



ADDENDUM NO. 4:

Date: March 22, 2017
 Project: The EDGE Business Resource Center
 Owner: The City of Tuscaloosa
 Owner's Project No: A16-1320 (Previously City #A14-1210)
 Architect: Ward Scott Architecture, Inc.

This Addendum forms a part of the Contract Documents and modifies the original Bid Documents dated July 30, 2015, as noted below.

Acknowledge receipt of this Addendum in the location provided on the Bid Proposal Form.

1.1 GENERAL

- A. The date and time for receipt of bids for this project has been changed to **Thursday, March 30, 2017, at 2:00 P.M.** The location of receipt of bids of **Tuscaloosa City Hall Council Chambers, 2201 University Blvd, Tuscaloosa, Alabama** is unchanged.
- B. Refer to attached Burk-Kleinpeter Addendum and Unit Price Schedule
- C. Refer to attached RH Smith and Associates Addendum
- D. See attached Electrical RFI Responses

1.2 SPECIFICATIONS AND DRAWINGS

- A. Specifications:
 1. Refer to Summaries of Work – Trade Contractor Bid Package EDGE – 02 General
 - a. Scope of Work Item #9. Revise as follows:
 9. This Trade Contractor is specifically responsible for all temporary barricades and signage as required for construction of this project. Limits of temporary barricades shall be assumed to be the property lines. Generally, temporary barricades shall be considered temporary construction fencing.
 - b. Scope of Work Item #19. Revise as follows:
 19. At the request of the Construction Manager, This Trade Contractor shall furnish equipment equivalent to Skidsteer for grading site roads and ruts. Duration of time for furnishing of said equipment shall be 12 months.
 2. Refer to Summaries of Work – Trade Contractor Bid Package EDGE – 04 Roofing
 - a. For clarification, Formed Metal Roof Panels as specified in Section 074213.13 shall be provide by this trade contractor.
 3. Refer to Specification Section 012100 Allowances Revise Paragraph 3.3.A as follows:
 1. Provide \$4,000 for material, fabrication, and installation of edge-lit signage at west wall face. All other cast letter, panel, plaque and other signage shall be provided in the base bid and alternates as indicated in the Construction Documents.
 4. Delete Specification Section 023113 Chain Link Fences and Gates in its entirety. Temporary Construction Fencing is specified in Section 015000 Temporary Facilities and Controls.
 5. Refer to Specification Section 021400 – Unit Paving:
 - a. Page 3 – Paragraph 2.3.A. Add the following as Subparagraph 1:
 1. Thickness: 4 inches.
 6. Refer to Specification Section 053000 – Acoustic Roof Deck/Ceiling System:
 - a. Page 3 – Paragraph 2.1.A. Add the following as Subparagraph 1:
 1. Vulcraft 2.0DA 18 GA and 16 GA products, in lieu of the Epic Toris A 18GA product specified, are acceptable alternates as long as they are always used in three span conditions. Deck manufacturer to verify all spans for conformance prior to bidding.

7. Refer to Specification Section 074113.16 – Standing Seam Metal Roof Panels
 - a. Page 5 – Paragraph 2.8.A.1.a. Revise as follows:
 - 1) Thickness: Total of 4"
 - 2) R-Value: Minimum of 21.0
 8. Refer to Specification Section 084113 – Aluminum Framed Entrances and Storefronts:
 - a. Page 3 – Paragraph 2.2.A. Revise as follows:
 2. Exterior: Nominal 2" by 6" profile.
 3. Interior: Nominal 2" x 4" profile.
 4. 4" wide profiles shall be 2" profiles installed back-to-back.
 9. Replace Specification Section 088000 Glazing in its entirety with the attached revised specification section.
 10. Refer to Specification Section 096813 – Tile Carpeting:
 - a. Page 2 – Paragraph 3.3.B. Revise as follows:
 - B. Installation Method:
 1. Pattern: As indicated on Finish Schedule
 2. Method: Manufacturer's recommended adhesive.
 - b. Page 3 – Paragraph 3.3.C. Revise as follows:
 - C. Cutting of Carpet Tile:
 1. At curved patterns: Water-jet/Laser cut carpet tiling. Bind or seal cut edges as recommended by carpet tile manufacturer.
 2. At straight edges and dissimilar features: Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.:
 11. Refer to Specification Section 101416 – Plaques:
 - a. Page 3 – Paragraph 2.1.A. Add the following:
 8. Size: 24" wide x 36" high
 9. Location: Vestibule C102, South Wall
 12. Refer to Specification Section 101419 – Dimensional Letter Signage:
 - a. Page 2 – Paragraph 2.2.A. Add the following:
 7. Standoff Distance: ¾ inch
- B. Drawings:
1. Refer to Sheet L-2.
 - a. Revise depth of topsoil and rototilling to indicate 12" in lieu of 6" at Detail C. Planting Note #2 indicating 12" of topsoil shall govern.
 - b. All seeded and mulched areas shall receive 4" of topsoil matching that of sodded locations as required by Specification Section 028300, Paragraph 1.2.D.
 2. Refer to Sheet AC01.
 - a. West sidewalk extents shall be as indicated in Civil documents.
 - b. Limits of concrete drive paving shall be as indicated in Civil documents.
 3. Replace Sheets G102, A002, A003, A101, A311 and A312 in their entirety with the attached revised Sheets.
 4. Refer to Sheet A501, Detail 1 Reflected Ceiling Plan. All references to Axiom Edge shall be revised to indicate 5" depth.
 5. Refer to Sheet TD101.
 - a. All DataCom voice and data system conduits from the floor boxes shall be homerun back to IT-Comm. Room #134, terminated at the base of the backboards. All DataCom voice and data cabling shall be OSP Type-Water Blocking Cable homerun to IT-Comm. Room #134, terminated in the Equipment Cabinets on the Data Station Panels. (All area floor boxes.)
 - b. All AV system conduits from the floor boxes shall be homerun back to AV-Comm. Room #105, terminated at the base of the backboards. All AV system cabling shall be OSP Type-Water Blocking Cable homerun to AV-Comm. Room #105, terminated in the Equipment Cabinets on the AV Station Equipment/Panels. (All area floor boxes.)

1.3 ATTACHED TO ADDENDUM

- A. Burk-Kleinpeter Addendum and Unit Price Schedule
- B. BKI Revised Sheets C102, C201, C202, C203, C204, C205, C206, C207, C209, and Supplemental Sheets SD-2, SD-3, and SD-4.
- C. RH Smith and Associates Addendum
- D. Electrical RFIs 1 & 2
- E. Revised Sheets G102, A002, A003, A101, A311 and A312
- F. Revised Specification Section 088000 Glazing

END OF ADDENDUM

BURK-KLEINPETER, INC.

ENGINEERS, ARCHITECTS, PLANNERS, ENVIRONMENTAL SCIENTISTS
2900 8TH STREET
TUSCALOOSA, AL 35401
PHONE (205) 759-3221 FAX (205) 759-9166

ADDENDUM NO. 4

The EDGE Business Resource Center City of Tuscaloosa Project No. A16-1320 March 21, 2017

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated July 30, 2015.

ITEM NO. 1 – REVISION UNIT PRICE SCHEDULE:

Replace the Unit Price Schedule for Sitework found within the Contract Documents in its entirety with the attached. Review the revised Unit Price Schedule dated March 21, 2017 and note all additions and deletions.

ITEM NO. 2 – REVISION SPECIFICATION SECTION 022000 – EARTHWORK:

Page 2 – Paragraph 1.5.B.2. Revise as follows:

2. Payable quantities shall be in-place volumes determined as follows:
 - a. Cut Sections: The finished subgrade elevation shown on the Contract Documents minus the final unsuitable material removal elevation, as determined by the Engineer, times the area required to perform the work.
 - b. Fill Sections: The existing subgrade elevation shown on the Contract Documents minus the final unsuitable material removal elevation, as determined by the Engineer, times the area required to perform the work.

ITEM NO. 3 – REVISION SHEET C102:

The attached revised Sheet C102 dated March 15, 2017 shall replace the previously provided Sheet C102. The removal and abandonment of the existing sanitary sewer system has been revised.

ITEM NO. 4 – REVISION SHEET C201:

The attached revised Sheet C201 dated May 25, 2016 shall replace the previously provided Sheet C201. A dimension has been added for the sidewalk in the right-of-way along 10th Avenue and truncated dome pavers have been added in the sidewalk along 27th Street.

ITEM NO. 5 – REVISION SHEET C202:

The attached revised Sheet C202 dated March 15, 2017 shall replace the previously provided Sheet C202. The required asphalt overlay requirements along 27th Street have been revised. Permanent signs and parking stops have been added.

ITEM NO. 6 – REVISION SHEET C203:

The attached revised Sheet C203 dated May 25, 2016 shall replace the previously provided Sheet C203. Grading along the sidewalk and curb at the intersection of 10th Avenue and 27th Street has been revised.

ITEM NO. 7 – REVISION SHEET C204:

The attached revised Sheet C204 dated March 15, 2017 shall replace the previously provided Sheet C204. The location of the sanitary sewer lateral tie into the existing main has been revised.

ITEM NO. 8 – REVISION SHEETS C205 – C207:

The attached revised Sheets C205 – C207 dated August 2, 2016 shall replace the previously provided Sheets C205 – C207. Permanent Drainage Easements for the storm sewer outfalls along the east side of the property have been acquired and added to the plans.

ITEM NO. 9 – REVISION SHEET C209:

The attached revised Sheet C209 dated March 15, 2017 shall replace the previously provided Sheet C209. A stone pad construction exit has been added to the plans.

ITEM NO. 10 – REVISION SHEET C304:

Sheet C304 dated July 30, 2015 has been revised to add the following details:

- Sidewalk at Curb Intersection (See attached Supplemental Drawing No. 2)
- Post Mounted Sign Detail (See attached Supplemental Drawing No. 3)
- Precast Concrete Parking Stop (See attached Supplemental Drawing No. 4)

ITEM NO. 11 – CLARIFICATION SHEET C204:

A portion of the existing utilities along 10th Avenue was not included as part of the original survey for this project. The City has provided the attached 10th Avenue Existing Utilities sheet, **for information purposes only**, in order to inform the bidders of existing utilities which may be encountered during the installation of the sanitary sewer lateral for this project. As with the survey for this project, the locations of the existing underground utilities on the attached sheet are shown in an approximate manner only, as provided by utility owners. The Contractor shall be responsible for contacting Alabama One-Call to mark the utility locations during construction and for determining the exact location of all underground utilities before commencing work. The Contractor shall also be responsible for repairing/replacing any in-place utilities, whether or not shown on the survey, which are damaged during construction of this project to the satisfaction of the Engineer and the utility owner, at the Contractor's expense.

ITEM NO. 12 – BIDDER QUESTIONS:

1. Question: Who is responsible for Construction Staking on the Site Package?

Response: The Contractor will be responsible for providing construction staking.

2. Question: Who is responsible for the Watermain Extension Agreement?

Response: The City will not exercise the Water Main Extension Agreement for this project. The Contractor will be responsible for purchasing all materials for the required water improvements. Material submittals will be reviewed by City staff and a pre-construction meeting for the water main extension will be required.

3. Question: Will the Owner be providing the traffic control plan for the installation of the sanitary sewer lateral across 10th Avenue?

Response: No. The Contractor will be responsible for the development of the traffic control plan for the installation of the sanitary sewer lateral across 10th Avenue, as well as any other traffic control plans which may be required for the completion of this project. The traffic control plan(s) shall be submitted to the City and approved by them prior to the commencement of any work for

which a traffic control plan is required. The Contractor shall include all associated costs for the traffic control plan(s) in his bid.

4. Question: When is the City going to require the sanitary sewer work to be done? Can 10th Ave be shut down for the sanitary sewer work?

Response: Based on the attached revised plan for the sanitary sewer lateral tie-in, the sanitary sewer work should not require a complete road closure and the work should be able to take place during the work day.

5. Question: There is not any existing survey on the West side of 10th Ave where the proposed sanitary ties to the existing line. There could be some major conflicts due to how deep the tie in is. Can you show the existing utilities/ROW Lines/Sidewalks/Irrigation in the plans? Who is going to be responsible for the Utility Conflicts and Concrete/Sod/Irrigation repair?

Response: The location of the sanitary sewer lateral tie into the existing main has been revised so that the lateral ties into the existing 8" sewer main in 10th Avenue. The revisions are shown on the attached sheet C204 and a clarification to this sheet is included in Item No. 11 of this addendum. The Contractor will be responsible for addressing any underground utility conflicts encountered during installation of the sanitary sewer lateral, including but not limited to providing temporary support/bracing for existing utilities. Any existing curb, sidewalk, landscaping, etc. disturbed or damaged during the construction of this project shall be repaired/replaced by the Contractor at his expense.

6. Question: The proposed line is going to be really deep and only 6' from the existing power pole on the East side of 10th Ave. Is the power pole going to be relocated or held by APCO? Can the proposed sewer be moved?

Response: Alabama Power has been contacted about the proximity of the existing pole to the required sanitary sewer lateral. They said that the pole can be held, if necessary, during installation of the sanitary sewer lateral but this will need to be evaluated more closely during construction. The Contractor shall be responsible for contacting Alabama Power far enough in advance of the sanitary sewer work so that the need for holding the pole can be evaluated and, if necessary, a truck can be scheduled to hold the pole.

7. Question: The proposed sanitary line is shown to be a 4" line on the plan sheets and 6" on the unit prices. Which one is correct?

Response: The required sanitary sewer lateral will be a 4" line. This has been corrected on the attached Unit Price Schedule.

8. Question: Which plan is correct in regards to sidewalks and concrete paving? C202 (Paving) indicates a sidewalk on the west side of the building and half of the east side parking lot as concrete paving, whereas AC01 does not show either the west side sidewalk nor the concrete paving at the east parking lot. Note that demo plan C102 specifies the removal of the existing section of sidewalk on the west side that is in question.

Response: The required concrete paving and concrete sidewalk locations as shown on sheet C202 are correct.

9. Question: There are no Stop or Handicap signs on the bid sheet. Are these required as part of the project?

Response: Stop signs and Handicap Parking Signs have been included on the attached Unit Price Schedule and on the attached sheet C202.

10. Question: There is no unit item for the 15" HDPE pipe on Line D. Is this correct?

Response: The 15" HDPE pipe has been included on the attached Unit Price Schedule.

11. Question: There is no Rock Construction Exit shown on the Erosion Control Plan, is one needed?

Response: Yes. A stone pad construction exit has been added to the attached sheet C209.

12. Question: The Site Scope says to include the gas line, however, there is no gas line shown on the Civil Utility drawings. How does this need to be addressed?

Response: The requirement for gas service has been removed from the project. Please refer to the MEP bid documents for further information.

13. Question: There are several quantity discrepancies between the civil Unit Price Schedule and the plans. Below is a list of items about which we have noted a discrepancy.

- a. 12" & 15" RCP quantities differ
- b. 15" HDPE shown on plans but not listed in Bid Schedule
- c. Junction Box (C3) shown on plans but not listed in Bid Schedule
- d. 4" PVC SDR 26 sanitary sewer pipe shown on plans but 6" PVC SDR 26 listed in Bid Schedule
- e. Curb Taper and Stand Up Curbs shown on plans but not listed on Bid Schedule
- f. Quantities on Paving differ (per Paving Contractor)

Response: The Unit Price Schedule for Sitework has been revised to address the above quantity discrepancies with the plans. There is not a separate line item for the curb tapers. These are included in the linear foot quantities for the corresponding curb type.

Attachments:

1. Unit Price Schedule for Sitework
2. Revised Plan Sheets
3. 10th Avenue Existing Utilities Sheet **(For Information Purposes Only)**
4. Supplemental Drawing SD-2
5. Supplemental Drawing SD-3
6. Supplemental Drawing SD-4

END OF ADDENDUM NO. 4



City of Tuscaloosa
The EDGE Business Resource Center
Sitework Unit Price Schedule

March 21, 2017

PREPARED BY: BURK-KLEINPETER, INC.

| ITEM NO. | APPROX. QTY. | UNIT | ITEM DESCRIPTION | UNIT PRICE | AMOUNT |
|---|--------------|------|--|------------|--------|
| BASE BID ITEMS | | | | | |
| General, Demolition, Clearing, Grubbing, and Earthwork | | | | | |
| 1 | 1 | LS | Demolition, Clearing & Grubbing (Approx. 5 Acres) | | |
| 2 | 650 | LF | Remove Existing Piping | | |
| 3 | 4 | Each | Remove Existing Storm/Sanitary Structure | | |
| 4 | 2 | Each | Plug & Abandon Existing Pipe | | |
| 5 | 1,800 | LF | Remove Existing Fence | | |
| 6 | 5,155 | SY | Remove Existing Pavements (Asphalt & Concrete) | | |
| 7 | 1 | LS | Earthwork | | |
| 8 | 11,500 | CYIP | Removal of Unsuitable Material (Only as Directed by the Owner's Representative) | | |
| 9 | 11,500 | CYIP | Off-Site Borrow - Select for Unsuitable Material Replacement | | |
| Base, Pave, and Curb and Gutter Improvements | | | | | |
| 10 | 4,600 | SY | Roadbed Processing (Only as Directed by the Owner's Representative) | | |
| 11 | 1,240 | SY | Crushed Aggregate Base Course, ALDOT 825B, Plant Mixed, 4" Compacted Thickness | | |
| 12 | 4,290 | SY | Crushed Aggregate Base Course, ALDOT 825B, Plant Mixed, 6" Compacted Thickness | | |
| 13 | 4,600 | SY | Bituminous Treatment A | | |
| 14 | 385 | Gal | Tack Coat | | |
| 15 | 620 | SY | Milling Existing Pavement | | |
| 16 | 240 | Ton | Superpave Bituminous Concrete Wearing Surface Layer, 1/2" Maximum Aggregate Size Mix, ESAL Range A/B | | |
| 17 | 425 | Ton | Superpave Bituminous Concrete Upper Binder Layer, 1" Maximum Aggregate Size Mix, ESAL Range A/B | | |
| 18 | 1,235 | SY | Concrete Pavement, 6" Thick Installed | | |
| 19 | 2,350 | LF | Type C Combination Curb & Gutter (1.5' Width) Installed | | |
| 20 | 665 | LF | Type C Combination Curb & Gutter (2' Width) Installed | | |
| 21 | 120 | LF | Valley Gutter Installed | | |
| 22 | 1,310 | SY | Concrete Sidewalk, 4" Thick w/ Stone Installed | | |
| 23 | 5 | Each | Truncated Domes Installed | | |
| 24 | 3 | Each | Parking Stops | | |
| Storm Drain System Improvements | | | | | |
| 25 | 238 | LF | 12" PVC Storm Pipe, SDR 26 Installed | | |
| 26 | 336 | LF | 15" HDPE, N-12 Installed | | |
| 27 | 360 | LF | 15" R.C. Pipe, Class 3 Installed | | |
| 28 | 957 | LF | 18" R.C. Pipe, Class 3 Installed | | |
| 29 | 1 | Each | Junction Box Installed | | |
| 30 | 4 | Each | S-Inlet (1-Wing) Installed | | |

