

PLUM SPRINGS AREA SEWER REHABILITATION

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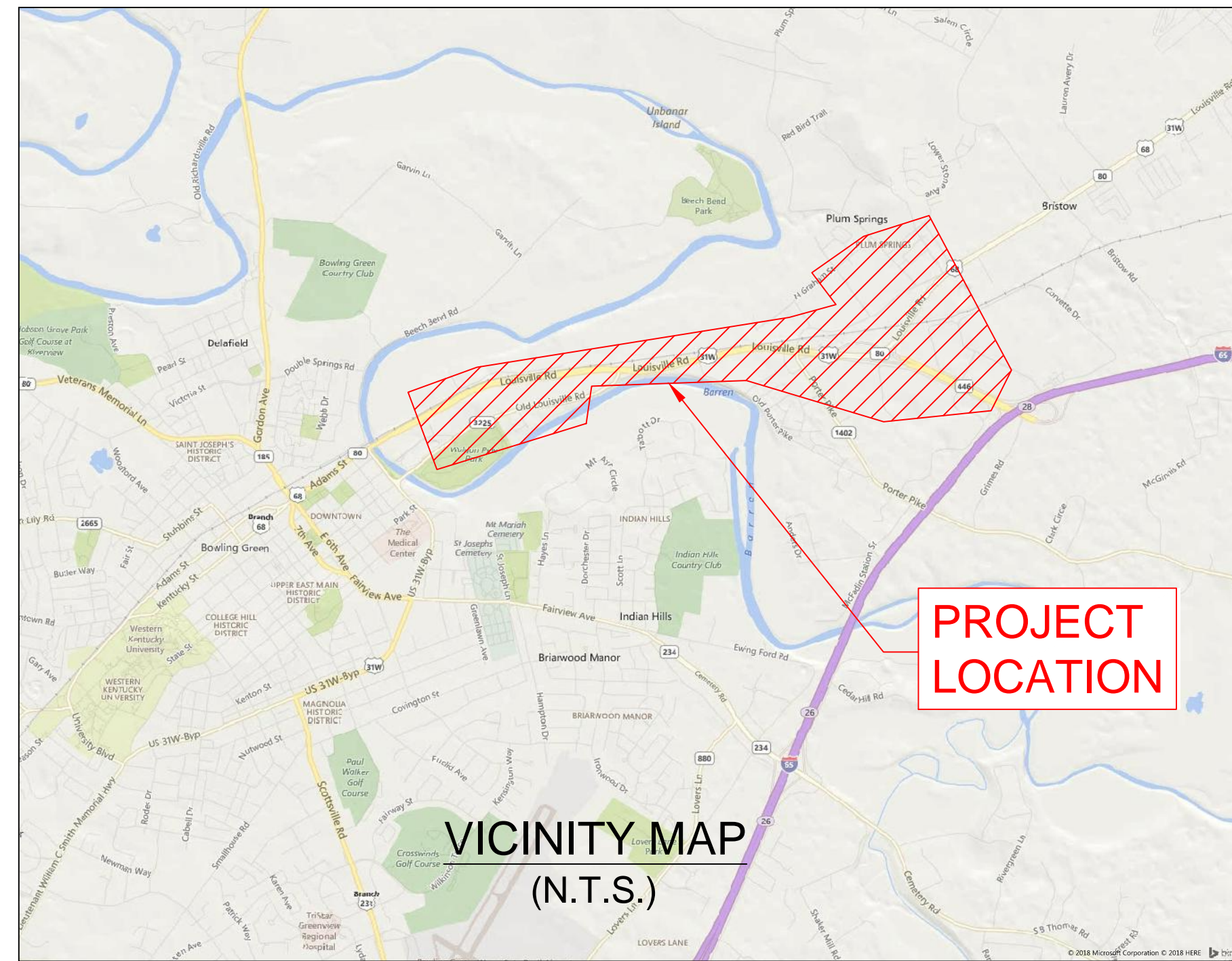


Warren County
Water District



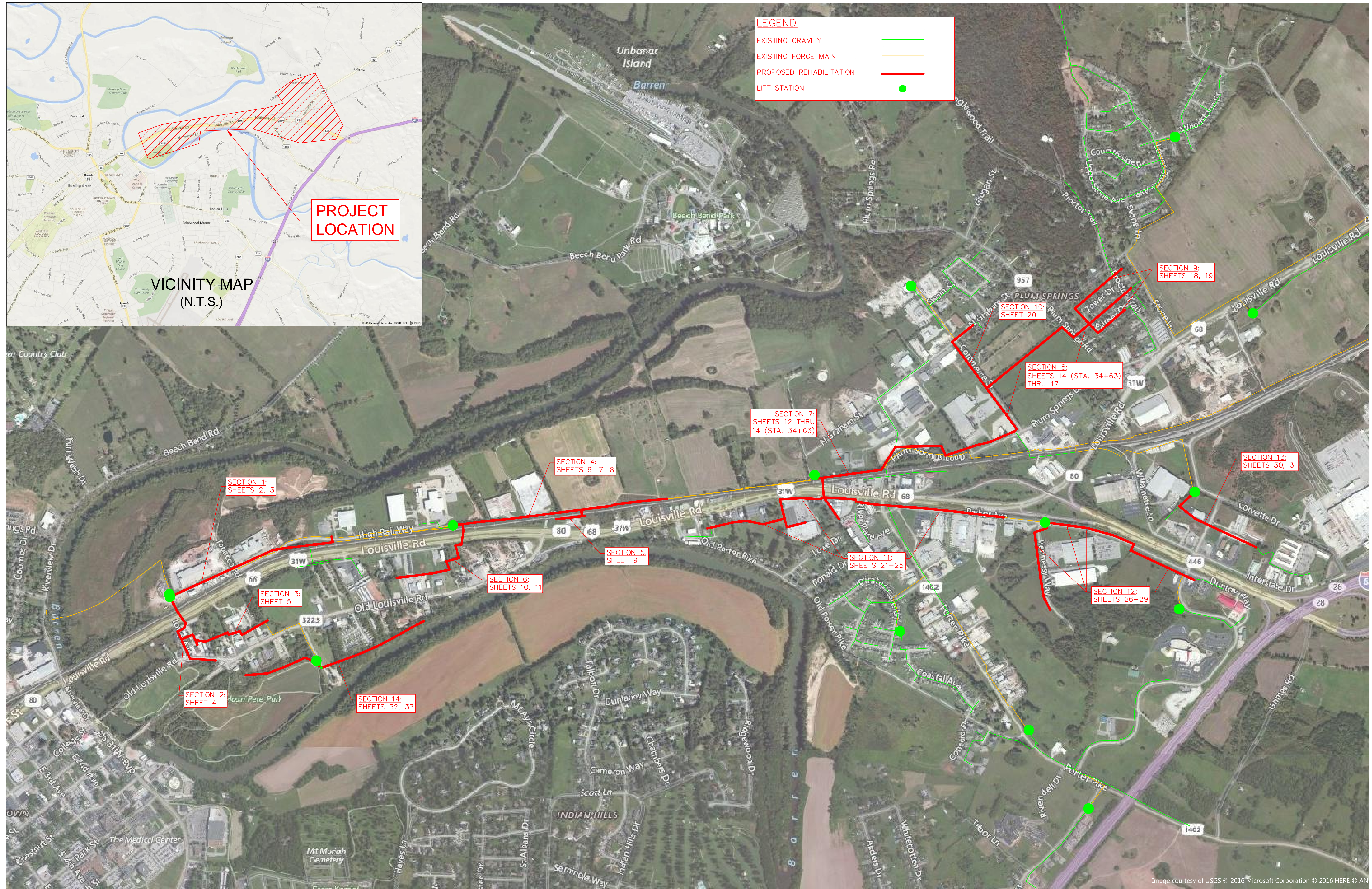
523 US Hwy 31-W Bypass / P.O. Box 10180
Bowling Green, KY 42102-4780
TEL 270.842.0052
FAX 270.842.8360
www.warrenwater.com

SET # _____



LEGEND

- EXISTING GRAVITY —
- EXISTING FORCE MAIN —
- PROPOSED REHABILITATION —
- LIFT STATION ●



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DATE: 10/18/18
PROJECT #: 300873
DESIGNED: R/JL
DRAWN: KH
CHECKED: JNL

REVISIONS:

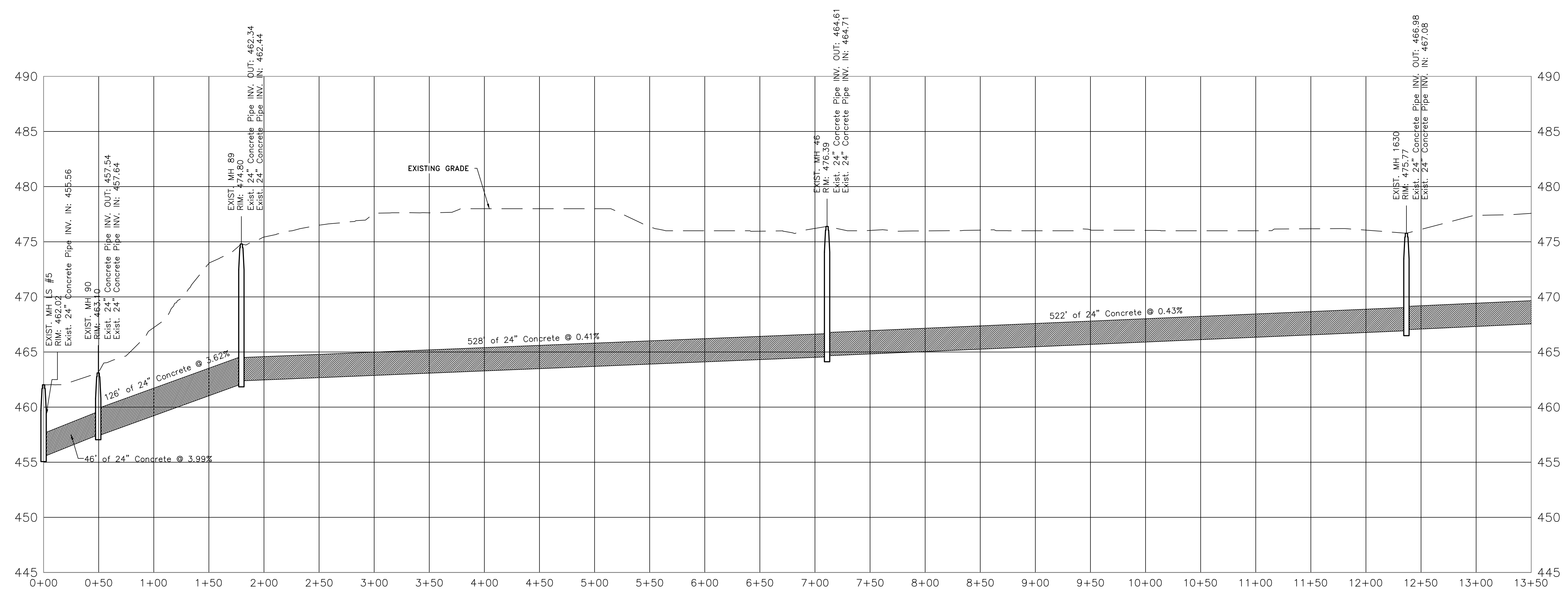
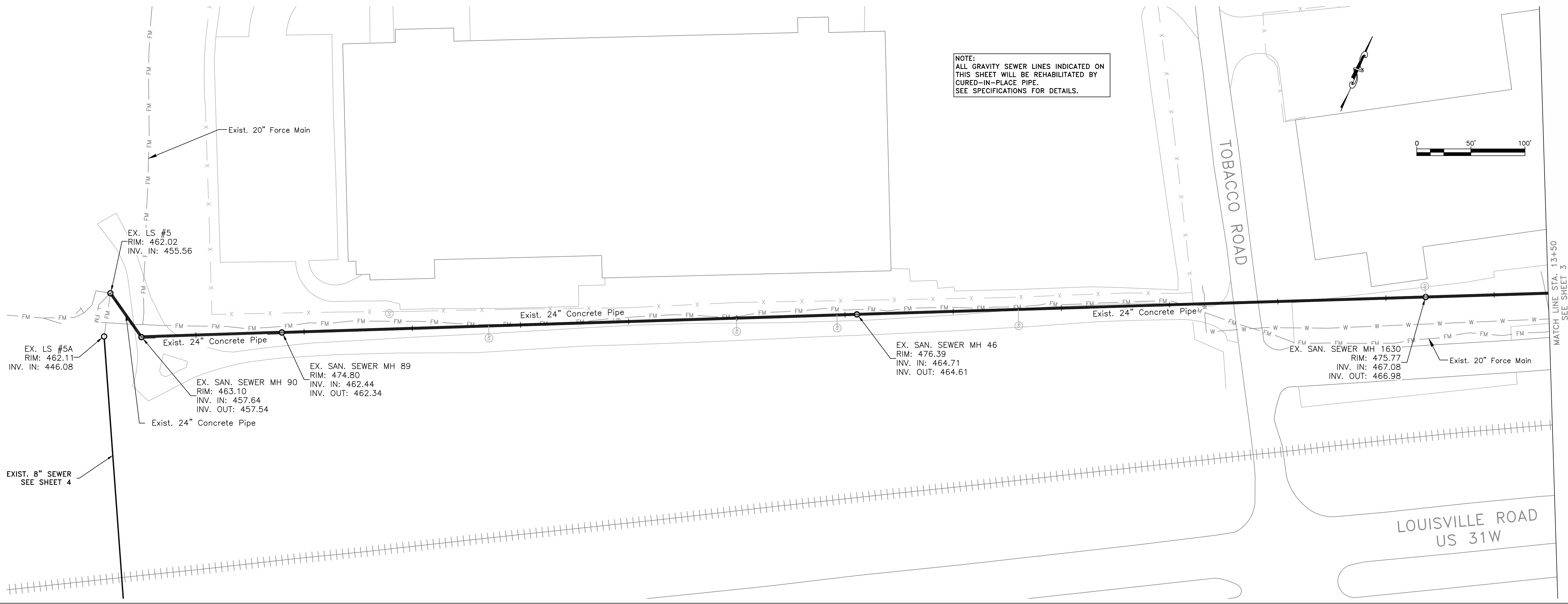
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| DATE: | 10/18/18 |
| PROJECT #: | 300873 |
| DESIGNED: | RJL |
| DRAWN: | KDH |
| CHECKED: | JNL |
| REVISIONS: | |
| NO.: | DATE: |



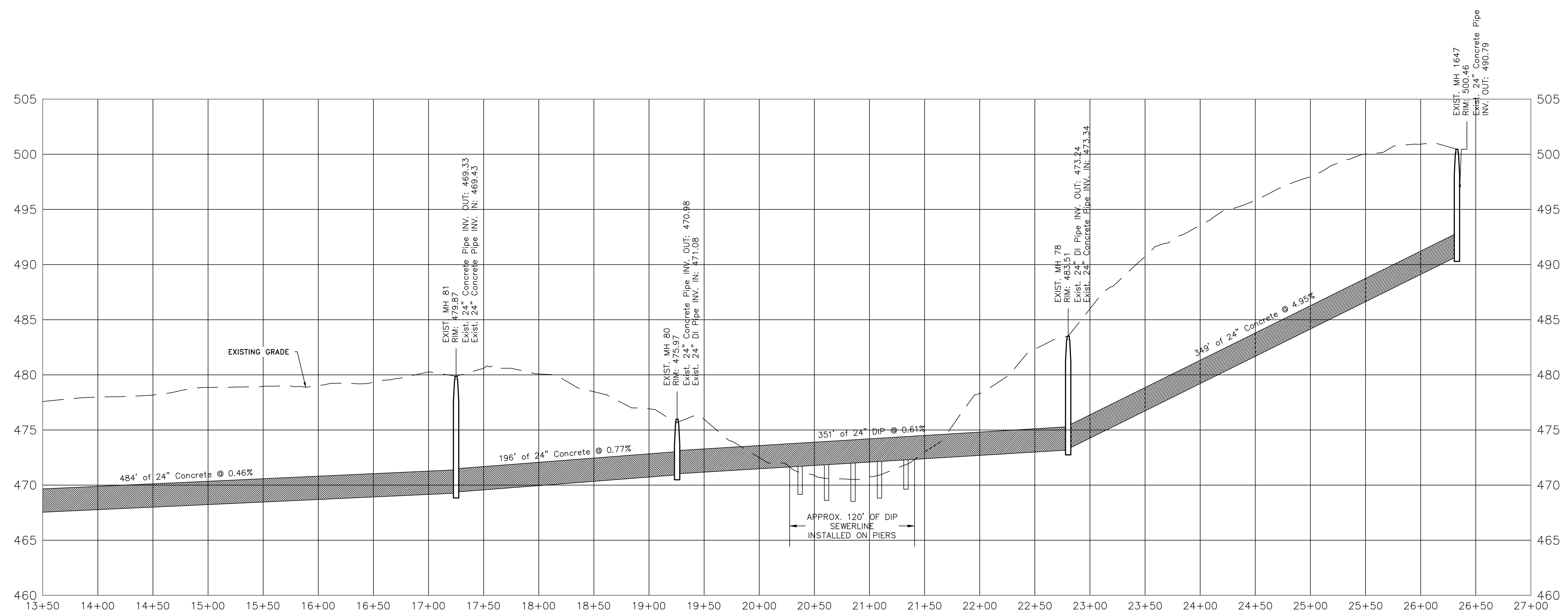
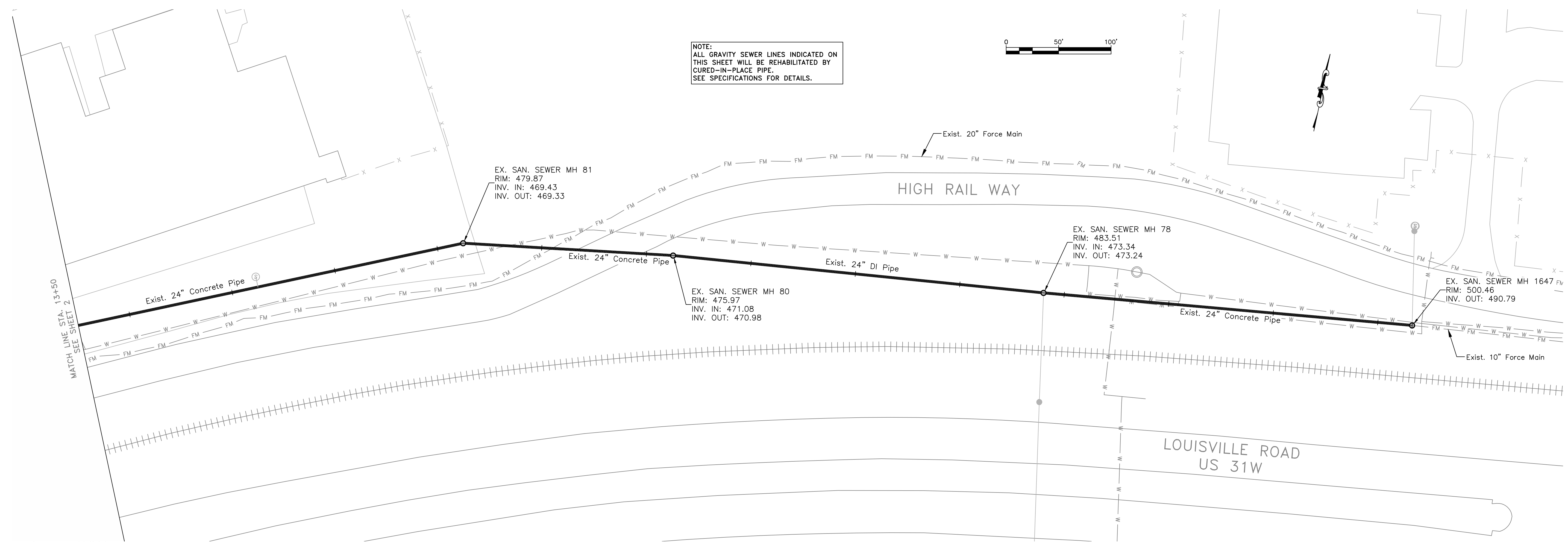
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ALL GRAVITY SEWER LINES INDICATED ON THIS SHEET WILL BE REHABILITATED BY CURED-IN-PLACE PIPE. SEE SPECIFICATIONS FOR DETAILS.



