SECTION 009113 – ADDENDUM ONE

PART 1 - ADDENDA

1.1 PROJECT INFORMATION

A. Project Name: 21027 – Sunflower County Consolidated School District ESSER 2 and 3, Phase 1

B. Owner: Sunflower County Consolidated School District

C. Architect: Dale | Bailey, an Association

D. Architect Project Number: 21027

E. Date of Addendum One: 22 February 2022

1.2 NOTICE TO BIDDERS

A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

C. The date for receipt of bids is unchanged by this Addendum at same time and location.

1.3 GENERAL

A. Attached are the annotated Pre-Bid Meeting Minutes and Meeting Attendees dated 17 February 2022.

1.4 REVISIONS TO DIVISION 01 – GENERAL REQUIREMENTS

A. DOCUMENT 012900 – PAYMENT PROCEDURES. (Revised). Delete this form in its entirety and replace with new. See attached. A change to Part 1, 1.2 Schedule of Values A 2.

1.5 REVISIONS TO SPECS – CIVIL (Please add to the project manual after Division 1 thru 49 specs)

A. DOCUMENT 02220 – EXCAVATION AND EMBANKMENT. (New). See attached.

B. DOCUMENT 02222 – EXCAVATION, TRENCHING, AND BACKFILLING. (New). See attached.

C. DOCUMENT 02226 – SANITARY SEWER SYSTEM. (New). See attached.

D. DOCUMENT 02310 – EARTHWORK AND SITE GRADING. (New). See attached.

E. DOCUMENT 02370 – EROSION CONTROL. (New). See attached.

F. DOCUMENT 02510 – WATER DISTRIBUTION LINE. (New). See attached.

G. DOCUMENT 02630 – STORM DRAINAGE UTILITIES. (New). See attached.

H. DOCUMENT 02635 – CONCRETE STORM DRAINAGE STRUCTURES. (New). See attached.

1.6 REVISIONS TO DRAWINGS

A. Architectural Sheet G-002 INDEX & GENERAL PROJECT INFORMATION. Delete this sheet in its entirety and replace with the attached. Updated to reflect Civil.

B. Architectural Sheet A-041d RCP – DEMO. Delete this sheet in its entirety and replace with the attached. Note 11 added under General RCP Demolition Notes.

C. Civil Sheets (New)

1. C-100 – EXISTING SITE dated 22 February 2022.
2. C-101 – GENERAL NOTES dated 22 February 2022.
3. C-102 – SITE DEMOLITION dated 22 February 2022.
4. C-103 – GRADING PLAN dated 22 February 2022.
5. C-104 – SITE UTILITY PLAN dated 22 February 2022.
6. C-105 – EROSION CONTROL PLAN dated 22 February 2022.

1.7 ATTACHMENTS

A. Annotated Pre-Bid Meeting Minutes and Meeting Attendees dated 17 February 2022.

B. This Addendum includes the following attached Specifications:

1. Specification 012900 Payment Procedures dated 22 February 2022.
2. Specification 02220 Excavation and Embankment dated 22 February 2022.
3. Specification 02222 Excavation, Trenching, and Backfilling dated 22 February 2022.
4. Specification 02226 Sanitary Sewer System dated 22 February 2022.
5. Specification 02310 Earthwork and Site Grading dated 22 February 2022.
6. Specification 02370 Erosion Control dated 22 February 2022.
7. Specification 02510 Water Distribution Line dated 22 February 2022.
8. Specification 02630 Storm Drainage Utilities dated 22 February 2022.
9. Specification 02635 Concrete Storm Drainage Structures dated 22 February 2022.

C. This Addendum includes the following attached Drawings:

1. Sheet G-002 Index & General Project Information dated 22 February 2022.
2. Sheet A-041d RCP – Demo dated 22 February 2022.
3. Sheet C-100 Existing Site dated 22 February 2022.
4. Sheet C-101 General Notes dated 22 February 2022.
5. Sheet C-102 Site Demolition dated 22 February 2022.
6. Sheet C-103 Grading Plan dated 22 February 2022.

7. Sheet C-104 Site Utility Plan dated 22 February 2022.
8. Sheet C-105 Erosion Control Plan dated 22 February 2022.

END OF ADDENDUM ONE

DALE | BAILEY
AN ASSOCIATION

Meeting Minutes
2/21/2022

Agenda

201 Park Court, Suite B
Ridgeland, MS 39157
P 601.790.9432
F 888.281.0547

One Jackson Place, Suite 250
188 East Capitol Street
Jackson, MS 39201-2100
P 601.352.5411
F 601.352.5362

161 Lameuse Street, Suite 201
Biloxi, MS 39530
P 228.374.1409
F 228.374.1414

17 February 2022

21027 Sunflower County Consolidated School District ESSER 2&3 / Pre-Bid Meeting Agenda

1. General
    a. Sign-in sheet: Minutes will include list of meeting attendees
    b. Scope of work: Replacement of mechanical systems including finish plumbing as well as repairs to finishes and structure that directly relate to this work at 7 School sites throughout Sunflower County. This work will include new ceilings, walls where needed to conceal plumbing, new bathroom fixtures as needed to allow for ADA access, paint, and other Work indicated in the Contract Documents.
    c. Project Sites:
        i. Site a: AW James Elementary School, 400 South Blvd, Drew, MS 38737
        ii. Site b: Carver Elementary School, 404 Jefferson St, Indianola, MS 38751
        iii. Site c: Drew Hunter Middle School, 10 Swoope Rd, Drew, MS 38737
        iv. Site d: Lockard Elementary School, 302 College Ave, Indianola, MS 38751
        v. Site e: Robert L Merritt Junior High School, 705 Kinlock Rd, Indianola,
        vi. Site f: Ruleville Central Elementary School, 410 L F Packer Dr, Ruleville,
        vii. Site g: Ruleville Middle School, 250 Oscar St, Ruleville, MS 38771

2. Team
    a. Owner ..... Sunflower County Consolidated School District / Dr. Miskia Davis
    b. Director of Maintenance ..... SCCSD / Mr. Marvin Hawkins
    c. Architect ..... Dale Bailey / Gary Bailey
    d. Project Architect ..... Dale Bailey / Russ Blount
    e. Project Manager ..... Dale Bailey / Paul Purser
    f. Structural ..... Structural Design Group / Tom Schaeffer
    g. Mechanical ..... GSK Mechanical / Jason Kackley
    h. Electrical ..... The Power Source / Chris Green

3. Procurement and Contracting Requirements

    a. Advertisement for Bids

        i. Advertisement dates: 2.2.2022, 2.3.2022, 2.9.2022, & 2.10.2022

        ii. Bid Receipt: Bids to be opened at 2:00 PM on Wednesday, March 09, 2022

        iii. Bid Location: Sunflower County Consolidated School District / 196 Martin Luther King Dr N, Indianola, MS 38751

        iv. Bidder Qualifications

            1. Bidders must be properly licensed under the laws governing their respective trades

            2. List all applicable state and local license and registration nos. on the outside of bid envelope

    b. Bonding and Insurance

        i. Bidders must be able to obtain insurance and bonds required for the Work

    c. Bid Security

        i. A Bid Security in the amount of 5% of the total maximum bid amount is required

        ii. Cash, cashier's check, certified check, US money order, or bid bond

    d. Bid Form and Attachments

        i. Acknowledgement of Addenda

        ii. Subcontractor identification

    e. Bid Submittal Requirements

        i. Envelope requirements (re Bid Submittal Checklist)

        ii. Proper identification

    f. Federal Requirements

        i. Contractor must take steps to assure that minority businesses, women's business enterprises and labor surplus area firms are used when possible.

        ii. Davis-Bacon Act: must pay wages according to act and must list these out with each pay app.

        iii. Debarment Verification Form

    g. Notice of Award

        i. Offered within 90 days after receipt of bids

        ii. Award will be made as soon as possible, and successful bidder should be ready to secure bonds and insurance immediately

4. Communication during Bidding Period

    a. Obtaining documents

        i. Plan holders are required to register and order bid documents at www.dalebaileyplans.com

    b. Bidder's Requests for Information

        i. Binding answers to questions must be included in an official written addendum and the Contractor or Subcontractor is encouraged to provide written communications to the Architect for proper response

        ii. Address e-mailed written correspondence to biddinginfo@dalepartners.com

        iii. No questions will be accepted after 5:00 PM on 3.4.2022 in order to allow the Architect adequate time to prepare any necessary addenda.

    c. Addenda

        i. Addendum no 1 .....02.21.22

        ii. Addendum no 2 (final/if required) .....≤ 2:00 PM, 03.07.22

5. Contracting Requirements

    a. The Supplementary Conditions

        i. Refer to this section for specific comments and directives

            1. Change order markups

            2. Weather days are not allowable for time extension

            3. Retainage

            4. Stored material

            5. Insurance

    b. Other Owner requirements

        i. Verify user occupancy during construction: each school may be working on a different schedule so contractor will be required to coordinate with each school's personnel.

6. Site Walks Prior to Bidding

    a. Coordinate with Marvin Hawkins or School principal to individual sites to visit school sites prior to bidding.

        A. AW James Elementary School, Barbara Akon, Principal, 662.745.8892
        B. Carver Elementary School, Sonia Robinson-Bolden, Principal, 662.884.1250
        C. Drew Hunter Middle School, Tony Young, Principal, 662.745.8940
        D. Lockard Elementary School, Daphne Heflin, Principal, 662.884.1260
        E. Robert L Merritt Junior High School, Glen Newson, Principal, 662.884.1270
        F. Ruleville Central Elem. School, Latasha Caroll Monroe, Principal, 662.756.4276
        G. Ruleville Middle School, Earnest Nelson, Principal, 662.756.4698

Site Walk to be conducted throughout district, starting 7AM on Wednesday, 23rd of February.

7. Construction Documents

   a. Use of Site

      i. Parking – as needed, coordinate with District

      ii. Lay-down area – coordinate with District

   b. Work Restrictions

      i. On site Work: 01100 in Project Manual

      ii. Workdays – Contractor will have 24/7 access to site over summer break. Work while school is in session is limited to nights and weekends. While school is in session, Contractor may start work approximately 3:30 – 4:00 PM and must be completed by 6:30 – 7:00 AM the following morning. All areas to be clean and furniture in place before start of school.

   c. Unit prices, alternates, and allowances

      i. Unit prices: none

      ii. Alternates

         1. Additive Alternate No. 1 – Ruleville Elementary Multi-Purpose Building.
         2. Additive Alternate No. 2 – Ruleville Elementary Windows.
         3. Additive Alternate No. 3 – Lockard Elementary Windows.
         4. Additive Alternate No. 4 – All Sites Removal of Radiant Heaters.
         5. Additive Alternate No. 5 – All Sites Remove any/all hidden & discontinued heating system piping.

      iii. Allowances

         1. Allowance No. 01: Lump Sum Contingency Allowance for AW James Elementary
         2. Allowance No. 02: Lump Sum Contingency Allowance for Carver Elementary
         3. Allowance No. 03: Lump Sum Contingency Allowance for Drew Hunter Middle School
         4. Allowance No. 04: Lump Sum Contingency Allowance for Lockard Elementary
         5. Allowance No. 05: Lump Sum Contingency Allowance for Merritt Middle School
         6. Allowance No. 06: Lump Sum Contingency Allowance for Ruleville Elementary School
         7. Allowance No. 07: Lump Sum Contingency Allowance for Ruleville Middle School
         8. Allowance No. 08: Hardware Allowance for Alternate No. 1 Ruleville Elementary Multi-Purpose Building New Construction.

   d. Substitutions

      i. Substitutions will be considered within 30 days of the contract award

      ii. Burden of proof of "equal" will be on the Contractor or Vendor

Note that after May 11, testing will be complete, and work times extended

8. Schedule
    a. Project Schedule
        i. GC to provide CPM type schedule, regularly updated
    b. Contract Time
        i. All Projects shall be complete by July 15, 2023
        ii. Weather days are not allowable for time extension
    c. Liquidated Damages
        i. $500 each calendar day of the delay after Scheduled completion date.
9. Other Bidder Questions
    a. Architect will record and distribute meeting minutes to attendees and others known by the Architect's office to have received a complete set of Procurement and Contracting Documents
    b. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents
    c. Modifications to the Procurement and Contracting Documents are issued by written Addendum only

Q&A @ meeting & previously emailed questions

1 There are other ceiling tile types listed in the legend; are these specified somewhere?

No; the 1 tile line specified will meet (School Zone Fine Fissure 1713) will meet all required ceilings on the plans.

2 When can we perform a site walk of all the sites?

A site walk has been scheduled to start at 7AM at Drew Hunter Middle School in Drew, MS on the 23rd of February with Mr. Hawkins. All district sites will be walked on this day.

DALE | BAILEY

AN ASSOCIATION

Meeting Attendees

201 Park Court, Suite B
Ridgeland, MS 39157
P 601.790.9432
F 888.281.0547

One Jackson Place, Suite 250
188 East Capitol Street
Jackson, MS 39201-2100
P 601.352.5411
F 601.352.5362

161 Lameuse Street, Suite 201
Biloxi, MS 39530
P 228.374.1409
F 228.374.1414

dalepartners.com
baileyarch.com

17 February 2022

21027 Sunflower County Consolidated School District ESSER 2&3 / Pre-Bid Meeting

	Name	Company	Phone	Email
1	Dr. Miskia Davis	Sunflower Cons. School District		
2	Marvin Hawkins	Sunflower Cons. School District	(662) 207-4716	mhawkins@sunflower.k12.ms.us M. H
3	Mark Pipper	Bailey Program Management	(601) 672-0203	mpipper@bailey-pm.com MSP
4	Paul Purser	Dale | Bailey	(601) 352-5411	paulpurser@dalepartners.com
5	Chris Andrews	Robinson Electric	662-843-3978	chris@robinsonelectric.biz
6	Brian Robinson	Robinson Electric	662-843-3978	brian@robinsonelectric.biz
7	Scott Upchurch	Upchurch Plumbing	662-453-6860	scott@upchurchplumbing.com
8	Edward Thomas		662-807-0900	ethomas@sunflower.k12.ms.us
9	Rob Hood		662-822-3524	Rob@willmarpainting.com
10	Billy Brazowich		662-822-1214	billy@willmarpainting.com
11	James Hull		662 207-7972	Jameshull112 at yahoo.com
12				
13				
14				
15				

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements

1. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
2. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
3. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
4. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with other required administration forms and schedules, including the following.
   a. Application for Payment forms with continuation sheets.
   b. Submittal schedule.
   c. Items required to be indicated as separate activities in Contractor's construction schedule.
2. Separate Values into divided sections with totals at the end of each section per schedule below where lettered items are major headings and numbered items are minor headings with totals at the end of both:

   a. AW James Elementary School
      1) ESSER 3 (all items at school)
   b. Carver Elementary School
      1) ESSER 3 (all items at school)
   c. Drew Hunter Middle School
      1) ESSER 3 (all items at school)
   d. Lockard Elementary School
      1) ESSER 2 (to include Electrical Upgrade [not lighting] & New Mechanical)
      2) ESSER 3 (to include New Lighting, New Ceilings, toilet renovations)
   e. Robert L Merritt Junior High School
      1) ESSER 2 (to include Electrical Upgrade [not lighting] & New Mechanical)
      2) ESSER 3 (to include New Lighting, New Ceilings, toilet renovations)
   f. Ruleville Central Elementary School
      1) ESSER 2 (to include Electrical Upgrade [not lighting] & New Mechanical)
      2) ESSER 3 (to include New Lighting, New Ceilings, toilet renovations)

g. Ruleville Middle School
1) ESSER 3 (all items at school)

3. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
4. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:
   a. Project name and location.
   b. Name of Architect.
   c. Architect's project number.
   d. Contractor's name and address.
   e. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703 .
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
   a. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling fivepercent of the Contract Sum and subcontract amount.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
   a. Differentiate between items stored on-site and items stored off-site.
6. Provide separate line item in the schedule of values for initial cost of materials, each subsequent stage of completion, and for total installed value for that part of the Work.
7. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the schedule of values and Applications for Payment shall be complete include total cost and proportionate share of general overhead and profit for each item.
   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Transmittal: Submit five signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment .

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Sustainable design action plans, including preliminary project materials cost data.
5. Schedule of unit prices.
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.
8. Copies of building permits.
9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
10. Initial progress report.
11. Report of preconstruction conference.
12. Certificates of insurance and insurance policies.

H. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Updated final statement, accounting for final changes to the Contract Sum.
3. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
4. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
5. AIA Document G707-1994, "Consent of Surety to Final Payment."
6. Evidence that claims have been settled.
7. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 02220 – EXCAVATION AND EMBANKMENT

PART 1 - GENERAL

1.01 DESCRIPTION

A. This work shall consist of excavation and embankment required for site preparation, roadways, ditches, and borrow material, and includes the preparation of subgrade and foundations, the construction of embankments and other utilization or disposal of materials excavated, and the compaction and dressing of excavated areas and embankments.

B. Excavation will consist of the excavation and processing or disposal of all materials of whatever character encountered in the work.

C. Borrow excavation will consist of approved material required for the construction of embankments or other portions of the work. The Contractor shall make arrangements for obtaining borrow and shall pay all costs involved. The Contractor shall certify that the material, from his sources, has been tested and will meet specifications.

1.02 UNACCEPTABLE MATERIAL

A. All materials not conforming to the requirements of the specifications at the time they are used shall be considered as unacceptable and all such materials will be rejected and shall be removed immediately from the site of the work unless otherwise instructed by the Engineer.

B. The Engineer may designate as unsuitable those soils which cannot be properly compacted under satisfactory conditions. All unsuitable material shall be disposed of as directed.

C. When practicable, excavation and disposal of the material shall be conducted in such a manner that the most suitable material will be placed in the top courses of embankments. Adequate drainage which will conform to the finished drainage system shall be maintained.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.02 CONSTRUCTION REQUIREMENTS

A. Excavation and embankment shall be finished to reasonably smooth and uniform surfaces. Excavation operations shall be conducted so that material outside the

limits of slopes will not be unnecessarily disturbed.

B. If excavating operations encounter remains of prehistoric dwelling sites or other artifacts of historical or archeological significance, the operations shall be temporarily discontinued, and the appropriate authorities contacted to determine the disposition thereof. When so directed, the contractor shall excavate the site in a manner to preserve the artifacts encountered, and if required shall remove them from delivery to the custody of the proper state authorities.

C. Where excavation to grade results in a foundation, subgrade, or slope of unsuitable soil which, at the proper moisture content cannot be processed to the required density and stability; the unsuitable materials shall be removed and the area backfilled to the required grade with approved material. Slides or other soil failures shall be removed unless their removal is waived by the engineer. All unsuitable material shall be disposed of as directed.

D. Existing ponds shall be drained, mucked out and backfilled.

E. Excavation operations shall be so conducted as to minimize the loosening of materials outside the required slopes or below the indicated grade.

