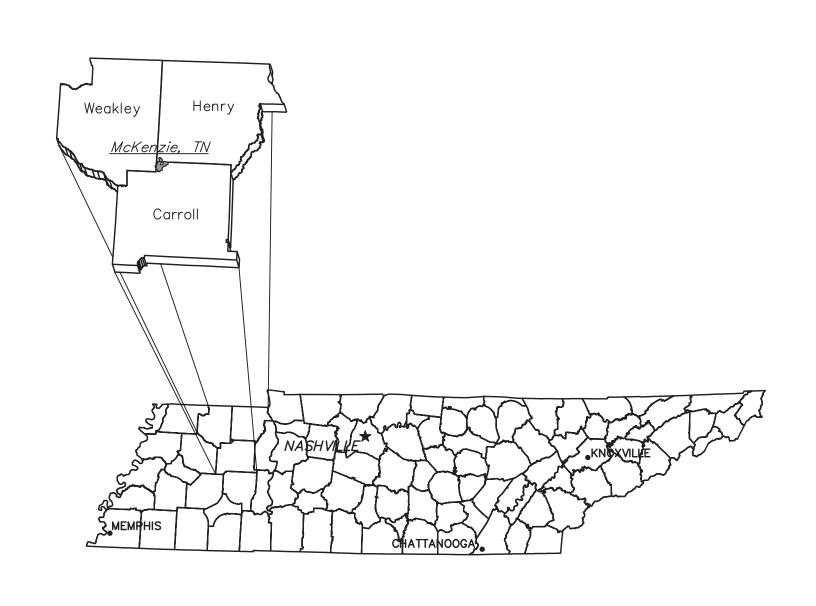
# 2022 CDBG SEWER REHABILITATION CONTRACT B. CDBG PROJECT NO. 15352

# TOWN OF MCKENZIE, TENNESSEE









www.grwinc.com



SEPTEMBER 2023



SHEET

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SANITARY SEWER REHABILITATION WEST MAGNOLIA STREET

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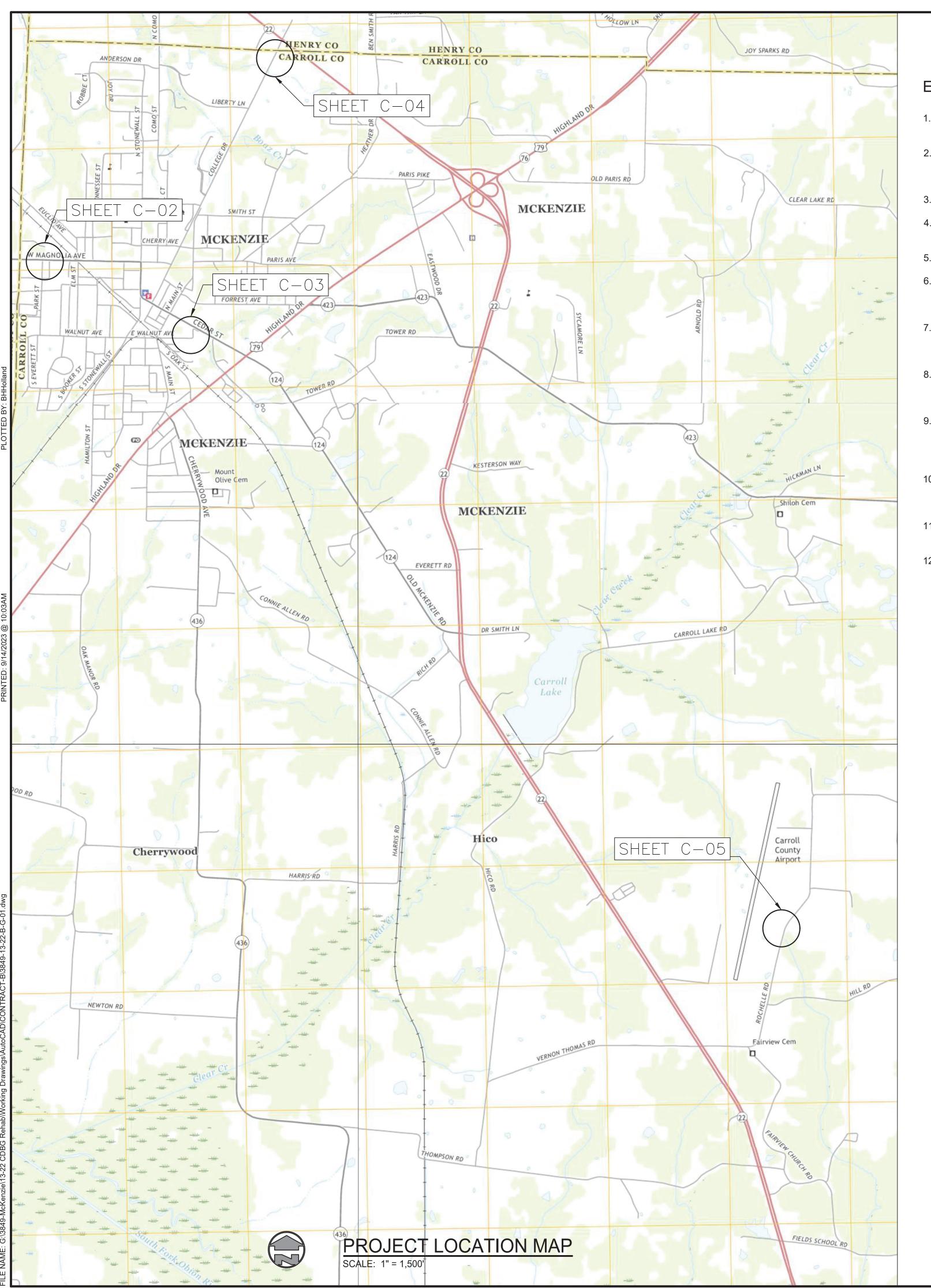
PROJECT LOCATION MAP AND GENERAL NOTES

SANITARY SEWER REHABILITATION CEDAR STREET

SANITARY SEWER REHABILITATION UNIVERSITY DRIVE

SANITARY SEWER REHABILITATION ROCHELLE ROAD

GRW PROJECT NO. 3849-13-B



### **EROSION & SEDIMENT CONTROL NOTES:**

CONSERVATION.

- . ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
- NO WORK MAY PROCEED UNTIL A NOTICE OF COVERAGE (NOC) HAS BEEN ISSUED BY THE STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND
- THE SWPPP SHALL BE AVAILABLE AT THE SITE FOR REVIEW AT ALL TIMES.
- AT A MINIMUM, THE CONTRACTOR SHALL INSTALL SILT FENCE ON THE DOWNHILL SIDE OF THE PROPOSED CONSTRUCTION AREA.
- . CONTRACTOR SHALL PROVIDE DITCH CHECKS AS REQUIRED.
- . CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY EROSION CONTROL BLANKET/MATTING ON ALL SLOPES GREATER THAN 4:1 UNLESS NOTED OTHERWISE.
- ALL AREAS TO REMAIN BARE MORE THAN 15 DAYS SHALL BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES (BMP'S).
- TDEC REGULATIONS REQUIRE THAT STABILIZATION MEASURES BE INITIATED WITHIN 7 DAYS AFTER CONSTRUCTION OR LAND DISTURBANCE ACTIVITIES HAVE BEEN TEMPORARILY OR PERMANENTLY TERMINATED.
- 9. THE ONLY EXCEPTIONS, FOR NOTE 8, ARE FOR CASES WHERE SNOW COVER, FROZEN GROUND, OR EXCESSIVELY WET CONDITIONS PRECLUDE INITIATION OF STABILIZATION OR WHERE LAND DISTURBANCE ACTIVITIES WILL BE RESUMED ON THAT PORTION OF THE SITE WITHIN 15 DAYS.
- 10. EROSION CONTROL MEASURES SHALL BE CHECKED AND REPAIRED IF NECESSARY AT LEAST TWICE EACH CALENDAR WEEK IN ACCORDANCE WITH THE SWPPP.
- 11. ALL EROSION CONTROL MEASURES UTILIZED WITHIN STATE OF TENNESSEE ROW'S SHALL MEET OR EXCEED THE TDOT REQUIREMENTS.
- 12. EROSION AND SEDIMENT CONTROL MEASURES AND STRUCTURES SHALL BE INSPECTED TWICE A WEEK 72 HOURS APART.

### **GENERAL NOTES**

- 1. THE CONTRACTOR SHALL RESTORE ALL CULVERTS, FENCES, WALLS, SMALL ORNAMENTAL TREES, CULTIVATED SHRUBS, FLOWERS, SIGNS, LIGHTS AND POWER POLES, STREET MARKERS, MAIL BOXES, WATER AND GAS LINES, WATER AND GAS METERS AND BOXES INCLUDING SHUT—OFFS, AND LAWNS DISTURBED BY CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITIONS.

  THE COST OF THIS WORK SHALL BE MERGED IN THE UNIT BID AND
- THE COST OF THIS WORK SHALL BE MERGED IN THE UNIT BID AND CONTRACT PRICES FOR THE PROPOSED WORK.
- 2. WHERE IN EASEMENTS THE CONTRACTOR SHALL PROTECT AND RESTORE SAID PROPERTY TO CONDITION SIMILAR OR EQUAL TO THAT EXISTING AT THE COMMENCEMENT OF CONSTRUCTION, EXCEPT AS NOTED.
- 3. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. BEFORE CONSTRUCTION, CONTRACTOR SHALL CONTACT:

TENNESSEE811 DIAL 811 (OR 1-800-351-1111) 72 HOURS NOTICE

- 4. IF ANY EXISTING STORM SEWERS ARE SUBSTANTIALLY DAMAGED AS DETERMINED BY THE A/E AND OR OWNER, THE REPAIR SHALL BE MADE WITH R.C.P. PIPE FROM STRUCTURE—TO—STRUCTURE. PIPE SIZE SHALL BE EQUAL TO EXISTING.
- 5. SUFFICIENT PRECAUTIONS SHALL BE TAKEN DURING CONSTRUCTION TO MINIMIZE THE RUN-OFF OF POLLUTING SUBSTANCES SUCH AS SILT, CLAY, FUELS, OILS, BITUMENS, CALCIUM CHLORIDE, OR OTHER POLLUTING MATERIALS HARMFUL TO HUMANS, FISH OR OTHER LIFE, INTO THE SUPPLIES AND SURFACE WATERS OF THE STATE. CONTROL MEASURES MUST BE ADEQUATE TO ASSURE THAT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS ARE MET. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING THAT THE LAWS AND REGULATIONS ARE MET AND IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION DOES NOT HARM THE WATERS OF TENNESSEE. THE PROTECTION OF THE SITE SHALL CONTINUE THROUGHOUT THE CONSTRUCTION PERIOD. SPECIAL PRECAUTIONS SHALL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT OPERATIONS WHICH PROMOTE EROSION.
- 6. THE TEMPORARY POLLUTION CONTROL PROVISIONS SHALL BE COORDINATED WITH THE PERMANENT EROSION CONTROL MEASURES, TO ENSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION CONTROL THROUGHOUT THE CONSTRUCTION AND POST—CONSTRUCTION PERIOD OF THE PROJECT. NATURAL COVER SHOULD BE MAINTAINED AS LONG AS POSSIBLE AND GRADED AREAS SHOULD BE STABILIZED AS SOON AS POSSIBLE.
- 7. THE CONTRACTOR SHALL OBTAIN ALL PERMITS FROM THE APPROPRIATE FEDERAL, STATE, COUNTY AND/OR LOCAL AGENCIES TO CROSS ALL HIGHWAYS, STREETS, STREAMS, EASEMENTS, ETC...
- 8. STATE HIGHWAY RIGHT-OF-WAY INFORMATION PROVIDED BY THE STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION.
  QUESTIONS CONCERNING R-O-W LOCATION ON ANY STATE HIGHWAY SHOULD BE REFERRED TO THE APPROPRIATE REGIONAL OFFICE OF THE STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION:
- 9. PROPERTY OWNERS AND PARCEL INFORMATION PROVIDED BY THE COUNTY REGISTRAR OF DEEDS.
- 10. SEWER INFORMATION PROVIDED BY THE CITY OF CROSSVILLE.
- 11. COUNTY ROAD RIGHT-OF-WAY INFORMATION PROVIDED BY THE COUNTY HIGHWAY DEPT.

  QUESTIONS CONCERNING R-O-W LOCATION ON ANY COUNTY ROAD SHOULD BE REFERRED TO THE COUNTY HIGHWAY DEPARTMENT.



ALL RIGHTS RESERVED:
THIS DOCUMENT IS THE PROPERTY OF
THIS DOCUMENT IS THE PROPERTY OF
GRW ENGINEERS. INC. AND SHALL NOT
BE REPRODUCED IN WHOLE OR IN PART
OR USED FOR CONSTRUCTION OF
OTHER THAN THIS SPECIFIC PROJECT
WITHOUT WRITTEN PERMISSION