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DRAWN: KDH
CHECKED: JNL

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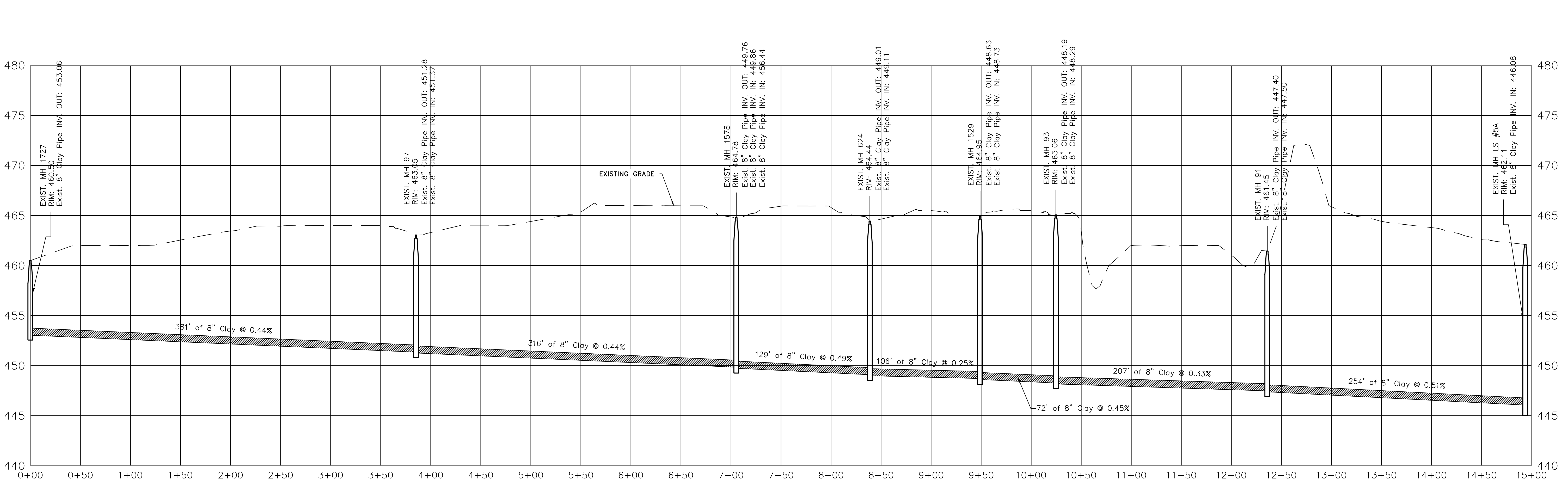
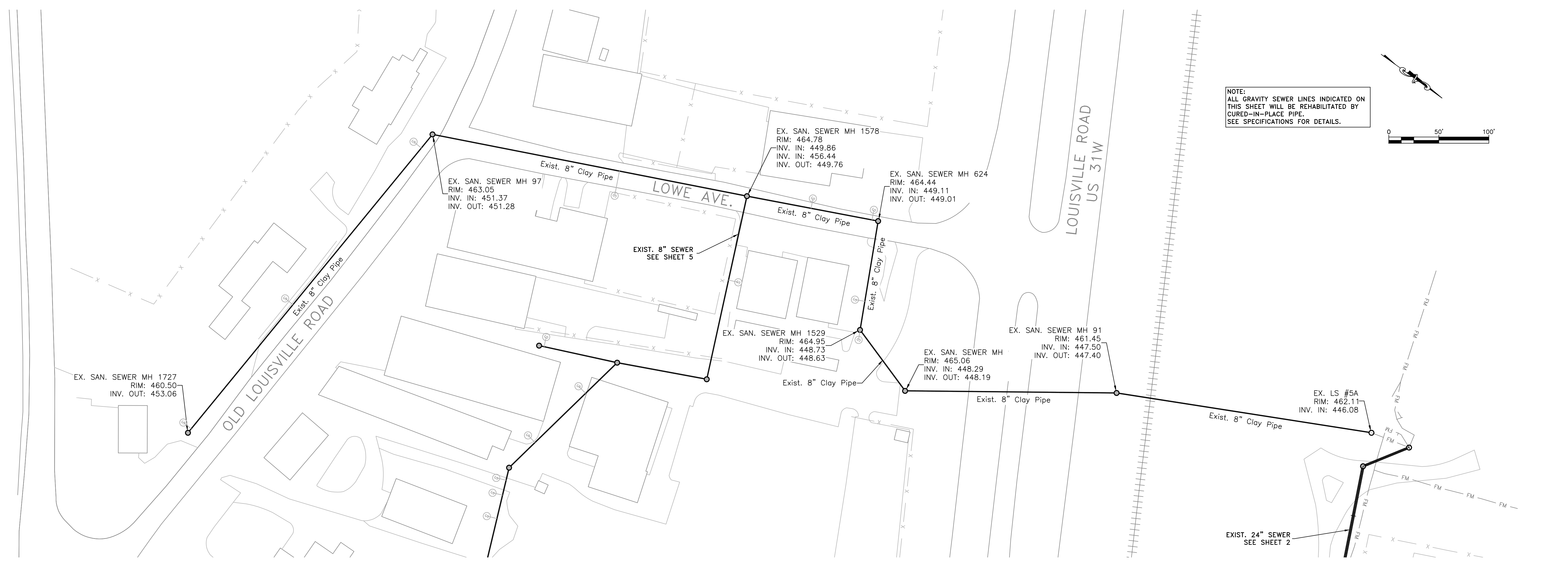
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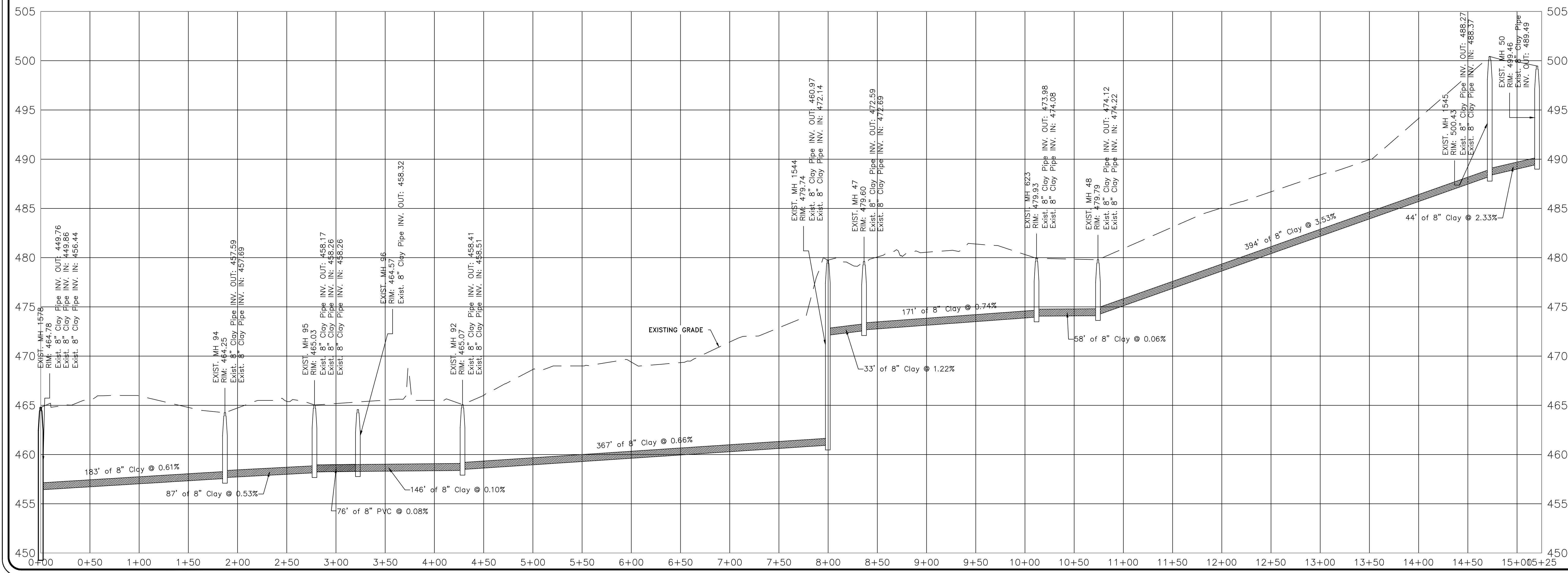
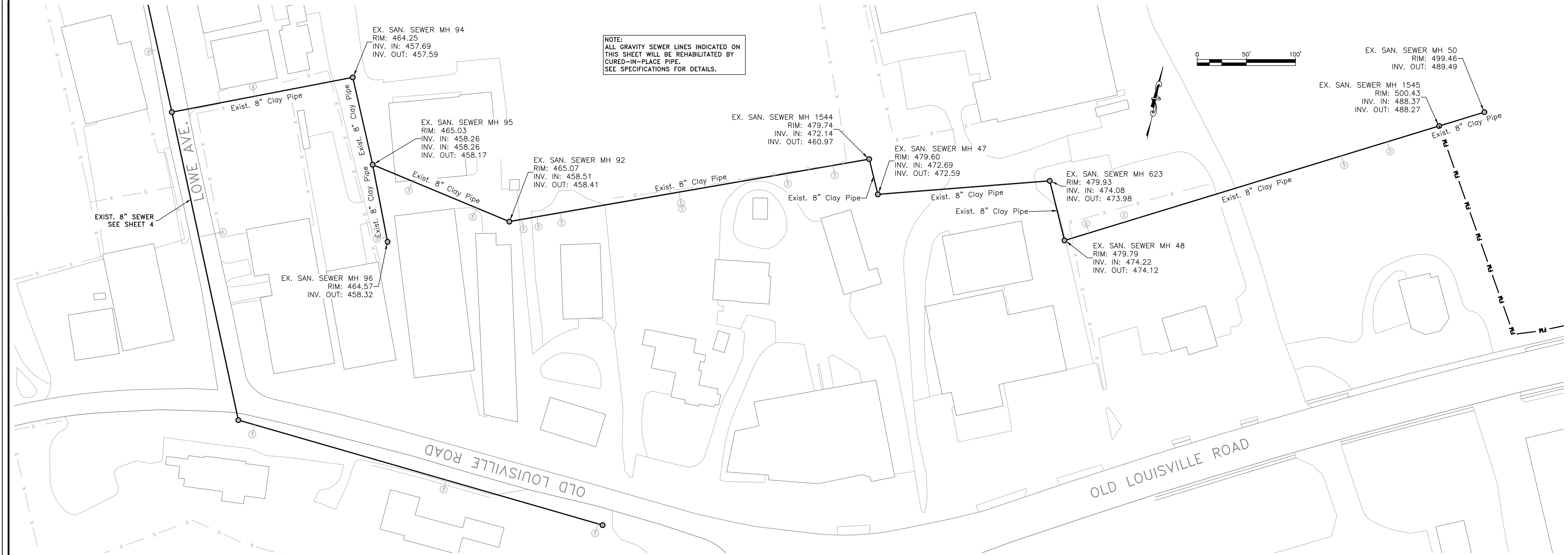
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DRAWN: KDH
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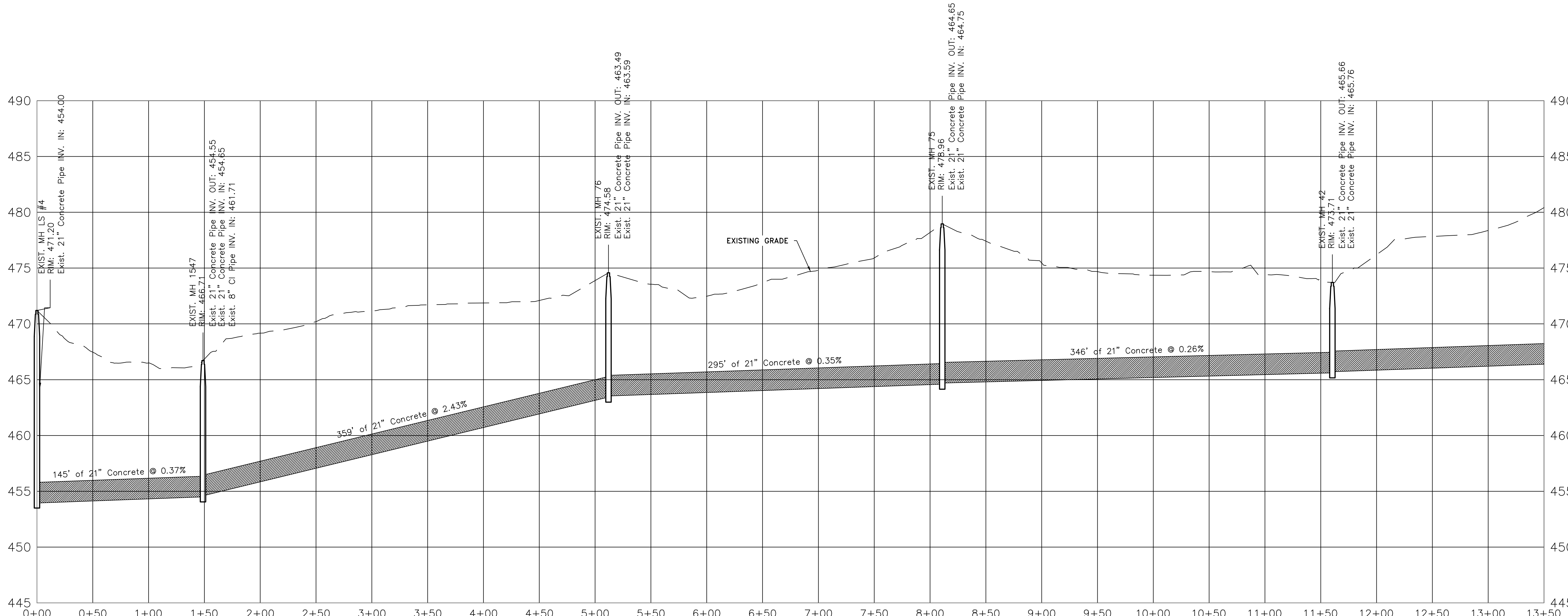
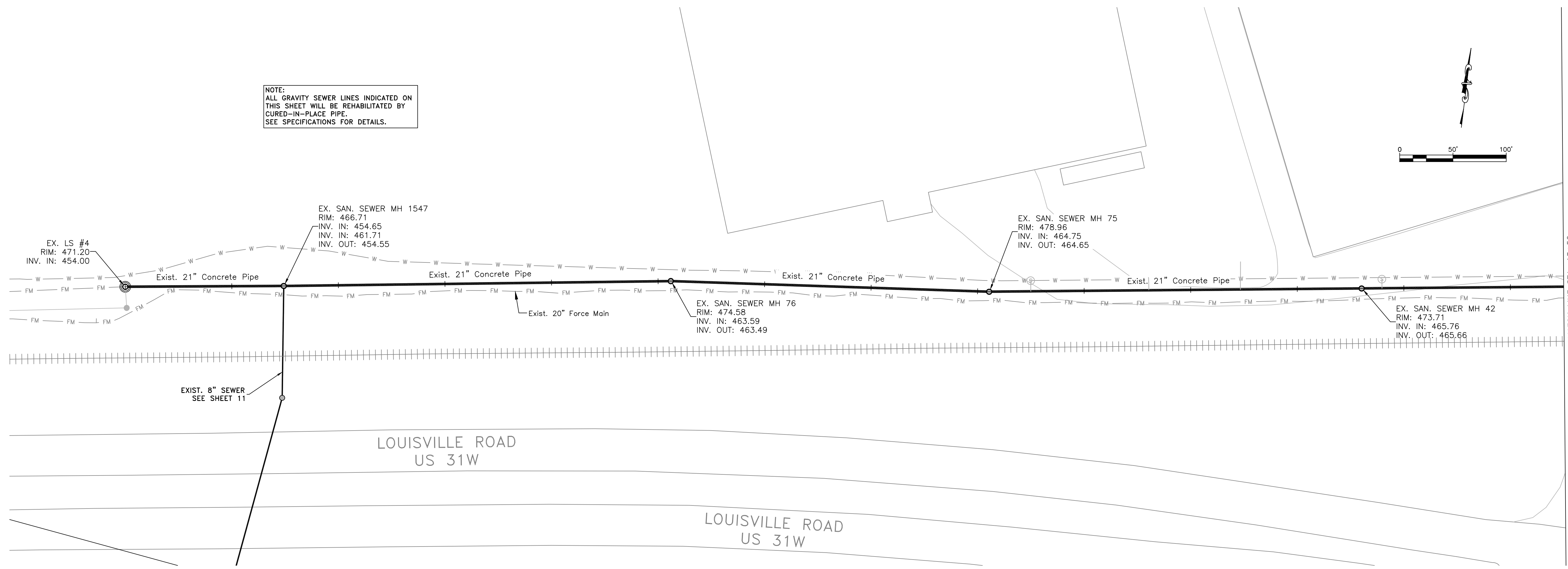
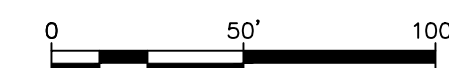
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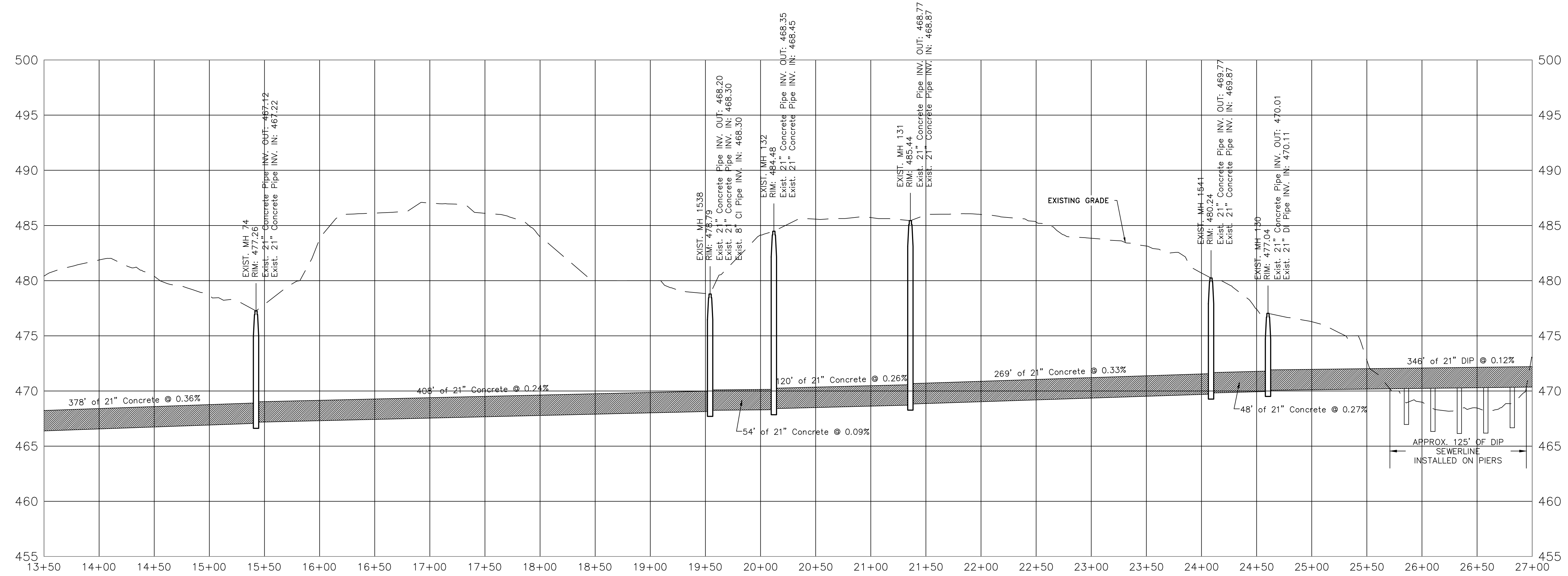
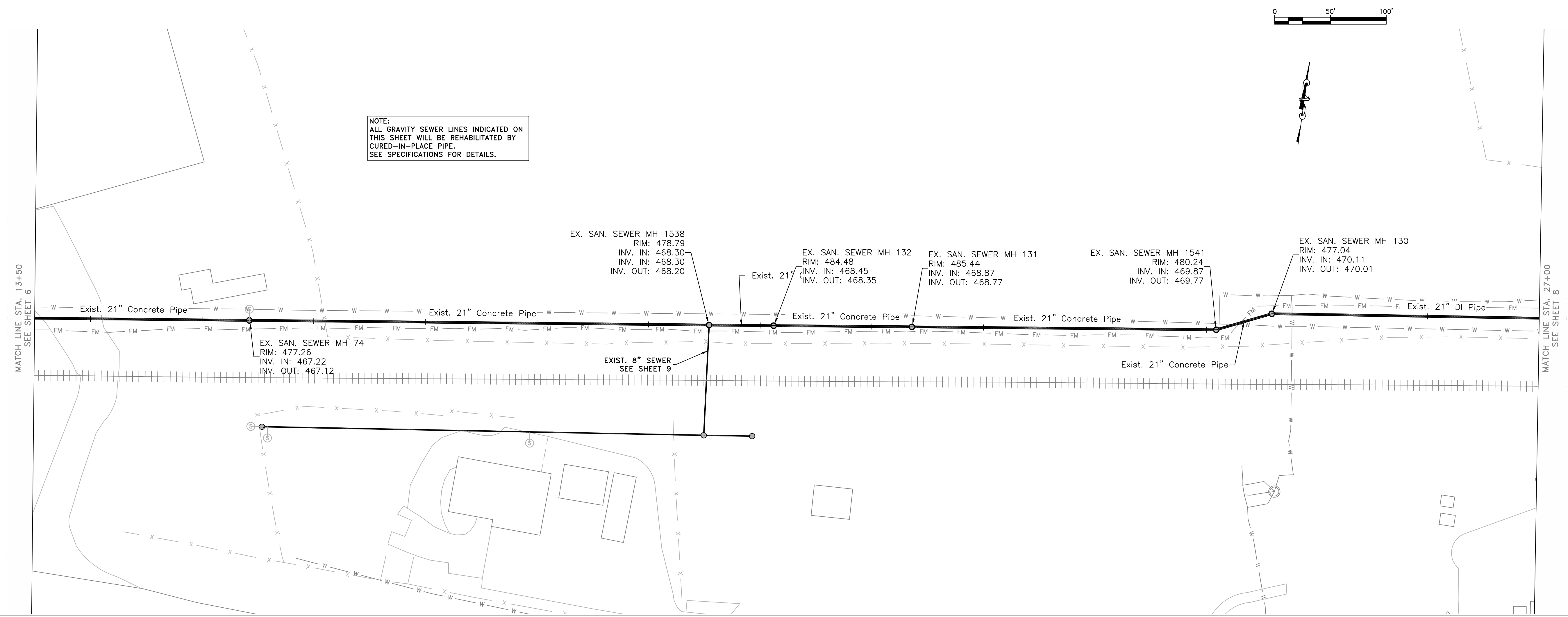


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NOTE:
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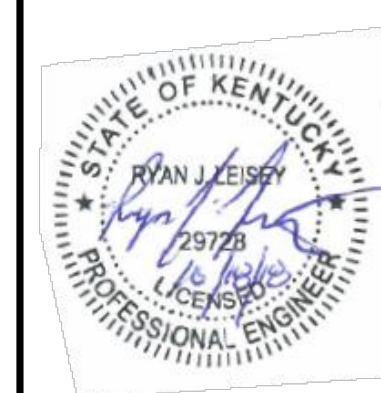
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CHECKED: JNL