F. All earth cut slopes shall be dressed to smooth and uniform surfaces to conform to the grading plan. Allowable tolerances for cut slopes shall be plus or minus five-tenths (0.5) foot horizontally at finished grade elevation. On deep cuts, a greater tolerance is allowable but not to exceed an additional three-tenths (0.3) foot horizontally for each ten (10) feet of depth. Allowable vertical tolerances at finished grade elevation shall be plus or minus 0.10 foot in elevation.

3.03 EMBANKMENT CONSTRUCTION

A. Only approved materials excavated shall be placed in embankments and backfills; unsuitable or perishable materials such as rubbish, sod, brush, roots, loose stumps, logs, heavy vegetation, sawdust, etc. Shall not be incorporated in embankments. Rocks, broken concrete, or other solid material shall not be placed in embankment areas where building foundations are to be constructed, fences to be erected or on the sanitary sewage lagoon site.

B. Before constructing embankments all sod, vegetable matter, and unsuitable soil shall be removed from the surface upon which the embankment is to be constructed. The cleared surface shall be completely broken up by plowing, scarifying, or disk-harrowing to a depth of at least six inches. The loosened material shall then be compacted to the density specified. On deep cuts all grade points shall be undercut, backfilled with suitable excavation material, and compacted to the required density. The undercut at each grade point shall be approximately three feet below the subgrade in the embankment. The undercut

shall be extended a sufficient distance into the cut to provide an undercut grade at the point of intersection with the subgrade of not less than three feet below natural ground.

3.04 EMBANKMENT COMPACTION

A. Embankments shall be constructed in horizontal layers of approved material. Embankments under the building site and within 20 feet of building site perimeters, and all roadway embankments shall be constructed in 8 inch loose lifts with each lift being compacted to not less than 95 percent of standard maximum dry density (SMDD)at a moisture content 2 to 4 percent above the optimum water content as determined in accordance with ASTM d-698-78. All other embankments shall be compacted to not less than 90 percent SMDD. Each layer shall be processed as required to obtain moisture content which will permit the compaction specified.

B. During construction, embankments shall be kept shaped and drained.

C. Each compacted layer shall be scarified to a depth of not more than 2 inches to provide bond to the succeeding layer.

D. Sufficient time shall be allotted to the engineer to perform the necessary testing for approval of the in-place embankment prior to placing additional fill, and for performing all of the control tests necessary for assuring that a properly placed compacted fill is being obtained. The contractor shall furnish the necessary labor and shall assist the engineer in the performance of the necessary tests.

E. Any fill tested and found to be of a density lower than that specified shall receive additional processing and/or rolling as required to obtain the minimum compaction requirements.

3.05 MAINTENANCE OF EARTHWORK

A. The contractor shall satisfactorily maintain all portions of the work until the completion and acceptance of the contract. He shall replace, restore, or reconstruct without extra compensation all portions, including materials, determined by the engineer to have been displaced or damaged due to carelessness or negligence on the contractor's part. Carelessness or negligence may include but not limited to inadequate drainage; failure to remove forms or obstructions; failure to properly prosecute and complete work within the time specified in the contract; neglecting to establish erosion control items; failing to provide continuous maintenance as required or other avoidable causes for displacement or damages.

END OF SECTION

SECTION 02222 – EXCAVATION, TRENCHING AND BACKFILLING FOR UTILITY SYSTEMS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Scope of Work: Work under this Section shall consist of furnishing all materials, equipment, and labor for excavation, trenching and backfilling and shall include the necessary clearing, grubbing and preparation of the site; removal and disposal of all debris; excavation and trenching as required; all necessary sheeting, shoring and protection work; preparation of subgrades; pumping and dewatering as necessary or required; protection of adjacent property; backfilling; pipe embedment; and other appurtenant work.

PART 2 - PRODUCTS

2.02 BEDDING

A. Water Mains and Force Mains: Bedding for water mains and force mains shall be Condition "B", flat bottom, tamped backfill, with bell and sling holes excavated where necessary.

B. Sanitary Sewers:

1. Unless indicated otherwise on the plans, the bedding for sanitary sewers will be flat bottom, tamped backfill with bell holes carefully excavated at proper intervals so that no part of the load is supported by the bells. The full load shall rest on the barrel.

2. When a granular bedding is specified on the plans it shall be crushed rock or gravel, uniformly graded, with 100% passing the 1-1/2" sieve, 65% to 95% passing the 3/4" sieve, and not more than 10% passing the No. 4 sieve. Aggregate shall be placed from 3 inches below the sewer pipe to the pipe spring line, and shall be compacted by vibration or rodding.

PART 3 - EXCAVATION

3.02 GENERAL

A. The Contractor shall do all excavation of whatever substances encountered to depth shown on plans. Excavated materials not required for refill or backfill shall be removed from the site as directed by the Engineer.

B. Excavation for manholes and other accessories is to have 12-inch minimum and 24-inch maximum clearances on all sides.

C. Excavation shall not be carried below the required level.

D. Excess excavation below the required level shall be backfilled at the Contractor's expense with earth, sand, gravel, or concrete, as directed by the Engineer, and thoroughly tamped.

E. Unstable soil shall be removed and replaced with soil suitable to the Engineer, which shall be thoroughly tamped. The Engineer shall determine the depth of removal of unstable soil.

F. The Contractor shall be responsible for obtaining any additional fill material that might be required.

G. The Contractor shall remove, by pumping or other means approved by the Engineer, any water in excavations.

3.03 TRENCH EXCAVATION

A. Trenches shall be excavated to a width which will provide adequate working space and pipe clearance for proper installation. Trench bottom shall be true and even to provide support for the full length of the pipe barrel.

B. Maximum trench widths below an elevation of 6 inches above the top of installed pipe shall be as follows:

Pipe Size	Trench Width
6"	1'-9"
8"	2'-0"
10"	2'-3"
12"	2'-6"

3.04 SHEETING AND SHORING

A. Except where banks are cut back on a stable slope, excavation for structures and trenches shall be properly and substantially sheeted, braced, and shored, as necessary, to prevent caving or sliding, to provide protection for workmen and the work, and to provide protection for existing structures and facilities. Sheeting, bracing, and shoring shall be designed and built to withstand all loads that might be caused by earth movement or pressure, and shall be rigid, maintaining shape and position under all circumstances.

B. Trench sheeting shall not be pulled unless pipe strength is sufficient to carry trench loads based on trench width to the back of the sheeting. Also it shall not be pulled after backfilling. When ordered by the Engineer, wood sheeting shall be left permanently in the trench. Payment for such wood sheeting will be based on an allowance of $200.00 per each MBM of sheeting left in place.

C. Where trench sheeting is left in place, such sheeting shall not be braced against

the pipe, but shall be supported in a manner which will preclude concentrated loads or horizontal thrusts on the pipe. Cross braces installed above the pipe to support sheeting may be removed after pipe embedment has been completed.

3.05 TEMPORARY BRIDGES OR CROSSINGS SHALL BE BUILT BY THE CONTRACTOR WHERE REQUIRED TO MAINTAIN TRAFFIC.

3.06 TESTS

A. Tests for workmanship on utility lines shall be conducted in accordance with the applicable utility specification before backfilling.

3.07 BACKFILLING

A. After pipes have been tested and approved, backfilling shall be done with approved material free from large clods or stones.

B. Trenches:

1. Backfill material shall be placed evenly and carefully around and over pipe and shall be compacted to not less than 95 per cent of maximum density as determined by ASTM Method, Designation D-698.

2. Water settling will not be permitted in clay soils. It may be required at the option of the Engineer in sand soils.

C. Trench under Roadway and Areas to be Paved: Material shall be placed in 8 inch maximum layers after filling 1 foot above pipe as previously described. Each layer shall be compacted to density equal to that of adjacent original material so that pavement can be placed immediately.

D. Manholes and Other Structures. All forms, trash, and debris shall be removed and cleared away. Approved backfill material may be from excavation or borrow; it shall be free from rock, lumber or debris. Backfill material shall be placed symmetrically on all sides in 8 inch maximum layers. Each layer shall be moistened and compacted to not less than 95 per cent of maximum density as determined by ASTM Method, Designation D-698.

E. Pipes in Fill Section or Projecting into Fill Section: Foundation support shall be as shown on the plans. Where pipe is not structurally supported, unstable material shall be removed. A pipe bed and embankment, if required, shall be constructed of selected material and compacted. Selected material shall be placed symmetrically on each side of pipe in 6-inch maximum layers. Material shall be compacted thoroughly in 6 inch layers to 95 per cent ASTM Method, Designation T-698. Layers shall be placed and compacted until a berm is formed

at least one pipe diameter on each side of pipe and 12" minimum fill over pipe.

F. Maintenance. The Contractor shall refill for settlement all backfilled areas for a period of one (1) year after acceptance.

3.08 CLEAN-UP

A. The Contractor shall clean up and dispose of all excess material, trash, wood forms, and other debris. Particular care shall be exercised to clean up and grade areas adjacent to trenches and structures after backfilling to assure a neat appearance and the preservation of prevailing grades. In no case will piles of loose dirt be permitted to remain.

END OF SECTION

SECTION 02226 – SANITARY SEWER, GRAVITY

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. The work covered by this Section of the Specifications consists of furnishing all plant, labor, equipment, appliances, and materials, and performing all operations in connection with the construction of the sanitary sewers and appurtenant structures, including service lines and plugged wyes for future service connections, complete, and in strict accordance with the terms and conditions of the Contract.

1.02 APPLICABLE SPECIFICATIONS

A. The following Specifications form a part of this Specification:

American Society for Testing Materials Specifications:

C-48	Standard Specifications for Grey Iron Castings
C-443	Joints for Circular Concrete Sewer and Culvert Pipe
C-478	Precast Reinforced Concrete Manhole Sections
D-1784	Rigid Poly (Vinyl Chloride)(PVC) Compounds and Chlorinated Poly (Vinyl Chloride)(PVC) Compounds
D-2321	Underground Installation of Flexible Thermoplastic Sewer Pipe.
D-2412	External Loading Properties of Plastic Pipe by Parallel Plate Loading
D-3034	Type PSM Poly (Vinyl Chloride) PVC Sewer Pipe and Fittings
D-3212	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
F-477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.03 GENERAL

A. Gravity sewers shall be constructed in conformance with this Section of the Specifications. Excavation and backfilling shall conform to Section 02220, EXCAVATION, TRENCHING AND BACKFILLING FOR UTILITY SYSTEMS. Work covered by this Section will not be accepted until backfilling connected with the work has been completed satisfactorily. Any section of the sewer that is found defective in material, alignment, grade or joints before acceptance shall be corrected to the satisfaction of the Engineer.

PART 2 - PRODUCTS

2.02 MATERIALS

A. Sewer service lines, wyes, increasers, fittings and gravity sewer pipe shall be polyvinyl chloride.

B. Polyvinyl Chloride Pipe (PVC) gravity sewer pipe shall conform to ASTM designation D-3034 (SDR-26). Rubber gaskets shall meet the requirements of ASTM F-477. Pipe, gaskets, fittings and specials shall be Certainteed, Johns-Manville or approved equal. All pipe and fittings shall be made from PVC components as defined and described in ASTM D-1784. Minimum pipe stiffness (F/Y) at 5% deflection shall be 46 PSI for all sizes except 4", which shall be 51 PSI, when tested in accordance with ASTM D-2412. Pipe and fittings shall be installed in accordance with ASTM D-2321 and the manufacturer`s instructions.

C. Ductile Iron Pipe shall conform to the requirements of Section 31 of these Technical Specifications. Bacteriological sampling will not be required.

PART 3 - EXECUTION

3.02 INSTALLATION

A. Location

1. Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten foot separation, the appropriate reviewing agency may allow deviation on a case-by-case basis, if supported by data from the design engineer. Such deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on one side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer.

B. Crossings Above Water Lines

1. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to prevent damage to the water main.

C. PIPE LAYING

1. The bottom of the trench shall be shaped to give substantially uniform circumferential support to the lower fourth of each pipe. Pipe laying shall proceed up-grade with the spigot ends of bell-and-spigot pipe pointing the direction of the flow. Each pipe shall be laid true to line and grade and in such a manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the sewer shall be cleared of all dirt and superfluous materials of every description. Where cleaning after is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. If the maximum width of the trench at the top of the pipe, specified in Section 02220, EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITY SYSTEMS, is exceeded for any other reason than by order of the Engineer, the Contractor shall install at his own expense such concrete cradlings, pipe encasement, or other bedding as may be required by the Engineer to support the added load of the backfill. Trenches shall be kept free from water until the pipe-jointing material has set, and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work. At times when work is not in progress, open ends of pipe and fittings shall be securely closed to the satisfaction of the Engineer so that no trench water, earth, or other substance will enter the pipe or fittings.

D. Leakage Tests

1. All gravity sewers, including manholes, shall be tested for leakage and shall satisfactorily meet the test requirement prior to final acceptance of the work. The Engineer, during the course of work, may order leakage tests made on certain sections of the sewer as they are completed. His right is reserved to order the tests performed before backfill is placed over the pipe joints.

2. Upon completion of the entire sewer, the Contractor shall make a final leakage test for the entire length installed by him (if less than 1,000 feet), or in sections as directed by the Engineer. The Contractor shall make all necessary repairs or replacements, and shall repeat the final leakage test or tests until the specified minimum leakage requirements are met.

3. The Contractor shall furnish all labor, testing materials and equipment, (such as plugs and standpipes), and shall perform the test described herein under the supervision, and to the satisfaction,

of the Engineer.

The test consists of filling the pipe with water to provide a head of at least two feet above the top of the pipe or two feet above ground water, whichever is higher, at the highest point of the pipe line under test, and then measuring the loss of water from the line by the amount which must be added to maintain the original level. In this test the line must remain filled with water for at least 24 hours prior to the taking of measurements. Exfiltration shall be measured by the drop of water level in a closed-end standpipe or in one of the sewer manholes available for convenient measuring. When a standpipe and plug arrangement is used in the upper manhole of a line under test, there must be some positive method of releasing entrapped air in the sewer prior to taking measurements.

4. The test length intervals shall be as ordered or approved but in no event shall it exceed 1,000 feet. In the case of sewers laid on steep grades, the length of line to be tested by exfiltration at any one time may be limited by the maximum allowable internal pressure on the pipe and joints at the lower end of the line.

5. The test period, wherein the measurements are taken, shall not be less than two hours.

6. The total leakage of any section tested shall not exceed the rate of 200 gallons per inch diameter of pipe per mile of sewer per day for any section between successive manholes, including manhole leakage.

7. If leakage exceeds the specified amount, the Contractor shall make the necessary repairs or replacements required permanently to reduce the leakage to within the specified limit, and the tests shall be repeated until the leakage requirement is met.

E. Limit of Trench Opened

1. Not more than 300 feet of trench shall be opened in advance of pipe laying unless permitted by the Engineer.

2. Unless otherwise specified or directed by the Engineer the first section of sanitary sewer constructed of approximately 1000 feet in length shall be tested before additional excavation is permitted.

F. Air Testing

1. It is suggested that the Contractor have air testing equipment such as Charne Industrial, Inc., Air-Loc System, available for locating leaks when sections fail the leakage test.

3.03 CONCRETE CRADLE AND ENCASEMENT

A. The pipe shall be supported on a concrete cradle or encased in concrete where indicated on the drawings or required by the Engineer. The concrete shall consist of one part portland cement, 2 1/2 parts sand, and 5 parts gravel, with just enough water to produce a workable consistency.

3.04 CONNECTIONS

A. All connections which are for future use shall be properly capped, by use of stopper, approved by the Engineer, cemented in accordance with the instructions of the Engineer.

B. No pipe shall be cut for connections except when permitted by the Engineer.

C. Service Connections and Cleanouts

1. Cleanouts shall be installed where shown on the plans or as directed by the Engineer. Wyes shall be installed as shown or as directed by the Engineer.

D. Pipes Cut to Fit Masonry

1. The ends of pipe which enter masonry shall be neatly cut to fit the inner face of the masonry. When directed, such cutting shall be done before the pipes are built in.

3.05 MANHOLES

A. Manholes shall be precast concrete and shall be complete with cast iron frames, covers and steps as shown on the drawings.

B. General

1. Invert channels shall be smooth and accurately shaped, and shall be constructed, where possible, by laying full section sewer pipe through the manhole and cutting out the top half after the concrete base is constructed and sufficiently set. Manholes shall be built so that the cover, when placed, will be at the required grade. Short stubs with flexible joints or couplings shall be used at all manhole walls to absorb minimal deflection. Cast-iron shall conform to

ASTM Specification A-48.

C. Precast Manholes

1. Precast reinforced concrete manholes shall consist of reinforced riser sections, an eccentric cone or flat slab top section, and a base section, all conforming with details as shown on the Plans.

2. Precast reinforced concrete sections shall meet the requirements of the latest edition of ASTM Designation C-478, and shall not have more than two (2) holes for the purpose of handling.

3. Joints for precast sections shall be concrete pipe type and shall be sealed with rubber gaskets. Rubber gaskets shall meet ASTM Designation C-443.

4. Flexible manhole pipe connections shall be Kor-N-Seal as manufactured by NPC Systems, Inc.; Press Wedge as manufactured by Press-Seal Gasket Corporation, or approved equal and shall meet ASTM Designation C-923.

5. A minimum of four courses of brick shall be constructed on the topmost section. Brick shall be coursed so that the manhole cover and frame, when placed, will be at the required grade. Brick work shall be as specified for brick manholes. Masonry mortar shall be used to grout sewer pipe in the pipe openings. Shop drawings showing the design of the manholes, and size, location and inverts of pipe openings shall be submitted to the Engineer for approval before fabrication is begun. Design will show that the manhole is capable of resisting flotation if, in the opinion of the Engineer, ground water levels can be expected to reach a level where flotation would be possible. Where bedding is required for precast bottoms because of unstable soil conditions, such bedding shall be furnished by the Contractor without extra compensation.

3.06 COVERS, AND GRATINGS

A. Frames, covers, and gratings shall be of the type and duty shown on the plans. Iron Castings shall conform to the Standard Specifications for Grey Iron Castings, ASTM Specifications A-48, Class 30.

3.07 CONNECTION TO BUILDING SEWER

A. The connection between the sewer service line and the existing building sewer shall be water-tight and root-proof. Clean-outs shall be installed at or near the connection if the change in direction of flow is greater than

forty-five degrees.

3.08 MAINTENANCE

A. All sewer structures shall be thoroughly cleaned and maintained in workable condition until final acceptance.

END OF SECTION

SECTION 02310 – EARTHWORK AND SITE GRADING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of contract, including General and Supplementary Conditions apply to this Section

1.2 SUMMARY

A. Excavating and Backfilling for Demolition and Removal of Structures – for excavation and backfill required in conjunction with the removal of the identified structures.

