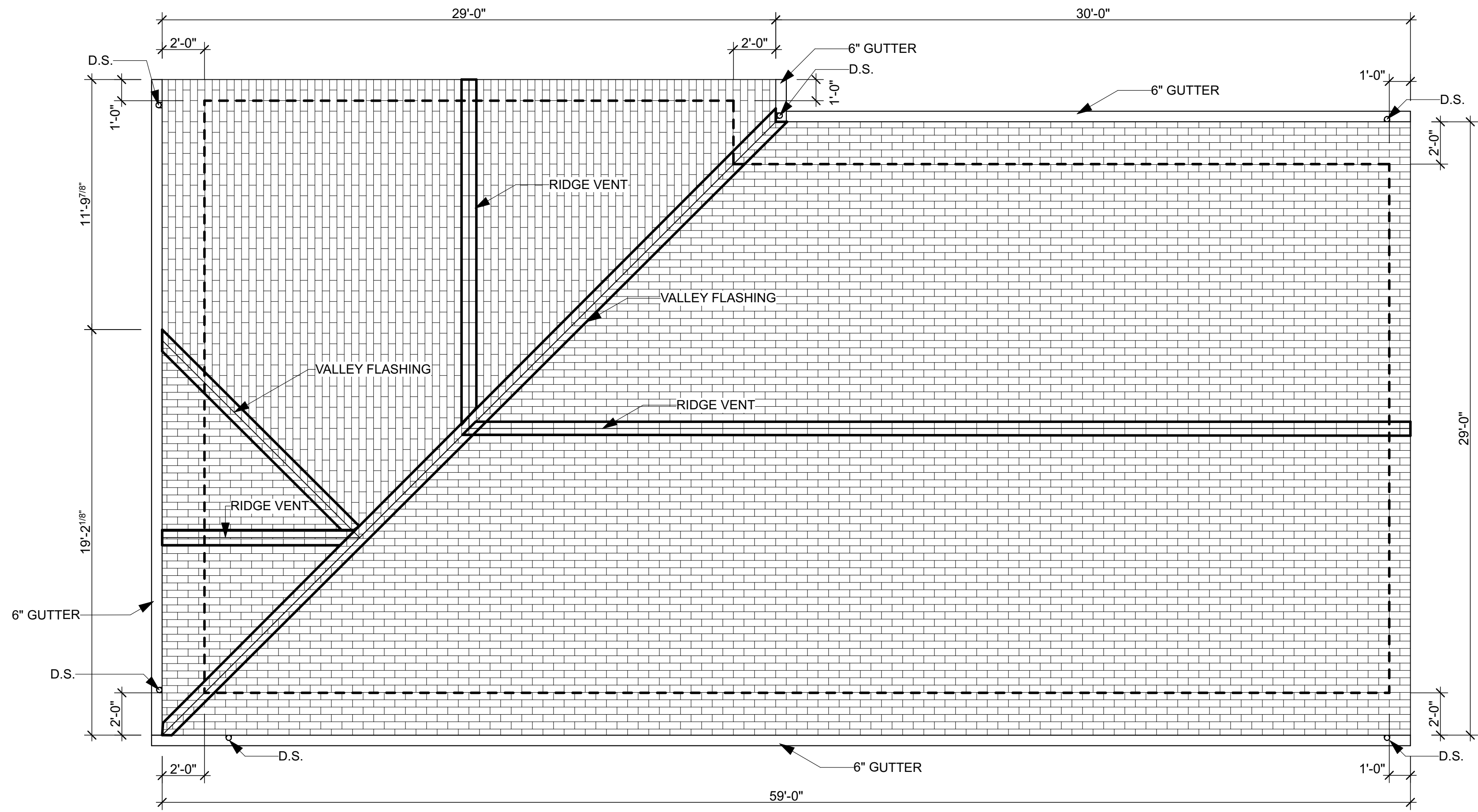
REVISIONS:

**CULLIMORE COTTAGES**  
RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
COLUMBIA MO 65201

**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*



2009 N Country Club Dr.  
Columbia, MO 65201  
573-777-4444



**1**  
A103  
**ROOF**  
SCALE: 1/4" = 1'-0"

**ROOF PLAN**

**PLAN C**  
**A103**

**PROJECT NO:** 1919  
**DRAWN BY:** MEGAN  
**CHECKED BY:** NICK  
**DATE:** 1/6/20

**REVISIONS:**

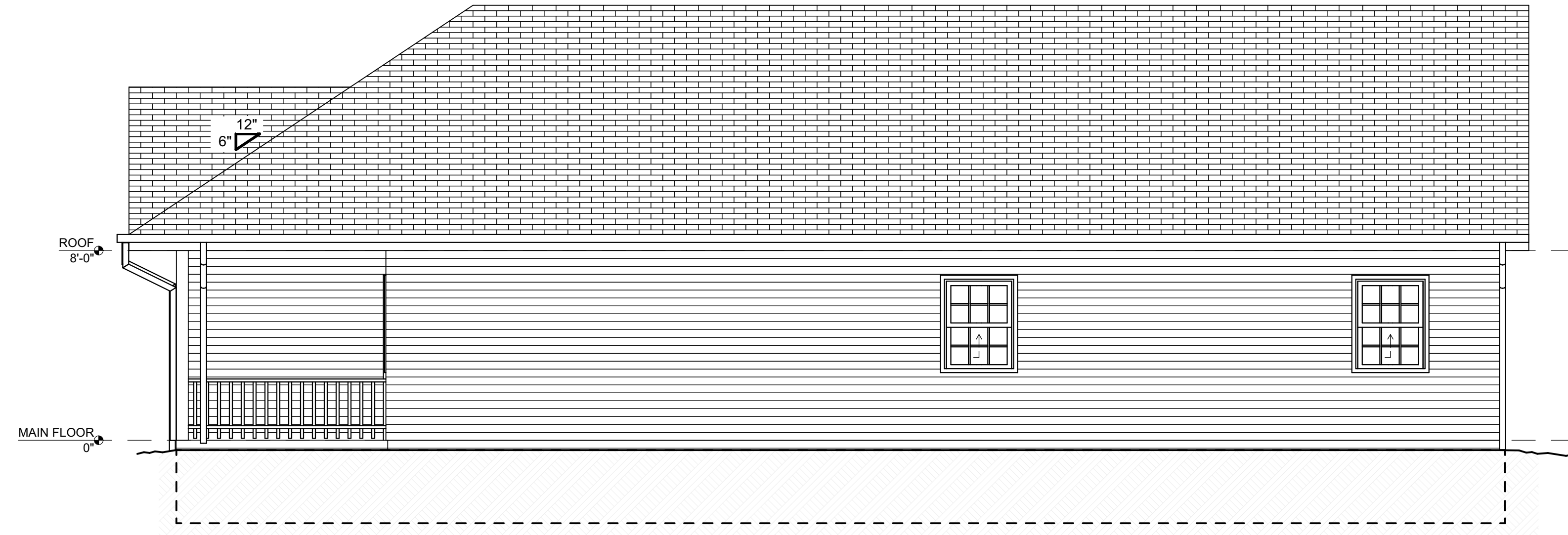
**CULLIMORE COTTAGES**

RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
COLUMBIA MO 65201

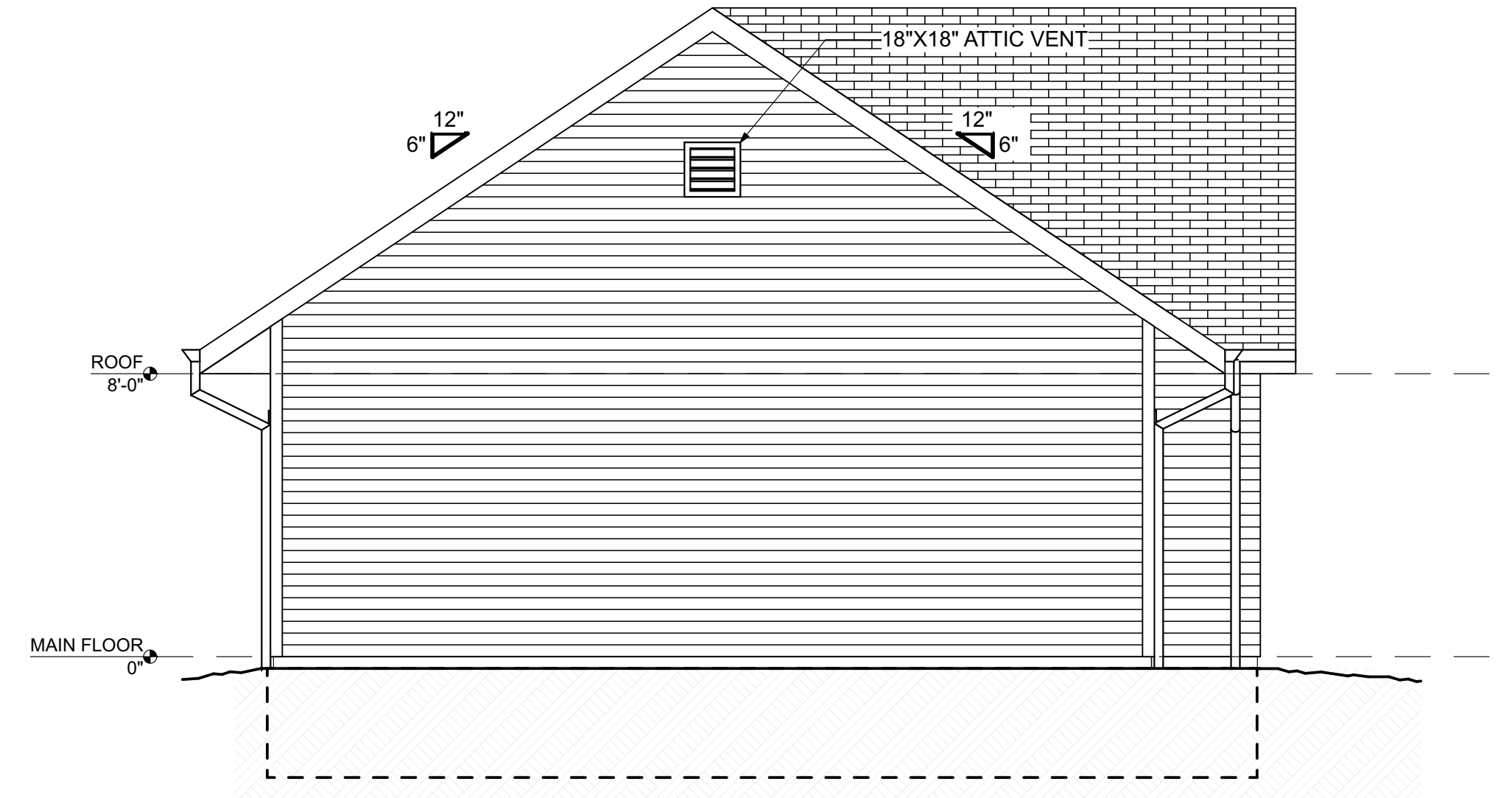


**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*

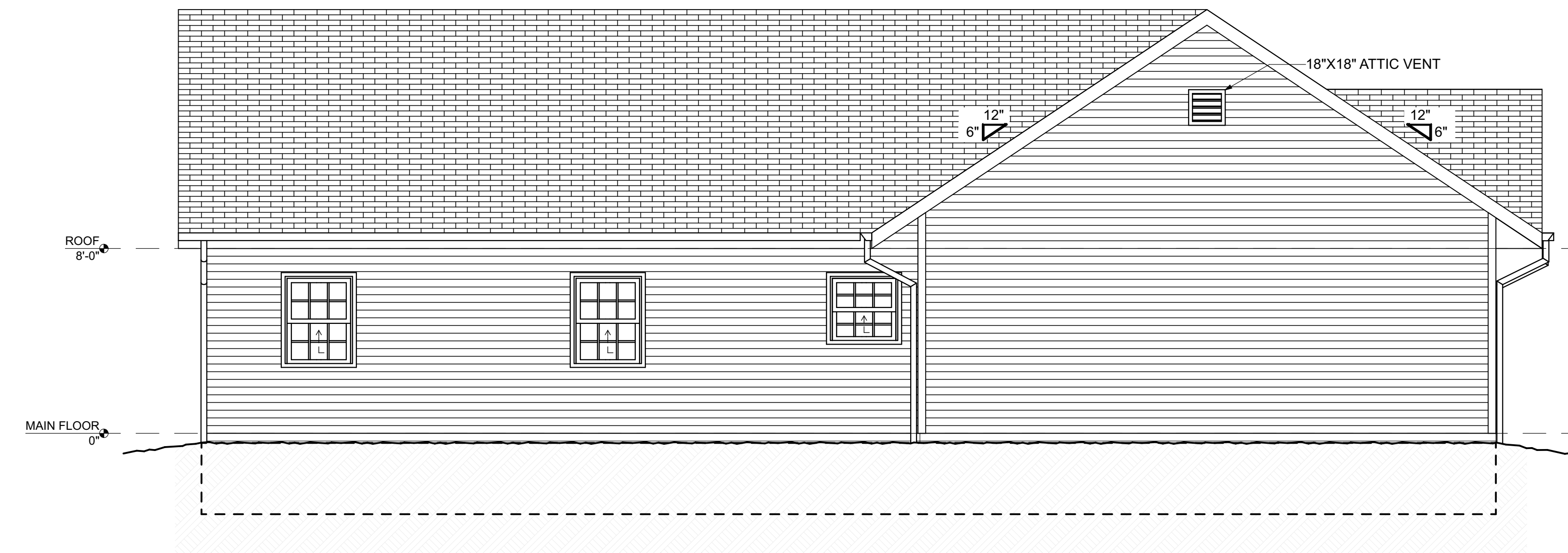
2009 N Country Club Dr.  
Columbia, MO 65201  
573-777-4444



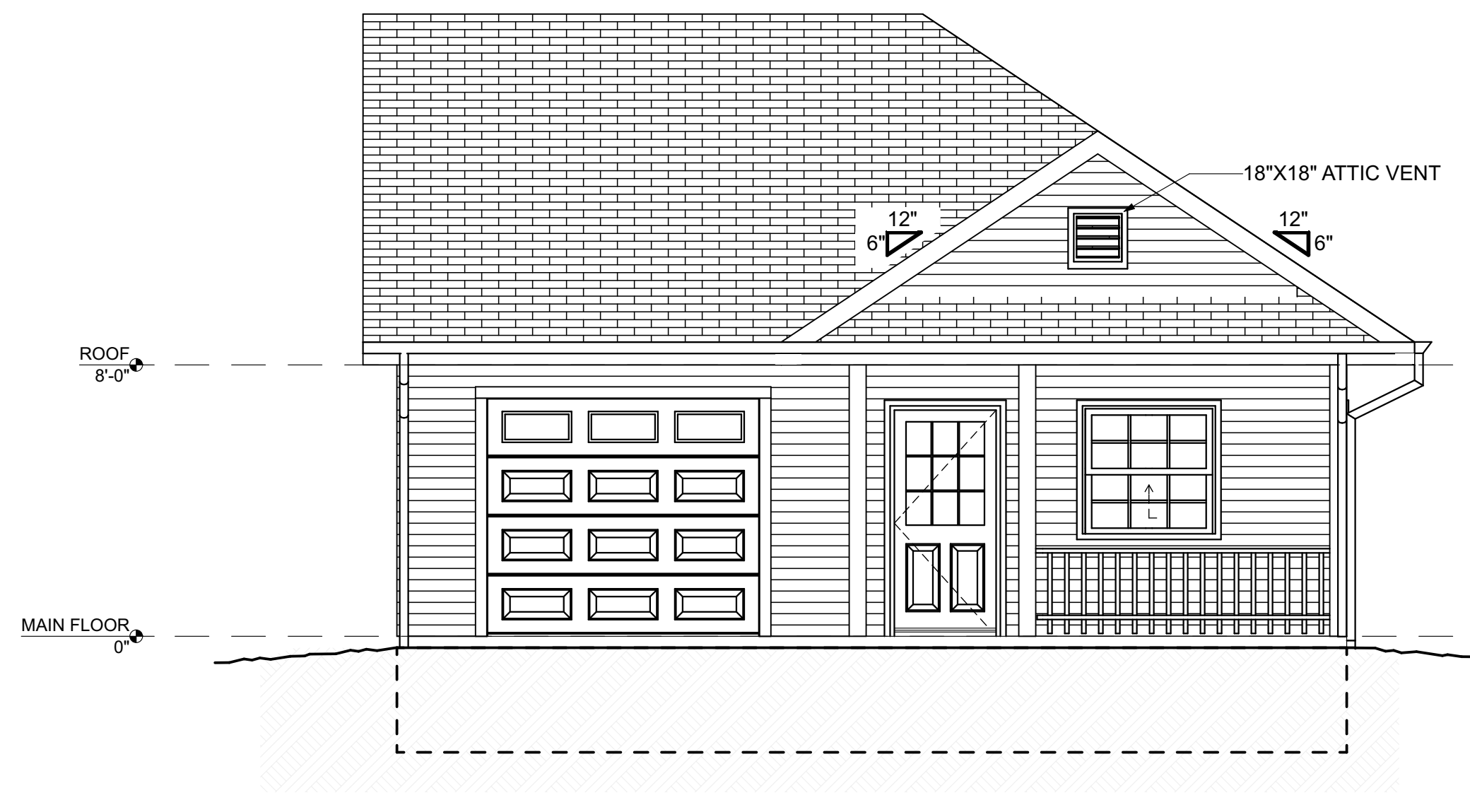
**1**  
A200 **FRONT ELEVATION**  
SCALE: 1/4" = 1'-0"



**3**  
A200 **RIGHT ELEVATION**  
SCALE: 1/4" = 1'-0"



**2**  
A200 **REAR ELEVATION**  
SCALE: 1/4" = 1'-0"



**4**  
A200 **LEFT ELEVATION**  
SCALE: 1/4" = 1'-0"



**PECKHAM**  
ARCHITECTURE  
*for a sustainable future*

2009 N Country Club Dr.  
Columbia, MO 65201  
573-777-4444

**CULLIMORE COTTAGES**

RANDY COLE  
573-874-6321  
500 E WALNUT SUITE 108  
COLUMBIA MO 65201

1919  
MEGAN  
NICK  
1/6/20

PROJECT NO:  
DRAWN BY:  
CHECKED BY:  
DATE:

REVISIONS:

ELEVATIONS  
**PLAN C**

**A200**

CONSTRUCTION SET  
01/06/2020

## John Hansman Construction LLC

9900 N Creekland Dr.  
Columbia, Mo 65202  
573-673-8135

[www.hansmancustomhomes.com](http://www.hansmancustomhomes.com)

[jhansman@centurytel.net](mailto:jhansman@centurytel.net)

January 27, 2020

Columbia Community Land Trust  
Housing and CDBG Programs  
500 E. Walnut, Suite 108  
Columbia, MO 65201

Dear Randy Cole,

On behalf of John Hansman Construction LLC I present the enclosed proposal. You should find it addresses all specs and points in the supplied RFP. You will also find detailed and total pricing on the attached quote. It was our goal to provide a home that lives up to our usual quality expectations while being conscious of providing an affordable product.

We have a long standing history of working with local vendors, suppliers and city officials to provide quality projects on time and on budget. Long term relationships often produce extra discounts and promotions, any applicable discount or promotion would be passed on to CCLT .

We would plan to start this project within 2 weeks of contract, and expect this project to be complete in 9 months or less. All aspects from start to finish would be managed by John Hansman Construction LLC. This would be a ready to move into turn-key project. We would include our usual 1 year builder warranty and also have a 2-10 warranty that extends warranty coverage available for an extra fee. Since this is a value oriented project we did not include the 2-10 in our original proposal.

We are confident we can provide a quality product on time and on budget and would appreciate the opportunity.



John Hansman  
John Hansman Construction LLC



## **John Hansman Construction LLC**

9900 N Creekland  
Columbia, Mo 65202  
573-673-8135

[www.hansmancustomhomes.com](http://www.hansmancustomhomes.com)

[jhansman@centurytel.net](mailto:jhansman@centurytel.net)

### Vendor Information

John Hansman Construction LLC  
Established 2002

#### Primary Contact

John Hansman

Member

Ph. 573-673-8135

[jhansman@centurytel.net](mailto:jhansman@centurytel.net)

Responsible for scheduling and site management

#### Experience

17 years homebuilding

27 years in construction industry

#### Design/sales

Monica Hansman

573-673-8135

[monica@monicahansman.com](mailto:monica@monicahansman.com)

Responsible for design selections and sales

#### Experience

5 years commercial loan banking

14 years realtor

14 years home design

## **John Hansman Construction LLC**

9900 N Creekland Dr.  
Columbia, Mo 65202  
573-673-8135

[www.hansmancustomhomes.com](http://www.hansmancustomhomes.com)

[jhansman@centurytel.net](mailto:jhansman@centurytel.net)

### References

Scott and Rene Eslinger  
1701 Swift Ct  
Columbia, MO 65202  
678-249-5200  
Custom Home

Scott Barger and John Hennagir  
17050 N Willet Rd  
Centralia, MO 65204  
[Scott.Barger@Cerner.com](mailto:Scott.Barger@Cerner.com)  
Custom Home

Kent Willett  
6501 E. Mexico Gravel Rd  
Columbia, MO 65202  
573-881-1040  
[kfwillett12@gmail.com](mailto:kfwillett12@gmail.com)  
Custom Home

McCarty Property Investments LLC  
Jon McCarty  
3700 Monterey Dr. Suite A  
Columbia, MO 65203  
573-356-9575 m  
[jmccarty@veteransunited.com](mailto:jmccarty@veteransunited.com)

Multiple new construction single family homes for rent and sale.  
Including one 12 unit multifamily building for rent.

H&K Properties  
5307 Forest Glen Dr  
Columbia, MO 65203  
Allen Kirby 573-219-2283  
[akirby@centurytel.net](mailto:akirby@centurytel.net)

Multiple new construction single family homes for rent and sale.