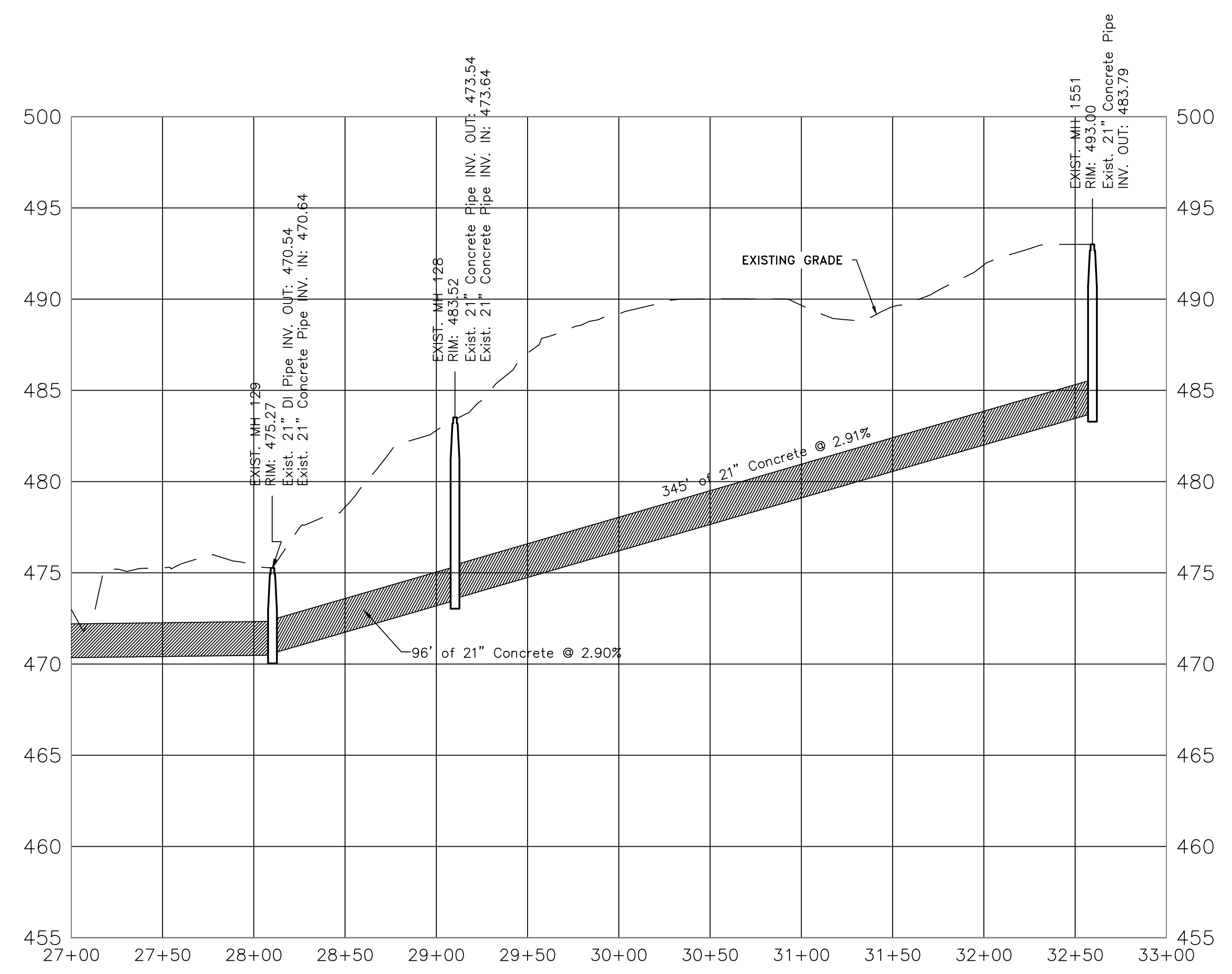
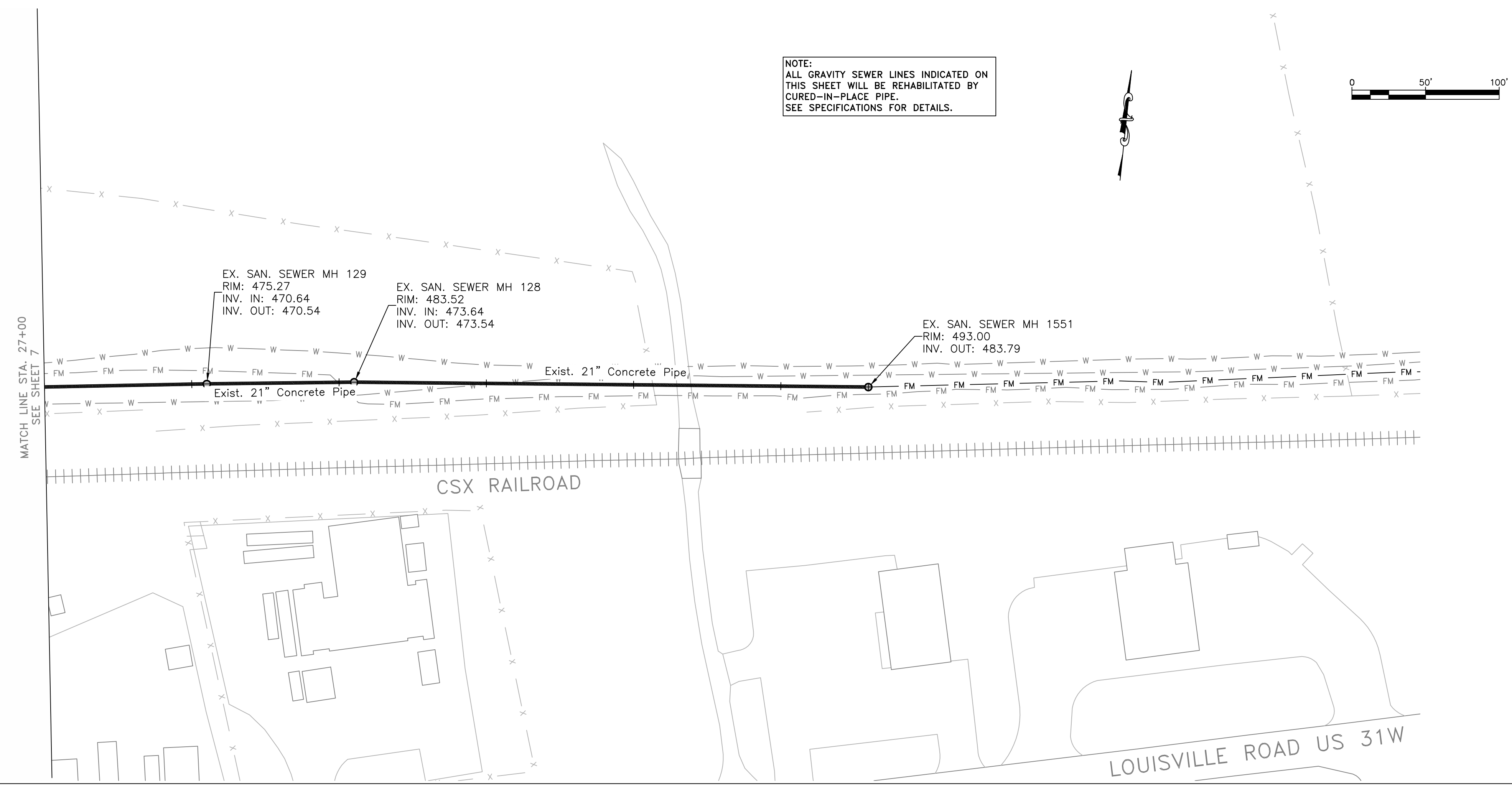
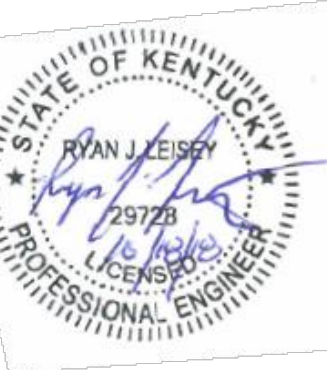
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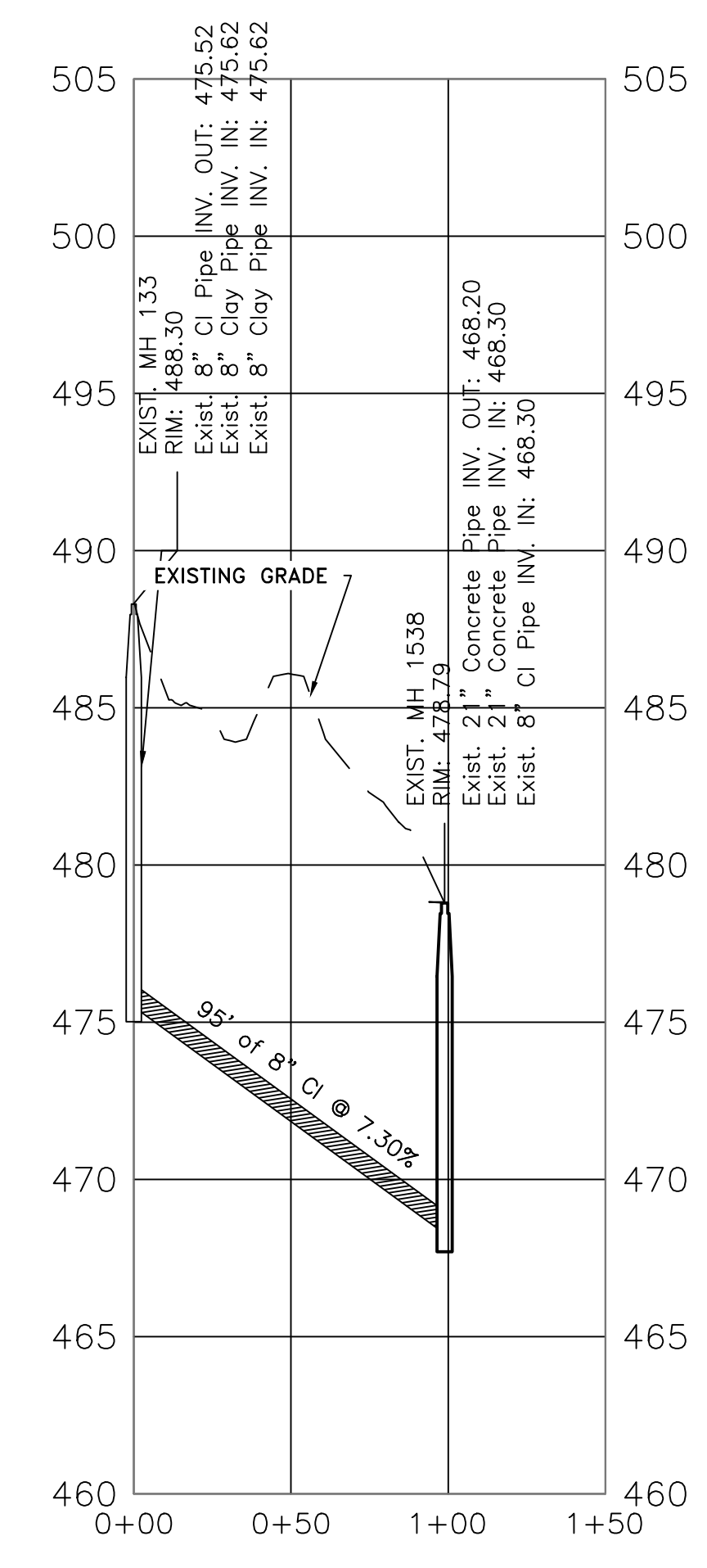
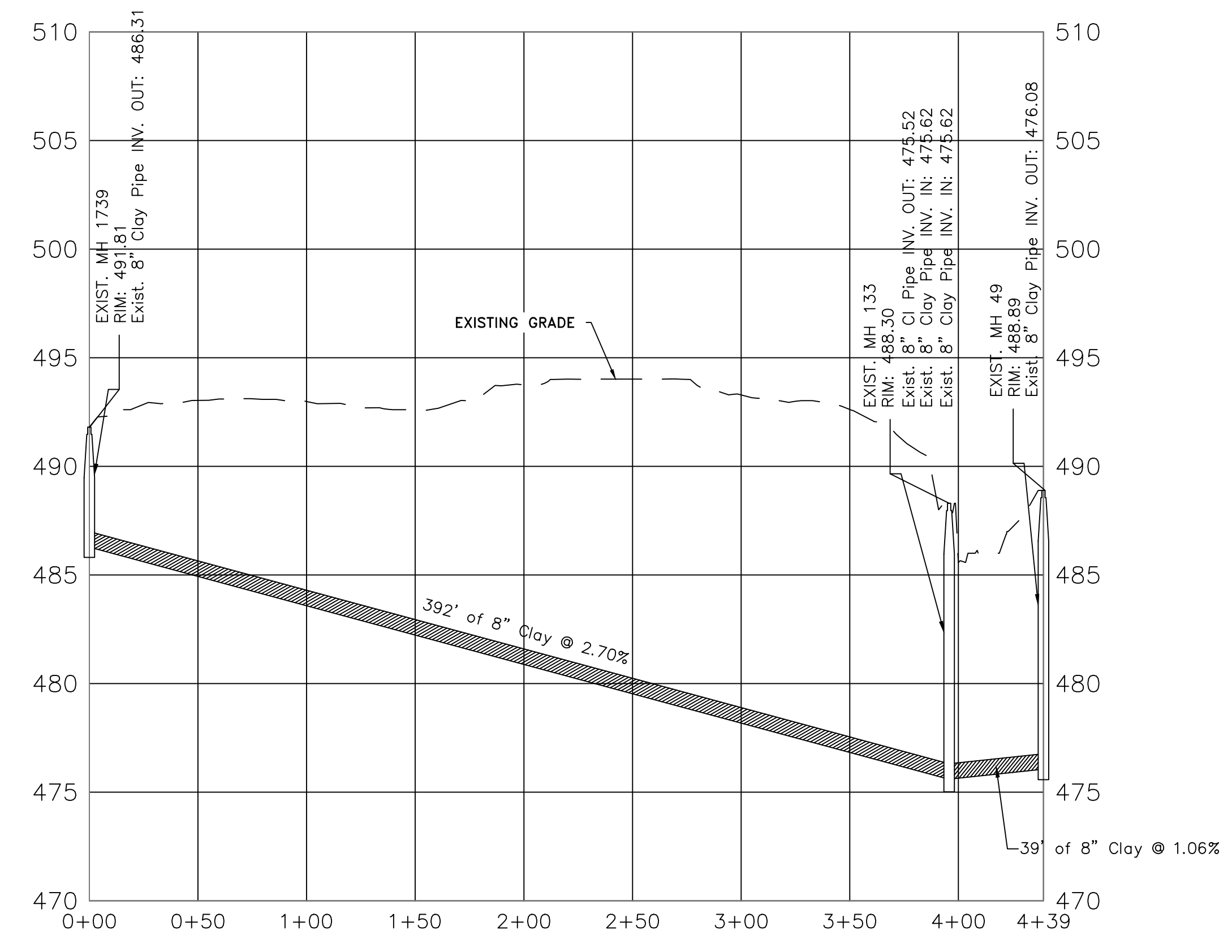
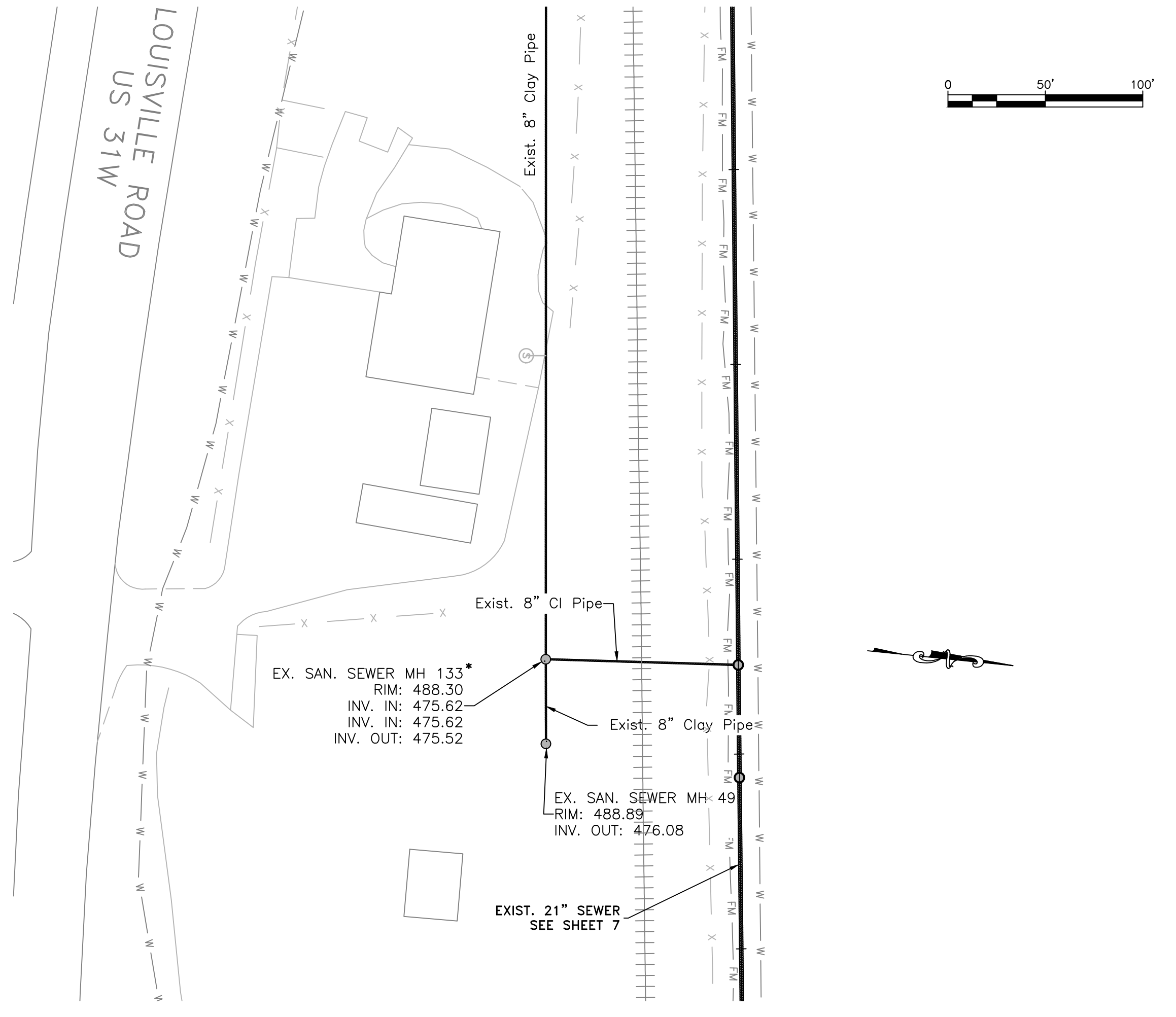
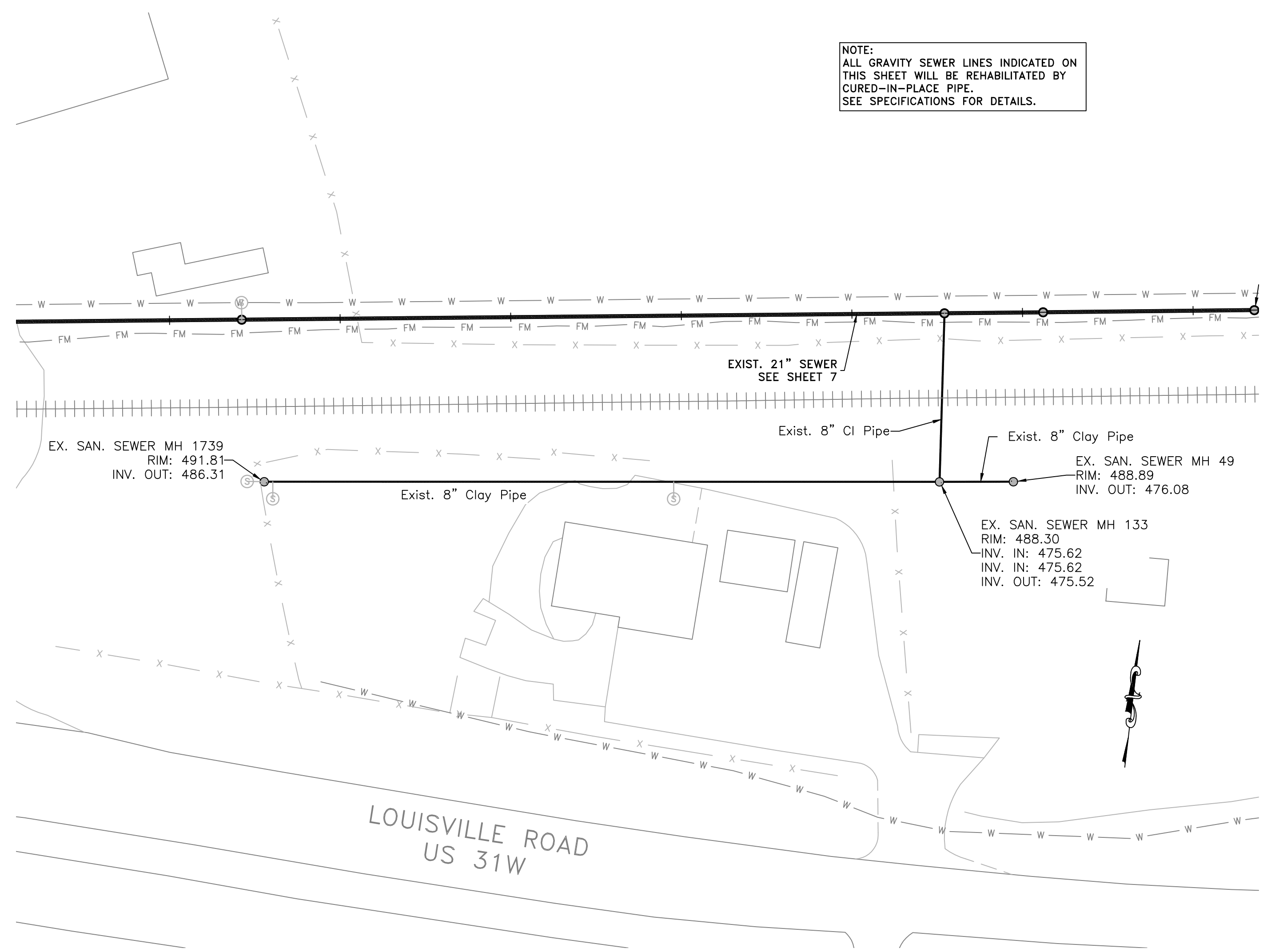


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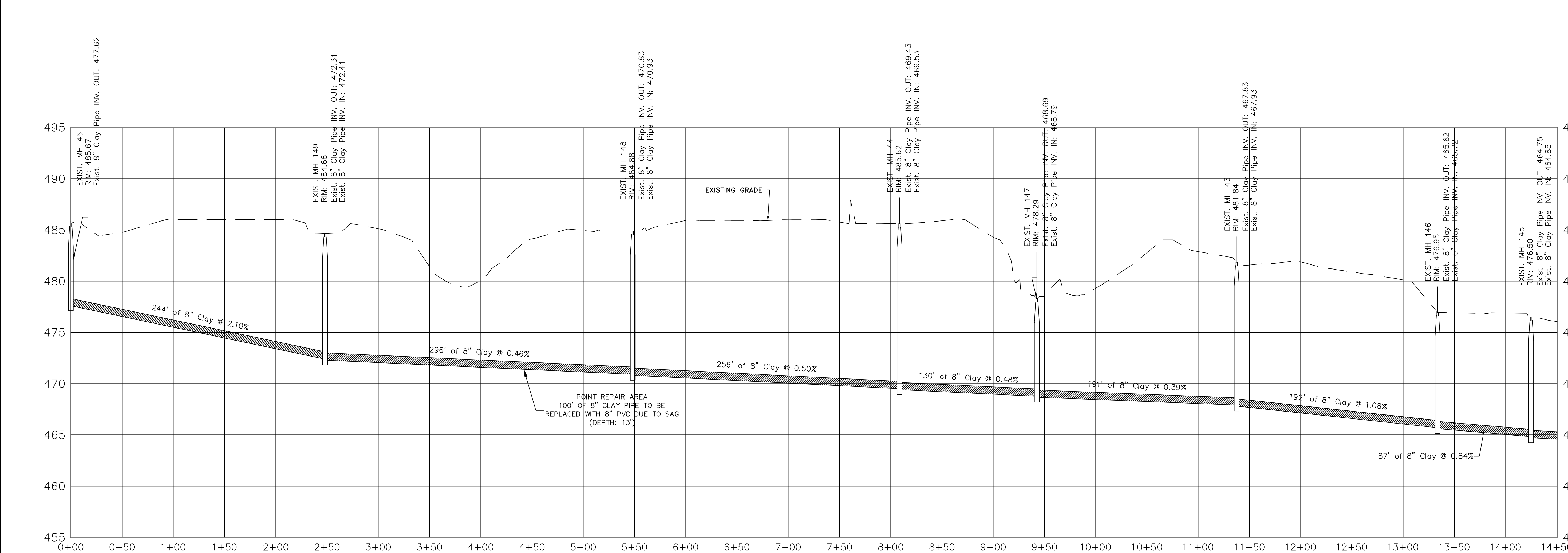
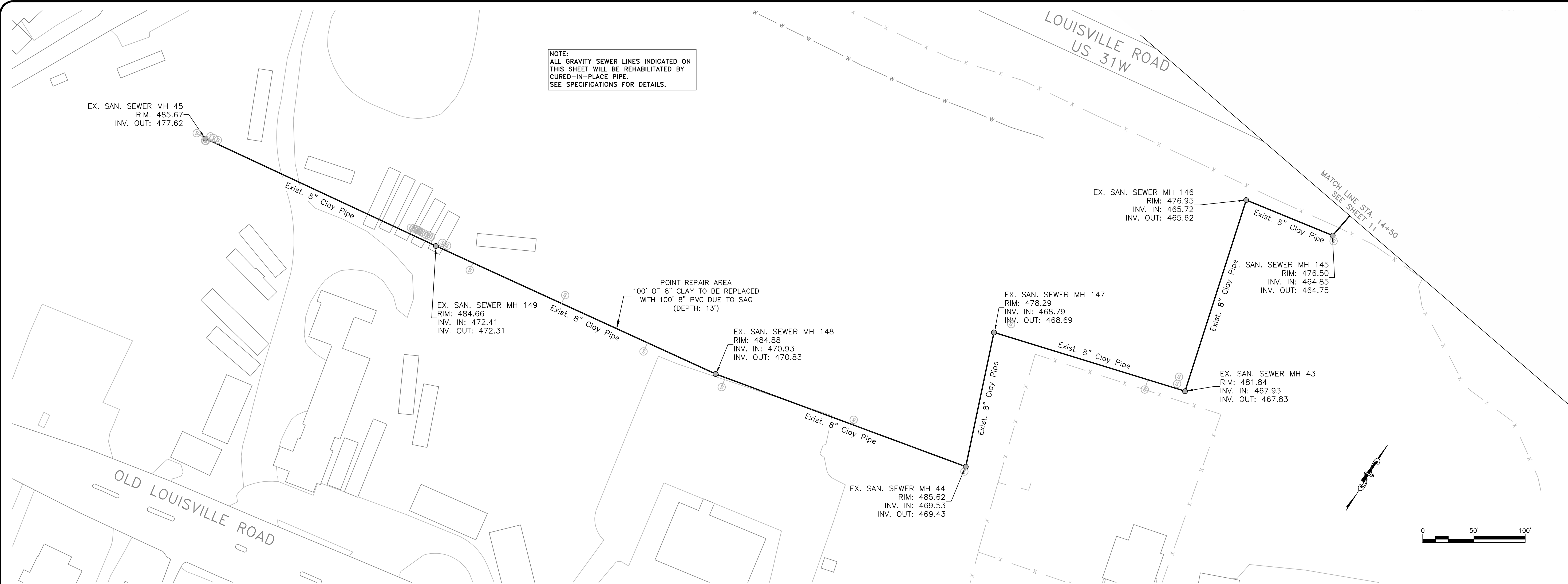


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EX. SAN. SEWER MH 45
RIM: 485.67
INV. OUT: 477.62

EX. SAN. SEWER MH 149
RIM: 484.66
INV. IN: 472.41
INV. OUT: 472.31

EX. SAN. SEWER MH 148
RIM: 484.88
INV. IN: 470.93
INV. OUT: 470.83

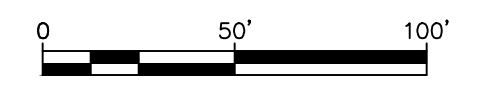
EX. SAN. SEWER MH 44
RIM: 485.62
INV. IN: 469.53
INV. OUT: 469.43

EX. SAN. SEWER MH 147
RIM: 478.29
INV. IN: 468.79
INV. OUT: 468.69

SAN. SEWER MH 145
RIM: 476.50
INV. IN: 464.85
INV. OUT: 464.75

EX. SAN. SEWER MH 43
RIM: 481.84
INV. IN: 467.93
INV. OUT: 467.83

EX. SAN. SEWER MH 146
RIM: 476.95
INV. IN: 465.72
INV. OUT: 465.62



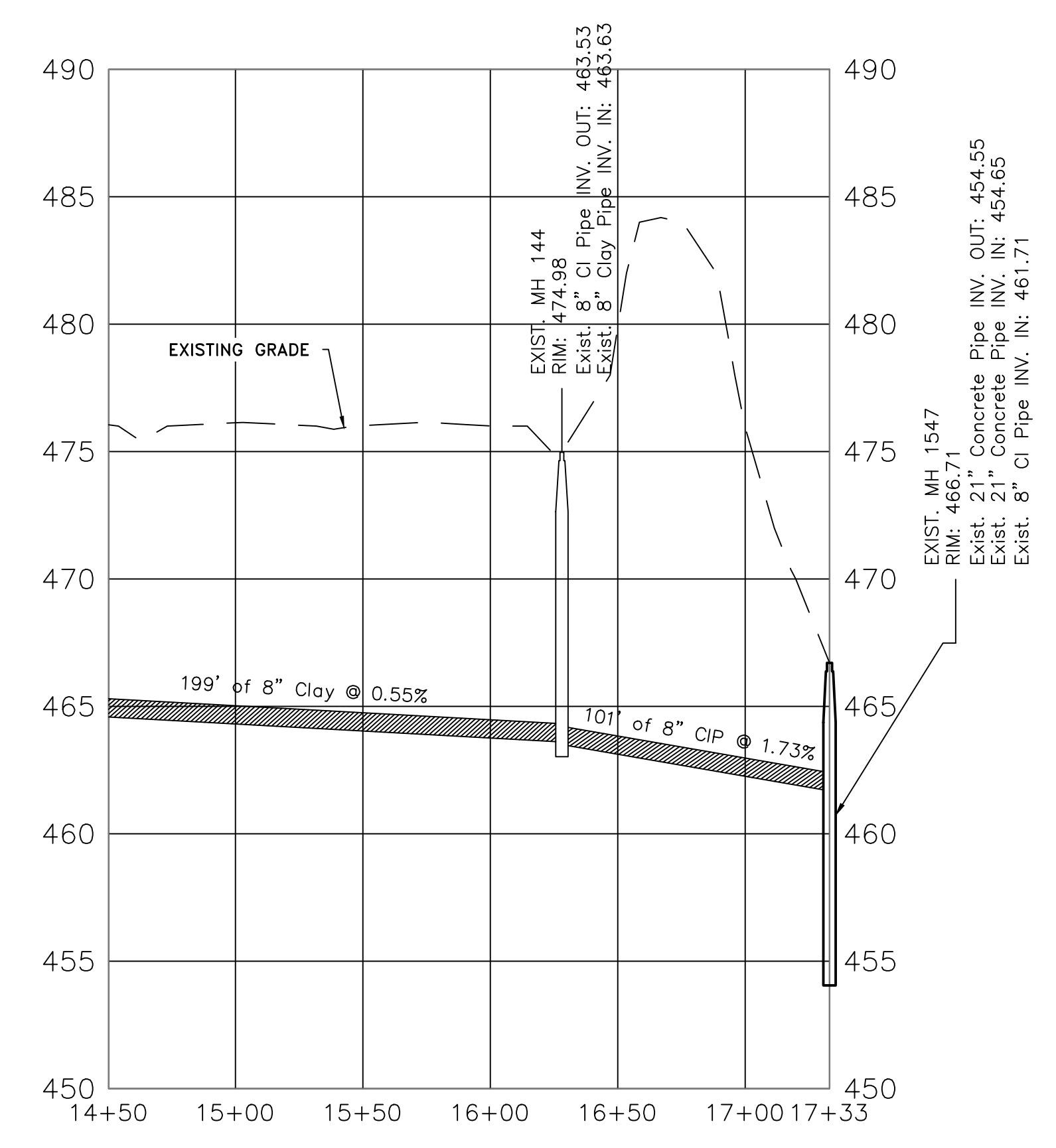
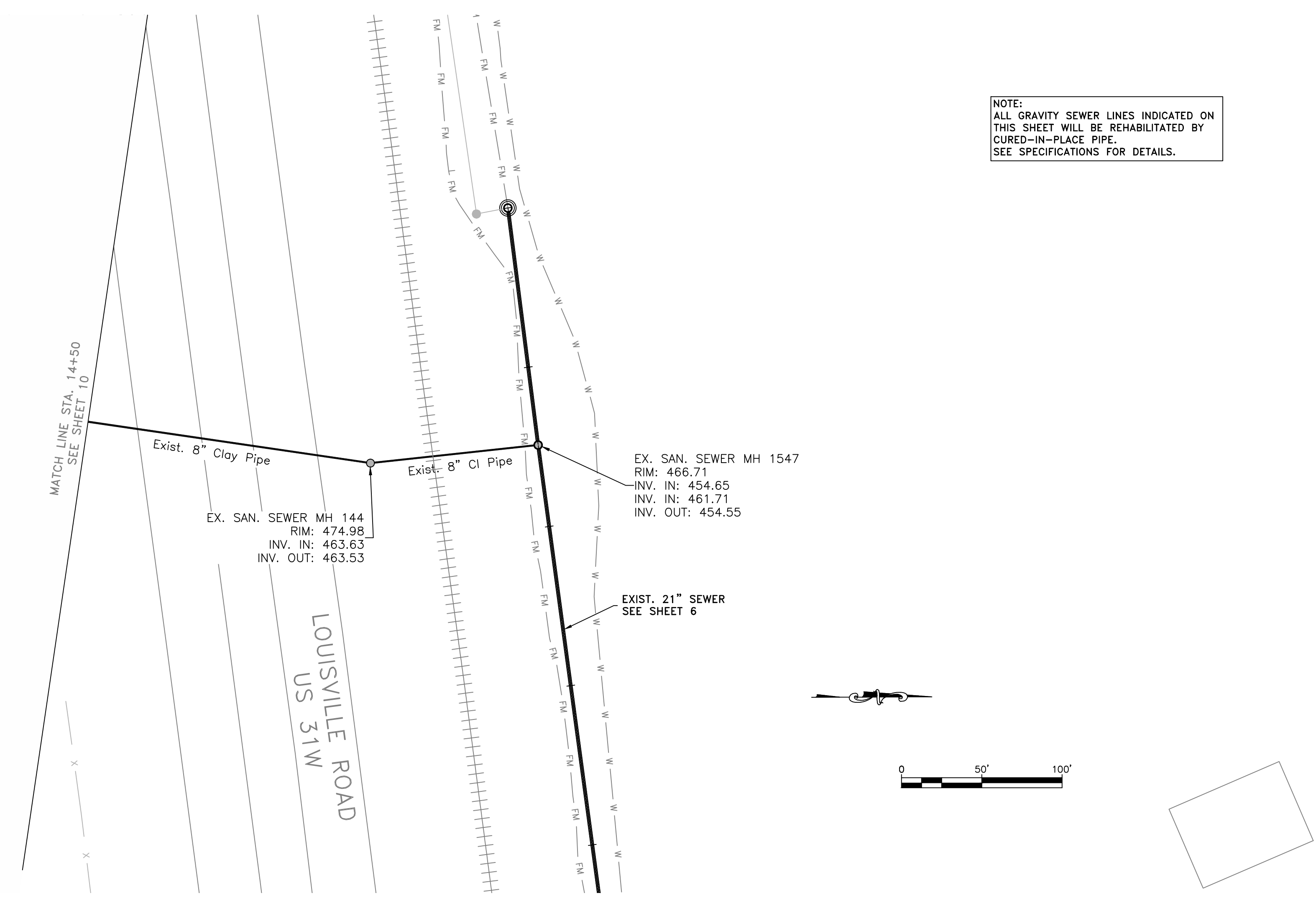
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DRAWN: KDH
CHECKED: JNL