B. Final grading, together with placement of topsoil for lawns and planting.

1.3 DEFINITIONS

A. Excavation consists of removal of material encountered to accomplish demolition of improvements and subsequent disposal of materials removed.

B. Subgrade: The undisturbed earth or the compacted soil layer immediately below topsoil materials.

C. Structure: Buildings, driveways, sidewalks, foundations, slabs, planter walls, curbs, or other man made stationary features occurring above or below ground surface.

1.4 SUBMITTALS

A. Test Reports: Submit the following reports directly to Owner from the testing services, with copy to Contractor:

1. Field reports, in-place soil density tests as required.

1.5 QUALITY SSURANCE

A. Codes and Standards: Perform excavation work in compliance with applicable requirements of authorities having jurisdiction.

B. Testing and Inspection Service: Contractor shall utilize the qualified independent Geo-technical testing laboratory under contract with the Owner to perform soil testing and inspection service during earthwork operations as required.

1.6 PROJECT CONDTIONS

A. Existing Utilities: Locate existing underground utilities in areas of excavation work. If utilities are indicated to remain in place, provide adequate means of support and protection during earthwork operations.

1. Should unmapped, or incorrectly mapped, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

2. Do not interrupt existing utilities serving facilities occupied by Owner or others, during occupied hours, except when permitted in writing by Owner and then only after acceptable temporary utility services have been provided.
   A. Provide minimum of 48-hour notice to Owner and receive written notice to proceed before interrupting any utility.
3. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shutoff of services if lines are active.

B. Use of Explosives: **Use of explosives is not permitted**.

C. Protection of Persons Property: Barricade open excavations occurring as part of this work and post with warning lights.
   1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
   2. Performance excavation by hand within drip line of all trees to remain. Protect root systems from damage or dry out to the greatest possible extent possible. Maintain moist condition for root system and cover exposed roots with moistened burlap.

PART 2 - PRODUTS

2.1 SOIL MATERIAL

A. Satisfactory soil materials are defined by the Geotechnical report (if included).
B. Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Excavation is unclassified and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

3.2 STABILITY OF EXCAVATIONS

A. General: comply with specifications.

3.3 DEWATERING

A. Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.
   1. Do not allow water to accumulate in excavations. Remove water to prevent soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.
   2. Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or runoff areas. Do not use trench excavations as temporary drainage ditches.

3.4 STORAGE OF EXCAVATED MATERIALS

A. Stockpile excavated materials acceptable for backfill and fill where directed. Place, grade, and shape stockpiles for proper drainage.
   1. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain.
   2. Dispose of excess excavated soil material and materials not acceptable for use of backfill or fill.

3.5 NOT USED

3.6 NOT USED

3.7 NOT USED

3.8 NOT USED

3.9 BACKFILL AND FILL

A. General: Place soil material in layers to required subgrade elevations, using satisfactory excavated or borrow material, or a combination, using materials specified in Part 2 of this Section.
B. Backfill excavations as promptly as work permits, but not until completion of the following:
   1. Inspection, testing, approval, and recording locations of underground utilities have been performed and recorded.
   2. Removal of trash and debris from excavation.

3.10 PLACEMENT AND COMPACTION

A. Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil

materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break up sloped surface steeper than 1 Vertical to 4 horizontal so that fill material will bond with existing surface.

1. When existing ground surface has a density less than that specified under compaction for area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

B. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

C. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

D. Place backfill and fill materials evenly adjacent to structures, piping, or conduit to required elevations. Prevent wedging action of backfill against structures or displacement of piping or conduit by carrying materials uniformly around structures, piping, or conduit to approximately same elevation in each lift.

E. Control soil and fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Owner if soil density tests indicate inadequate compaction.

1. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density, in accordance with ASTM D 1557:
   a. Under lawn or unpaved areas, compact top 6 inches of subgrade and each layer of backfill or fill material at 90 percent maximum density.
2. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material. Apply water in minimum quantity as necessary to prevent free water from appearing on surface during or after compaction operations.
   a. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
   b. Stockpile or spread soil material that has been removed because it is too wet to permit compaction. Assist drying by disking, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

3.11 GRADING

A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surfaces within specified

tolerances, compact within uniform levels or slopes between points where elevations are indicated or between such points and existing grades.

1. Grade site to prevent ponding. Finish surfaces free from irregular surface changes and finish lawn or unpaved areas to receive topsoil to within not more than .1 foot above or below required subgrade elevations.

B. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

3.12 NOT USED

3.13 FIELD QUALITY CONTROL

A. Quality Control Testing During Construction: As required, allow testing service to inspect and approve each subgrade and fill layer before further backfill or construction work is performed.
   1. Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable.
      a. Field density tests may also have performed by nuclear method in accordance with ASTM D 2922, providing that calibration curves are periodically checked and adjusted to correlate tests performed using ASTM D 1556. In conjunction with each density calibration check, check the calibration curves furnished with the moisture gages in accordance with ATM D 3017.
      b. If field tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each different type of material encountered, and at intervals as directed by the Owner.
   2. If in opinion of Owner, based on testing service reports and inspection, subgrade or fills that have been placed are below specified density, perform additional compaction and testing until specified density is obtained.

3.14 EROSION CONTROL

A. Provide erosion control methods in accordance with requirements of authorities having jurisdiction.

3.15 MAINTENANCE

A. Protection of graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
B. Repair and reestablish grades in settled, eroded, and rutted areas to

specified tolerances.

C. Reconditioning compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

D. Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn, or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.16 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash, and debris, and dispose of it off Owner's property.

A. This work shall consist of excavation and embankment required for site preparation, roadways, ditches, and borrow material, and includes the preparation of subgrade and foundations, the construction of embankments and other utilization or disposal of materials excavated, and the compaction and dressing of excavated areas and embankments.

B. Excavation will consist of the excavation and processing or disposal of all materials of whatever character encountered in the work.

C. Borrow excavation will consist of approved material required for the construction of embankments or other portions of the work. The Contractor shall decide for obtaining borrow and shall pay all costs involved. The Contractor shall certify that the material, from his sources, has been tested and will meet specifications.

END OF SECTION

SECTION 02370 – EROSION CONTROL

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. This work shall consist of plowing, loosening and pulverizing the soil in the area to be seeded, furnishing, spreading and incorporating fertilizers of the type(s) and the amount designated, to form suitable seedbeds, furnishing, planting, covering and compacting seeds specified, furnishing, transporting, and planting approved grass sod and, providing plant establishment on designated areas. The work shall also consist of furnishing, transporting, placing, and anchoring vegetative mulch on slopes, shoulders, and other areas designated.

PART 2 - PRODUCTS

2.02 MATERIALS

A. All fertilizers shall comply with current State fertilizer laws. All fertilizer shall be incorporated within twenty-four (24) hours following spreading unless otherwise directed. Incorporation of fertilizer into soils other than topsoil shall include standard ground preparation. When topsoil is used, the fertilizer shall be incorporated into the top three inches. The type and rate of application are:

Agricultural Limestone	2 tons per acre
Commercial Fertilizer (13-13-13)	600 lbs per acre
Ammonium Nitrate	200 lbs per acre

B. Seed shall be acquired seedmen registered with the State Department of Agriculture and shall comply with the seed laws of the State.

C. Approved legume seeds shall be treated with leguminous inoculant. The inoculant for treating leguminous seeds shall be standard, pure culture of nitrogen fixing bacteria. The seed shall be treated at the rate specified and according to the directions shown on the container of the inoculant and before the expiration date for use of the inoculant as also shown on the container.

D. Seeding mixtures and rates of application shall be as follows:

Common Bermudagrass	@ 15 lbs./acre
Bahiagrass	@ 40 lbs./acre
Crimson Clover	@ 20 lbs./acre

No grassing will be permitted between November 15 and March 1.

E. Solid sod shall be Bermuda (common), Bahia, or other approved sod species and shall be live, fresh, growing grass with at least one and one-half (1/2) inches of soil adhering firmly to the roots when placed. The sod shall be reasonably free from obnoxious weeds or other grasses, and shall not contain any matter deleterious to its growth, or which might affect its subsistence or hardiness when transplanted. In no event shall more than three days elapse between the cutting and planting of the sod.

F. The rate of application of vegetative mulch shall be 2 tons per acre. The vegetative materials for mulch shall be approved baled straw of wheat, oat, rye grain, or rice or broomsage or Bahia grass (with seed heads) which has reached maturity prior to cutting.

G. All of the above vegetative materials shall have been properly cured prior to baling and shall be reasonably free from Johnson Grass and other obnoxious grasses and weeds. Vegetative material shall be reasonably bright in color, dry, and shall not be musty, moldy, or of otherwise low quality. Vegetative material that is wet or that has been baled green (nor cured properly) shall not be used.

PART 3 - EXECUTION

3.02 CONSTRUCTION REQUIREMENTS

A. Ground preparation shall consist of plowing and pulverizing the soil to a depth of not less than four inches within the area to be seeded or sodded. The soil area shall be thoroughly disked and harrowed until well pulverized to the full depth and the area shall present a smooth, uniform, loose appearance with all large clods, earth balls, boulders, stumps, large roots or other particles which will interfere with the work removed.

B. Full advantage shall be taken of weather and soil conditions and no attempt shall be made to prepare the soil while it is wet or in an otherwise non-tillable condition.

C. All fertilizer shall be incorporated within twenty-four (24) hours following spreading unless otherwise directed.

D. Legume seeds treated with inoculant must be sown separately from grass seed treated with Thiram. Legume seeds shall be treated immediately before sowing. Should legume seeds become dry, they shall be reinoculated.

Seeds shall be uniformly sown over the entire area with approved mechanical seeders. Seeding shall not be done during windy weather or when the ground is frozen, extremely wet, or in an untillable condition.

E. All seeds shall be covered lightly with soil by raking, rolling, or other approved methods, and the area compacted with a cultipacker.

F. Sod shall be placed on prepared surfaces with edges in close contact and starting at the lowest point and working upward. Cracks between blocks of sod shall be filled with small pieces of fresh sod, and all cracks too small for sod shall be filled by a light dressing of approved soil. The entire sodded area shall then be compacted and watered. Light rollers, hand tamps, or other approved equipment shall be used for compacting. On areas where the sodding might slide due to the height and slope of the surface or nature of the soil, the sod shall be "pegged" with wooden pegs driven through the sod blocks into firm earth. Pegs shall be at intervals deemed suitable to hold the sod in place.

G. Mulching shall be performed as soon as practicable (no later than twenty-four (24) hours after seeding unless weather conditions are such that mulch cannot be placed).

H. Mulching equipment shall be capable of maintaining a constant air stream which will blow or eject controlled quantities of mulch in a uniform pattern.

I. Mulch stabilizers shall consist of dull blades or disks without camber and approximately 20 inches in diameter. The disks shall be notched, shall be spaced at approximately 8 inches and shall be equipped with scrapers. The stabilizer mass shall be approximately 1000-1200 pounds, shall have a working width of no more than 8 feet), and shall be equipped with a ballast compartment so that when directed, mass can be increased.

J. Mulching shall be placed uniformly on all seeded and top seeded areas within 24 hours following seeding unless weather conditions are such that mulching cannot be performed. Placement shall begin on the windward side of areas and from tops of slopes. In its final position the mulch shall be loose enough to allow air to circulate but compact enough to partially shade the ground and reduce erosion.

K. The mulch shall be anchored by the use of a mulch stabilizer. The mulch shall be punched into the soil for a minimum depth of 1 inch .

L. The contractor shall mow or otherwise remove or destroy all undesirable growth on all areas mulched to prevent competition with the desired plants and to prevent reseeding of undesirable growth. All mowing shall be a

part of protection and maintenance.

M. The contractor shall maintain and protect mulched areas until final acceptance of the project. He shall take every precaution to prevent unnecessary foot and vehicular traffic and shall repair and restore immediately any displacement of mulch without extra compensation.

3.03 PLANT ESTABLISHMENT

A. When and area has been fertilized, seeded and mulched, growth or coverage shall be considered acceptable when a satisfactory stand and growth of in-season plantings have sufficiently covered the area seeded to provide ample erosion protection exclusive of any protective cover provided by the mulch. It shall be the responsibility of the Contractor that the seed planted has produced a living and growing vegetative cover at the time of acceptance.

B. Plant establishment and maintenance shall consist of the necessary protection of the seeded areas and other operations of maintenance including watering, weeding, mowing, repairing, and reseeding of all areas damaged or eroded as a result of the Contractor's operations, negligence or by normal rains or storms.

C. Inspection for acceptance will not be made until a minimum period of thirty (30) days has elapsed after the final planting of seed.

END OF SECTION

SECTION 02510 – WATER DISTRIBUTION LINE (PVC)

PART 1 - GENERAL

1.01 SCOPE

A. The work covered by this Section of the Specifications consists of furnishing all plant, labor, equipment, appliances and materials and in performing all operations in connection with the construction of PVC potable water pipelines.

PART 2 - PRODUCTS

2.02 PIPE

A. Polyvinyl Chloride Pipe (PVC Plastic): Pipe shall be white, Type I, PVC 1120 or equal, as approved by the Engineer and shall bear the National Sanitation Foundation Seal of Approval. Pipe shall be either coupled or belled at one end by the manufacturer. Pipe three inches (3") in diameter or less, shall be Schedule 40 and conform to the United States Department of Commerce Standard CS-207. Pipe larger than three inches (3") shall be DR 18 (Dimension Ratio), pressure rated at 150 PSI, and shall conform to the current AWWA Standard C900.

2.03 JOINTS

A. Joints: Plastic joints for pipes less than 3 inches in diameter shall be either solvent-welded or gasket type. Pipe larger than 3" shall be furnished with restrained rubber gasket joints. Gaskets and lubricants shall be made from materials that are compatible with the plastic material and with each other when used together, but will not support the growth of bacteria and will not adversely affect the potable qualities of the water that is to be transported.

2.04 FITTINGS

A. Bends and Fittings: Bends and fittings for pipes less than three inches in diameter shall be Sloane, Clow Bell-Tite, or equal, as approved by the Engineer. All fittings, gaskets, solvents, etc., shall be obtained from the same source so as to form a compatible system. Fittings for rubber gasket joints shall be pre-assembled with bell-bell and/or spigot adapters by the manufacturer. All fittings shall bear the National Sanitation Foundation Seal of Approval. Bends and fittings for pipes three inches larger shall be ductile-iron manufactured in accordance with ANSI A21.10.

2.05 GATE VALVES

A. Gate Valves: Valves two inches (2") and larger shall be Clow AWWA Gate

Valves, No. F-5065, Mechanical Joint, Non-Rising Stem or equal, furnished with the Mechanical Joint Transition Gaskets for PVC pipe. Clow F-2452 or equal cast iron valve box shall be furnished and installed with each valve.

2.06 MARKING TAPE

A. Utility Marking Tape: Detectable underground utility marking tape to be buried one to two feet above the plastic pipe shall have a minimum 5 mil overall thickness with no less than a 35 gauge solid aluminum foil core. Foil must be visible from both sides and the adhesive that bonds the protective plastic jacket to both sides of the foil must be applied directly to the film and foil layers with no inks or printing extending to the edges of the tape. The adhesive will not contain any dilutants, pigments or contaminants and shall be specially formulated to resist degradation by elements normally encountered in the soil. All printing shall be encased to avoid run-off. Tape, blue in color, shall be "Magnetec" or equal.

PART 3 - EXECUTION

3.02 INSTALLATION

A. Manufacturer's Instructions: All joints of whatever nature shall be made by workers skilled in this trade in strict accordance with the manufacturer's instruction and of materials as specified in their brochures.

B. General

1. Only workers competent at laying plastic pipe shall be employed on this phase of the work, and complete suitable equipment necessary for the execution of same is required. Any incompetency observed by the Engineer must be removed at his request, and where improper equipment or lack of same appears to be impairing the quality or speed of work, such adjustments of same shall be made to the Engineer's satisfaction.

2. The pipe, fittings, and valves shall be placed in the trench with care. Under no circumstances shall pipe or other materials be dropped or dumped into the trench. The pipe shall not be dragged in a manner which would cause scratching of the pipe surface. An excessive amount of scratching on the surface of the pipe will be considered cause for rejection.

3. If solvent welded joints are used, the pipe shall be snaked into the trench, either employing the natural snaking tendency or the pipe shall be laid from one side to the other on alternate lengths.

C. Pipe Cleaning During Laying Operations: All joints and the male end of the pipe shall be free of foreign matter. At the termination of pipe laying the open end of the pipeline shall be closed off by a suitable cover until laying operations are

resumed.

D. Inspection of Materials During Construction: Any materials not meeting the specifications, or obviously faulty material, shall be rejected by the Engineer and removed from the job site by the Contractor. At the option of the Engineer, joints may be cut from the pipeline for inspection. No more than two joints of each pipe size laid shall be cut out in any one day for inspection unless a joint examined proves unsatisfactory to the Engineer. In case of an unsatisfactory joint, joints shall be cut out of the line and examined until two consecutive joints examined prove satisfactory.

E. Detectable Marker: A detectable underground utility marking tap shall be placed in the trench on top of all non-metallic pipe before backfill operations begin. Backfill material shall be placed in the trench in a manner so as not to disturb the tape.

F. PVC Thread Sealant: This material shall be Liquid-o-Ring or approved equal.

G. Breaks in Pipe or Joints: Breaks shall be repaired to the satisfaction of the Engineer and at the expense of the Contractor.

H. Cutting Pipe: All cutting of the pipe shall be done in a neat workmanlike manner with the least amount of waste and without damage to existing or new lines. A fine tooth saw, tubing cutter or similar tool may be used to cut the pipe. Cut must be square and ragged edges removed with a cutting tool and/or file. No extra compensation will be made for cutting necessary to bring valves, etc. to their proper location.

I. Trench Width and Cover: The trench width shall be a minimum of three times the nominal diameter of the pipe. All pipe shall be laid with a protective cover of compacted material to a depth of not less than 36 inches.

J. Thrust Blocks: Thrust blocks will be installed at all 1/8 or larger bends and at all Tees, Caps and Plugs.

K. Bed and Cover

1. Each section of pipe in the trench shall rest upon the pipe bed for the full length of its barrel. The bottom of the trench shall be free from rocks, clods, or other sharp-edged objects. The sub-grade upon which the pipe is placed shall consist of material suitable for supporting the pipe without excessive settlement or stress development. If the pipe is to be laid in a trench having a rock bottom, three inches of sand or other suitable bed material shall be prepared before the pipe is lowered into the trench.

2. Backfilling shall be carefully placed to avoid dropping rocks or large clods

on the pipe. All backfill within six inches of the pipe shall contain no stones larger than one inch.

3. Service lines and laterals must be assembled so that no strain is placed on the pipe during or after backfill operations. After laying of the pipe is completed, it shall be center loaded with backfill to prevent arching and whipping under pressure. Center loading should be done carefully so that joints shall be completely exposed for examination during testing, unless conditions warrant complete backfill before testing.