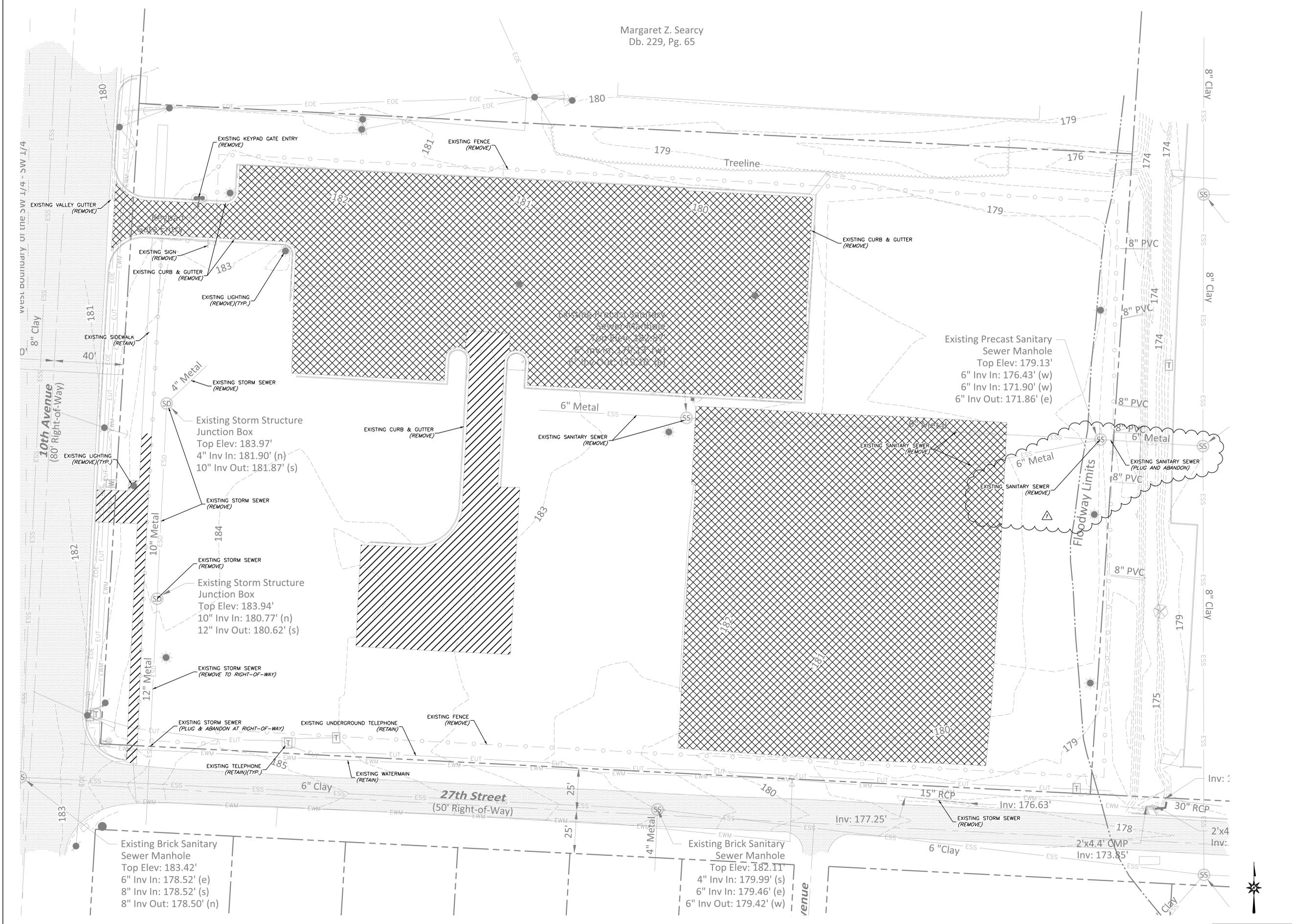
| ITEM NO. | APPROX. QTY. | UNIT | ITEM DESCRIPTION | UNIT PRICE | AMOUNT |
|--|--------------|------|---|------------|--------|
| 31 | 1 | Each | S-Inlet (2-Wing) Installed | | |
| 32 | 4 | Each | Yard Inlet Installed | | |
| 33 | 4 | Each | 24" Drain Basin and Grate Installed | | |
| 34 | 1 | Each | 24" Drain Basin and Solid Cover Installed | | |
| 35 | 3 | Each | Slope Paved Headwall Installed | | |
| Sanitary Sewer System Improvements | | | | | |
| 36 | 190 | LF | 4" PVC Pipe, SDR 26, Sanitary Sewer Lateral Installed | | |
| 37 | 1 | Each | 8" X 4" Sanitary Sewer Wye (Tie to Existing Main) Installed | | |
| 38 | 2 | Each | Sanitary Sewer Cleanout w/ Required Wyes Installed | | |
| Water System Improvements | | | | | |
| 39 | 188 | LF | 2" PVC Pipe, Class 200, Water Service Line Installed | | |
| 40 | 76 | LF | 6" DI Class 350 Water Main Installed | | |
| 41 | 1 | Each | 2" Watermain Service Tap Installed | | |
| 42 | 1 | Each | 6" Hot Tap w/ 4" Tapping Valve & Sleeve Installed | | |
| 43 | 1 | Each | 6" Hot Tap w/ 6" Tapping Valve & Sleeve Installed | | |
| 44 | 1 | Each | 1-1/2" Domestic Meter, Backflow Preventer & Meter Box Installed | | |
| 45 | 1 | Each | 2" Irrigation Meter, Backflow Preventer & Meter Box Installed | | |
| 46 | 1 | Each | 6" Double Check Detector Assembly & Vault Installed | | |
| 47 | 1 | Each | Siamese Post Connection & Vault Installed | | |
| Traffic Control, Permanent Signing and Striping | | | | | |
| 48 | 1 | LS | Traffic Control | | |
| 49 | 1,332 | LF | Solid White, Class 1, Type B Traffic Stripe (4" Wide) Installed | | |
| 50 | 234 | LF | Solid Blue, Class 1, Type B Traffic Stripe (4" Wide) Installed | | |
| 51 | 4 | Each | Handicap Symbols (Traffic Control Markings, Class 1, Type B) Installed | | |
| 52 | 155 | LF | Solid White Traffic Control Markings, Class 1, Type B (6" Wide) Installed | | |
| 53 | 29 | LF | 2' Wide Stop Bar (Traffic Control Markings, Class 1, Type B) Installed | | |
| 54 | 6 | Each | Permanent Post Mounted Signs | | |
| Erosion Control and Site Maintenance | | | | | |
| 55 | 1 | LS | Erosion Control Management and Maintenance | | |
| Miscellaneous Items | | | | | |
| 56 | 500 | Ton | ALDOT No. 57 Stone (Only as Directed by the Owner's Representative) | | |
| 57 | 700 | CY | Utility Trench Foundation Material (ALDOT No. 2 Stone) (Only as Directed by the Owner's Representative) | | |
| 58 | 6,700 | SY | Geotextile Separation Fabric (Miraf, HP570 or Approved Equal)(Only as Directed by the Owner's Representative) Installed | | |
| ALTERNATE BID ITEMS | | | | | |
| 100 | 45 | LF | Standup Curb | | |

Note:

Unit prices shall be compensation in full for furnishing all materials, equipment, tools, labor and incidentals necessary to complete the work. No extra payment will be made for items not specifically called out in a line item on the Unit Price Schedule such as site preparation, saw-cutting, trench excavation, pipe bedding, trench backfill (including stone), asphalt patching for utility trenches, etc. and the cost of these items shall be included in the appropriate unit price listed in the Schedule.



Margaret Z. Searcy
Db. 229, Pg. 65



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION
DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
03/15/2017
REVISED SANITARY
SEWER DEMOLITION

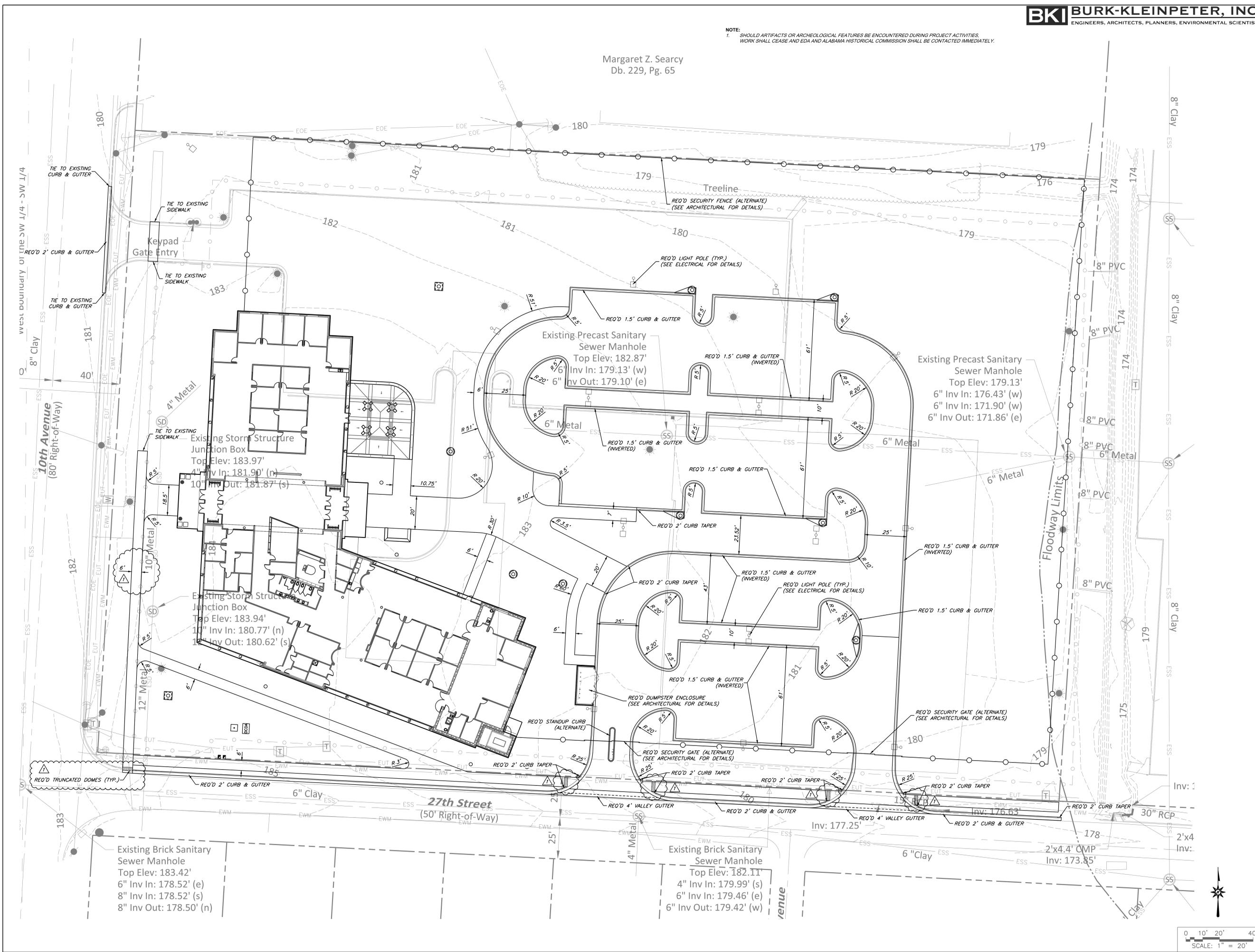
SITE DEMOLITION
PLAN

C102



NOTE:
1. SHOULD ARTIFACTS OR ARCHEOLOGICAL FEATURES BE ENCOUNTERED DURING PROJECT ACTIVITIES,
WORK SHALL CEASE AND EDA AND ALABAMA HISTORICAL COMMISSION SHALL BE CONTACTED IMMEDIATELY.

Margaret Z. Searcy
Db. 229, Pg. 65



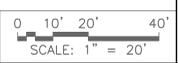
THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION
DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
05/25/2016
ADDED SIDEWALK
DIMENSION &
TRUNCATED DOMES

SITE STAKING PLAN

C201





THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION
DOCUMENTS

DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
03/15/2017
REVISED OVERLAY
ON 27TH STREET,
ADDED SIGNS
& PARKING STOPS

PAVING, SIGNING &
STRIPING PLAN

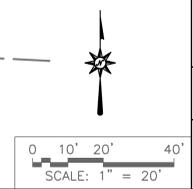
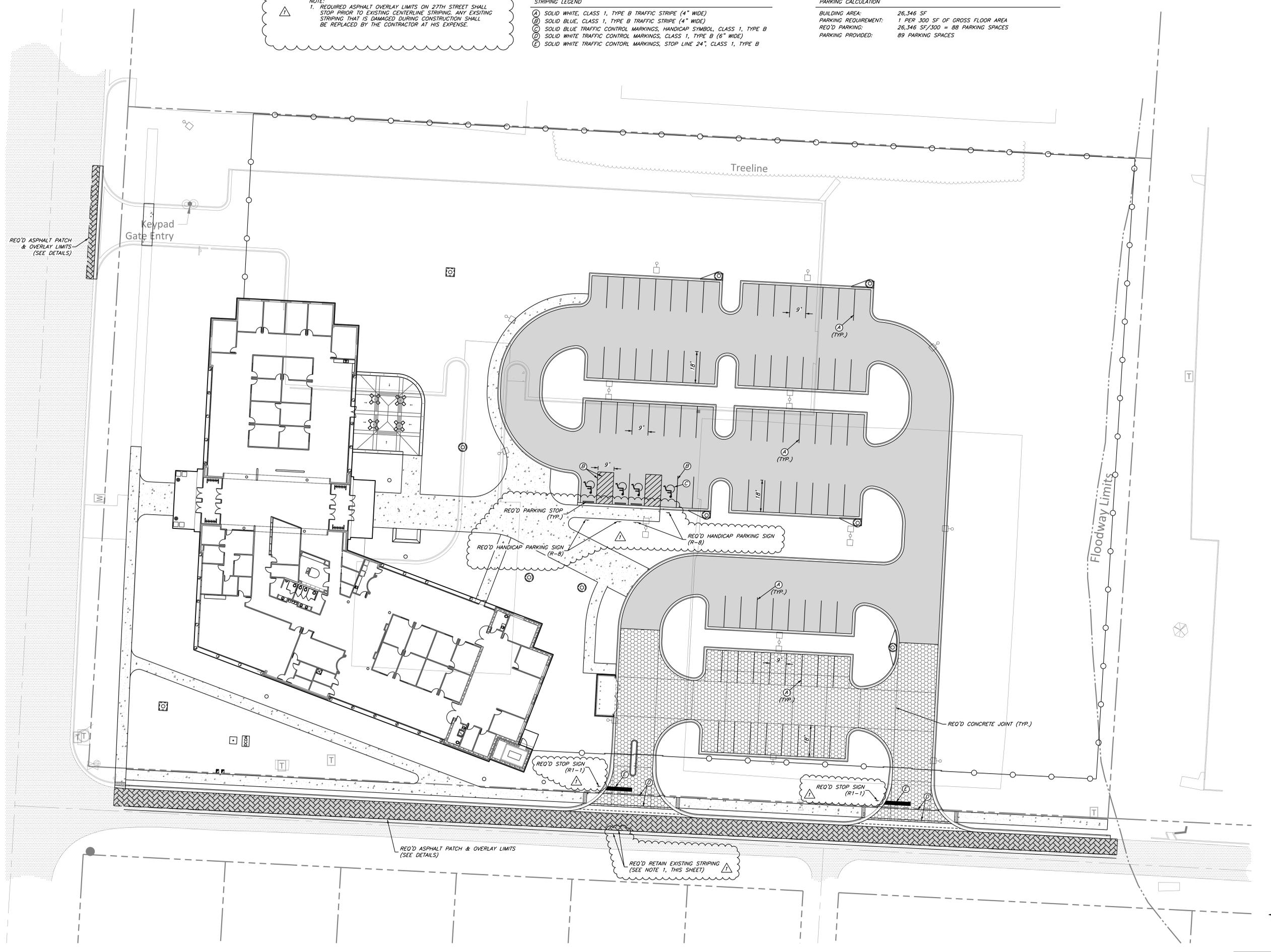
C202

NOTE:
1. REQUIRED ASPHALT OVERLAY LIMITS ON 27TH STREET SHALL STOP PRIOR TO EXISTING CENTERLINE STRIPING. ANY EXISTING STRIPING THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.