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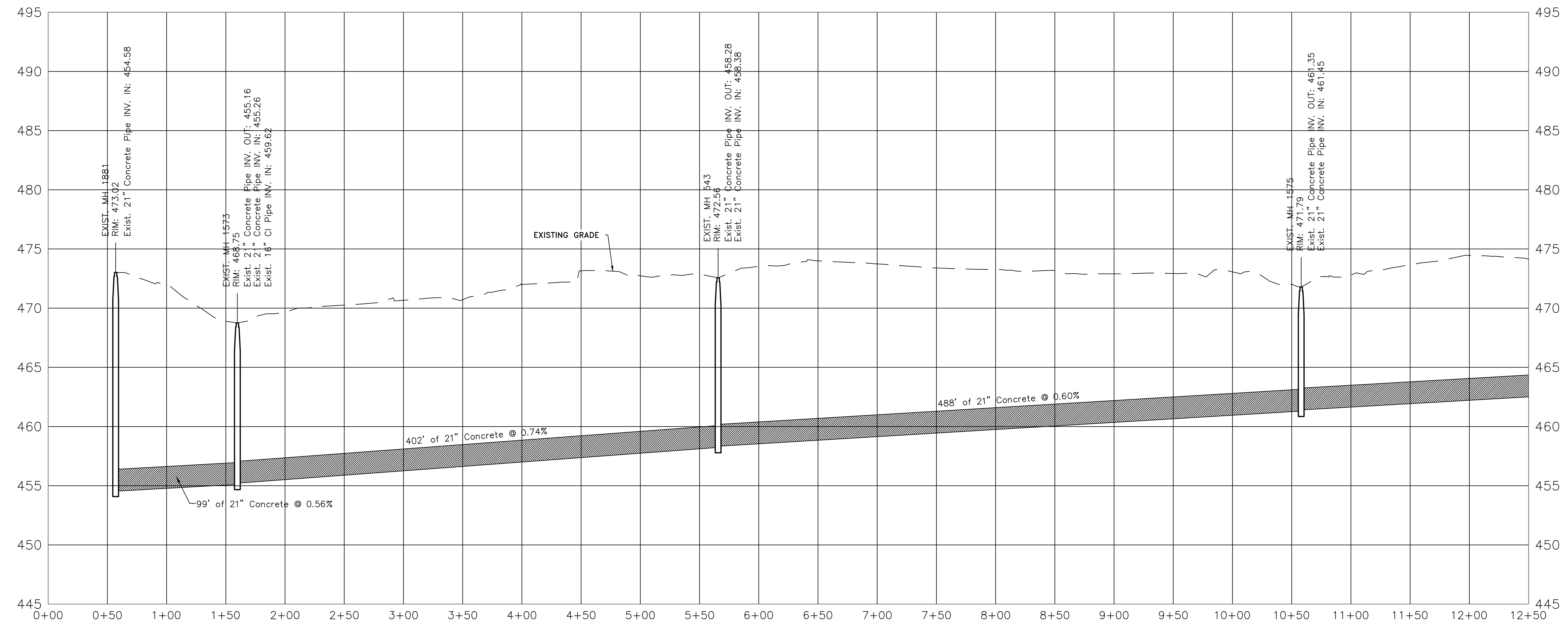
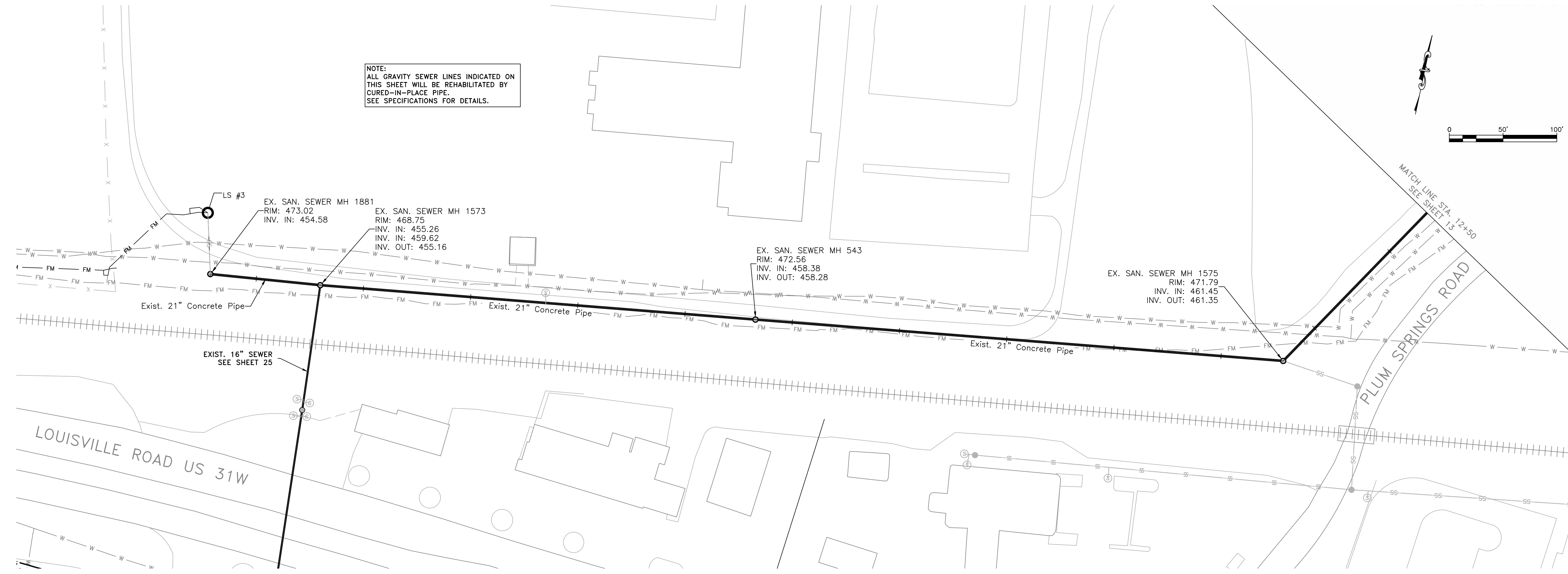
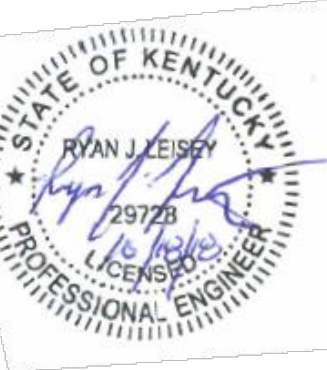
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SCALE: NTS
DATE: 10/18/18
PROJECT #: 300873
DESIGNED: RJL
DRAWN: KDH
CHECKED: JNL

REVISIONS:

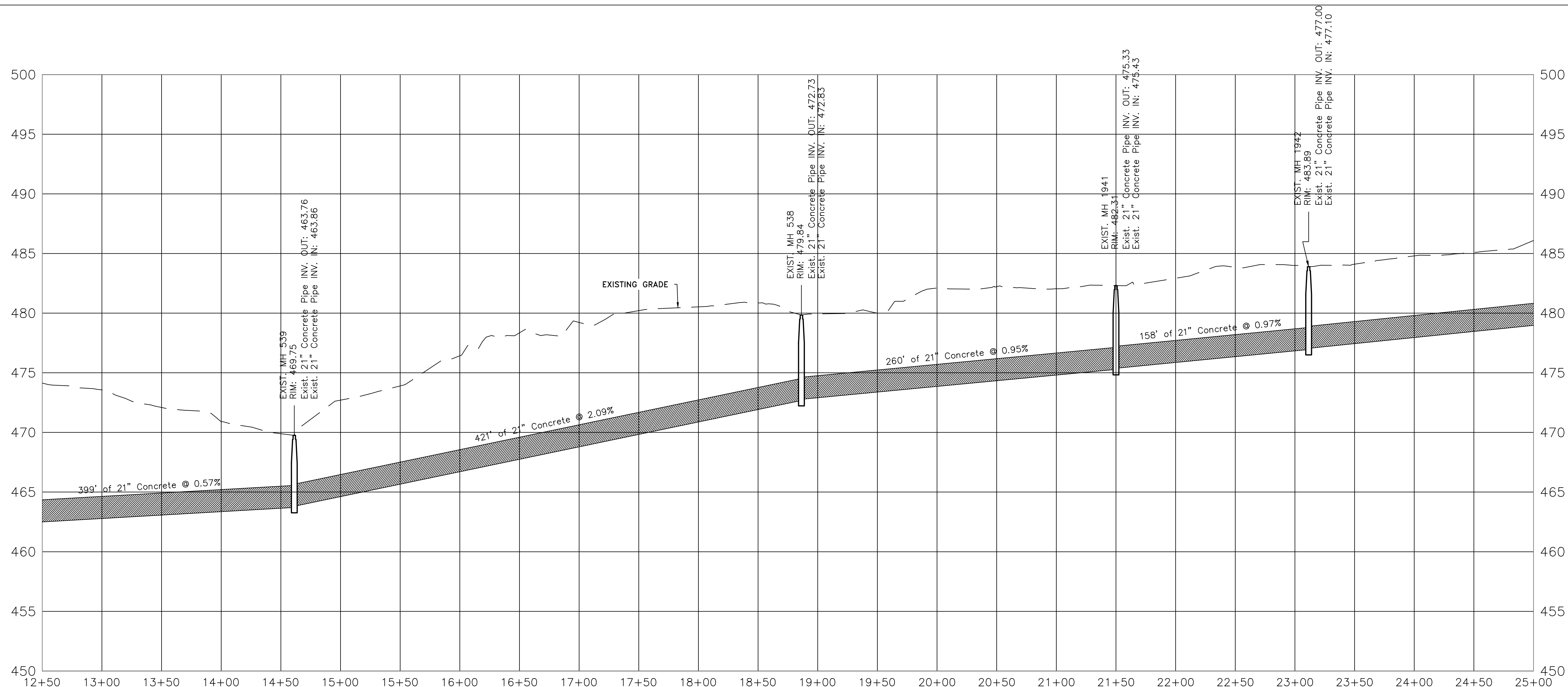
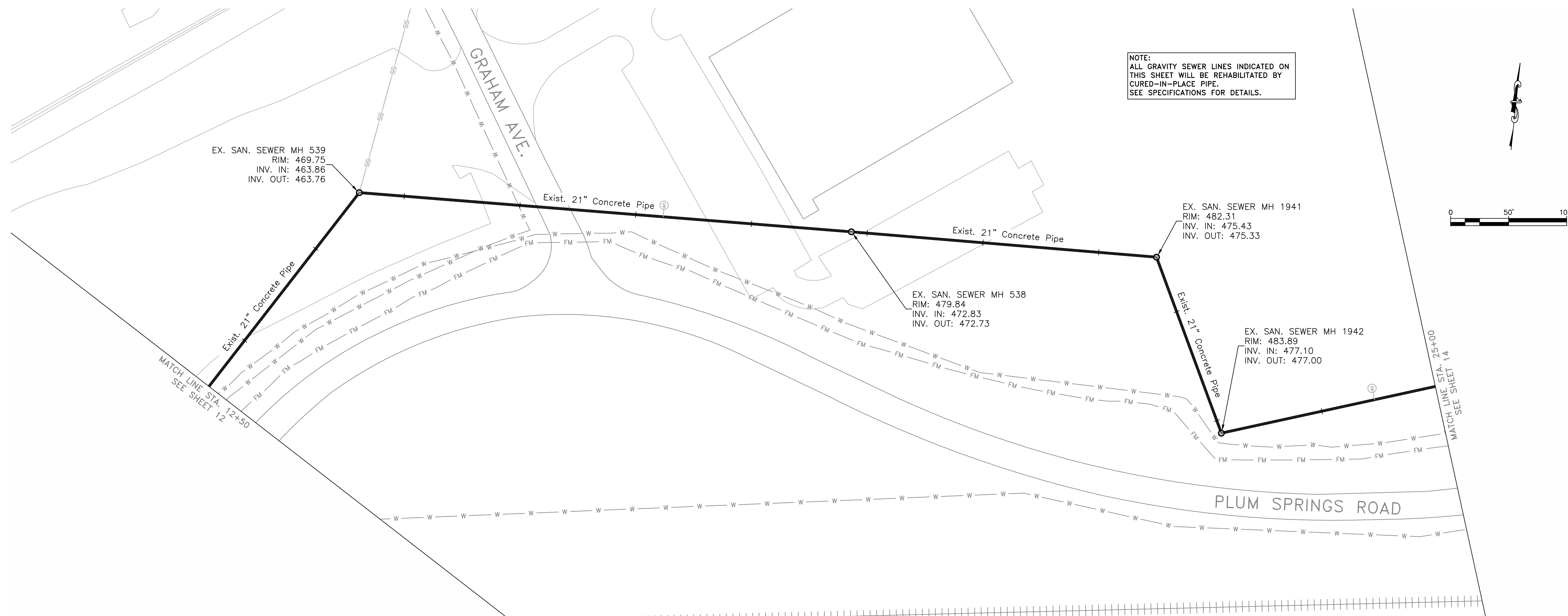
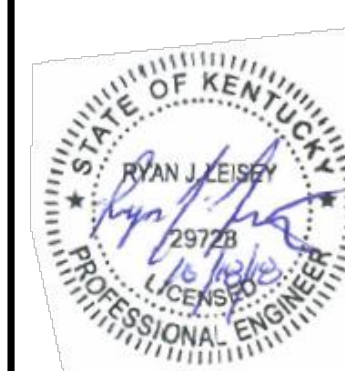
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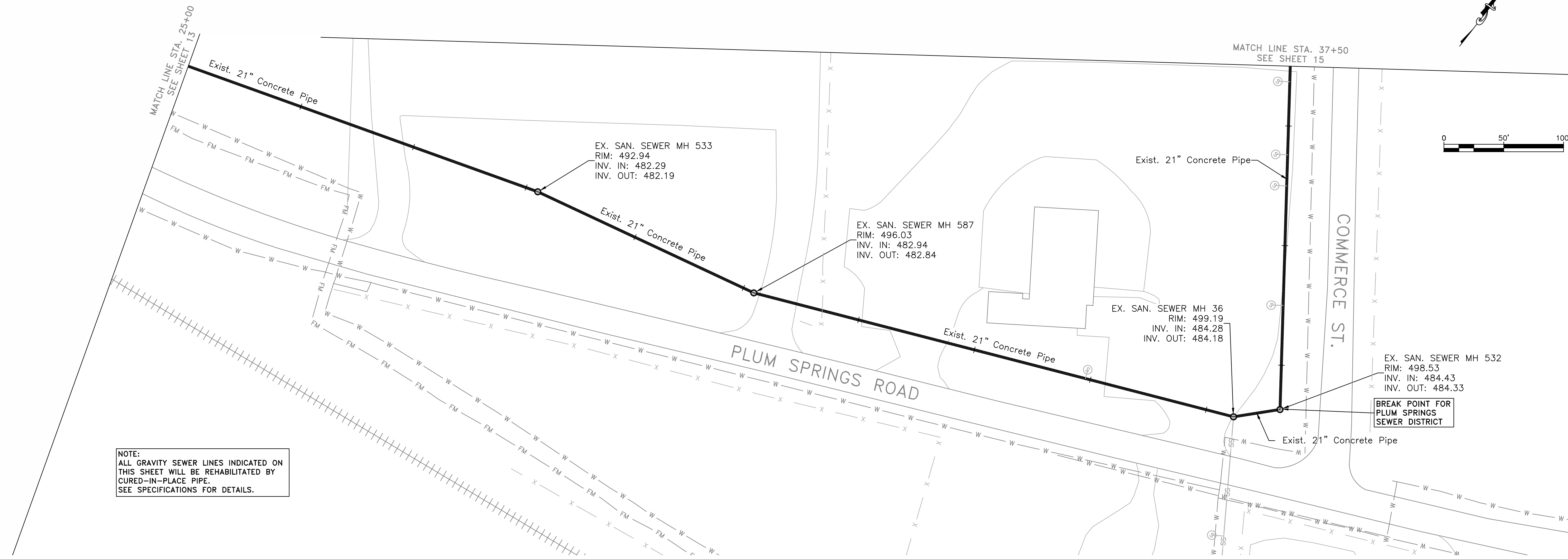


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PROJECT #: 300873
DESIGNED: RUL
DRAWN: KDH
CHECKED: JNL

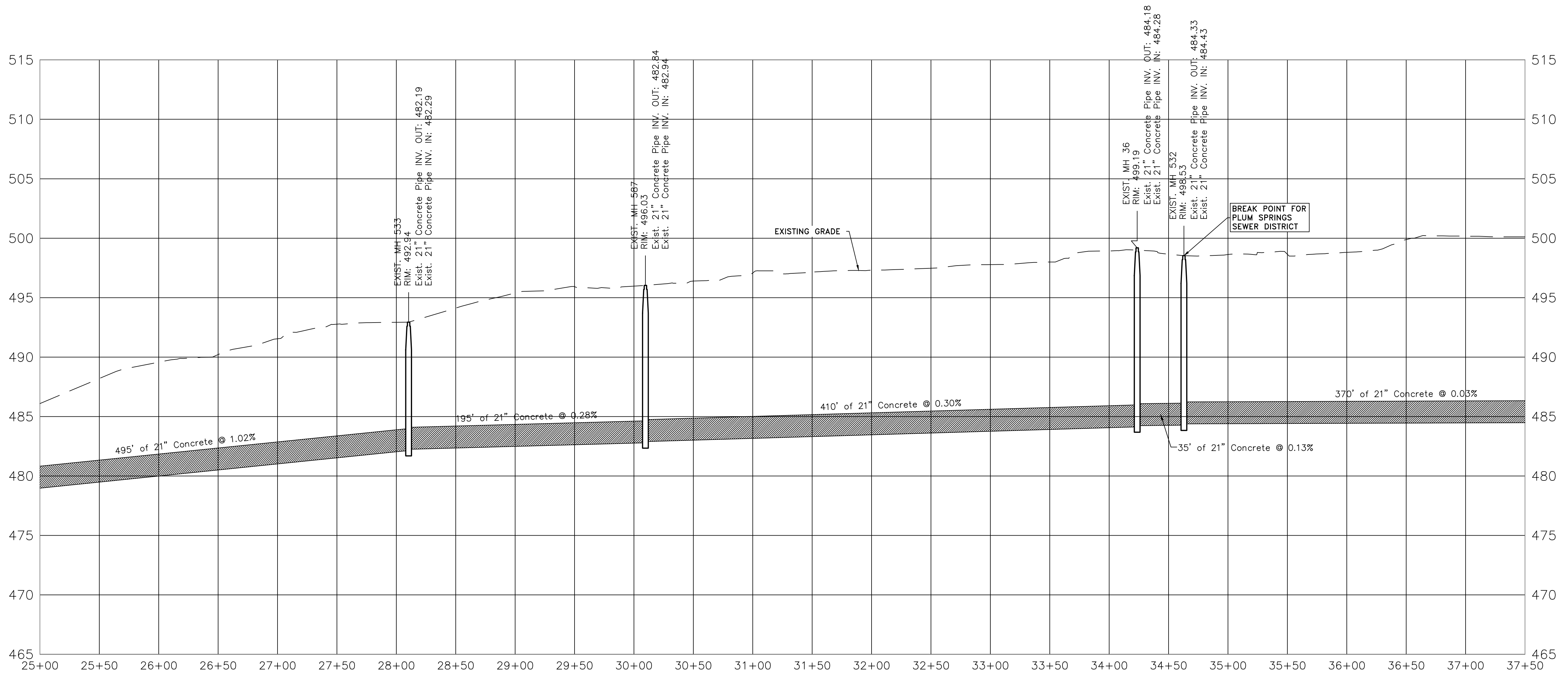
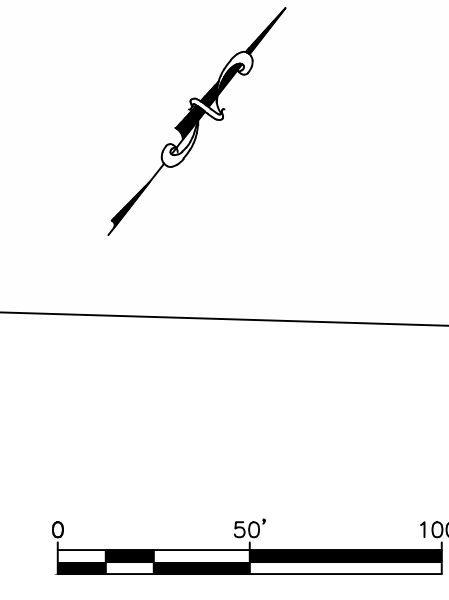
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SCALE: NTS
DATE: 10/18/18
PROJECT #: 300873
DESIGNED: R.J.L.
DRAWN: K.D.H.
CHECKED: J.N.L.

REVISIONS:

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DATE: 10/18/18

PROJECT #: 300873

DESIGNED: R.J.L.

DRAWN: K.D.H.

