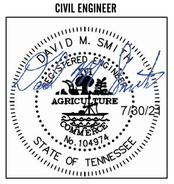
TOWN OF ALAMO, TENNESSEE
2020 CDBG SEWER INFRASTRUCTURE REPAIRS

A2H ENGINEERS ARCHITECTS PLANNERS

Sheet Number	Sheet Name
C0.0	COVER SHEET
C1.0	CIPP PROJECT OVERVIEW
C1.1	CIPP TOWN AND COUNTRY AREA
C1.2	CIPP BURNS-KOONCE STREETS
C1.3	CIPP COLLEGE STREET
C1.4	CIPP WEST CHURCH STREET
C2.0	SEWER PLANT IMPROVEMENTS
C10.0	DETAILS
C10.1	DETAILS
E1.0	ELECTRICAL - SITE PLAN
S1.1	PLAN AND SECTIONS
S1.2	GENERAL NOTES AND PLANS

CONSTRUCTION DOCUMENTS
JULY 30, 2021
PROJECT NUMBER 20110

CIVIL ENGINEER



TOWN OF ALAMO - 97 SOUTH JOHNSON STREET

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WWW.A2H.COM

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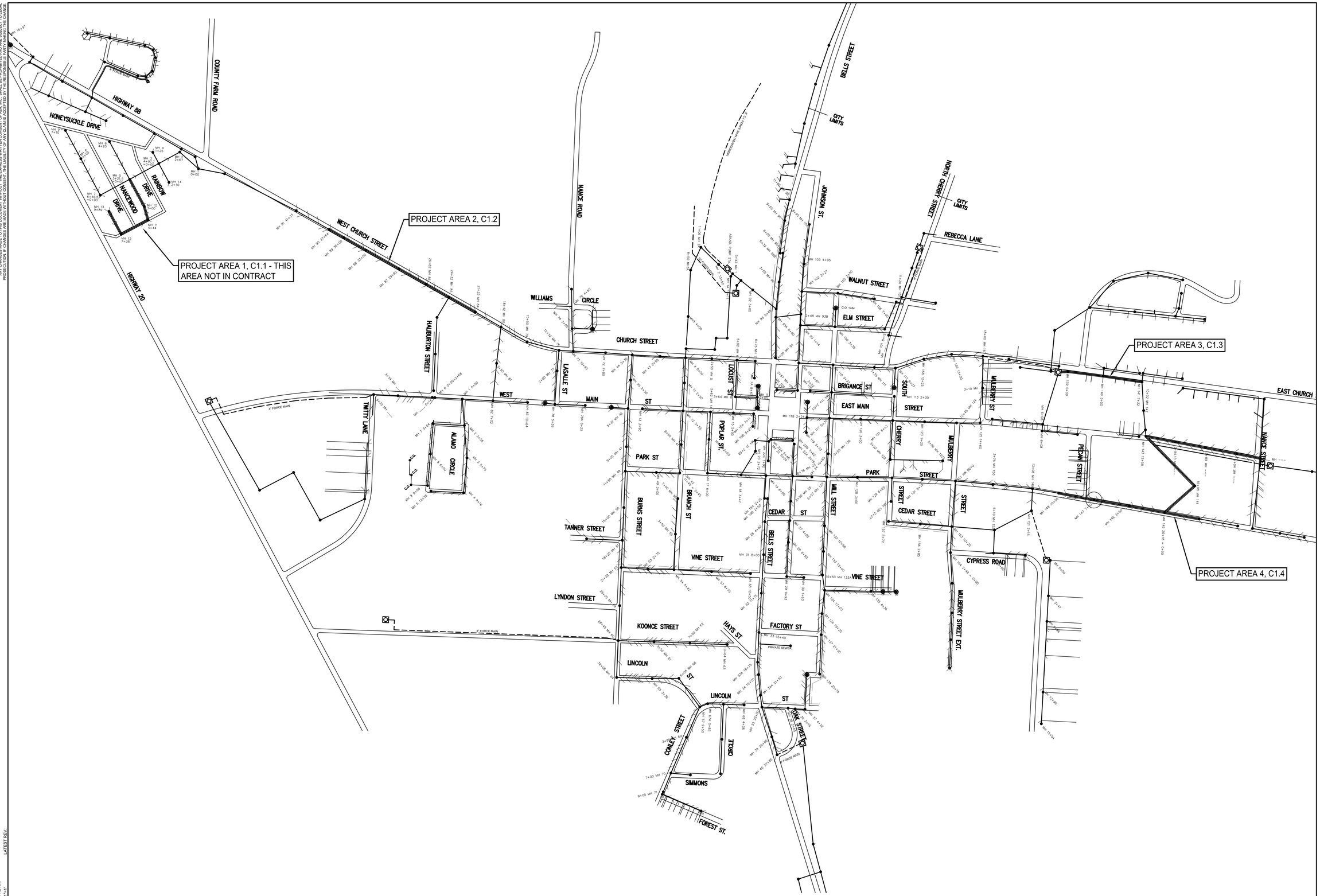

D1 | CIPP - PROJECT OVERVIEW

NTS

NORTH

jason
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Tue, Jul 27, 2021 - 11:13am
PLOT SCALE: 1"=1'
LATEST REV.:

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STATE OF TENNESSEE
7/30/21

TOWN OF ALAMO

2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

CONSTRUCTION DOCUMENTS

REVISIONS

PROJECT NO.	DATE
20110	JULY 30, 2021
DRAWN	CHECKED
Author	Checker

CIPP - PROJECT OVERVIEW

C1.0

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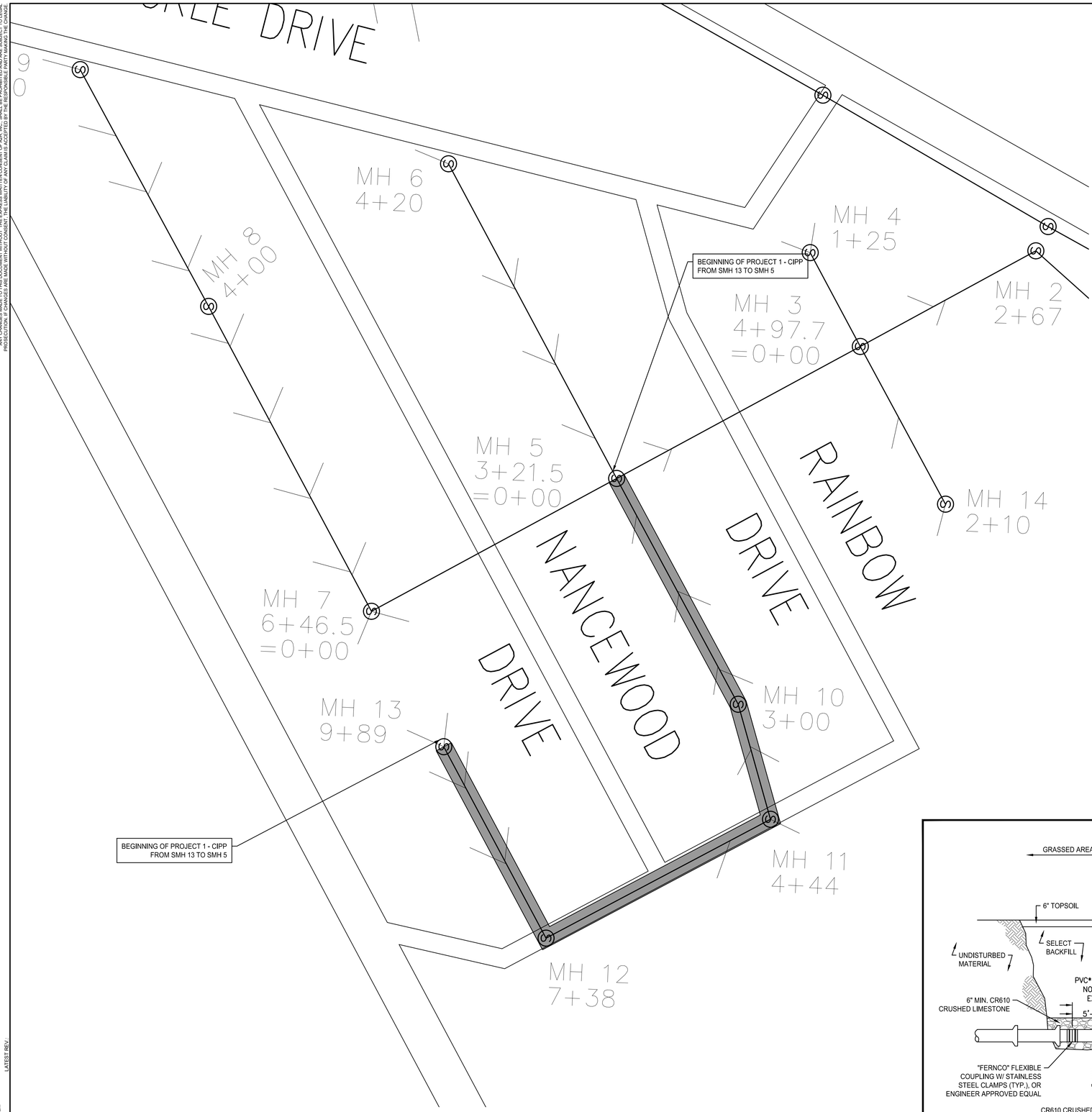
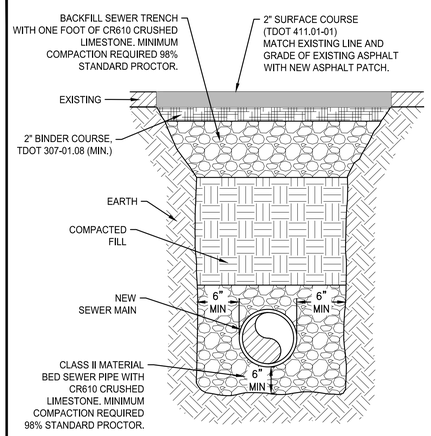


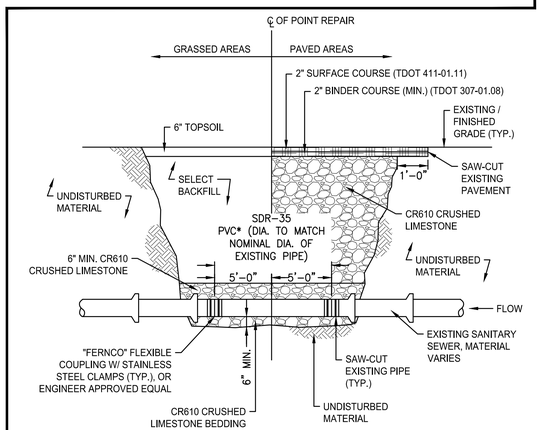
NOTE:

THIS PORTION OF THE WORK IS NOT IN THE CONTRACT, IT IS SHOWN AS A FUTURE PHASE ONLY.