- STRIPING LEGEND
- (A) SOLID WHITE, CLASS 1, TYPE B TRAFFIC STRIPE (4" WIDE)
 - (B) SOLID BLUE, CLASS 1, TYPE B TRAFFIC STRIPE (4" WIDE)
 - (C) SOLID BLUE TRAFFIC CONTROL MARKINGS, HANDICAP SYMBOL, CLASS 1, TYPE B
 - (D) SOLID WHITE TRAFFIC CONTROL MARKINGS, CLASS 1, TYPE B (6" WIDE)
 - (E) SOLID WHITE TRAFFIC CONTROL MARKINGS, STOP LINE 24", CLASS 1, TYPE B

PARKING CALCULATION

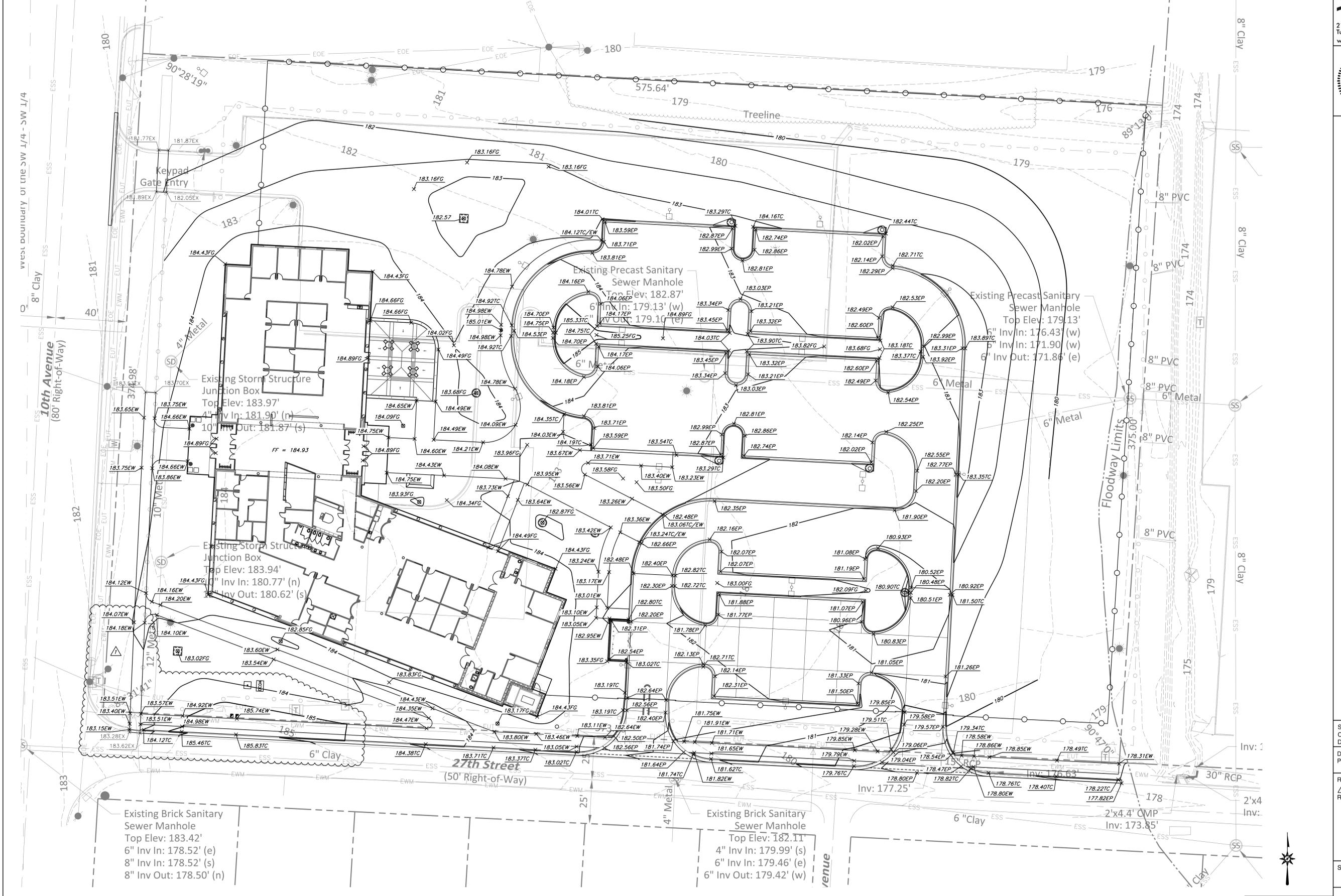
| | |
|----------------------|-----------------------------------|
| BUILDING AREA: | 26,346 SF |
| PARKING REQUIREMENT: | 1 PER 300 SF OF GROSS FLOOR AREA |
| REQ'D PARKING: | 26,346 SF/300 = 88 PARKING SPACES |
| PARKING PROVIDED: | 89 PARKING SPACES |





Margaret Z. Searcy
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west boundary of the SW 1/4 - SW 1/4



Existing Brick Sanitary Sewer Manhole
Top Elev: 183.42'
6" Inv In: 178.52' (e)
8" Inv In: 178.52' (s)
8" Inv Out: 178.50' (n)

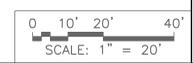
Existing Brick Sanitary Sewer Manhole
Top Elev: 182.11'
4" Inv In: 179.99' (s)
6" Inv In: 179.46' (e)
6" Inv Out: 179.42' (w)

THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073
REVISIONS
05/25/2016
REVISED GRADING

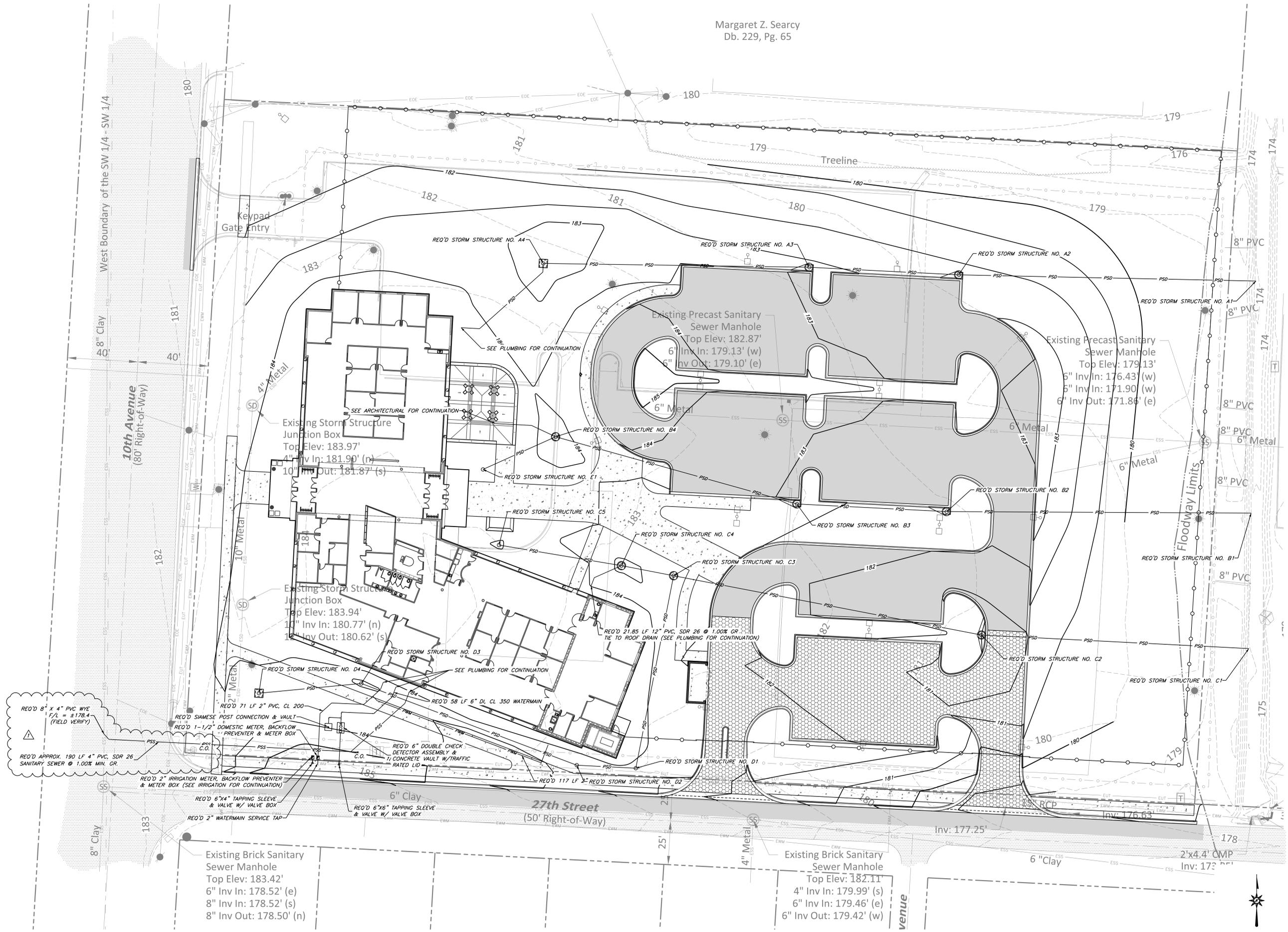
SITE GRADING PLAN

C203





Margaret Z. Searcy
Db. 229, Pg. 65



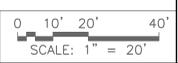
THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

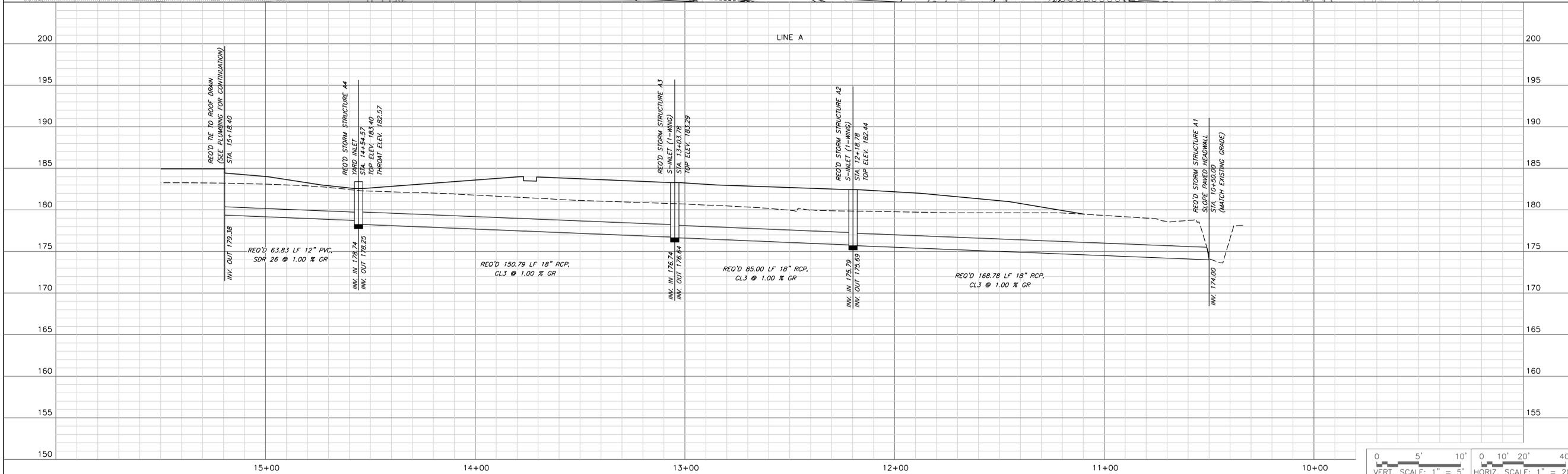
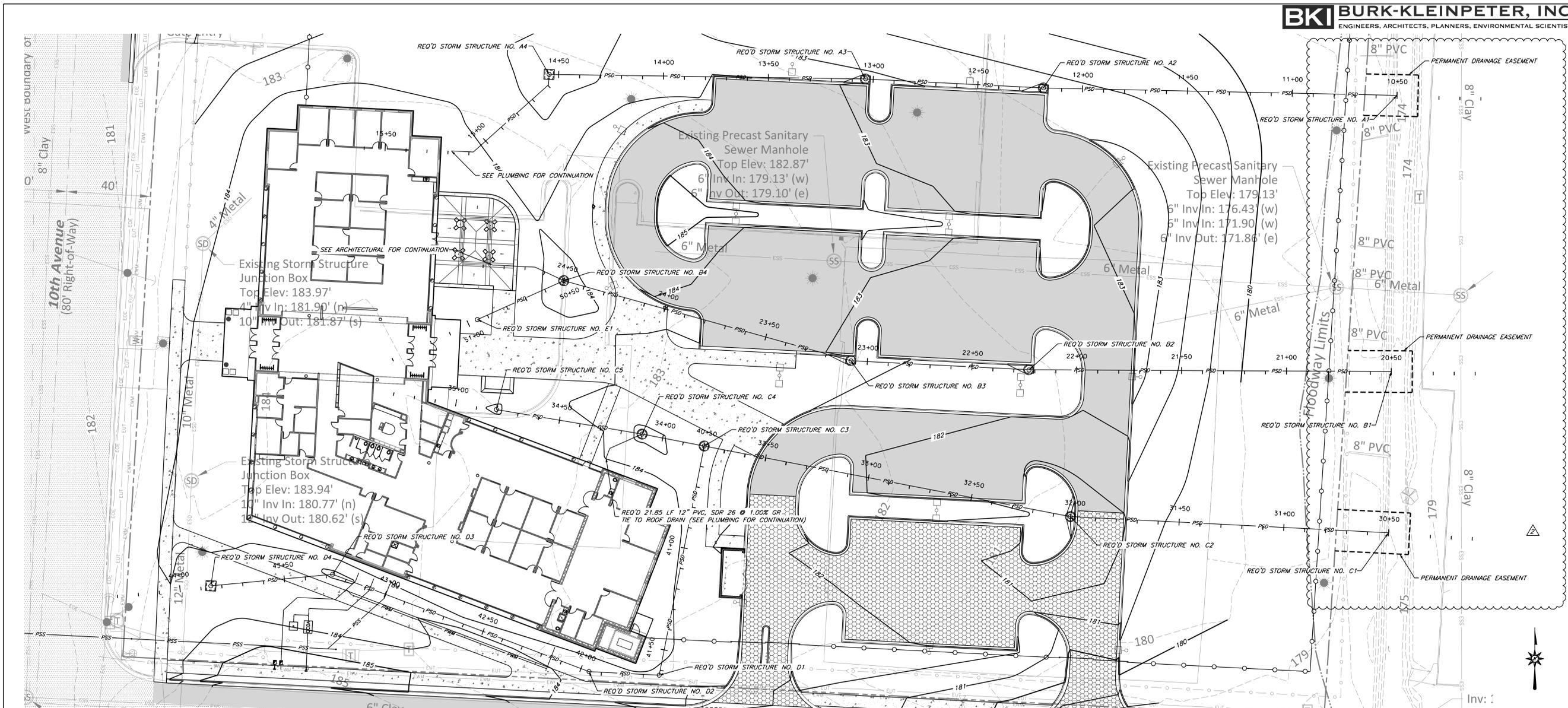
SUBMITTAL:
CONSTRUCTION DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
03/15/2017
REVISED SANITARY SEWER TIE LOCATION

SITE UTILITY PLAN

C204





THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

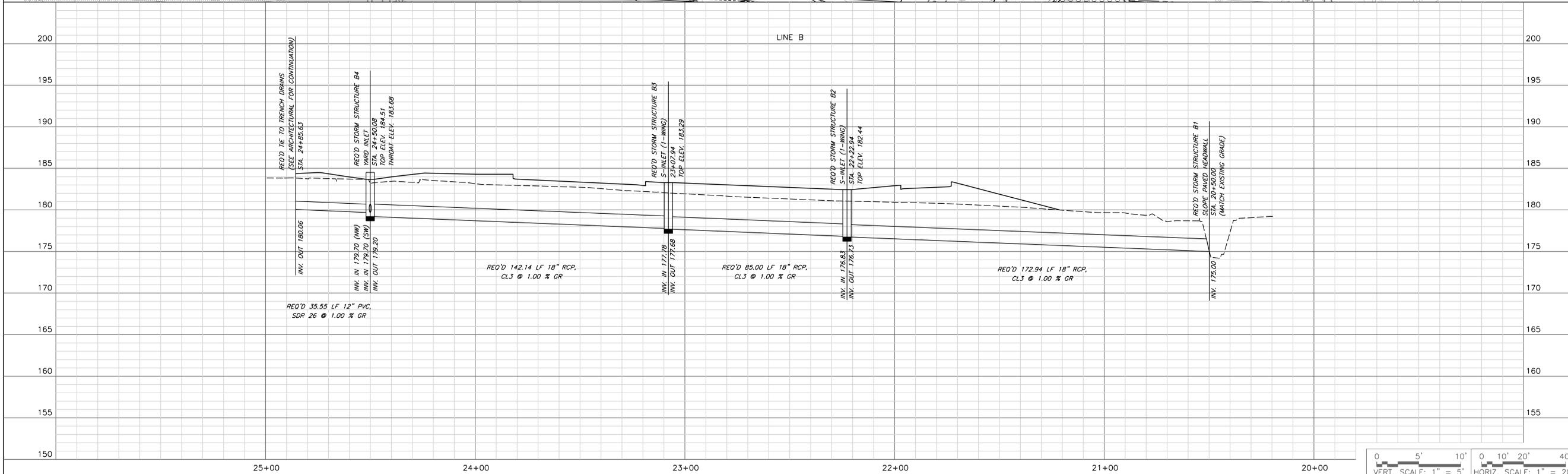
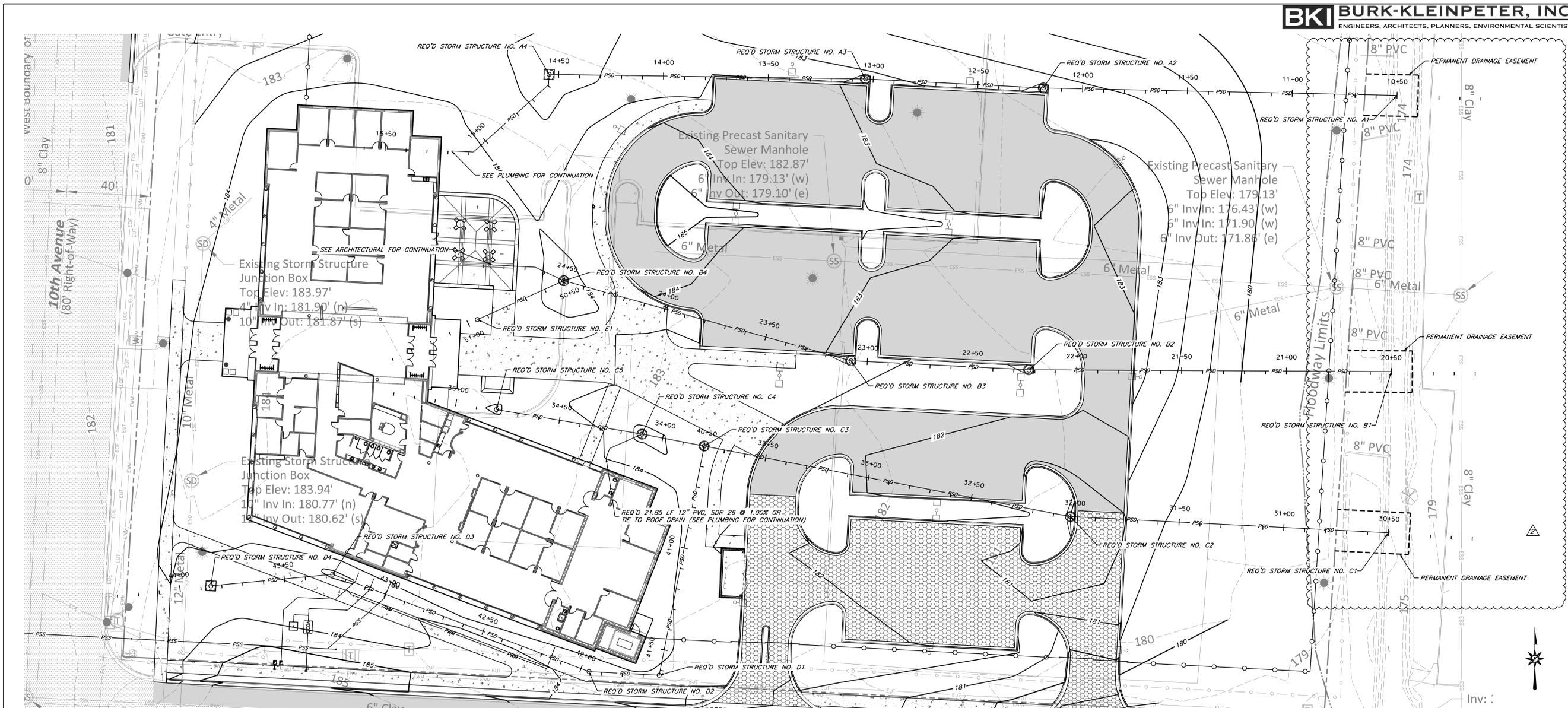
SUBMITTAL:
CONSTRUCTION DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
05/25/2016
ADDED TEMPORARY CONSTRUCTION EASEMENTS
08/02/2016
CHANGED DRAINAGE EASEMENTS TO PERMANENT