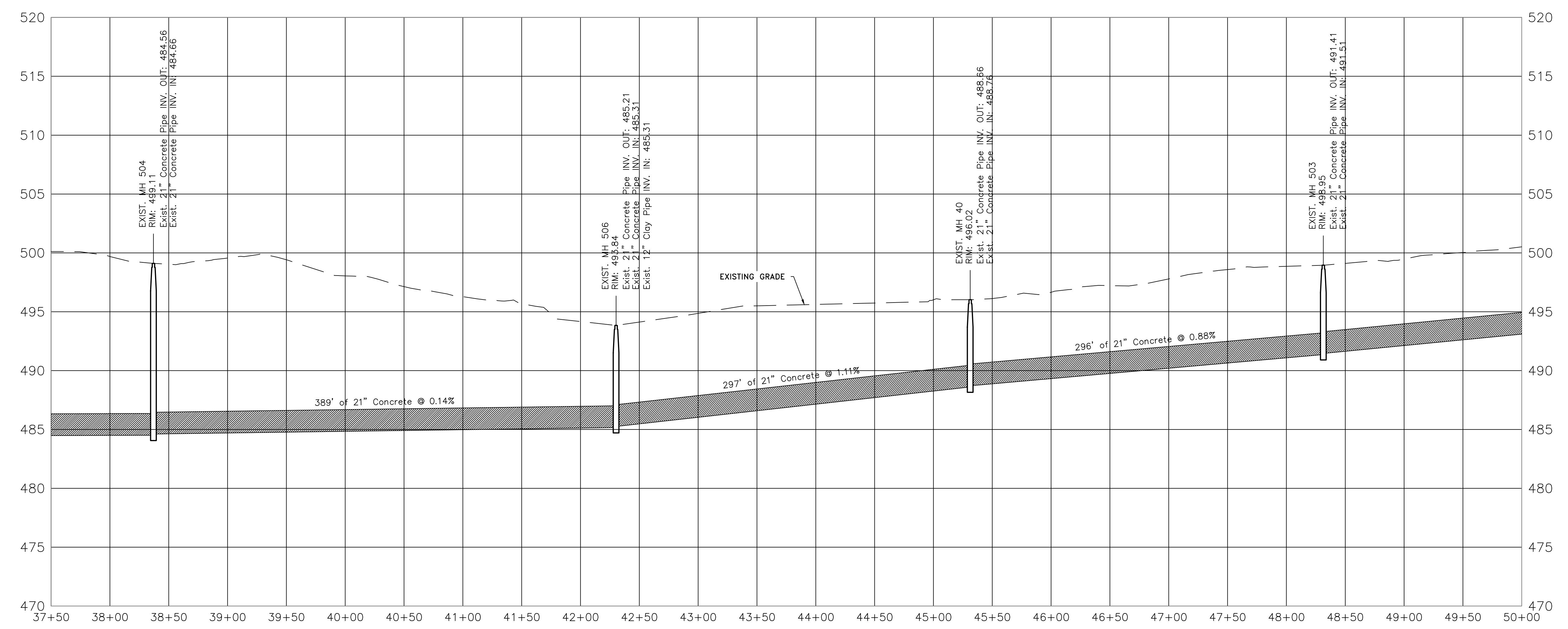
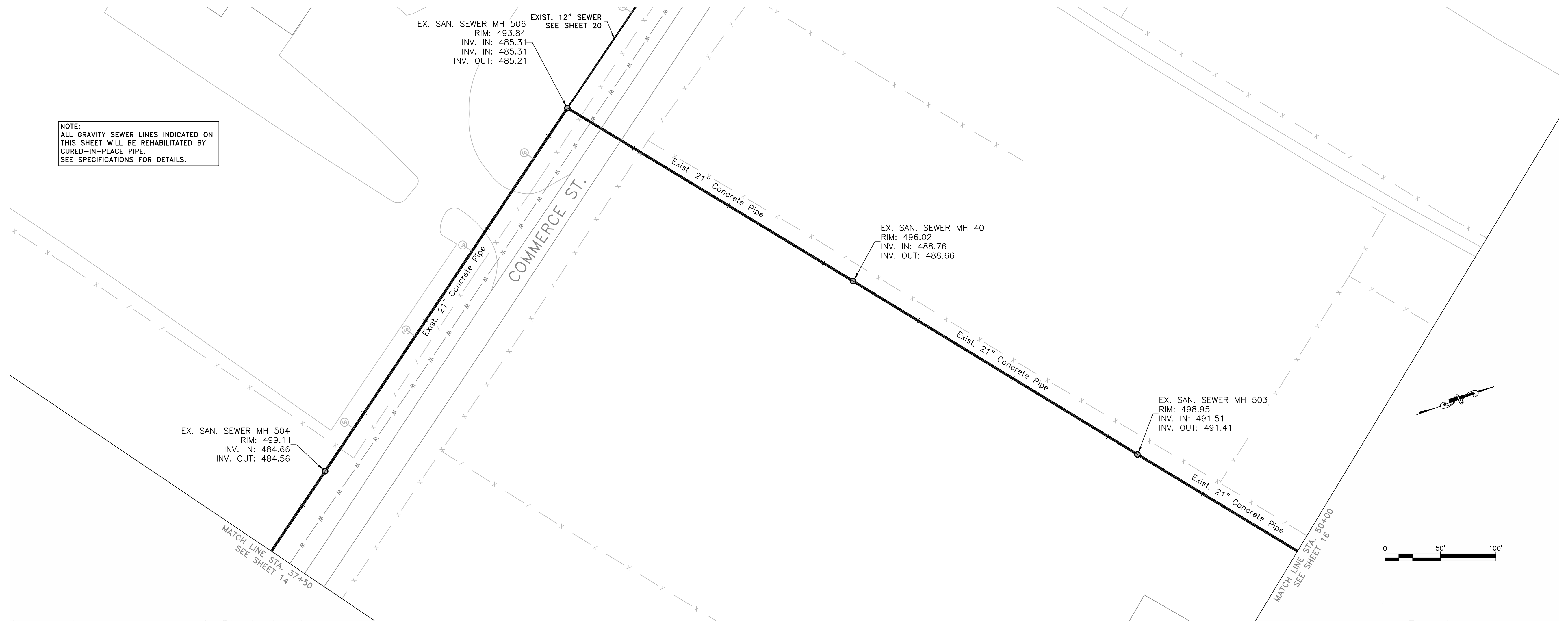
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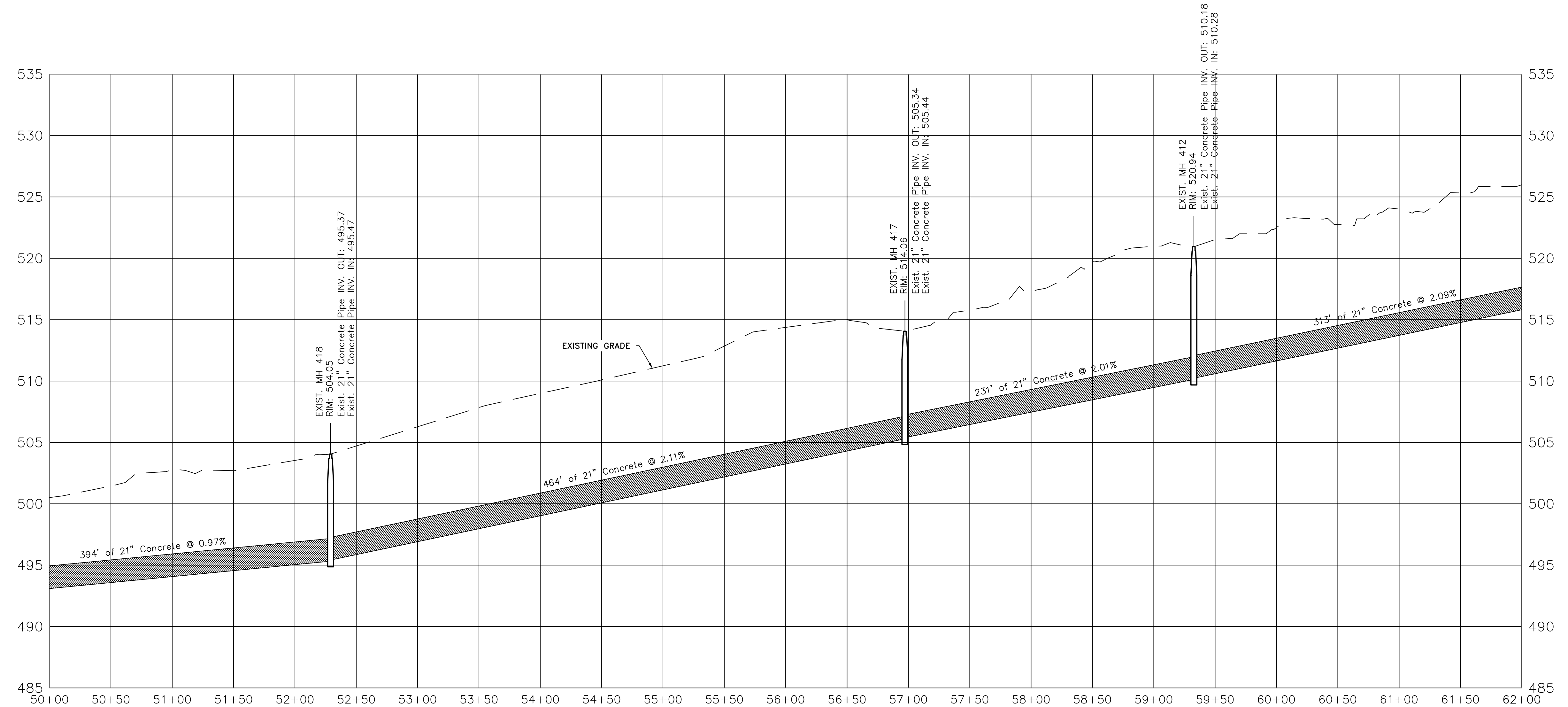
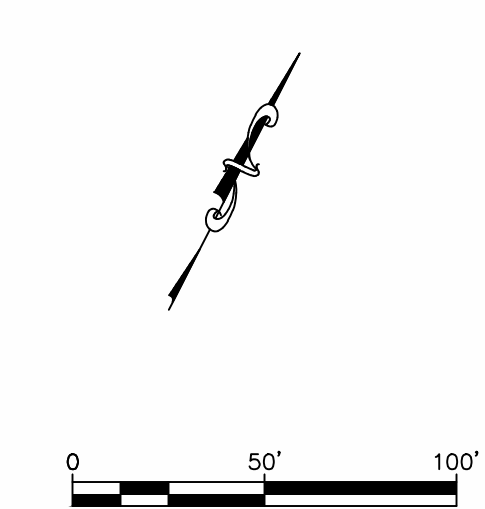
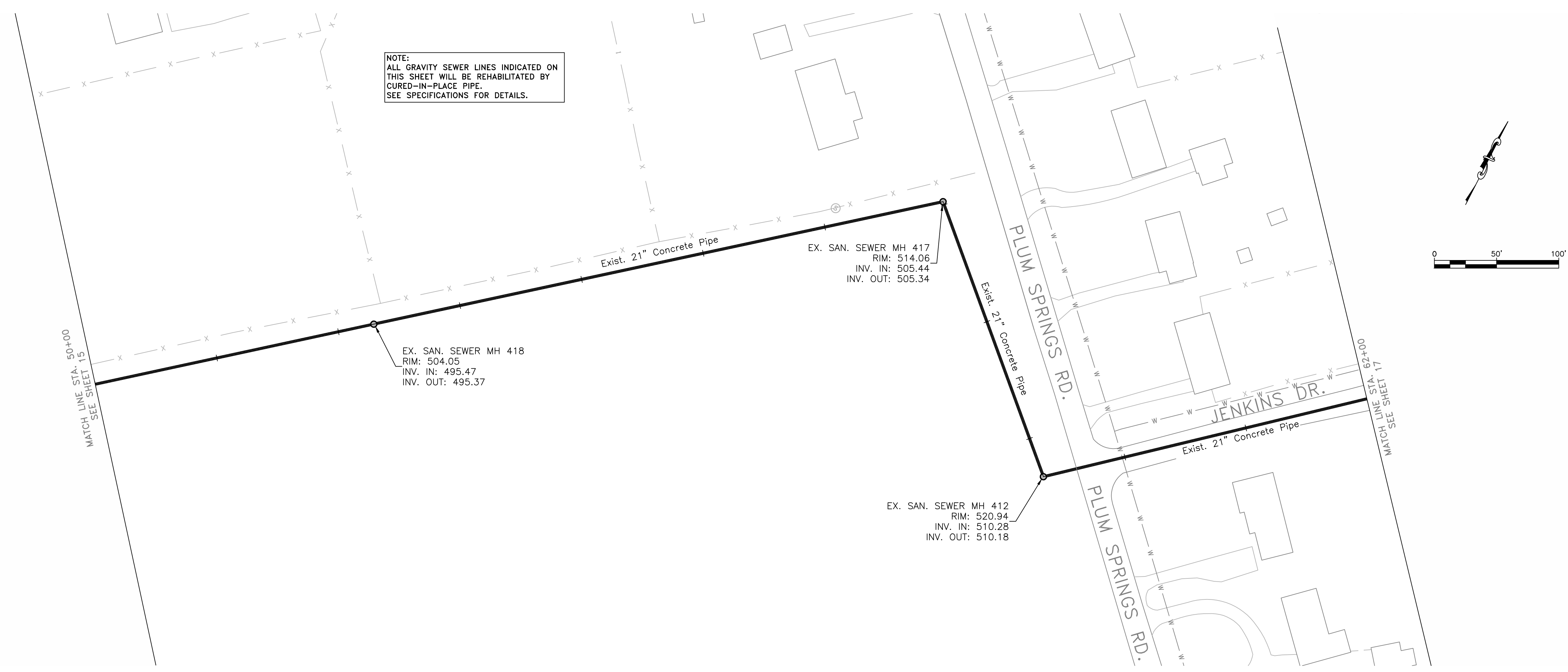
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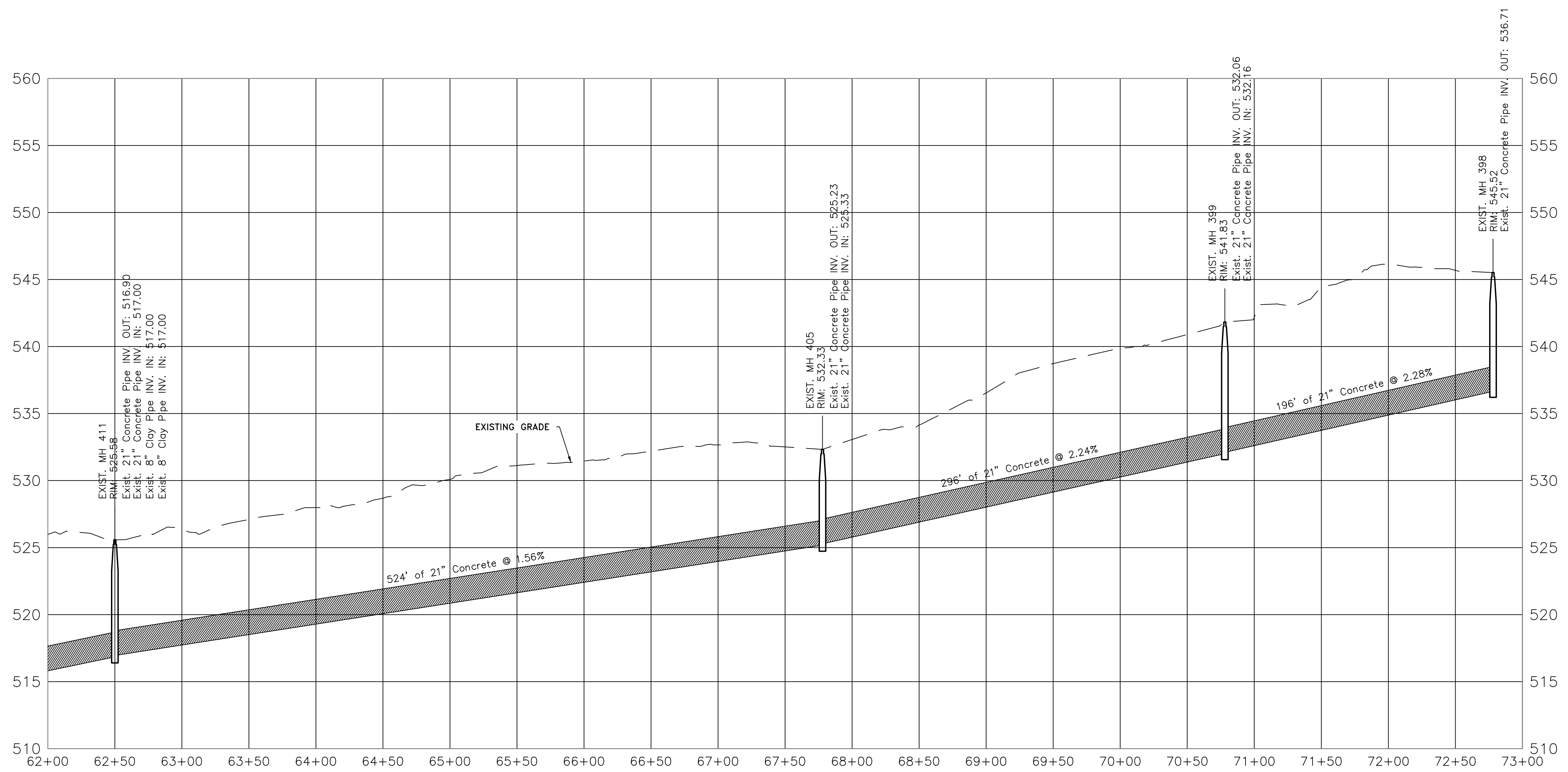
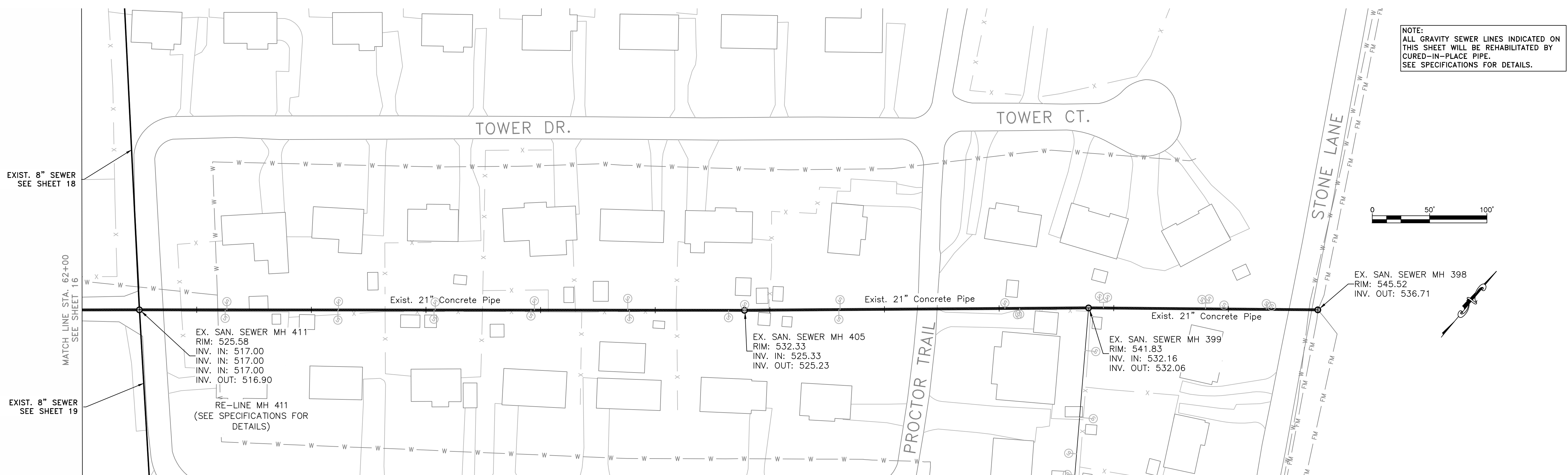
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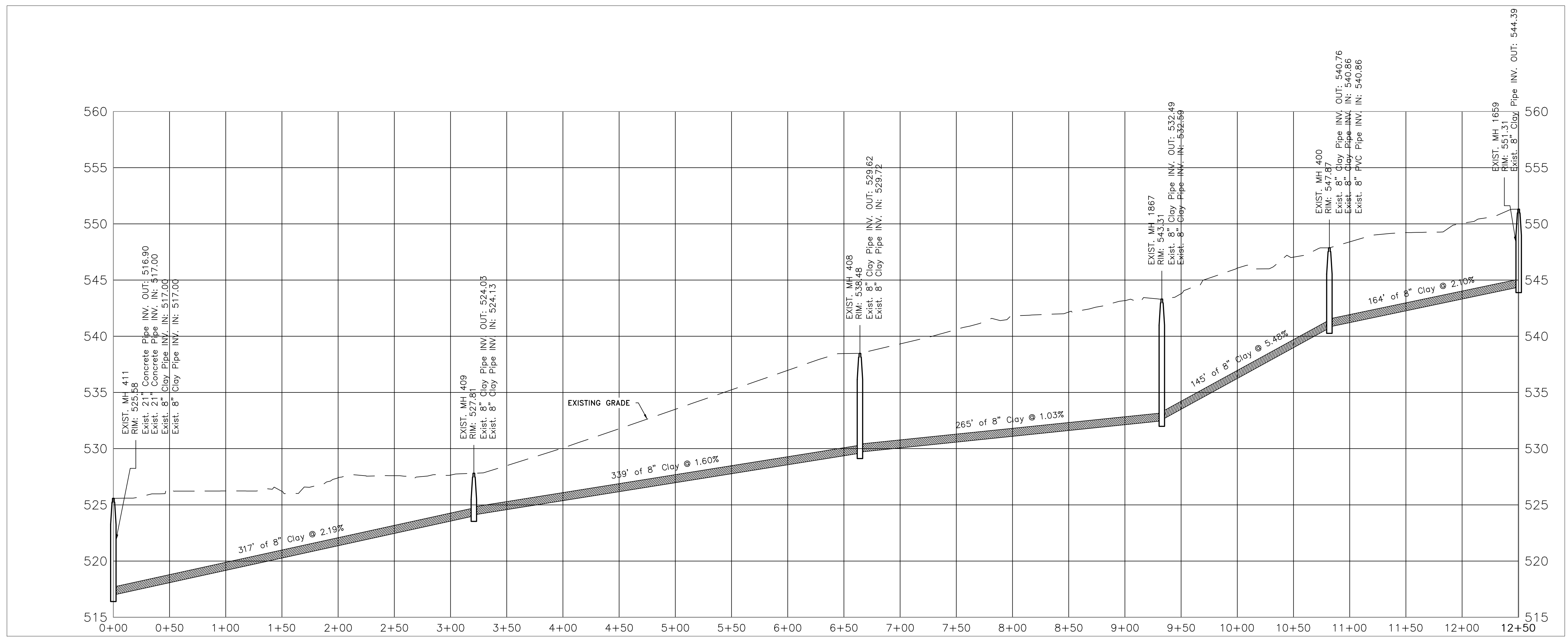
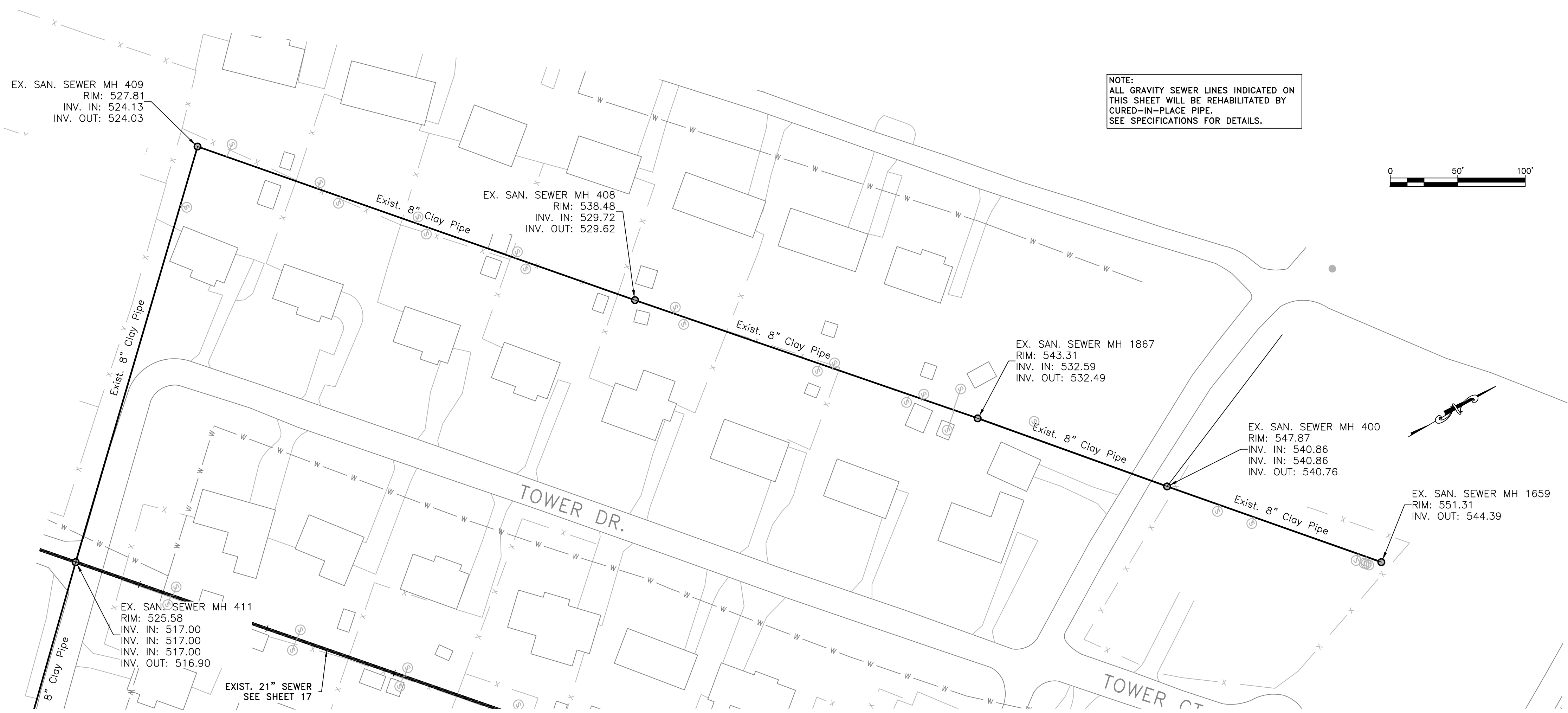


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PROJECT #: 300873
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DRAWN: KDH
CHECKED: JNL

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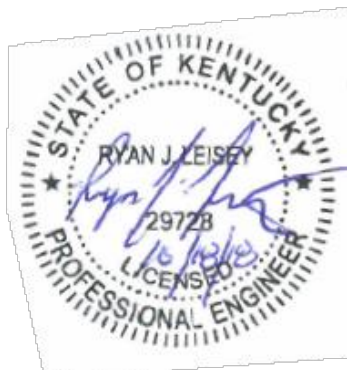
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CHECKED: J.N.L.