GENERAL NOTES

1. NEW SEWER LINES TO BE BEDDED WITH CR610 CRUSHED LIMESTONE TO 6 INCHES ABOVE PIPE AT 98% STANDARD PROCTOR COMPACTIVE EFFORT.
2. SOIL BACKFILL IS ALLOWED ABOVE THE CRUSHED ROCK BEDDING. COMPACTED TO 98% STANDARD PROCTOR AND NO MORE THAN 3% OVER OPTIMUM MOISTURE CONTENT.
3. UPPER 15 INCHES BEFORE PAVEMENT TO BE CR610 CRUSHED LIMESTONE AT 98% STANDARD PROCTOR COMPACTIVE EFFORT.



NOTES:
1. UPPER 6" OF BACKFILL IN GRASSED AREAS IS TO BE TOPSOIL.
2. REPLACEMENT PIPE IS TO BE ONE PIECE.
3. PAVEMENT REPLACEMENT TO MATCH EXISTING OR TO CONSIST OF 2" BINDER AND 2" SURFACE COURSE (MIN.)
4. INVERTS OF NEW PIPE TO MATCH EXISTING (TYP.)
5. CLASS 50 D.I.P. IS TO BE USED WHERE EXISTING PIPE IS D.I.P.

D1 | 1" = 60' | CIPP - TOWN & COUNTRY AREA

NORTH

GRAPHIC SCALE: 1" = 60'
60 0 60

D5 | NTS | SEWER REPAIR DETAILS

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2020 CDBG SEWER INFRASTRUCTURE REPAIRS

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CIPP - TOWN & COUNTRY AREA

C1.1

jason
12/20/2019 12:04 C:\cvs\Projects\C1.0 - SEWER SYSTEM IMPROVEMENTS.dwg
Thu, Jul 29, 2021 1:17:26pm
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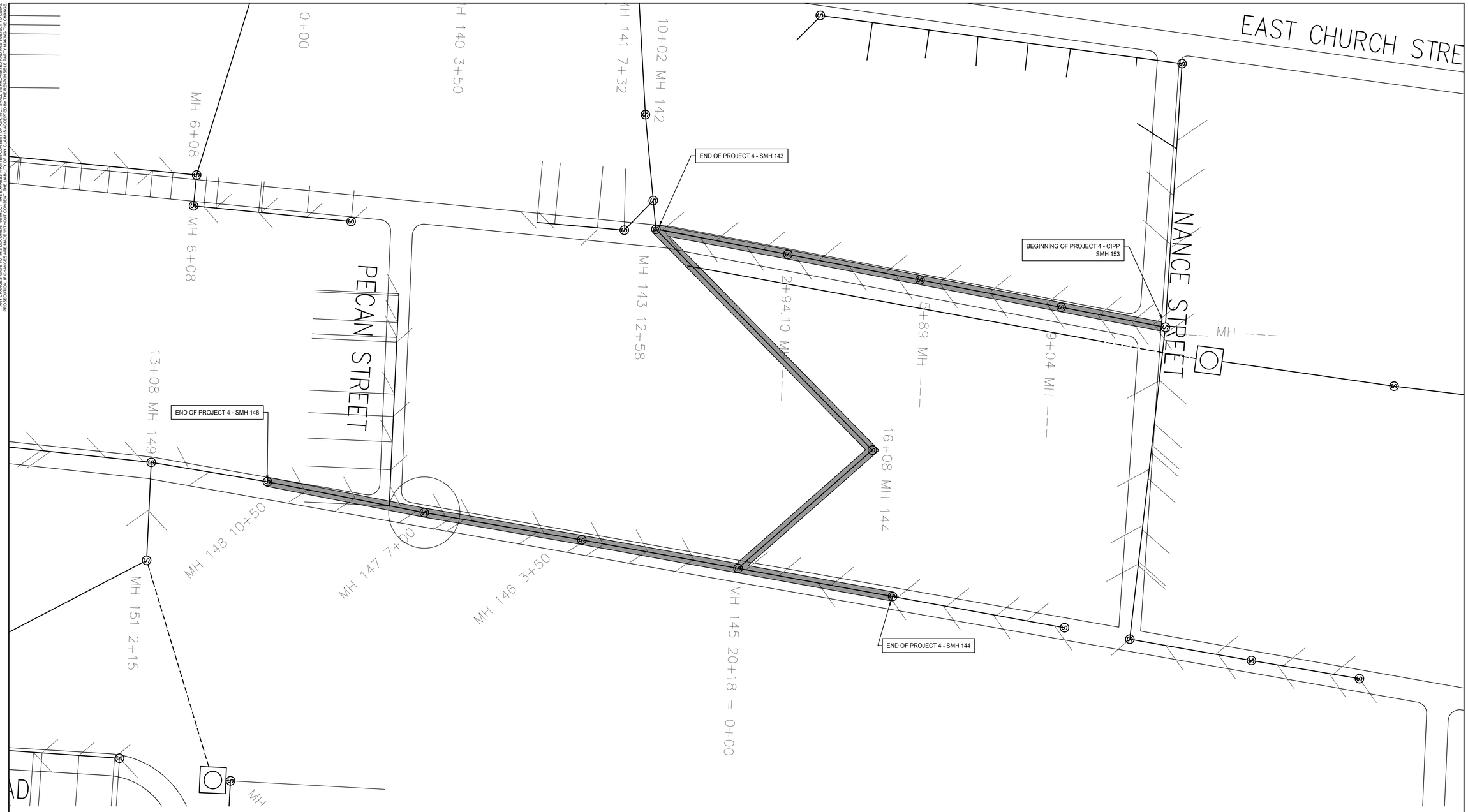

D1	CIPP - BURNS-KOONCE STREETS
1" = 60'	

NORTH

GRAPHIC SCALE: 1" = 60'
60 0 60

jason
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PLOT SCALE: 1"=1'
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2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

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CIPP - BURNS-KOONCE STREETS

C1.2

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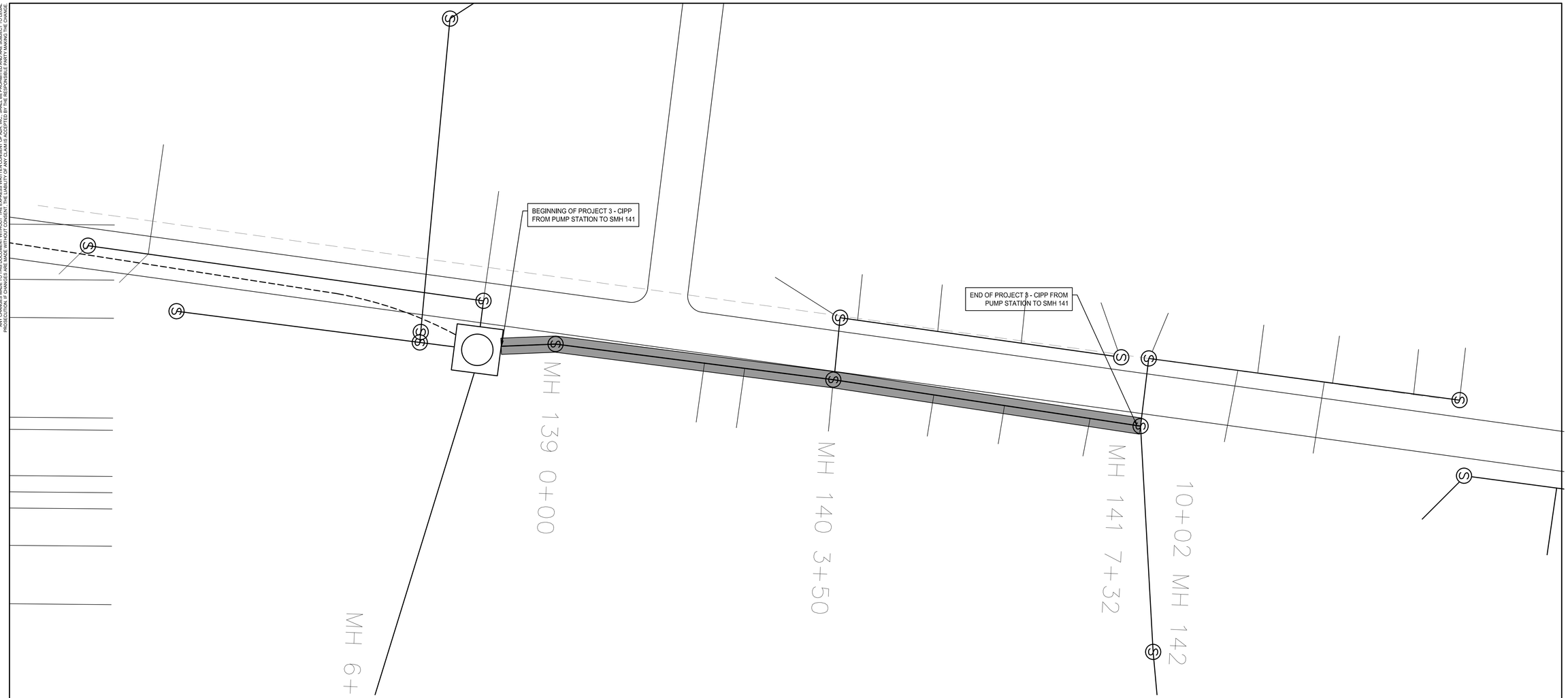

D1
1" = 60'
CIPP - COLLEGE STREET

NORTH

GRAPHIC SCALE: 1" = 60'
60 0 60

jason
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7/30/21

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2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