# John Hansman Construction LLC

9900 N Creekland  
Columbia, Mo 65202  
573-673-8135

[www.hansmancustomhomes.com](http://www.hansmancustomhomes.com)


[jhansman@centurytel.net](mailto:jhansman@centurytel.net)

## Potential Schedule

Permitting/Energy audit	week 1/2
Site prep/footings/slab pour	week 3
Framing	week 4/5
Rough in	week 6/7
Insulation/drywall/exterior concrete	week 8/9
Hard flooring/trim/cabinets	week 10/11
Paint	week 12
Trimout/landscaping	week 13
Carpet/cleaning	week 14
Final inspections/energy certification	week 15



**JOHN HANSMAN CONSTRUCTION LLC**  
9900 N CREEKLARD DR  
COLUMBIA MO 65202-7491 DPBC 00

Tax ID Number: **XX-XXX0738**   
Date of Birth:  
Business Ph: **(573) 673-8135**  
Alt. Bus. Ph:  
CELL NUMBER:

**Recommendations Possible**

**Accounts**



Checking - **PREMIUM BUSINESS**

**JOHN HANSMAN CONSTRUCTION LLC**

**Primary Owner**

Current Balance:	\$96,544.36	Status:	Active
Acct. Avail. Balance:	\$96,544.36	Opened Date:	Jun 05, 2008
		Interest Rate:	0.00%

[Details](#) | [View Account Homepage](#)



Checking - **\*BETTER BUSINESS MM2**

**JOHN HANSMAN CONSTRUCTION LLC**

**Primary Owner**

Current Balance:	\$25.87	Status:	Active
Acct. Avail. Balance:	\$25.87	Opened Date:	Jun 10, 2008

Facilities - 2100704879

**BUSINESS COMMITMENTS**



## Form X-Plan A

## Development Uses of Funds

Acquisition & General Requirements	
Lot/Land	
Permits	
Labor	\$ -
Surveys/Appraisals	\$ -
Temporary Facilities/Utilities	\$ -
Equipment Rental	\$ -
Insurance	\$ 800.00
Plans/Architect	
Interest/Bank Fees	\$ -
Realtor Fees	
Advertising & Sales	
Legal Fees	\$ -
Other Fees _____energy_____	\$ 600.00
Maint/ Clean-up	\$ 1,600.00
<b>Total Acq/General Req.</b>	<b>\$ 3,000.00</b>
Sitework	
Site Preparation	\$ 2,000.00
Earthwork/Excavation	\$ -
Sewer	\$ 1,000.00
Utilities Installation	\$ 1,500.00
Landscaping	\$ 2,850.00
<b>Total Sitework</b>	<b>\$ 7,350.00</b>
Concrete	
Reinforcement	\$ -
Rock	\$ 900.00
Footings/Foundations	\$ 16,500.00
Flatwork	\$ -
<b>Total Concrete</b>	<b>\$ 17,400.00</b>
Carpentry/millwork	
Rough Carpentry	\$ 37,127.00
Trusses/Pre-Fabs	\$ -
Finish Carpentry	\$ 2,300.00
<b>Total Wood</b>	<b>\$ 39,427.00</b>

Thermal & Moisture	
Insulation	\$ 2,720.00
Shingles/Roofing	\$ 3,923.00
Gutters	\$ 506.00
Siding	\$ 6,285.00
Soffit/Fascia	\$ -
<b>Total Thermal/Moisture</b>	<b>\$ 13,434.00</b>
Doors and Windows	
Exterior Entrance Doors	\$ -
Interior Pre-Hung Doors	\$ 6,834.00
Patio Doors	\$ -
Garage Door(s)	\$ 1,004.00
Windows	\$ 1,874.00
Hardware	\$ -
<b>Total Doors and Windows</b>	<b>\$ 9,712.00</b>
Finishes	
Drywall	\$ 6,771.00
Vinyl	\$ 1,093.00
Tile	\$ -
Carpet	\$ 2,156.00
Painting Interior	\$ 4,713.00
Painting Exterior	\$ -
<b>Total Finishes</b>	<b>\$ 14,733.00</b>
Equipment	
Appliance kitchen	\$ 3,239.00
Appliance laundry	\$ 961.00
<b>Total Equipment</b>	<b>\$ 4,200.00</b>
Furnishings	
Cabinets	\$ 3,909.00
Countertops	\$ -
Sinks	\$ 250.00
Mirrors	\$ 192.00
<b>Total Furnishings</b>	<b>\$ 4,351.00</b>
Mechanical	
Plumbing	\$ 9,260.00
HVAC	\$ 6,600.00
ERV	\$ -
Other exhaust fans	\$ -
<b>Total Mechanical</b>	<b>\$ 15,860.00</b>
Electrical	
Service & Distribution	\$ -
Lighting	\$ 5,400.00
Communications	\$ -
Fixtures	\$ 597.00
<b>Total Electrical</b>	<b>\$ 5,997.00</b>
<b>Developer Fee (10% max)</b>	<b>\$ 5,000.00</b>
<b>Total Development Costs</b>	<b>\$ 140,464.00</b>


  
John G Hansman

## Form X-Plan C

## Development Uses of Funds

Acquisition & General Requirements	
Lot/Land	
Permits	
Labor	\$ -
Surveys/Appraisals	\$ -
Temporary Facilities/Utilities	\$ -
Equipment Rental	\$ -
Insurance	\$ 800.00
Plans/Architect	
Interest/Bank Fees	\$ -
Realtor Fees	
Advertising & Sales	
Legal Fees	\$ -
Other Fees _____ energy	\$ 600.00
Maint/ Clean-up	\$ 1,600.00
<b>Total Acq/General Req.</b>	<b>\$ 3,000.00</b>
Sitework	
Site Preparation	\$ 2,000.00
Earthwork/Excavation	\$ -
Sewer	\$ 1,000.00
Utilities Installation	\$ 1,500.00
Landscaping	\$ 2,850.00
<b>Total Sitework</b>	<b>\$ 7,350.00</b>
Concrete	
Reinforcement	\$ -
Rock	\$ 900.00
Footings/Foundations	\$ 15,130.00
Flatwork	\$ -
<b>Total Concrete</b>	<b>\$ 16,030.00</b>
Carpentry/millwork	
Rough Carpentry	\$ 25,048.00
Trusses/Pre-Fabs	\$ -
Finish Carpentry	\$ 1,950.00
<b>Total Wood</b>	<b>\$ 26,998.00</b>

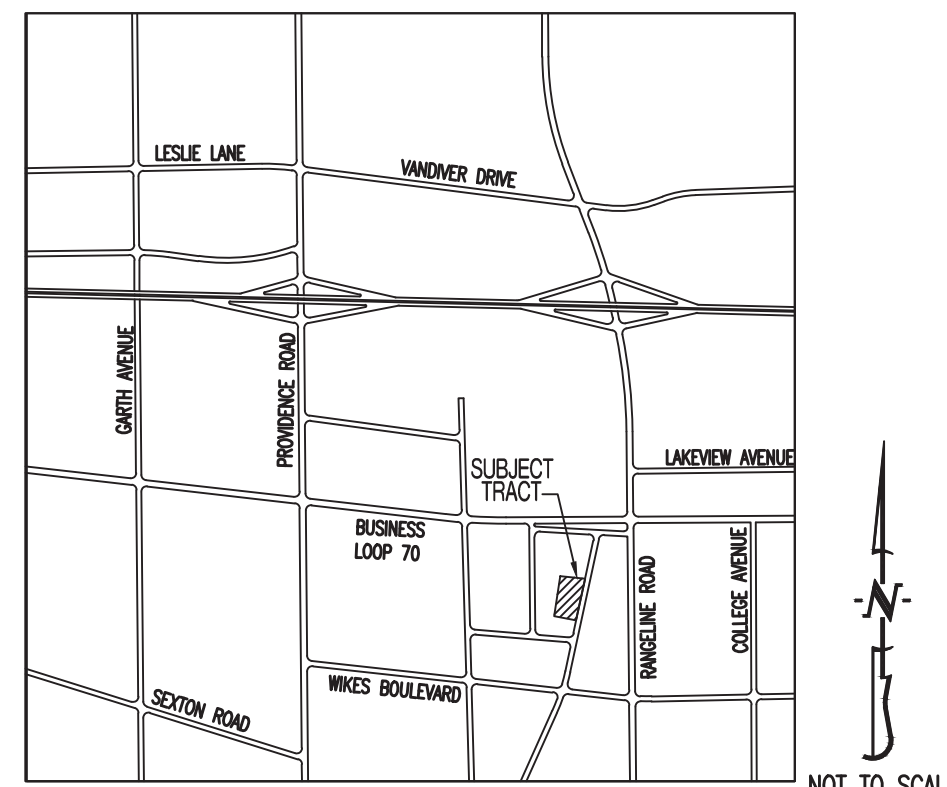
Thermal & Moisture	
Insulation	\$ 1,825.00
Shingles/Roofing	\$ 4,361.00
Gutters	\$ 719.00
Siding	\$ 4,275.00
Soffit/Fascia	\$ -
<b>Total Thermal/Moisture</b>	<b>\$ 11,180.00</b>
Doors and Windows	
Exterior Entrance Doors	\$ -
Interior Pre-Hung Doors	\$ 2,798.00
Patio Doors	\$ -
Garage Door(s)	\$ 1,004.00
Windows	\$ 1,383.00
Hardware	
<b>Total Doors and Windows</b>	<b>\$ 5,185.00</b>
Finishes	
Drywall	\$ 4,917.00
Vinyl	\$ 1,153.00
Tile	\$ -
Carpet	\$ 1,522.00
Painting Interior	\$ 3,404.00
Painting Exterior	\$ -
<b>Total Finishes</b>	<b>\$ 10,996.00</b>
Equipment	
Appliance kitchen	\$ 3,239.00
Appliance laundry	\$ 961.00
<b>Total Equipment</b>	<b>\$ 4,200.00</b>
Furnishings	
Cabinets	\$ 2,400.00
Countertops	\$ -
Sinks	\$ 250.00
Mirrors	\$ 133.00
<b>Total Furnishings</b>	<b>\$ 2,783.00</b>
Mechanical	
Plumbing	\$ 8,864.00
HVAC	\$ 6,300.00
ERV	\$ -
Other exhaust fans	\$ -
<b>Total Mechanical</b>	<b>\$ 15,164.00</b>
Electrical	
Service & Distribution	
Lighting	\$ 4,900.00
Communications	
Fixtures	\$ 500.00
<b>Total Electrical</b>	<b>\$ 5,400.00</b>
<b>Developer Fee (10% max)</b>	<b>\$ 5,000.00</b>
<b>Total Development Costs</b>	<b>\$ 113,286.00</b>

  
John G Hansman



# CULLIMORE COTTAGES

**LOCATION MAP**



LOCATION MAP

**GENERAL NOTES:**

ALL STREET, STORM DRAIN, AND SANITARY SEWER CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF COLUMBIA "STREET, STORM DRAIN, AND SANITARY SEWER SPECIFICATIONS AND STANDARDS" (CURRENT EDITION).

ANY CITY DETAILS SHOWN ON THIS SET OF PLANS ARE FOR REFERENCE ONLY. CONTRACTOR TO HAVE A COPY OF THE CITY'S LATEST EDITION OF SPECIFICATIONS AND STANDARDS FOR ALL STREET, STORM, AND SANITARY CONSTRUCTION ON SITE AT ALL TIMES DURING CONSTRUCTION. REFER TO <https://www.cmo.gov/publicworks/specs-and-standards/>

CONTRACTOR WILL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF TRAFFIC CONTROL DEVICES NECESSARY TO COMPLETE THEIR PORTION OF WORK. THE DEVICES AND METHODS EMPLOYED WILL COMPLY WITH THE CURRENT VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THIS PLAN CONTAINS APPROXIMATELY 1.32 ACRES. THE NEW ACREAGE OF THE PROPERTY WILL BE 1.25 ACRES AFTER ADDITIONAL AREA DEDICATED AS RIGHT-OF-WAY.

THIS TRACT IS ZONED PD.

THE STORM SEWER NETWORK DESIGN FOR THIS PROJECT IS BASED ON OPEN CHANNEL FLOW; THEREFORE THE HYDRAULIC GRADE LINE IS AT OR LESS THAN THE CROWN OF THE PIPE.

EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND VERTICAL) PRIOR TO ANY EXCAVATION.

ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010-319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.

A GEOTECHNICAL EVALUATION OF THE SUBSURFACE SOIL, GROUNDWATER CONDITIONS, AND A SLOPE STABILITY ANALYSIS HAS NOT BEEN PERFORMED BY THIS ENGINEER. THE OWNER SHALL SATISFY THEMSELVES OF ALL GEOTECHNICAL CONDITIONS PRIOR TO ANY CONSTRUCTION.

ALL LAND DISTURBANCE ACTIVITIES SHALL BE IN ACCORDANCE WITH CHAPTER 12A OF THE CITY OF COLUMBIA CODE OF ORDINANCES.

THERE IS NO REGULATED STREAM BUFFER WITHIN THE LIMITS OF THIS PROJECT AS DETERMINED BY THE USGS MAP FOR COLUMBIA QUADRANGLE, BOONE COUNTY, MISSOURI AND ARTICLE X OF CHAPTER 12A OF THE CITY OF COLUMBIA CODE OF ORDINANCES.

THERE IS NO CLIMAX FOREST, AS DEFINED BY THE CITY OF COLUMBIA, LOCATED WITHIN THE LIMITS OF THIS PLAN.

ANY FILL PLACEMENT WITHIN STREET RIGHT-OF-WAY SHALL BE INSPECTED BY THE CITY OF COLUMBIA.

REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR NARRATIVE REPORT AND BMP DESCRIPTIONS AND DETAILS.

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

IT IS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MDNR CLEAN WATER COMMISSION.

ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" SHALL BE FINE GRADED, SEED, AND MULCHED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES AND REMOVING THEM ONCE THE SITE IS STABILIZED.

A 5' SIDEWALK WILL BE CONSTRUCTED ADJACENT TO ALL STREETS.

ALL SERVICE LATERALS SHALL BE INSTALLED AS PER CITY OF COLUMBIA REQUIREMENTS AT 1.0% (MIN.) GRADE WHEN CROSSING STREETS.

ALL EXCAVATION WITHIN THE STREET RIGHT-OF-WAY SHALL BE BACKFILLED PER CURRENT CITY OF COLUMBIA SPECIFICATIONS.

ALL SANITARY SEWER PIPE TO BE 8" PVC SDR 35 UNLESS OTHERWISE NOTED.

ALL SEWERLINES SHALL BE CONSTRUCTED AT LEAST 10 FEET HORIZONTALLY, EDGE TO EDGE, FROM ANY WATERLINE AND AT LEAST 24 INCHES VERTICALLY BETWEEN THE OUTSIDE LIMITS OF THE SANITARY SEWER AND WATERLINE. FOR CONDITIONS OTHER THAN THOSE IDENTIFIED ABOVE, CONTACT THE ENGINEER FOR SPECIFIC INSTRUCTIONS.

ALL SEWER GREATER THAN 15 FEET IN DEPTH SHALL BE A MINIMUM OF SDR 26. ALL MANHOLES GREATER THAN 16 FEET IN DEPTH SHALL HAVE DOUBLE STEEL REINFORCEMENT PER CITY OF COLUMBIA SPECIFICATIONS.

ALL STANDARD MANHOLES (STD MH) ARE TO BE CONSTRUCTED PER DETAIL 1 SHOWN IN THE CITY OF COLUMBIA SANITARY SEWER SPECIFICATIONS AND STANDARDS (CURRENT EDITION).

ALL STANDARD CLEANOUTS (STD CO) ARE TO BE CONSTRUCTED PER DETAIL 15 SHOWN IN THE CITY OF COLUMBIA SANITARY SEWER SPECIFICATIONS AND STANDARDS (CURRENT EDITION).

ALL LATERAL LINES SHALL HAVE TRACER WIRE INSTALLED PER ADDENDUM #4 TO THE STREET, STORM SEWER & SANITARY SEWER SPECIFICATIONS AND STANDARDS (JANUARY 2012)

ALL HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR PIPE BEDDING REQUIREMENTS.

IN ORDER TO TERMINATE A STATE OPERATING PERMIT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) REQUIRES THAT THE PERMITTEE SUBMIT A COMPLETED FORM H (INCLUDED WITH THE APPROVAL PERMIT) TO THE MDNR. A PERMIT IS ELIGIBLE FOR TERMINATION WHEN EITHER PERENNIAL VEGETATION, PAVEMENT, BUILDINGS, OR STRUCTURES USING PERMANENT MATERIALS COVER ALL AREAS THAT HAVE BEEN DISTURBED. VEGETATIVE COVER SHALL BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED AREA. A COPY OF FORM H SHOULD BE SUBMITTED TO THE CITY AT WHICH TIME THE CITY WILL REMOVE THE PROJECT FROM ITS INSPECTION SCHEDULE.

LAND DISTURBANCE SITES SHOULD BE INSPECTED ON A REGULAR SCHEDULE AND WITHIN A REASONABLE TIME PERIOD (NOT TO EXCEED 48 HOURS) FOLLOWING HEAVY RAINS. REGULARLY SCHEDULED INSPECTIONS SHALL BE AT A MINIMUM OF ONCE PER WEEK. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT. CONTRACTORS ARE REQUIRED TO SUBMIT TO CITY INSPECTION STAFF COPIES OF THEIR INSPECTION REPORTS REQUIRED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON A MONTHLY BASIS IF REQUESTED.

CONTRACTOR SHALL NOTIFY ADJOINING PROPERTY OWNERS IN WRITING 30 DAYS PRIOR TO CONSTRUCTION BEGINNING.

TOTAL DISTURBED AREA ON SITE = 1.53 AC.

MISSOURI DNR LAND DISTURBANCE PERMIT NUMBER MORA14308

PROJECT TRACKING ADDRESS: 1101 N. EIGHTH STREET

REVISION KEY			COVER	CE 1	CE 2	CE 3	CE 4	CE 5	CE 6	CE 7	CE 8
REV #	DATE	COMMENTS									
—	07/17/2019	ORIGINAL SUBMITTAL	X	X	X	X	X	X	X	X	X
1	08/20/2019	CITY REVIEW COMMENTS	X	X	X	X	X	X	X	X	X
2	09/06/2019	CITY REVIEW COMMENTS	X			X	X				X

**SHEET INDEX:**

- CE 1 - EROSION CONTROL PLAN
- CE 2 - GRADING PLAN
- CE 3 - UTILITY PLAN
- CE 4 - STORM SEWER PROFILE-LINE 1, SANITARY SEWER PROFILE-LINE A, SPLITTER BOX DETAIL
- CE 5 - SITE PLAN

- CE 6 - BIORETENTION PLAN
- CE 7 - UNDERGROUND DETENTION DETAILS
- CE 8 - LANDSCAPING PLAN

**PROJECT BENCHMARK:**

TBM #1 - RAILROAD SPIKE IN POWER POLE LOCATED ALONG THE EAST PROPERTY LINE APPROXIMATELY 25-FEET SOUTH OF THE NORTHEASTERN CORNER OF THE TRACT. ELEVATION = 750.63

**FLOOD PLAIN STATEMENT:**

NO PART OF THIS TRACT IS LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS PER THE BOONE COUNTY FIRM MAP #29019C0280E DATED APRIL 19, 2017.

THIS TRACT IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE AS DEFINED IN CITY ORD. 29-2.3(0)(4), PER THE BOONE COUNTY FIRM PANEL #29019C0280E DATED APRIL 19, 2017.

**LEGAL DESCRIPTION:**

LOTS 1-10 & C1 OF THE CULLIMORE COTTAGES FINAL PLAN, A RE-PLAT OF LOTS 4, 5, & 6 OF JC CONLEYS ADDITION TO THE CITY OF COLUMBIA IN BOONE COUNTY, MISSOURI

**UTILITY COMPANIES:**

**LOCATES:**

MISSOURI ONE CALL INC.  
1022 B NORTHEAST DRIVE  
JEFFERSON CITY, MO 65109  
1-800-344-7483



**WATER/ELECTRIC:**

CITY OF COLUMBIA  
P.O. BOX 6015  
WATER & LIGHT DEPARTMENT  
COLUMBIA, MO 65205  
573-874-7325

**SANITARY SEWER:**

CITY OF COLUMBIA  
P.O. BOX 6015  
UTILITIES DEPARTMENT  
COLUMBIA, MO 65205  
573-874-7250

**CABLE TELEVISION:**

CHARTER COMMUNICATIONS  
1510 CHARTER BOONE  
INDUSTRIAL BOULEVARD  
COLUMBIA, MO 65202  
573-875-8875

**TELEPHONE:**

CENTURYLINK  
625 CHERRY STREET  
COLUMBIA, MO 65205  
573-886-3700

**NATURAL GAS:**

AMEREN MISSOURI  
2001 MACGUIRE BLVD.  
COLUMBIA, MO 65201  
573-876-3030

**LEGEND OF SYMBOLS:**

- EXISTING CURB
- PROPOSED CURB
- RIP RAP
- EXISTING STRUCTURE
- EXISTING TREELINE
- PROPOSED TREELINE
- EDGE OF WATERWAY
- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND CABLE TELEVISION
- EXISTING HIGH VOLTAGE ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- EXISTING OVERHEAD ELEC. & TV
- EXISTING OVERHEAD ELEC., TV & TELE.
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- 100 YEAR FLOOD PLAIN
- FLOODWAY
- ORDINARY HIGH WATER MARK
- STREAM SIDE BUFFER
- OUTER STREAM BUFFER
- FF-XXXX MINIMUM FINISH FLOOR OF STRUCTURE
- XXXX.XX TD PROPOSED TOP OF CURB ELEVATION
- XXXX.XX TP PROPOSED TOP OF PAVEMENT ELEVATION
- XXXX.XX FS PROPOSED FINISH GRADE ELEVATION
- XXXX.XX TW PROPOSED TOP OF WALL
- XX LOT NUMBER
- X STORM SEWER STRUCTURE LABEL
- X SANITARY SEWER STRUCTURE LABEL
- H.P. HIGH POINT
- L.P. LOW POINT
- EXISTING SIGNS
- EXISTING POWER POLE
- EXISTING GAS VALVE
- EXISTING WATER VALVE
- EXISTING GAS METER
- EXISTING WATER METER
- EXISTING FIRE HYDRANT
- MANHOLE
- EXISTING SANITARY SEWER LATERAL
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED TRACER WIRE TEST STATION BOX
- EXISTING AIR CONDITIONER
- EXISTING TELEPHONE PEDESTAL
- EXISTING ELECTRICAL TRANSFORMER
- EXISTING ELECTRIC METER
- EXISTING LIGHT POLE
- EXISTING GUY WIRE

IMPERVIOUS AREA TABLE	
PRE DEVELOPMENT	0.0 AC.
POST DEVELOPMENT	0.51 AC.