L. Hydrostatic Testing: Prior to final acceptance by the Owner, the installed pipe shall be tested for pressure and leakage in accordance with the methods prescribed by ANSI/AWWA C-600-82, Section 4. All tests and testing equipment shall be provided by the Contractor at no cost to the Owner. Water which is introduced into the line to determine leakage may be measured by pumping water from a vessel of known volume, or by use of a calibrated water meter. If a meter is used it must have the capability of accurately measuring the low flows which maybe required to maintain the test pressure on the line. A displacement type meter with sweep hand dial is recommended. One complete revolution of the sweep hand should represent not more than ten gallons.

M. Removal of Air: In the event air is admitted to the pipeline after being expelled for the hydrostatic tests, such air shall be removed prior to completion of the system and acceptance by the Owner. In no case shall be system be placed into operation before removal of air.

3.03 STERILIZATION OF COMPLETED LINE

A. Before potable water lines are placed in service, the entire line shall be chlorinated. Chlorine may be applied by the following methods: liquid-chlorine gas-water mixture, direct chlorine gas-water mixture, direct chlorine gas feed, or calcium hypochlorite and water mixture.

B. The chlorinating agent shall be applied at the beginning of the section adjacent to the feeder connection and shall be injected through a corporation cock, hydrant, or other connection insuring treatment of the entire line.

C. Water shall be fed slowly into new line with chlorine applied in amounts to produce a dosage of 100 p.p.m. Mains previously filled shall be treated to a concentrated dosage at intervals along the line and retained for a period of 8 hours or more. A residual of not less than 20 p.p.m. shall be produced in all parts of the line.

D. During the chlorination process all valves and accessories shall be operated.

E. After chlorination, the water shall be flushed from the line at its extremities until

the replacement water test after a 24 hour rest period are chemically and bacteriologically to those of the permanent source of supply.

3.04 BACTERIOLOGICAL SAMPLES

A. Following chlorination for disinfection of the water mains and accessories, bacteriological samples will be taken by the Owner or their Engineer for analysis by the State Board of Health. The system will not be accepted until the samples are found to be free of coliform organisms.

3.05 CLEAN-UP

A. Upon completion of the installation of the water lines and appurtenances, all debris and surplus materials resulting from the work shall be removed.

3.06 APPROVAL OF MATERIALS

A. Manufacturer's Certificate: Materials may be used accompanied by manufacturer's certificate of compliance, pending any tests that may be made by the Engineer.

3.07 GUARANTEE

A. The Contractor will furnish a guarantee, satisfactory to the Owner, to the effect that he will, for a period of one year from the date of acceptance, repair any leaks, or defects in the system which result by reason of faulty material furnished by the Contractor or faulty workmanship on the part of the Contractor. This shall include refilling and compacting sunken trenches and repairing damage to pavements, structures, etc.

END OF SECTION

Addendum One - February 22, 2022

SECTION 02630

STORM DRAINAGE UTILITIES

PART 1 - GENERAL

1.1 SUMMARY

A. This work shall consist of the furnishing and installation of storm drainage pipe and fittings in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans. It shall also consist of furnishing all materials and joining the work to other pipe, catch basins, inlets, etc. as may be required to complete the work as designed. The extent and location of each type of drainage piping is shown on the plans.

B. Types of drainage piping required include the following:

1. HDPE Storm pipe and fittings
2. Perforated HDPE Storm pipe and fittings
3. HP Storm pipe and fittings
4. Polyvinyl Chloride (PVC) pipe and fittings

C. Related Sections include the following:

1. Section “Site Earthwork”

1.2 SUBMITTALS

A. Product Data: For each type of product specified. Indicate products conform to specified requirements.

B. Manufacturer’s installation instructions: Indicate special procedures required to install products specified.

C. Field quality-control test reports.

D. Project record documents: Accurately record the following.

1. Actual locations of pipe runs, connections, and invert elevations.
2. Identify and describe unexpected variations to subsoil conditions and locations of uncharted utilities.

PART 2 - PRODUCTS

2.1 HDPE PIPE AND FITTINGS

A. Manufacturers

1. Advanced Drainage Systems (ADS), Inc.
2. Approved Equivalent

B. Corrugated HDPE pipe and fittings 8” to 10” diameter shall be ADS N-12 IB piping or approved equivalent with a smooth interior that conforms to the requirements of AASHTO M254 (Type S).

C. Corrugated HDPE pipe and fittings 12” to 36” diameter shall be ADS N-12 IB piping or approved equivalent with a smooth interior that conforms to the requirements of AASHTO M294 (Type S).

D. Joints for HDPE pipe shall consist of a bell and spigot type joint with an O-ring rubber gasket conforming to the requirements of ASTM F477.

2.2 PERFORATED HDPE PIPE AND FITTINGS

A. Manufacturers

1. Advanced Drainage Systems (ADS), Inc.
2. Approved Equivalent

B. All perforated HDPE pipe shall be wrapped with a geo-textile filter fabric equal to “ADS Sock” or approved equivalent.

C. Joints for HDPE pipe shall consist of a bell and spigot type joint with an O-ring rubber gasket conforming to the requirements of ASTM F477.

2.3 HP STORM PIPE AND FITTINGS

A. Manufacturers

1. Advanced Drainage Systems (ADS), Inc.
2. Approved Equivalent

B. HP Storm pipe 12” to 60” diameter shall have a smooth interior and annular exterior corrugations conforming to the requirements of ASTM F2881 or AASHTO M330.

C. Pipe shall be joined using a bell and spigot joint meeting the requirements of ASTM F2881 or AASHTO M330. The joint shall be watertight according to the requirements of ASTM D3212. Gaskets shall meet the requirements of ASTM F477. Gasket shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from debris. A joint lubricant a lubricant available from the manufacturer shall be used on the gasket and bell during assembly. 12” to 60” diameters shall have an exterior bell wrap installed by the manufacturer.

D. Fittings shall conform to ASTM F2281 or AASHTO M330. Bell and spigot connections shall utilize a welded or integral bell and valley or inline gaskets meeting the watertight joint performance of ASTM D3212.

2.4 PVC PIPE AND FITTINGS

A. Solid wall PVC pipe and fittings 4” to 15” shall conform to the requirements of SDR 35 and ASTM D3034.

B. Solid wall PVC pipe and fittings 18” to 27” shall conform to the requirements of SDR 35 and ASTM F679.

C. All PVC pipe and fittings shall be bell end with couplings designed for making PVC joints using elastomeric gaskets to affect the pressure seal.

2.5 FILTER CLOTH

A. Joints for reinforce concrete pipe and HDPE pipe shall be wrapped with filter/drainage fabric as specified in Division 2 Section “Earthwork”.

PART 3 - EXECUTION

3.1 EXCAVATION

A. Excavation shall include the loosing, loading, removing, transporting and disposing of all materials, wet or dry, above or below ground, within the allowable limits, necessary to be removed to install all drainage piping included in this contract to the lines, grades and dimensions specified on the plans and as otherwise required in the specifications.

B. Excavation shall be incidental and included in the cost of the pipe.

C. The maximum allowable trench width at the ground or pavement surface and at the bottom of the trench shall be within the limits detailed on the plans. Over digging is not permitted unless authorized by the Architect or Engineer.

D. Contractor shall, at his own expense, furnish and install all temporary sheeting, timbering, and bracing required to maintain the excavation in a condition to furnish safe working conditions and to permit the safe and efficient installation of all drainage piping. Contractor shall further, at his own expense, shore up or otherwise protect all fences, buildings, walls, walks, curbs, or other property adjacent to any excavation

which might be disturbed during the progress of the work. Temporary supports must be removed by the Contractor at his own expense after or concurrently with the completion of the drainage work.

E. Contractor shall, at his own expense, do all ditching, pumping, well pointing, and bailing, build all drains, and do all other work necessary to keep the excavation clear of ground water, sewage, or storm water during the progress of the work, and until the finished work is safe from injury. Where the excavation is wet sand, Contractor shall install and operate, at his own expense, a pumping system connected with well points, so as to drain the same effectually. All well point holes shall be backfilled with sand after removal. All water pumped or drained from the work shall be disposed of in a manner that will not damage adjacent property or other work under construction. Necessary precautions shall be taken to protect all construction against flooding.

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at the downstream end, true to grades and alignment indicated on the plans. The lower segment of the pipe shall be in contact with the shaped bedding material throughout the pipe’s full length. Place bell ends of piping facing upstream.

C. Clear interior of piping of dirt and superfluous material as work progresses. Cover all openings in to the system as it is being installed to prevent obstructions in the pipe.

3.3 PIPE JOINT CONSTRUCTION

A. Comply with joint seal manufacturer’s written instructions to supply a soil tight joint. Ends shall be clean and dry and fully entered.

B. Wrap reinforced concrete pipe and HDPE pipe joints with filter cloth as detailed in the plans.

3.4 PIPE EMBEDMENT AND BACKFILL

A. Embedment of pipe and placement of backfill shall proceed as detailed in the plans and in accordance with Section “Site Earthwork”.

3.5 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Crushed, broken, cracked, or otherwise damaged piping.

2. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
3. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.

END OF SECTION

SECTION 02635

CONCRETE STORM DRAINAGE STRUCTURES

PART 1 – GENERAL

1.1 SUMMARY

This work shall consist of the construction of various cast-in-place concrete structures, including inlets, junction boxes, conflict boxes, retaining walls and other concrete structures as detailed in these specifications or in the plans.

PART 2 - PRODUCTS

2.1 Concrete - Class B, MDOT Specifications.

2.2 Reinforcement – Deformed Grade 60 billet steel

2.3 Curing Compound - ASTM C-309

2.4 Grates and Frames

Ferrous castings shall be of uniform quality, fee from blowholes, shrinkage, distortion, or other defects. They shall be smooth and well cleaned by shot blasting. Metal used in the manufacture of castings shall conform to ASTM A-48-83 Class 35B for Gray Iron or ASTM A-536-80 Grade 65-45-12 for Ductile Iron. All castings shall be manufactured true to pattern; component parts shall fit together in a satisfactory manner. Round frames and covers shall have continuously machined bearing surfaces to prevent rocking and rattling.

PART - 3.0 EXECUTION

3.0.1 These construction requirements apply to the Concrete Paving Contractor with respect to retaining walls except the backfill requirements of paragraph 3.13 will be accomplished by the Sitework Contractor.

3.1 Excavation

A. Excavation shall include the loosening, loading, removing, transporting and disposing of all materials, wet or dray, above or below ground, necessary to be removed to expose a firm, even foundation and sufficient to permit the installation and bracing of forms.

B. Excavation shall be incidental and included in the cost of the structure.

C. Contractor shall, at his own expense, furnish and install all temporary sheeting, timbering, and bracing required to maintain the excavation in a condition to furnish safe working conditions and to permit the safe and efficient installation of all items of contract work. Contractor shall further, at his own expense, shore up or otherwise protect all fences, buildings, walls, walks, curbs, or other property adjacent to any excavation which might be disturbed during the progress of the work. Temporary supports must be removed by Contractor at his own expense after or concurrently with the completion of the permanent facility.

D. Contractor shall do all ditching, pumping, well pointing, and bailing, build up drains, and do all other work necessary to keep the excavation clear of ground water, sewage, or storm water during the progress of the work, and until the finished work is safe from injury. Where the excavation is wet sand, Contractor shall install and operate, at his own expense, a pumping system connected with well points, so as to drain the same effectually. All well point holes shall be backfilled with sand after removal. All water pumped or drained from the work shall be disposed of in a manner that will not damage adjacent property or other work under construction. Necessary precautions shall be taken to protect all construction against flooding.

3.2 Foundation Material

The foundation material shall be compacted to ASTM D-698, 95% Standard Proctor Density.

3.3 Setting Forms

All forms shall be securely staked and braced and of sufficient strength to withstand the weight of the concrete and the pressure incidental to vibration or compaction without building or displacement. Formed construction joints or keyways should conform to PCA recommendations, the dimensions shown on the plans or as directed by the Architect or Engineer. Leave-in-place keyed forms are not permitted.

3.4 Reinforcement

Reinforcement shall be placed as indicated on the plans.

3.5 Inlet and Outlet Pipe

A. Inlet and outlet pipes shall extend through the walls of manholes and catch basins for a sufficient distance beyond the outside surface to allow for connections and shall be cut flush with the wall on the inside surface and neatly pointed.

B. The concrete, or brick and mortar, shall be constructed around the pipes so as to prevent leakage and to form a neat connection.

3.6 Castings, Gratings and Fittings

A. All castings and gratings shall be carefully handled. Injurious cracks, chips, surface mars, etc., which render them unsuitable for use or unsightly after being placed with be cause for rejection, and if so directed by the Architect or Engineer, they shall be replaced at no additional cost to the Owner.

B. The castings, gratings, and fittings shall be placed as indicated on the plans, or as directed, to line and grade, and in such a manner that subsequent adjustments will not be necessary.

C. When castings or gratings are to be set in concrete or cement mortar, all anchors or bolts shall be in the correct place and position before the concrete or mortar is placed, and they shall not be disturbed while the concrete or mortar is hardening.

D. Castings and gratings placed on previously constructed masonry shall be set in mortar beds or anchored to the masonry as shown on the plans. The bearing surface of the original masonry shall present an even surface and conform to line and grade so that the entire face of the back of the casting will come in contact with the masonry.

E. Castings and gratings shall be set firm and snug so that they will not rattle, shake, or move unnecessarily.

F. Gray iron castings for manholes and catch basins shall be thoroughly coated with an approved coal tar pitch varnish.

3.7 Placing Concrete

The sub-grade shall be moist. Contractor shall deposit the concrete as uniformly as possible and as close to its final position as possible so as to require a minimum of re-handling. The concrete shall be thoroughly vibrated and compacted. It shall also be thoroughly consolidated along the faces of the forms and struck off to the required elevation and cross section.

3.8 Finishing

Immediately following the strike-off, Contractor shall initially level all poured in placed exposed surfaces as necessary. The surface shall be finished no more than necessary to remove irregularities. All edges and tooled joints, and isolation joints shall be rounded to the specified radius with appropriate tools.

3.9 Texturing

As soon as the finished concrete has set sufficiently to maintain a texture, Contractor shall have all exposed surfaces broomed to develop a ski-resistant surface and a uniform appearance.

3.10 Curing and Protection

After finishing and texturing operations have been completed and immediately after free water has evaporated, Contractor shall uniformly coat any exposed surfaces of the cast-in-place structures and any exposed edges with the membrane curing compound. It can be applied by a pressure sprayer, with a maximum coverage of 200 ft^2/gal. Two applications at 90° offset may be required on windy days.

3.11 Hot Weather Precautions

A. In hot weather, transporting, placing and finishing of concrete shall be done as quickly as practical. Scheduling of concrete deliveries at the proper times and rates is especially important.

B. Plastic shrinkage cracking sometimes occurs during or soon after finishing operations when the weather is dry and windy, especially if it is hot. When concrete is being placed during hot weather, extra precautions should be taken by Contractor to reduce the time between placing and finishing, and to protect the concrete to minimize evaporation.

3.12 Protection Against Rain

When rain is imminent during paving operations, paving should be stopped, and all steps necessary to protect the hardened concrete should be taken. Contractor shall have available on the site enough plastic sheeting to completely cover any surfaces that may be damaged in the event a rain occurs. There must also be adequate weights available to keep the plastic sheeting from being blown away. The fresh concrete should also be protected from water above washing across any surfaces.

3.13 Backfill

Embedment, backfill and fill adjacent to structures shall be in accordance with Section 02225. Any select embedment and backfill material which is not included in lump sum bids as indicated on the plans or otherwise in the specifications, but is determined to be necessary by the Architect or Engineer shall be measured for payment in accordance with Section 02225.

3.14 Cleaning Up

Upon completion, all structures shall be thoroughly cleaned of accumulations of silt, debris, and foreign matter. All surplus material shall be removed, and the site and the structure shall be maintained in a clean and neat condition until final acceptance.

3.15 Pre-Cast Structure

Pre-cast concrete inlets, manholes, and junction boxes may be substituted for poured-in-place structures, subject to Architect or Engineer's determination of equivalency and approval of submittals.

3.16 Adjustment of Drain Inlets

Adjustment in height of any concrete structure prior to the casting of the concrete shall not be measured for separate payment as a change, as any adjustment shall be relatively minor and absorbed in the initial bid prices.

END OF SECTION

Project Directory

Project Information

Name: Sunflower Consolidated School District
ESSR 2&3 Phase 1
Project #: 21027
Address: 196 Martin Luther King Dr N, Indianola, MS 38751

Client

Sunflower Consolidated School District
196 Martin Luther King Dr N
Indianola, MS 38751
(662) 887-4919
Contact: Dr. Miskia Davis,
Superintendent of Education

Architect

Dale | Bailey, an Association
One Jackson Place / Suite 250
188 East Capitol Street
Jackson, MS 39201-2100
(601) 352-5411
Contact: Russ Blount
(russblount@dalepartners.com)

Fire Protection, Plumbing, & Mechanical

GSK Mechanical, Inc.
201 Park Ct, Ridgeland, MS 39157
(601) 605-2930
Contact: Jason Kackley
(jkackley@gskmech.com)

Electrical

The Power Source, PLLC.
945 Madison Ave, Madison, MS 39110
Contact: Freddie Borganelli
(fborganelli@thepowersource.us)

Civil Engineering

Gardner Engineering, P.A.
216 Second St., Indianola, MS 38751
(662) 887-1862
Contact: Lake Baird
(lake@gardnerengineeringpa.com)

Structural Engineering

Structural Design Group
220 Great Circle Road, Suite 106, Nashville, TN 37228
(615) 255-5537
Contact: Tom Schaeffer
(toms@sdg-structure.com)

General Project Notes

Project Alternates

1. Ruleville Elementary Multi-Purpose Building New Construction
2. Ruleville Elementary Window Rehabilitation
3. Lockard Elementary Hardware & Fenestrations
4. All Sites - Remove All Radiant Heaters & Repair Finishes
5. All Sites - Remove All Remaining & Discontinued Heating System Piping

Project Phasing Requirements

1. N/A

Energy Code Requirements

1. IBC **2021** Energy Code is the mandatory energy code standard for this project.
2. All mechanical and electrical building system installed should meet all requirements of the energy code.