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CIPP - COLLEGE STREET

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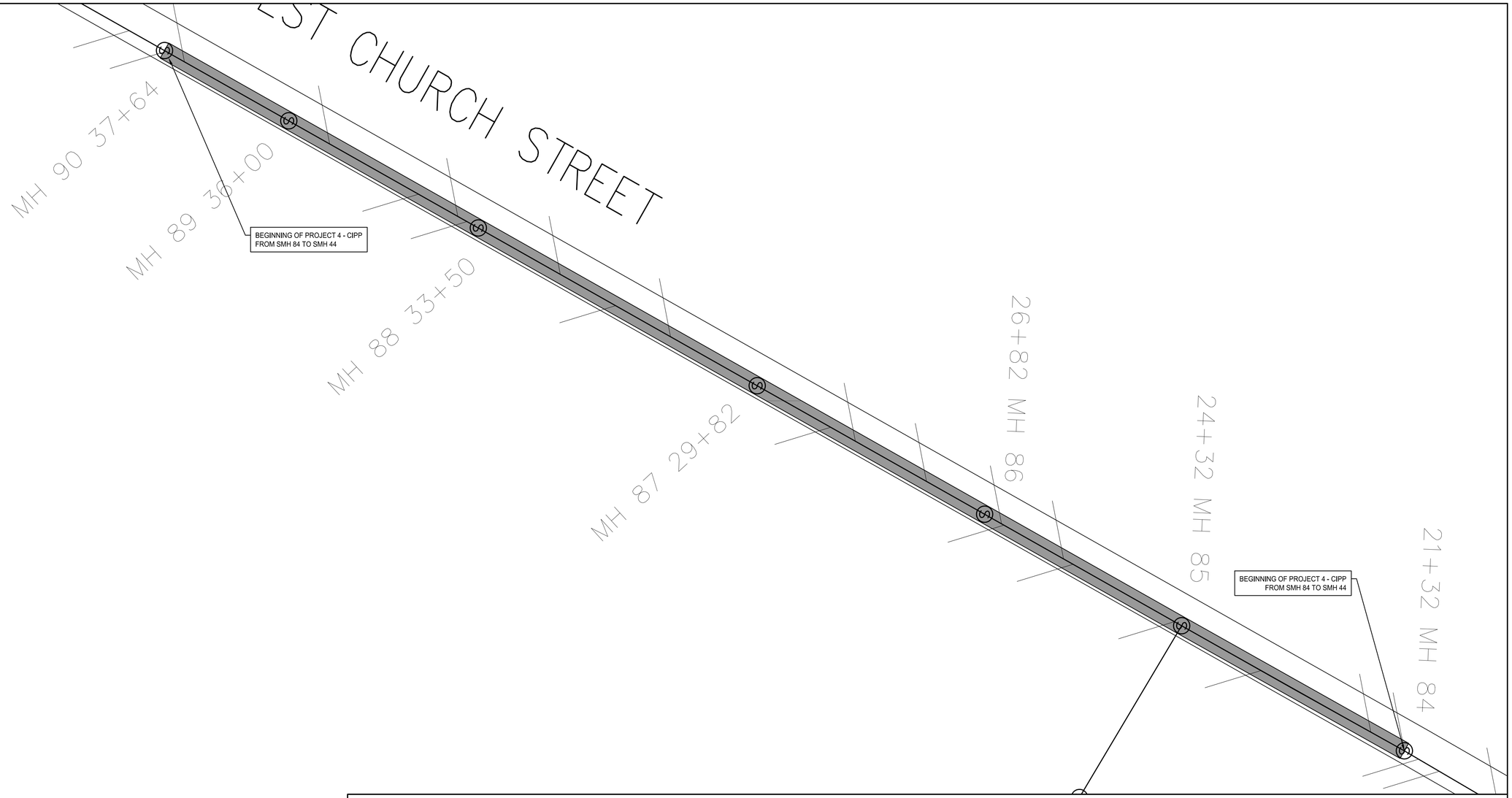

D1
1" = 60'

CIPP - WEST CHURCH STREET

NORTH

GRAPHIC SCALE: 1" = 60'
60 0 60

jason
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7/30/21

TOWN OF ALAMO

2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

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CIPP - WEST CHURCH STREET

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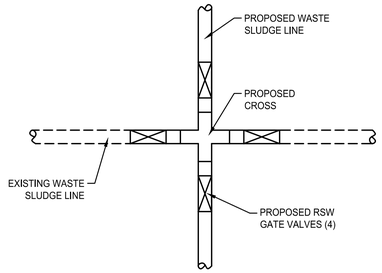
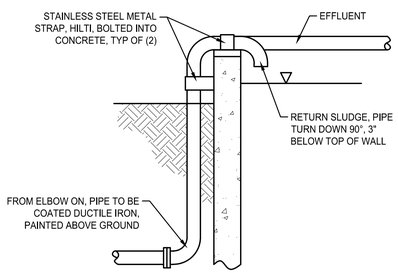
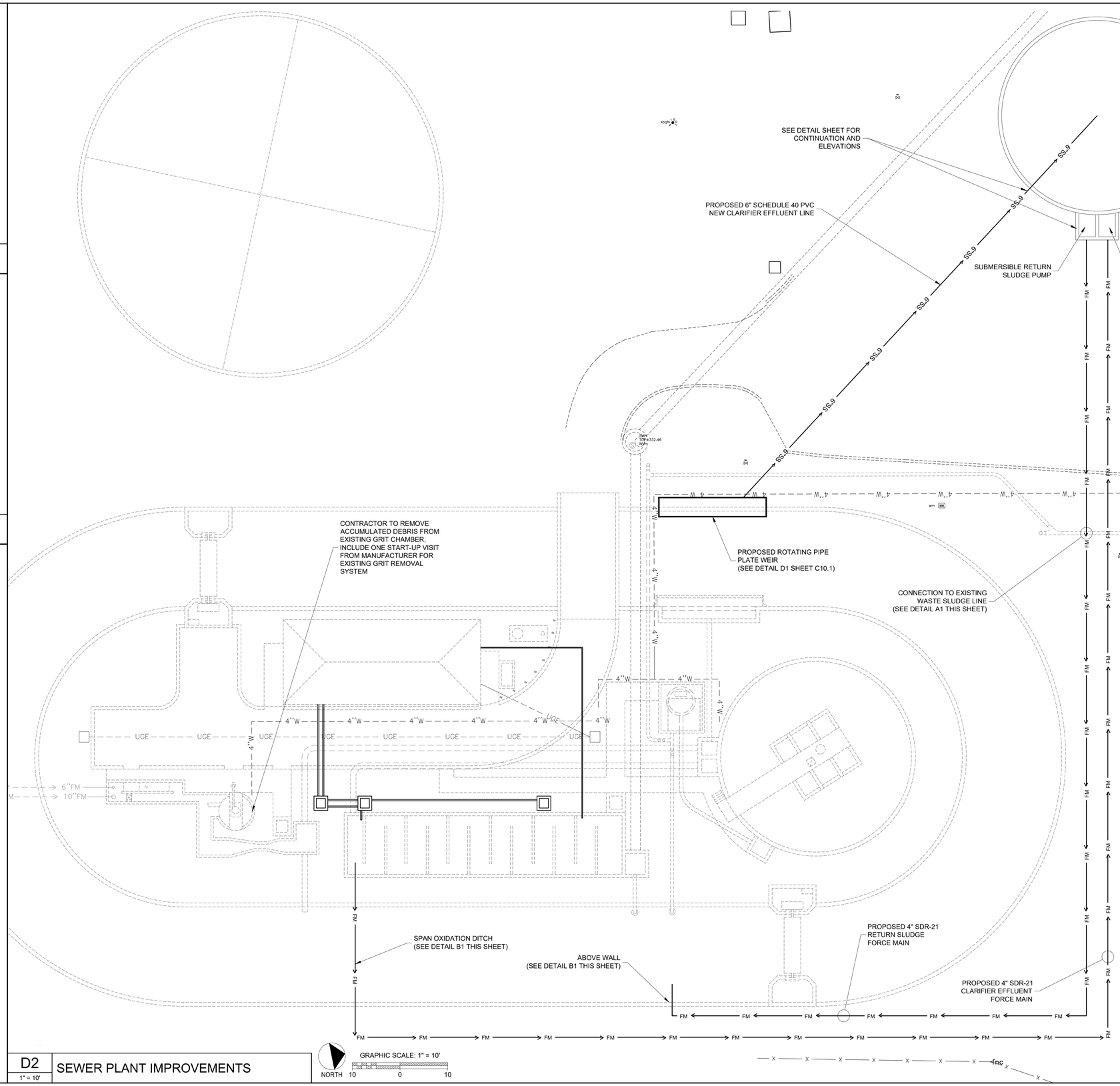


A1 NTS SLUDGE LINE CONNECTION



B1 NTS SLUDGE LINE RETURN



D2 1" = 10' SEWER PLANT IMPROVEMENTS

jason
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SEWER PLANT IMPROVEMENTS

C2.0

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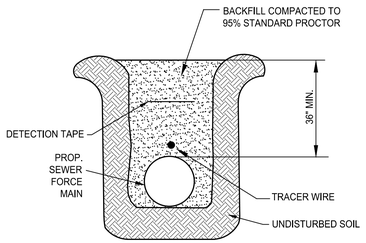
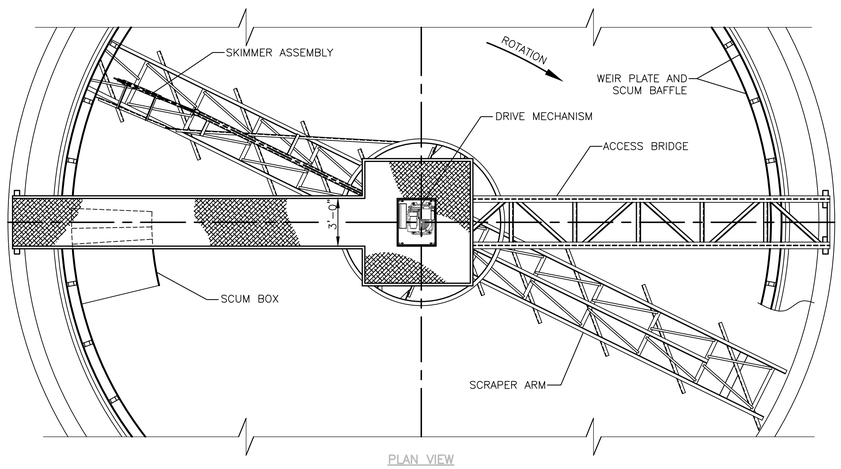
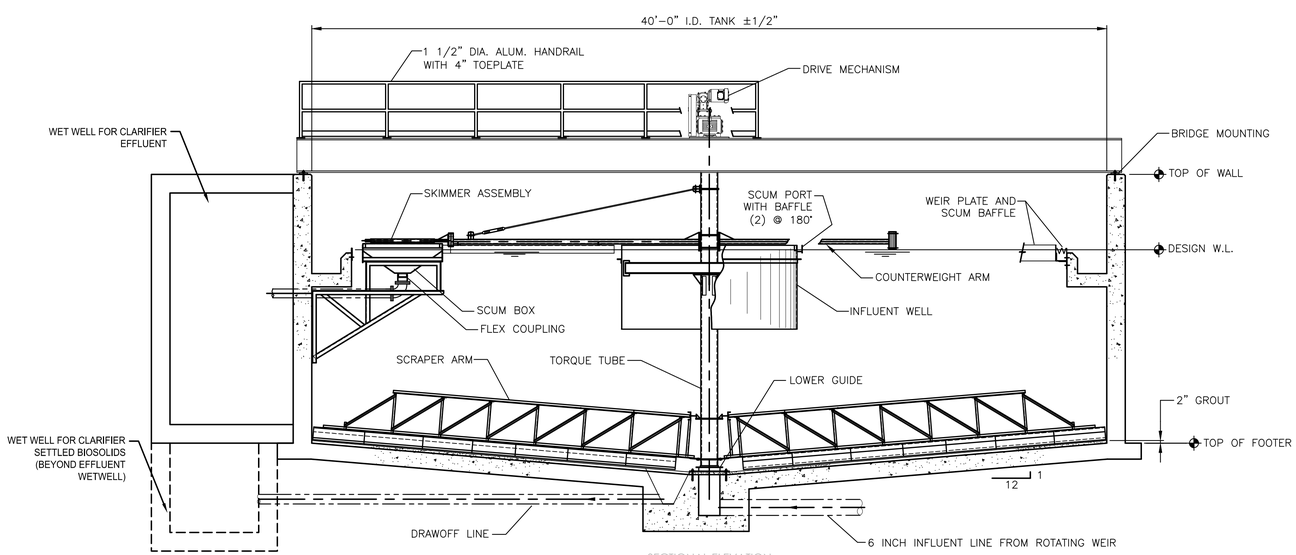