**OWNER:**  
CITY OF COLUMBIA  
PO BOX 6015  
COLUMBIA, MO 65205  
573-874-7214

**PREPARED BY:**

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER  
MO LICENSE - 2017019013

**PREPARED BY:**

**CROCKETT**  
ENGINEERING CONSULTANTS  
1000 W. Nifong Blvd., Bldg. 1  
Columbia, Missouri 65203  
(573) 447-0292

[www.crockettengineering.com](http://www.crockettengineering.com)

Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority  
#2000151301



**LEGEND OF LABELS:**

- (A) LIMITS OF DISTURBANCE.
- (B) INSTALL 3" CRUSHED STONE FOR CONSTRUCTION EXIT (6" THICK x 12'W x 50'L). ALL CONSTRUCTION TRAFFIC SHALL LEAVE THE SITE VIA THIS EXIT.
- (C) TOP SOIL STOCKPILE. INSTALL SILT FENCE AROUND STOCKPILE.
- (D) NO CONCRETE WASHOUT FACILITY ON-SITE. TRUCKS TO WASHOUT BACK AT CONCRETE PLANT.
- (E) INSTALL SILT FENCE AS SHOWN. REFER TO DETAIL ON THIS SHEET.
- (F) BIORETENTION BASIN TO ACT AS TEMPORARY SEDIMENT TRAP UNTIL SITE IS ESTABLISHED. BASINS TO BE CLEANED AND SILT REMOVED BEFORE BIORETENTION BASINS ARE INSTALLED.
- (G) INLET PROTECTION. SILT FENCE WRAPPED AROUND INLET. REFER TO DETAIL ON THIS SHEET.

**STOCKPILE NOTES:**

STOCKPILE SHALL NOT EXCEED THREE (3) ACRES IN AREA OR TEN (10) FEET IN HEIGHT.

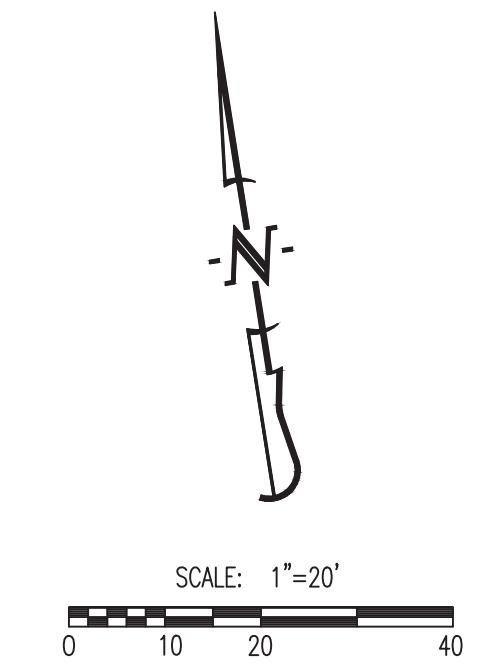
THE SIDE SLOPE OF A STOCKPILE OF SOIL SHALL NOT EXCEED A 3:1 RATIO.

STOCKPILES OF SOIL SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL MANUAL ISSUED BY THE DIRECTOR. THE WORKING FACE OF THE STOCKPILE, HOWEVER, NEED NOT BE SEEDED. STOCKPILES OF SOIL THAT MEET THE REQUIREMENTS OF THIS SECTION MAY REMAIN IN PLACE FOR UP TO THREE (3) YEARS AFTER ISSUANCE OF A LAND DISTURBANCE PERMIT.

WHEN THE TIME LIMIT FOR A STOCKPILE OF SOIL HAS EXPIRED AND NO EXTENSION HAS BEEN GRANTED, THE PROPERTY OWNER MUST EITHER REMOVE THE STOCKPILE OR GRADE IT TO A SLOPE OF NO GREATER THAN A 4:1 RATIO AND PERMANENTLY SEED IT IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL MANUAL ISSUED BY THE DIRECTOR.

**PROJECT NARRATIVE:**

- 1) THE PROJECT CONSISTS OF 10 RESIDENTIAL BUILDING PADS AND A SMALL AREA OF PAVEMENT.
- 2) SILT FENCE SHALL BE PROVIDED IMMEDIATELY DOWNSTREAM OF THE DRAINAGE AREA TO INSURE THAT SILT DOES NOT LEAVE THE SITE. WHEN SILT ACCUMULATES TO MORE THAN HALF THE FENCE HEIGHT, IT SHALL BE REMOVED. REPLACE ANY TORN OR CLOGGED FABRIC OR BROKEN POSTS AS MAY BE REQUIRED. A SILT FENCE WRAPPED INLET PROTECTION WILL BE USED AS INLET PROTECTION.
- 3) THE EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND VEGETATION IS ESTABLISHED OVER A MINIMUM OF 70% OF THE DISTURBED AREA.
- 4) ALL EROSION CONTROL MEASURES ARE TO BE INSTALLED PRIOR TO LAND DISTURBANCE. SHOULD CONSTRUCTION CEASE FOR MORE THAN 14 DAYS, THE SITE SHALL BE TEMPORARILY SEEDED TO STABILIZE ALL DISTURBED AREAS.
- 5) EROSION CONTROL FACILITIES SHALL BE INSPECTED AT A MINIMUM OF ONCE PER WEEK OR AFTER EVERY MAJOR STORM EVENT THAT PRODUCES RUN-OFF.



**REVISIONS:**

NO.	DATE
ORIGINAL	07/17/2019
1	08/20/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER  
M.O. LICENSE - 200708003

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1000 W. KING BLVD., SUITE 100  
COLUMBIA, MO 65205  
www.crockettingeering.com  
CROCKETT ENGINEERING CONSULTANTS, LLC  
MISSOURI #200083301

OWNER:  
CITY OF COLUMBIA  
PO BOX 6205  
COLUMBIA, MO 65205

**CULLIMORE COTTAGES**  
A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

**DRAWING INCLUDES:**

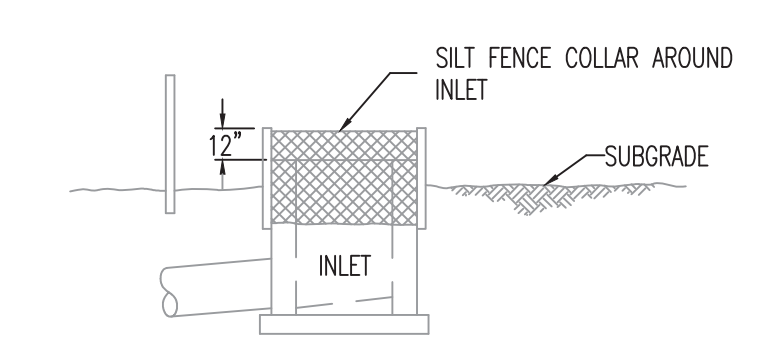
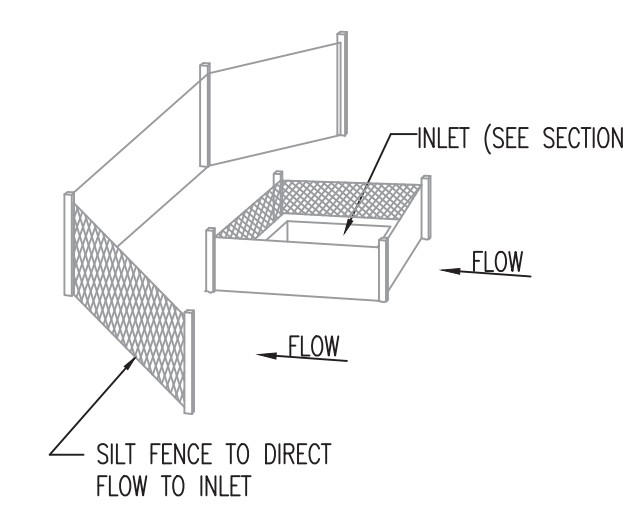
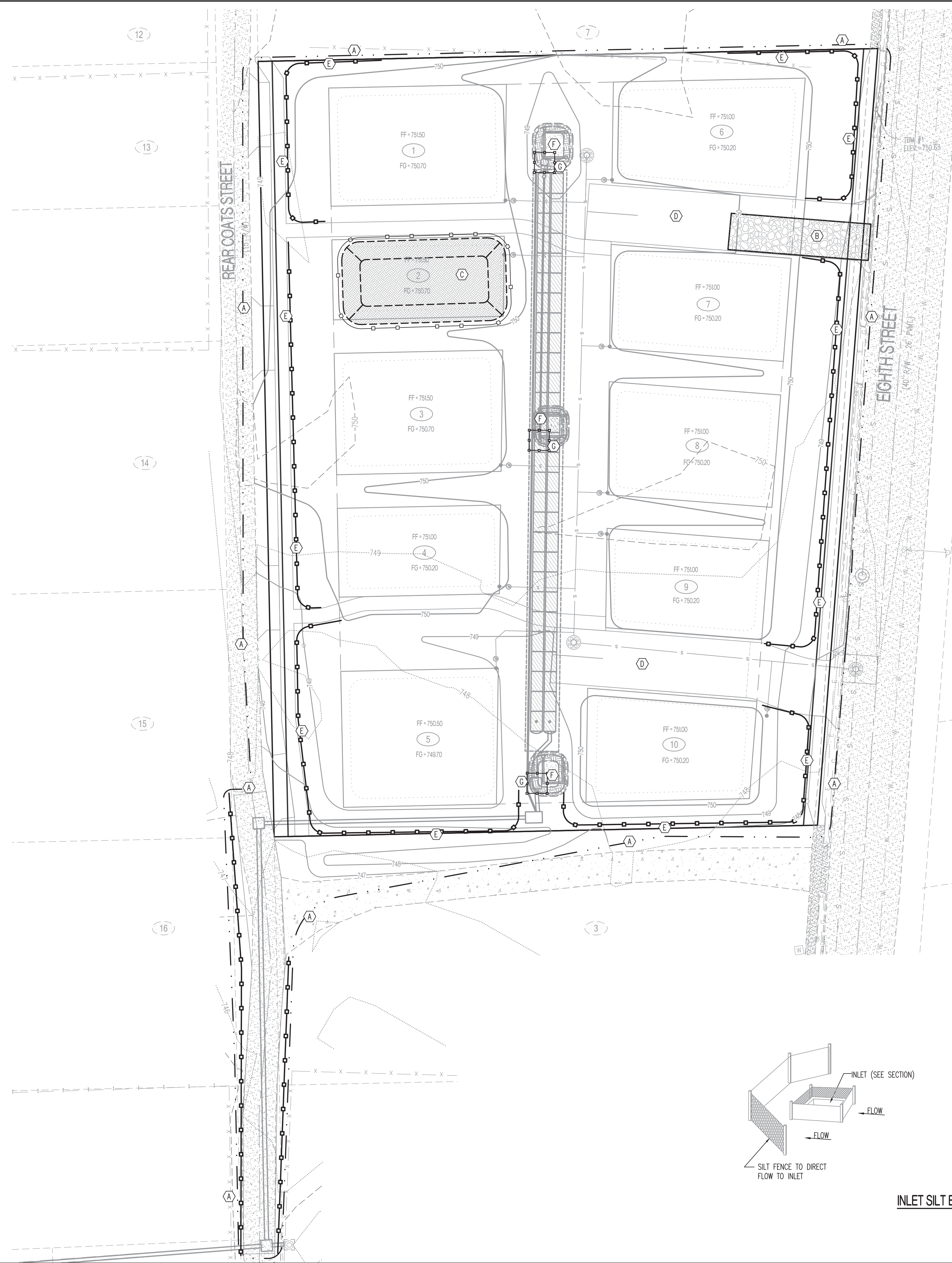
EROSION CONTROL PLAN

DESIGNED: KRM

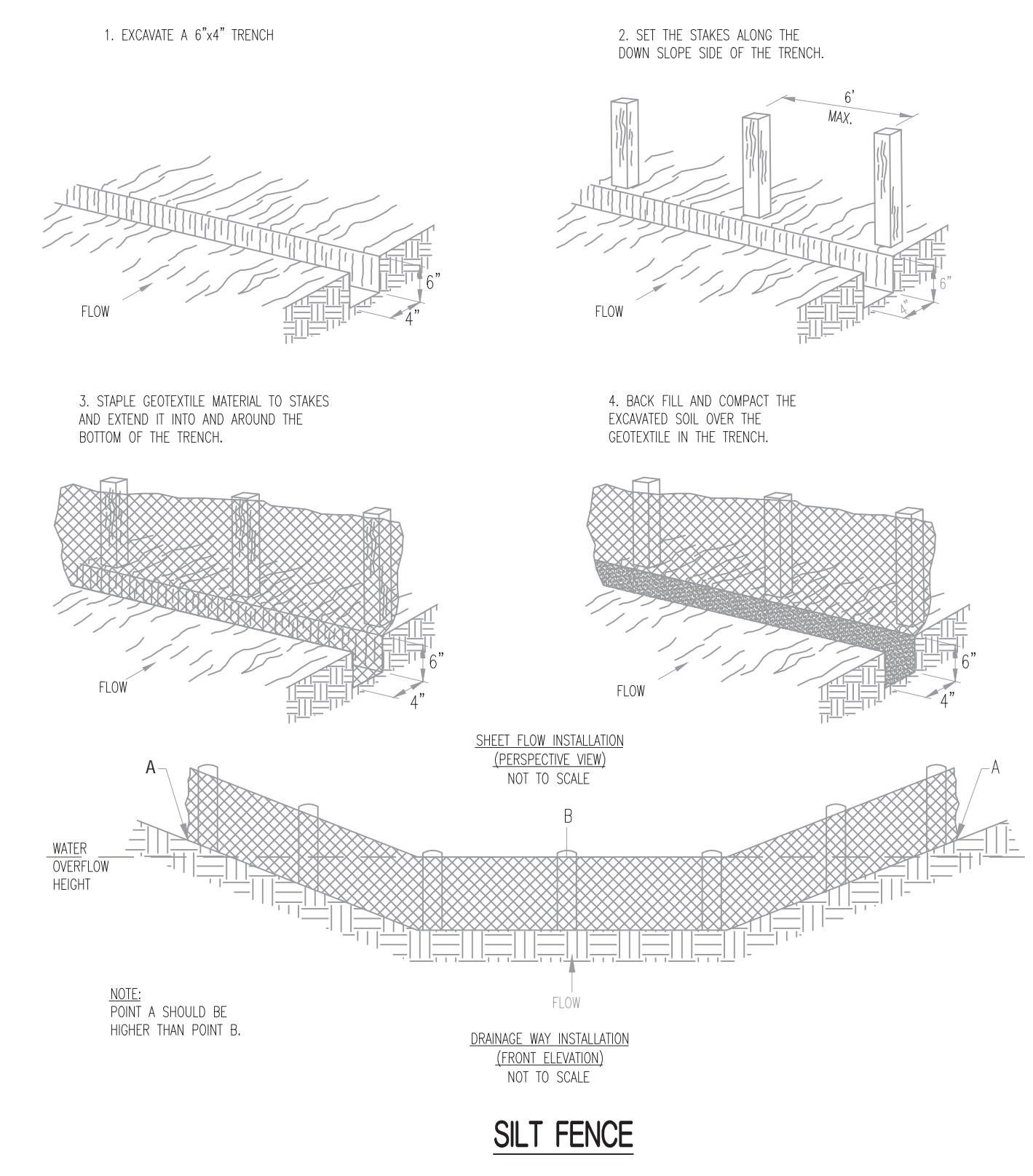
DRAWN: KRM

PROJECT NO: 180343

SHEET:  
CE 1



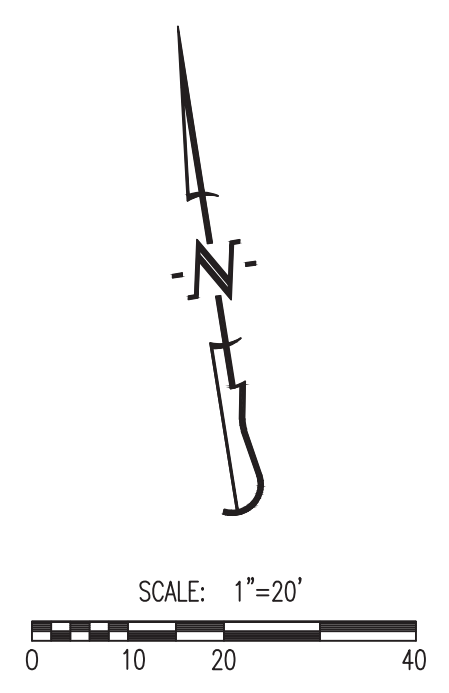
**INLET SILT BARRIERS**



NOTE: POINT A SHOULD BE HIGHER THAN POINT B.

**SILT FENCE**





**LEGEND OF SYMBOLS:**

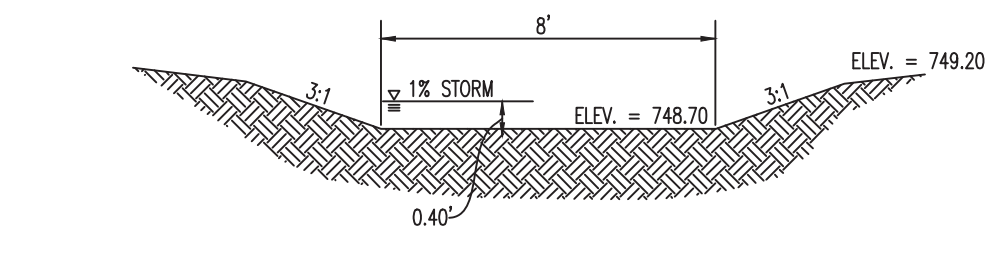
- 89 --- EXISTING 1 FT CONTOUR
- - - 820 - - - EXISTING 5 FT CONTOUR
- 89 --- PROPOSED 1 FT CONTOUR
- - - 820 - - - PROPOSED 5 FT CONTOUR
- FF+XXXX FINISHED FLOOR OF STRUCTURE
- (XXXX.XX TP) PROPOSED TOP OF CURB ELEVATION
- (XXXX.XX TP) PROPOSED TOP OF PAVEMENT ELEVATION
- (XXXX.XX FG) PROPOSED FINISH GRADE ELEVATION
- STORM WATER RUNOFF FLOW DIRECTION
- HP. HIGH POINT IN GRADES
- ..... BUILDING PAD

**NOTES:**

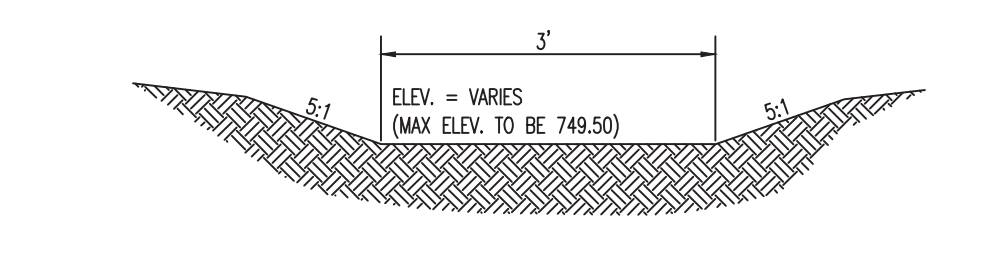
- (A) FINE GRADE AS SHOWN BY PROPOSED CONTOURS. PLACE MINIMUM OF 6" TOP SOIL ON ALL LOTS AFTER ALL STRUCTURES ARE CONSTRUCTED. ALL AREAS ARE TO BE SEEDED AND MULCHED AFTER FINE GRADING.
- (B) CREATE BUILDING PADS AT ELEVATION CALL OUT "FG".
- (C) INSTALL OVERFLOW SPILLWAY AT ELEVATION 748.70 & TO BE 8' WIDE.
- (D) INSTALL FLAT PONDING AREA OF BIORETENTION BASIN 1 AT ELEVATION 748.00.
- (E) INSTALL FLAT PONDING AREA OF BIORETENTION BASIN 2 AT ELEVATION 749.00.
- (F) INSTALL FLAT PONDING AREA OF BIORETENTION BASIN 3 AT ELEVATION 748.50.
- (G) CONSTRUCT OPEN CHANNEL DOWN CENTER OF PROPERTY TO CARRY OVERFLOW STORM WATER RUNOFF. CHANNEL TO BE FLAT BOTTOM 3" WIDE MINIMUM WITH 5:1 MAX SIDE SLOPE. ELEVATIONS VARY BUT NO PART OF THE OPEN CHANNEL TO HAVE AN ELEVATION ABOVE 749.50.

**NOTES:**

- 1) THE 100 YEAR STORM OVERFLOW SYSTEM FOR THIS PROJECT WILL BE HANDLED BY OVERLAND FLOW. THESE SYSTEMS ARE SHOWN WITH THE 100 YR. SYMBOL.
- 2) ALL HOUSE ROOFS AND GUTTERS TO ALL DRAIN TOWARDS TO STORMWATER BIORETENTION FACILITIES ON-SITE.