STORM SEWER PLAN & PROFILE - LINE A

C205





THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION
DOCUMENTS

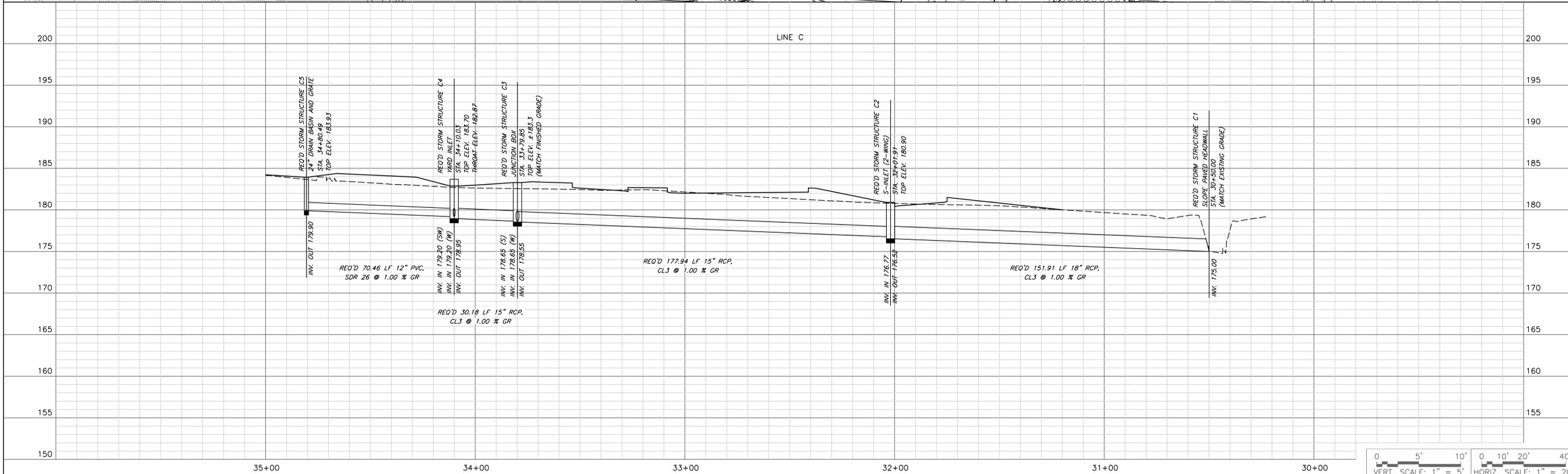
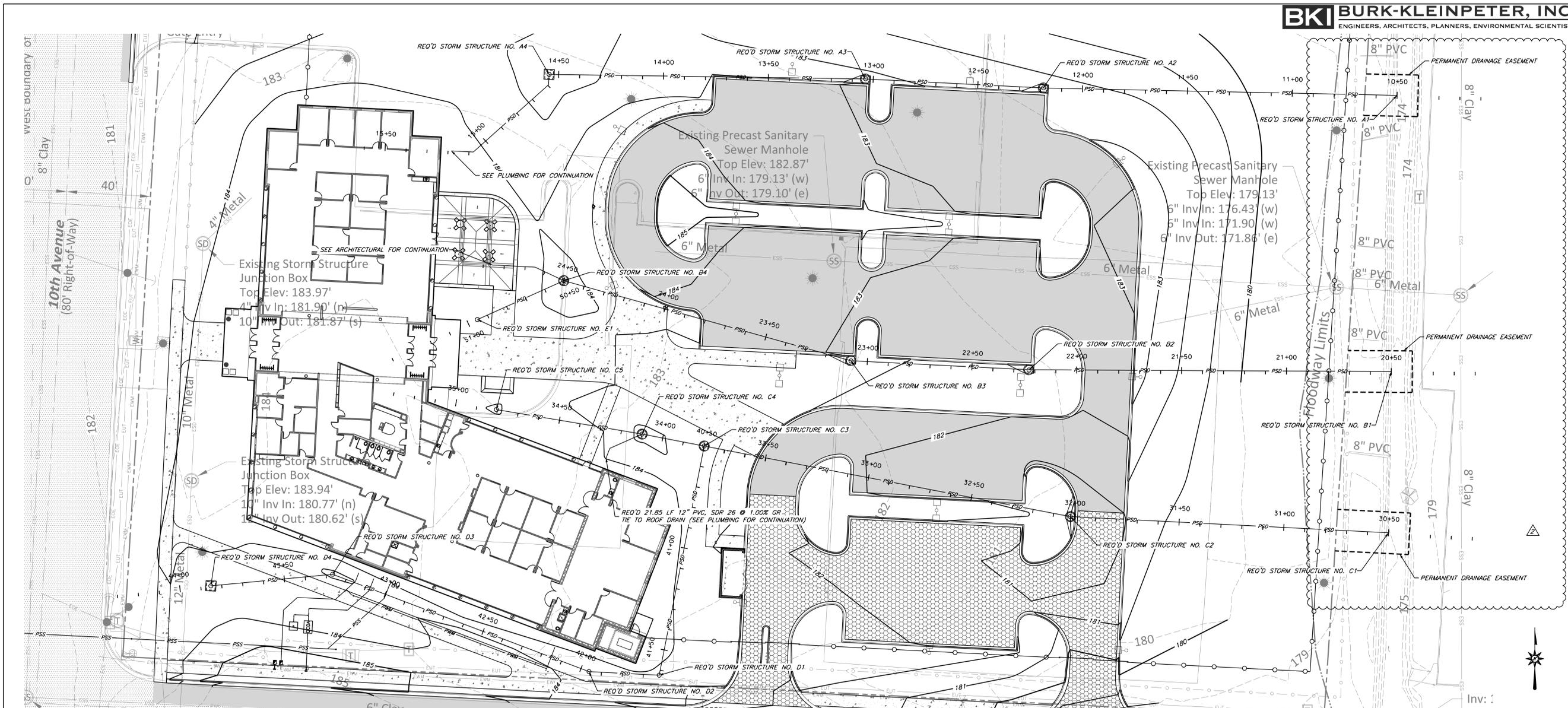
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
 ▲ 05/25/2016
 ADDED TEMPORARY
 CONSTRUCTION
 EASEMENTS
 ▲ 08/02/2016
 CHANGED DRAINAGE
 EASEMENTS TO
 PERMANENT

STORM SEWER PLAN
& PROFILE - LINE B



C206



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

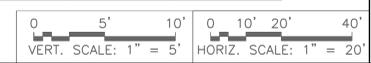
SUBMITTAL:
CONSTRUCTION DOCUMENTS

DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS

- 05/25/2016
ADDED TEMPORARY CONSTRUCTION EASEMENTS
- 08/02/2016
CHANGED DRAINAGE EASEMENTS TO PERMANENT

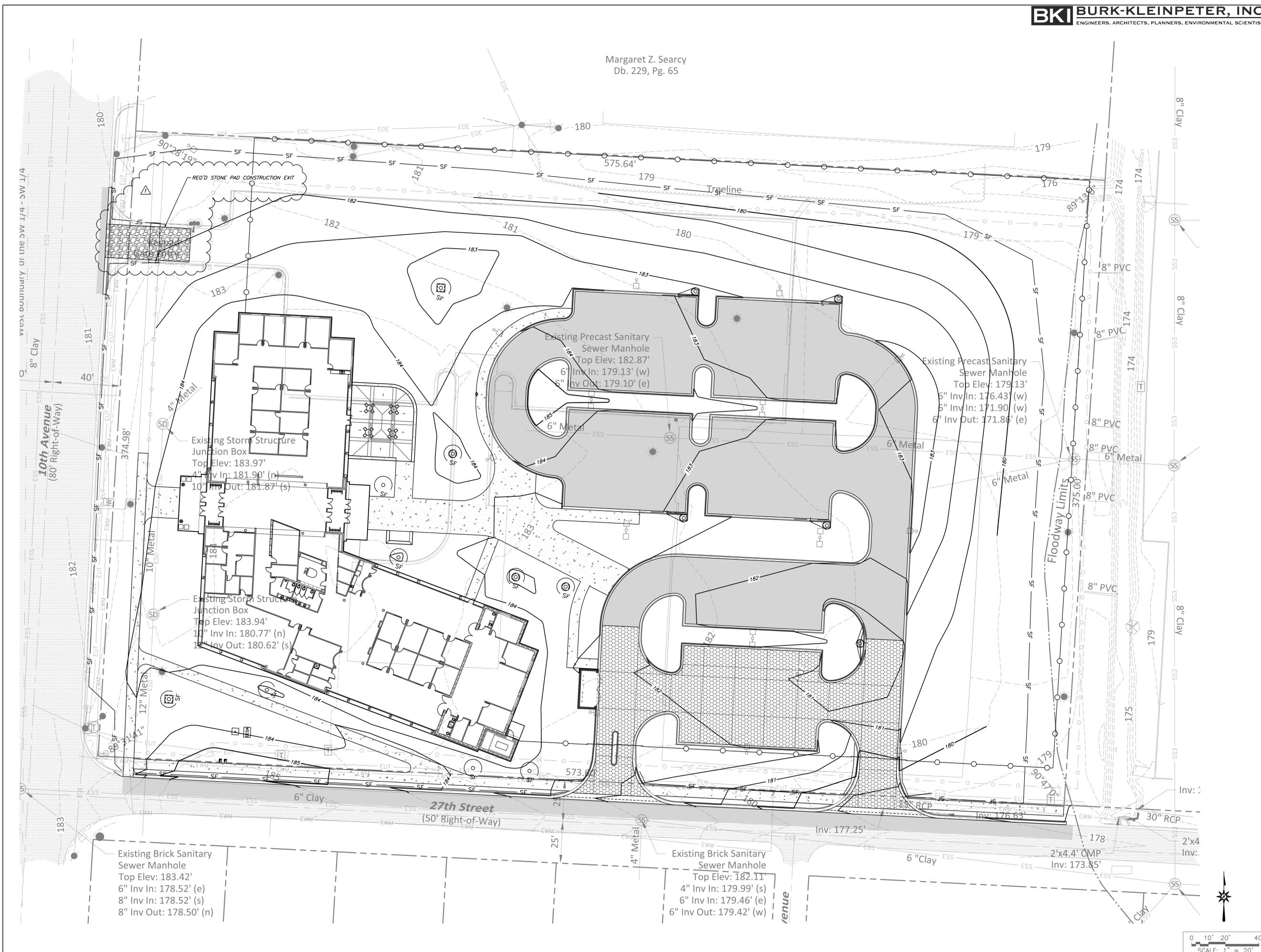
STORM SEWER PLAN & PROFILE - LINE C



C207



Margaret Z. Searcy
Db. 229, Pg. 65



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE, TUSCALOOSA, ALABAMA

SUBMITTAL:
CONSTRUCTION
DOCUMENTS
DATE: 02/05/2016
PROJ NO: 13-073

REVISIONS
03/15/2017
ADD STONE PAD
CONSTRUCTION EXIT

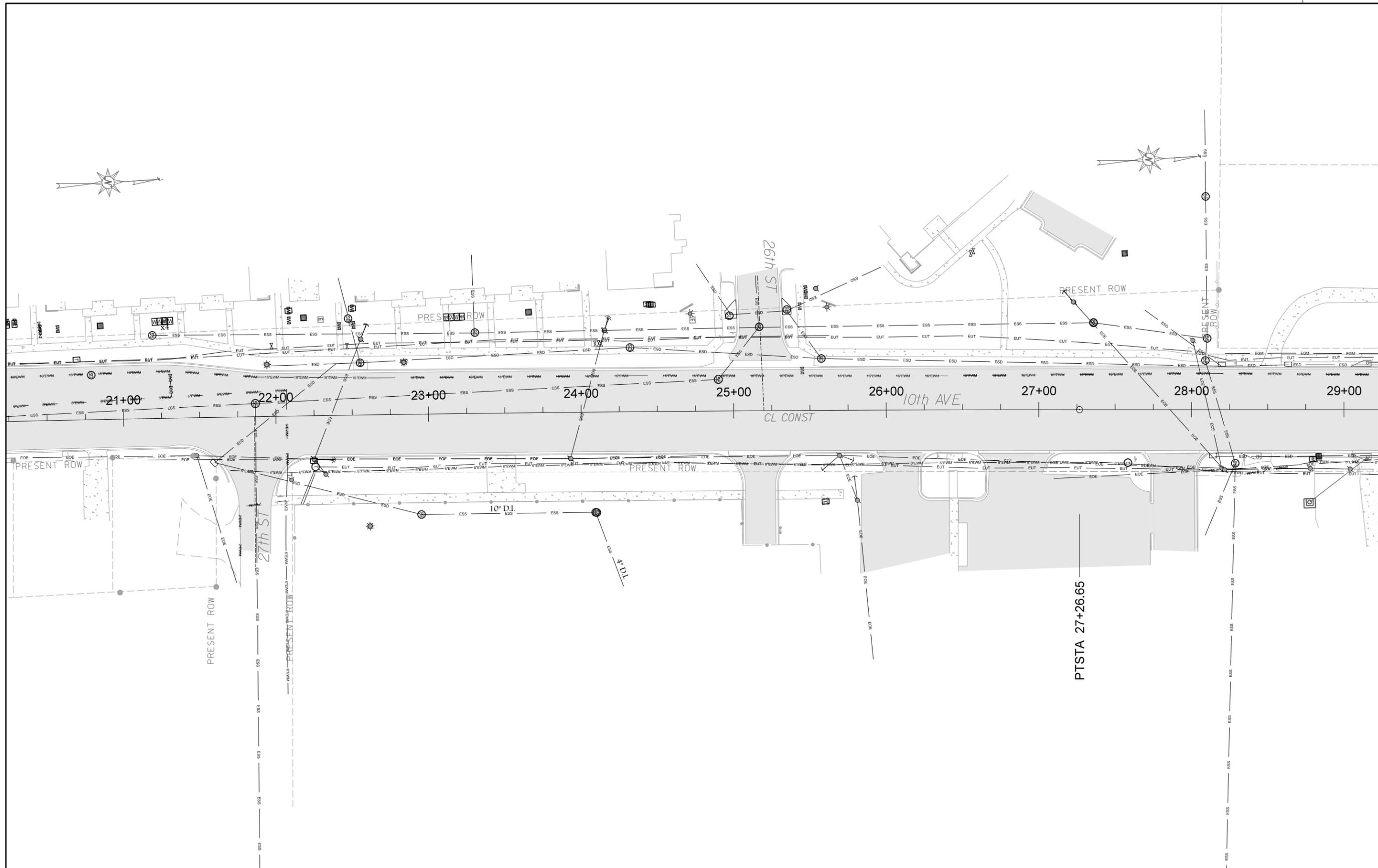
EROSION CONTROL
PLAN

C209



EXISTING UTILITY SHEET

| | |
|-----------------|----------|
| CITY PROJECT NO | SHEET NO |
| A15-1211 | 1 of 1 |

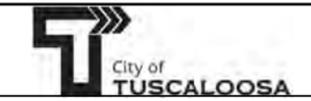


NOT FOR CONSTRUCTION

3/14/2017 1:25:30 PM



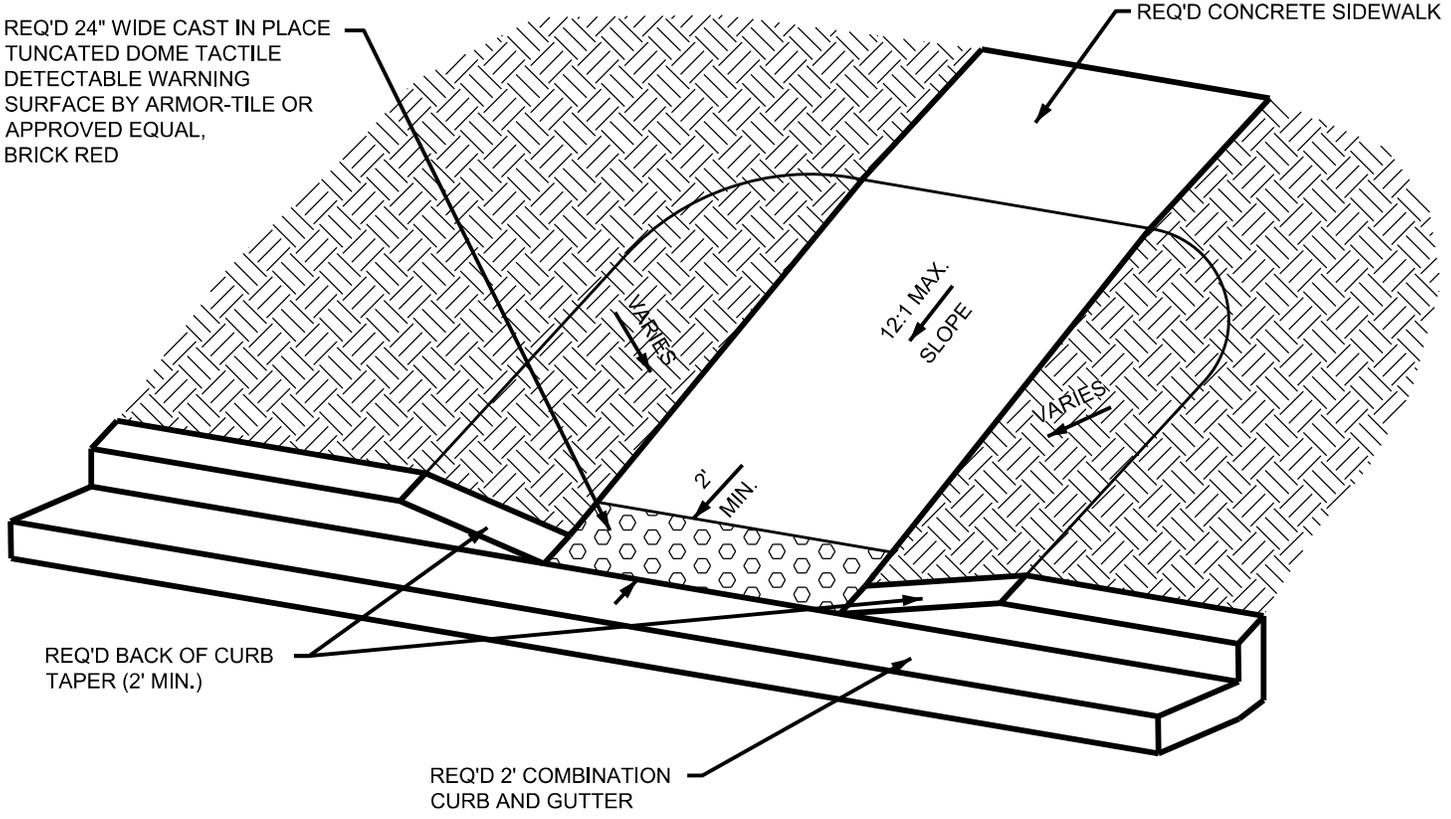
10th Avenue Roadway Improvements



| | |
|------------------------|-------------|
| SHEET TITLE | ROUTE |
| EXISTING UTILITY SHEET | 10th AVENUE |

REQ'D 24" WIDE CAST IN PLACE TUNCATED DOME TACTILE DETECTABLE WARNING SURFACE BY ARMOR-TILE OR APPROVED EQUAL, BRICK RED

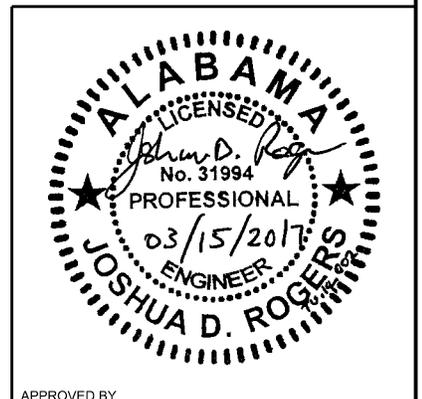
REQ'D CONCRETE SIDEWALK



NOTE:

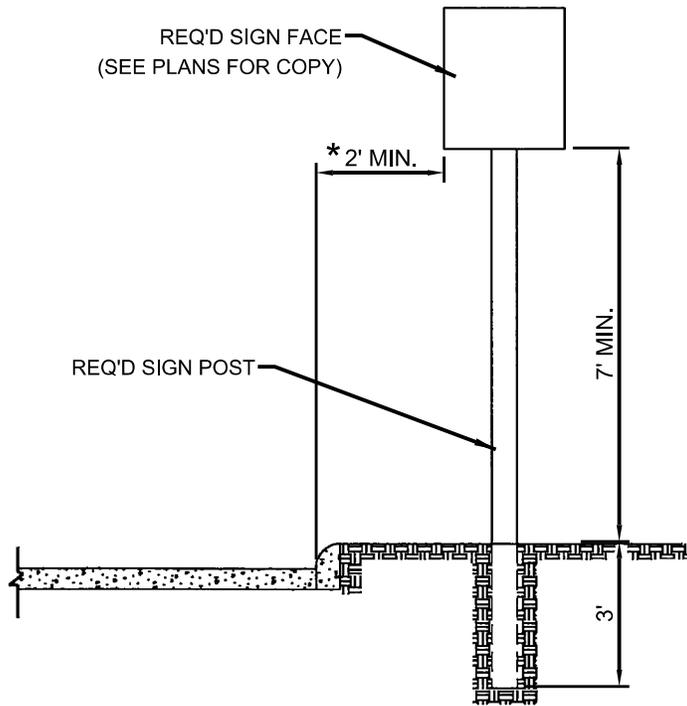
1. LENGTH OF THE "12:1 MAX. SLOPE" SIDEWALK SECTION DEPENDS ON THE HEIGHT OF CURBING AND/OR REQUIRED GRADING. REFER TO GRADING PLAN(S) FOR ADDITIONAL INFORMATION.