PROJECT LOCATION MAP
AND GENERAL NOTES

2 CDBG SEWER REHAB - CONTRACT E
CITY OF MCKENZIE, TENNESSEE

CAL
IT IS THE CO
COMPANIES
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CALL BEFORE YOU DIG

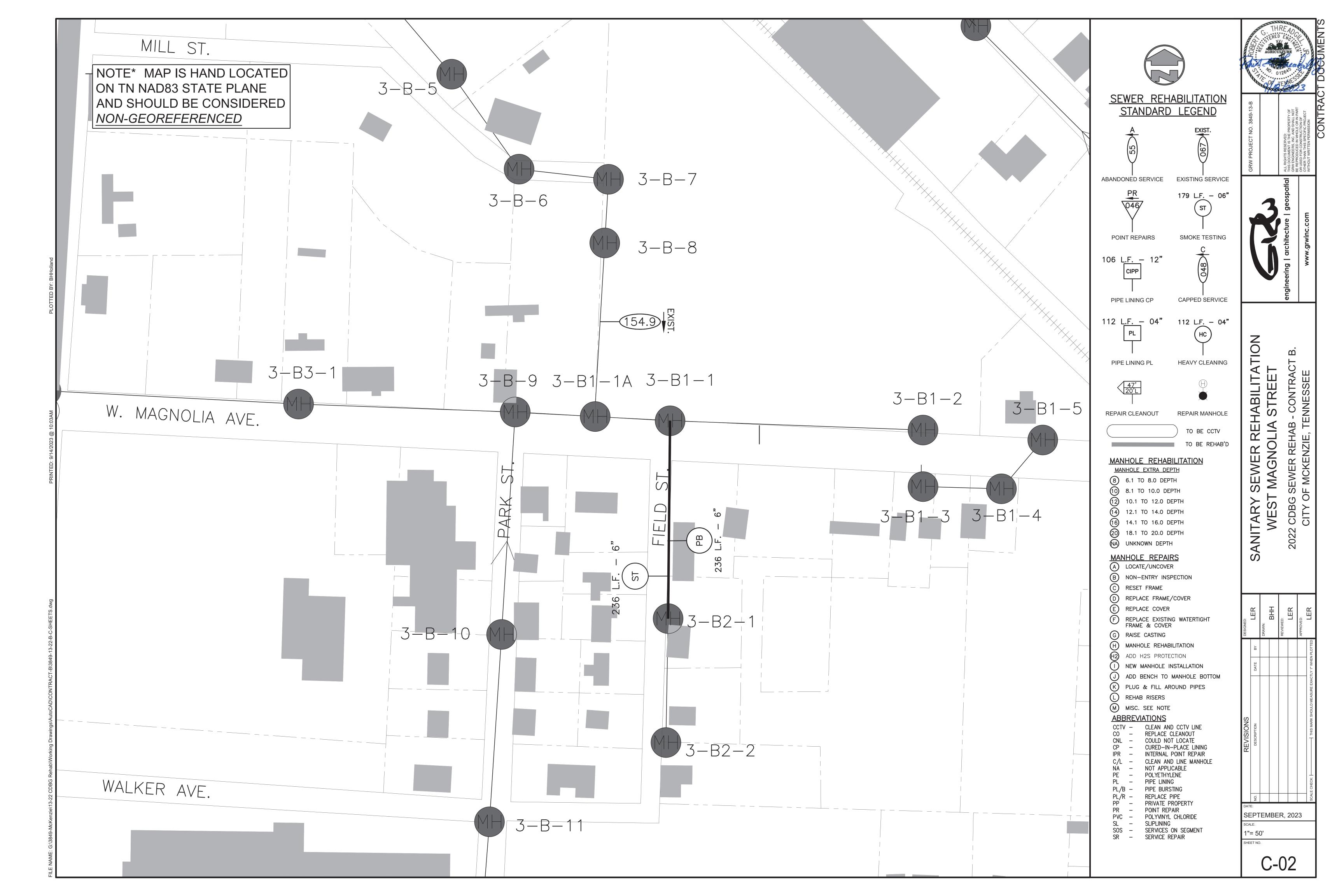
IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY
COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF
UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND
POSSIBLY INCOMPLETE, THEREFORE CERTIFICATION TO THE
LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