(C) DETENTION BASIN SPILLWAY CROSS SECTION FOR BASIN 1  
DETENTION BASIN SPILLWAY TO BE SEEDED/SOODED



(G) OPEN CHANNEL CROSS SECTION FOR ALL BASINS  
ALL ENTIRE OF PROPERTY TO BE SEEDED/SOODED OTHER THAN SIDEWALKS, DRIVEWAYS, HOUSES

**REVISIONS:**

NO.	DATE
1	07/17/2019
2	08/20/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER  
MO LICENSE - 201709013

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Missouri #200081301

OWNER:  
CITY OF COLUMBIA  
P.O. BOX 6205  
COLUMBIA, MO 65205

**CULLIMORE COTTAGES**  
A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

DRAWING INCLUDES:

GRADING PLAN

DESIGNED: KRM

DRAWN: KRM

PROJECT NO: 180343

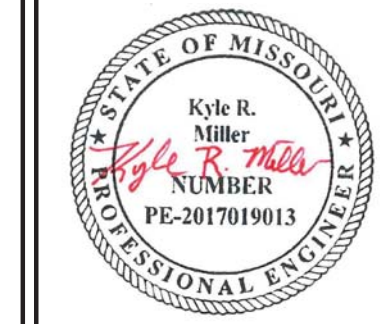
SHEET:  
CE 2



REVISIONS:

NO.	DATE
1	07/17/2019
2	08/20/2019
3	09/06/2019

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KYLE R. MILLER  
M.O. LICENSE - 201709013

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Phone: (636) 461-0992  
www.crockettengineering.com  
crockett@crockett-engineers.com

OWNER:  
CITY OF COLUMBIA  
PO BOX 6265  
COLUMBIA, MO 65205

**CULLIMORE COTTAGES**  
A RESIDENTIAL DEVELOPMENT LOCATED AT 110 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

DRAWING INCLUDES:

UTILITY PLAN

DESIGNED: KRM  
DRAWN: KRM

PROJECT NO: 180343

SHEET:  
CE 3

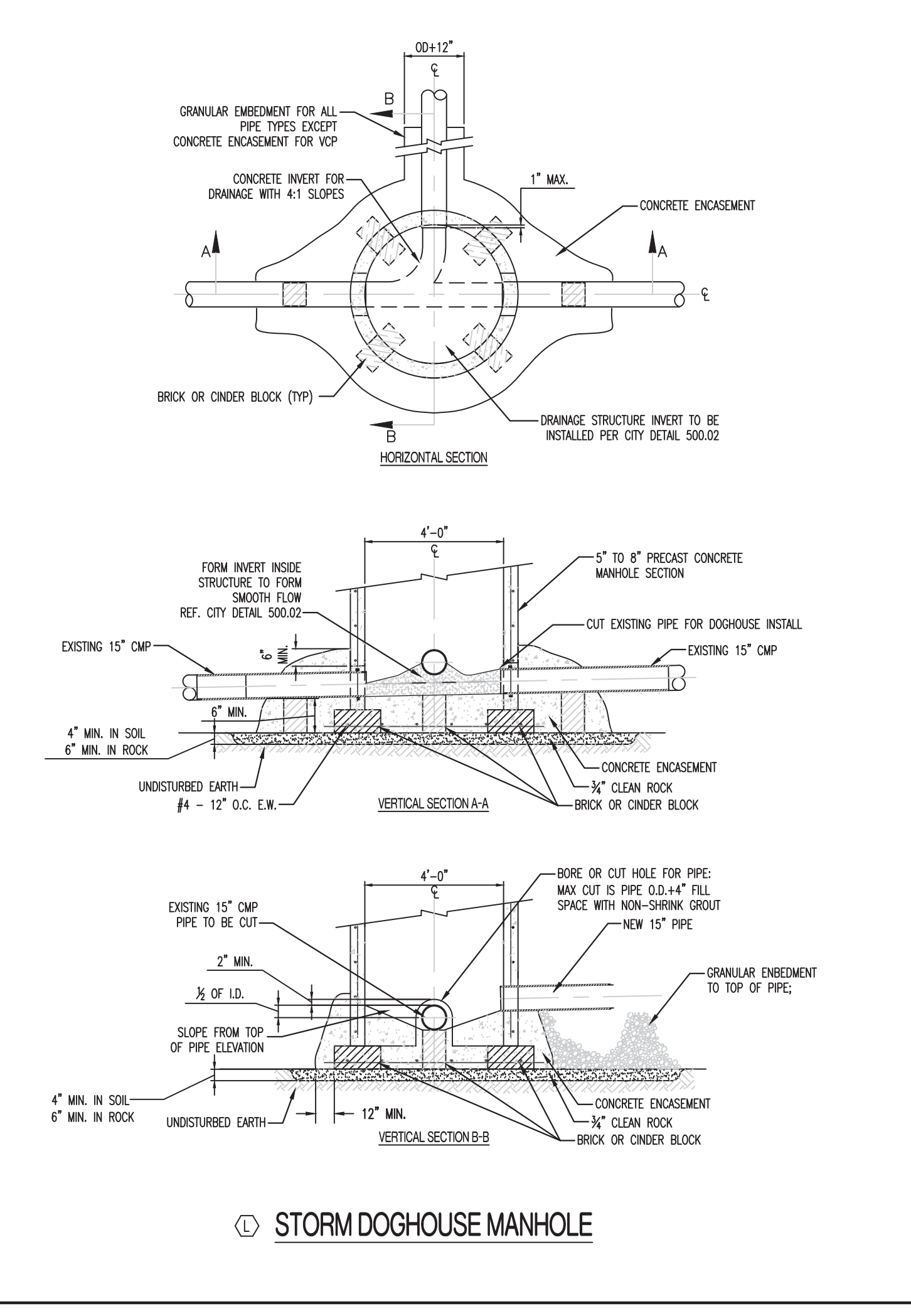
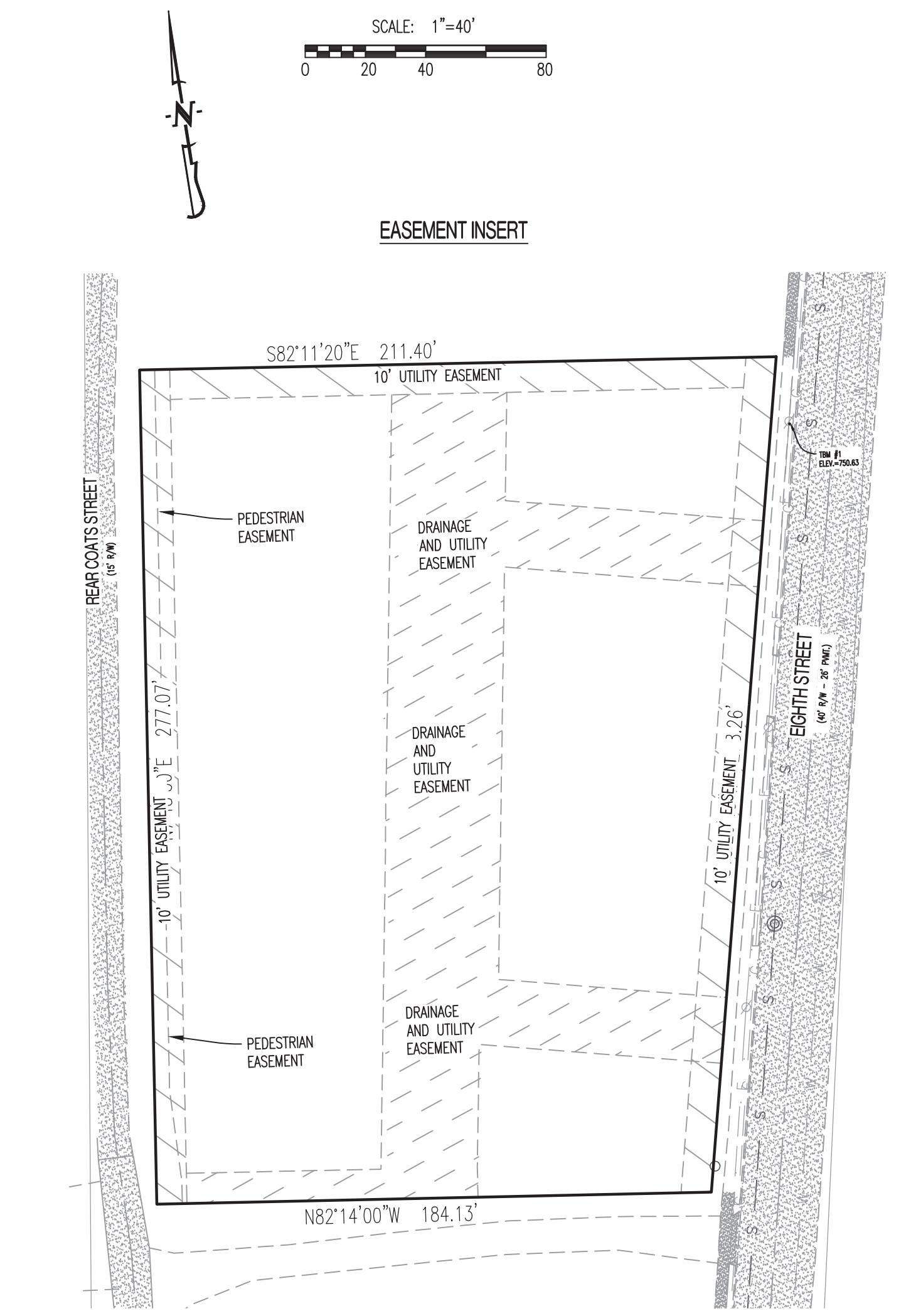
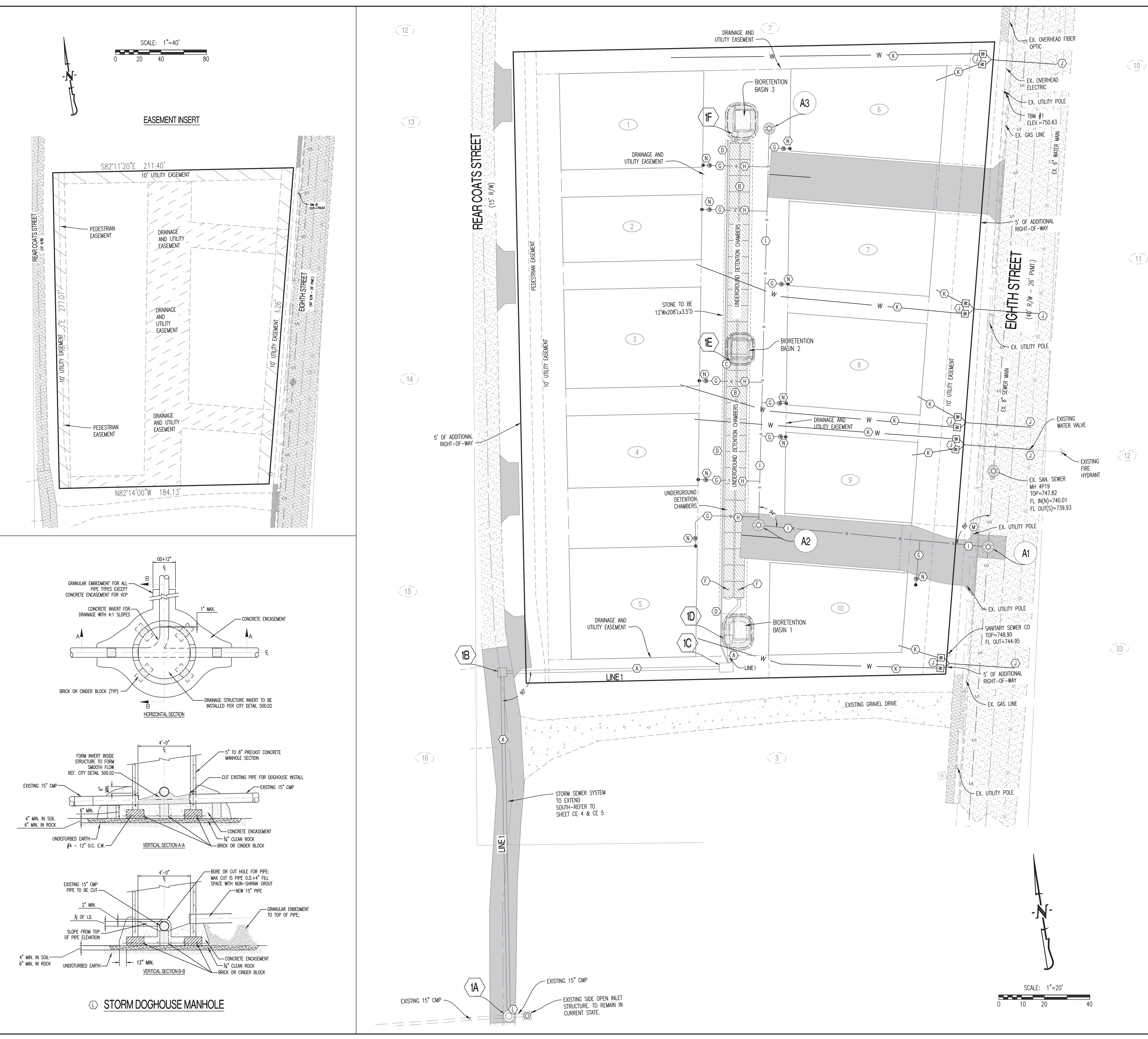
ESTIMATED SANITARY SEWER QUANTITIES	
8" SEWER	275 LF
STD. MANHOLE	2 EA.
DOGHOUSE MANHOLE	1 EA.
WYES	10 EA.

ESTIMATED ADDITIONAL FLOW	
GALLONS/DAY	10 LOTS x 3.7/UNIT x 100 GPCD = 3700 GPD
GALLONS/HOUR	3700 GPD / 24 HOURS = 154 GPH
PEAK GALLONS/HOUR	154 GPH x 4 PEAKING FACTOR = 616 GPH

- LEGEND OF LABELS**
- (A) INSTALL STORM SEWER AS SHOWN. REFER TO SHEET CE 4 FOR PROFILES AND DETAILS.
  - (B) UNDERGROUND STORAGE SHALL CONSIST OF 2 ROWS OF (28) SC-740 STORMTECH CHAMBERS CONNECTED IN SERIES. SEE SHEET CE 7 FOR UNDERGROUND DETENTION DETAILS. INSTALL 12.5" WIDE FILTER FABRIC, AASHTO M288 CLASS 1 WOVEN GEOTEXTILE OR EQUAL, OVER BEDDING STONE FOR SCOUR PROTECTION BETWEEN FOUNDATION STONE & CHAMBERS SC-740. REFER TO DETAIL ON SHEET CE 7. STONE TO BE 12" WIDE X 20" LONG X 3.5" DEEP AROUND CHAMBERS AND PIPES. ALSO REFER TO DETAIL ON ADS N. 8TH STREET CULLIMORE COTTAGES EXHIBITS.
  - (C) BIORETENTION BASIN 2 OUTLET STRUCTURE TO BE INSERTED DIRECTLY INTO THE STORMTECH CHAMBER (MIDDLE) USING AN "INSERTATE". REFER TO DETAILS ON SHEET CE 6 AND 7.
  - (D) STORMTECH CHAMBERS TO HAVE (1) 4" UNDERDRAIN INSTALLED ON WEST SIDE OF CHAMBERS AND CONNECTED DIRECTLY TO STRUCTURE (1C). UNDERDRAIN TO BE A PERFORATED PIPE WHEN LOCATED WITHIN LIMITS OF STONE, BUT SOLID PIPE OUTSIDE OF STONE. REFER TO DETAILS ON SHEET CE 7.
  - (E) INSTALL BIORETENTION BASIN. REFER TO DETAILS ON SHEET CE 6.
  - (F) INSTALL INSPECTION PORT IN CHAMBER. REFER TO DETAIL ON ADS N. 8TH STREET CULLIMORE COTTAGES EXHIBITS.
  - (G) 4" PVC SANITARY SEWER LATERAL WITH CLEANOUT TO BE INSTALLED. (10 REQUIRED) PROPOSED SERVICE WYE INTO NEW 8" SEWER MAIN. REFER TO CITY DETAILS.
  - (H) SANITARY SEWER LATERAL (S) ARE TO BE INSTALLED UNDER THE UNDERGROUND DETENTION CHAMBERS. INSTALL 4" SEWER LATERAL WITHIN 8" STEEL ENCASMENT. ENCASMENT TO BE 12" LONG CENTERED ON TWO CHAMBERS WITH 1.5' EXTENDING BEYOND EACH SIDE OF CHAMBERS. LOCATION AND DEPTH ARE SHOWN ON THE PROFILES LOCATED ON SHEET CE 4.
  - (I) INSTALL 8" PVC SDR 35 SANITARY SEWER MAIN. REFER TO PROFILE ON SHEET CE 4.
  - (J) CITY TO TAP EXISTING 6" WATERLINE AND EXTEND 2" WATER LINE PAST PROPERTY LINE TO A DOUBLE WATER METER SETTER. (10) TOTAL METERS TO BE SET.
  - (K) 1" WATER SERVICE LINE TO EACH BUILDING TO BE INSTALLED BY EACH HOME BUILDER AS SHOWN. SERVICE LINES TO HAVE A MINIMUM OF 30" OF COVER AND TO GO UNDER STORMWATER CHAMBERS IF REQUIRED.
  - (L) INSTALL NEW JUNCTION BOX (1A) FOR NEW STORM SYSTEM WITHIN ALLEY CONNECTING TO EXISTING STORM PIPE. REFER TO THE STORM DOGHOUSE MANHOLE DETAIL ON THIS SHEET.
  - (M) CONTRACTOR TO PROVIDE REQUIRED PROTECTION TO ENSURE POWER POLE IS NOT EFFECTED DURING UTILITY INSTALLATION.
  - (N) INSTALL TRACER WIRE TEST STATION BOX. (10) TOTAL. REFER TO CITY DETAIL 12A.

- GENERAL NOTES:**
- PARTS OF THE STORM PROFILE SYSTEM SHALL BE PRIVATE. REFER TO PROFILE SHEETS CE 4 FOR PUBLIC/PRIVATE DESIGNATION.
  - CONTRACTOR SHALL REFER TO THE FOLLOWING APPLICABLE CITY DETAILS: 1, 7, 8, 12A, 13, 15, 20, 500.01, 500.02, 500.04, 510.01, 540.01, & 540.02. REFER TO LINK ON SHEET CE 0 TO CITY OF COLUMBIA STANDARDS.
  - ALL WATERLINES AND SEWER LINES SHALL HAVE A 10' HORIZONTAL SEPARATION AND A 24" VERTICAL SEPARATION.
  - ALL FITTINGS, TEES, BENDS, ETC. SHALL BE MECHANICAL JOINT WITH APPROPRIATE RESTRAINTS.
  - CONTRACTOR SHALL COORDINATE WITH THE RESPECTED UTILITY BEFORE ANY CONNECTION.
  - EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUIRE ALL EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND VERTICAL) PRIOR TO ANY EXCAVATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RESTORE ANY DAMAGED OR BROKEN UTILITY CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
  - ALL HP AND HDPE PIPES SHALL HAVE WATERTIGHT JOINTS.
  - CONTRACTOR SHALL COORDINATE WITH CITY OF COLUMBIA WATER AND LIGHT FOR ALL ELECTRICAL DESIGNS AND COORDINATION.

MANHOLE LOCATIONS		
MANHOLE	NORTHING	EASTING
A1	1139296.05	1689864.60
A2	1139318.83	1689776.90
A3	1139489.94	1689808.78



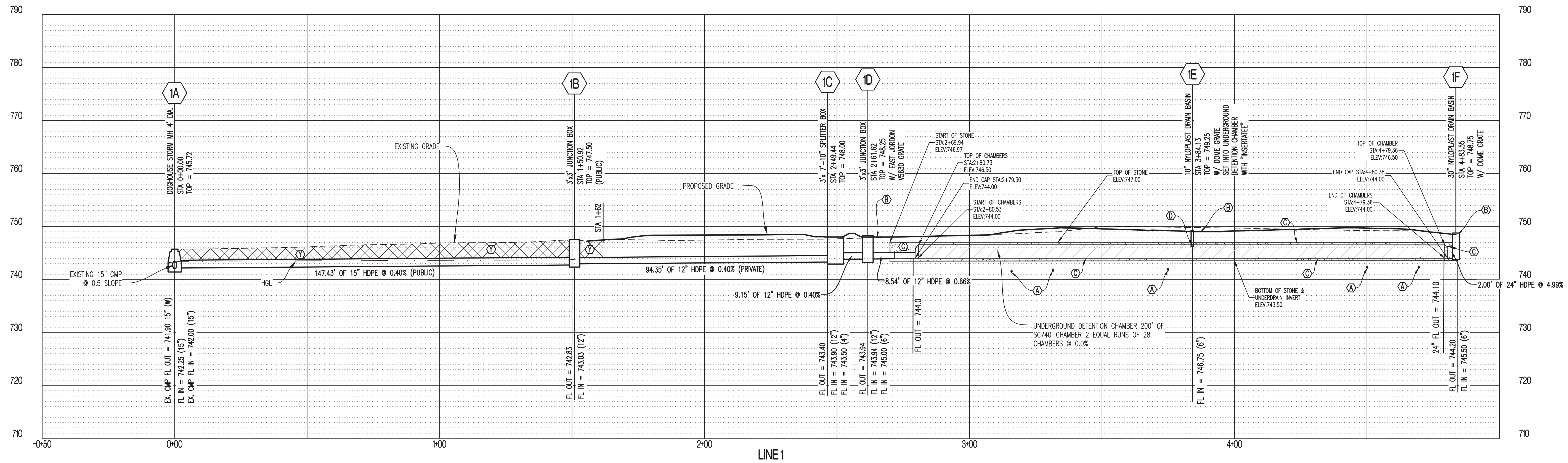
SCALE: 1"=20'



SCALE:  
HORIZ 1" = 20'  
VERT 1" = 10'

LEGEND OF LABELS:

Ⓢ REFER TO CITY'S PIPE EMBEDMENT DETAIL (IN RIGHT-OF-WAY), DETAIL 540.01 AND 540.02.



LEGEND OF LABELS:

- Ⓢ 4" SEWER LATERAL CROSSING
- Ⓣ BIORETENTION BASIN @ ELEVATION SHOWN ON GRADING PLAN
- Ⓤ ROCK BASE ENCASEMENT BELOW AND ROUND UNDERGROUND CHAMBERS. REFER TO DETAILS ON SHEET CE 7.
- Ⓦ INSTALL AN "INSERTATE" PER DETAIL FOR CONNECTION OF 10" BIORETENTION STRUCTURE INTO DETENTION CHAMBER

NOTE:

ALL PROPOSED STORM SEWER SHOWN SHALL BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER, EXCEPT STRUCTURES 1A & 1B AND THE PIPE BETWEEN.