Thermal Envelope Requirements

1. Roofs = R-20 ci (insulation entirely above deck)
2. Walls = R-7.6ci (mass walls)
3. Walls = R-13 + R-7.5ci (metal framed walls)
4. Below Grade Walls = no requirement
5. Slab on Grade = no requirement

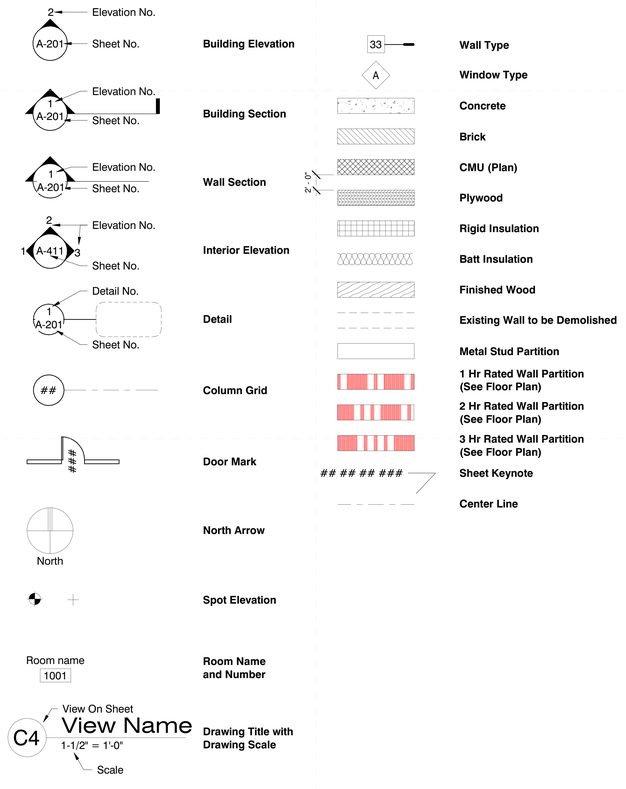
Fenestration Requirements (U-factor)

1. Fixed = U-Factor 0.46
2. Operable = U-Factor 0.60
3. Entrances = U-Factor 0.77
4. SHGC = U-Factor 0.25

General Information

1. Do not scale drawings. If dimensions are in question, the contractor shall be responsible for obtaining clarification from the architect before continuing with the construction
2. Contractors shall verify, on the site, all dimensions and equipment locations, and notify architect promptly in writing of any discrepancies
3. Contractors shall be responsible to determine the on site conditions and perform all necessary work to complete the project
4. Contractors shall maintain safe methods of egress for occupied buildings and in site area during construction
5. All casework dimensions shall be field verified before unit fabrication or installation
6. Dimensions, notes, finishes, and fixtures shown on typical floor plans shall apply to similar, symmetrical, or opposite hand plans, sections, or details
7. Typical, or typ., shall mean that condition is representative for similar conditions throughout, U.N.O. Details are usually keyed and noted "Typ." only one time when they first occur
8. Partitions are dimensioned from finish face U.N.O. Dimensions to masonry are to actual finish face U.N.O.
9. Owner to have right of refusal for all materials, furniture, fixtures and good within the limits of the construction contract.
10. Contractor shall be responsible for all hazardous abatement associated with work to be performed.

Graphic Symbols



General Abbreviations

AC	AIR CONDITIONING	MAX	MAXIMUM	VWC	VINYL WALL COVERING
ABV	ABOVE	MB	MARKER BOARD	W	WEST
ACT	ACOUSTICAL CEILING TILE	MC	MEDICINE CABINET	W/	WITH
ADJ	ADJUSTABLE	MCT	MARBLE COUNTER TOP	WB	WOOD BASE
AFF	ABOVE FINISH FLOOR	MECH	MECHANICAL	WC	WATER CLOSET
ALT	ALTERNATE	MFG	MANUFACTURER/MANUFACTURED	WCT	WOOD COUNTER TOP
ALM	ALUMINUM	MG	MEDICAL GAS	WD	WOOD BASE
AND	ANODIZED	MIN	MINIMUM	WDT	WIDTH
APRX	APPROXIMATE	MIR	MIRROR	WDW	WINDOW
AV	AUDIO VISUAL	MISC	MISCELLANEOUS	WG	WALL GUARD
AVD	AUDIO VISUAL DISPLAY	MLDG	MOULDING	WH	WATER HEATER
BD	BOARD	MO	MASONRY OPENING	WP	WATERPROOFING
BLDG	BUILDING	MR	MOP RACK	WR	WATER RESISTANT
BLKG	BLOCKING	MT	METAL THRESHOLD	WSCT	WAINSCOT
BOC	BOTTOM OF CURB	MTL	METAL		
BOS	BOTTOM OF STEEL	MWK	MILLWORK		
BW	BOTH WAYS	N	NORTH		
CAB	CABINET	NAT	NATURAL		
CB	CATCH BASIN	NIC	NOT IN CONTRACT		
CC	CENTER TO CENTER	NO	NUMBER		
CCT	CONCRETE COUNTER TOP	NOM	NOMINAL		
CG	CORNER GUARD	NRC	NOISE REDUCTION COEFFICIENT		
CH	COAT/CLOTHES HOOK	NTE	NOT TO EXCEED		
CHM	CHAMFER	NTS	NOT TO SCALE		
CJ	CONTROL JOINT	O	OXYGEN		
CLG	CEILING	OA	OUTSIDE AIR		
CLO	CLOSET	OC	ON CENTER		
CMU	CONCRETE MASONRY UNIT	OCEW	ON CENTER EACH WAY		
CO	CLEAN OUT	OD	OUTSIDE DIAMETER		
COL	COLUMN	OFCI	OWNER FURNISHED / CONTRACTOR INSTALLED		
CONC	CONCRETE	OPNG	OPENING		
CONT	CONTINUOUS	OPP	OPPOSITE		
CORR	CORRIDOR	P	PAINT/PAINTED		
CPT	CARPET	PAR	PARALLEL		
CR	CRASH RAIL	PBD	PARTICLE BOARD		
CT	CERAMIC TILE	PCF	PRESSED/PATTERNED CONCRETE FLOOR		
CTR	CENTERED	PCT	PLASTIC COUNTER TOP		
CYP	CYPRESS	PERF	PERFORATED		
DBH	DISPOSAL BAG HOLDER	PL	PLATE		
DBL	DOUBLE	PLAM	PLASTIC LAMINATE		
DET	DETAIL	PLST	PLASTER		
DF	DRINKING FOUNTAIN	PLWD	PLYWOOD		
DIA	DIAMETER	PMR	PREFORMED METAL ROOFING		
DIAG	DIAGONAL	PMS	PREFORMED METAL SIDING		
DIM	DIMENSION	PR	PAIR		
DISP	DISPENSER	PRT	PORCELAIN CERAMIC TILE		
DN	DOWN	PSF	POUNDS PER SQUARE FOOT		
DRW	DECAY RESISTANT WOOD	PSI	POUNDS PER SQUARE INCH		
E	EAST	PT	PRESSURE TREATED		
EA	EACH	PTD	PAPER TOWEL DISPENSER		
EDF	ELECTRIC DRINKING FOUNTAIN	PTN	PARTITION		
EHD	ELECTRIC HAND DRYER	PTR	PAPER TOWEL RECPTACLE		
EIFS	EXTERIOR INSULATING FINISH SYSTEM	QRF	QUARTZ RESINOUS FLOORING		
EJ	EXPANSION JOINT	QT	QUARRY TILE		
ELEC	ELECTRICAL	QTR	QUARTER		
ELEV	ELEVEATION	R	RISER		
ELVR	ELEVATOR	RAD	RADIUS		
EQ	EQUAL	RB	RUBBER BASE		
EW	EACH WAY	RBR	RUBBER		
EWF	ENGINEERED WOOD FLOORING	RCP	REINFORCED CONCRETE PIPE		
EXH	EXHUAST	RD	ROOF DRAIN		
EXIST	EXISTING	REF	REFERENCE		
EXP	EXPANSION	REFR	REFRIDGERATOR		
EXT	EXTERIOR	REINF	REINFORCED		
FCF	FINISHED CONCRETE FLOOR	REQ	REQUIRED		
FCO	FLOOR CLEAN OUT	REV	REVISED		
FD	FLOOR DRAIN	RH	RIGHT HAND		
FE	FIRE EXTINGUISHER	RM	ROOM		
FEC	FIRE EXTINGUISHER CABINET	RND	ROUND		
FFE	FINISH FLOOR ELEVATION	RO	ROUHG OPENING		
FIN	FINISH	ROW	RIGHT OF WAY		
FLG	FLOORING	RPS	ROOF PAVER SYSTEM		
FLOR	FLOURESCENT	RR	RETURN REGISTER		
FLR	FLOOR	S	SOUTH		
FND	FEMININE NAPKIN DISPENSER	SC	SOLID CORE		
FOF	FACE OF FINISH	SCD	SEAT COVER DISPENSER		
FOM	FACE OF MASONRY	SCF	STAINED/SEALED CONCRETE FLOOR		
FOS	FACE OF STUD	SCH	SCHEDULE		
FP	FIRE PROOF	SD	SOAP DISPENSER		
FRP	FIBERGLASS REINFORCED PANEL	SECT	SECTION		
FRT	FIRE RETARDENT	SHT	SHEET		
FT	FOOT/FEET	SHTH	SHEATHING		
FTG	FOOTING	SIM	SIMILAR		
FWC	FABRIC WALLCOVERING	SJ	SCORE JOINT		
G	GAS	SLW	SEAMLESS LIQUID WALL COVERING		
GA	GAUGE	SND	SANITARY NAPKIN DISPENSER		
GB	GRAB BAR	SNDU	SANITARY NAPKIN DISPOSAL UNIT		
GC	GENERAL CONTRACTOR	SNTD	SANITARY NAPKIN / TAMPON DISPENSER		
GCT	GRANITE COUNTER TOP	SP	SOUNDPROOF		
GL	GLASS/GLAZING	SPCR	SPACER		
GT	GRANITE TILE	SPEC	SPECIFICATIONS		
GWB	GYPSUM DRYWALL	SPTC	SPECIMEN PASS THRU CABINET		
GYP	GYPSUM	SQ	SQUARE		
HB	HOSE BIB	SS	SANITARY SEWER		
HC	HOLLOW CORE	SSD	SHOWER SOAP DISPENSER		
HD	HEAVY DUTY	SSTL	STAINLESS STEEL		
HDR	HEADER	STC	SOUND TRANSMISSION COEFFICIENT		
HDW	HARDWARE	STD	STANDARD		
HGT	HEIGHT	STL	STEEL		
HM	HOLLOW METAL	STOR	STORAGE		
HOW	HORIZONTAL	SUPP	SUPPLEMENTAL		
HR	HAND RAIL	SV	SHEET VINYL		
HTG	HEATING	SVSK	SERVICE SINK		
HVAC	HEATING/VENTILATION/AIR CONDITIONING	SWR	SHOWER		
HYD	HYDRANT	SWRC	SHOWER CURTAIN		
ID	INSIDE DIAMETER	SYP	SOUTHERN YELLOW PINE		
INSUL	INSULATION	T	TREAD		
INT	INTERIOR	T&B	TOP & BOTTOM		
INV	INVERT	T&G	TONGUE & GROOVE		
JAN	JANITOR	TB	TOWEL BAR		
JC	JENITORS CLOSET	TBD	TO BE DETERMINED		
JST	JOIST	TBR	TO BE REMOVED		
JT	JOINT	TEL	TELEPHONE		
KD	KNOCK DOWN	TEMP	TEMPORARY		
KIT	KITCHEN	TH	THRESHOLD		
KO	KNOCK OUT	THK	THICK/THICKNESS		
KPL	KICKPLATE	TLT	TOILET		
L	LENGTH	TME	TO MATCH EXISTING		
LAB	LABORATORY	TOC	TOP OF CURB		
LAD	LADDER	TOS	TOP OF STEEL		
LAM	LAMINATE	TPD	TOILET PAPER DISPENSER		
LAV	LAVATORY	TPH	TOILET PAPER HOLDER		
LAWP	LIQUID APPLIED WATER PROOFING	TR	TRANSOM		
LBL	LABEL	TV	TELEVISION		
LF	LINEAR FEET	TYP	TYPICAL		
LH	LEFT HAND	UC	UNDERCOUNTER		
LIN	LINOLEUM	UNO	UNLESS NOTED OTHERWISE		
LL	LIVE LOAD	VB	VAPOR BARRIER		
LPP	LAVATORY PIPING PROTECTION	VD	VISUAL DISPLAY		
LT	LIGHT	VCB	VISUAL COMMUNICATION BOARD		
LTG	LIGHTING	VCT	VINYL COMPOSITE TILE		
LVT	LUXURY VINYL TILE	VIF	VERIFY IN FIELD		
LWC	LIGHTWEIGHT CONCRETE	VT	VINYL TILE		
MAS	MASONRY	VTR	VENT THROUGH ROOF		

Drawing Index

Drawing Index

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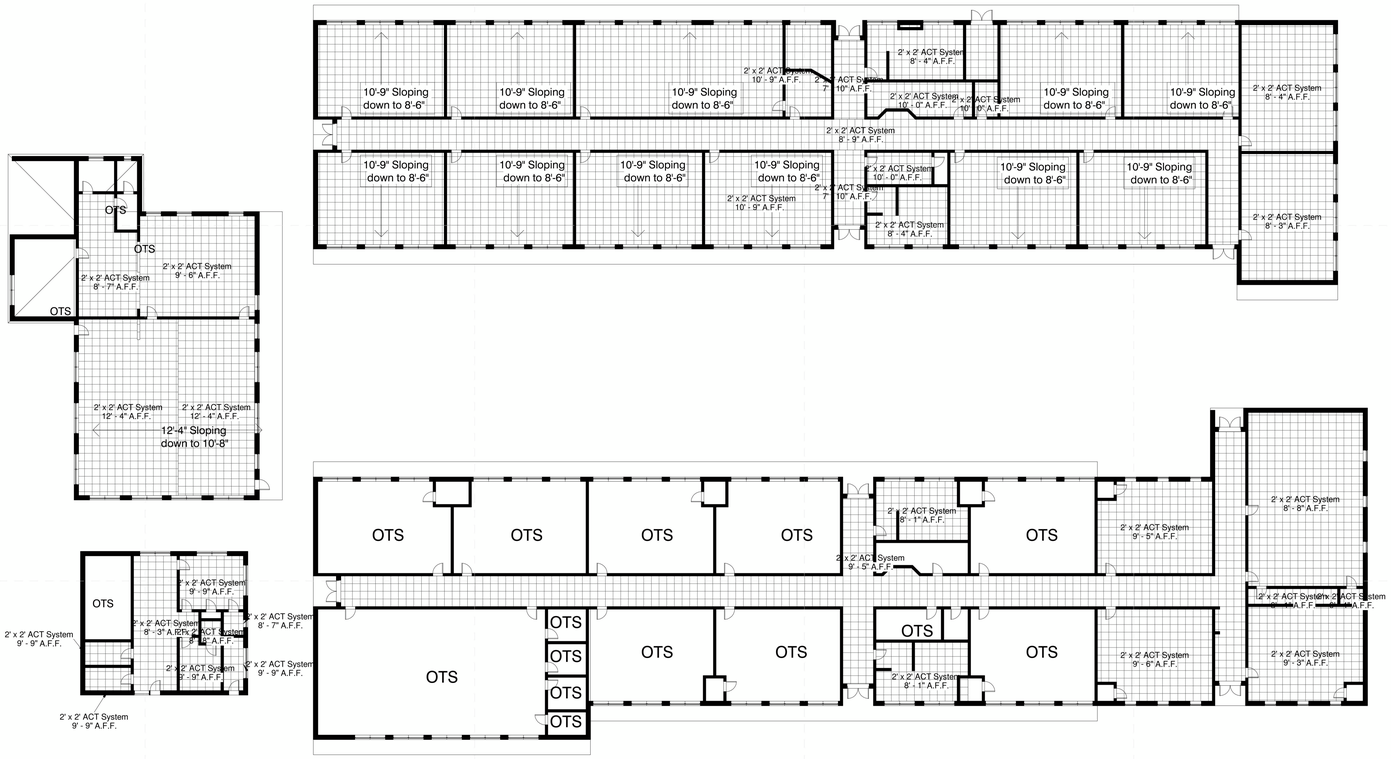
STATE OF MISSISSIPPI

Sunflower Consolidated School District ESSER 2&3 Phase I
196 Martin Luther King Dr N, Indianola, MS 38751

Construction Documents

Project No	21027
Date	2/2/2022
Revisions	Rev Date
Addenda #1	2/22/22

G-002
Index & General Project Information



1 RCP - Demolition
1/16" = 1'-0"

General RCP Demolition Notes

1. Where ceiling transitions from new ceiling to existing ceiling, coordinate with Architect detail.
2. Remove all existing ceiling grid & tile unless noted otherwise, as well as any wall fasteners and/or mastics attached therein where shown to be replaced by new materials.
3. Owner has right of refusal for all demo work. If not retained, GC to be responsible for disposal.
4. Verify all existing conditions. Notify architect of any discrepancies between the existing conditions and these documents. The Contractor is to consider the additional work required by any discrepancies to be included in this Contract.
5. Burying or Burning of materials will not be permitted on site.
6. Repair any damage caused to building construction identified to remain.
7. Refer to other discipline drawings for additional demolition information as noted.
8. Existing loose school property to be the responsibility of the school district, removal of property by owner to be coordinated between the contractor and school district.
9. Where areas are removed or altered, patch, repair, & paint to match adjacent surface material and finish.
10. No work in rooms with ceiling open to the structure above, unless noted otherwise.
11. Remove Hidden Plaster ceiling at Corridor 87 & 130 in its entirety (Approximately 5000 Sqft)

Ceiling Legend

- Moisture Resistant Acoustical Lay In Ceiling
- Colored Acoustical Lay In Ceiling
- Vinyl Faced Acoustical Lay In Ceiling
- Gypsum Board Ceiling
- 2x2 Acoustical Lay In Ceiling
- Plaster/Stucco
- Concealed Fastender Painted Metal Soffit
- 2x2 Fluorescent Fixture
- Surface-Mounted Fluorescent Light Fixture
- Recessed Can Light Fixture
- HVAC Supply Grille
- HVAC Return Grille
- Exterior Wall Light
- Interior Wall Light
- Open to Structure (OTS)