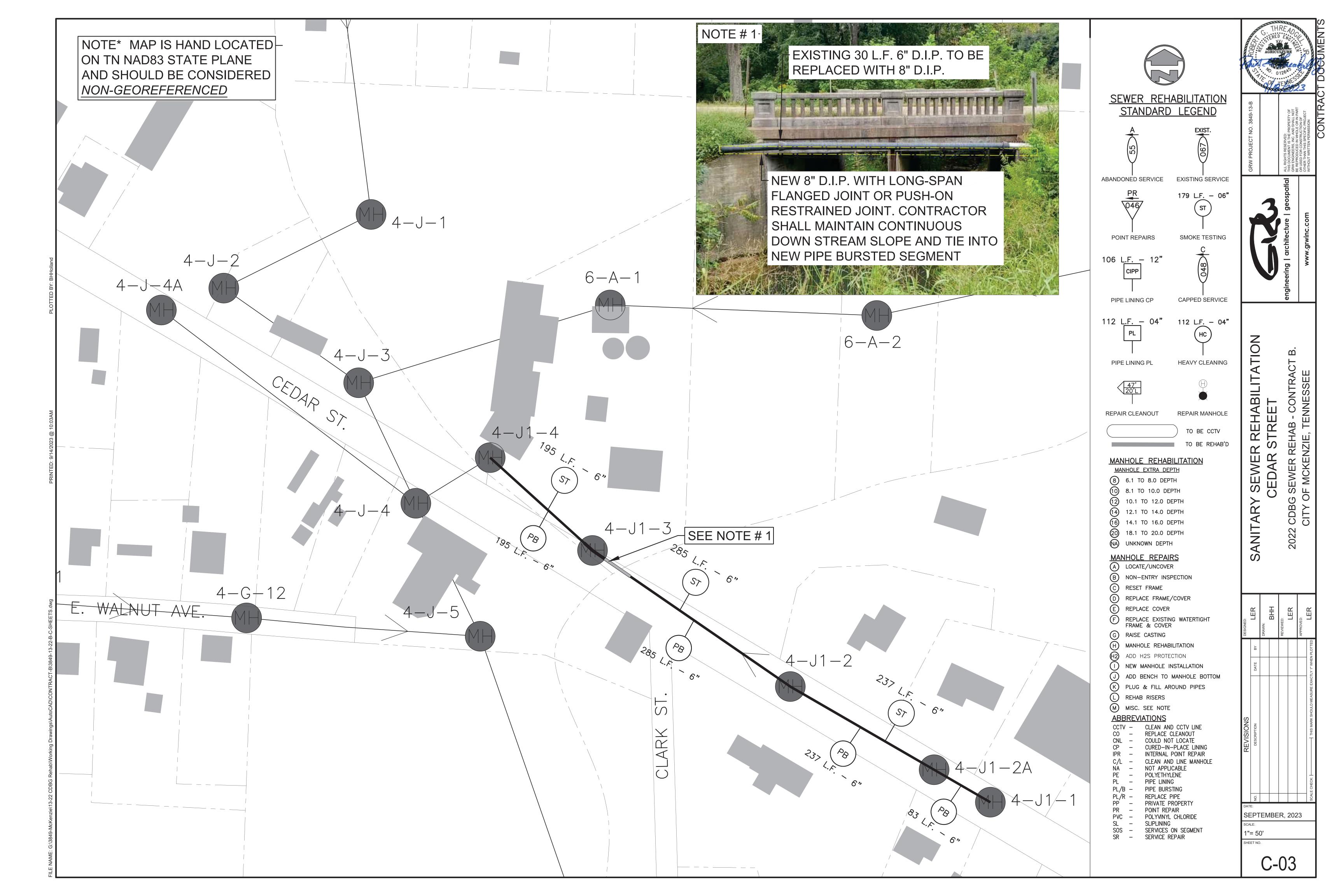
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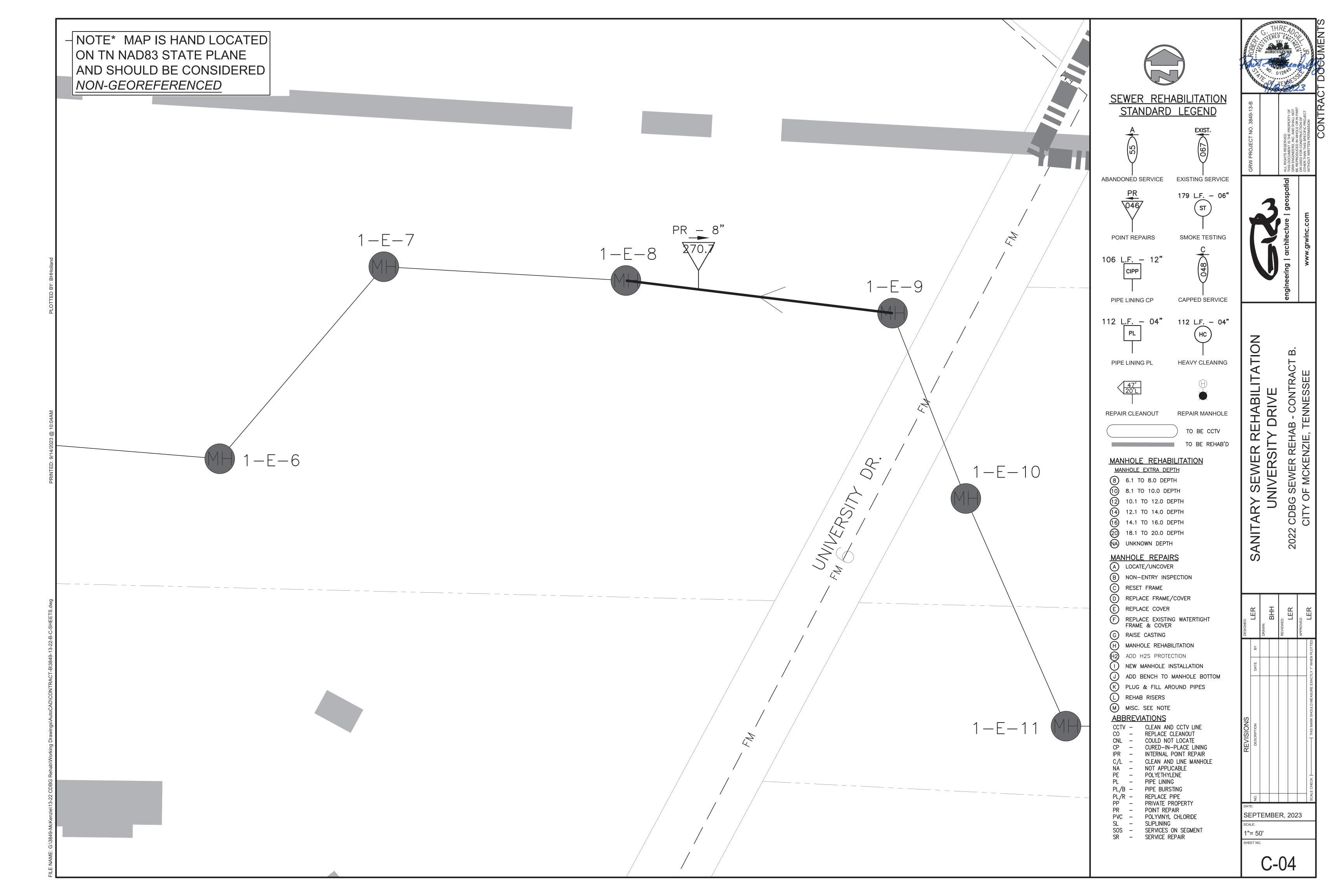
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SEPTEMBER, 2023

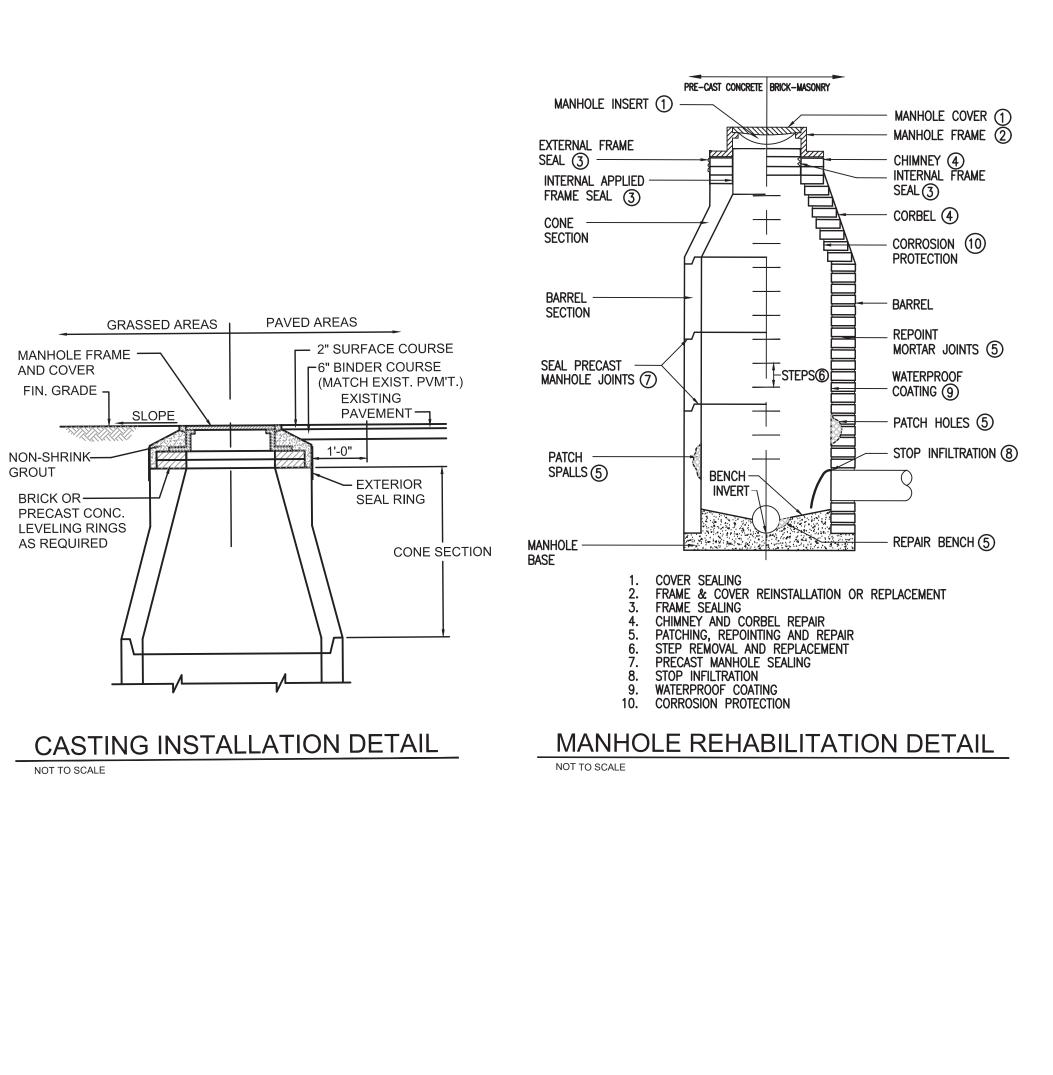
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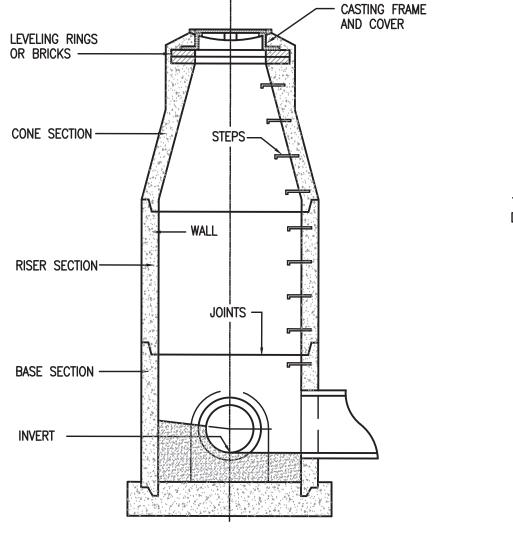