REVISIONS:

NO.	DATE
ORIGINAL	07/17/2019
1	05/20/2019
2	09/05/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER  
MO LICENSE - 2017019013

PREPARED BY:  
**CROCKETT**  
ENGINEERING CONSULTANTS  
1000 W. MARKET ST. SUITE 100  
COLUMBIA, MISSOURI 65201  
www.crockettengineering.com  
Crockett Engineering Consultants, LLC  
Missouri Certificate of Authority #000001010

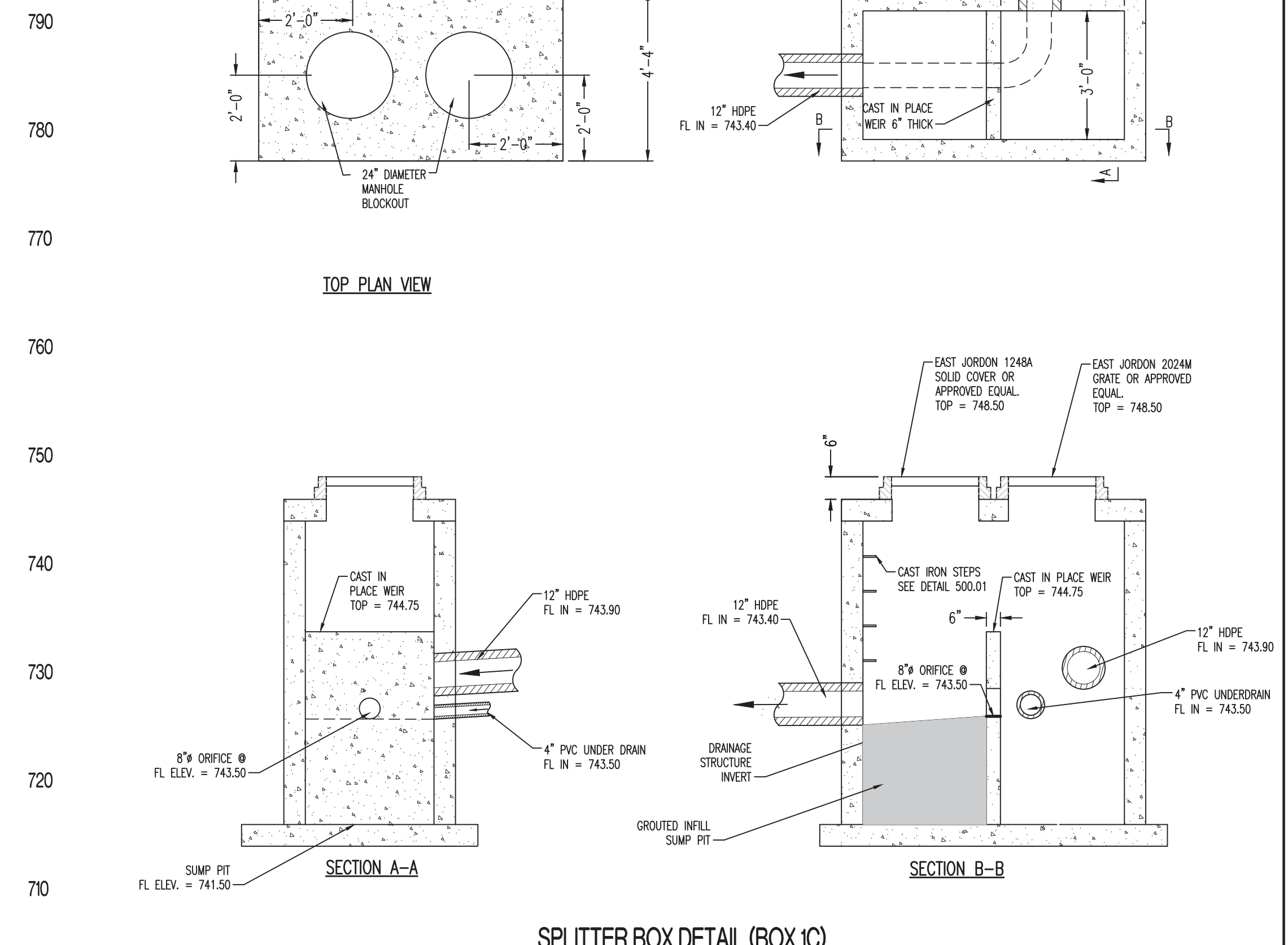
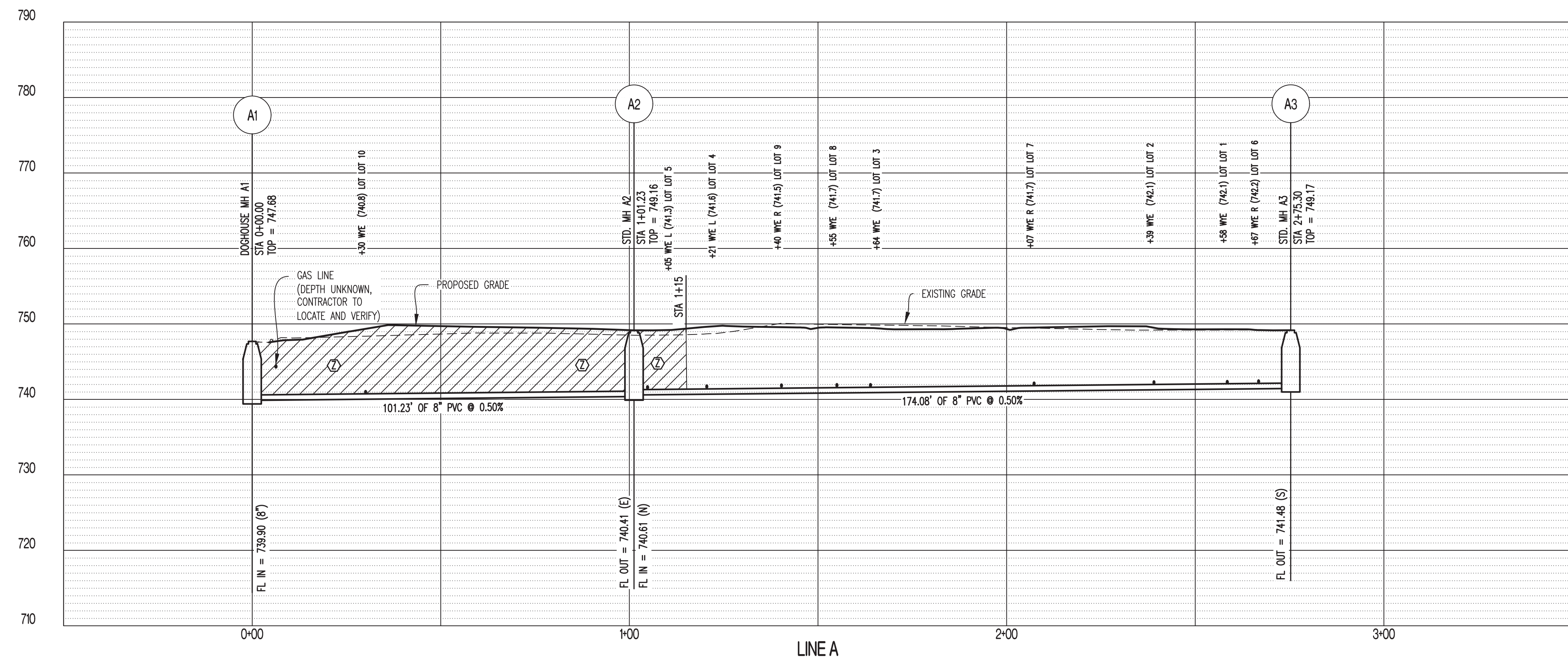
OWNER:  
CITY OF COLUMBIA  
PO BOX 6005  
COLUMBIA, MO 65205

**CULLIMORE COTTAGES**  
A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

SCALE:  
HORIZ 1" = 20'  
VERT 1" = 10'

LEGEND OF LABELS:

Ⓢ 95% COMPACTION OF BACKFILL OR BACKFILLED WITH GRANULAR MATERIAL



DRAWING INCLUDES:

STORM PROFILE - LINE 1  
SEWER PROFILE - LINE A  
& SPLITTER BOX DETAILS

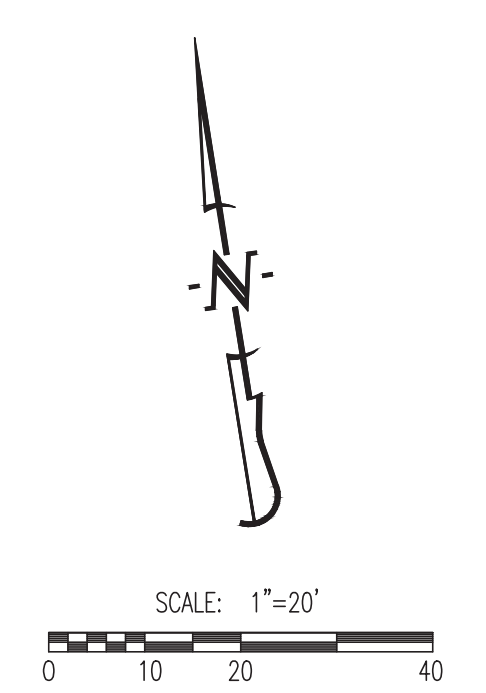
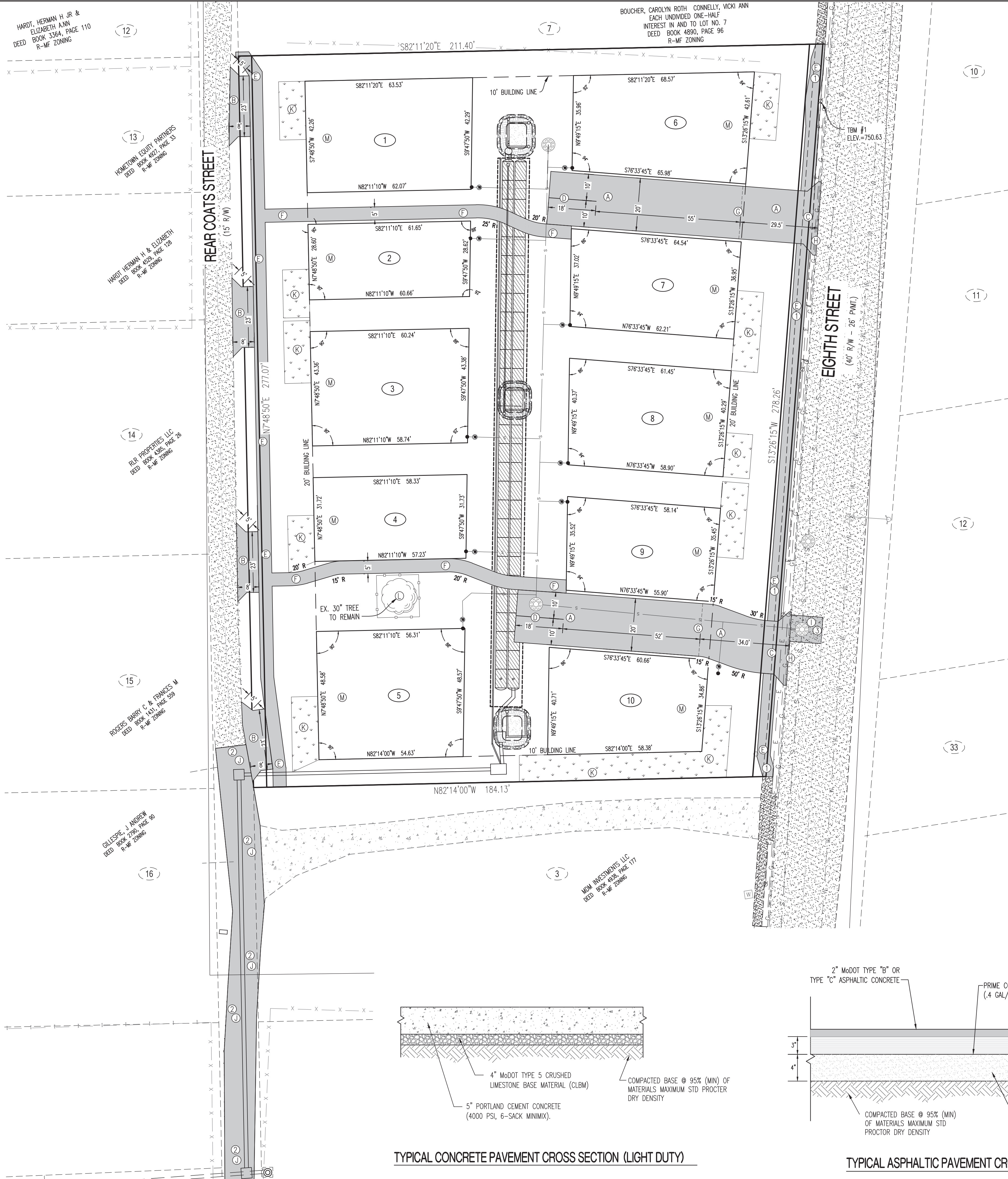
DESIGNED: KRM

DRAWN: KRM

PROJECT NO: 180343

SHEET: CE 4





**DEMOLITION - LEGEND OF LABELS**

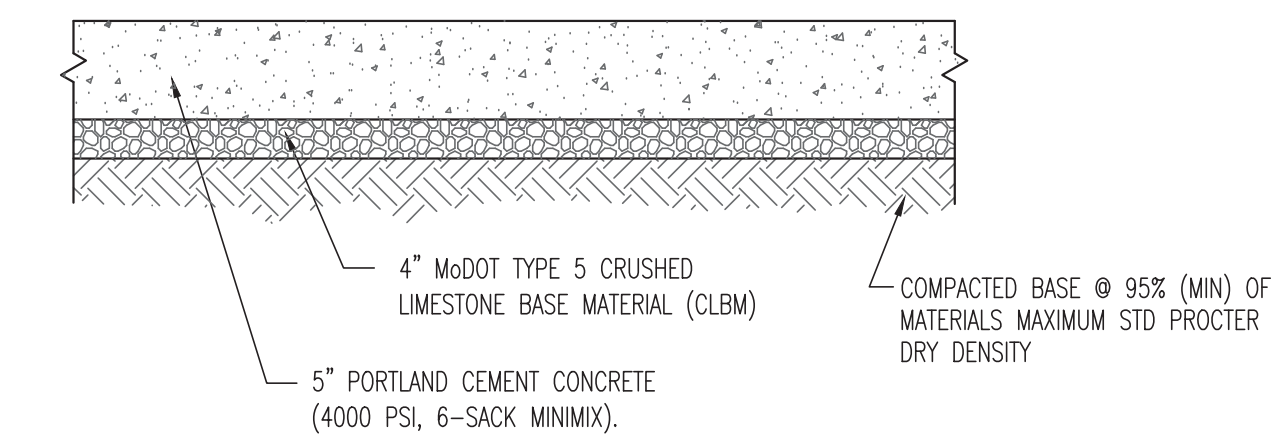
①	REMOVE ENTIRE EXISTING SIDEWALK ALONG EAST PROPERTY LINE OF PROPERTY.
②	REMOVE EXISTING ASPHALT WITHIN ALLEY WAY FOR INSTALLATION OF NEW STORM SYSTEM IN AREA OF HATCHING REPRESENTING NEW PAVING.
③	REMOVE EXISTING ASPHALT ON EIGHT STREET AS REQUIRED FOR NEW UTILITY INSTALLATION.

**SITE - LEGEND OF LABELS**

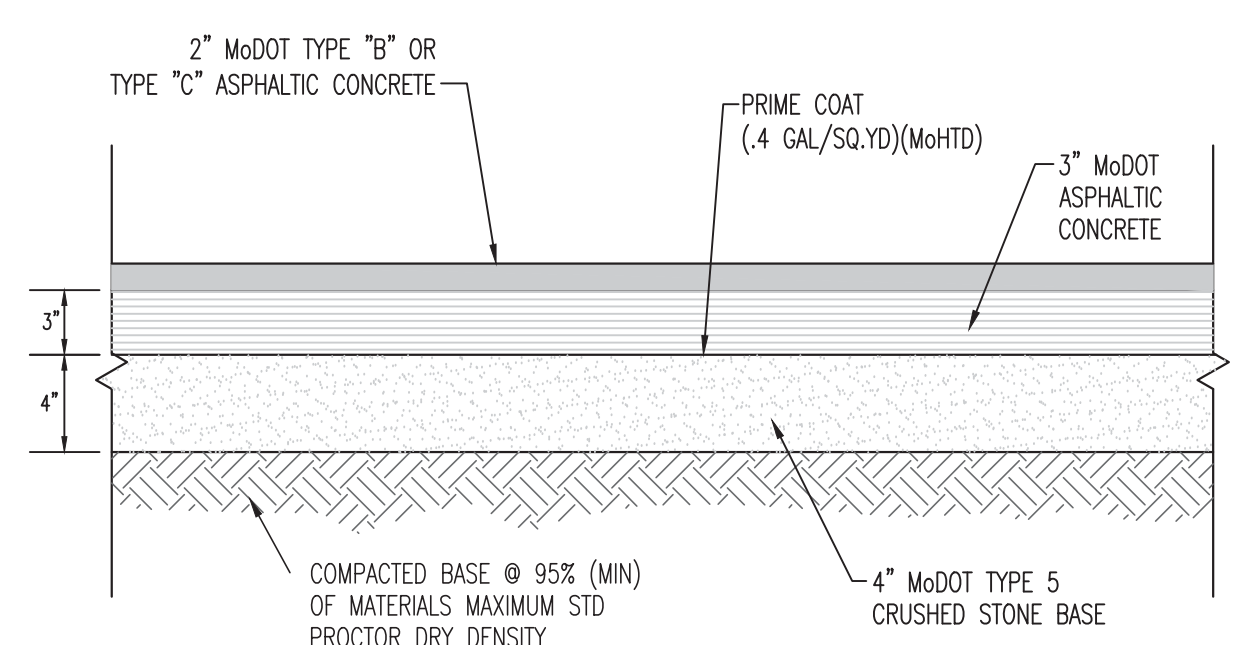
A	INSTALL LIGHT DUTY CONCRETE PER THE DETAIL ON THIS SHEET AND WITH THE DIMENSIONS AS SHOWN.
B	INSTALL PARALLEL PARKING SPACES WITH DIMENSIONS AS SHOWN. USE LIGHT DUTY ASPHALT PER CROSS SECTION ON THIS SHEET. (4 TOTAL SPACES). SAWCUT EXISTING ASPHALT AT MINIMUM 6" DEEP INTO EXISTING PAVEMENT TO INSTALL NEW PARKING AREAS.
C	INSTALL DRIVEWAY ENTRANCE USING CITY OF COLUMBIA RESIDENTIAL DRIVEWAY DETAIL.
D	PAINT 4" PARKING STALL STRIPES AS SHOWN, COLOR WHITE. (2) LINES REQUIRED. REFER TO PLAN FOR WIDTH AND DEPTH OF STALLS.
E	CITY OF COLUMBIA SIDEWALK TO BE INSTALL 1' OUTSIDE NEW RIGHT-OF-WAY LINE BUT NOT TO BE PART OF THIS CONSTRUCTION SITE PACKAGE. TO BE INSTALLED BY HOME BUILDERS
F	TO BE A 4" THICK, 5' WIDE PCC SIDEWALK. TO BE INSTALLED BY HOME BUILDERS (MAXIMUM LONGITUDINAL SLOPE 1:20, MAXIMUM CROSS SLOPE AT 1:50). NOT TO BE PART OF THIS CONSTRUCTION SITE PACKAGE. TO BE INSTALLED BY HOME BUILDERS
G	INSTALL 1" EXPANSION JOINT OR TYPE A ALTERNATE EXPANSION JOINT IN PAVING. REFER TO CITY DETAIL.
H	PERFORM HORIZONTAL SAWING OF CURB AS REQUIRED FOR NEW DRIVEWAY APPROACH.
I	PATCH EXISTING ASPHALT PAVEMENT AS REQUIRED FOR UTILITY CONNECTION.
J	AFTER INSTALLATION OF NEW STORM SEWER PIPING IN BEAR COATS STREET, COVER WITH FLOWABLE FILL THEN INSTALL ASPHALT PAVEMENT WITH CROSS SECTION AS SHOWN ON THE SHEET IN SAME LOCATION AS EXISTING PAVEMENT.
K	NATIVE RESTORATION AREA. REFER TO LANDSCAPING PLAN FOR DETAILS.
L	EXISTING CATALPA TREE TO BE SAVED. INSTALL PROTECTION FENCE PER DETAIL BELOW AROUND BASE OF TREE.
M	A PLOT PLAN FOR EACH LOT SHOWING ALL CITY OF COLUMBIA REQUIREMENTS INCLUDING DRIVEWAY LOCATION TO BE PREPARED FOR LOTS 1-10. ADDITIONALLY, ALL DRIVEWAYS INCLUDING PAVED SECTION SHOWN, TO MEET ALL CITY OF COLUMBIA SPECIFICATIONS AND ADA REQUIREMENT AT SIDEWALK LOCATION.

**GENERAL NOTES:**

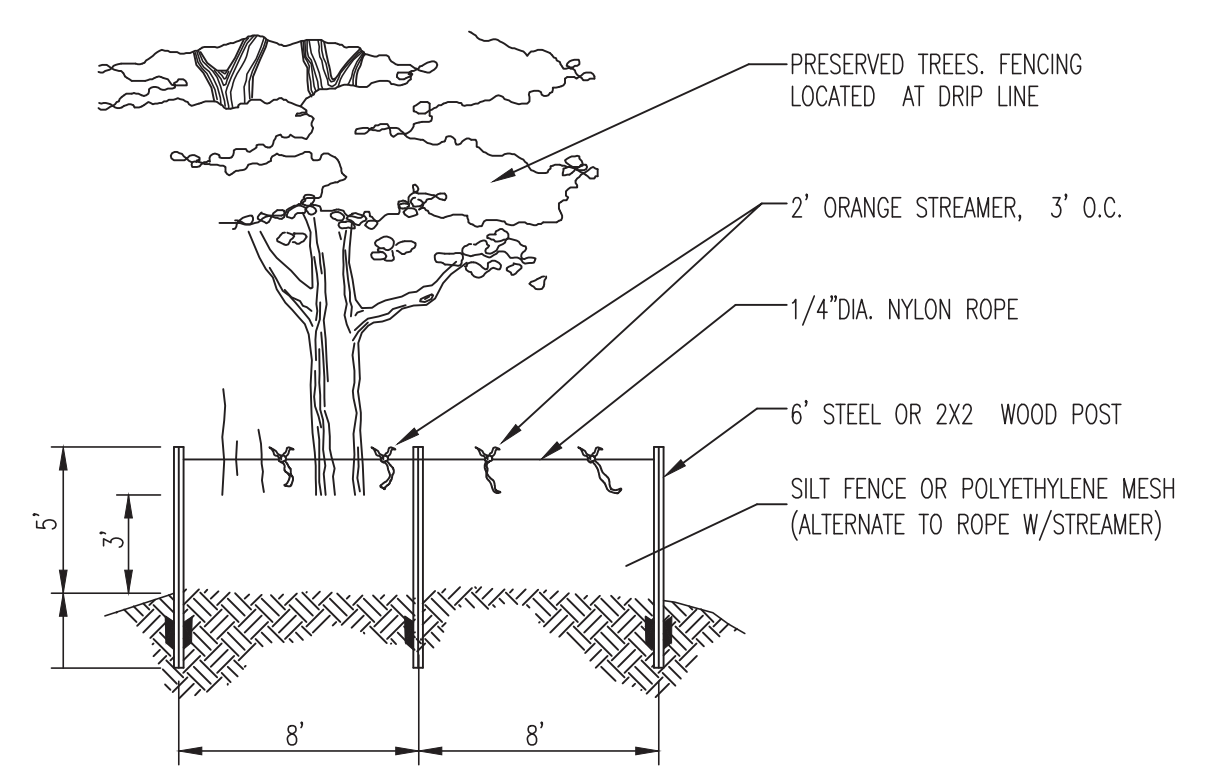
- CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE BSD RIGHT OF WAY TECHNICIAN (874-7474), IMMEDIATELY PRIOR TO WORK WITHIN STREET, DURING CONSTRUCTION FOR INSPECTIONS AND AGAIN WHEN WORK IS COMPLETED.
- CONTRACTOR SHALL REFER TO THE FOLLOWING APPLICABLE CITY DETAILS: 120.03A, 120.03B, 200.01A, 200.01B, 400.02, 410.01, & 420.01. REFER TO LINK ON SHEET CE 0 TO CITY OF COLUMBIA STANDARDS.