A1 NTS — FORCE MAIN BEDDING DETAIL



PLAN VIEW



SECTIONAL ELEVATION

SEE STRUCTURAL SHEETS
FOR ELEVATIONS

D1 NTS — 40 FOOT DIAMETER CLARIFIER

jason
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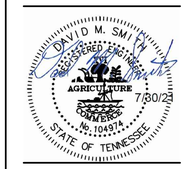

TOWN OF ALAMO

2020 CDBG
SEWER
INFRASTRUCTURE
REPAIRS

ALAMO, TENNESSEE

CONSTRUCTION
DOCUMENTS

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DETAILS

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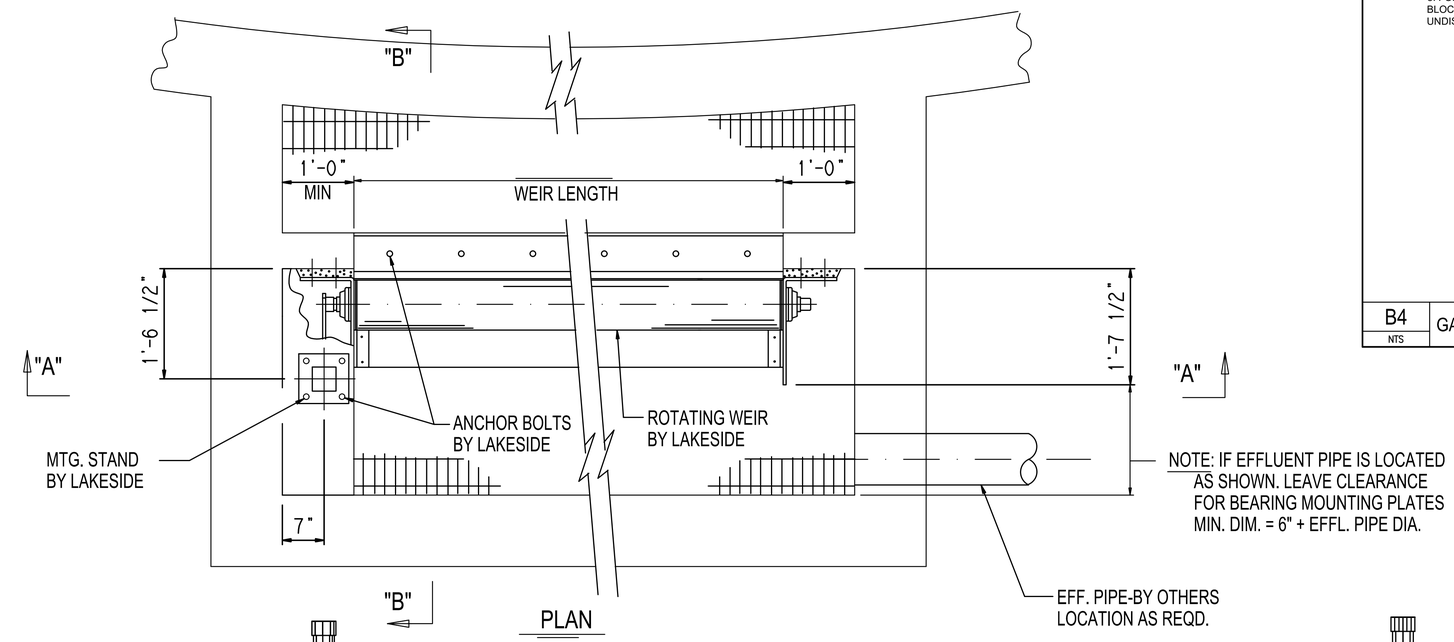


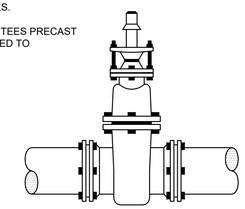
NOTE: IF EFFLUENT PIPE IS LOCATED AS SHOWN. LEAVE CLEARANCE FOR BEARING MOUNTING PLATES MIN. DIM. = 6" + EFFL. PIPE DIA.

PLAN

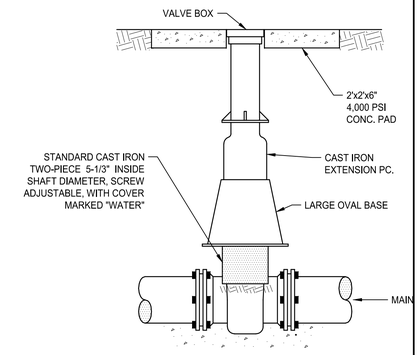
1. COVER BOLTS AND NUTS WITH PLASTIC, POUR CONCRETE TO UNDISTURBED EARTH. SEE CONCRETE THRUST BLOCKING DETAIL FOR MORE INFORMATION.

2. VALVE BOXES TO BE MIN. 2" ABOVE CONTACT POINT OF ALL VALVES.

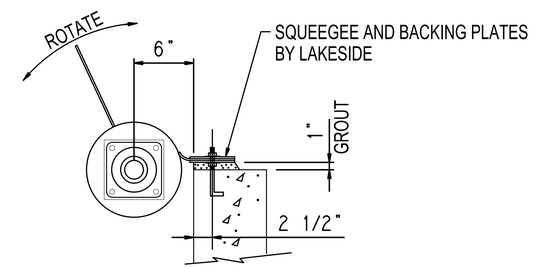
3. FOR MAIN LINE VALVES AND TEES PRECAST BLOCKS MAY BE USED IF PLACED TO UNDISTURBED EARTH.



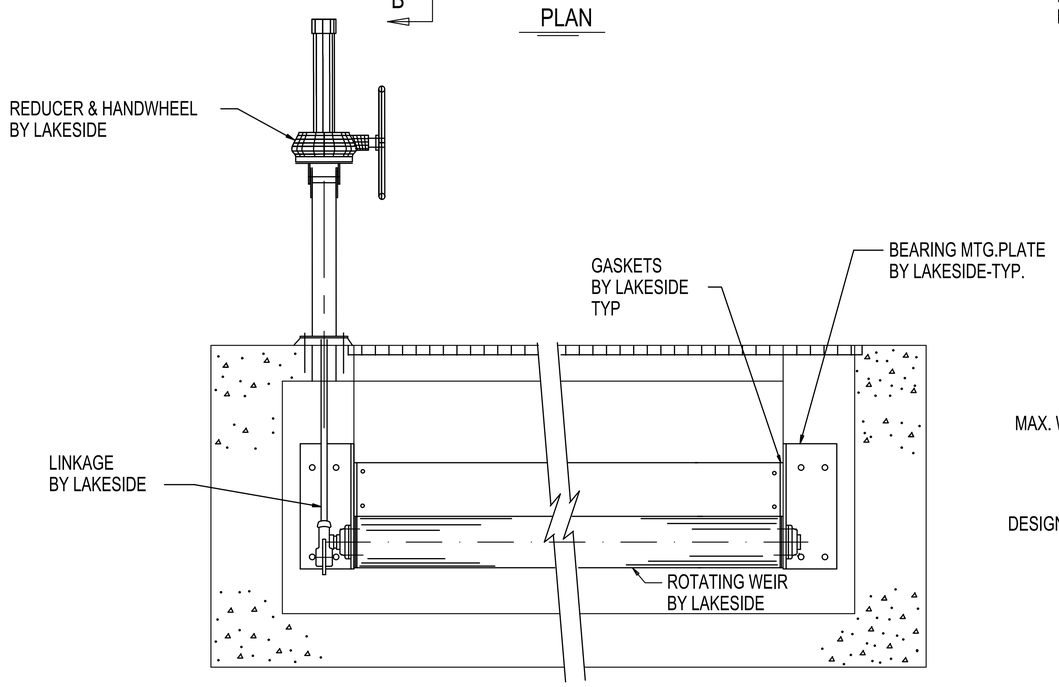
WITHOUT BOX IN PLACE



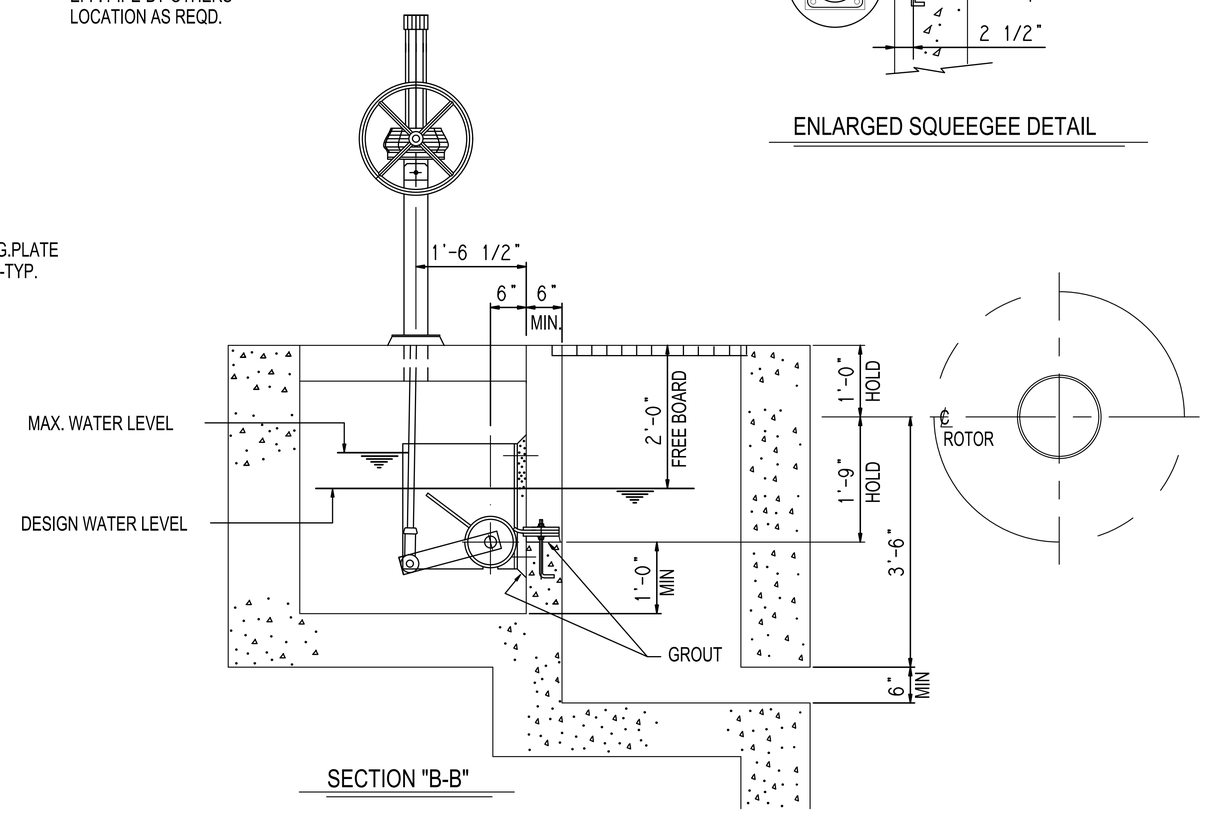
B4	GATE VALVE
NTS	



ENLARGED SQUEEGEE DETAIL



SECTION "A-A"