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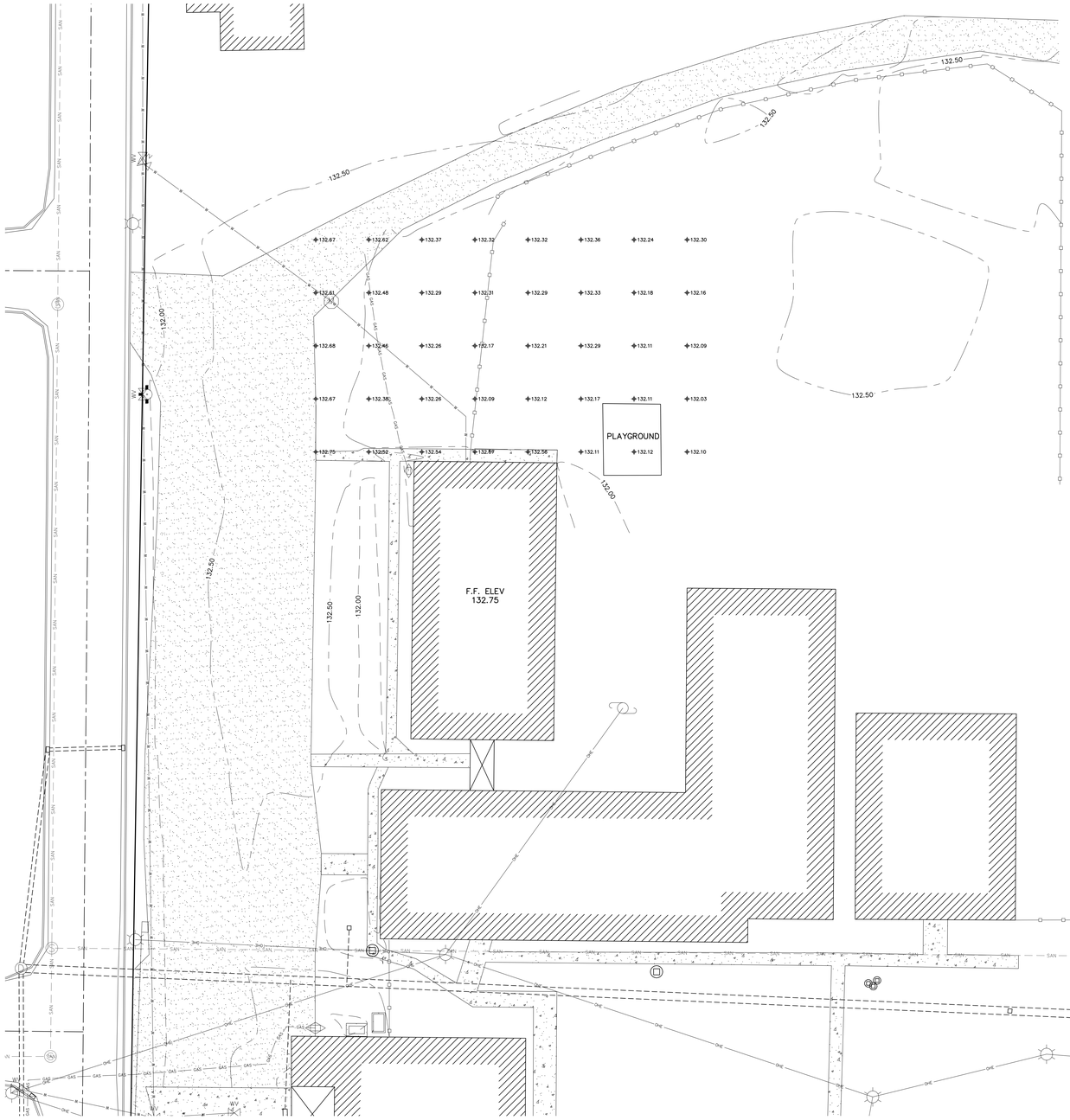
3250
JACKSON, MS
STATE OF MISSISSIPPI

Sunflower Consolidated School District ESSER 2&3 Phase I
Lockard Elementary School: 302 College Ave., Indianola, MS 38751

Construction Documents

Project No	21027
Date	2/2/2022
Revisions	Rev Date
Addenda #1	2/22/22

A-041d
RCP - Demo



NOTE:

ALL EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ANY AND ALL EXISTING UTILITIES. ANY REPAIRS THAT ARE REQ'D DUE TO DAMAGING OF THESE UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM ANY SANITARY SEWER OR MANHOLE. THE BOTTOM OF THE WATER LINE SHOULD BE AT LEAST 18 INCHES FROM THE TOP OF THE SEWER LINE. (SEWER LINES SHOULD ALWAYS BE BELOW WATER LINES)

- EXISTING SEWER CLEANOUT
- EXISTING MANHOLE
- EXISTING WATER METER
- FIRE HYDRATE
- EXISTING WATER MANHOLE
- EXISTING STORM SEWER MANHOLE
- EXISTING STORM SEWER INLET
- TELEPHONE PEDESTAL
- POWER POLE
- WATER VALVE
- GAS VALVE
- T — PHONE LINE
- PL — PROPERTY LINE
- GAS — GAS MAIN
- UGF — UNDER GROUND FIBER
- W — EXISTING WATER MAIN
- SAN — EXISTING SEWER MAIN
- SD — EXISTING STORM SEWER
- 98.00 — EXISTING MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — EXISTING MINOR CONTOURS 0.5' INTERVALS
- 98.67 EXISTING SPOT ELEVATION
- 98.00 — PROPOSED MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — PROPOSED MINOR CONTOURS 0.5' INTERVALS
- 98.67 PROPOSED SPOT ELEVATION

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2-18-22

Sunflower Consolidated School District ESSER 2&3 Phase I

Ruleville Elementary School: 410 L F Packer Dr. Ruleville, MS 38771

100% Construction Documents

Project No	21027
Date	2/18/2022
Revisions	Rev Date
addenda #1	2/22/22

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C-100

Ruleville Elementary
Existing Site Plan

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING DAMAGES TO ANY AND ALL EXISTING UTILITIES. IF DAMAGES SHOULD OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGES AND ABSORBING THE COST. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATING ANY CONFLICTING UTILITIES.

   THE LOCATION OF EXISTING UTILITIES INDICATED IS APPROXIMATE AND THOSE SHOWN ARE NOT NECESSARILY ALL THAT MAY EXIST ON THE SITE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES ON THE PROJECT SITE AND SHALL PROMPTLY REPAIR THOSE WHICH ARE DAMAGED BY HIS CONSTRUCTION OPERATIONS. CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND IS REQUIRED TO CONTACT MS 811 AND LOCAL UTILITIES BEFORE PROCEEDING WITH ANY OPERATIONS. WHEN WORKING IN THE VICINITY OF EXISTING UTILITIES, THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE RESPECTIVE UTILITY OWNERS AND MEET ALL OF THE UTILITY OWNERS' REQUIREMENTS.

2. CONTRACTOR SHALL PROVIDE ALL FITTINGS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF ALL ITEMS WHETHER SPECIFICALLY INDICATED OR NOT. ALL VALVES AND FITTINGS SHALL BE THE SAME SIZE AS THE LINE ON WHICH THEY ARE INSTALLED UNLESS NOTED OTHERWISE.

   DUCTILE IRON SLEEVES SHALL BE USED FOR ANY PVC PIPE CONNECTION WHERE A GASKETED BELL END OR SOLVENT WELD JOINT IS NOT USED; "FERNCO" TYPE COUPLINGS SHALL NOT BE AN ACCEPTABLE ALTERNATIVE FOR THESE CONNECTIONS.

3. SEDIMENT RUNOFF ON ANY AREA DISTURBED BY THE CONTRACTOR SHALL BE CONTROLLED AT ALL TIMES. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES NEEDED TO CONTROL SEDIMENT RUNOFF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY'S (MDEQ'S) REQUIREMENTS REGARDING THE DISCHARGE OF STORM WATER FROM CONSTRUCTION SITES AND ALL ASSOCIATED PERMITTING, REPORTING, AND RECORD KEEPING REQUIRED THEREBY.

   CONSTRUCTION ACTIVITIES THAT DISTURB FIVE ACRES OR MORE REQUIRE COVERAGE UNDER THE LARGE CONSTRUCTION GENERAL PERMIT (LCGP). THE PRIME CONTRACTOR WILL HAVE THE RESPONSIBILITY FOR PERMIT COMPLIANCE IN ACCORDANCE WITH ACT 7 AND ACT 9 OF THE LCGP. THE CONTRACTOR AS OPERATOR MUST DEVELOP AND IMPLEMENT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), WHICH SHALL BE KEPT AT THE PROJECT SITE OR LOCALLY AVAILABLE. THE CONTRACTOR ALSO MUST APPLY FOR COVERAGE UNDER THE LCGP ACCORDING TO THE INSTRUCTIONS IN MDEQ'S "LARGE CONSTRUCTION FORMS PACKAGE". THIS SHALL INCLUDE SUBMITTAL OF NOTICE OF INTENT (NOI) AND PRIME CONTRACTOR CERTIFICATION FORMS TO MDEQ.

   THE SWPPP SHOULD BE REVIEWED PERIODICALLY AND REVISED AS NECESSARY. WHEN DISTURBING AN AREA, THE OPERATOR SHALL IMPLEMENT CONTROLS AS NEEDED TO PREVENT EROSION AND ADVERSE IMPACTS TO STATE WATERS. THE OPERATOR SHOULD FOLLOW ALL REQUIREMENTS OF THE MISSISSIPPI DEQ, BE FAMILIAR WITH AND ADHERE TO ALL TERMS OF THE GENERAL PERMIT, AND FOLLOW THE GUIDELINES AND RECOMMENDATIONS OF THE MISSISSIPPI HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL AND STORMWATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL AND SHALL KEEP MUD, DEBRIS, AND CONSTRUCTION MATERIALS OUT OF AREAS WHICH ARE NOT CLOSED OFF FOR CONSTRUCTION.

5. CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES AND ENSURE A COMPLETE STAND OF GRASS. EROSION CONTROL MEASURES SHALL BE APPLIED AS PER SEASONAL LIMITATIONS ON ALL DISTURBED AREAS. SOLID SOD SHALL BE USED IN LIEU OF SEEDING, FERTILIZING, & MULCHING WHERE DIRECTED BY THE ARCHITECT OR SPECIFIED ON THE LANDSCAPE PLANS.

   MINIMUM RATES OF APPLICATION ARE AS FOLLOWS:

AGRICULTURAL LIMESTONE	– 2.0 TONS/ACRE
COMMERCIAL FERTILIZER (13–13–13)	– 600 LBS./ACRE
VEGETATIVE MULCH	– 3.0 TONS/ACRE

   SEEDING MIXTURES AND SEASONAL LIMITATIONS SHALL BE PER SCHEDULE IN MDOT OFFICE OF STATE AID ROAD CONSTRUCTION SPECIFICATIONS.

6. CONSTRUCTION TESTING WILL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY EMPLOYED BY THE OWNER. THE OWNER SHALL UTILIZE A STATE AID APPROVED AND MDOT CERTIFIED TESTING LABORATORY, WHICH SHALL COMPLETE ALL SAMPLING AND TESTING OF MATERIALS INCORPORATED INTO THE PROJECT. TESTING REQUIREMENTS SHALL BE IN ACCORDANCE WITH OFFICE OF STATE AID SOP'S, EXCEPT WHERE REQUIREMENTS FOR TESTING ARE SET FORTH IN THE PLANS OR SPECIFICATIONS IN WHICH CASE THE REQUIREMENTS SET FORTH THEREIN SHALL GOVERN. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.

   PRIOR USE TEST RESULTS, MANUFACTURER'S CERTIFICATES, OR PROPOSED MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BEFORE INCORPORATION INTO THE PROJECT. THIS SHALL INCLUDE PIPE, FITTINGS, CASTINGS, CONCRETE, REINFORCING STEEL, EMBANKMENT, BACKFILL, SEED, PAINT, SEALANTS, AND ALL OTHER ITEMS SPECIFIED BY THE ARCHITECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING DOCUMENTATION WHICH CERTIFIES THAT ALL MANUFACTURED MATERIALS MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

   THE CONTRACTOR SHALL COOPERATE WITH INSPECTION/LABORATORY PERSONNEL TO PROVIDE ACCESS TO WORK AND TO CONTRACTOR'S OPERATION AND SHALL NOTIFY THE ARCHITECT, ENGINEER, AND LABORATORY SUFFICIENTLY IN ADVANCE OF OPERATIONS TO ALLOW FOR THE ASSIGNMENT OF INSPECTION/LABORATORY PERSONNEL AND SCHEDULING OF TESTS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ALIGNMENTS, ELEVATIONS, AND DIMENSIONS OF ALL PARTS OF THE WORK AND THEIR MUTUAL AGREEMENT. THE ENGINEER WILL SET ONE TIME ONLY VERTICAL CONTROL POINTS (I.E., BENCHMARKS) FOR THE CONTRACTOR'S USE.

8. CONTRACTOR SHALL RETAIN A SET OF RECORD DRAWINGS DURING CONSTRUCTION WITH LEGIBLE DIMENSIONS AND NOTES THAT RECORD ACTUAL CONSTRUCTION. AT PROJECT CLOSEOUT, CONTRACTOR SHALL RETURN THE RECORD DRAWINGS TO THE ARCHITECT.

9. THE CONTRACTOR SHALL FURNISH, PLACE, AND MAINTAIN ALL SHEETING, SHORING, AND BRACING REQUIRED TO SUPPORT THE SIDES OF THE REQUIRED TRENCH EXCAVATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUFFICIENCY OF ANY SUCH SUPPORTS TO PREVENT ANY MOVEMENT WHICH CAN IN ANY WAY DAMAGE OR DELAY THE WORK; ENDANGER OR CAUSE DAMAGE TO ADJACENT PAVEMENTS, BUILDINGS, OR OTHER STRUCTURES; OR CREATE UNDUE HAZARDS TO WORKMEN. ALL EXCAVATIONS SHOULD BE MADE AND KEPT IN COMPLIANCE WITH OSHA REGULATIONS (29 CFR 1926 SUBPART P).

10. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL DEWATERING ASSOCIATED WITH THE WORK. ALL COSTS ASSOCIATED WITH DEWATERING (I.E., WELLPOINTS, PUMPING, SHORING, SHEET PILING, INSTALLATION OF COFFER DAMS, ETC.) SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE ITEM FOR WHICH DEWATERING IS REQUIRED. THE CONSTRUCTION OF ALL DEWATERING DEVICES SHALL BE IN ACCORDANCE WITH THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION). THE CONTRACTOR SHALL TAKE SUCH ACTION AS NECESSARY TO DIVERT SURFACE WATER THROUGH THE WORK SITES. THE HEIGHT OF COFFERDAMS, IF USED, SHALL NOT RESULT IN UPSTREAM FLOODING OF RIVERS, STREAMS, DITCHES, OR OVERBANK AREAS. THE CONTRACTOR SHALL CONSTRUCT DITCHES, DIKES, WELLS, WELLPOINTS, COLLECTORS, DRAINS, AND SUMPS AS MAY BE REQUIRED TO COLLECT THE SURFACE WATER FROM THE AREA WHERE THE WORK IS TO BE PERFORMED AND DEWATER THE FOUNDATION AND SIDE SLOPES IN ORDER THAT THE WORK MAY BE CONSTRUCTED ON A FIRM FOUNDATION IN AREAS FREE OF SURFACE WATER. THE CONTRACTOR SHALL PROVIDE AND OPERATE PUMPS AND DISCHARGE LINES ADEQUATE FOR DISPOSING OF THE COLLECTED WATER AT A POINT OR POINTS OUTSIDE THE WORK AREA. WHEN THE DIVERSION, COLLECTION AND DISPOSAL SYSTEM, OR A PORTION THEREOF, IS NO LONGER NEEDED, IT SHALL BE REMOVED. IF A DIVERSION CHANNEL IS USED, IT SHALL BE BACKFILLED WITH SUITABLE MATERIAL.

11. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT EXISTING STRUCTURES THAT ARE TO REMAIN SUCH AS BUILDINGS, WALLS, CURBS, SIDEWALKS, PAVEMENT, PIPES, INLETS, PAVED DITCHES, FENCES, EQUIPMENT, ETC., FROM DAMAGE WHICH MIGHT OCCUR DURING CONSTRUCTION. THE CONTRACTOR SHALL REPLACE OR REPAIR, AS DIRECTED BY THE ARCHITECT OR HIS REPRESENTATIVE, ANY STRUCTURES DAMAGED DURING THE LIFE OF THE CONTRACT. NO PAYMENT TO CONTRACTOR WILL BE MADE FOR REPLACEMENT OR REPAIR OF DAMAGED ITEMS.

    ANY ITEMS THAT ARE IN CONFLICT WITH CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AND REINSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ARCHITECT.

12. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR THIS PROJECT. THE CONTRACTOR SHALL ERECT AND MAINTAIN CONSTRUCTION SIGNING AND PROVIDE ALL SIGNS AND TRAFFIC CONTROL DEVICES NECESSARY TO SAFELY MAINTAIN TRAFFIC AROUND AND THROUGH THE WORK AREAS IN ACCORDANCE WITH THE MUTCD. THE CONTRACTOR SHALL POST PROPER WARNING SIGNS ACCORDING TO THE MUTCD, LATEST EDITION, WHERE CONSTRUCTION TRAFFIC UTILIZES, ENTERS, OR EXITS PUBLIC ROADS.

    TEMPORARY SAFETY MEASURES SUCH AS CONES, BARRICADES, FENCING, AND HANDRAILS SHALL BE INSTALLED AS NEEDED TO ENSURE THE SAFETY OF THE GENERAL PUBLIC AS WELL AS COUNTY EMPLOYEES THAT WILL CONTINUE TO UTILIZE THE SITE DURING CONSTRUCTION. TEMPORARY CONSTRUCTION FENCING SHALL BE USED AROUND THE PERIMETER OF ALL WORK AREAS DURING DEMOLITION AND CONSTRUCTION TO PARTITION OFF PEDESTRIANS AND TRAFFIC FLOW FROM THE WORK AREAS.

    ALL TRAFFIC SIGNS AND MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD.

13. CLEARING & GRUBBING SHALL CONSIST OF THE REMOVAL AND SATISFACTORY DISPOSAL OF TREES, EXCEPT THOSE THAT MAY BE DESIGNATED TO REMAIN IN PLACE; STUMPS, LOGS, SNAGS, BRUSH, WEEDS AND OTHER PERISHABLE OR OBJECTIONABLE MATERIAL; MISCELLANEOUS DEBRIS; OR OTHER SUCH OBSTRUCTIONS WITHIN THE LIMITS OF PROJECT SITE OR ALONG THE LENGTH OF THE PROJECT AS DESIGNATED. REMOVAL OF STRUCTURES & OBSTRUCTIONS CONSISTS OF THE REMOVAL AND SATISFACTORY DISPOSAL OF ALL BUILDINGS, FENCES, STRUCTURES, OLD PAVEMENTS, ABANDONED PIPE LINES, AND OTHER OBSTRUCTIONS WHICH ARE NOT DESIGNATED TO REMAIN OR TO BE REMOVED AND DISPOSED OF UNDER OTHER PROVISIONS OF THE CONTRACT OR UNDER SEPARATE CONTRACTS OR AGREEMENTS. THIS WORK ALSO CONSISTS OF NECESSARY EXCAVATION INCIDENTAL TO THE REMOVAL OF STRUCTURES AND OBSTRUCTIONS AND BACKFILLING THE RESULTING CAVITY. BOTH CLEARING & GRUBBING AND REMOVAL OF STRUCTURES & OBSTRUCTIONS SHALL BE CONSIDERED A PART OF THE CONTRACTOR'S WORK. CLEARED AND GRUBBED RUBBISH SHALL BE DISPOSED OF OFF SITE BY THE CONTRACTOR IN A RESPONSIBLE MANNER.