TYPICAL CONCRETE PAVEMENT CROSS SECTION (LIGHT DUTY)



TYPICAL ASPHALTIC PAVEMENT CROSS-SECTION



**NOTES:**

- TREE PROTECTION SHALL BE REQUIRED PRIOR TO AND DURING SITE DISTURBANCE AND CONSTRUCTION ACTIVITIES.
- AN ORANGE CONSTRUCTION FENCE OR AN EQUIVALENT SHALL BE INSTALLED AROUND TREE AND SIGNS AND MAINTAINED FOR THE DURATION OF ALL SITE DISTURBANCE AND CONSTRUCTION ACTIVITIES.

TREE PROTECTION DETAIL

**REVISIONS:**

NO.	DATE
ORIGINAL	07/17/2019
1	08/20/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

KYLE R. MILLER  
MO LICENSE - 20170903

**PREPARED BY:**  
CROCKETT ENGINEERING CONSULTANTS, P.C.  
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www.crockettingeering.com  
Crockett Engineering Consultants, LLC  
Missouri State Engineer of Authority  
0000000001

**OWNER:**  
CITY OF COLUMBIA  
PO BOX 6005  
COLUMBIA, MO 65205

**CULLIMORE COTTAGES**

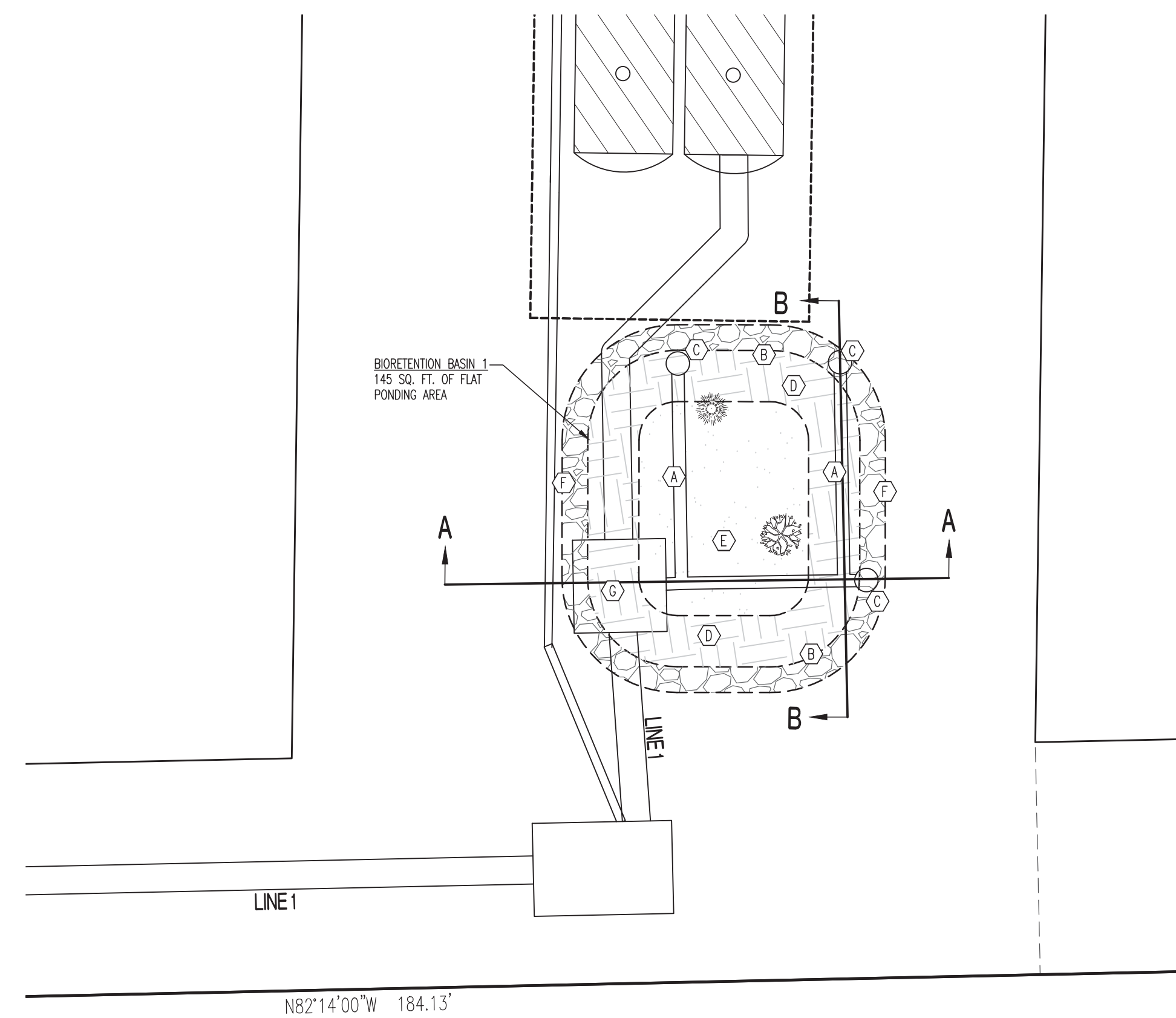
A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

**DRAWING INCLUDES:**

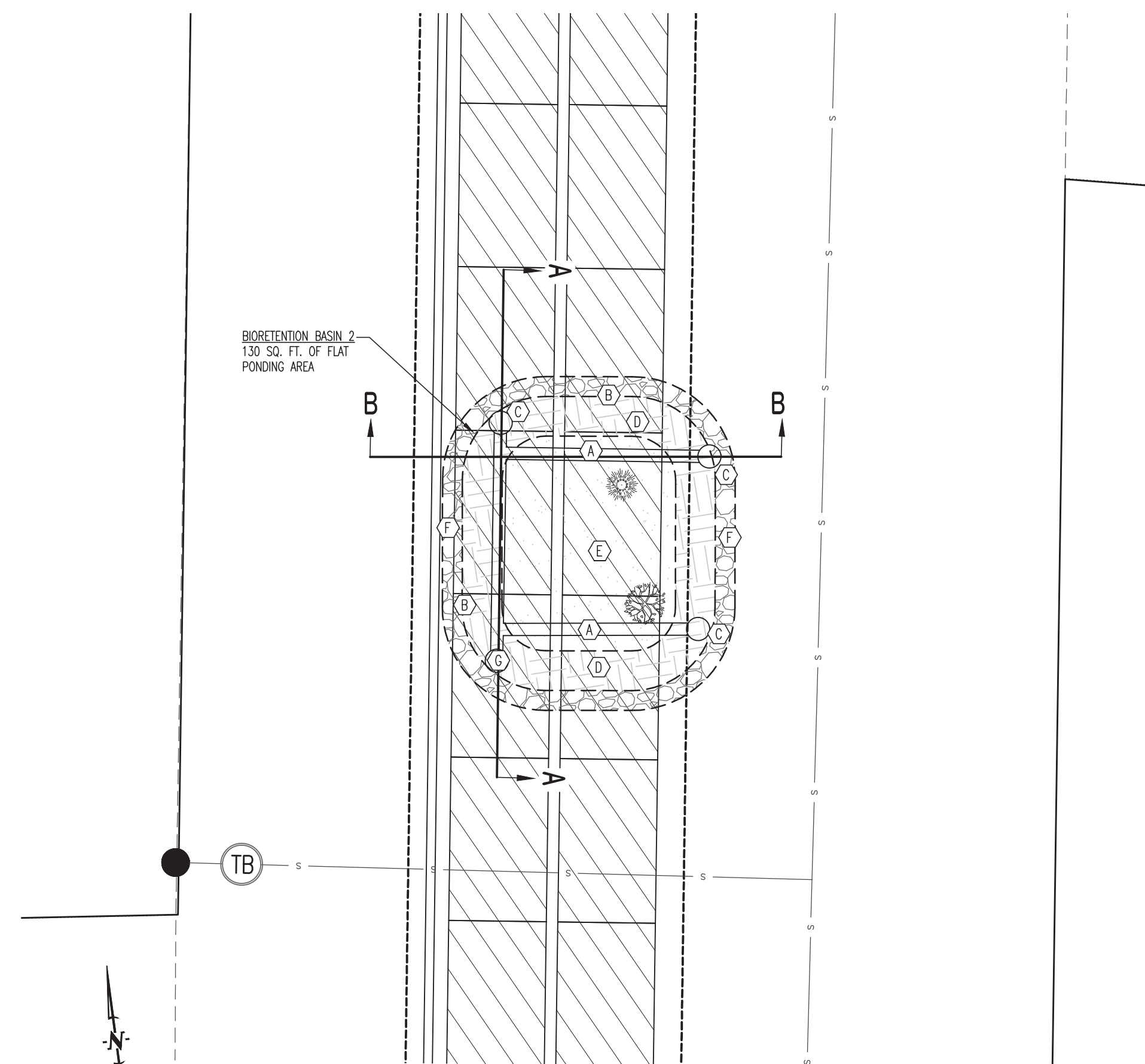
SITE PLAN

**DESIGNED:** KRM  
**DRAWN:** KRM  
**PROJECT NO.:** 180343  
**SHEET:** CE 5

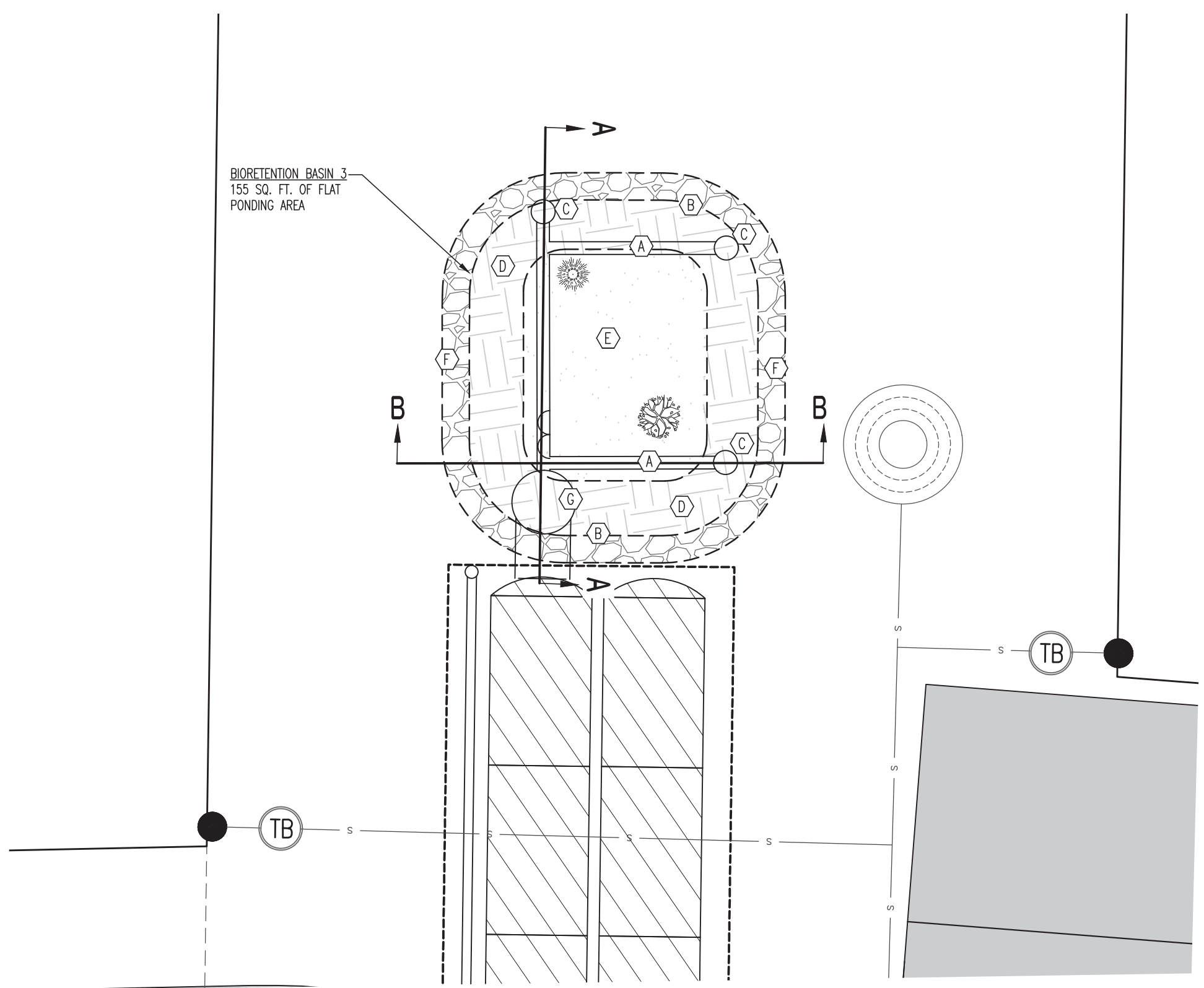




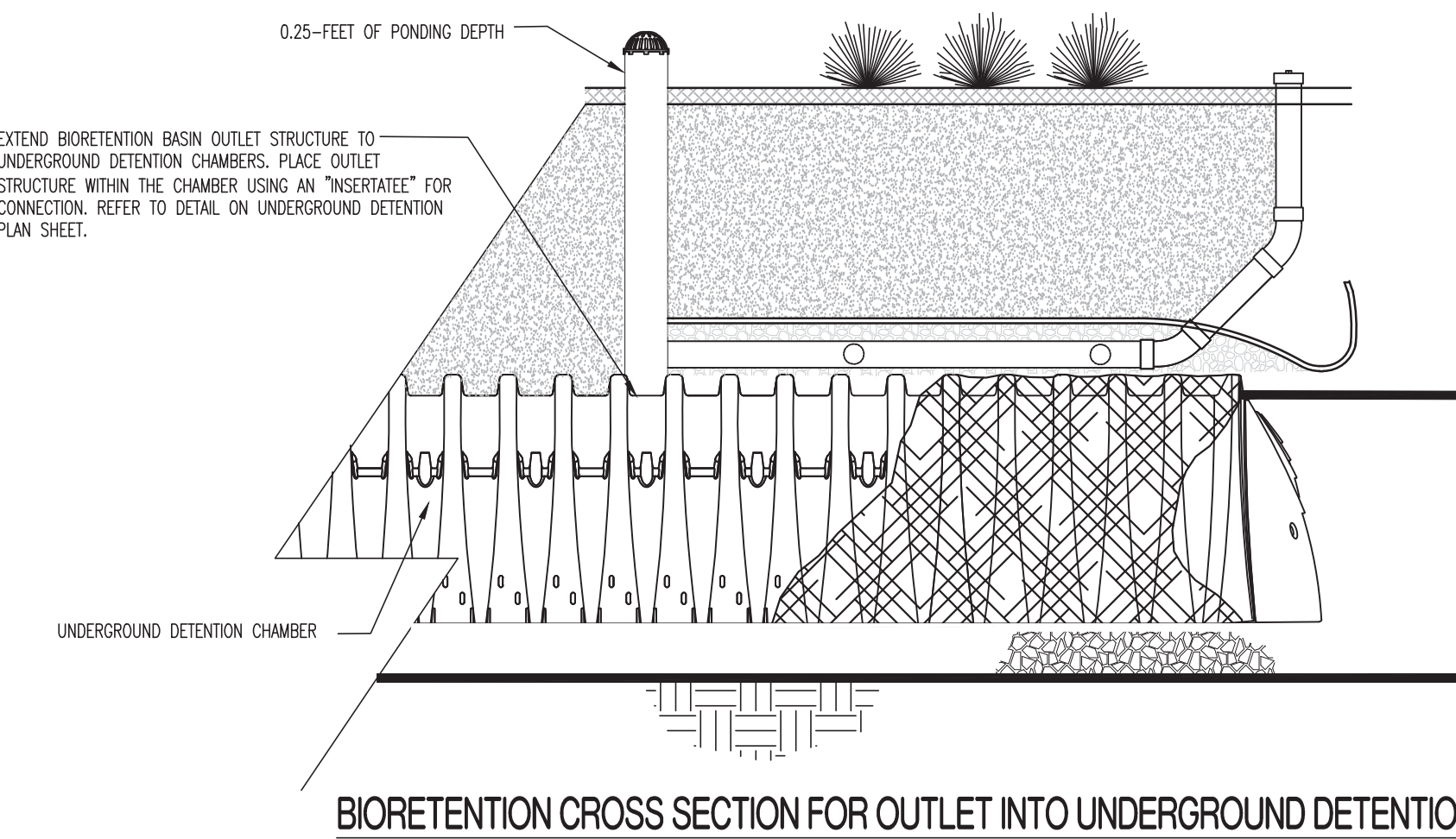
BIORETENTION - BASIN 1  
SCALE 1/4\"/>



BIORETENTION - BASIN 2  
SCALE 1/4\"/>



BIORETENTION - BASIN 3  
SCALE 1/4\"/>



BIORETENTION CROSS SECTION FOR OUTLET INTO UNDERGROUND DETENTION

LEGEND OF LABELS:

- (A) HDPE/PVC PERFORATED UNDERDRAIN (TYP.) (MIN. SLOPE 0.5%)
- (B) FLAT PONDING AREA
- (C) UNDERDRAIN CLEANOUT (TYP.)
- (D) EDGE PLANTINGS. SEE PLANTINGS CHART FOR EXACT QUANTITIES.
- (E) BOTTOM PLANTINGS. SEE PLANTINGS CHART FOR EXACT QUANTITIES.
- (F) ROCK LINED EDGING. REFER TO DETAIL.
- (G) HIGHFLOW DRAINAGE STRUCTURE.

BIORETENTION CELL			
BASIN 1	BASIN 2	BASIN 3	
145	130	155	FLAT PONDING AREA ( SQ. FT. MIN.)
748.00	749.00	748.50	FLAT PONDING AREA ELEV.
748.25	749.25	748.75	OVERFLOW STRUCTURE TOP
BIORETENTION BASIN PLANTINGS			
QUANTITY		BOTTOM PLANTING	
3	2	3	BLAZING STAR - LIATRIS SPICATA
4	4	4	SOUTHERN BLUE FLAG IRIS - IRIS VIRGINICA
3	2	3	TUSSOCK SEDGE - CAREX STRICTA
2	2	2	SWEET FLAG - ACORUS GRAMINEUS
3	2	3	PALM SEDGE - CAREX MUSKINGUMENSIS
3	2	3	CARDINAL FLOWER - LOBELIA CARDINALIS
3	3	4	PRAIRIE CORNDOGGRASS - SPARTINA PECTINATA
QUANTITY		EDGE PLANTING	
6	5	6	SWITCHGRASS - PANICUM VIRGATUM
3	2	3	SIDE OATS GRAMMA - BOUTELLOUA CURTIPENDULA
3	2	3	BIG BLUEGRASS - POA AMPLA
0	4	1	LITTLE BLUESTEM - SCHIZACHYRIUM SCOPARIUM
33	30	35	TOTAL GRASSES/FLOWERS REQUIRED
QUANTITY		SHRUBS AND TREES	
1	1	1	SMALL SHRUBS (<10' TALL)*
1	1	1	LARGE SHRUBS/SMALL TREES (10'-25' TALL)*
0	0	0	LARGE TREES* REQUIRED
2	2	2	TOTAL TREES AND SHRUBS

CONSTRUCTION OF PLANTING BED NOTES:

THE CONTRIBUTING AREA MUST BE STABILIZED BEFORE FINAL EXCAVATION AND INSTALLATION OF THE BIORETENTION FACILITY. A PARTIAL HOLE, 2 FEET DEEP MAY BE DUG AND USED AS A SEDIMENT TRAP, WITH THE SEDIMENT AND REMAINDER OF SOIL DUG OUT JUST BEFORE INSTALLING PLANTING SOIL. DO NOT ALLOW MACHINERY ON BOTTOM SURFACE OF RAIN GARDEN. IF MACHINERY MUST ENTER BIORETENTION FACILITY AREA, START DIGGING AT ONE END AND WORK OUT SO THAT MACHINERY DOES NOT TRACK ON BOTTOM OF FINISHED EXCAVATION. EXCAVATION MUST BE FLAT BUT NOT SMOOTH. DO NOT SCRAPE THE BOTTOM SMOOTH SINCE THIS WILL HARM INFILTRATION. CONTRACTOR TO CONTACT ENGINEER TO APPROVE SOIL AT BOTTOM OF PLANTING BED.

THE PLANTING SOIL MIX FOR THE BASINS SHALL BE 10% SANDY LOAM TOPSOIL, 10% COMPOST AND 80% SAND AS PER THE COLUMBIA PARKS AND RECREATION SPECIFICATIONS. PLANTING SOIL SHALL BE MIXED OUTSIDE OF THE BASIN AND PLACED IN THE BASIN IN LIFTS OF 8". LIGHTLY TAMP OR LIGHTLY WATER EACH LIFT TO ENCOURAGE SETTLING OF THE FILL. AVOID OVERTAMPING OR OVERWATERING (AND CAUSING PONDING) BEFORE BASIN IS FINISHED.

A 3-INCH LAYER OF SHREDDED HARDWOOD MULCH IS TO BE PLACED ON THE SURFACE.