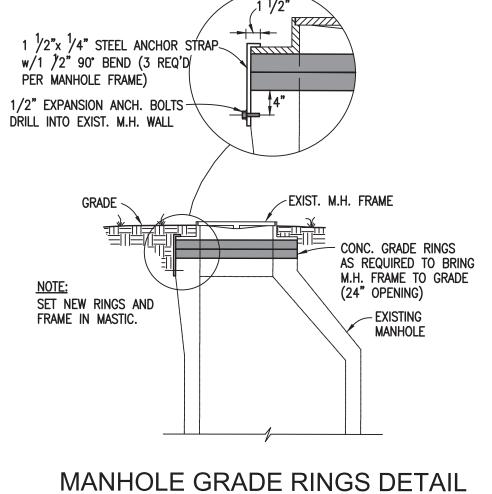


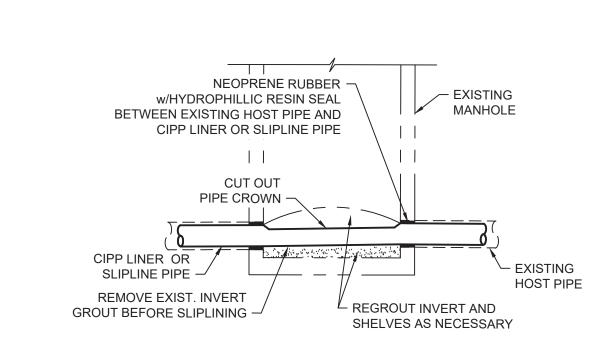












REHAB THROUGH MANHOLE DETAIL

NOT TO SCALE

1. REPLACEMENT PIPE IS TO BE ONE PIECE. INVERTS OF NEW PIPE TO MATCH EXISTING (TYP.).

3.\* CLASS 52 D.I.P. IS TO BE USED WHERE EXIST. PIPE IS D.I.P. BEDDING FOR POINT REPAIR SHALL BE CRUSHED STONE.

6" MIN. COMPACTED CRUSHED STONE UNDER PIPE TO A MIN. OF 12" OVER PIPE.

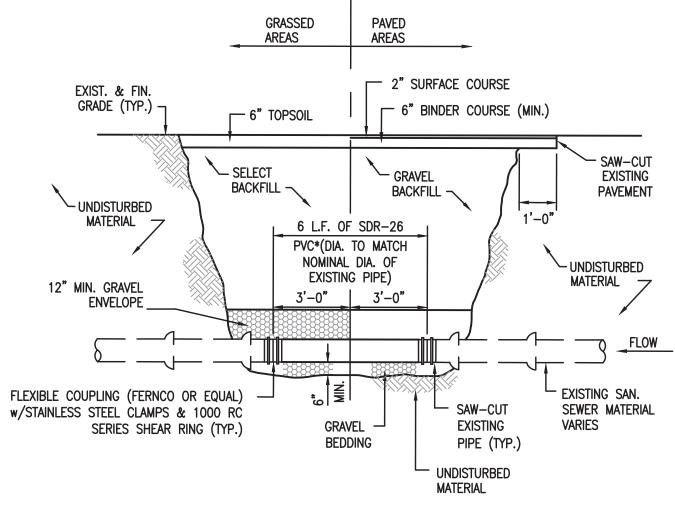
MANHOLE COMPONENTS DETAIL

ALL MUD SHALL BE UNDERCUT FROM BELOW PIPE AND BACKFILLED WITH STONE. UPPER 6" OF BACKFILL IN GRASSED AREAS IS TO BE TOPSOIL.

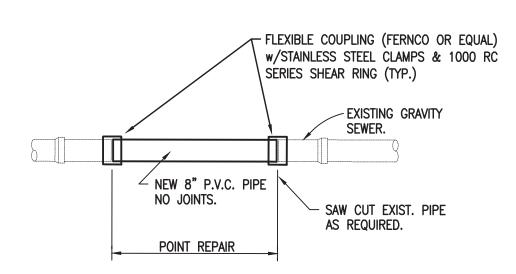
BACKFILL IN PAVED AREAS SHALL BE CRUSHED STONE.

PAVEMENT REPLACEMENT TO CONSIST OF 6" BINDER AND 2" SURFACE COURSE (MIN.). 10. USE EXCAVATED MATERIAL IN UNPAVED AREAS.

G OF POINT REPAIR







REPLACEMENT PIPE IS TO BE ONE PIECE. INVERTS OF NEW PIPE TO MATCH EXISTING (TYP.). 3.\* CLASS 52 D.I.P. IS TO BE USED WHERE EXIST. PIPE IS D.I.P. 4. BEDDING FOR POINT REPAIR SHALL BE CRUSHED STONE. 6" MIN. COMPACTED CRUSHED STONE UNDER PIPE TO A MIN. OF 12" OVER PIPE. 6. ALL MUD SHALL BE UNDERCUT FROM BELOW PIPE AND BACKFILLED WITH STONE. UPPER 6" OF BACKFILL IN GRASSED AREAS IS TO BE TOPSOIL.

8. BACKFILL IN PAVED AREAS SHALL BE CRUSHED STONE. 9. PAVEMENT REPLACEMENT TO CONSIST OF 6" BINDER AND 2" SURFACE COURSE (MIN.). 10. USE EXCAVATED MATERIAL IN UNPAVED AREAS.