    PRIOR TO BEGINNING CLEARING OPERATIONS, THE CONTRACTOR SHALL CONSULT WITH THE OWNER AND ARCHITECT REGARDING CLEARING LIMITS IN AREAS WHERE NO CONSTRUCTION IS REQUIRED. TREES & VEGETATION DESIGNATED TO REMAIN IN PLACE SHALL BE PRESERVED BY THE CONTRACTOR.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION, MAINTENANCE, AND REMOVAL OF ANY NECESSARY ACCESS ROUTES OR HAUL ROADS AT NO ADDITIONAL COST TO THE OWNER. HAUL ROADS SHALL BE RESEEDED AT NO ADDITIONAL COST TO THE OWNER.

15. CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF THE MISSISSIPPI STATE DEPARTMENT OF HEALTH (MSDH), THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ), THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION (MDOT), AND THE 2010 ADA STANDARDS. ALL CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES & ORDINANCES OF ALCORN STATE UNIVERSITY.

16. EXISTING STRUCTURES AND OBSTRUCTIONS THAT ARE ABANDONED AS A RESULT OF THIS PROJECT, IF DEEMED SALVAGEABLE, SHALL BE REMOVED WITH CARE BY THE CONTRACTOR AND DELIVERED TO A LOCATION TO BE DESIGNATED BY THE OWNER. ALL ITEMS WHICH ARE ABANDONED AND NOT DEEMED SALVAGEABLE (UNLESS NOTED TO BE ABANDONED IN PLACE) SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF SITE BY THE CONTRACTOR IN A RESPONSIBLE MANNER.

17. ALL HANDICAP RAMPS AND PARKING SPACES SHALL BE IN COMPLIANCE WITH ADA REGULATIONS. ALL SIDEWALKS SHALL NO CROSS SLOPE GREATER THAN 2%

18. ALL CONCRETE SHALL BE LIGHT BROOM FINISH. TEXTURE SHALL BE APPROVED BY THE OWNER AND ARCHITECT. HEAVY BROOM FINISH REQ'D WHERE SHOWN HEREON. THE VERTICAL FACES OF FORMED CONCRETE SURFACES SHALL MEET THE REQUIREMENTS OF MDOT CLASS 1 FINISH. USE EDGING TOOL ON ALL CONCRETE EDGES. EXCEPTION: ALL SLABS UNDER THE BUILDING SHALL BE FINISHED AS DIRECTED BY THE ARCHITECT.

19. CONCRETE JOINTS SHALL BE SEALED WITH AN APPROVED JOINT SEALANT MEETING MDOT SPECIFICATIONS.

20. THERE ARE MANY COMPONENTS OF THE WORK WHICH ARE REQUIRED TO COMPLETE CONSTRUCTION OF THE PROJECT BUT ARE NOT SPECIFICALLY DETAILED ON THESE PLANS. THIS INCLUDES BUT IS NOT NECESSARILY LIMITED TO COMPONENTS OF THE WORK SUCH AS JOINTS, SEALS, TRANSITIONS, FASTENERS, TERMINATIONS, TRIM, FINISHES, AND MISCELLANEOUS MATERIALS. FOR ALL SUCH COMPONENTS, WORK SHALL BE PERFORMED AS DIRECTED BY THE ARCHITECT OR ENGINEER IN A NEAT WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE LEVEL OF CARE AND EFFORT ORDINARILY PUT FORTH BY COMMERCIAL CONTRACTORS ESTABLISHED IN THIS AREA. IN ALL CASES, ALL APPLICABLE CODES, ORDINANCES, AND STANDARDS SHALL BE FOLLOWED. REGARDLESS OF THE LEVEL OF DETAIL SHOWN ON THESE PLANS, IT IS THE OWNER'S INTENT TO CONSTRUCT A PROJECT WHICH, WHEN FINISHED, WILL BE DURABLE, COMPLETE, READY FOR USE, AND SUITABLE TO SERVE THE INTENDED PURPOSE.

22. REINFORCING STEEL CLEARANCES & SPLICE LENGTH SHALL BE PER ACI CODE & CRSI SPECIFICATIONS.

23. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ON ALL FINISHED HORIZONTAL SURFACES. SURFACE GRADES BETWEEN FINISH GRADE SPOT ELEVATIONS SHALL BE UNIFORM AND AS APPROVED BY THE ENGINEER. SMOOTH TRANSITIONS SHALL BE PROVIDED FOR ALL GRADE CHANGES.

24. THE ARCHITECT AND OWNER RESERVE THE RIGHT TO MAKE MINOR ADJUSTMENTS TO THE PROPOSED LAYOUT IN THE FIELD. THE CONTRACTOR SHALL PROVIDE THE OWNER AN OPPORTUNITY TO CONFIRM THE FINAL POSITIONS OF ALL GEOMETRIC ELEMENTS AFTER LAYOUT AND PRIOR TO PLACING FORMS FOR CONCRETE.

    ALL TOPSOIL WITHIN THE CONSTRUCTION LIMITS SHALL BE STRIPPED 6". THE TOPSOIL SHOULD BE STOCKPILED IN AN APPROVED AREA, AND USED TO PLATE DISTURBED AREAS PRIOR TO SEEDING. AVAILABLE TOPSOIL SHALL BE SPREAD OVER DISTURBED AREAS AS DIRECTED BY THE ENGINEER. ANY EXCESS TOPSOIL SHALL BE DISPOSED OF BY THE CONTRACTOR.

25. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL EARTHWORK QUANTITIES FOR BIDDING PURPOSES. THE ENGINEER DOES NOT, EXPRESSLY OR BY IMPLICATION EXTEND WARRANTY FOR EARTHWORK QUANTITIES. EARTHWORK QUANTITIES HAVE BEEN APPROXIMATELY CALCULATED USING A COMPUTERIZED DESIGN MODEL OF THE SITE. THE CALCULATIONS INDICATE THERE ARE APPROXIMATELY 190 CU. YDS. OF CUT AND 180 CU. YDS. OF FILL (THIS IS CALCULATED AS FINAL MEASURE) ALL EXCESS EXCAVATION FROM THIS SITE SHALL BE DISPOSED OF BY THE CONTRACTOR.

26. ALL PROPOSED FINISHED SPOT ELEVATIONS AND CONTOUR ELEVATIONS ARE TO TOP OF FINISH SURFACE.

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Sunflower Consolidated School District ESSER 2&3 Phase I

Ruleville Elementary School: 410 L F Packer Dr. Ruleville, MS 38771

100% Construction Documents

Project No	21027
Date	2/18/2022
Revisions	Rev Date
addenda #1	2/22/22

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KOSCIUSKO, MS 39090
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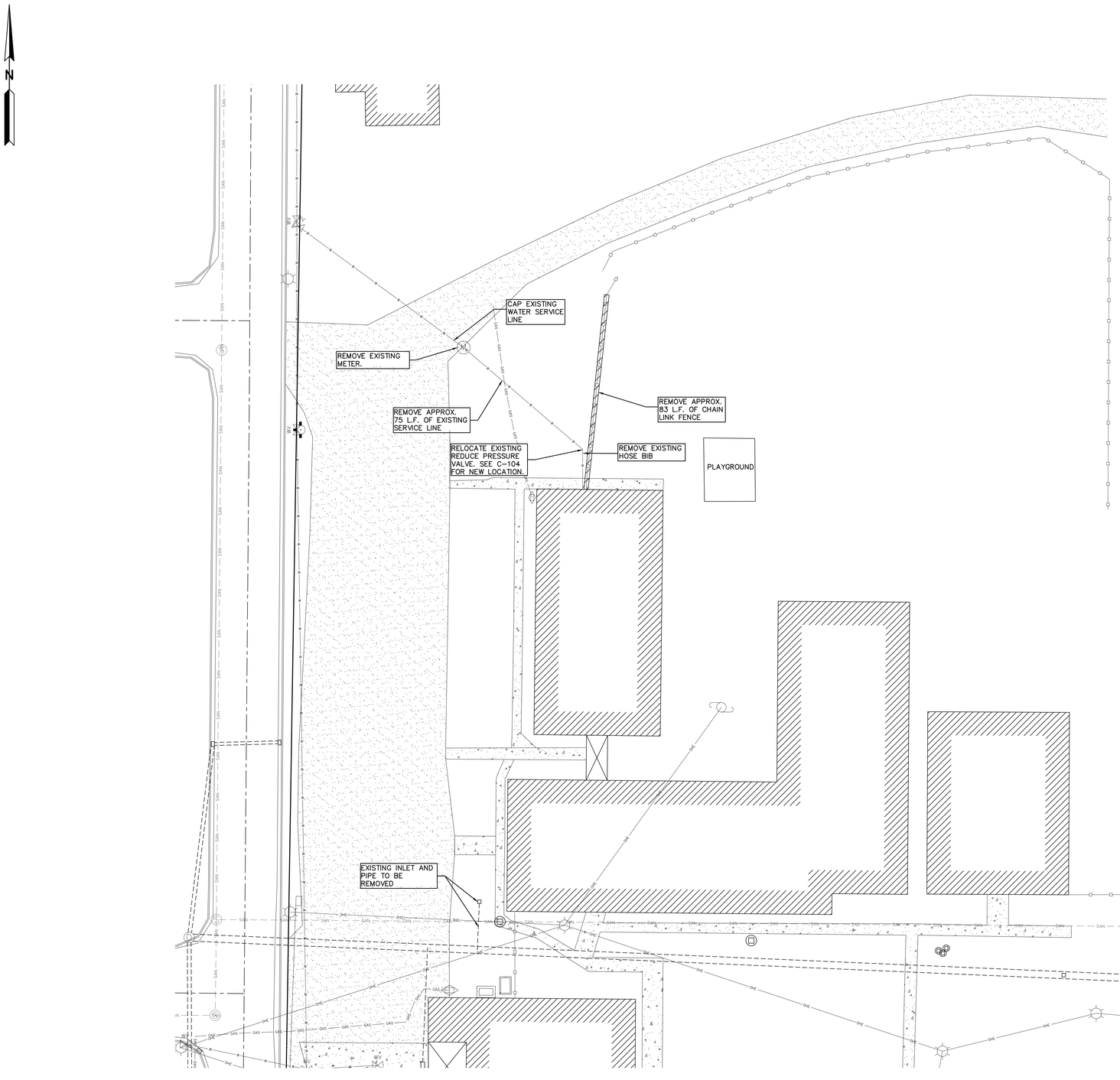
C-101

Ruleville Elementary General Notes



NOTE:

ALL EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ANY AND ALL EXISTING UTILITIES. ANY REPAIRS THAT ARE REQ'D DUE TO DAMAGING OF THESE UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM ANY SANITARY SEWER OR MANHOLE. THE BOTTOM OF THE WATER LINE SHOULD BE AT LEAST 18 INCHES FROM THE TOP OF THE SEWER LINE. (SEWER LINES SHOULD ALWAYS BE BELOW WATER LINES)

- EXISTING SEWER CLEANOUT
- EXISTING MANHOLE
- EXISTING WATER METER
- FIRE HYDRATE
- EXISTING WATER MANHOLE
- EXISTING STORM SEWER MANHOLE
- EXISTING STORM SEWER INLET
- TELEPHONE PEDESTAL
- POWER POLE
- WATER VALVE
- GAS VALVE
- PHONE LINE
- PROPERTY LINE
- GAS MAIN
- UNDER GROUND FIBER
- EXISTING WATER MAIN
- EXISTING SEWER MAIN
- EXISTING STORM SEWER
- EXISTING MAJOR CONTOURS 1.0' INTERVALS
- EXISTING MINOR CONTOURS 0.5' INTERVALS
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- PROPOSED MAJOR CONTOURS 1.0' INTERVALS
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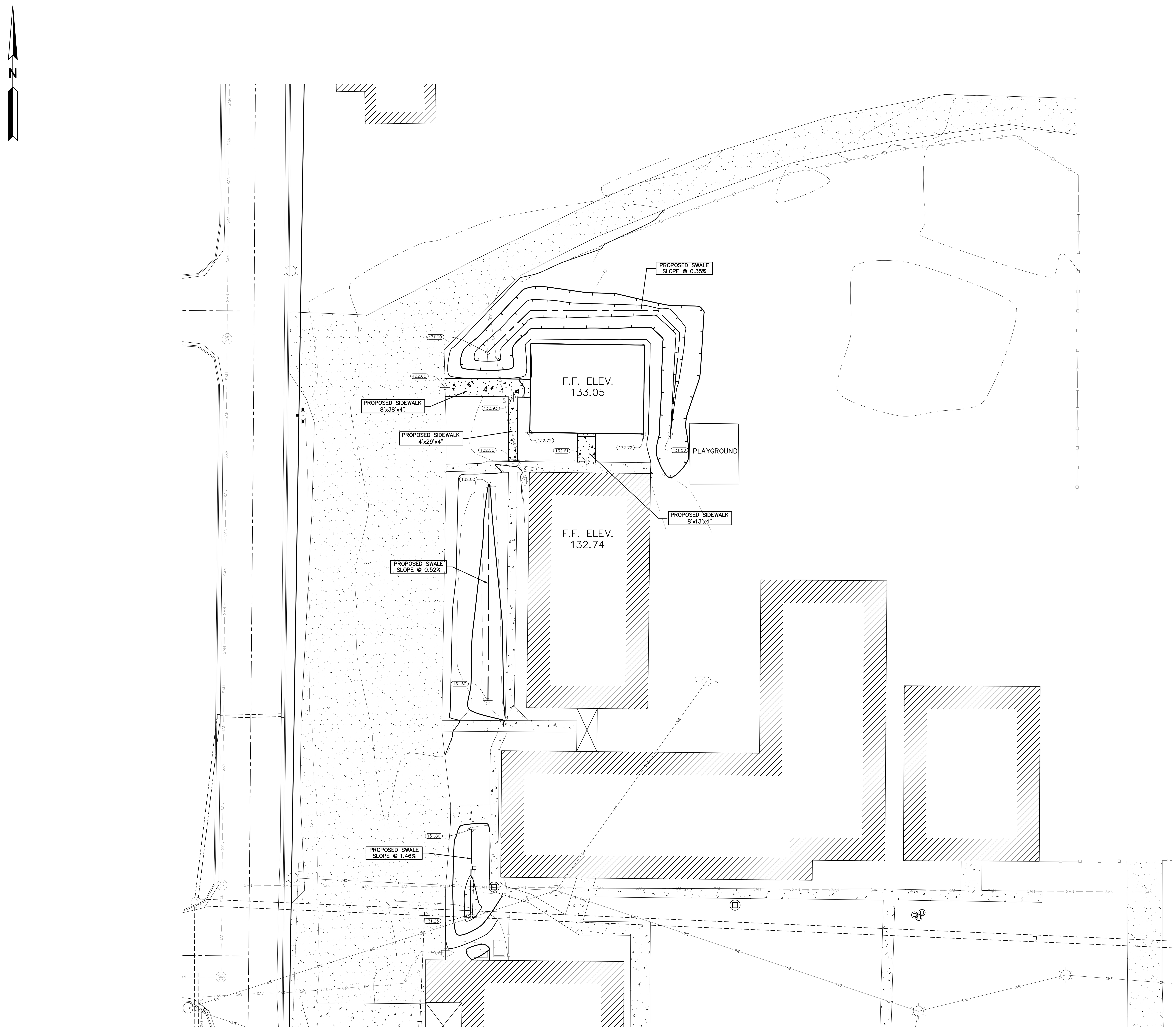
C-102

Ruleville Elementary
Site Demolition



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- POWER POLE
- WATER VALVE
- GAS VALVE
- T — PHONE LINE
- PL — PROPERTY LINE
- GAS — GAS MAIN
- UGF — UNDER GROUND FIBER
- W — EXISTING WATER MAIN
- SAN — EXISTING SEWER MAIN
- SD — EXISTING STORM SEWER
- 98.00 — EXISTING MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — EXISTING MINOR CONTOURS 0.5' INTERVALS
- 98.67 — EXISTING SPOT ELEVATION
- 98.00 — PROPOSED MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — PROPOSED MINOR CONTOURS 0.5' INTERVALS
- 98.67 — PROPOSED SPOT ELEVATION

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STATE OF MISSISSIPPI
2-18-22

Sunflower Consolidated School District ESSER 2&3 Phase I

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100% Construction Documents

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EST. 1978

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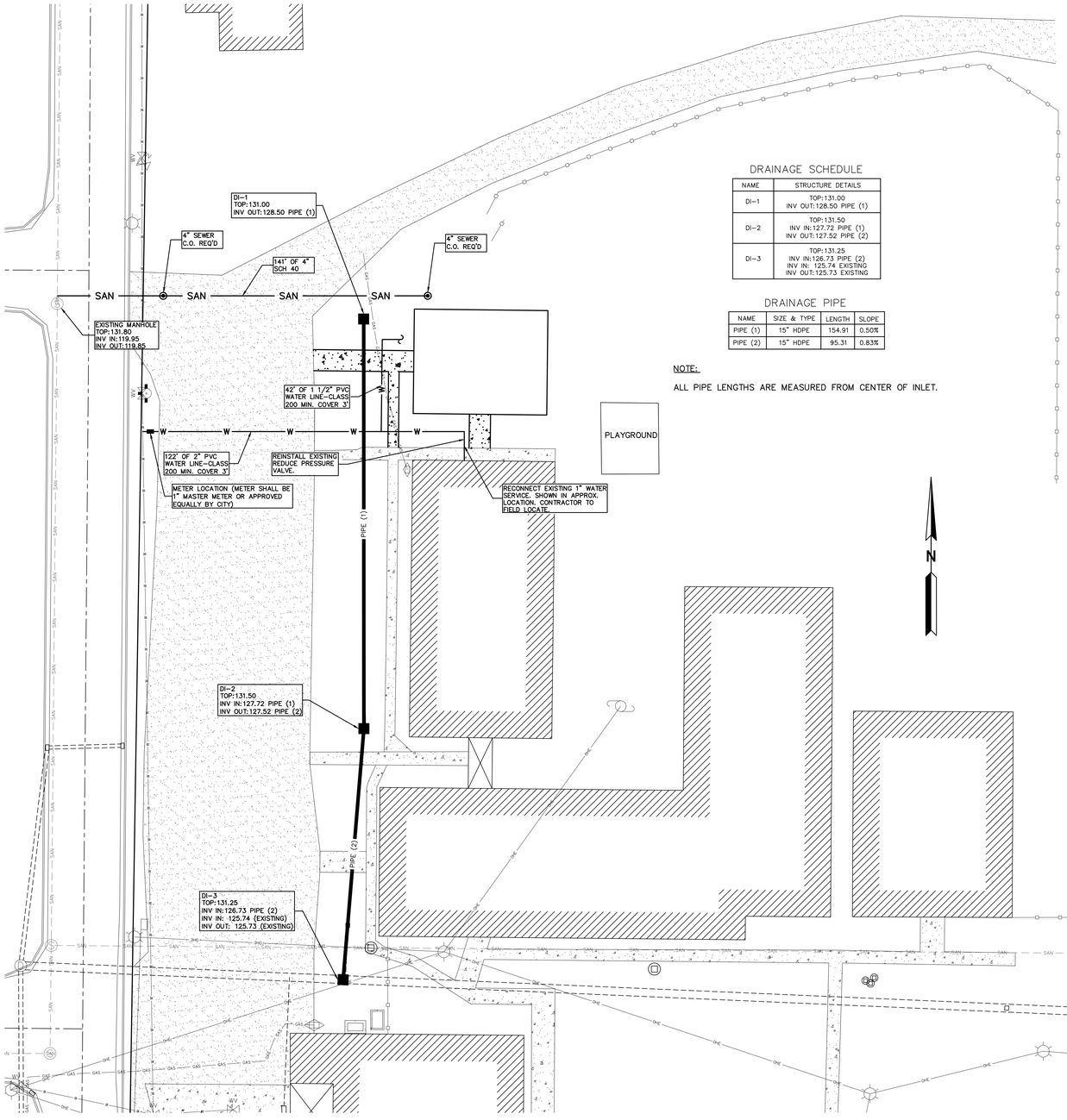
C-103

Ruleville Elementary
Proposed Grading Plan



DRAINAGE SCHEDULE

NAME	STRUCTURE DETAILS
DI-1	TOP: 131.00 INV OUT: 128.50 PIPE (1)
DI-2	TOP: 131.50 INV IN: 127.72 PIPE (1) INV OUT: 127.52 PIPE (2)
DI-3	TOP: 131.25 INV IN: 126.73 PIPE (2) INV IN: 125.74 EXISTING INV OUT: 125.73 EXISTING

DRAINAGE PIPE

NAME	SIZE & TYPE	LENGTH	SLOPE
PIPE (1)	15" HDPE	154.91	0.50%
PIPE (2)	15" HDPE	95.31	0.83%

NOTE:

ALL PIPE LENGTHS ARE MEASURED FROM CENTER OF INLET.