6 SIDEWALK AT CURB INTERSECTION DETAIL
NOT TO SCALE



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
SUPPLEMENTAL DRAWING NO. 2
2627 10TH AVENUE
TUSCALOOSA, ALABAMA

| | |
|------------|-------------|
| Proj. No.: | 13-073 |
| DATE: | 03/15/2017 |
| SHEET: | SD-2 |

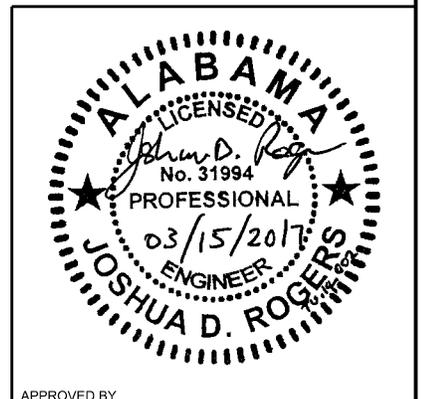


NOTES:

1. SIGNS INSTALLED SHALL MEET ALL REQUIREMENTS OF THE "MANUAL ON UNIFORM CONTROL DEVICES".
2. SIGN POST SHALL BE SINGLE "U" CHANNEL STEEL OR ALUMINUM POSTS MEETING THE REQUIREMENTS OF SECTION 880.04 OF THE ALABAMA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.
- * 3. WHEN INSTALLING PARKING SIGNS WHICH FACE THE BACK OF CURB, THE FACE OF THE SIGN SHALL BE 2' MINIMUM FROM THE FACE OF THE CURB.

7

POST MOUNTED SIGN DETAIL
 NOT TO SCALE



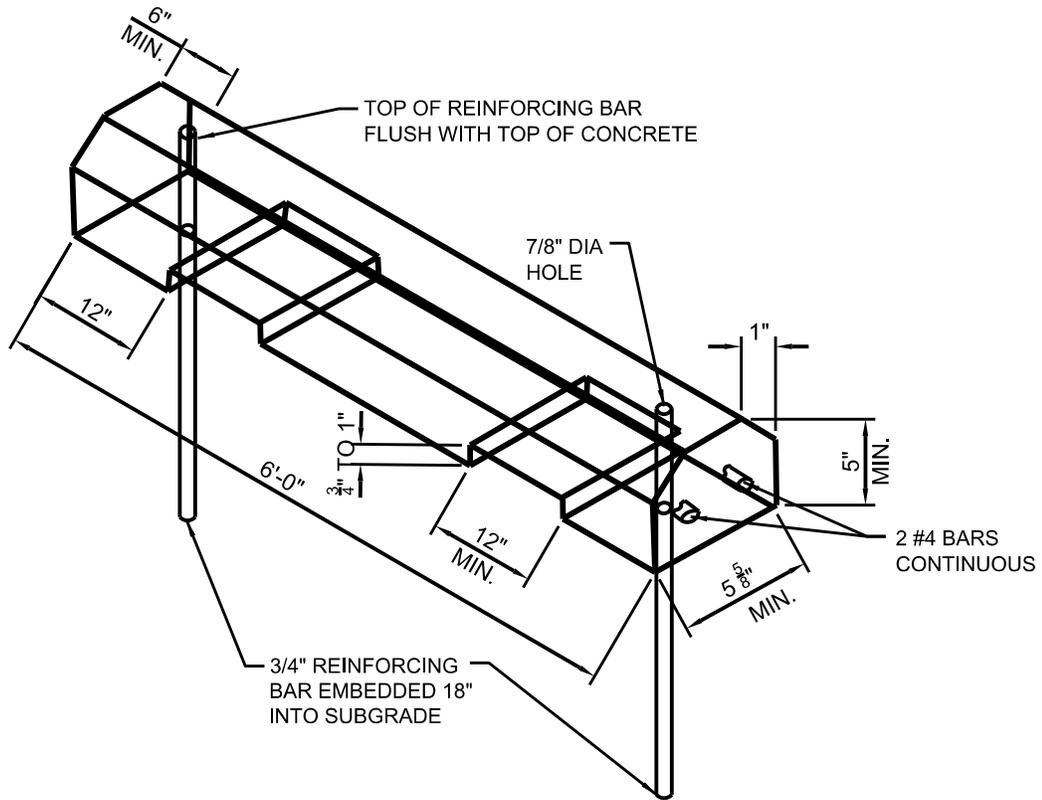
APPROVED BY



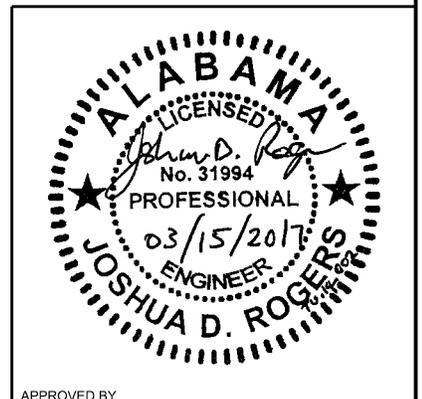
THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
 SUPPLEMENTAL DRAWING NO. 3
 2627 10TH AVENUE
 TUSCALOOSA, ALABAMA

Proj. No.: 13-073
 DATE: 03/15/2017
 SHEET:

SD-3



8 PRECAST CONCRETE PARKING STOP
NOT TO SCALE



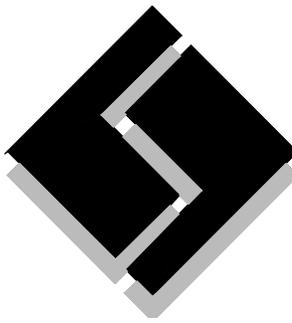
APPROVED BY



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
SUPPLEMENTAL DRAWING NO. 4
2627 10TH AVENUE
TUSCALOOSA, ALABAMA

Proj. No.: 13-073
DATE: 03/15/2017
SHEET:
SD-4

ADDENDUM



Smith, Stegall & associates p.c.

Consulting Engineers

2110 Eighth Street, Tuscaloosa, AL 35401

Phone/ Fax 205 345 4402

| | | |
|--|--------------------------|--------------------------------|
| PROJECT: The Edge Business Resource Center | ENG JOB # 1436 | DATE: March 21, 2017 |
|--|--------------------------|--------------------------------|

ELECTRICAL:

1. Sheet E001:
 - a. Light Fixture Schedule:
 - i. Delete Fixture ZF1.
 - ii. The following manufacturers produce products that are acceptable alternates to the luminaires specified.

| Luminaire Type | Manufacturer |
|-------------------------------|-----------------------------------|
| A | Zaneen, SPI Lighting |
| B | Rebelle, SPI Lighting |
| C, CL, CS | Prescolite, Gotham |
| F | LED Linear, SSL Lighting |
| GR, GRF, GS, GSH | LiteControl, Arch Lighting Works |
| H, H2, H3 | Hubbell, Skyler Tek |
| L1, L2, L3 | MHT Lighting, Ohyama |
| M | Winona, SPI Lighting |
| N | LiteControl, Solera Corp |
| P | Louis Poulsen, Solera Corp |
| P2 | Winona, LBL Lighting |
| Q | LiteControl, Arch Lighting Works |
| R2, R3, R4, R4L, S2,S3,S4,S4L | SPI Lighting, Prudential Lighting |
| T, T2 | Hubbell, Skyler Tek |
| T3, T4 | AAL Lighting, Lumenpulse Group |
| T5 | Kim Lighting, Lumenpulse Group |
| U | Prescolite, Lighting Services |
| V3, V4 | SPI Lighting, Winona |
| W4, W6 | Lithonia, Columbia |
| XC, XP, XW | Dual Lite, Light Alarms |
| Y, Y2, Y3 | FC Lighting, Gotham |
| Z21, Z21L, Z31, Z32 | Selux, Beacon Lighting |

- b. Riser Diagram: The conduit to the meter should be 1-1/4".
- c. Electrical Equipment Schedule: Replace as followings:
 - i. Generator to be equal to Generac #SD080, 80KW standby rating, 120/208V, 3 Phase, diesel fueled, 1800 rpm, 120v 1500w coolant heater, mounted residential muffler, batteries, battery charger, 13 hour run time belly tank, aluminum sound attenuated weather protection enclosure, 40A and 200A main line circuit breakers, oil drain extension, remote annunciator panel, vertical air discharge, 2 year standby warranty, all fluids and factory start-up, NFPA 110 compliant.
 - ii. Automomatic Transfer Switches (ATS): 3 pole, open transition, electrically operated, mechanically held, programmable exercise clock, auxiliary contacts, Nema 1 enclosure, Generac 'HT' series. ATS #1: 40A
ATS #2: 200A
 - iii. Equal generator and transfer switches by Taylor Power System, Cummings or Kohler are acceptable.
Taylor Power Systems, Kohler and Generac are acceptable alternates.
- d. Electrical Symbols: Hubbell is an acceptable floor outlet manufacturer.
- 2. Sheet E100: The riser pole will be located within 50 feet horizontally of the pad mounted transformer.
- 3. Sheet E201: Add circuit for wall mounted signage just South of front door (10th Ave), circuit B-78 via lighting contactor LC.

END OF ADDENDUM

| | |
|------------------|----------------|
| SIGNATURE: _____ | COPY TO: _____ |
|------------------|----------------|



REQUEST FOR INFORMATION

Date: 3-15-2017

TO: Jared Gray

FROM: DREW HATTAWAY

CC:

SUBJECT: Edge Resource Center

ELECTRICAL RFI # 1

Sheet e101 note 2 indicates safety switches internal supplied with RTU, all remaining safety switches are not listed for size rating for other mechanical equipment. Please clarify sizing recommended

Equal to or greater than the breaker size feeding the circuit.

Randy Smith

3-16-17

P O Box 797 48121 Hwy 17 205-695-9161 Phone, 205-695-9158 Fax



REQUEST FOR INFORMATION

Date: 3-15-2017

TO: JOSH JOHNSON

FROM: DREW HATTAWAY

CC:

SUBJECT: EDGE RESOURCE CENTER

ELECTRICAL RFI #2

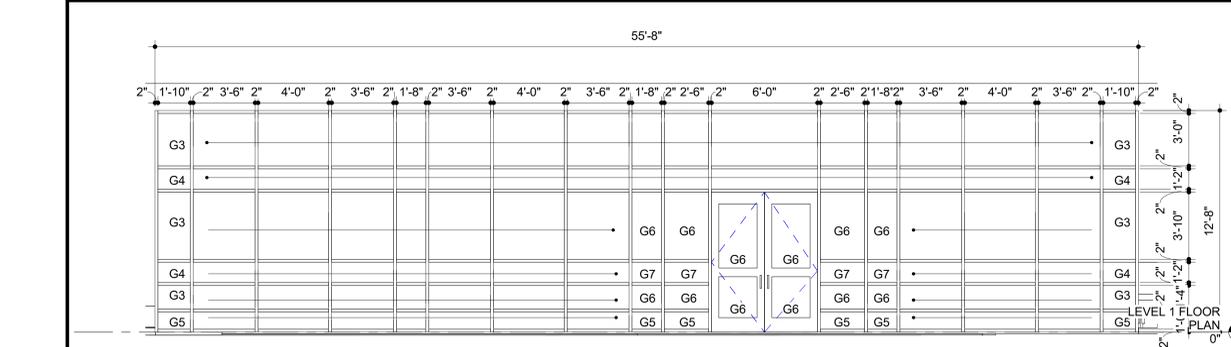
FIXTURE SCHEDULE SHOWS TYPE (ZF1) POLE MOUNTED TYPE. SHEET E100 DOES NOT SHOW THIS FIXTURE ON THE ELECTRICAL SITE PLAN. IS THIS FIXTURE TO BE USED AS LISTED?, IF SO WHATS THE LOCATION? PLEASE ADVISE

Site lighting was revised and this pole mounted luminaire was deleted.

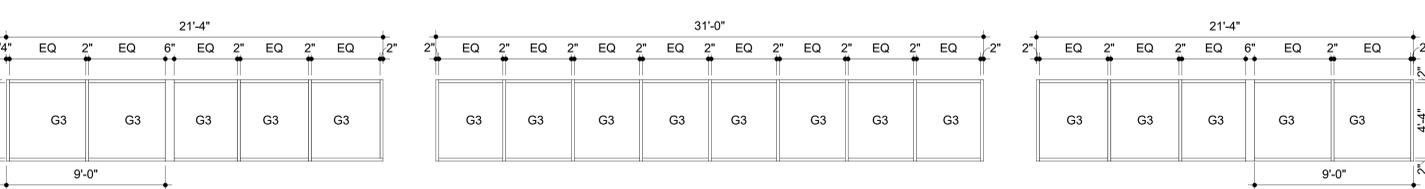
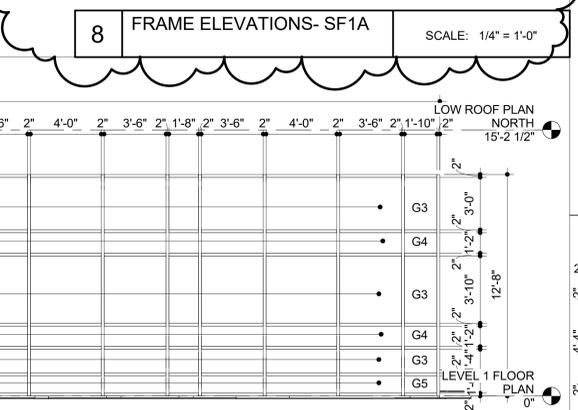
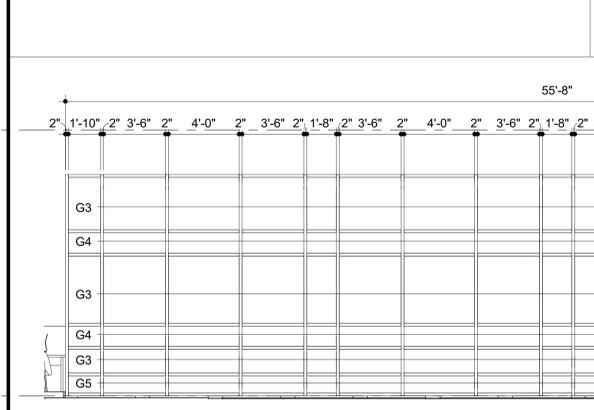
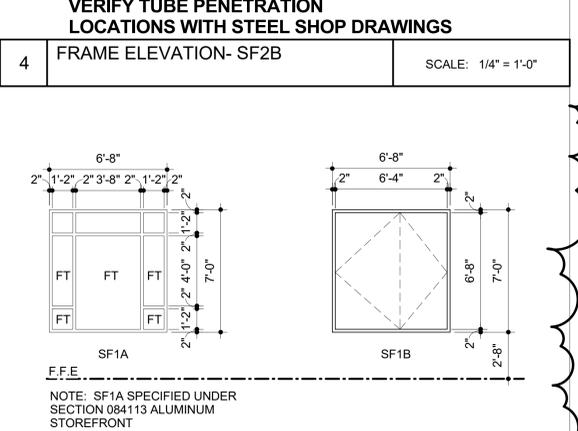
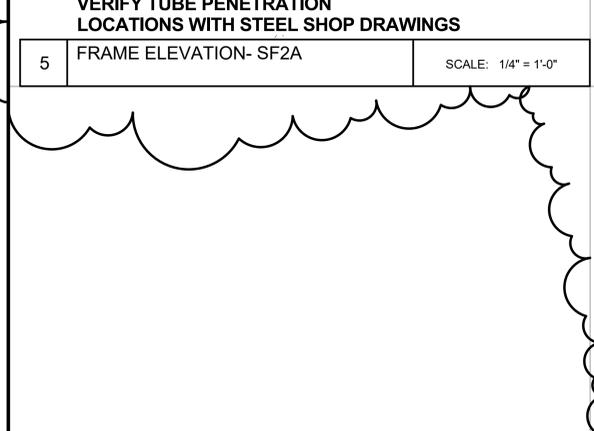
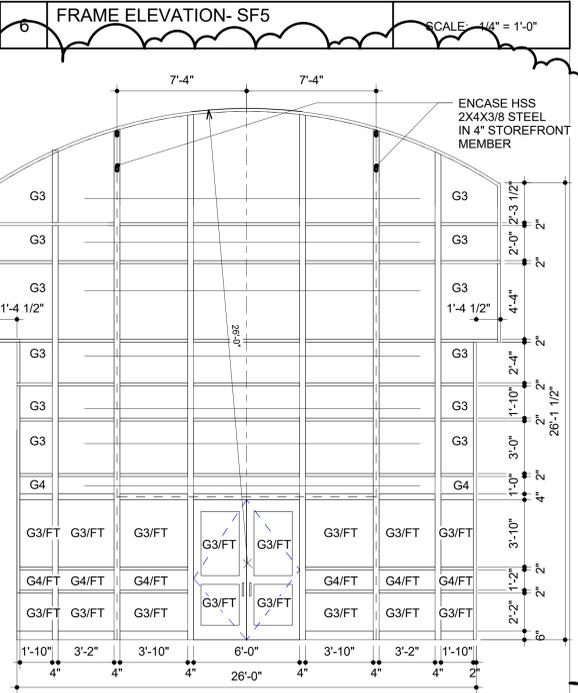
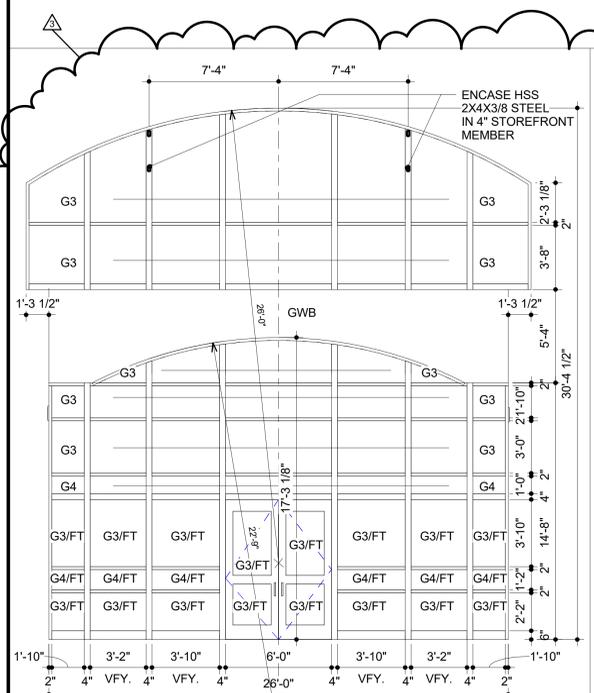
Randy Smith