> POINT REPAIR DETAIL NOT TO SCALE

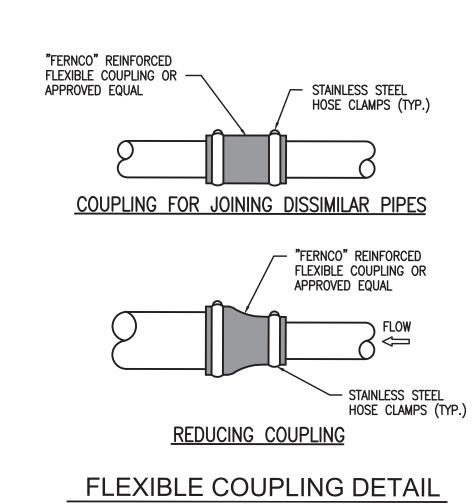
**DETAILS** REHAB STANDARD CDBG SE

2022

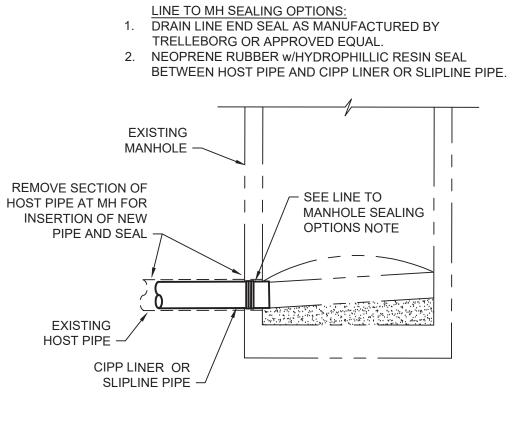
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AS NOTED

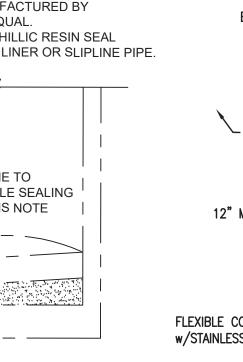
RD-06







END OF LINE AT MANHOLE **CONNECTION DETAIL** 



NOT TO SCALE

© OF SEWER ── END WITH CLEAN-OUT DEPTH AS NECESSARY ASSEMBLY 18" MIN. TO PROVIDE 18" OF GRAVEL BACKFILL DETAIL - SEE \ COVER AT BUILDING COVER OR NOT SHOWN FOR DETAIL NO. 5 CONC. ENCASE. LINE ( 3.0 MIN.) CLARITY (SEE DETAIL BÈLOW) - 45°BEND MIN. GRADE 1/8" PER FT. FUTURE EXTENSION TO HOUSE **6" HOUSE SEWER SERVICE** RIGHT-OF-WAY LINE \_ Ç OF SEWER RISER PIPE TO ROAD SHOULDER OR CURB BE SUPPORTED BY TRENCH WALL 6" HSE. SEWER SERVICE SAME AS ABOVE BACKFILL SERVICE LINE TO BE GRAVEL END WITH BACKFILL WITHIN STREET AREA CLEAN-OUT TO A POINT APPROX 2' BEYOND ASSEMBLY 45° BEND DETAIL — SEE DETAIL NO. 5 THE ROAD SHOULDER OR CURB CONCRETE BLOCK (CLASS "B" ) — 1'- 0" EACH SIDE OF CONNECTION RISER PIPE FOR 6" HOUSE SEWER SERVICE SERVICE REPAIR DETAIL

PLACE SADDLE AND TWO S.S. CLAMPS IN FINAL POSITION ON LINER. PLACE A PRESSURE BAR ABOVE AND BELOW TEE BRANCH OUTLET OF SADDLE (2 REQ'D. EACH SADDLE) FOR REINFORCEMENT. CLIP PRESSURE SEE SPECIFICATIONS FOR PLACEMENT OF CRUSHED STONE BACKFILL AROUND LINER AND SERVICE LINE BAR TO CLAMPS. PLACE TWO ADDITIONAL S.S. CLAMPS NEXT TO FIRST CLAMPS INSURING PRESSURE BAR IS BENEATH CLAMPS. TIGHTEN BANDS WITH A T-TYPE TORQUE WRENCH, INSURING THAT ASSEMBLY DOES NOT SHIFT AND SADDLE MATING SURFACE SEALS EVENLY AGAINST LINER. TIGHTEN TO 60 INCH-LBS. TORQUE. TAP SADDLE AND PRESSURE KIT AS MANUFACTURED BY FERNCO OR APPROVED EQUAL. BREAK OUT SEWER LINE AT EXISTING SERVICE CONNECTION BEDDING AND BACKFILL REQUIREMENTS AROUND EXPOSED LINER TO BE SAME AS REQUIREMENTS FOR POINT REPAIR. - INSTALL NEW SERVICE SADDLE WITH S.S. CLAMPS (4 PER SADDLE) -PRESSURE BAR SERVICE LINE REINFORCEMENT (2 REQ'D.) FILL VOID BETWEEN LINER AND EXISTING SERVICE LINE WITH 3M SCOTCH 5600 OR EQUAL SERVICE PIPE AND SADDLE MATERIAL TO MATCH LINER EXISTING SEWER LINE PLAN VIEW

SERVICE RECONNECTION TO LINER

APPLY BENTONITE STRIPS ON EDGES OF SADDLE AS SHOWN.

SECTION

SECULD

APPLY EPOXY PASTE, (PC-11, MARINE GRADE A/B MIX), TO MATING SURFACE OF SADDLE, I LB. KIT PER SADDLE STRAGE OF SADDLE, I LB. KIT PER SADDLE AND OUTER TWO S.S. CLAMPS IN FINAL POSITION ON LINER.

PLACE AN 8"X¾" ¼" ALUM. BAR STOCK ABOVE AND BELOW TEE BRANCH OUTLET OF SADDLE (2 REQ'D. EACH SADDLE).

PLACE AND S.S. CLAMPS IN A CROSSING PATTERN ACOUND TEE BRANCH OUTLET CROSSING OVER ALUM BAR STOCK.

TIGHTEN BANDS WITH A T-TYPE TORQUE WRENCH, INSURING THAT ASSEMBLY DOES NOT SHIFT AND SADDLE MATTNES SUFFACE SEALS EVENLY AGAINST LINER.

HAND CLEAR ANY EPOXY PASTE FROM INSIDE OF TEE/JUNER INTERFACE AFTER INSTALLATION IS COMPLETE.

BEDDING AND BACKFILL REQUIREMENTS AROUND EXPOSED LINER TO BE SAME AS REQUIREMENTS FOR POTINT REPAIR.