NOTE:

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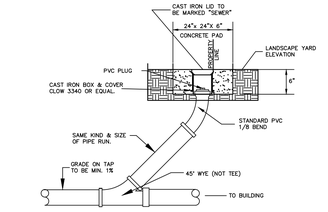
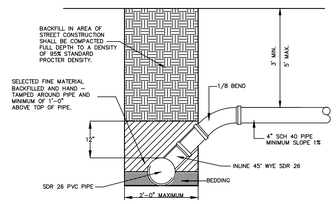
- 98.00 — PROPOSED MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — PROPOSED MINOR CONTOURS 0.5' INTERVALS
- (98.67) PROPOSED SPOT ELEVATION



CLEANOUT DETAIL
SCALE: N.T.S.

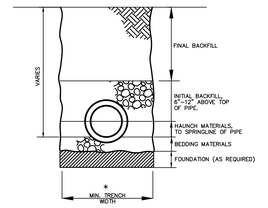


SEWER SERVICE ON MAINS
SCALE: N.T.S.

NOTES:
1. BEDDING MATERIALS SHALL BE CLASS II (SW) MATERIALS AS DEFINED IN TABLE 1, ASTM D-2321. INSTALLATION OF THESE MATERIALS SHALL BE AS SPECIFIED.
2. HAUNCH MATERIALS SHALL BE CLASS II (SW) MATERIALS AS REQUIRED ABOVE, RESTRICTED AS PER D-2321, TABLE 2.
3. INITIAL BACKFILL MATERIALS SHALL BE CLASS II (SW) MATERIALS AS REQUIRED ABOVE, RESTRICTED AS PER D-2321, TABLE 2.
4. FINAL BACKFILL MATERIALS SHALL BE CLASS II (SW) IF THE TRENCH IS UNDER PAVEMENT. FINAL BACKFILL MATERIALS SHALL BE CLASS III (SW) OR APPROVED EXISTING TRENCH MATERIALS IF THE TRENCH IS NOT UNDER PAVEMENT.
5. MIN. TRENCH WIDTHS (AS REQUIRED BY ASTM D-2321), ARE AS FOLLOWS:

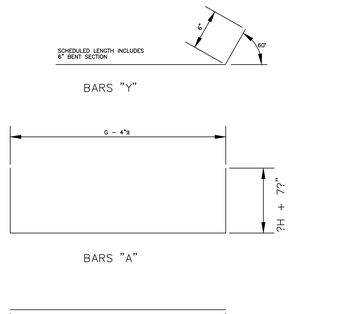
MIN. TRENCH WIDTH	CPEP
8"	23"
10"	25"
12"	30"
15"	34"
18"	38"
24"	48"
30"	60"
36"	69"

A LESSER TRENCH WIDTH WILL BE PERMITTED ONLY WHERE IT IS DETERMINED THE CONTRACTOR CAN UTILIZE EQUIPMENT CAPABLE OF MEETING THE REQUIRED INSTALLED DENSITY.
6. IF TRENCH BOTTOM IS UNSTABLE, CONTRACTOR SHALL EXCAVATE TO A DEPTH AS REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIALS; AS AN ALTERNATIVE, TRENCH BOTTOM MAY BE STABILIZED USING A GEOFABRIC.

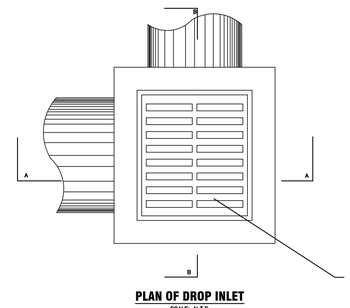


FLEXIBLE PIPE INSTALLATION
(CPEP, PVC, PE, ETC.)

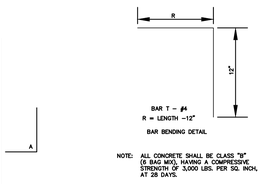
TYPICAL TRENCH DETAIL
SCALE: N.T.S.

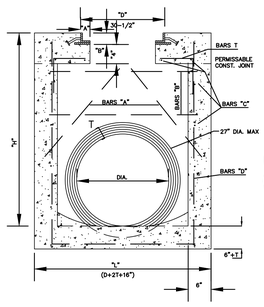


BAR BENDING DETAILS
SCALE: N.T.S.
SEE SCHEDULE FOR SIZE OF BARS W

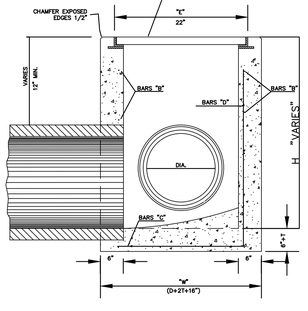


PLAN OF DROP INLET
SCALE: N.T.S.





SECTION B-B
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.

DROP INLET DETAIL - TYPE 1
SCALE: N.T.S.

DIMENSIONS AND REINFORCING

PIPE SIZE INSIDE DIA.	MIN. SHELL THICK. "T"	G	X	Y	C	H	R	S1	S2	U	W	A NO.	A LGTH.	B NO.	B LGTH.	C NO.	C LGTH.	D NO.	D LGTH.	J1 NO.	J1 LGTH.	J2 NO.	J2 LGTH.	J3 NO.	J3 LGTH.	J4 NO.	J4 LGTH.	J5 NO.	J5 LGTH.	J6 NO.	J6 LGTH.	J7 NO.	J7 LGTH.	U NO.	U LGTH.
15"	2 1/4"	3-4 7/8"	5-2 3/4"	2-3	7	2-5	2-7	2-8 1/4"	2-11 3/4"	6	0-8	4	6-8	4	4-3	2	2-8	2	1-10	1	3-9	1	4-11	1	5-6								4	2-6
18"	2 1/2"	3-7 7/8"	5-11 5/8"	2-6	7	2-9 1/2"	3-0	3-2 1/8"	3-5 5/8"	6	0-10	4	7-3	5	4-8	2	3-0	2	2-0	1	3-11	1	5-1	1	6-3	1	6-3						4	3-2
24"	3"	4-2 7/8"	7-6 1/8"	3-1	7	3-4 1/2"	3-10	4-1 5/8"	4-5 1/8"	6	1-0	4	8-5	5	5-6	2	3-7	2	2-3	1	4-6	1	5-8	1	6-10	1	8-0	1	7-9				4	4-2
30"	.3 1/2"	4-10 3/8"	8-10 7/8"	3-8 1/2"	7	3-11 1/2"	4-6	4-10 7/8"	5-2 3/8"	6	1-3	4	9-8	6	6-2	2	4-2	2	2-6	1	5-2	1	6-4	1	7-6	1	8-8	1	9-0				4	4-11

DIMENSIONS AND REINFORCING

PIPE SIZE INSIDE DIA.	W1 NO.	W1 SIZE	W1 X	W1 X1	W1 LGTH.	W2 NO.	W2 SIZE	W2 X	W2 X1	W2 LGTH.	W3 NO.	W3 SIZE	W3 X	W3 X1	W3 LGTH.	Y1 NO.	Y1 LGTH.	Y2 NO.	Y2 LGTH.	Y3 NO.	Y3 LGTH.	PAY QUAN. ONE HEADWALL CU. YDS. CONC.	PAY QUAN. ONE HEADWALL LBS. STEEL	PIPE SIZE INSIDE DIA.
15"	4	#4	1-1	1-8	2-9	4	#4	1-0	1-0	2-0						2	2-7	2	3-8			0.67	73	15
18"	4	#4	1-3	2-0	3-3	4	#4	1-0	1-0	2-0						2	2-7	2	4-2			0.84	88	18
24"	4	#4	1-8	2-7	4-3	4	#4	1-4	1-7	2-11	2	#4	1-1	1-2	2-3	2	2-7	2	4-7			1.19	114	24
30"	4	#4	2-1	3-2	5-3	4	#4	1-7	2-2	3-9	2	#4	1-1	1-2	2-3	2	2-7	2	4-7	2	5-9	1.58	140	30

DROP INLET DETAILS
SCALE: N.T.S.

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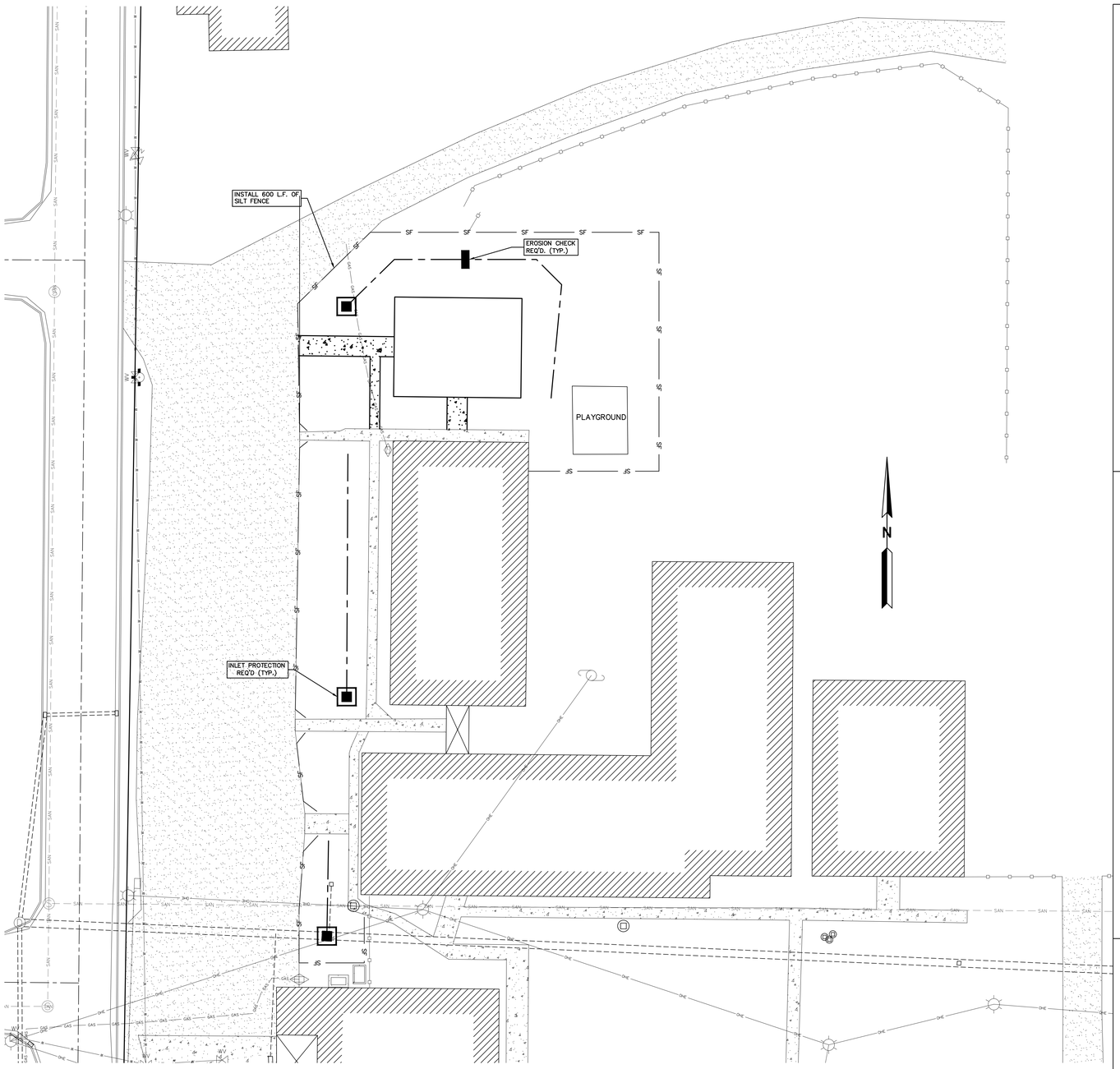
C-104

Ruleville Elementary
Site Utility Plan

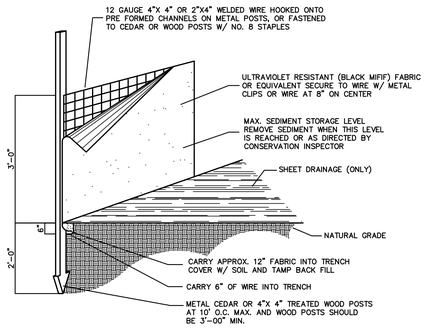


NOTE:

ALL EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND AVOIDING ANY AND ALL EXISTING UTILITIES. ANY REPAIRS THAT ARE REQ'D DUE TO DAMAGING OF THESE UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY AND 18 INCHES VERTICALLY FROM ANY SANITARY SEWER OR MANHOLE. THE BOTTOM OF THE WATER LINE SHOULD BE AT LEAST 18 INCHES FROM THE TOP OF THE SEWER LINE. (SEWER LINES SHOULD ALWAYS BE BELOW WATER LINES)

- EXISTING SEWER CLEANOUT
- EXISTING MANHOLE
- EXISTING WATER METER
- FIRE HYDRATE
- EXISTING WATER MANHOLE
- EXISTING STORM SEWER MANHOLE
- EXISTING STORM SEWER INLET
- TELEPHONE PEDESTAL
- POWER POLE
- WATER VALVE
- GAS VALVE
- T — PHONE LINE
- PL — PROPERTY LINE
- GAS — GAS MAIN
- UGF — UNDER GROUND FIBER
- W — EXISTING WATER MAIN
- SAN — EXISTING SEWER MAIN
- SD — EXISTING STORM SEWER
- 98.00 — EXISTING MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — EXISTING MINOR CONTOURS 0.5' INTERVALS
- 98.67 EXISTING SPOT ELEVATION
- 98.00 — PROPOSED MAJOR CONTOURS 1.0' INTERVALS
- 98.50 — PROPOSED MINOR CONTOURS 0.5' INTERVALS
- 98.67 PROPOSED SPOT ELEVATION



SILT FENCE DETAIL

SCALE: N.T.S.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1: THE CONSTRUCTION ACTIVITY FOR THIS PROJECT DISTURBS LESS THAN 5 ACRES AND SHALL COMPLY WITH THE SMALL CONSTRUCTION GENERAL PERMIT PART I.B. THE CONTRACTOR SHALL COMPLETE THE REQUIRED SMALL CONSTRUCTION NOTICE OF INTENT AND DEVELOP A STORM WATER POLLUTION PLAN (SWPPP) AS REQUIRED BY PART III OF MISSISSIPPI'S SMALL CONSTRUCTION GENERAL PERMIT.

2: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY PLANNING AND DESIGN MANUAL FOR THE CONTROL OF EROSION, SEDIMENT AND STORM WATER.

3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN LAND GRADING.

4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

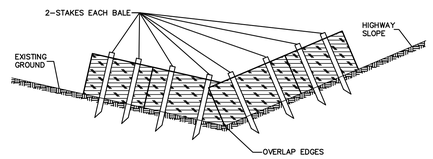
5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING BUT NOT LIMITED TO, OFF SITE BORROW OR WASTE AREA). THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

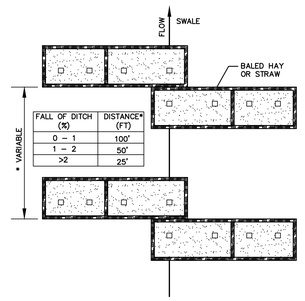
6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL ITEMS DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICES.

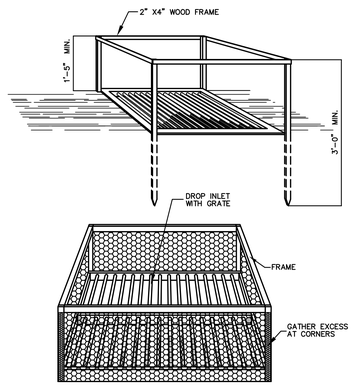
9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT, ANY NECESSARY REPAIRS OR CLEAN UP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICE SHALL BE MADE IMMEDIATELY.

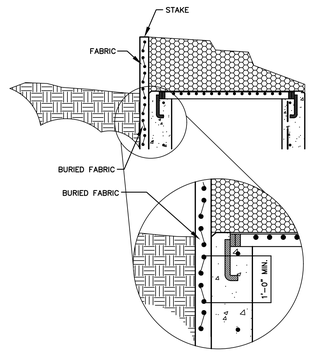




TEMPORARY EROSION CHECKS USING HAY OR STRAW BALES

SCALE: N.T.S.





INLET PROTECTION DETAIL

SCALE: N.T.S.

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Sunflower Consolidated School District ESSER 2&3 Phase I

Ruleville Elementary School: 410 L F Packer Dr. Ruleville, MS 38771

100% Construction Documents

Project No	21027
Date	2/18/2022
Revisions	Rev Date
addenda #1	2/22/22

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C-105

Ruleville Elementary Erosion Control Plan