3-16-17

P O Box 797 48121 Hwy 17 205-695-9161 Phone, 205-695-9158 Fax



| DOOR NUMBER | FIRE RATING | DOOR | | DOOR ELEV. | DOOR MATERIAL | DOOR GLAZING | FRAME | | FRAME GLAZING | HARDWARE | SIGNAGE | COMMENTS |
|-------------|-------------|-------|--------|------------|---------------|--------------|-------|----------|---------------|----------|---------|----------------------------|
| | | WIDTH | HEIGHT | | | | ELEV. | MATERIAL | | | | |
| 101A | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF10 | ALUM | G1 | HW7 | D | |
| 101AA | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF14 | ALUM | G1 | HW19 | E | |
| 101BA | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF14 | ALUM | G1 | HW19 | E | |
| 101CA | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF14 | ALUM | G1 | HW19 | E | |
| 101DA | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF14 | ALUM | G1 | HW19 | E | |
| 101EA | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW22 | C | |
| 102A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW22 | C | |
| 103A | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW8 | C | |
| 103B | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW15 | C | |
| 104A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW20 | C | |
| 105A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW11 | C | |
| 106A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW10 | C | |
| 107A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW21 | C | |
| 108A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW12 | C | |
| 111A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 111B | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW23 | -- | |
| 112A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 113A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 113B | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW23 | -- | |
| 114A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 115A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 116A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 117A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 117B | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW23 | -- | |
| 118A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | SF9 | ALUM | SEE ELEVATION | HW23 | D | |
| 118B | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW23 | -- | |
| 119A | 2HR | 8'-0" | 7'-0" | D1 | HM | -- | F2 | HM | -- | HW6 | F | 2HR. / STORM SHELTER RATED |
| 119B | 2HR | 8'-0" | 7'-0" | D1 | HM | -- | F2 | HM | -- | HW6 | F | 2HR. / STORM SHELTER RATED |
| 120A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW16 | B | |
| 121A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW20 | C | |
| 122A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW9 | C | |
| 123A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 123B | | 6'-8" | 6'-10" | | | | | | | | | |
| 124A | | 6'-8" | 6'-10" | | | | | | | | | |
| 124B | | 6'-8" | 6'-10" | | | | | | | | | |
| 125A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 125B | | 6'-8" | 6'-10" | | | | | | | | | |
| 126A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 126B | | 6'-8" | 6'-10" | | | | | | | | | |
| 127A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW16 | B | |
| 128A | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW13 | C | |
| 128B | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW14 | C | |
| 132A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW18 | A | |
| 133A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW18 | A | |
| 134A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW11 | C | |
| 135A | | 3'-0" | 7'-0" | D3 | ALUM | G2 | F1 | ALUM | SEE ELEVATION | HW13 | C | |
| 136A | | 3'-0" | 7'-0" | D3 | ALUM | G1 | SF15 | ALUM | SEE ELEVATION | HW17 | C | |
| 147A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 148A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 149A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 150A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 151A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 152A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW19 | D | |
| 153A | | 6'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF5 | ALUM | FT | HW2 | -- | |
| 156A | | 3'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF7 | ALUM | FT | HW4 | -- | |
| 198A | | 3'-0" | 7'-0" | D1 | WD | -- | F1 | HM | -- | HW21 | -- | |
| 199A | | 4'-0" | 7'-0" | D1 | HM | -- | F2 | HM | -- | HW5 | C | STORM SHELTER RATED |
| C102A | | 6'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF2A | ALUM | FT | HW1 | -- | |
| C102B | | 6'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF2B | ALUM | FT | HW2 | -- | |
| C103A | | 6'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF2A | ALUM | FT | HW1 | -- | |
| C103B | | 6'-0" | 8'-0" | D3 | ALUM | SEE ELEV | SF2B | ALUM | FT | HW2 | -- | |
| C107A | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW13 | -- | |
| C107B | | 3'-0" | 7'-0" | D2 | WD | G1 | F1 | HM | -- | HW13 | -- | |

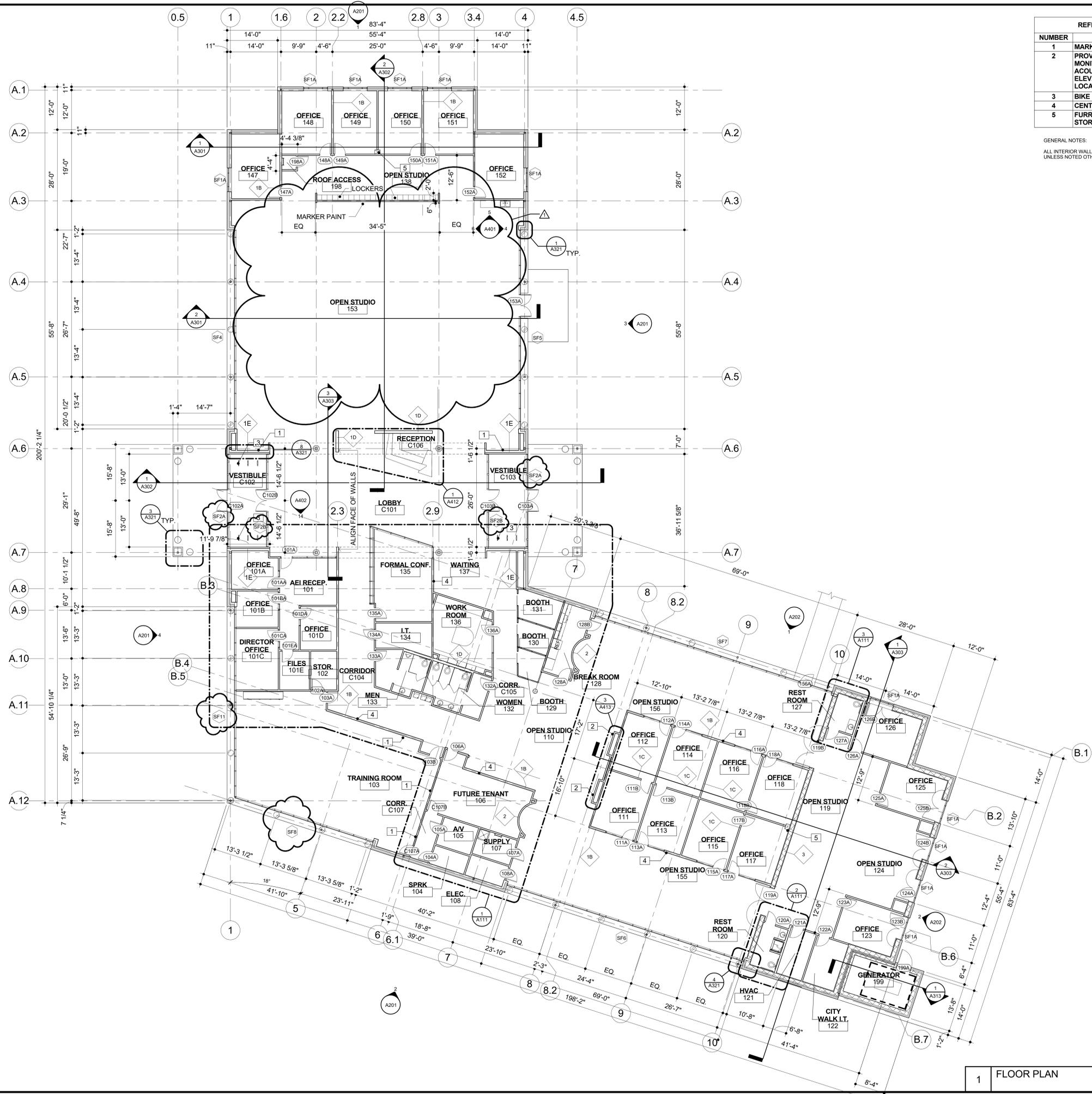


| GLAZING SCHEDULE | |
|------------------|---|
| G1: | 1/4" CLEAR TEMPERED GLASS |
| G2: | 1/4" FROSTED TEMPERED GLASS |
| G3: | 1" INSULATED GLAZING UNIT WITH VISTA COOL TINTING |
| G4: | 1" INSULATED GLAZING UNIT WITH SOLAR COOL TINTING |
| G5: | 1" INSULATED ALUMINUM PANEL |
| G6: | NOT USED |
| G7: | NOT USED |
| FT: | FULLY TEMPERED |

OPENING 126C OMITTED FROM PROJECT

| # | DESC | DATE |
|---|-------------|---------|
| 1 | ADDENDUM #1 | 2/8/17 |
| 3 | ADDENDUM #3 | 3/21/17 |

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3/21/2017 5:05:05 PM
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| REFERENCE NOTES | |
|-----------------|---|
| NUMBER | NOTE |
| 1 | MARKER BOARD |
| 2 | PROVIDE BLOCKING FOR MONITORS, FURNITURE MOUNT, ACOUSTICAL PANELS, ETC. SEE ELEV. OR EQUIP. & FEATURE LOCATIONS |
| 3 | BIKE RACK |
| 4 | CENTER WALL ON COL. LINE |
| 5 | FURR PARTITION AROUND STORM DRAINS |

GENERAL NOTES:
ALL INTERIOR WALL PARTITIONS TO BE CONSIDERED 1A UNLESS NOTED OTHERWISE.



THE EDGE BUSINESS RESOURCE CENTER
THE CITY OF TUSCALOOSA
2627 10TH AVENUE,
TUSCALOOSA, ALABAMA

CONSTRUCTION DOCUMENTS

DATE: 7-30-15
PROJ NO: 13-073

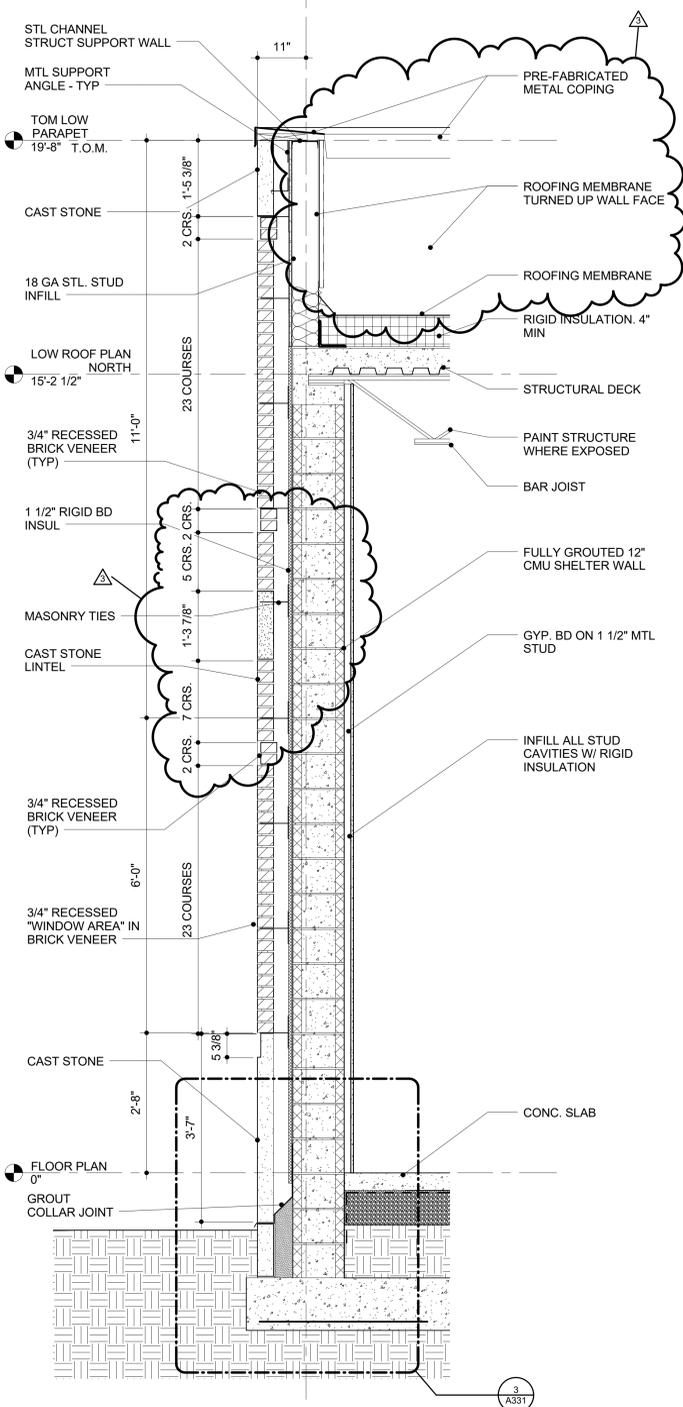
| REVISIONS | | |
|-----------|--------------|---------|
| # | DESC | DATE |
| 1 | ADDENDU M #1 | 2/8/17 |
| 3 | ADDENDU M #4 | 3/21/17 |

FLOOR PLAN

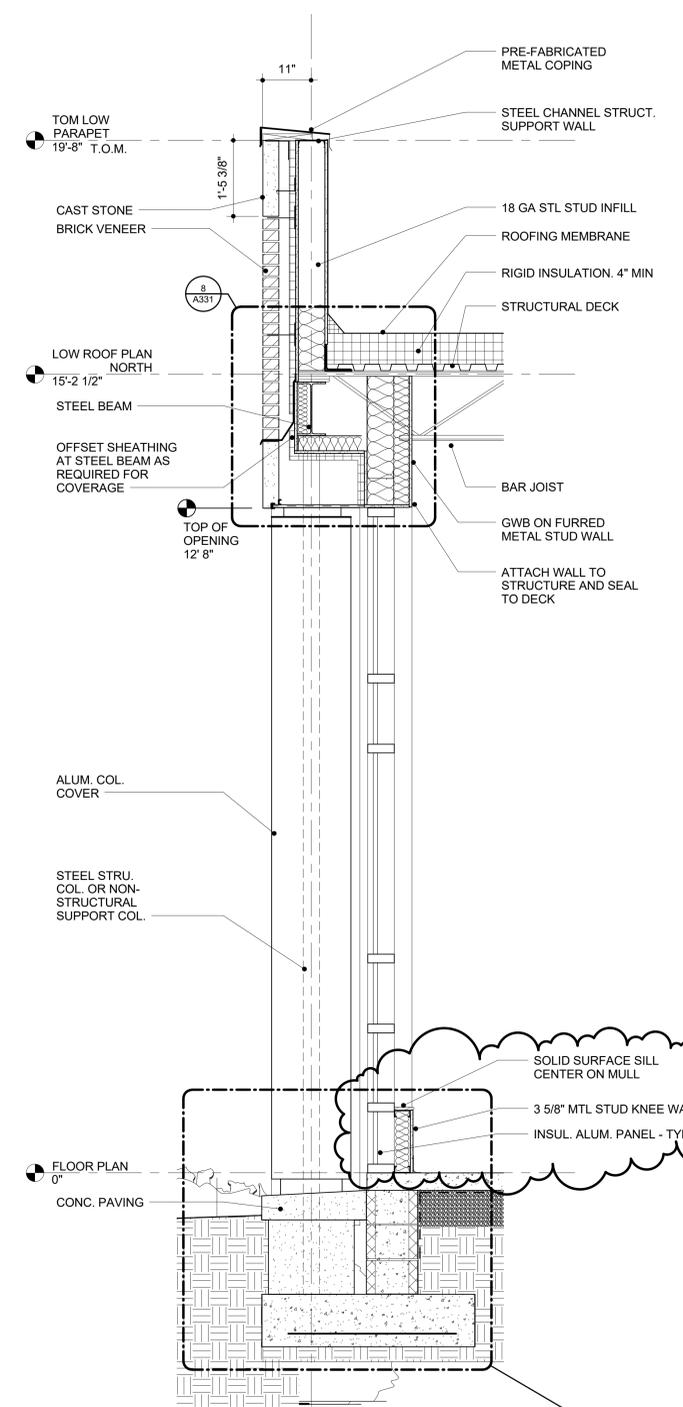
1 FLOOR PLAN

SCALE: 3/32" = 1'-0"