INSTALL NEW SERVICE SADDLE WITH S.S. CLAMPS (4 PER SADDLE)

WITH S.S. CLAMPS (4 PER SADDLE)

SERVICE LINE

SERVICE PIPE AND SADDLE MATERIAL

TO MATCH LINER

PLAN VIEW

PLAN VIEW

PLAN LINE

APPLY POXY PASTE, (PC-11, MARINE GRADE
A/B MIX, TO MATING SURFACE OF SADDLE, I LB. KIT PROSTOCK AND EXCEPTION TO SADDLE MATTERN AND EXTENDED TO SADDLE MATTERN AND EXTENDED TO SADDLE WITH 3M SCOTCH 5600 OR EQUAL

PLACE TWO MATCH LINER

PLAN VIEW

PLACE TWO MATCH LINER

PLAN VIEW

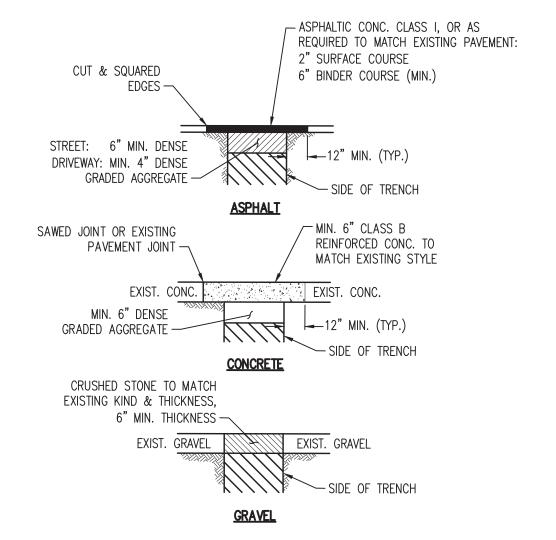
PLACE TWO MATCH LINER

APPLY POXY PASTE, (PC-11, MARINE SURFACE OF SADDLE, AND EXETTION EXTENDED TO SADDLE AND EXTENDED TO SADDLE AND EXTENDED TO SADDLE AND EXESTING SERVICE LINE WITH 3M SCOTCH 5600 OR EQUAL

PLANCE TWO S.S. CLAMPS IN A CROSSING PATTERN AND EXTENDED TO SADDLE AND EXTENDED TO SADDLE AND EXTENDED TO SADDLE TO SADDLE

SERVICE RECONNECTION TO LINER

NOT TO SCALE



NOT TO SCALE

PAVEMENT REPLACEMENT DETAIL

NOT TO SCALE

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STANDARD REHAB DETAILS

BHH

INVERSE

RGT

CITY OF MCKENZIE, TENNESSEE

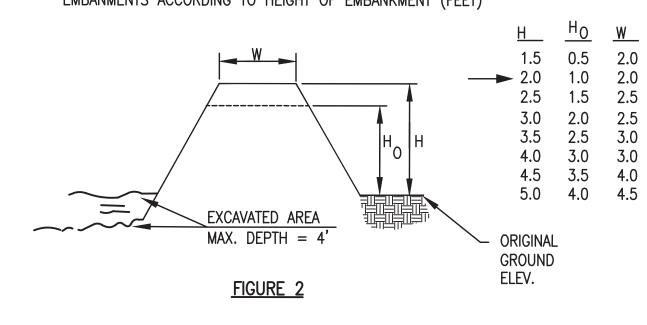
CITY OF MCKENZIE, TENNESSEE

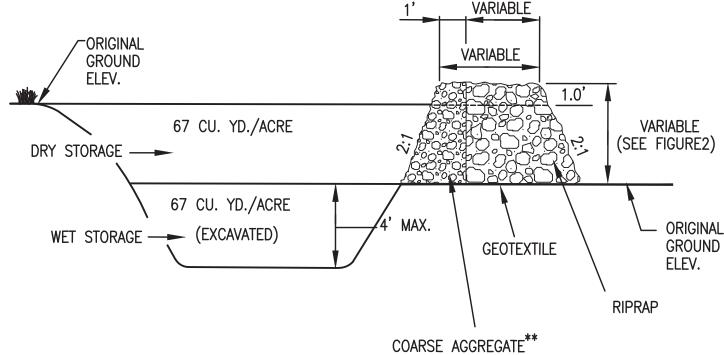
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DATE:
SEPTEMBER, 2023
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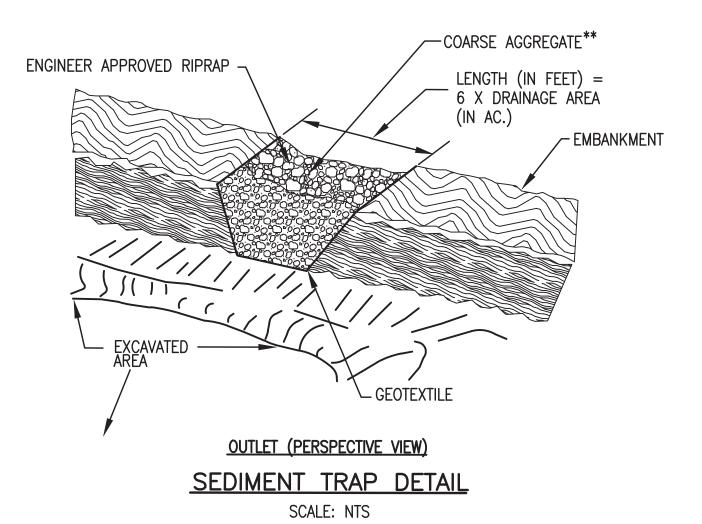
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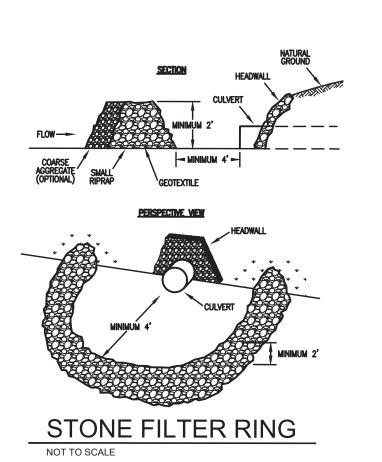
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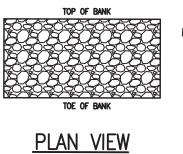