PLANTING NOTES:

PLANTS ARE NECESSARY FOR THE PROPER FUNCTION OF A BIORETENTION AREA. A MINIMUM PLANT DENSITY MUST BE ACHIEVED IN ACCORDANCE WITH THE FOLLOWING TABLE. ACTUAL LOCATION AND SPACING OF THE PLANTS SHOULD BE DETERMINED BASED ON AESTHETICS AND THE HEALTH OF THE PLANTS AS WELL AS CONSIDERATIONS OF OTHER INFRASTRUCTURE CONFLICTS.

PLANT DENSITY TABLE

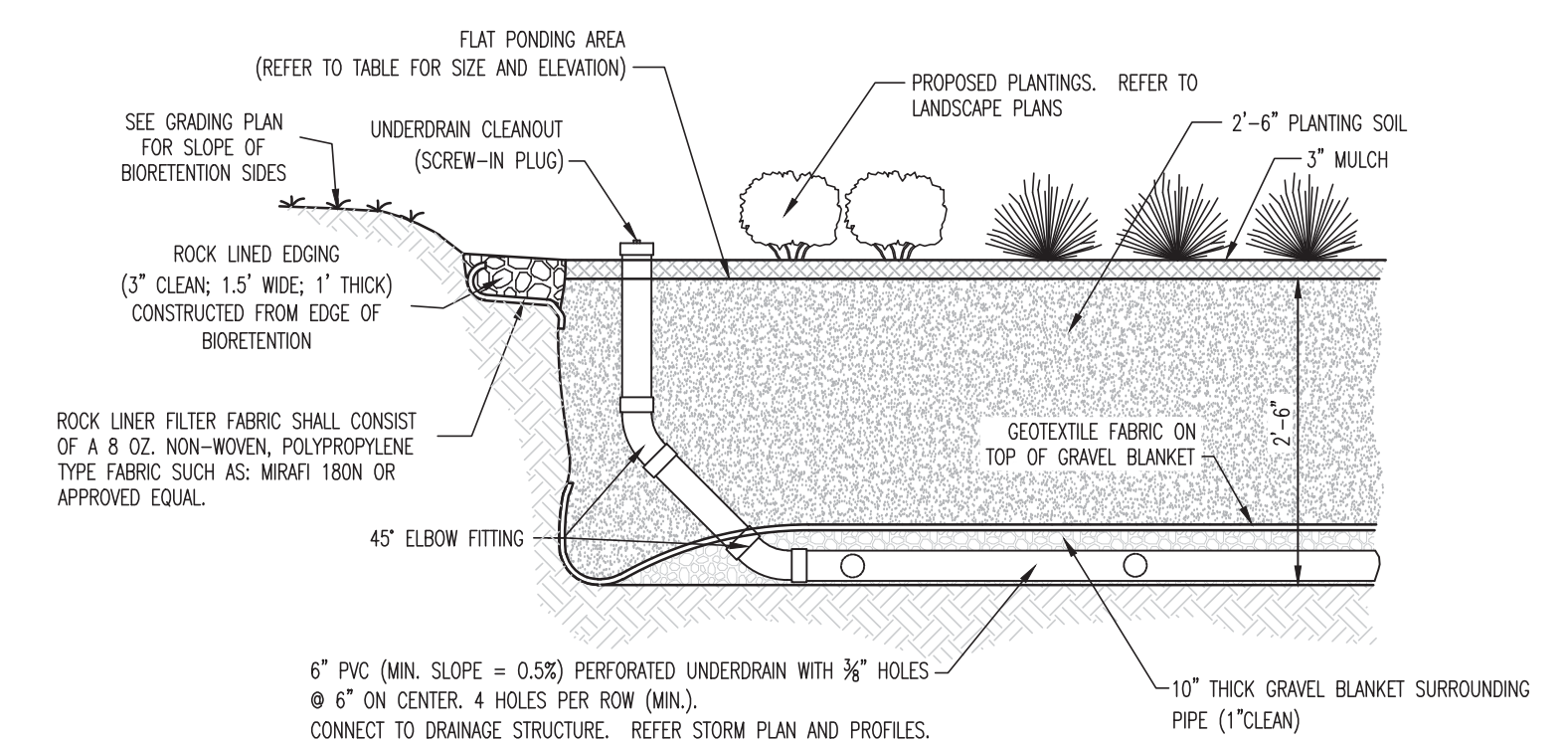
PLANT TYPES	PLANT SPACING	TO BE PLANTED IN AREAS GREATER THAN
GRASSES/FLOWERS	1.5 FEET	7 SQ. FT.
SMALL SHRUBS (<10 FEET TALL)	6 FEET	75 SQ. FT.
LARGE SHRUBS / SMALL TREES (10 TO 25 FEET TALL)	8 FEET	135 SQ. FT.
LARGE TREES*	16 FEET	540 SQ. FT.

\*LARGE TREES MUST BE INSTALLED 3-5 FEET BEYOND THE EDGE OF THE RAIN GARDEN. GENERALLY, A MIX OF TYPES IS BEST TO HELP THE BASIN FUNCTION OPTIMALLY. PLANTS IN A BIORETENTION FACILITY MUST BE ABLE TO WITHSTAND VERY WET PERIODS AS WELL AS HOT, DRY PERIODS. NATIVE PLANTS THAT ARE ADAPTED TO WETLAND OR MESIC WETLAND SITES WILL GENERALLY PERFORM BEST. CONSULT APPENDIX D IN THE CITY OF COLUMBIA STORMWATER MANAGEMENT AND WATER QUALITY MANUAL, DATED FEBRUARY 1, 2009.

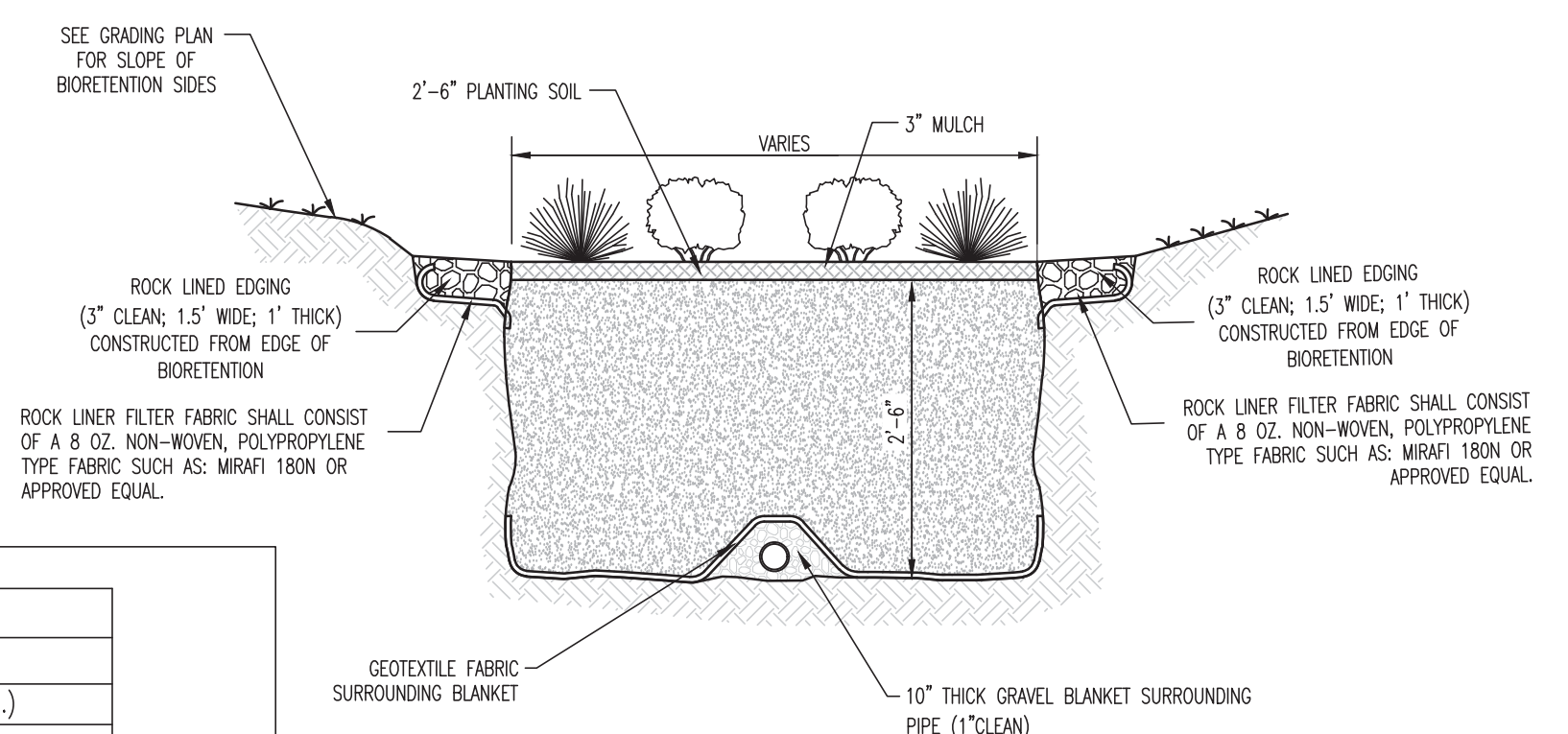
BIORETENTION FACILITIES WHICH COLLECT WATER FROM PAVEMENT SHOULD HAVE SALT TOLERANT PLANTS.

PLANTING PLAN AND PLANT LIST FOR BIORETENTION FACILITIES WILL BE PROVIDED TO CITY OF COLUMBIA PUBLIC WORKS BEFORE PLANTING TAKES PLACE.

PLANT MATERIAL SIZES SHALL BE AS FOLLOWS: SHRUBS - 2 GALLON, GROUND COVER - PLUGS, TREES - 2" CALIPER, GRASS - SEED OR SOD, CONIFERS - 6 FT.



BIORETENTION CROSS SECTION A-A  
10' SPACING SEPARATION BETWEEN LATERAL



BIORETENTION CROSS SECTION B-B

\* REFER TO NOTE AND SPECIES BELOW

TREE & SHRUBS

- SMALL SHRUBS
- (3) BLACK CHOCHEBERRY - ARONIA MELANOCARPA
- (3) GOLDEN CURRANT - RIBES ODORATUM

LARGE SHRUBS/SMALL TREES

- (2) SERVICEBERRY - AMELANCHIER ARBOREA
- (1) PAWPAW - ASIMINA TRILOBA
- (1) RED BUCKEYE - AESCULUS PAVIA
- (0) HOPTREE - PTELEA TRIFOLIATA

LARGE TREES

- (0) WHITE OAK - QUERCUS ALBA

NOTE:  
EXACT QUANTITIES OF EACH TYPE OF EDGE PLANTINGS AND BASIN PLANTINGS MAY VARY. CONTRACTOR SHOULD SUPPLY A PROPORTIONAL MIX OF THE TOTAL QUANTITIES INDICATED. ANY PLANT SUBSTITUTION SHALL BE APPROVED BY ENGINEER IN WRITING.

REVISIONS:

NO.	DATE
ORIGINAL	07/17/2019
1	08/20/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLE R. MILLER  
MO LICENSE - 201709003

PREPARED BY:  
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0000000001

CITY OF COLUMBIA  
PO BOX 6035  
COLUMBIA, MO 65205

OWNER:

**CULLIMORE COTTAGES**  
A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
COLUMBIA, BOONE COUNTY, MISSOURI

DRAWING INCLUDES:

BIORETENTION PLAN

DESIGNED: KRM

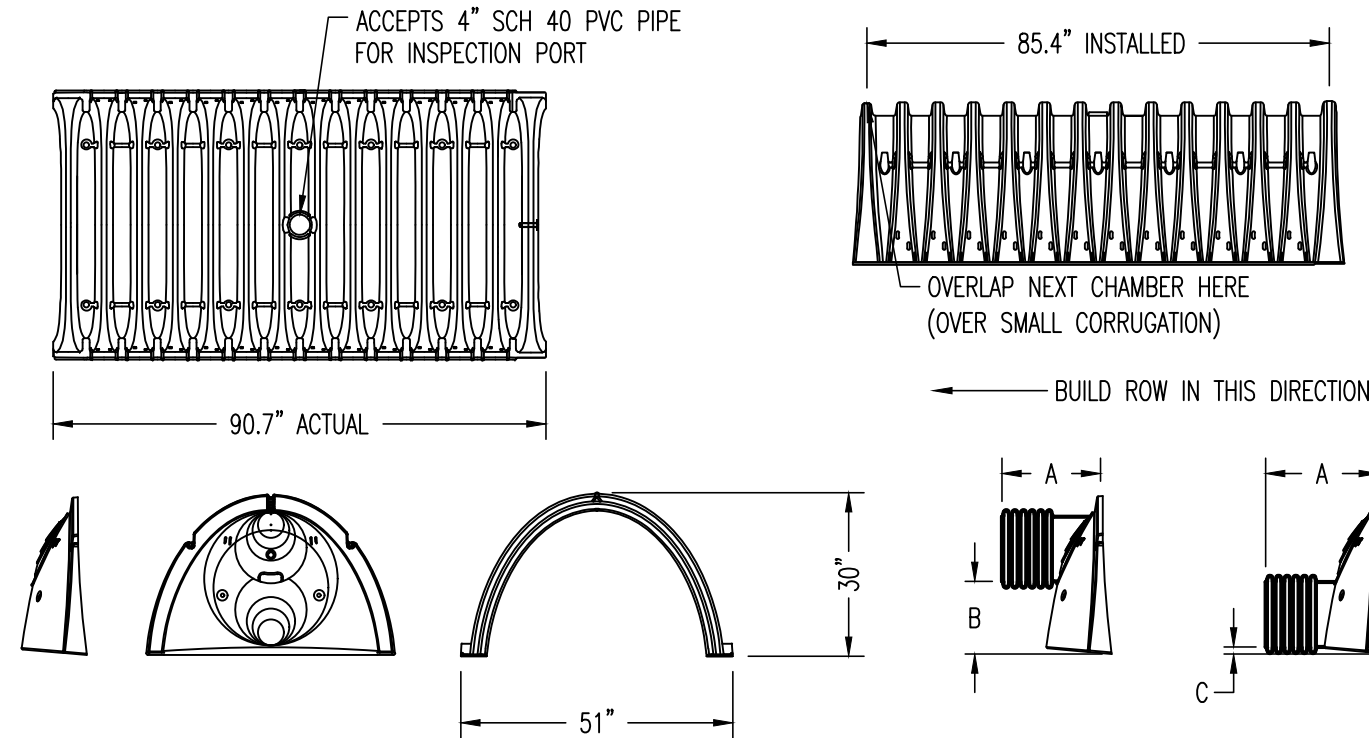
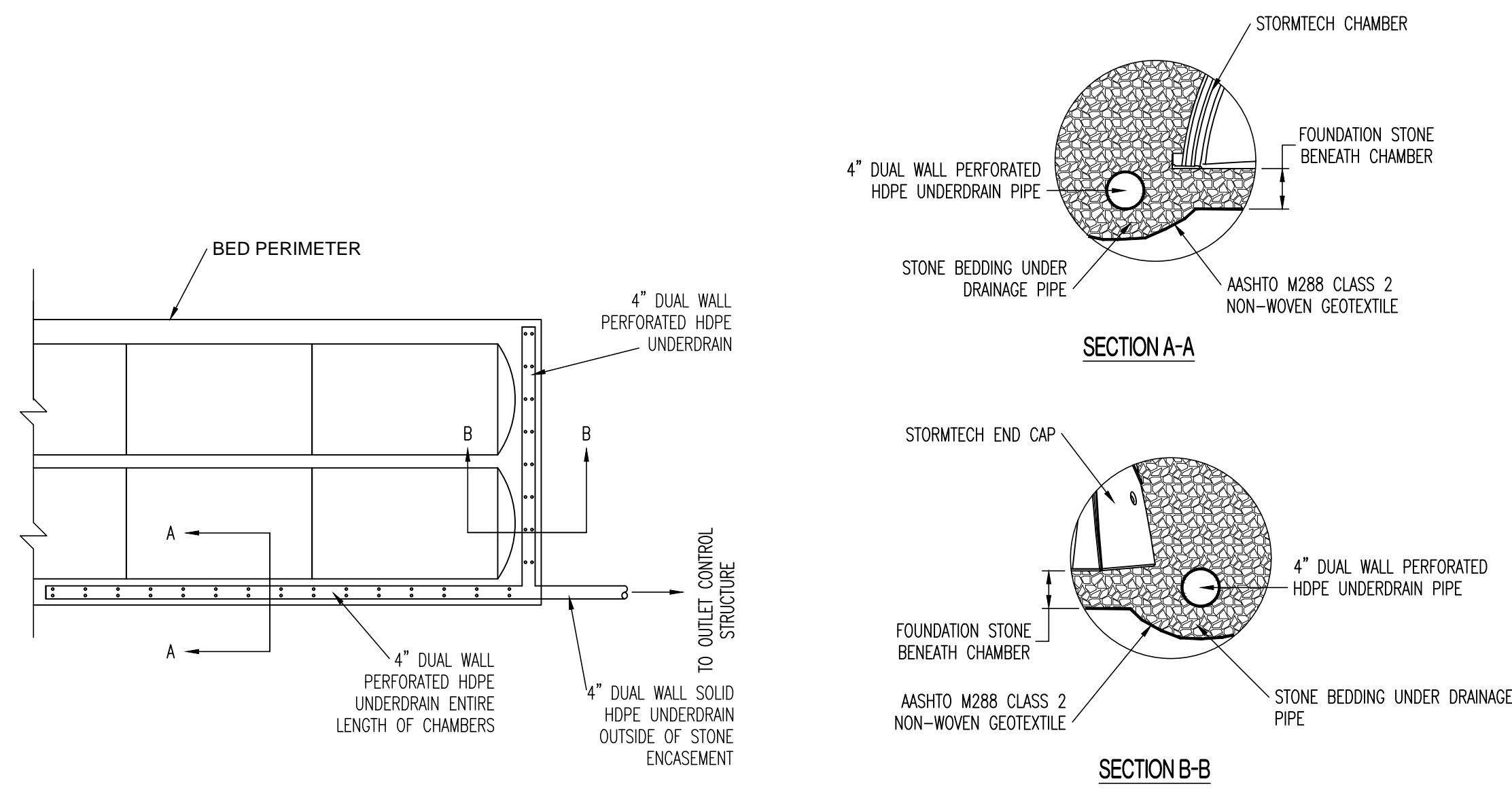
DRAWN: KRM

PROJECT NO.: 180343

SHEET:

CE 6





**NOMINAL CHAMBER SPECIFICATIONS**  
 SIZE (W x H x INSTALLED LENGTH) 51.0" x 30.0" x 85.4"  
 CHAMBER STORAGE 45.9 CUBIC FEET  
 MINIMUM INSTALLED STORAGE VOLUME 74.9 CUBIC FEET  
 WEIGHT 75 lbs.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
 STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART#	STUB	A	B	C
SC740EPE06T	6"	10.90"	18.50"	N/A
SC740EPE06B	6"	10.90"	N/A	0.50"
SC740EPE08T	8"	12.20"	16.50"	N/A
SC740EPE08B	8"	12.20"	N/A	0.60"
SC740EPE10T	10"	13.40"	14.50"	N/A
SC740EPE10B	10"	13.40"	N/A	0.70"
SC740EPE12T	12"	14.70"	12.50"	N/A
SC740EPE12B	12"	14.70"	N/A	1.20"
SC740EPE15T	15"	18.40"	9.00"	N/A
SC740EPE15B	15"	18.40"	N/A	1.30"
SC740EPE18T	18"	19.70"	5.00"	N/A
SC740EPE18B	18"	19.70"	N/A	1.60"
*SC740EPE24B	24"	18.50"	N/A	0.10"

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

\*FOR THE SC740EPE24B THE 24" STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75". BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

**SC-740 TECHNICAL SPECIFICATIONS**

**STORMTECH GENERAL NOTES**

- STORMTECH REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICES REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.): MINIMUM COVER IS 18" NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96" INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24"; MAXIMUM COVER IS 96".
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- ASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM

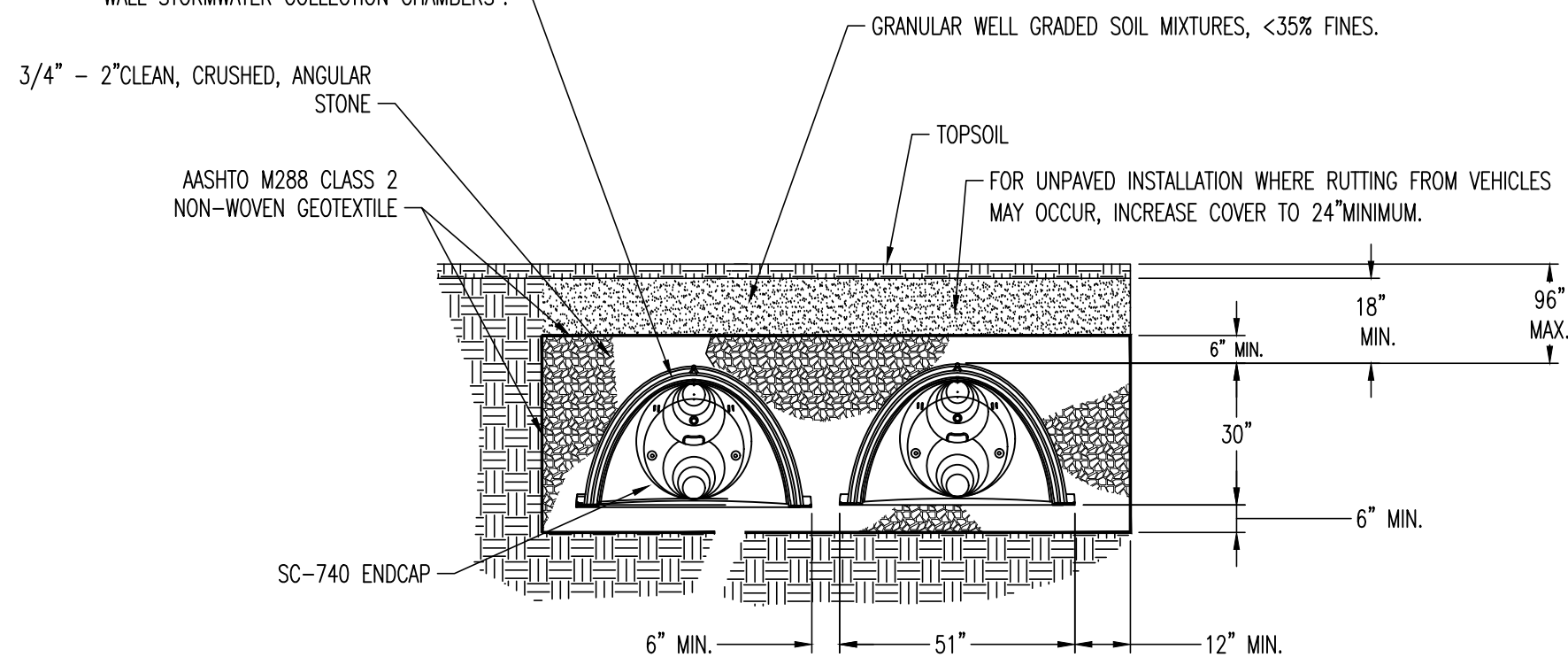
**STORMWATER CHAMBER SPECIFICATIONS**

- CHAMBERS SHALL BE STORMTECH SC-740 OR APPROVED EQUAL.
- CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE ASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
- ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
  - A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418-05 MUST BE USED AS A PART OF THE ASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
- CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
- THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.