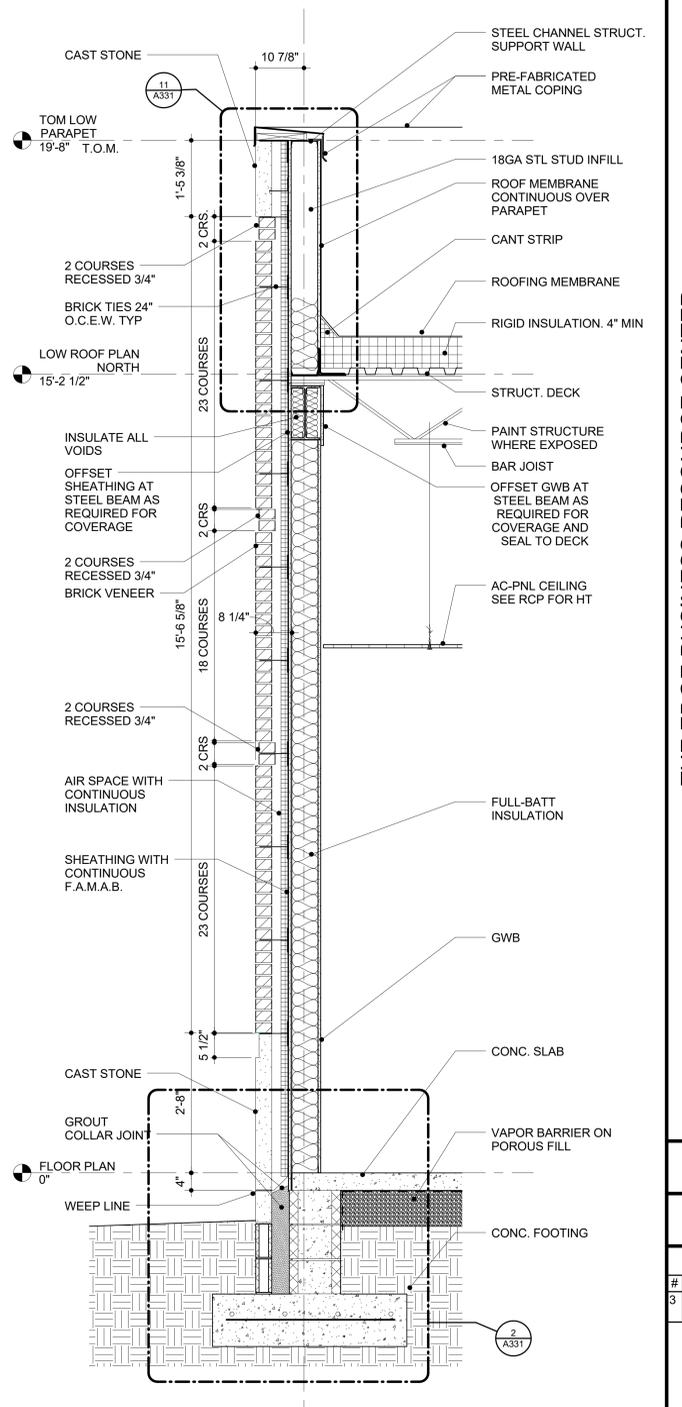
A101



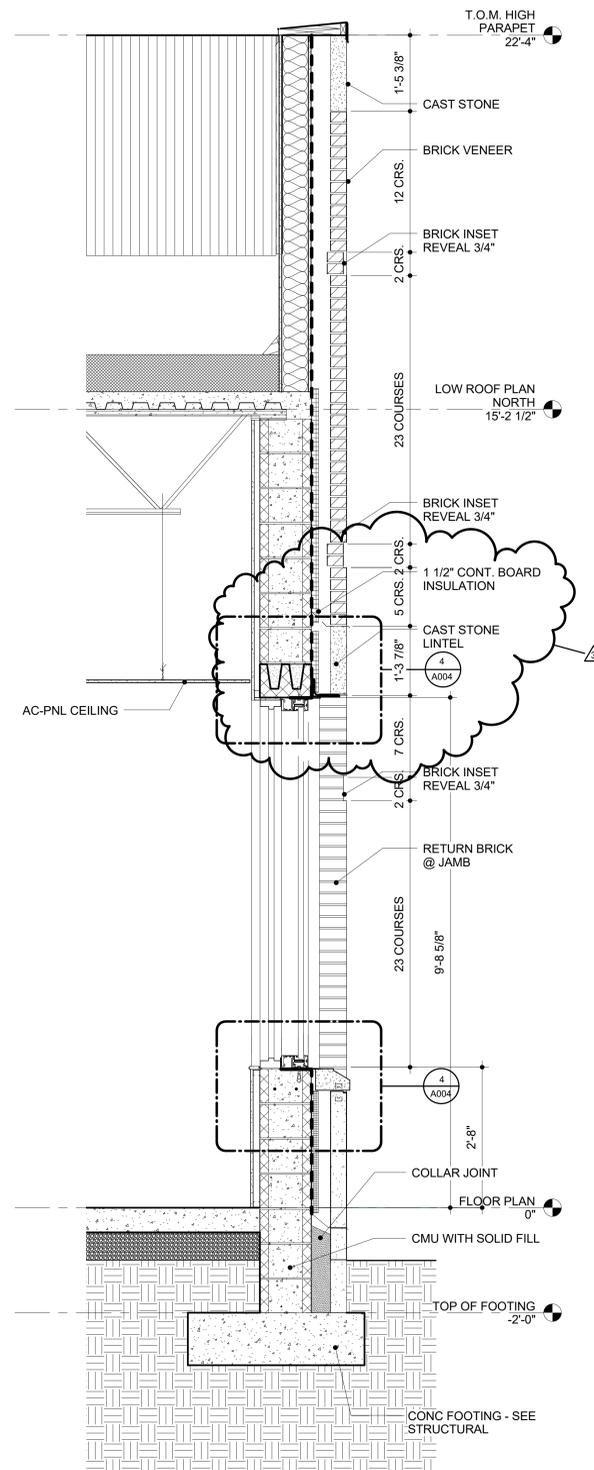
3 TYPICAL SHELTER WALL SECTION SCALE: 3/4" = 1'-0"



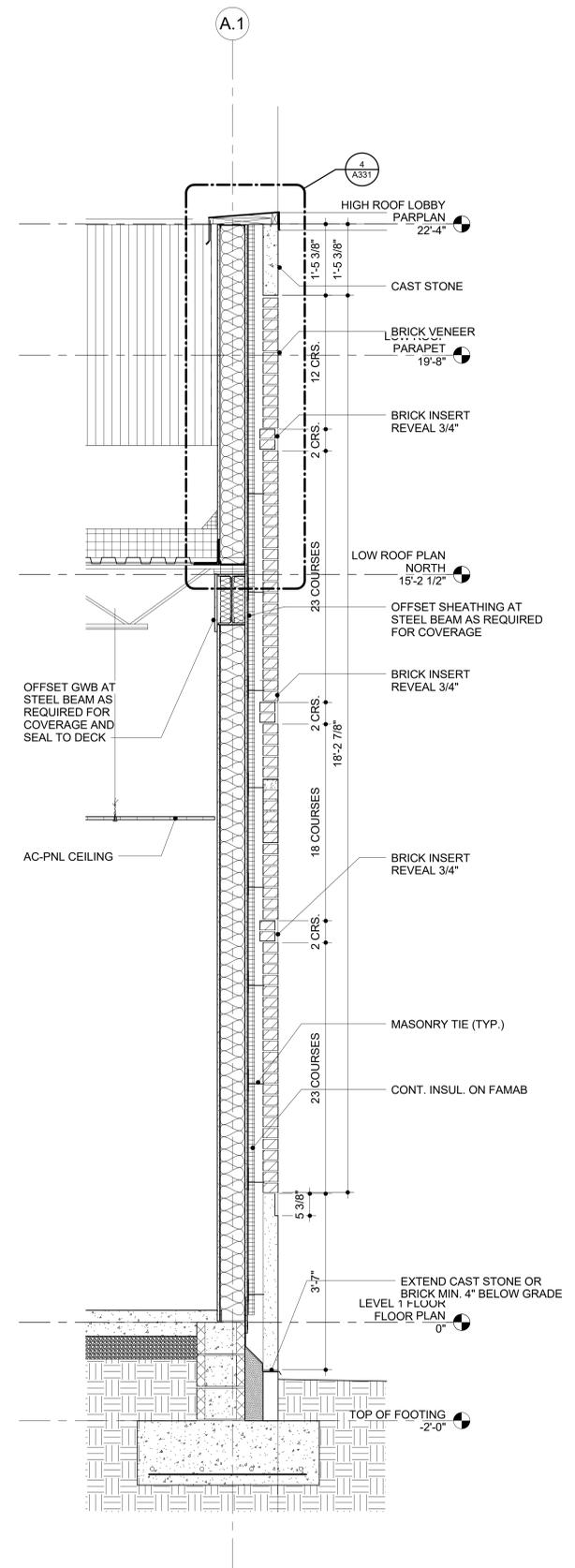
2 TYPICAL GLAZING WALL SECTION SCALE: 3/4" = 1'-0"



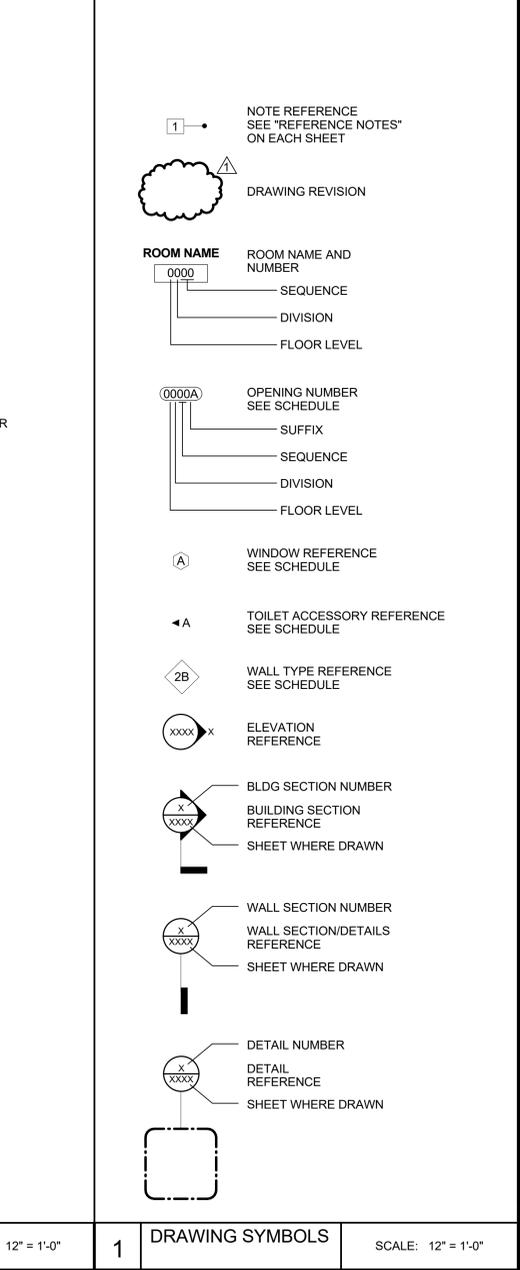
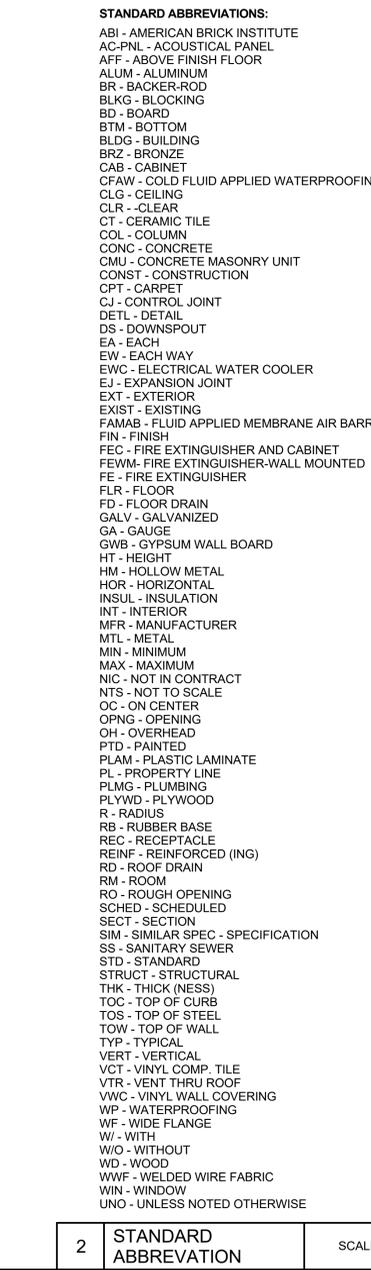
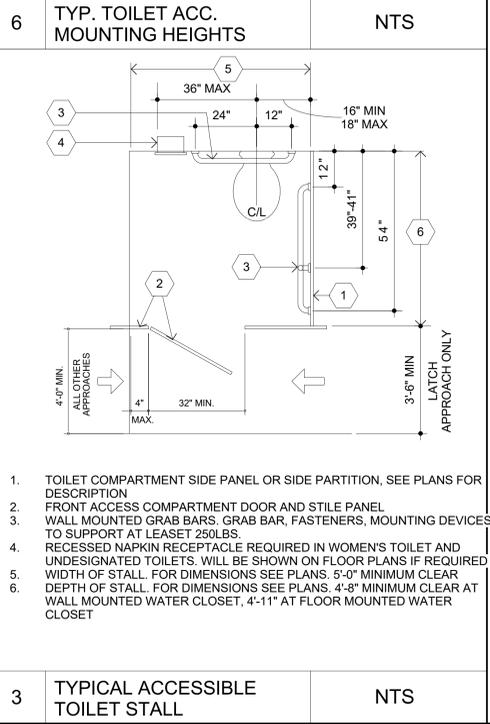
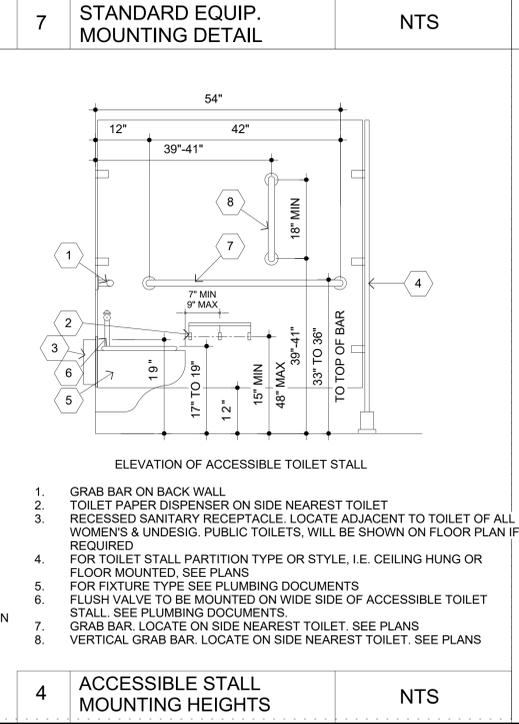
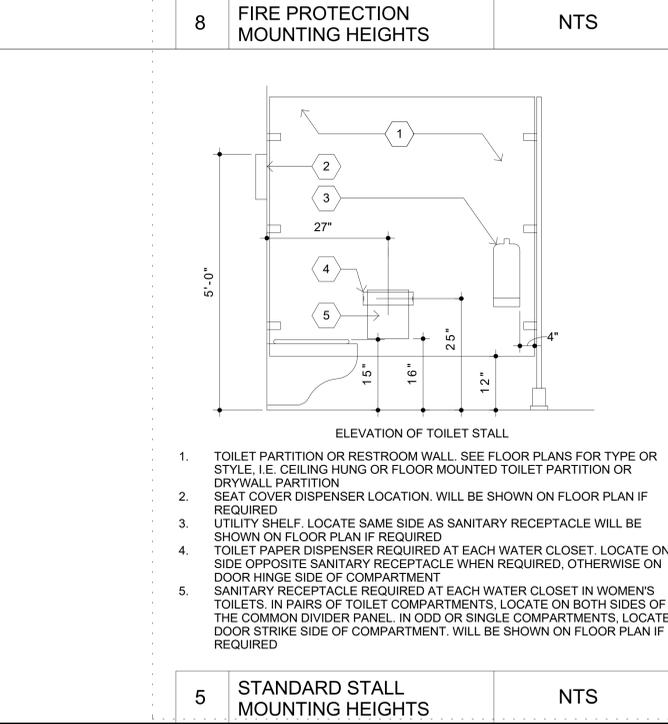
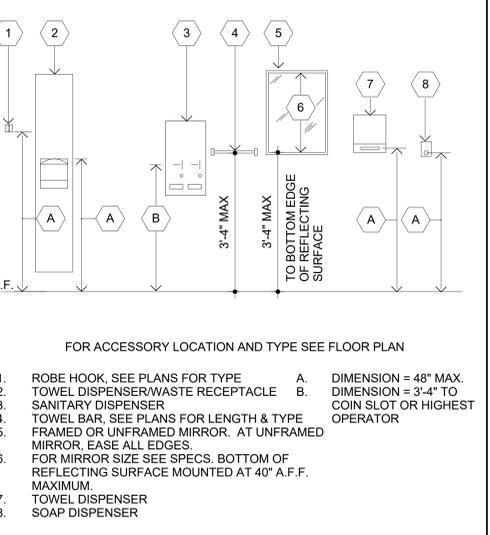
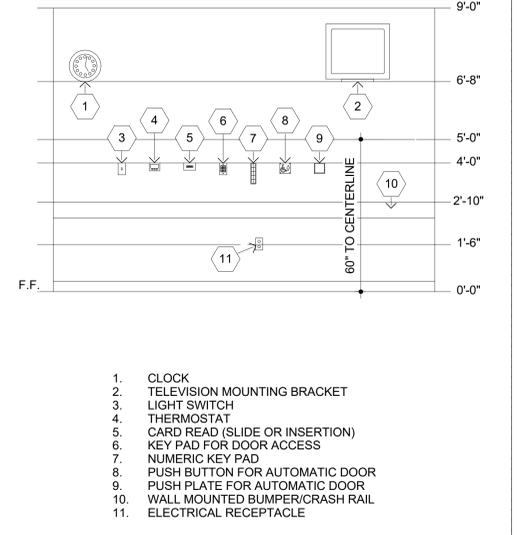
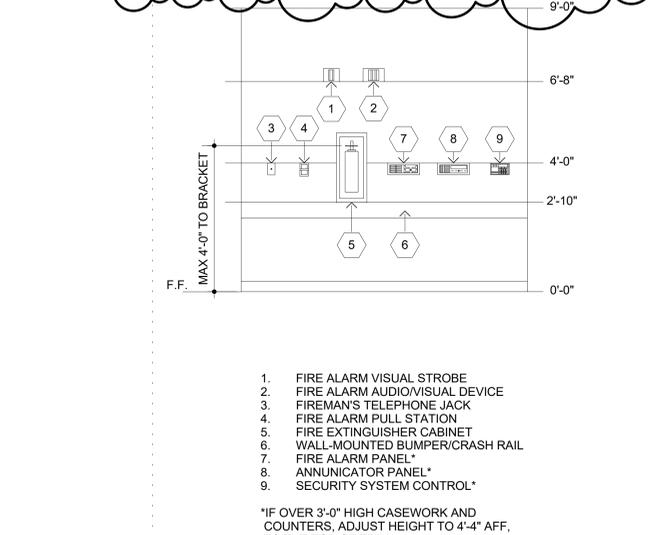
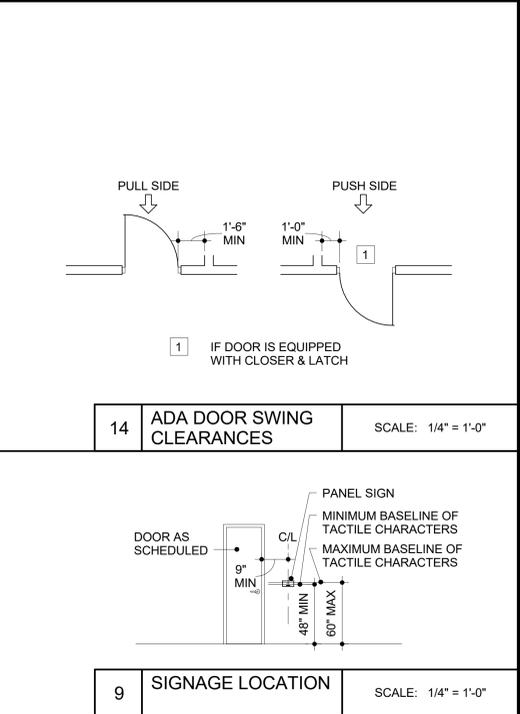
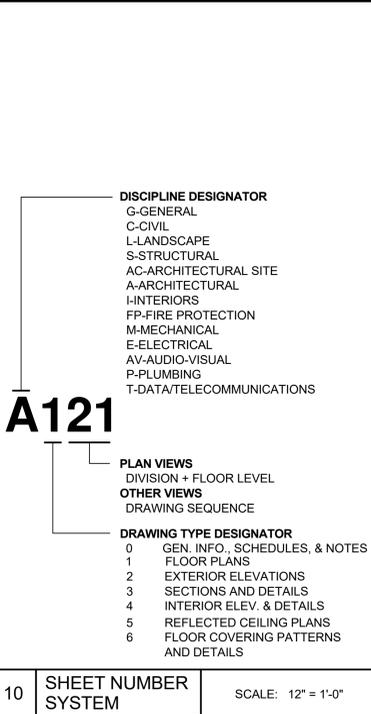
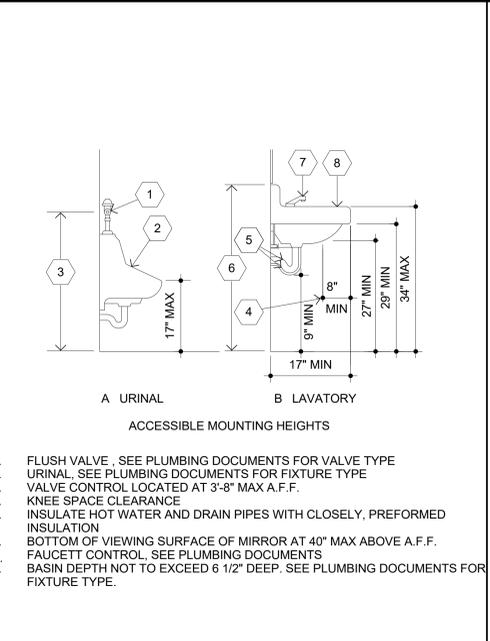
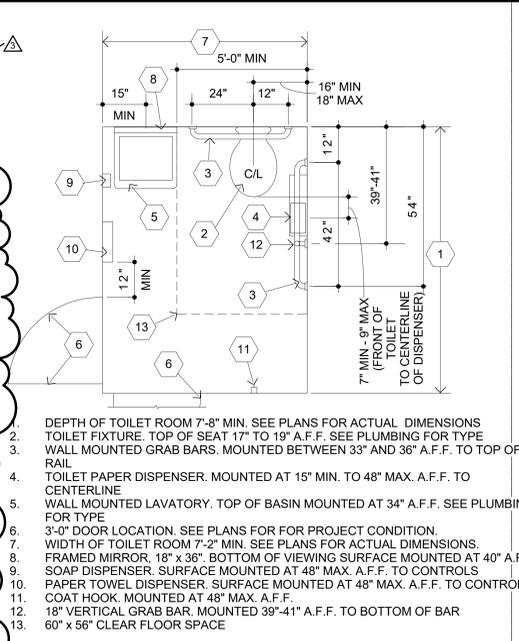
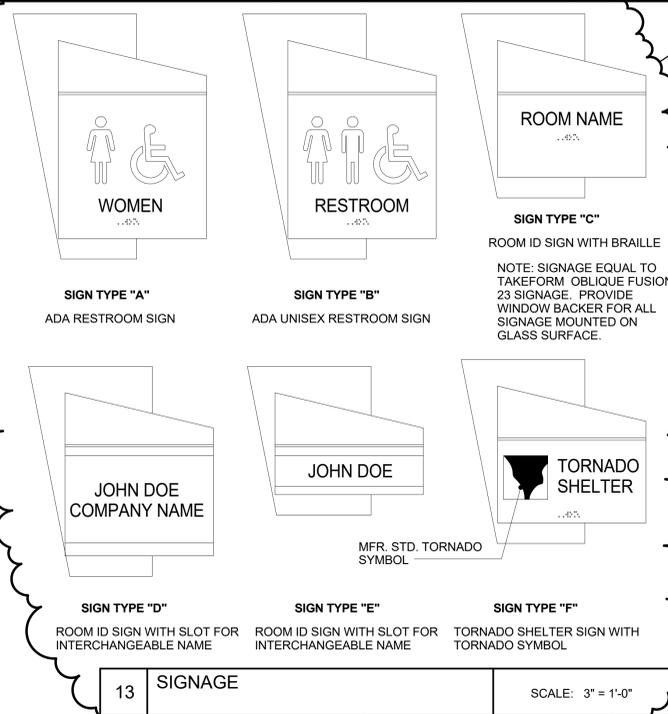
1 TYPICAL METAL STUD WALL SECTION SCALE: 3/4" = 1'-0"