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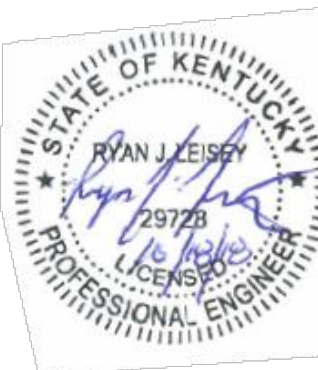


PLUM SPRINGS AREA SEWER REHABILITATION
PROJECT NUMBER 300873
SECTION 9, LINE 2 - STA. 0+00 TO END

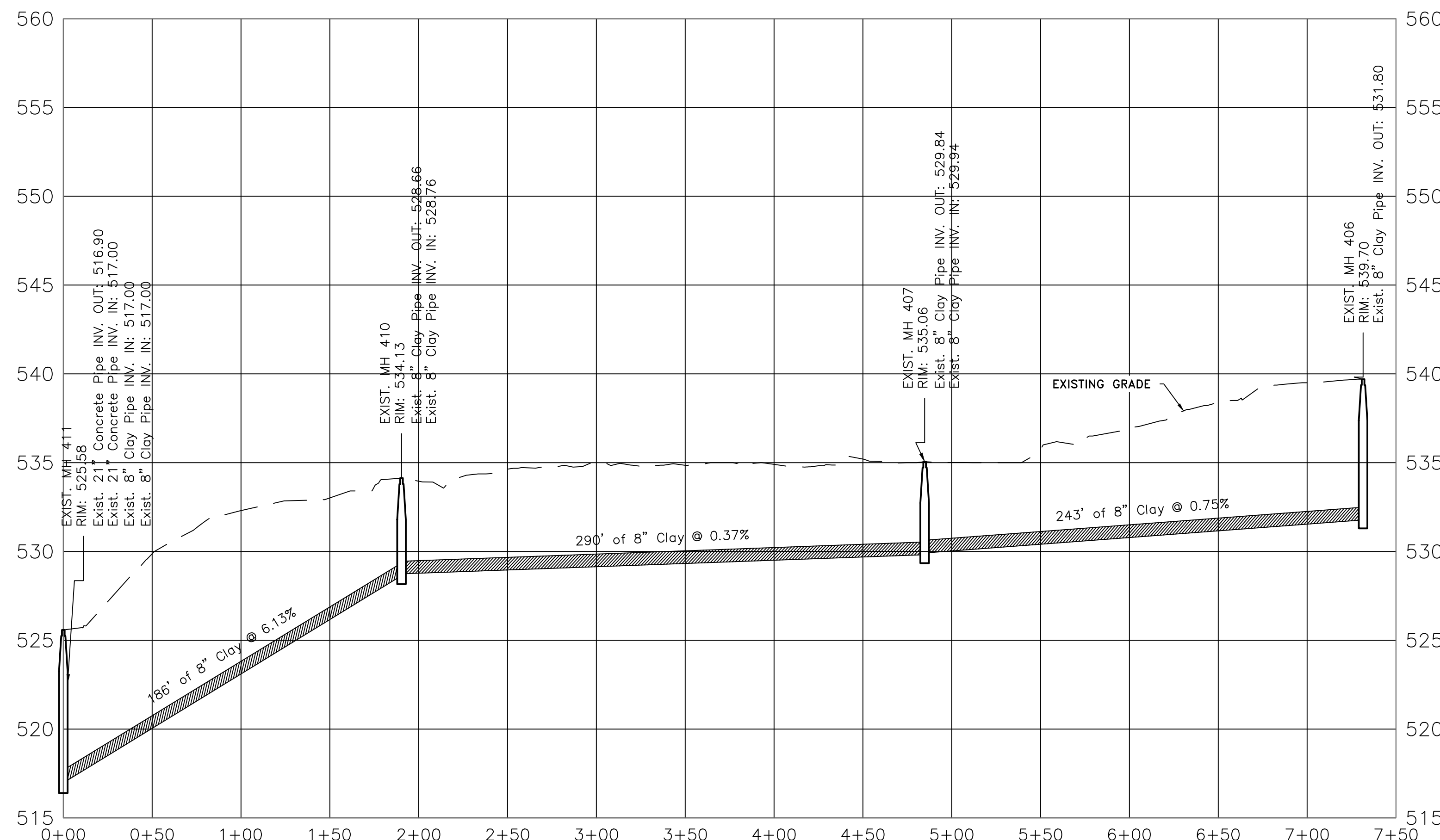
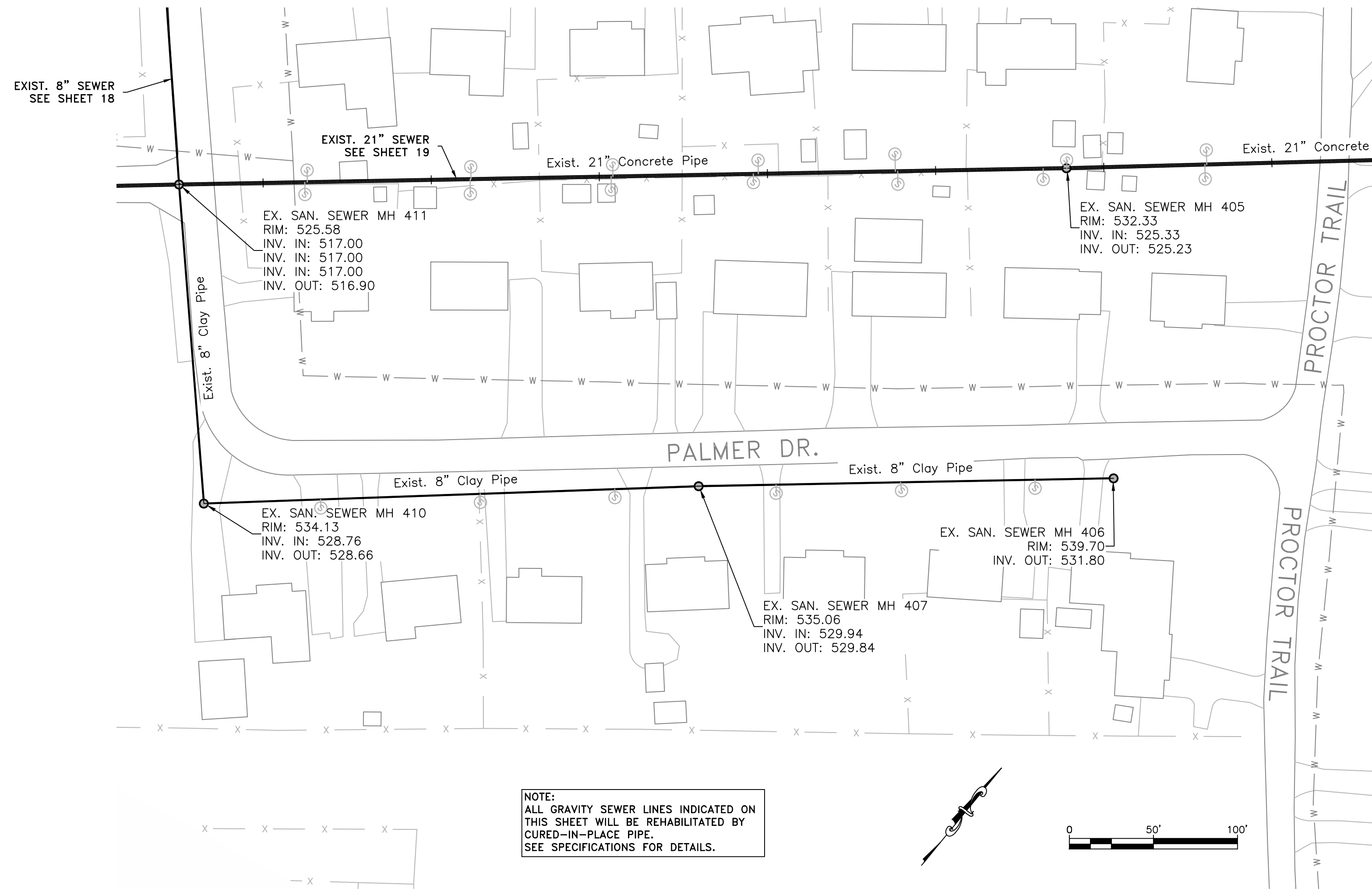
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DRAWN: K.D.H.
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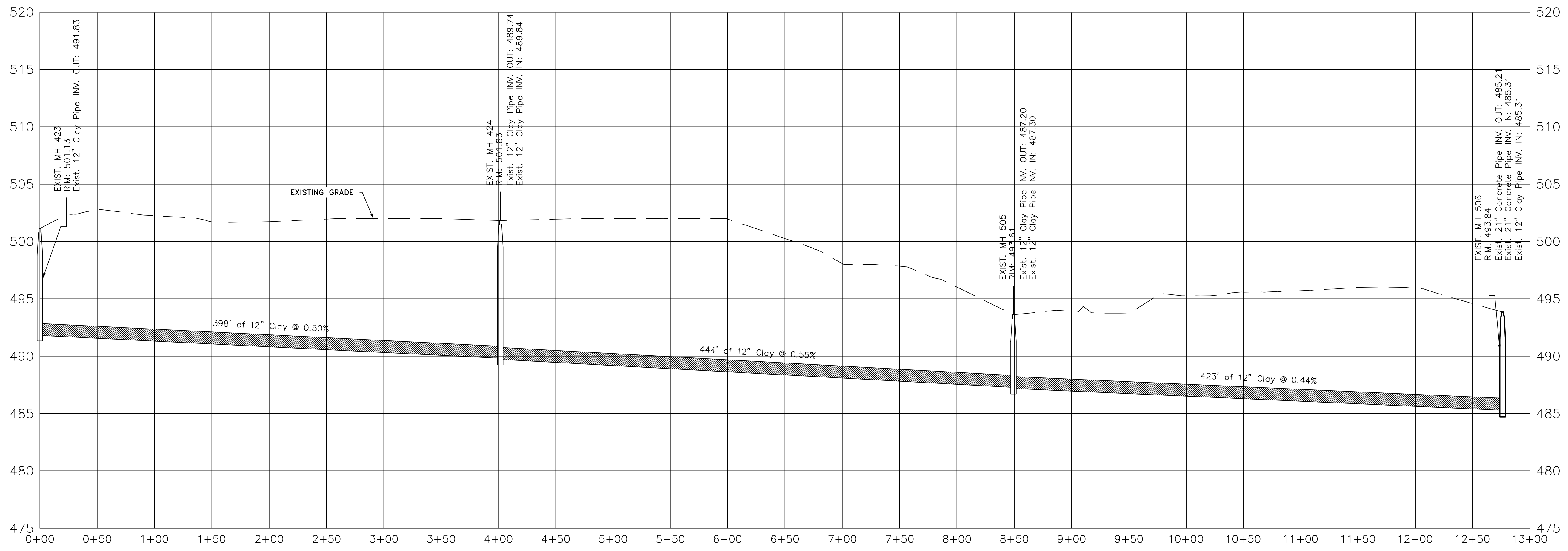
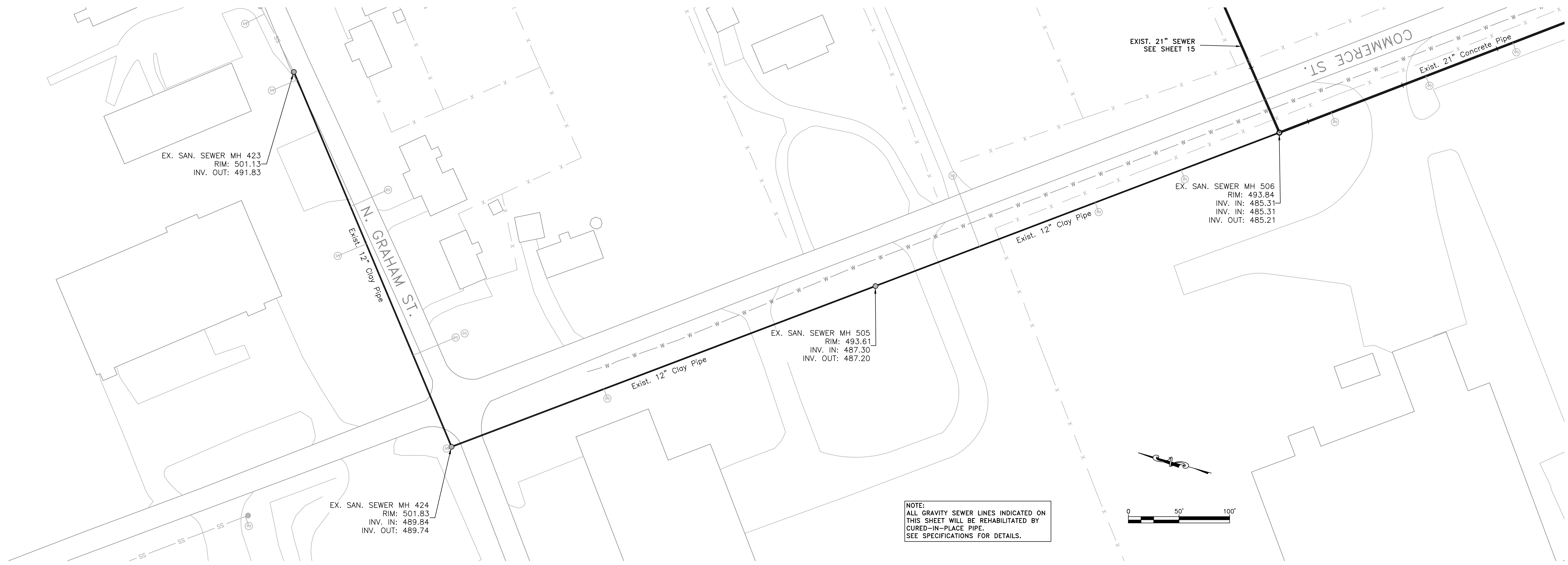
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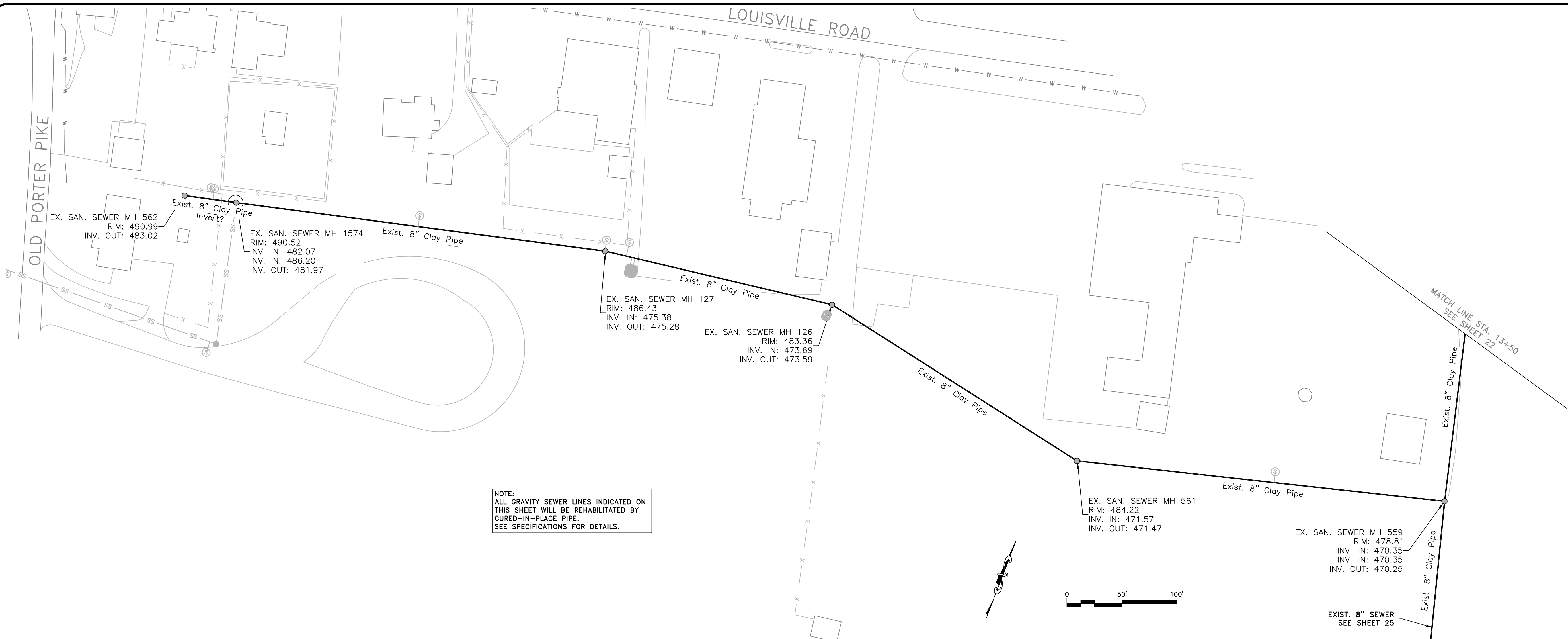
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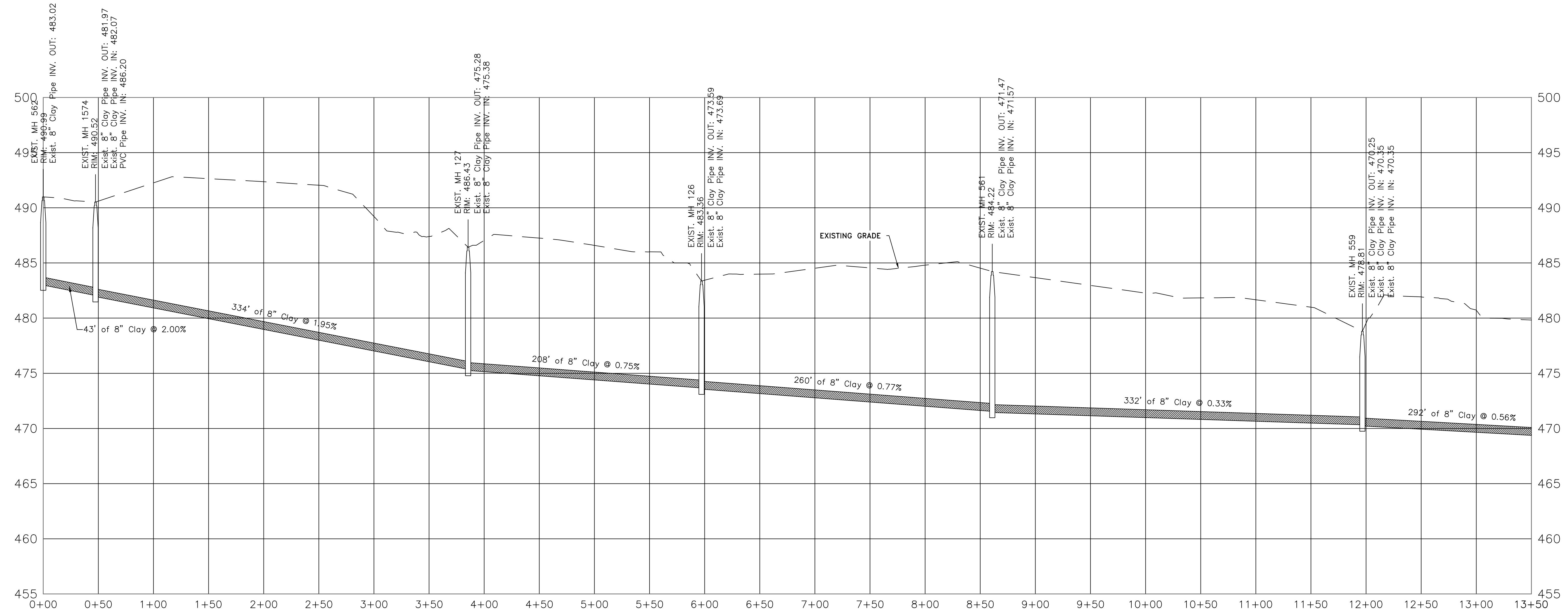
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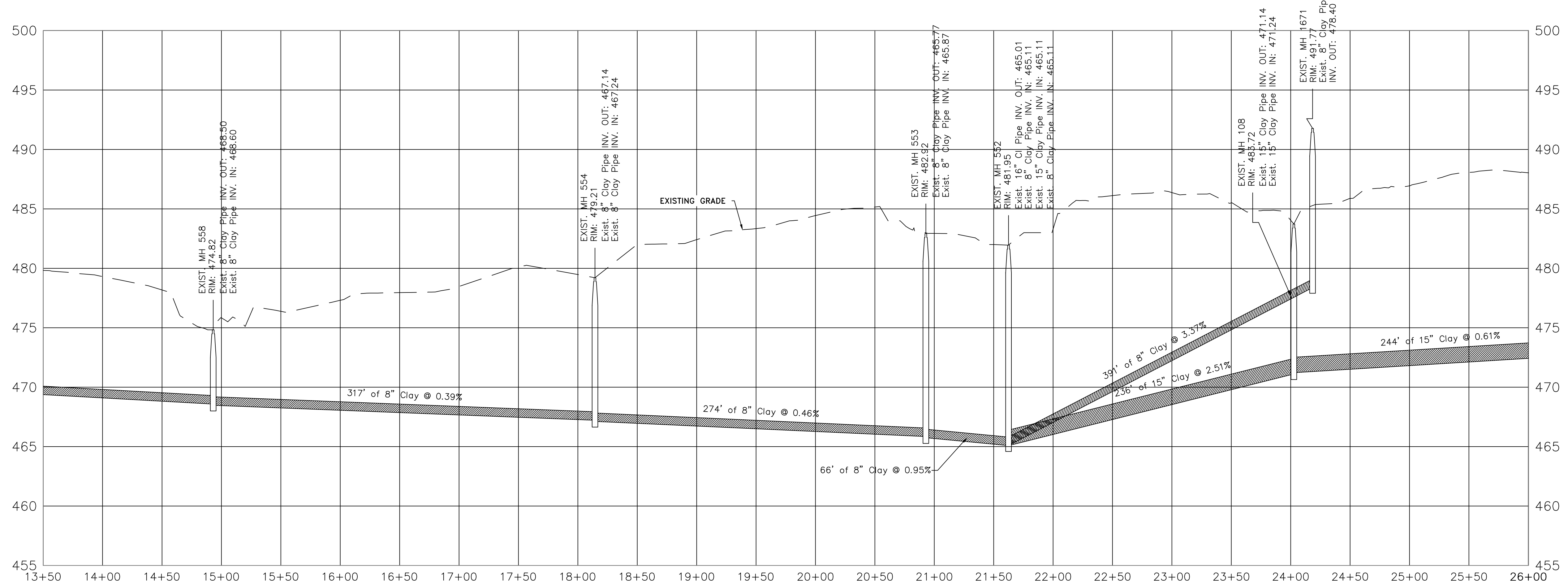
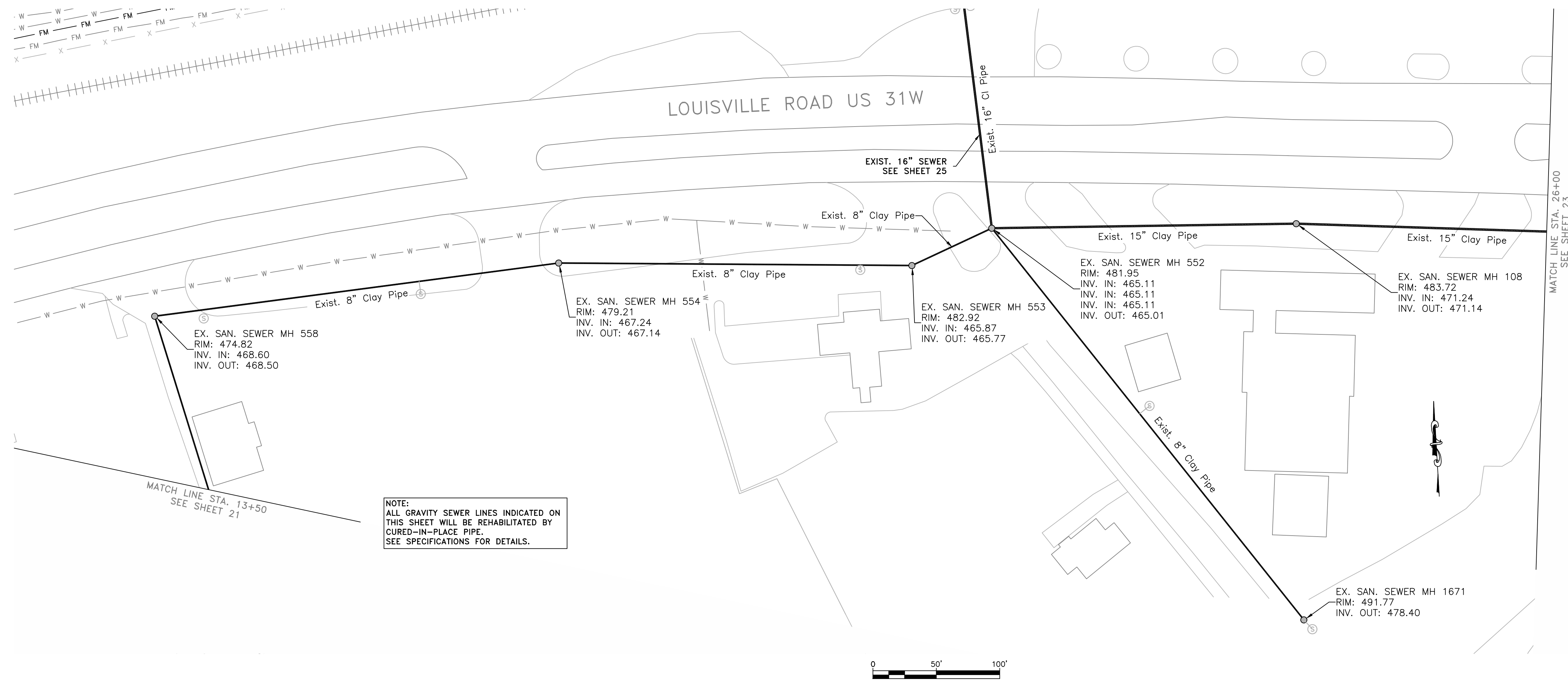