SECTION "B-B"

D1	ROTATING PIPE PLATE WEIR
NTS	

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7/30/21

TOWN OF ALAMO

2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

CONSTRUCTION DOCUMENTS

REVISIONS

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20110	JULY 30, 2021
DRAWN	CHECKED
JDD	DMS

DETAILS

C10.1

jason
I:\2020\20110\2 Civil\Plngs\dwgs\20110 - C10.0 - DETAILS.dwg
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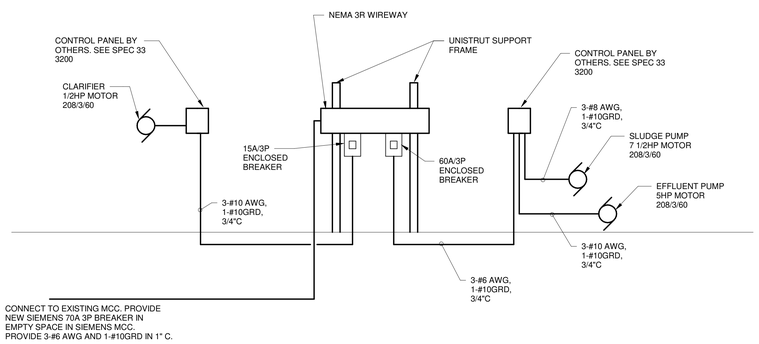
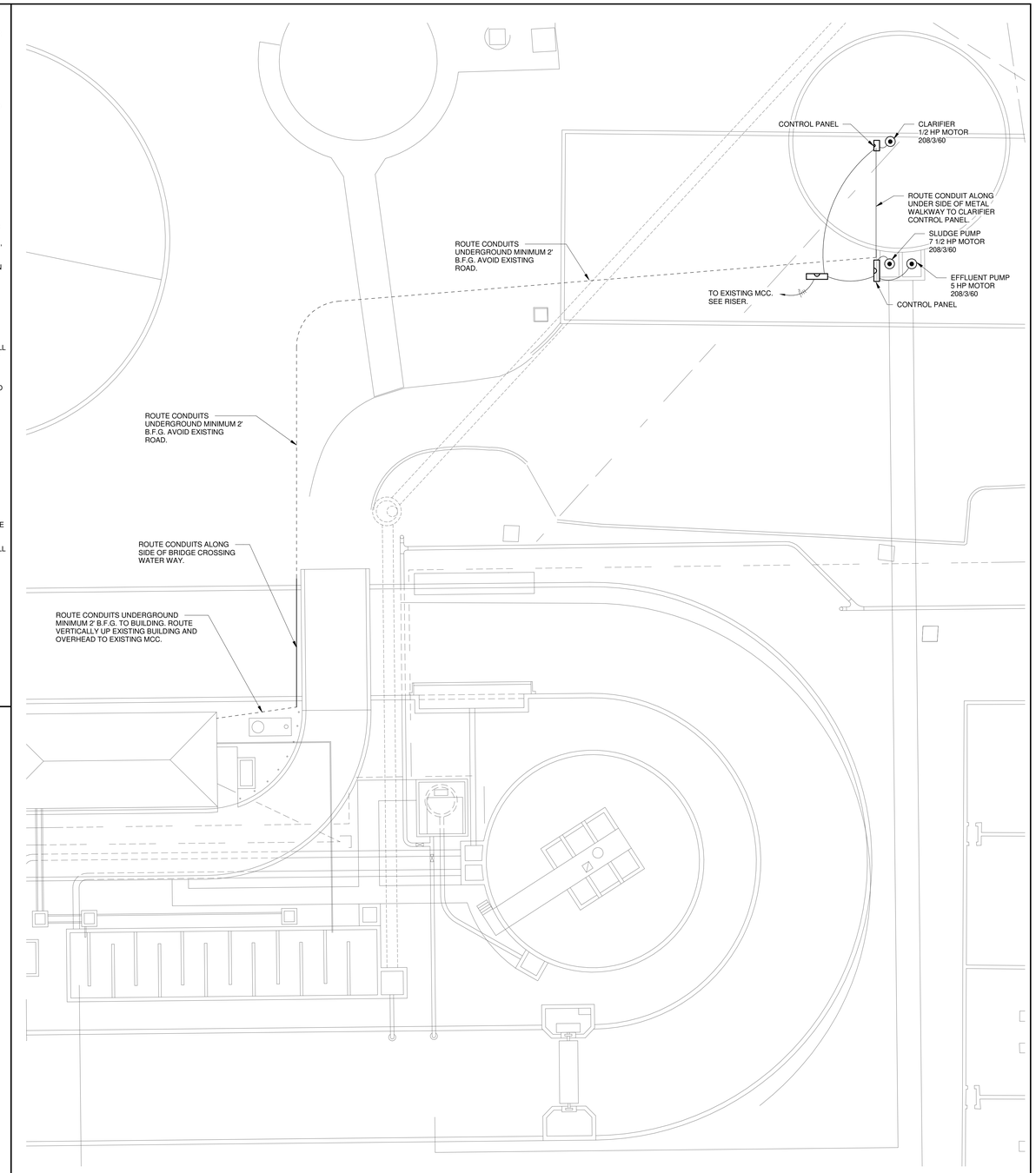
ELECTRICAL GENERAL NOTES:

1. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND FULLY OPERATIONAL ELECTRICAL SYSTEM/INSTALLATION.
2. MATERIALS AND INSTALLATION SHALL COMPLY WITH ALL CODES, LAWS, AND ORDINANCES OF FEDERAL, STATE, AND LOCAL GOVERNING BODIES HAVING JURISDICTION.
3. ALL MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA, OR ANOTHER RECOGNIZED TESTING LABORATORY.
4. SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF ALL ELECTRICAL WORK.
5. PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES, UTILITY COMPANIES, AND LOCAL CODE OFFICIALS, SHOP DRAWINGS AND/OR INSTALLATION DETAILS WHICH ARE REQUIRED BY THESE AGENCIES FOR THEIR APPROVAL.
6. NOTIFY THE ARCHITECT, ENGINEER, AND PROJECT MANAGER IN WRITING OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES, OR REGULATIONS OF THE AUTHORITIES HAVING JURISDICTION.
7. ALL NEW ELECTRICAL WORK OR MODIFICATIONS TO EXISTING ELECTRICAL DISTRIBUTION PANELS, PANELBOARDS, METERS, ETC. SHALL BE INSTALLED AS INDICATED ON THE ELECTRICAL CONSTRUCTION DOCUMENTS. SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT TO BE INSTALLED INDICATING FLOOR PLAN LAYOUT, ELEVATIONS, AND ALL DIMENSIONS FOR APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION. CODE REQUIRED CLEARANCES IN FRONT OF ALL ELECTRICAL EQUIPMENT SHALL BE MAINTAINED AT ALL TIMES.
8. CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, MAKE A SCHEDULED ARRANGEMENT WITH THE PROJECT MANAGER TO VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK.
9. PROVIDE TEMPORARY POWER AND WIRING FOR THE PERFORMANCE OF ALL TRADES, FOR THE ENTIRE PERIOD OF CONSTRUCTION AND REMOVE ALL TEMPORARY WIRING AT THE COMPLETION OF CONSTRUCTION. ALL COSTS FOR ESTABLISHING AND REMOVING TEMPORARY POWER SHALL BE INCLUDED IN BID.
10. THE EXISTING POWER, SIGNAL, AND COMMUNICATIONS SYSTEMS ARE TO REMAIN IN SERVICE TO PROVIDE FOR THE OWNER'S EXISTING FUNCTIONS. SHOULD IT BECOME NECESSARY TO SHUT-DOWN ANY SYSTEM OR PORTION OF A SYSTEM, APPROVAL IN WRITING MUST BE OBTAINED FROM THE PROJECT MANAGER AND SHALL BE ONLY FOR THE PERIOD AND TIME AGREED UPON. THE BID IS TO INCLUDE THE COST OF ANY TEMPORARY WIRING AND PREMIUM TIME REQUIRED FOR THE SHUTDOWN.
11. ALL MATERIALS AND EQUIPMENT SHALL BE ERECTED, INSTALLED, TOOLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
12. UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT/ENGINEER OR THEIR REPRESENTATIVE.
13. SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS, AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS (FOR EXAMPLE ALL LUMINAIRES). PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
14. PROVIDE "AS-BUILT" DOCUMENTATION AND HARD COPY REPRODUCIBLE DRAWINGS AT THE COMPLETION OF THE PROJECT AND SUBMIT TO THE ARCHITECT AND THE ENGINEER. AS-BUILT DRAWINGS SHALL INDICATE EXACT CIRCUIT NUMBERS, LOCATIONS OF ALL DEVICES, CEILING FIXTURES, AND RACEWAY FOR LIGHTING, TELECOMMUNICATIONS AND POWER DISTRIBUTION SYSTEMS AS INSTALLED.
15. ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW AND OF COMMERCIAL GRADE UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED ON DRAWINGS.
16. EXCEPT AS NOTED OTHERWISE, ALL WORK REQUIRED FOR THE ELECTRICAL INSTALLATION AS SHOWN ON DRAWINGS SHALL INCLUDE ALL LABOR, INSTALLATION METHODS, EQUIPMENT, AND MATERIALS AND SHALL BE IN STRICT COMPLIANCE WITH ALL BUILDING STANDARDS.
17. PROVIDE A COMPLETE METAL RACEWAY SYSTEM, FITTINGS AND ENCLOSURES FOR ALL ELECTRICAL WIRING SYSTEMS TO BE INSTALLED FOR THE PROJECT. SYSTEMS SHALL INCLUDE, BUT NOT BE LIMITED TO POWER, COMMUNICATIONS, SECURITY, AND PAGING.
18. WIRE NUMBER 8 AND SMALLER FOR USE IN INTERIOR DRY LOCATIONS SHALL BE TYPE THWN THERMOPLASTIC 600 VOLT INSULATED COPPER CONDUCTORS. FEEDERS AND POWER WIRING NUMBER 6 AND LARGER SHALL BE TYPE THW 600 VOLT INSULATED COPPER. WIRE WHICH IS INSTALLED IN RACEWAY IN MOIST OR DAMP LOCATIONS SHALL BE THW, 600 VOLT INSULATED COPPER CONDUCTORS. NO WIRE SMALLER THAN NUMBER 12 AWG SHALL BE USED FOR LIGHTING OR POWER.
19. BRANCH CIRCUIT HOMERUN WIRING:
    - A. ALL BRANCH CIRCUITS, FEEDERS, AND HOMERUNS SHALL BE PROVIDED WITH AN INSULATED COPPER GREEN GROUNDING CONDUCTOR ROUTED IN THE SAME CONDUIT. GROUNDING CONDUCTOR SHALL BE SIZED PER THE REQUIREMENTS OF NEC SECTION 250.
    - B. HOMERUN LENGTH SHALL BEGIN AT THE CENTRAL POINT OF ALL DISTRIBUTED CIRCUITS TO THE PANELBOARD CIRCUIT BREAKER.
20. ALL NEW CIRCUIT BREAKERS FOR EXISTING PANELBOARDS AND DISTRIBUTION PANELBOARDS SHALL MATCH EXISTING BUILDING PANELBOARD MANUFACTURER AND CIRCUIT BREAKER TYPE. ALL CIRCUIT BREAKERS SHALL BE BOLT ON TYPE. AIC RATING OF NEW CIRCUIT BREAKER SHALL MATCH AIC RATING OF PANELBOARD IN WHICH IT IS INSTALLED. WHERE SERIES RATED TYPE CIRCUIT BREAKERS ARE USED, NEW CIRCUIT BREAKERS SHALL BE INSTALLED SO AS TO MAINTAIN THE UL SERIES RATING OF THE ENTIRE SYSTEM. THE CONTRACTOR SHALL PROVIDE A NEW TYPEWRITTEN PANEL DIRECTORY FOR EACH PANEL CHANGED AT THE COMPLETION OF THE PROJECT. EACH CIRCUIT BREAKER SHALL BE LABELLED TO IDENTIFY LOAD TYPE AND LOCATION.
21. NUMBERED CIRCUITS SHOWN ON PLAN ARE FOR THE CONVEYANCE OF DESIGN INTENT ONLY. ACTUAL FIELD CONDITIONS WILL AFFECT CIRCUITRY. INDICATE THE ACTUAL CIRCUIT NUMBERS INSTALLED ON THE "AS-BUILT" DRAWINGS.
22. PERFORM ALL WORK OF A DEMOLITION NATURE THAT MAY BE REQUIRED OR NECESSARY FOR THE FULL AND COMPLETE EXECUTION OF THE WORK, WHETHER EXPLICITLY SHOWN AND/OR SPECIFIED OR NOT. EXACT EXTENT OF DEMOLITION WILL NOT BE FULLY INDICATED BY DRAWINGS. DETERMINE THE NATURE AND EXTENT OF DEMOLITION THAT WILL BE NECESSARY BY COMPARING THE CONTRACT DOCUMENTS WITH ARCHITECTURAL AND DEMOLITION DRAWINGS TO EXISTING CONDITIONS. ELECTRICAL EQUIPMENT WHICH WILL NOT BE REUSED SHALL BE TURNED OVER TO THE OWNER OR REMOVED FROM THE PREMISES AS DETERMINED BY THE PROJECT MANAGER.
23. ANY EXISTING ELECTRICAL MATERIAL AND EQUIPMENT WHICH INTERFERES WITH THE NEW ADDITION OR THE REMOVAL OF EXISTING WALLS SHALL BE REMOVED OR RELOCATED BY THE CONTRACTOR. VERIFY REMOVAL AND NEW LOCATION OF EQUIPMENT WITH THE PROJECT MANAGER AND THE ARCHITECT/ENGINEER PRIOR TO WORK.
24. VERIFY CLEARANCES FOR ALL NEW OR EXISTING RELOCATED ELECTRICAL WORK BEFORE PROCEEDING WITH CONSTRUCTION. COORDINATE USAGE OF AVAILABLE SPACE WITH ALL TRADES. IN THE EVENT OF CONFLICTS, NOTIFY THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE WORK.
25. ALL HANGER AND/OR ROD SUPPORT SYSTEMS SHALL BE SUPPORTED TO THE BOTTOM RIB OF THE METAL DECK, WHERE APPLICABLE.
26. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE DRAWINGS. WHERE MORE STRINGENT REQUIREMENTS THAN THOSE DESCRIBED HEREIN OR AS SET FORTH UNDER CODES, LAWS, AND ORDINANCES OF FEDERAL, STATE, AND LOCAL GOVERNING BODIES HAVING JURISDICTION, THOSE GREATER REQUIREMENTS SHALL BE ADHERED TO.

B1 N.T.S. — **GENERAL NOTES**



D1 N.T.S. — **SINGLE LINE DIAGRAM**



D3 1" = 10'-0" — **ELECTRICAL - SITE PLAN**

A2H ENGINEERS ARCHITECTS PLANNERS

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JAMES ALLEN JONES — STATE OF TENNESSEE — LICENSED PROFESSIONAL ENGINEER — 30-21

TOWN OF ALAMO

2020 CDBG SEWER INFRASTUCTURE REPAIRS

ALAMO, TENNESSEE

CONSTRUCTION DOCUMENTS

REVISIONS

PROJECT NO.	DATE
20110	JULY 30, 2021
DRAWN	CHECKED
JAJ	DL

ELECTRICAL - SITE PLAN

E1.0

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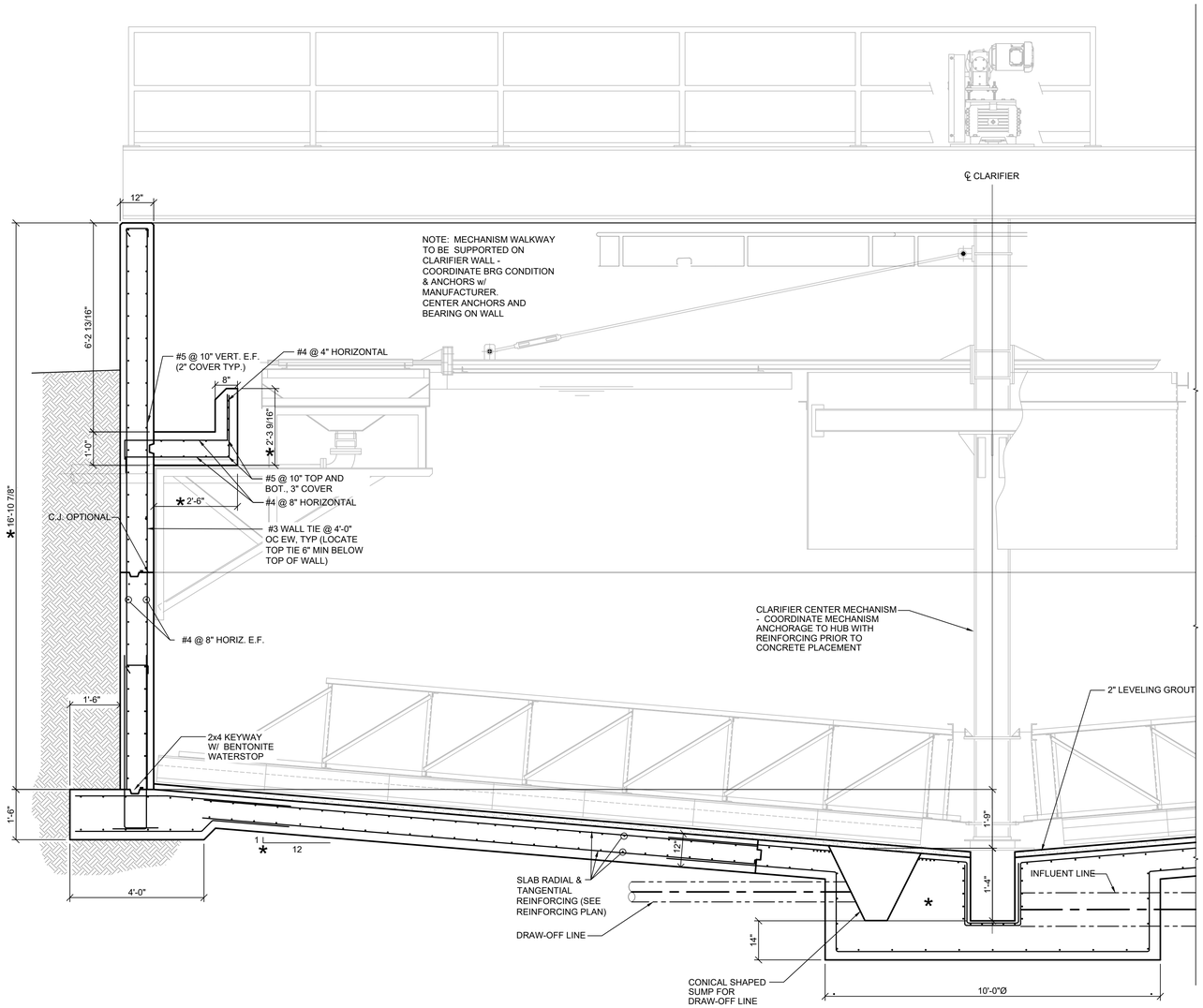
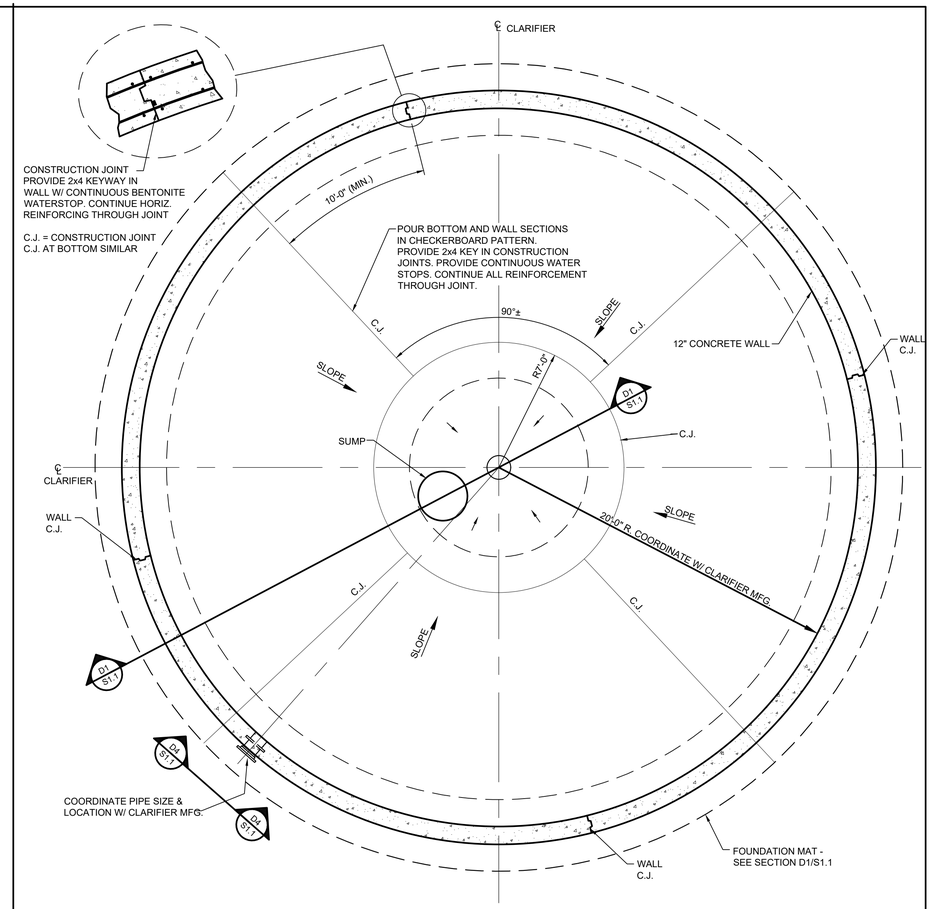
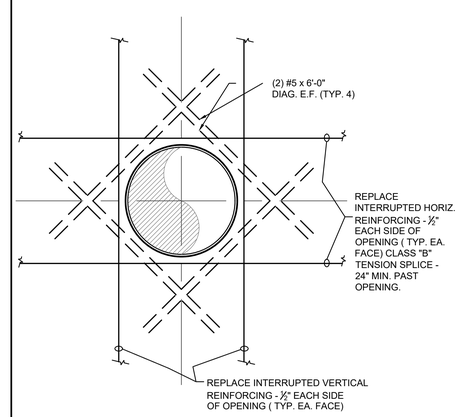