2 TYPICAL SHELTER WINDOW SECTION SCALE: 3/4" = 1'-0"



1 HIGH WALL SECTION SCALE: 3/4" = 1'-0"



SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:
 - 1. Doors.
 - 2. Glazed entrances.
 - 3. Interior borrowed lites.
 - 4. Storefront framing.

1.3 DEFINITIONS

- A. Manufacturers of Glass Products: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.
- B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.
- C. Interspace: Space between lites of an insulating-glass unit that contains dehydrated air or a specified gas.
- D. Deterioration of Coated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in metallic coating.
- E. Deterioration of Insulating Glass: Failure of hermetic seal under normal use that is attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
- F. Deterioration of Laminated Glass: Defects developed from normal use that are attributed to the manufacturing process and not to causes other than glass breakage and practices for maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.
- B. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:
 - 1. For monolithic-glass lites, properties are based on units with lites 6.0 mm thick.
 - 2. For laminated-glass lites, properties are based on products of construction indicated.
 - 3. For insulating-glass units, properties are based on units with lites 6.0 mm thick and a nominal 1/2-inch- (12.7-mm-) wide interspace.
 - 4. Center-of-Glass Values: Based on using LBL-44789 WINDOW 5.0 computer program for the following methodologies:
 - a. U-Factors: NFRC 100 expressed as Btu/ sq. ft. x h x deg F (W/sq. m x K).
 - b. Solar Heat Gain Coefficient: NFRC 200.
 - c. Solar Optical Properties: NFRC 300.

1.5 SUBMITTALS

- A. Product Data: For each glass product and glazing material indicated.
- B. Samples: For the following products, in the form of 12-inch- (300-mm-) square Samples for glass.
 - 1. Each color of tinted float glass.
 - a. Provide samples of colors as selected by Architect.
 - 2. Coated vision glass.
 - 3. Insulating glass for each designation indicated.
 - 4. For each color (except black) of exposed glazing sealant indicated.
- C. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.
- D. Product Certificates: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
 - 1. For solar-control low-e-coated glass, provide documentation demonstrating that manufacturer of coated glass is certified by coating manufacturer.
- E. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).
- B. Source Limitations for Glass: Obtain glass through one source from a single manufacturer for each glass type.
- C. Source Limitations for Glass Sputter-Coated with Solar-Control Low-E Coatings: Where solar-control low-e coatings of a primary glass manufacturer that has established a certified fabricator program is specified, obtain sputter-coated solar-control low-e-coated glass in fabricated units from a manufacturer that is certified by coated-glass manufacturer.
- D. Source Limitations for Glazing Accessories: Obtain glazing accessories through one source from a single manufacturer for each product and installation method indicated.
- E. Safety Glazing Products: Comply with testing requirements in 16 CFR 1201.
 - 1. Subject to compliance with requirements, obtain safety glazing products permanently marked with certification label of the Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
- F. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in referenced standards.
 - 1. GANA Publications: GANA Laminated Division's "Laminated Glass Design Guide" and GANA's "Glazing Manual."
 - 2. IGMA Publication for Insulating Glass: SIGMA TM-3000, "Glazing Guidelines for Sealed Insulating Glass Units."
- G. Insulating-Glass Certification Program: Permanently marked either on spacers or on at least one component lite of units with appropriate certification label of the following testing and inspecting agency:
 - 1. Insulating Glass Certification Council.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. For insulating-glass units that will be exposed to substantial altitude changes, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures.

1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1.9 WARRANTY

- A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form, made out to Owner and signed by coated-glass manufacturer agreeing to replace coated-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.

1. Warranty Period: 10 years from date of Substantial Completion.
- B. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form, made out to Owner and signed by insulating-glass manufacturer agreeing to replace insulating-glass units that deteriorate as defined in "Definitions" Article, f.o.b. the nearest shipping point to Project site, within specified warranty period indicated below.
 1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 1. Product: Subject to compliance with requirements, provide product specified.
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
 3. Basis-of-Design Product: The design for each glazing product is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 GLASS PRODUCTS

- A. Annealed Float Glass: ASTM C 1036, Type I (transparent flat glass), Quality-Q3; of class indicated.
 1. Ultra-Clear (Low-Iron) Float Glass: Class I (clear); with a minimum 91 percent visible light transmission and a minimum solar heat gain coefficient of 0.87.
 - a. Available Products:
 - 1) AFG Industries Inc.; Krystal Klear.
 - 2) Pilkington Building Products North America; Optiwhite.
 - 3) PPG Industries, Inc.; Starphire.
 - 4) Schott Corporation; Amiran.
- B. Heat-Treated Float Glass: ASTM C 1048; Type I (transparent flat glass); Quality-Q3; of class, kind, and condition indicated.
 1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.
 2. Provide Kind HS (heat-strengthened) float glass in place of annealed float glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
 3. For uncoated glass, comply with requirements for Condition A.
 4. For coated vision glass, comply with requirements for Condition C (other uncoated glass).
 5. Provide Kind FT (fully tempered) float glass in place of annealed or Kind HS (heat-strengthened) float glass where safety glass is indicated.
- C. Pyrolytic-Coated Float Glass: ASTM C 1376, float glass with metallic-oxide coating applied by pyrolytic deposition process during initial manufacture, and complying with other requirements specified.
- D. Insulating-Glass Units, General: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article and in Part 2 "Insulating-Glass Units" Article.
 1. Provide Kind HS (heat-strengthened) float glass in place of annealed glass where needed to resist thermal stresses induced by differential shading of individual glass lites and to comply with glass design requirements specified in Part 1 "Performance Requirements" Article.
 2. Provide Kind FT (fully tempered) glass lites where safety glass is indicated.
 3. Overall Unit Thickness and Thickness of Each Lite: Dimensions indicated for insulating-glass units are nominal and the overall thicknesses of units are measured perpendicularly from outer surfaces of glass lites at unit's edge.
 4. Sealing System: Dual seal, with primary and secondary sealants as follows:
 - a. Manufacturer's standard sealants.
 5. Spacer Specifications: Manufacturer's standard spacer material and construction complying with the following requirements:
 - a. Spacer Material: Aluminum with black, color anodic finish.
 - b. Desiccant: Molecular sieve or silica gel, or blend of both.
 - c. Corner Construction: Manufacturer's standard corner construction.

2.3 GLAZING GASKETS

- A. Dense Compression Gaskets: Molded or extruded gaskets of material indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:
 - 1. Neoprene, ASTM C 864.
 - 2. EPDM, ASTM C 864.
 - 3. Silicone, ASTM C 1115.
 - 4. Thermoplastic polyolefin rubber, ASTM C 1115.
 - 5. Any material indicated above.
- B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:
 - 1. Neoprene.
 - 2. EPDM.
 - 3. Silicone.
 - 4. Thermoplastic polyolefin rubber.
 - 5. Any material indicated above.

2.4 GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:
 - 1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
 - 2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
 - 3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.
- B. Elastomeric Glazing Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 - 1. Single-Component Neutral-Curing Silicone Glazing Sealants GS-:
 - a. Available Products:
 - 1) GE Silicones; SilPruf SCS2000.
 - 2) Pecora Corporation; 864.
 - 3) Pecora Corporation; 890.
 - 4) Polymeric Systems Inc.; PSI-641.
 - 5) Sonneborn, Div. of ChemRex, Inc.; Omniseal.
 - 6) Tremco; Spectrem 3.
 - b. Type and Grade: S (single component) and NS (nonsag).
 - c. Class: 50.
 - d. Use Related to Exposure: NT (nontraffic).
 - e. Uses Related to Glazing Substrates: M, G, A, and, as applicable to glazing substrates indicated, O.
- C. Glazing Sealants for Fire-Resistive Glazing Products: Identical to products used in test assemblies to obtain fire-protection rating.

2.5 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based elastomeric tape with a solids content of 100 percent; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; packaged on rolls with a release paper backing; and complying with ASTM C 1281 and AAMA 800 for products indicated below:
 - 1. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.

2.6 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

- C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.
- D. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

2.7 **FABRICATION OF GLAZING UNITS**

- A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

2.8 **MONOLITHIC FLOAT-GLASS UNITS**

- A. MG-1 Uncoated Clear Float-Glass Units:

1. Kind: Provide one of the following as shown on the drawings.
 - a. Class 1 (clear) annealed or Kind HS (heat-strengthened) float glass where heat strengthening is required to resist thermal stresses induced by differential shading of individual glass lites and to comply with system performance requirements
 - b. Kind HS (heat-strengthened) float glass
 - c. Kind FT (fully tempered) float glass, where indicated.
2. Thickness: 6.0 mm.

- ~~B. MG-2 Coated tinted Float Glass Units:~~

- ~~1. Kind: Provide one of the following as shown on the drawings.

 - ~~a. Class 2 (tinted) annealed or Kind HS (heat-strengthened) float glass where heat strengthening is required to resist thermal stresses induced by differential shading of individual glass lites and to comply with system performance requirements~~
 - ~~b. Kind HS (heat-strengthened) float glass~~
 - ~~c. Kind FT (fully tempered) float glass, where indicated.~~~~
- ~~2. Thickness: 6.0 mm.~~

~~3. Tint Color: PPG Optiblue and PPG Pacifica~~

~~4. Low-E Coating: PPG Solarban z75 and PPG Solarban R100.~~

~~a. Location: #2 surface.~~

- ~~5. Visible Light Transmittance: Refer to Insulating Glazing Unit Requirements.~~
- ~~6. Winter Nighttime U Factor: Refer to Insulating Glazing Unit Requirements.~~
- ~~7. Summer Daytime U Factor: Refer to Insulating Glazing Unit Requirements.~~
- ~~8. Solar Heat Gain Coefficient: Refer to Insulating Glazing Unit Requirements.~~
- ~~9. Outdoor Visible Reflectance: Refer to Insulating Glazing Unit Requirements.~~

- ~~C. MG-3 Coated Clear Float Glass Units:~~

- ~~1. Kind: Provide one of the following as shown on the drawings.

 - ~~a. Class 1 (clear) annealed or Kind HS (heat-strengthened) float glass where heat strengthening is required to resist thermal stresses induced by differential shading of individual glass lites and to comply with system performance requirements~~
 - ~~b. Kind HS (heat-strengthened) float glass~~
 - ~~c. Kind FT (fully tempered) float glass~~~~
- ~~2. Products:

 - ~~a. Pilkington Eclipse Advantage Low-E Glass.~~~~
- ~~3. Thickness: 6.0 mm.~~
- ~~4. Reflective Coating: Pyrolytic.

 - ~~a. Location: First surface.~~~~
- ~~5. Visible Light Transmittance: 0.66 percent minimum.~~
- ~~6. Winter Nighttime U Factor: 0.67 maximum.~~
- ~~7. Summer Daytime U Factor: 0.53 maximum.~~
- ~~8. Solar Heat Gain Coefficient: 0.61 maximum.~~
- ~~9. Outdoor Visible Reflectance: 0.22 percent maximum.~~

2.9 **INSULATING-GLASS UNITS**

- A. Solar-Control Low-E Insulating-Glass Units: G3 Designation

1. Basis of Design Product: Vitro Solarban z75 (2) Optiblue + 1/2" Air + Clear

2. Acceptable Manufacturers:
 - a. PPG Industries
 - b. Pilkington
 - c. Or equal
 3. Overall Unit Thickness and Thickness of Each Lite: As indicated.
 4. Interspace Content: Air.
 5. Outdoor Lite: Class 2 (tinted) float glass.
 - a. **Tint Color: PPG Optiblue.**
 - b. **Low-E Coating: PPG Solarban z75**
 6. Indoor Lite: Class 1 (clear) float glass.
 - a. Kind HS (heat strengthened).
 7. **Visible Light Transmittance: 48 percent minimum.**
 8. **Winter Nighttime U-Factor: 0.28 maximum.**
 9. **Exterior Reflectance: 9% maximum.**
 10. **Interior Reflectance: 12% maximum.**
 11. **Solar Heat Gain Coefficient: 0.24 maximum.**
 12. **Shading Coefficient: 0.28 maximum.**
- B. Solar-Control Low-E Insulating-Glass Units: G4 Designation
1. **Basis of Design Product: Vitro Solarban R100 (2) Pacifica + 1/2" Air + Clear**
 2. Available Products:
 - a. PPG Industries
 - b. Pilkington
 - c. Or equal
 3. Overall Unit Thickness and Thickness of Each Lite: As indicated.
 4. Interspace Content: Air.
 5. Outdoor Lite: Class 2 (tinted) float glass.
 - a. **Tint Color: PPG Pacifica.**
 - b. **Low-E Coating: PPG Solarban R100**
 6. Indoor Lite: Class 1 (clear) float glass.
 - a. Kind HS (heat strengthened).
 7. **Visible Light Transmittance: 20 percent minimum.**
 8. **Winter Nighttime U-Factor: 0.29 maximum.**
 9. **Exterior Reflectance: 11% minimum.**
 10. **Interior Reflectance: 13% minimum.**
 11. **Solar Heat Gain Coefficient: 0.16 maximum.**
 12. **Shading Coefficient: 0.19 maximum.**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine framing glazing, with Installer present, for compliance with the following:
 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 2. Presence and functioning of weep system.
 3. Minimum required face or edge clearances.
 4. Effective sealing between joints of glass-framing members.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

3.3 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

- B. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by Project conditions during installation.
- C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.
- E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- G. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm) as follows:
 - 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 - 2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.
- I. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.
- J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.
- K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each glazing unit is installed.
- F. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

3.5 GASKET GLAZING (DRY)

- A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.
- D. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.7 CLEANING AND PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.
- E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION 08800