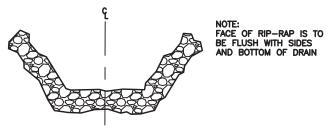


\*\*COARSE AGGREGATE SHOULD BE ENGINEER APPROVED CROSS SECTION OF OUTLET

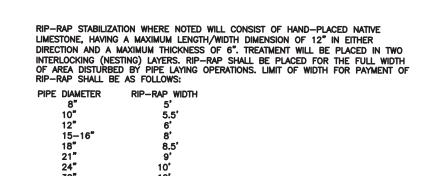








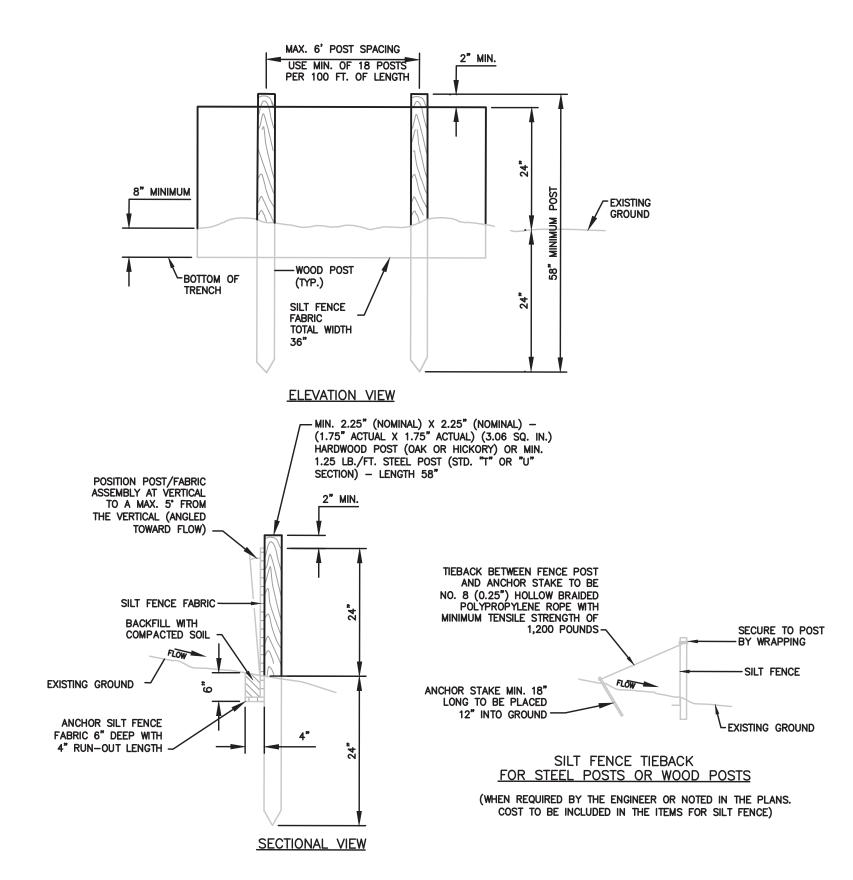
SECTION VIEW



RIP-RAP DETAIL

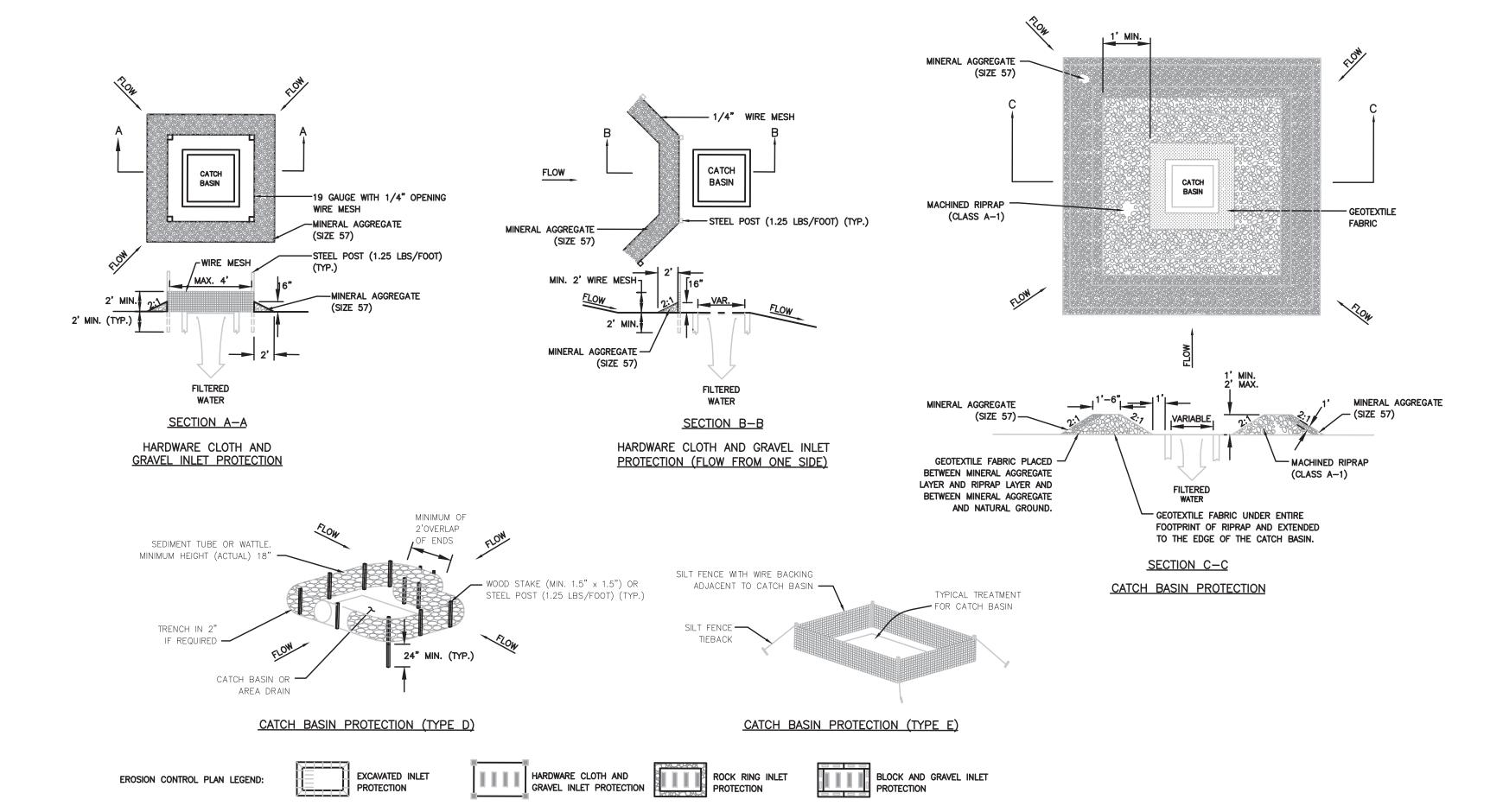
#### **EROSION CONTROL NOTES:**

- All work shall be done in accordance with the Storm Water Pollution Prevention Plan (SWPPP), If required.
- No work may proceed until a Notice of Coverage (NOC) has been issued by the State of Tennessee Department of Environment and Conservation.
- SWPPP must be available at the site for review at all times (if required).
- At a minimum, the Contractor shall install silt fence on the downhill side of the proposed water line construction area.
- Contractor shall provide ditch checks as required.
- Contractor shall furnish and install temporary erosion control blanket/matting on all slopes greater than 2.5:1.
- All areas to remain bare more than 15 days must be temporarily stabilized in accordance with the current Best Management Practices (BMP's).
- Erosion controls shall be checked and repaired if necessary at least twice each calendar week.
- All erosion control measures utilized within State of Tennessee ROW's shall meet or exceed the TDOT requirements.



EROSION CONTROL PLAN LEGEND: SILT FENCE

SILT FENCE (7.34)



INLET PROTECTION (7.35)

**DETAILS** 

CONTROL

SION

ERO

STANDARD

AS NOTED

SEPTEMBER, 2023