* COORDINATE DIM'S W/ CLARIFIER MFG.

D1 — 1/2" = 1'-0" — SECTION THRU CLARIFIER



B4 — 1/4" = 1'-0" — PLAN VIEW OF CLARIFIER



D4 — 3/4" = 1'-0" — SECTION AT WALL OPENING

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2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

CONSTRUCTION DOCUMENTS

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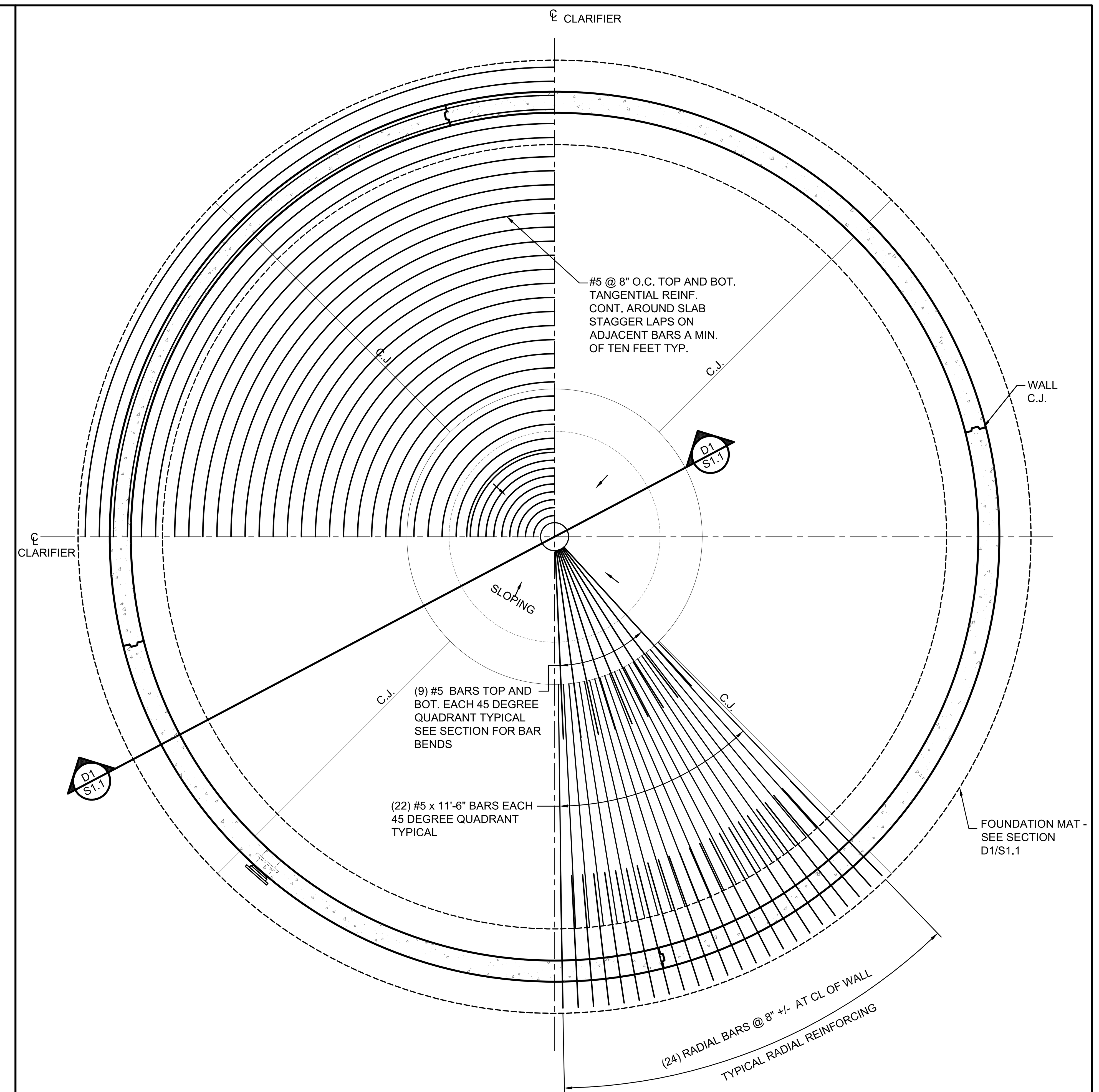
DRAWN	CHECKED
SCH/AD	RDM

PLAN AND SECTIONS

S1.1

andyd
I:\2020\20110\1 Structural\Proj\dwg\S1.1.dwg
Plot Date: 7/30/2021 2:27pm
PLOT SCALE: 1:1
LATEST REV: 05/28/2021



B4 | 1/4" = 1'-0"

REINFORCING PLAN CLARIFIER SLAB

SF - SHALLOW FOUNDATIONS (ASSUMED)

SF.1 FOUNDATIONS ARE DESIGNED FOR AN ASSUMED MAXIMUM SOIL BEARING PRESSURE OF:
MAT FOUNDATION: 1,000 PSF*
ON UNDISTURBED COMPACTED FILL, MINIMUM DENSITY 98% ASTM D-698 OR UNDISTURBED RESIDUAL SOILS. ALL SOILS TESTING SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TESTING AGENCY, AND THE RESULTS SHALL BE REVIEWED BY A QUALIFIED, EXPERIENCED SOILS ENGINEER. THE RESULTS SHALL BE CERTIFIED BY THE SOILS ENGINEER TO CONFORM TO THE ABOVE LISTED DESIGN VALUES. ALL SOILS TEST RESULTS SHALL BE FORWARDED TO THE CONTRACTOR. IN THE EVENT THAT THE RESULTS ARE DISAPPROVED, FOOTING EXCAVATIONS SHALL BE UNDERCUT (UNDER THE DIRECTION OF THE SOILS ENGINEER) UNTIL FOUNDATION SOILS OF ADEQUATE BEARING CAPACITY ARE ENCOUNTERED. BACKFILL UNDER FOOTINGS SHALL CONSIST OF CONCRETE (2500 PSI AT 28 DAYS) PLACED UP TO PROPOSED BOTTOM- OF-FOOTING ELEVATION.
* BEARING SURFACES SHALL BE TESTED AFTER EXCAVATION BY A QUALIFIED SOILS ENGINEER DETERMINE IF THE ASSUMED BEARING VALUES STATED ABOVE ARE CORRECT.

SF.2 THE FOUNDATION EXCAVATIONS SHALL BE OBSERVED BY AN EXPERIENCED GEOTECHNICAL TECHNICIAN WORKING UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER. THIS OBSERVATION SHALL TAKE PLACE PRIOR TO STEEL OR CONCRETE PLACEMENT.

SF.3 FOUNDATIONS SHALL BE CAST IN NEATLY TRENCHED EXCAVATIONS (1" WIDER EACH SIDE THAN DIMENSIONS SHOWN). IF FOUNDATIONS CANNOT BE CAST IN NEAT TRENCHES, FORM FOOTINGS TO DIMENSIONS SHOWN. BOTTOM OF FOOTINGS BEARING ON SOIL SHALL EXTEND, WITH A MINIMUM EMBEDMENT OF 6", INTO FIRM APPROVED SOIL MATERIALS.

SF.4 FOUNDATION CONCRETE SHALL BE PLACED THE SAME DAY THE EXCAVATION IS EXPOSED, SPECIAL CARE SHOULD BE TAKEN TO PROTECT THE EXPOSED SOILS FROM BEING DISTURBED, SATURATED, OR DRIED OUT PRIOR TO THE PLACEMENT OF SELECT FILL OR CONCRETE. WATER SHALL NOT BE ALLOWED TO STAND IN TRENCHES BEFORE OR AFTER CONCRETE IS PLACED, BUT SHALL BE PUMPED OUT. IF BOTTOMS OF TRENCHES BECOME SOFTENED DUE TO RAIN OR OTHER WATER BEFORE FOOTINGS ARE CAST, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL EXCAVATE THE SOFTENED MATERIAL AND REPLACE WITH CONCRETE.

CR - CONTRACTOR RESPONSIBILITIES

CR.1 MATERIAL, WORKMANSHIP, AND DESIGN SHALL CONFORM TO THE REFERENCED BUILDING CODE.