**SC-740 UNDERDRAIN**

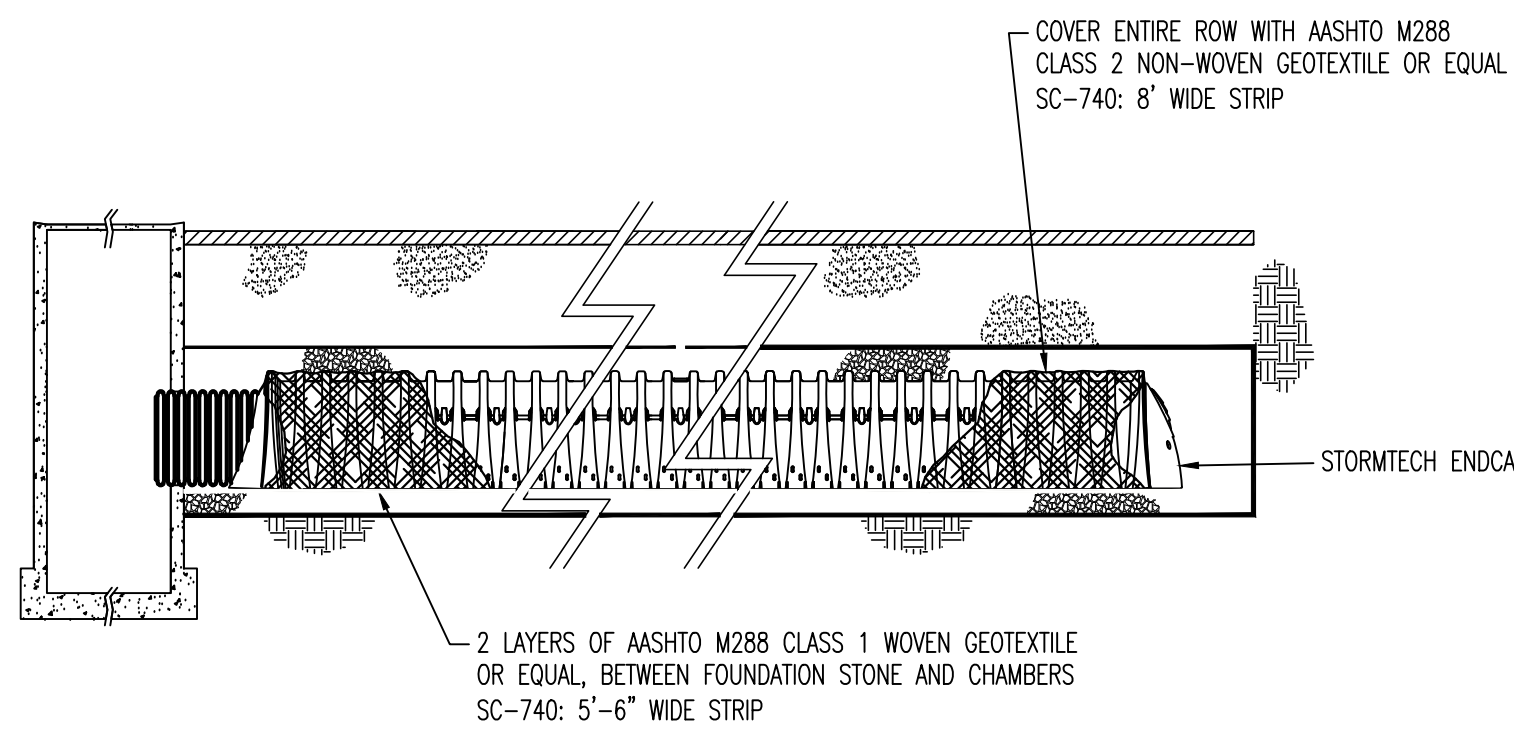
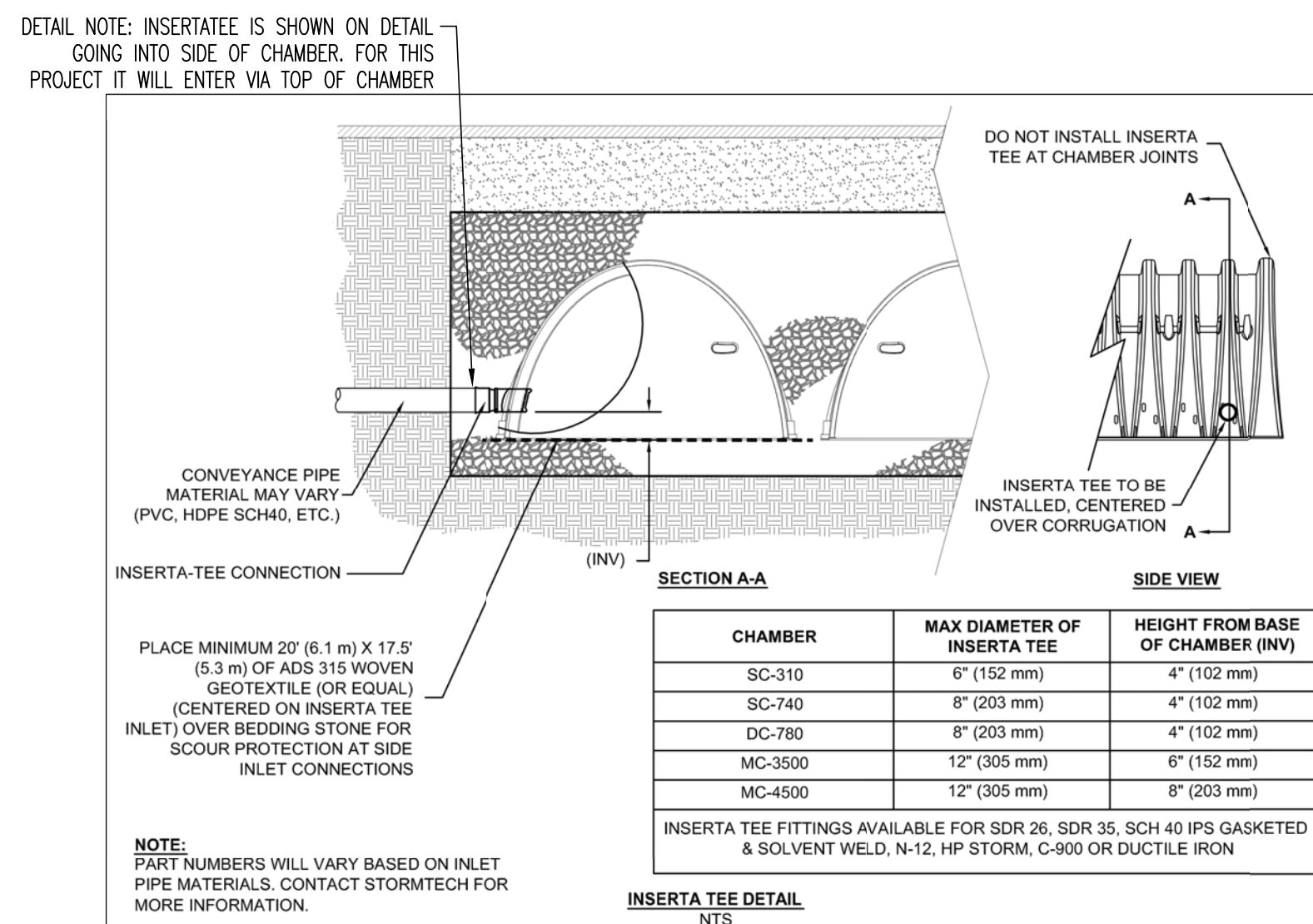
SC-740 CHAMBER CHAMBERS SHALL MEET ASTM F 2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

THE INSTALLED CHAMBER SYSTEM SHALL PROVIDE THE LOAD FACTORS SPECIFIED IN THE ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS, WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.



THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE LOAD FACTORS SPECIFIED IN THE ASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS

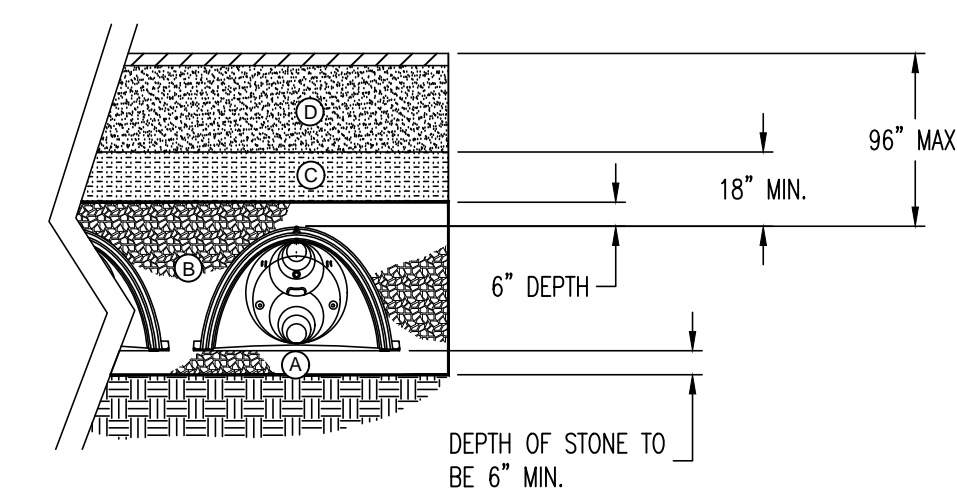
**SC-740 TYPICAL CROSS-SECTION**



**CHAMBER ROW PROFILE**

MATERIAL LOCATION	DESCRIPTION	ASHTO M43 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
① FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE C LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
② FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY (ρ). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs.
③ EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH	3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
④ FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE. NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH	3, 35, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY(ρ).

- PLEASE NOTE:
- THE LISTED ASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (ASHTO M43) STONE".
  - AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (MAX) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



**ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS**

**SC-740 "INSERTATEE" DETAIL**

- NOTES:
- INSERTATEE CAN BE INSTALLED ON THE SIDES OF TOP OF THE CHAMBERS. SAME DETAIL WOULD BE USED IF INSTALLED ON TOP.

**REVISIONS:**

NO.	DATE
ORIGINAL	07/17/2019
1	08/20/2019

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY



KYLER MILLER  
 MO LICENSE - 20170903



CITY OF COLUMBIA  
 PO BOX 6035  
 COLUMBIA, MO 65205

OWNER:

**CULLIMORE COTTAGES**  
 A RESIDENTIAL DEVELOPMENT LOCATED AT 1101 N. EIGHTH ST.  
 SECTION 12, TOWNSHIP 48 NORTH, RANGE 13 WEST  
 COLUMBIA, BOONE COUNTY, MISSOURI

**DRAWING INCLUDES:**

UNDERGROUND DETENTION DETAILS

DESIGNED: KRM

DRAWN: KRM

PROJECT NO.: 180343

SHEET:

CE 7






**LANDSCAPE COMPLIANCE:**






<b>29-4.4(c) - GENERAL PROVISIONS</b>	
EXISTING CLMAX FOREST:	0 AC.
CLMAX FOREST TO REMAIN:	0 AC.
REQUIRED 15% OF TOTAL SITE TO BE LANDSCAPED:	.19 AC.
PROPOSED AREA OF TOTAL SITE TO BE LANDSCAPED:	2 AC.
<b>29-4.4(d) - STREET FRONTAGE LANDSCAPING - PLANTS LABELED WITH 'A' ON PLAN</b>	
(1) LENGTH OF PAVED AREA (OVER 40' IN LENGTH) WITHIN 25' OF R/W TO HAVE 6' WIDE LANDSCAPED BUFFER	0 LF
1 TREE (2" CALIPER, 10' TALL AT TIME OF PLANTING) PER 200 S.F. OF BUFFER AREA (WITHIN SCREENING BED)	0 TREES REQUIRED 0 TREES PROPOSED
(2) STREET TREES - LF OF STREET FRONTAGE	550 LF
(i) 1 TREE PER 40' OF STREET FRONTAGE REQUIRED	14 TREES REQUIRED 14 TREES PROPOSED
(ii) 30% LARGE TREES REQUIRED (A1)	7 TREES REQUIRED 7 TREES PROPOSED
(iii) 30% MEDIUM TREES REQUIRED (A2)	7 TREES REQUIRED 7 TREES PROPOSED
<b>29-4.4(e) - PROPERTY EDGE BUFFERING - PLANTS LABELED WITH 'B' ON PLAN (C)</b>	
(1) LEVEL OF LANDSCAPE BUFFER REQUIRED - REFER TO TABLE 4.4-4	LEVEL 0
(2) AREA OF PROPERTY EDGE BUFFERING PROPOSED	975 S.F.
(ii)(B) 1 TREE (2" CALIPER, 10' TALL AT TIME OF PLANTING) PER 200 S.F. OF BUFFER AREA (WITHIN SCREENING BED)	5 TREES REQUIRED 10 TREES PROPOSED
(iii)(C) MINIMUM AREA REQUIRED TO BE COVERED BY SHRUBS AND FLOWERING PLANTS (50% MINIMUM)	0 S.F. REQUIRED 0 S.F. PROPOSED
MINIMUM AREA REQUIRED TO BE COVERED BY FLOWERING SHRUBS (25% MINIMUM)	0 S.F. REQUIRED 0 S.F. PROPOSED

**PLANT SCHEDULE**

QTY - TYPE OF PLANT - EXAMPLE PLANTS - SIZE OF PLANT

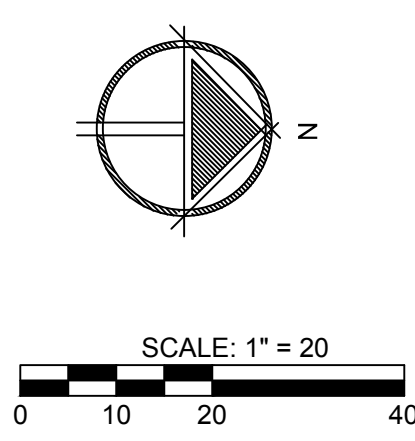
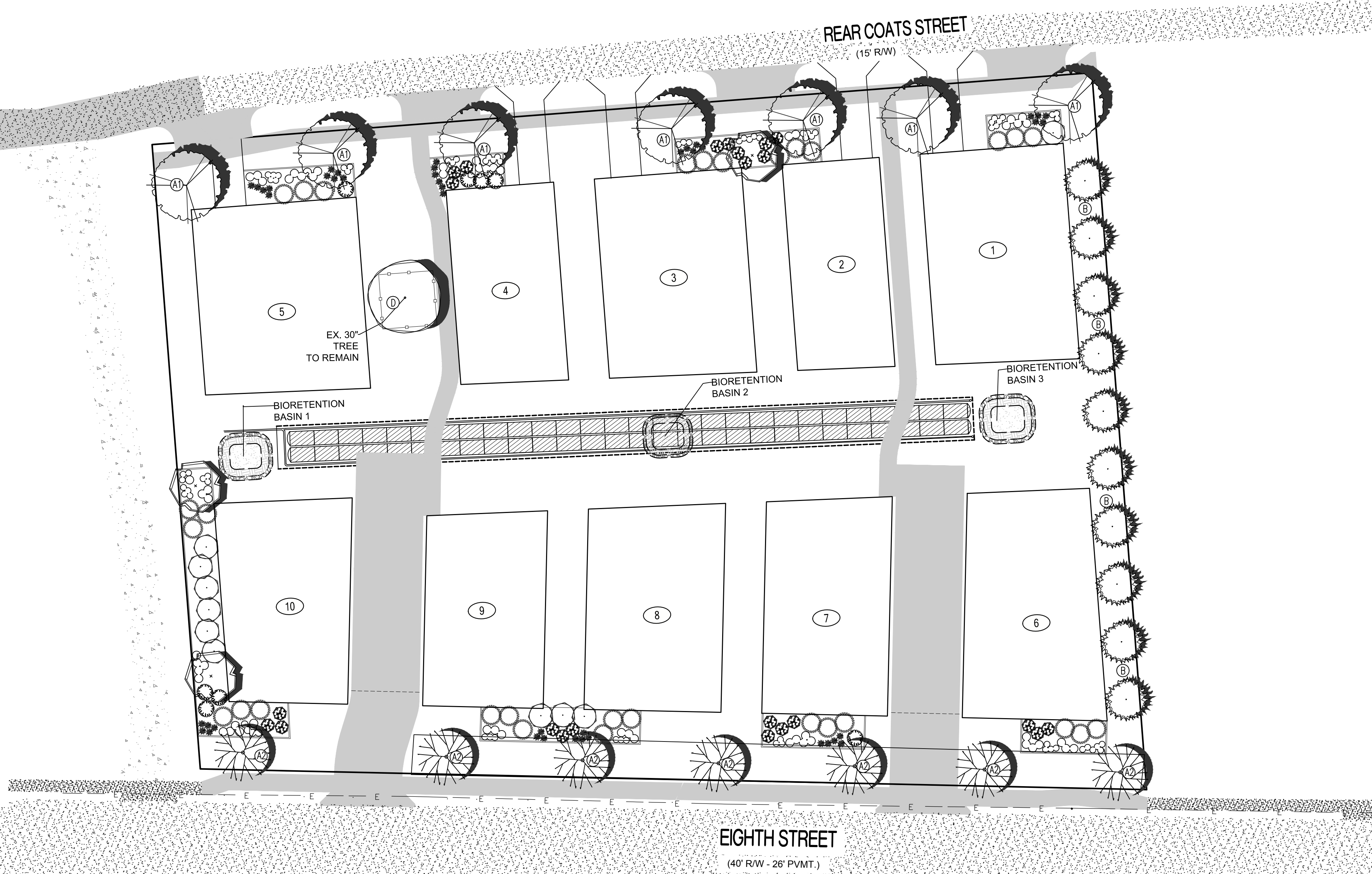
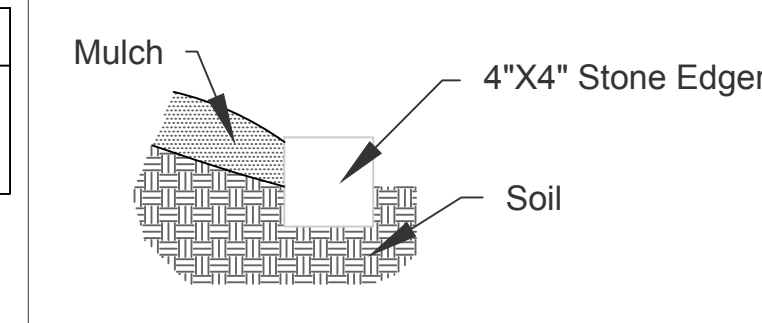
-  EXISTING SITE TREES
-  7 - STREET TREE - LARGE - RED MAPLE, OVERCUP OAK, PRINCETON ELM, ETC. - 25"
-  7 - STREET TREE - MEDIUM - REDBUD, SERVICE BERRY, ETC. - 6-8"

**NATIVE PLANT AREAS**

-  3 - FOUNDATION / ORNAMENTAL TREE PLANTINGS - DOGWOOD, REDBUD, SERVICE BERRY ETC.
-  10 - EVERGREEN SCREEN PLANTING - JUNIPER, ARDORVITAE ETC.
-  41 - LARGE FLOWERING SHRUB: VIBURNUM, NINEBARK, DECIDUOUS HOLLY ETC. 5 GAL.
-  30 - EVERGREEN SHRUB: JUNIPER, AMERICAN HOLLY - 5 GAL.
-  168 - PERENNIAL GROUPINGS: CONE FLOWER, PRAIRIE DROPS EED, IRIS, COREOPSIS, BLACK EYE SUSAN, ETC. - 1 GAL ON 2 FOOT CENTERS

**BED EDGE:**

LENGTH	380 LF
MATERIAL	NATURAL STONE



- THE PLANT LIST IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL PLANT COUNTS AND IF A DISCREPANCY EXISTS THE PLAN SHALL GOVERN.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF ALL UNDERGROUND UTILITIES, PIPES, AND STRUCTURES. THE LANDSCAPE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION.
- LANDSCAPE CONTRACTOR TO RECEIVE SITE GRADED TO +/-0.10 FOOT OF FINISHED GRADE.
- PLANTING BACK FILL MIX IS TO CONSIST OF 80% NATIVE TOPSOIL, AND 20% ORGANIC MATTER.
- SHRUB BEDS, BERMS, AND TREE WELLS ARE TO BE MULCHED WITH 3-4" DYED HARDWOOD MULCH.
- ALL SEEDED AREAS WITH A SLOPE OF 2:1 OR GREATER SHALL BE CONTROLLED WITH EROSION CONTROL NETTING.
- ALL BED AND LAWN AREAS SHALL BE IRRIGATED WITH POP-UP SPRAY HEADS.
- ALL LAWN AREAS TO BE SODDED WITH TALL FESCUE SOD.
- AREA LABELED 'RESTORE NATIVE PRESERVATION' TO BE SEEDED WITH NATIVE GRASSES SUCH AS: SWITCHGRASS, NATIVE BIG BLUESTEM, INDIAN GRASS, ETC. SEE SPECS FOR APPROVED LIST.
- LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWELVE MONTHS.
- ALL PLANTING BEDS AND TREE RINGS TO BE SEPERATED FROM TURF AREAS BY 'V' TRENCHING.
- ALL PLANT MATERIAL MUST MEET THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- PROPERTY TO THE EAST IS ZONED R-2 PUD.