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DATE: 10/18/18

PROJECT #: 300873

DESIGNED: R/JL

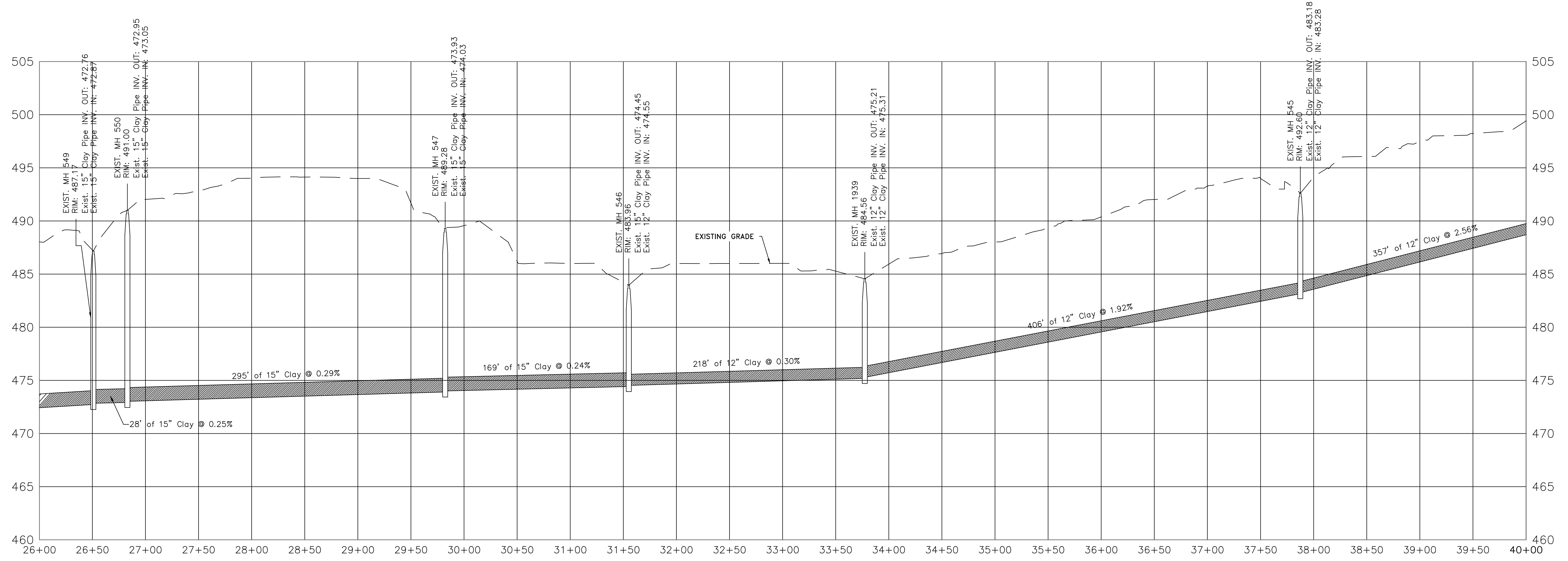
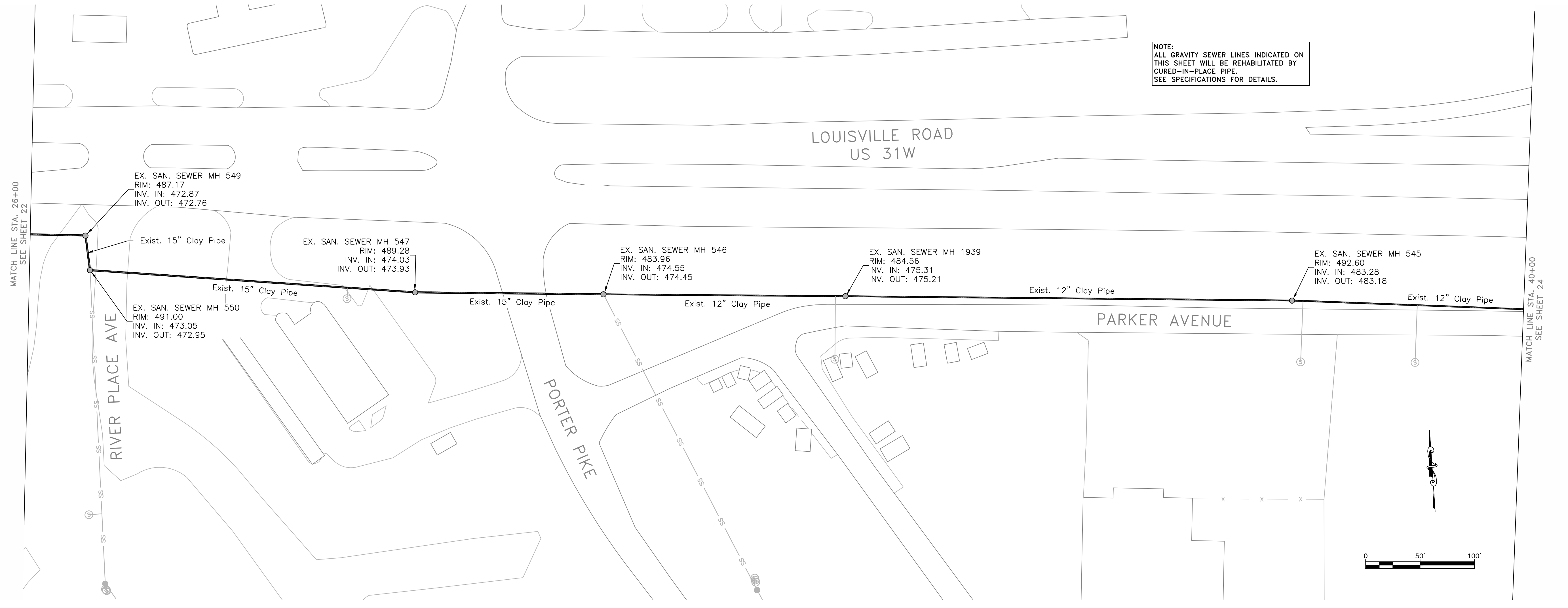
DRAWN: K/DH

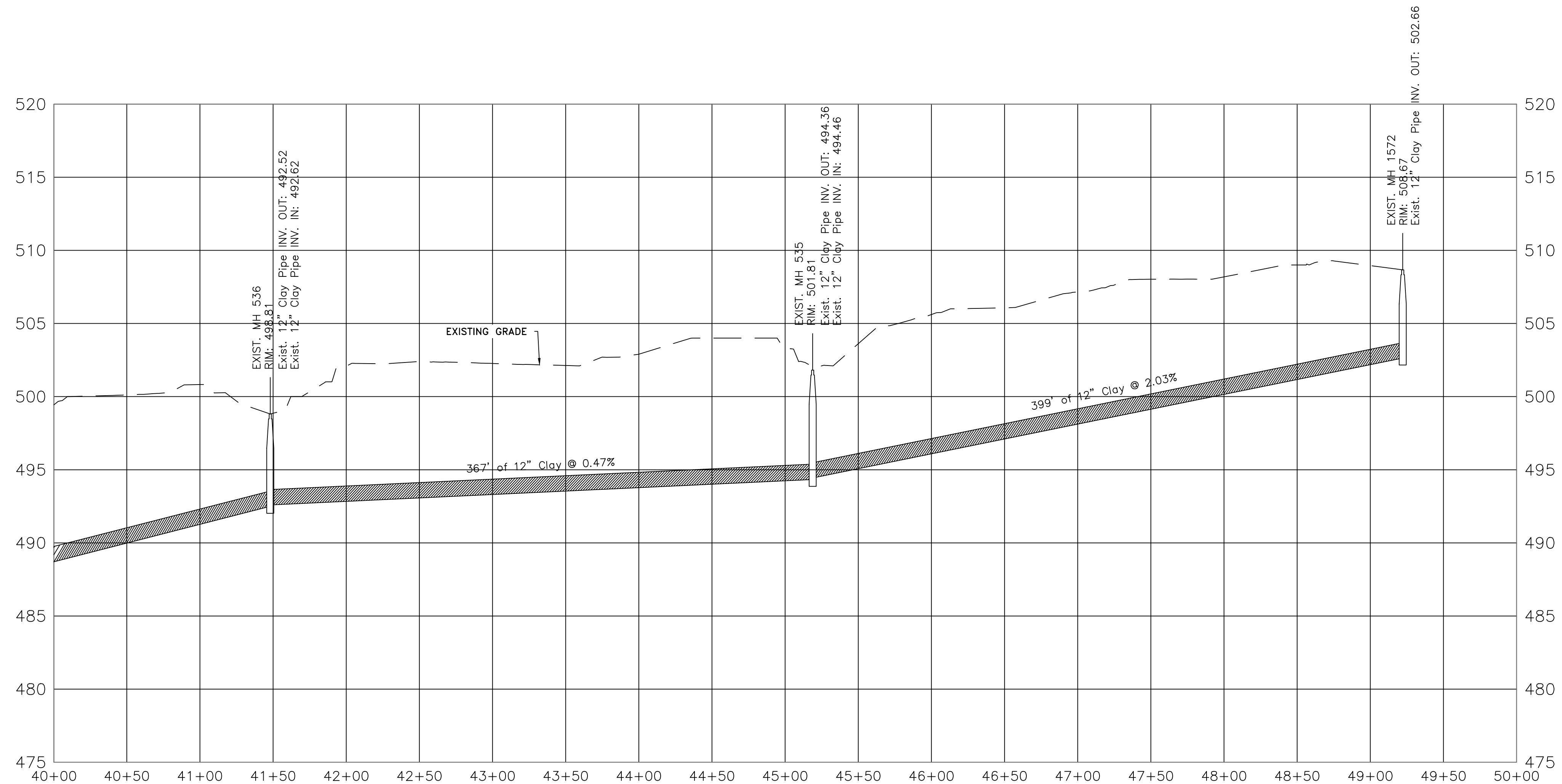
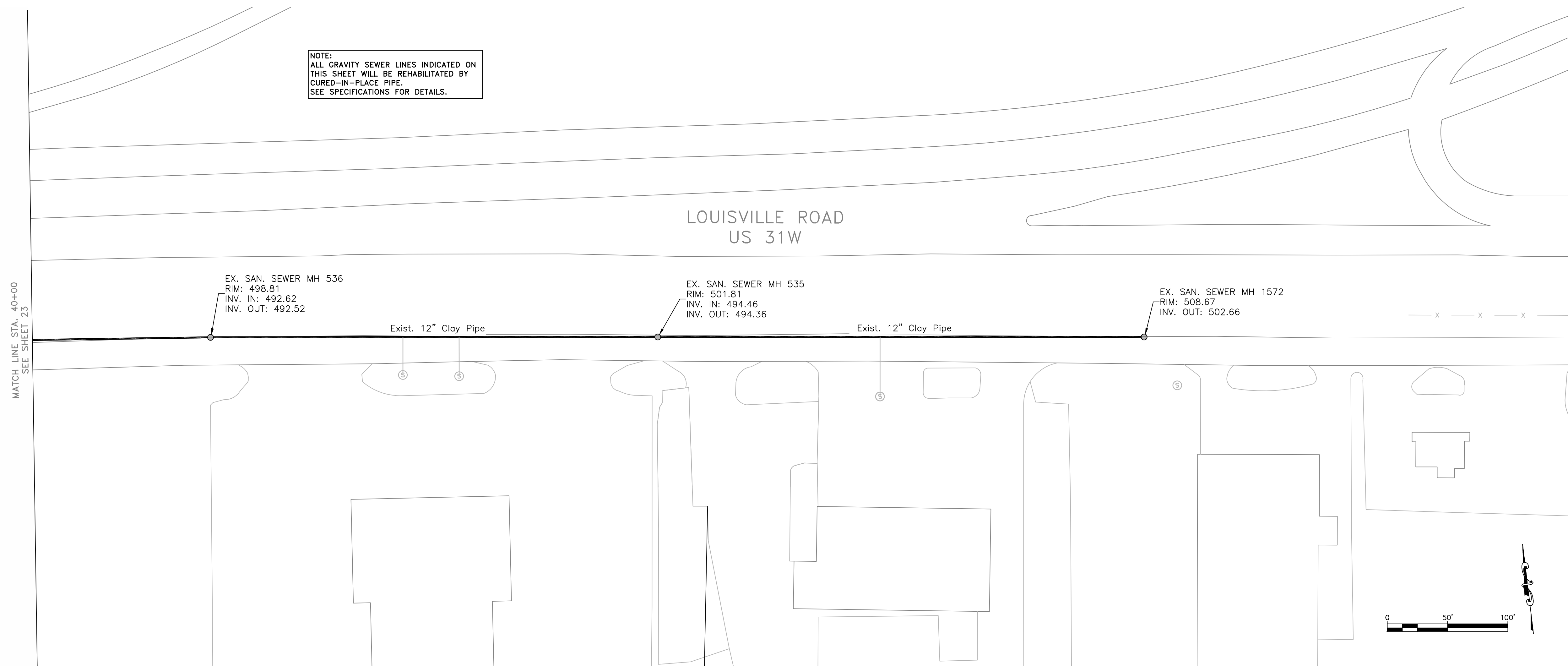
CHECKED: J/NL

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SCALE: NTS
DATE: 10/18/18
PROJECT #: 300873
DESIGNED: RJL
DRAWN: KDH
CHECKED: JNL

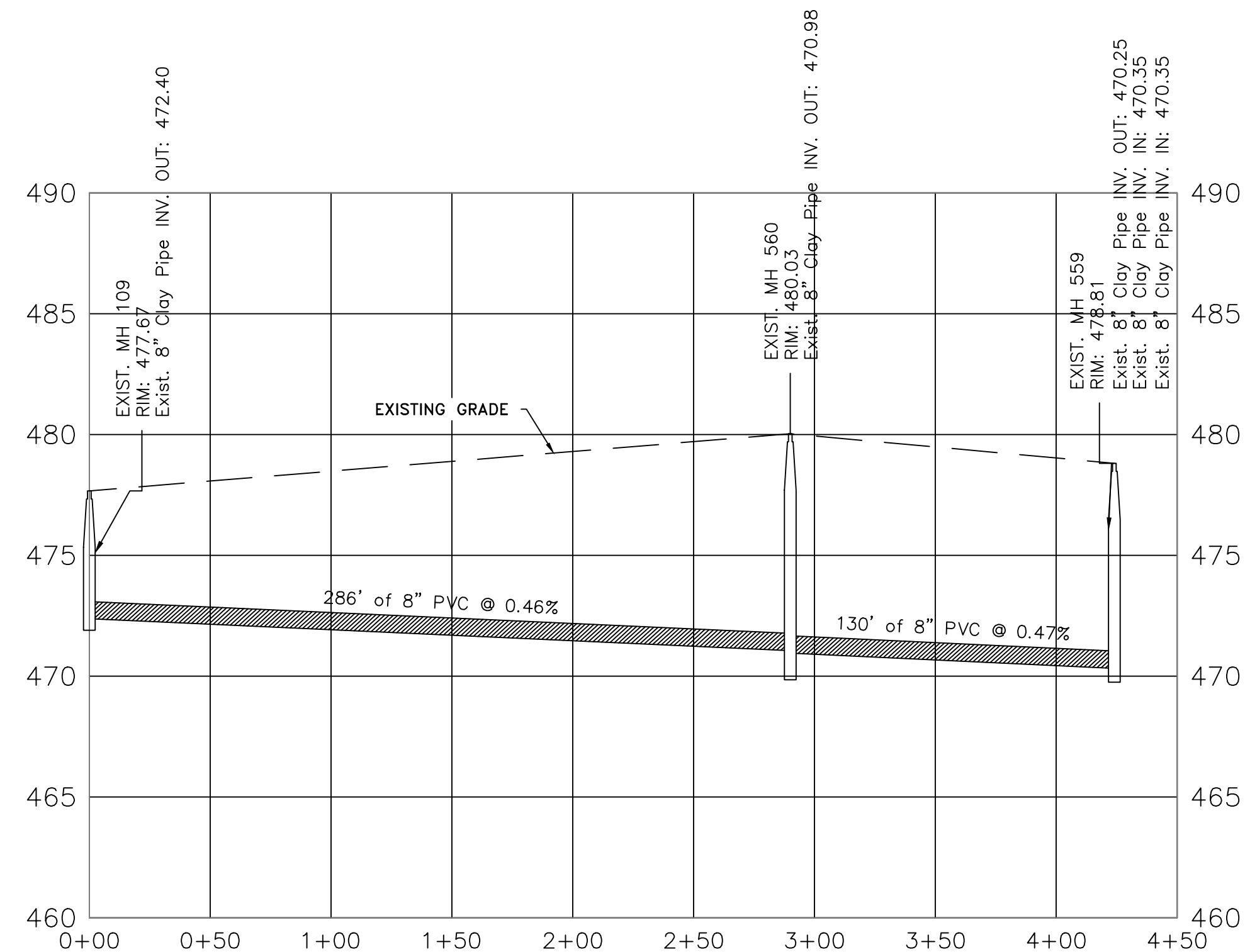
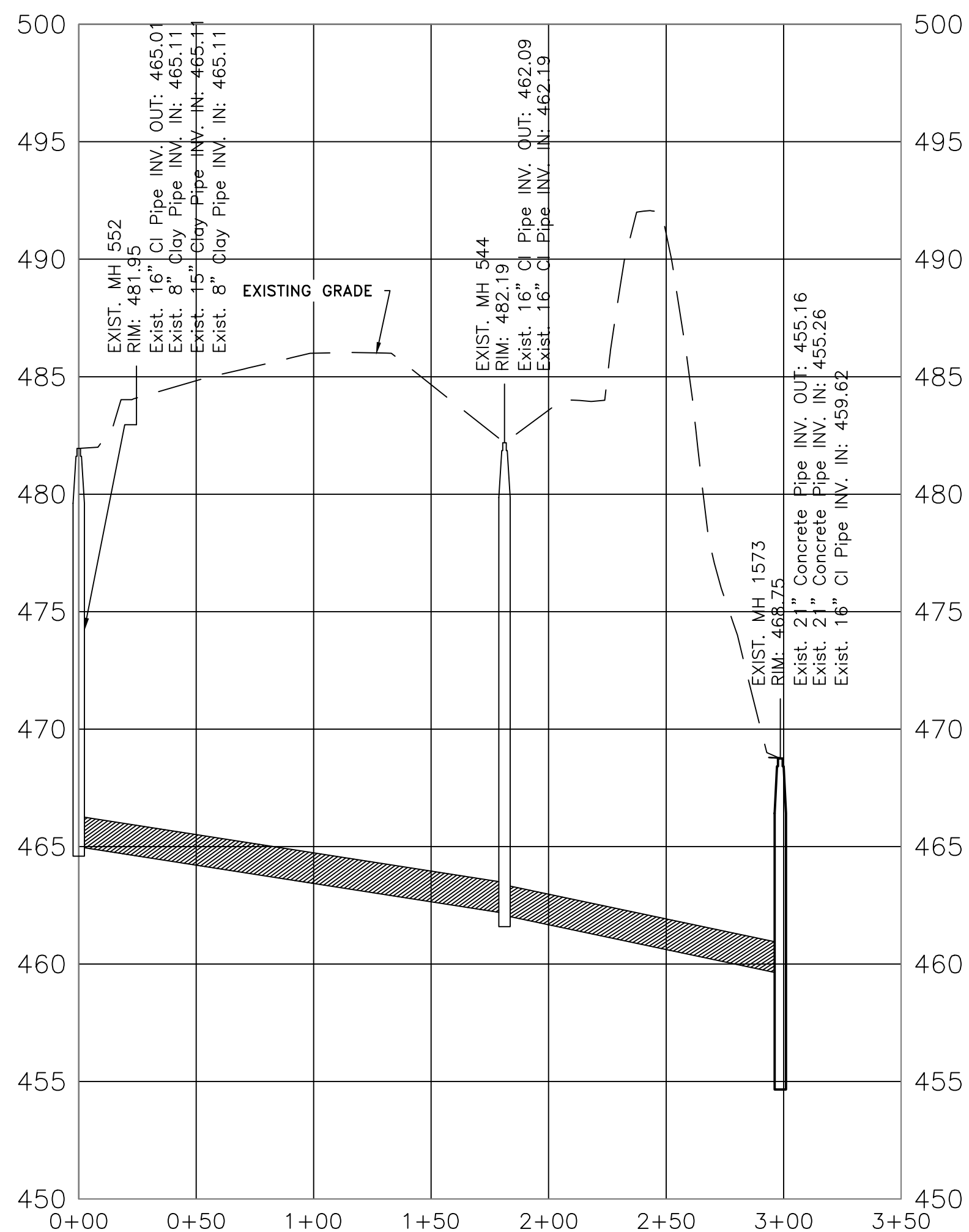
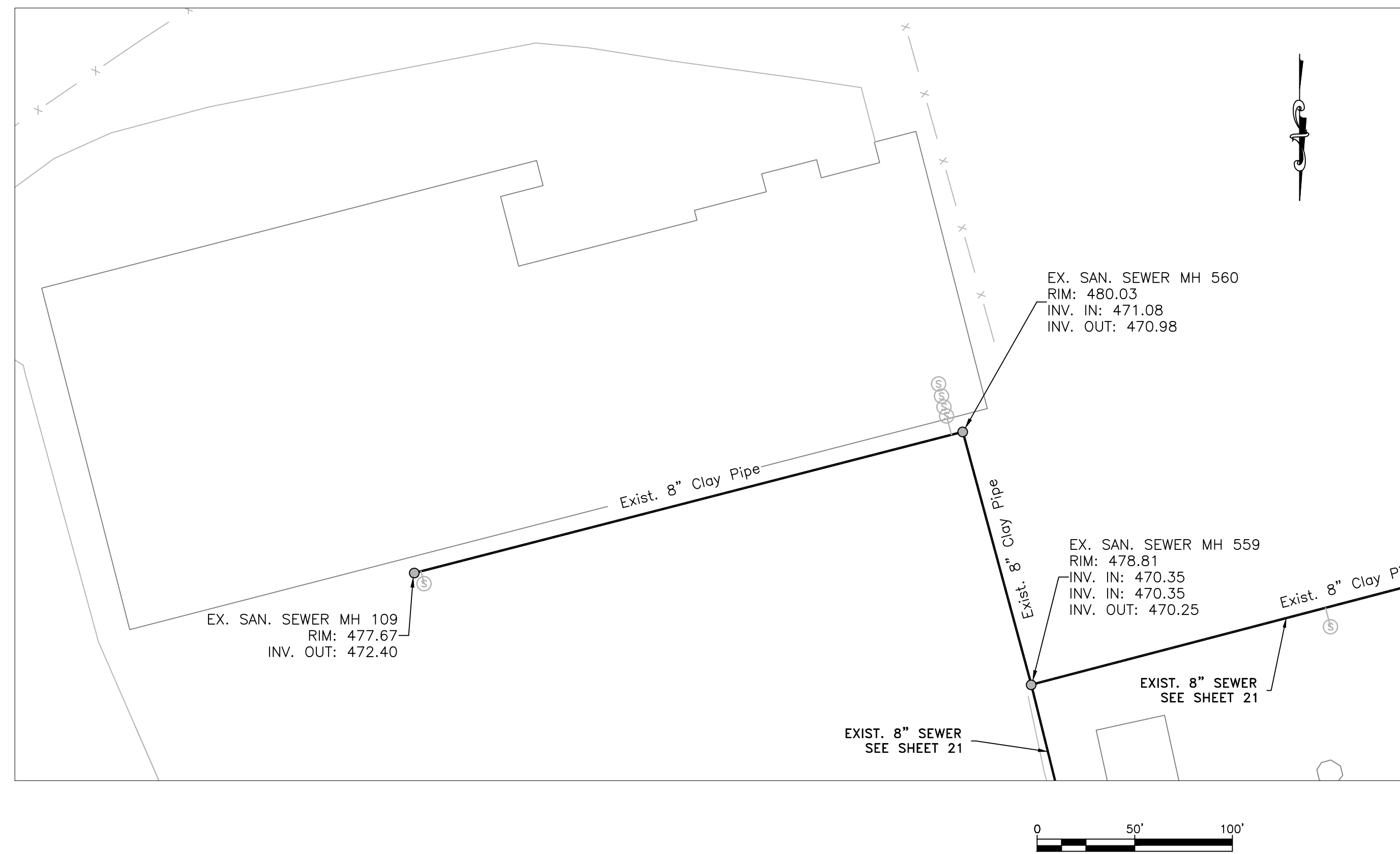
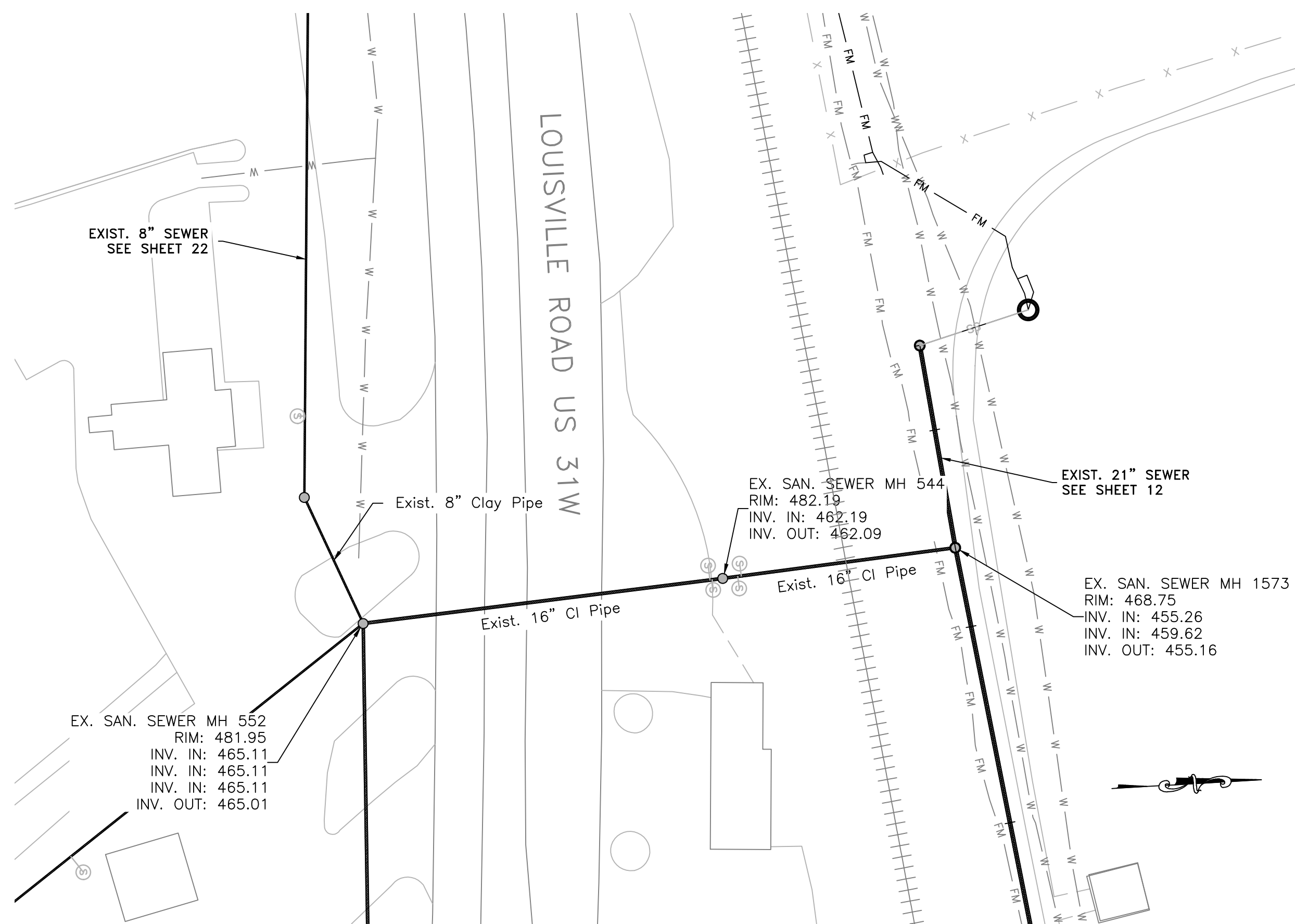
REVISIONS:

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SHEET:

NOTE:
ALL GRAVITY SEWER LINES INDICATED ON
THIS SHEET WILL BE REHABILITATED BY
CURED-IN-PLACE PIPE.
SEE SPECIFICATIONS FOR DETAILS.