CR.2 COORDINATE THE STRUCTURAL DOCUMENTS WITH THE EQUIPMENT MFG., MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DOCUMENTS. STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR OMISSION DISCOVERED. ANY WORK PERFORMED BY THE CONTRACTOR, WITHOUT A DETERMINATION FROM THE ARCHITECT/ STRUCTURAL ENGINEER AFTER SUCH A DISCOVERY SHALL BE AT THE CONTRACTOR'S RISK.

CR.3 VERIFY THE DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE BEGINNING CONSTRUCTION ACTIVITIES STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY.

CR.4 CONTRACTOR HAS SOLE RESPONSIBILITY FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.

CR.5 CONTRACTOR HAS SOLE RESPONSIBILITY FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.

CR.6 CONTRACTOR HAS SOLE RESPONSIBILITY TO COMPLY WITH ALL OSHA SAFETY REGULATIONS.

CR.7 NOTIFICATION OF ENGINEER: THE CONTRACTOR SHALL NOTIFY THE ENGINEER TWENTY-FOUR HOURS IN ADVANCE OF:
1. PLACING CONCRETE IN ANY FOOTING.
2. CLOSING ANY WALL FORMS.
3. PLACING CONCRETE IN ANY WALL.

DC - DESIGN CRITERIA

DC.1 ALL CONSTRUCTION SHALL BE PERFORMED IN CONFORMANCE WITH THE BUILDING AND DESIGN CODES REFERENCED WITHIN THESE DOCUMENTS. THE PROJECT DOCUMENTS REFER TO THE FOLLOWING CODES AND REFERENCED STANDARDS.
BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC 2012) WITH THE AMENDMENTS BY THE STATE OF TENNESSEE REFERENCING MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, (ASCE 7-10)
STRUCTURAL CONCRETE:
"BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
THE AMERICAN CONCRETE INSTITUTE (ACI 318-11)

DC.2 GRAVITY LOADS
1. LIVE LOADS
   A. INTERIOR WATER (CLEAN POTABLE) UNIT WT = 62.5 PCF
2. DEAD LOADS
   A. WEIGHT OF STRUCTURE & EQUIPMENT, AS REQ'D
   B. EXTERIOR SOIL UNIT WT = 120 PCF

DC.3 WIND LOADS ASCE 7-10
1. VELOCITY 115 MPH (3 SECOND GUST SPEED)
2. EXPOSURE CATEGORY C
3. IMPORTANCE FACTOR 1.25

DC.4 SEISMIC DESIGN DATA ASCE 7-10
1. RISK CATEGORY: II
2. IMPORTANCE FACTOR: 1.25
3. SITE CLASS: D
4. MAPPED SPECTRAL RESPONSE ACCELERATION, SS = 1.14g
   MAPPED SPECTRAL RESPONSE ACCELERATION, S1 = 0.398g
5. SPECTRAL RESPONSE COEFFICIENT, SDS = 0.794g
   SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.425g
6 SEISMIC DESIGN CATEGORY: D
7. BASIC SEISMIC-FORCE-RESISTING SYSTEM:
   ORDINARY REINFORCED CONCRETE SHEAR WALLS

SE - SOILS AND EARTHWORK

SE.1 SITE SHALL BE CLEARED OF ALL TOP SOIL, FILL, RUBBLE, ETC., AND THE REQUIRED FILL PLACED IN LIFTS NOT EXCEEDING 6" IN LOOSE THICKNESS TO OBTAIN A COMPACTION OF 98 PERCENT STANDARD PROCTOR AT OR SLIGHTLY ABOVE OPTIMUM MOISTURE.

SE.2 SUBGRADE UNDER MAT FOUNDATION: PROOF-ROLL AND COMPACT TO MINIMUM DENSITY OF 98 PERCENT ASTM D-698.

SE.3 GRANULAR SUBBASE UNDER MAT FOUNDATION: 6" THICK CLEAN SAND, SAND-GRAVEL, CRUSHED STONE OR COMBINATION THEREOF, UNLESS SPECIFICALLY SHOWN OTHERWISE. COMPACT TO A MINIMUM RELATIVE DENSITY OF 95%. A SOIL CEMENT BASE MAY BE SUBSTITUTED AS A SUBGRADE SURFACE AT THE OPTION OF THE CONTRACTOR.

SE.4 FOUNDATION AND/OR RETAINING WALLS SHALL BE BACKFILLED WITH FREE-DRAINING MATERIAL BASED ON LOCAL AVAILABIILTY.

CO - CONCRETE

CO.1 ALL CONCRETE WORKMANSHIP AND MATERIALS SHALL CONFORM TO ACI 318 AND ALL LOCAL LAWS AND ORDINANCES.

CO.2 CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS:
FOUNDATION WALLS 4000 PSI (5% AIR-ENTRAINED)
FOUNDATION MAT 4000 PSI (5% AIR-ENTRAINED)

CO.3 CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) UNLESS NOTED OTHERWISE AND HAVE LIMESTONE AGGREGATE.

CO.4 ALL CONCRETE SHALL BE VIBRATED.

CO.5 NO REPAIR OR RUBBING OF CONCRETE SURFACES SHALL BE MADE PRIOR TO INSPECTION BY AND WITH APPROVAL OF THE ARCHITECT, OWNER, OR THEIR AUTHORIZED REPRESENTATIVES.

CO.6 ONCE FORM WORK HAS BEEN REMOVED FROM CONCRETE RETAINING WALLS, BRACE WALL THOROUGHLY BEFORE PLACING SOIL AGAINST WALL, AND KEEP BRACING IN PLACE FOR A MINIMUM OF SEVEN (7) DAYS AFTER EARTHWORK IS COMPLETE.

CO.7 DETAILING:
1. CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS, INSERTS, AND OTHER EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT.
2. ALL OPENINGS IN SLABS-ON-GRADE AND WALLS THAT ARE NOT SHOWN ON STRUCTURAL PLANS MUST BE APPROVED BY THE ENGINEER. EMBED PIPES OR CONDUIT: MAXIMUM DIAMETER 1/3 X SLAB OR WALL THICKNESS, SPACED MINIMUM OF 3 DIAMETERS ON CENTER. GROUT: HIGH STRENGTH, NON-SHRINK STRUCTURAL GROUT (OR SAND-CEMENT GROUT, 3,000 PSI AT CONTRACTOR'S OPTION). SEE SPECIFICATIONS.
3. CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL OPENINGS, DOWELS, SLEEVES, CONDUITS, BOLTS, INSERTS, AND OTHER EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT. COORDINATE W/ CLARIFIER EQUIPMENT MFG.
4. CONCRETE FINISHES: SEE SPECIFICATIONS.

CO.8 ALL EXPOSED CORNERS OR EDGES OF WALL SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS NOTED OTHERWISE.

CO.9 FOUNDATION MAT SECTIONS MUST CURE FOR 7 DAYS (MIN.) BEFORE POURING ADJACENT SECTIONS OF WALLS.

RS - REINFORCING STEEL

RS.1 DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL, SP-66, THE CRSI MANUAL OF STANDARD PRACTICE AND ACI 318.

RS.2 REINFORCING BAR STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS: ASTM A615, GRADE 60

RS.3 REINFORCING STEEL DESIGNATED CONTINUOUS SHALL BE LAPPED AS FOLLOWS:
1. CONCRETE REINFORCEMENT: CLASS "B" TENSION LAP (PER ACI 318)
2. MINIMUM LAP FOR ANY BAR: 18 INCHES
3. DO NOT SPLICE VERTICAL BARS IN RETAINING WALLS, UNLESS SPECIFICALLY SHOWN.

RS.4 REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE PROTECTION (CLEAR COVER). U.N.O.:
SURFACES NOT FORMED: 3"
FORMED SURFACES IN CONTACT WITH SOIL OR WATER, OR EXPOSED TO WEATHER: 2"

RS.5 REINFORCING SHALL NOT BE HEATED OR WELDED.

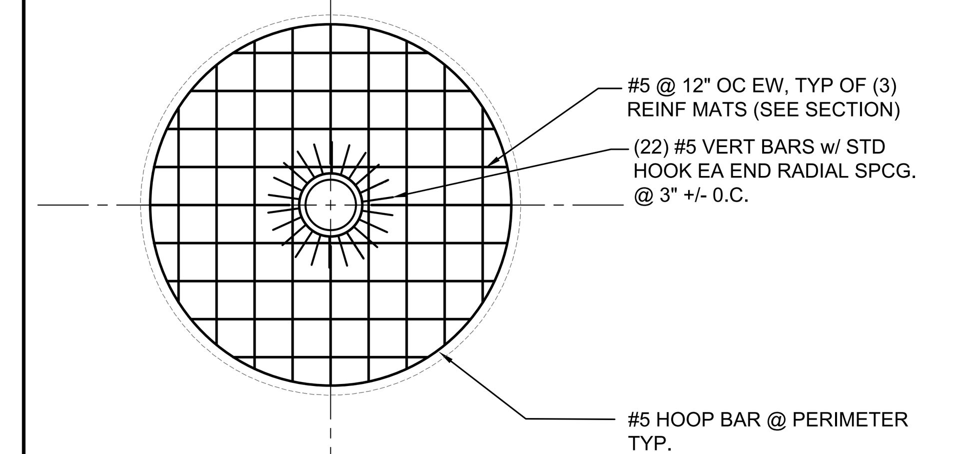
RS.6 REINFORCING PLACEMENT SHALL BE APPROVED BY THE ARCHITECT OR THEIR AUTHORIZED REPRESENTATIVE BEFORE CONCRETE IS PLACED.

RS.7 UNLESS NOTED OTHERWISE, OPENINGS IN CONCRETE SLABS AND WALLS SHALL BE REINFORCED AROUND THE OPENING WITH TWO #5 BARS IN EACH FACE ON ALL SIDES. BARS SHALL EXTEND 2 FEET MINIMUM BEYOND OPENING. AT CORNERS OF OPENINGS IN CONCRETE SLAB AND WALLS, PROVIDE TWO #4 DIAGONAL BARS 4'-0" LONG IN EACH FACE. DIAGONAL BARS SHALL BE CENTERED ON THE CORNER OF THE OPENING. ALL RECESSES IN CONCRETE WALLS THAT INTERRUPT REINFORCING STEEL SHALL BE REINFORCED THE SAME AS AN OPENING.

RS.8 HORIZONTAL CONCRETE WALL REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION AND CONTROL JOINTS. SPLICES IN HORIZONTAL REINFORCEMENT SHALL BE STAGGERED. SPLICES IN TWO CURTAINS, WHERE USED, SHALL NOT OCCUR IN THE SAME LOCATION. SPLICE LAPS SHALL NOT OVERLAP.

D1 | NO SCALE

GENERAL NOTES



D5 | 1/4" = 1'-0"

REINFORCING PLAN AT BASE

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2020 CDBG SEWER INFRASTRUCTURE REPAIRS

ALAMO, TENNESSEE

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GENERAL NOTES AND PLANS

S1.2