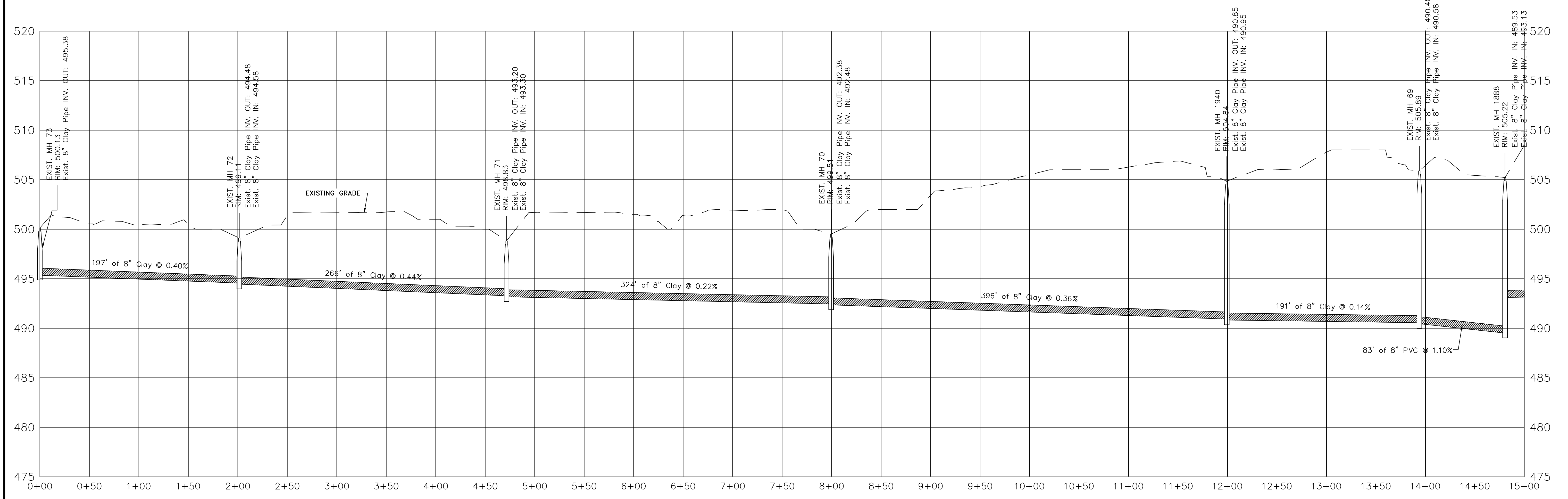
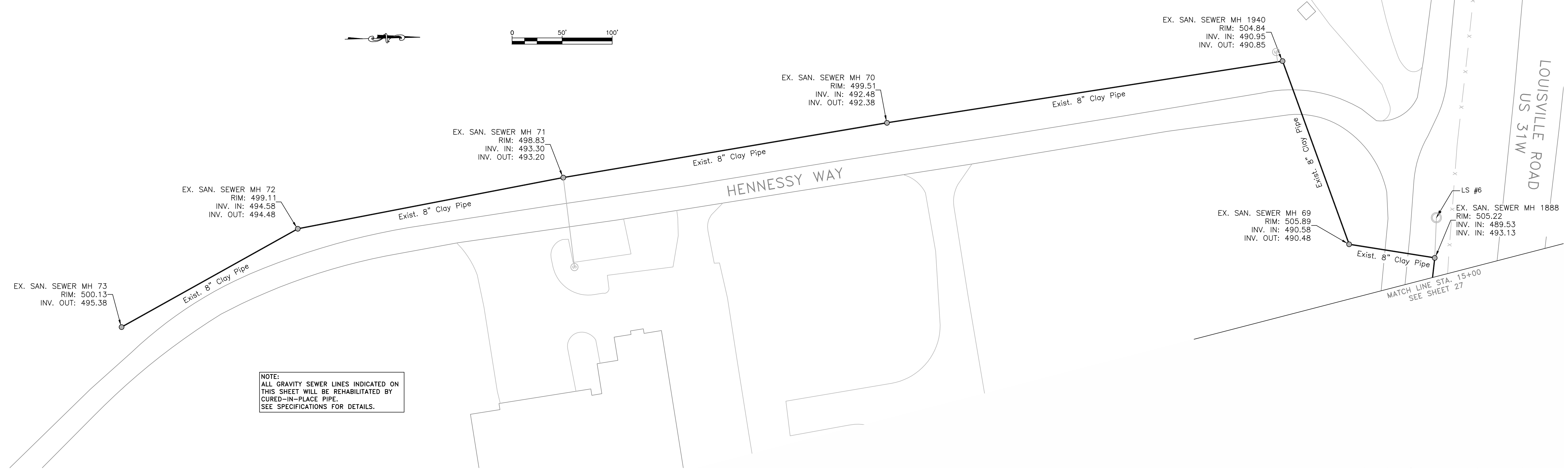
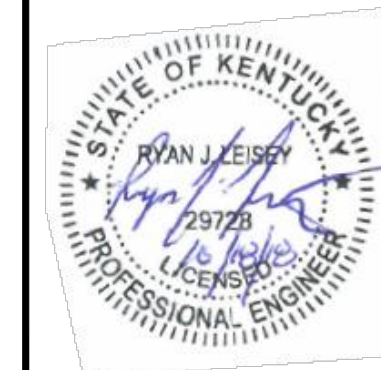




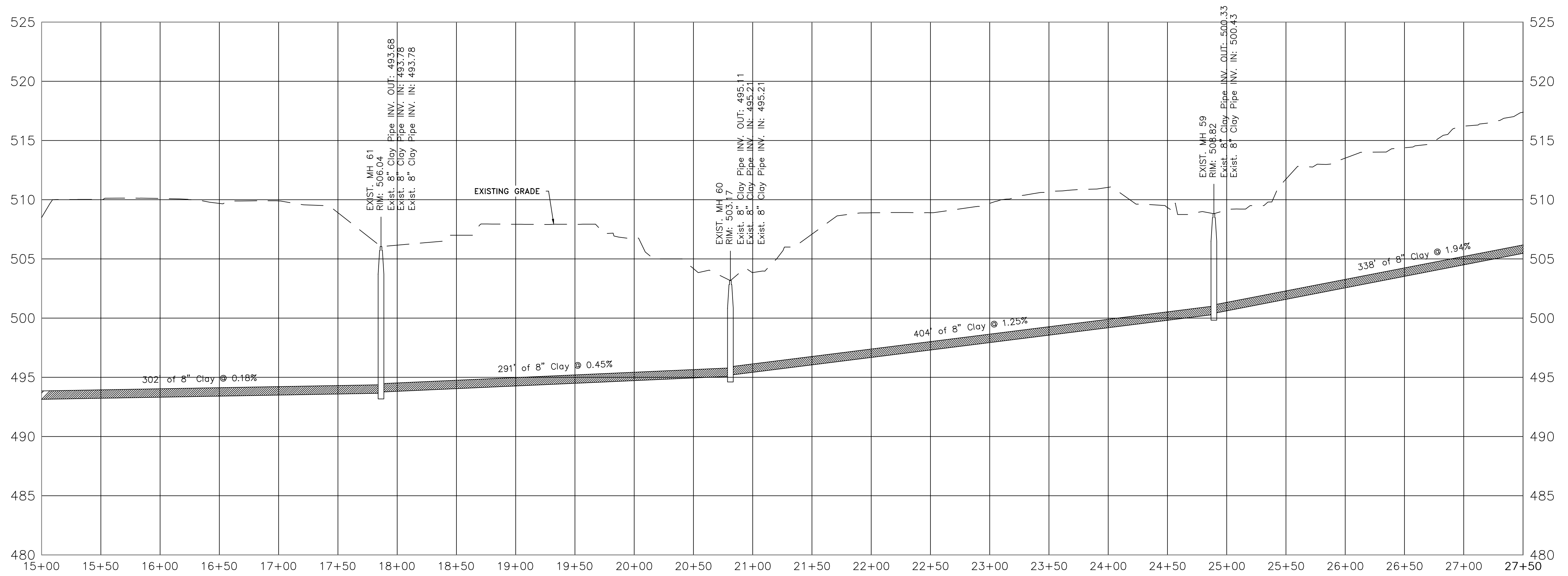
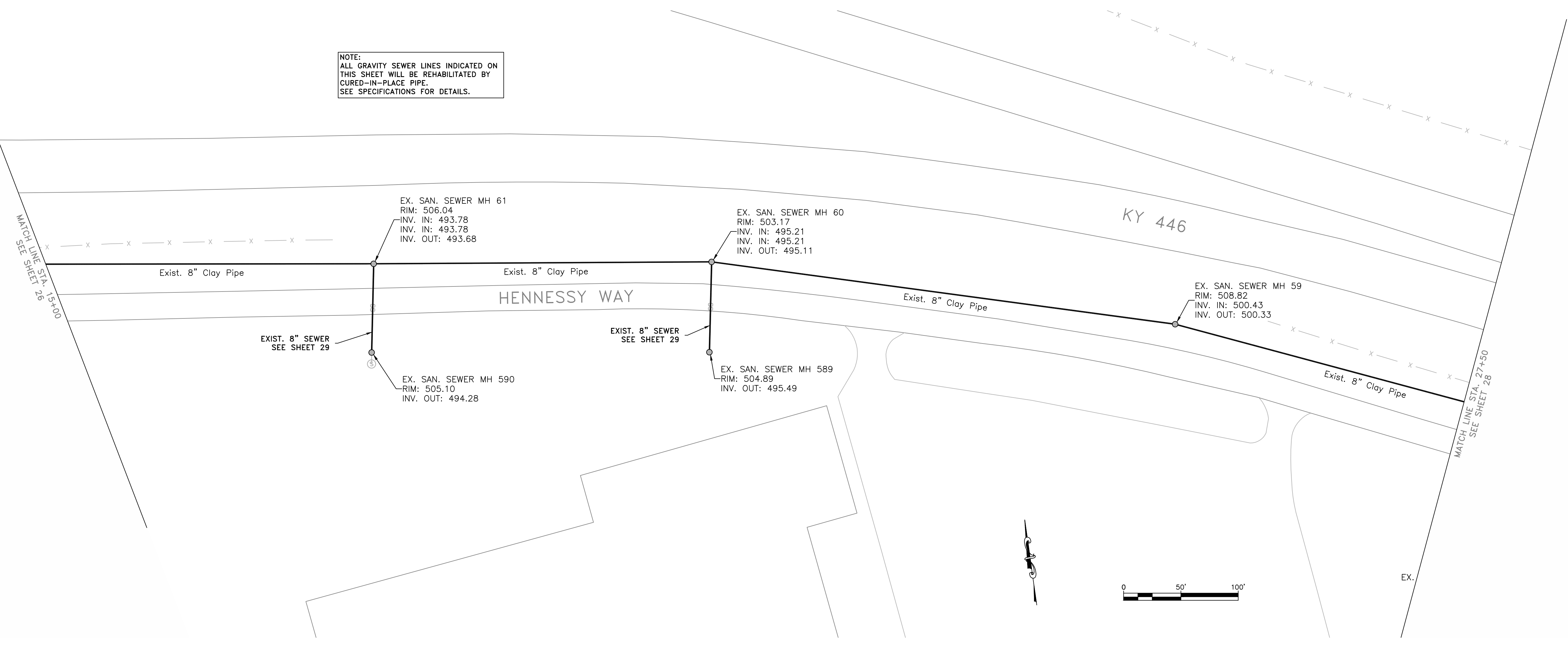
PLUM SPRINGS AREA SEWER REHABILITATION
PROJECT NUMBER 300873
SECTION 12 - STA. 0+00 TO 15+00

SCALE: NTS
DATE: 10/18/18
PROJECT #: 300873
DESIGNED: RJL
DRAWN: KDH
CHECKED: JNL

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SCALE: NTS
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PROJECT #: 300873
DESIGNED: RJL
DRAWN: KDH
CHECKED: JNL

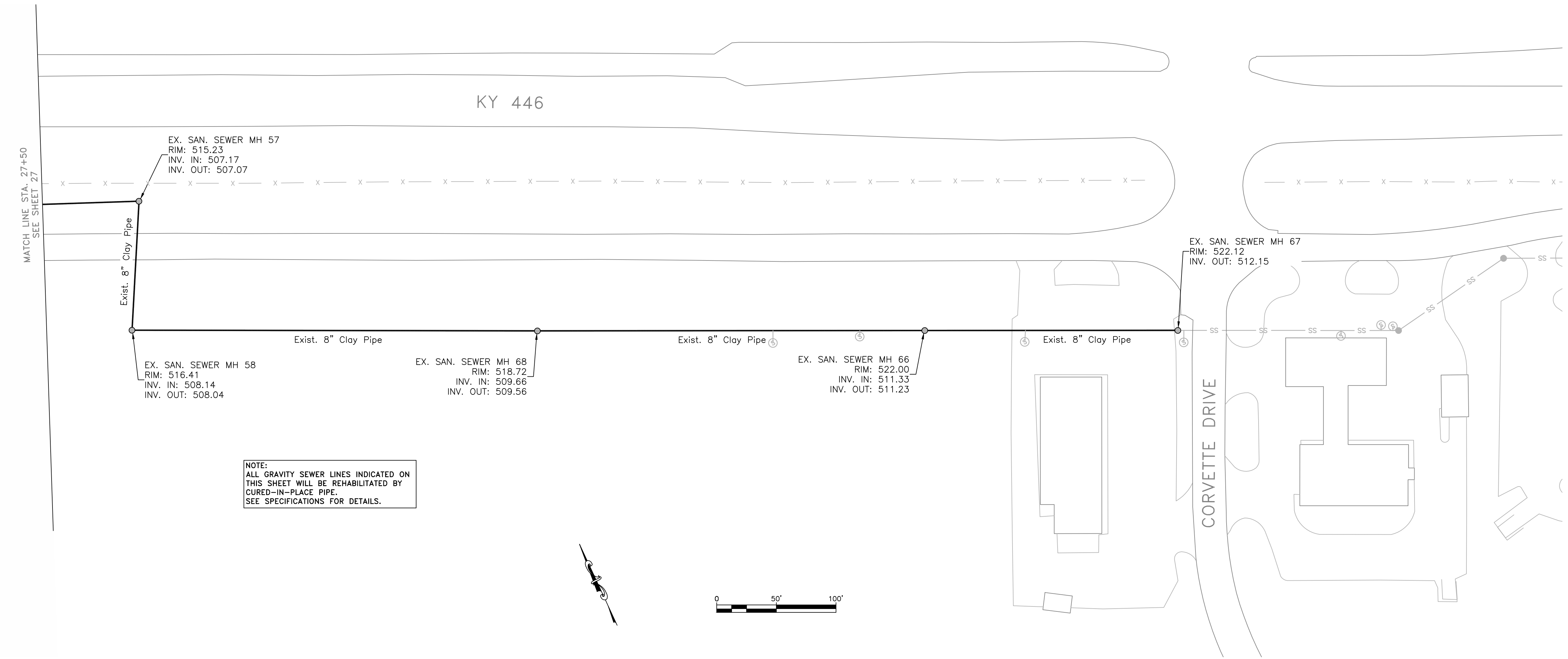
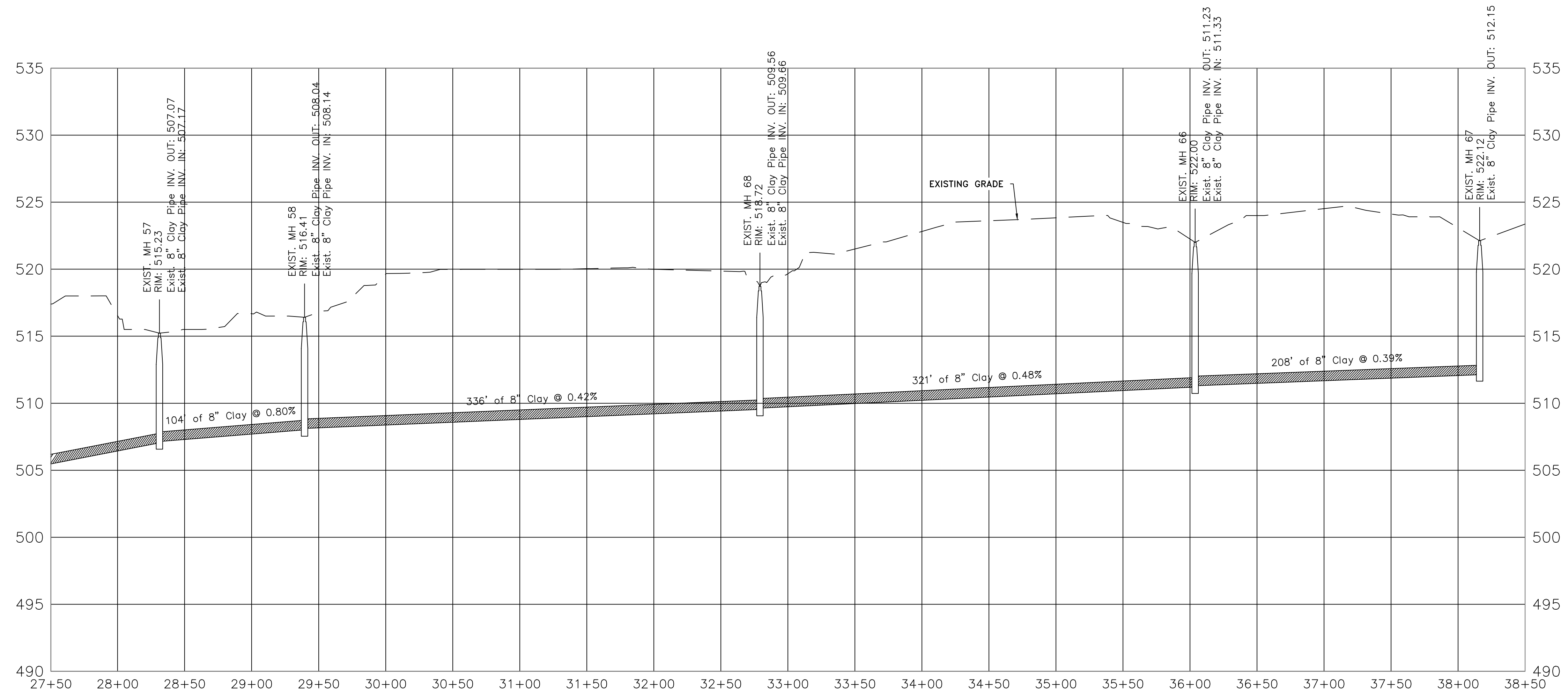
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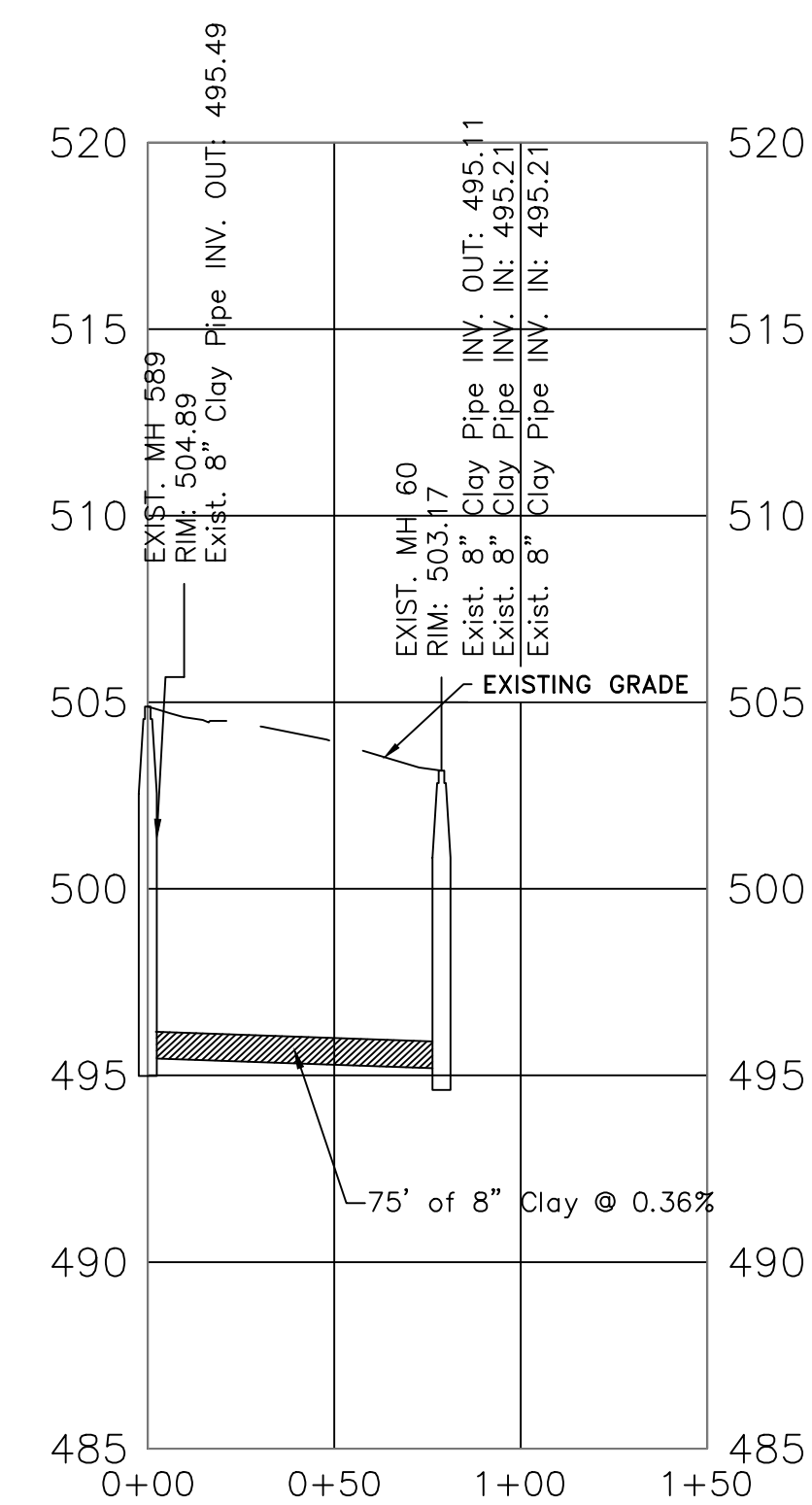
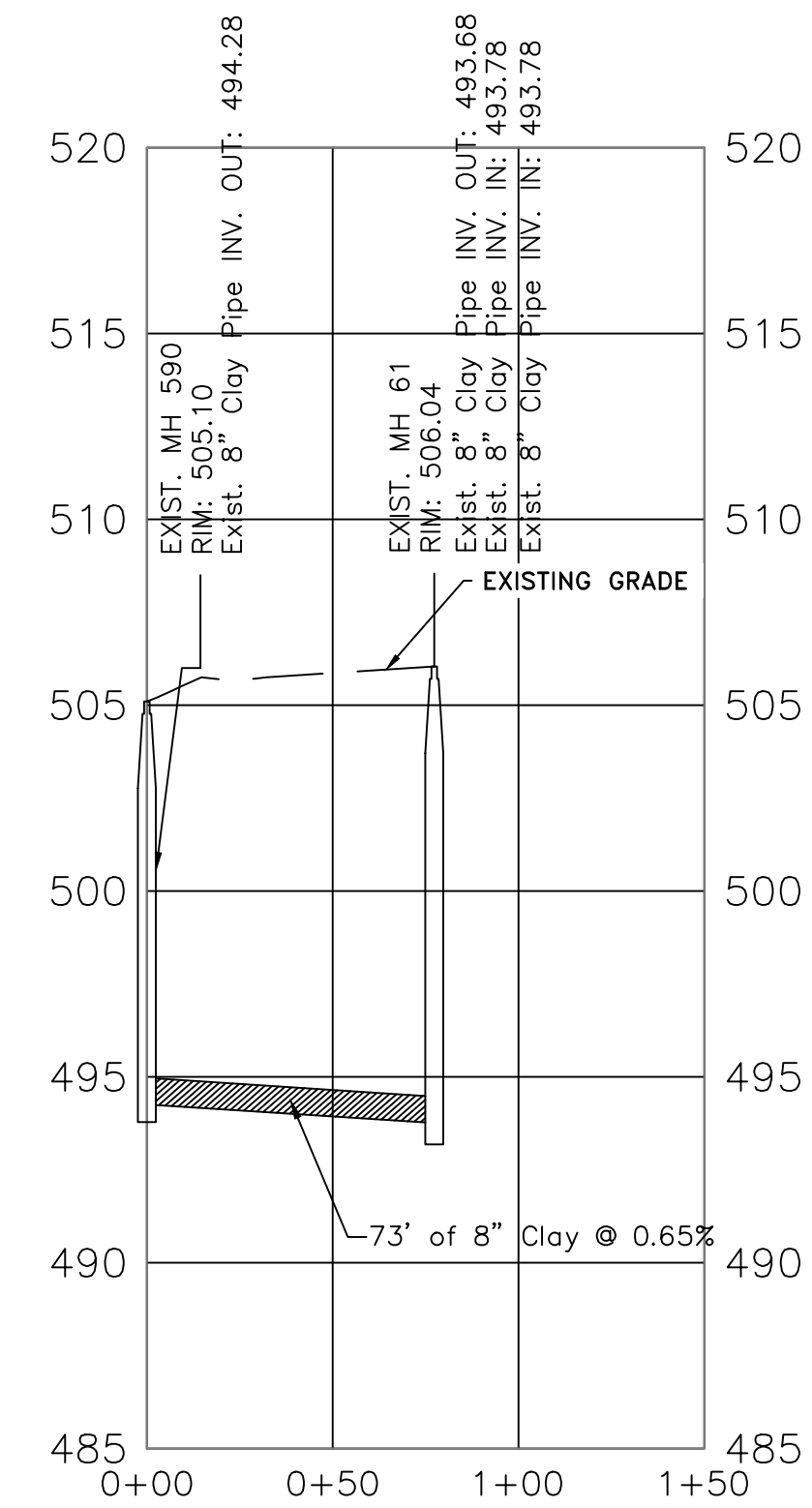
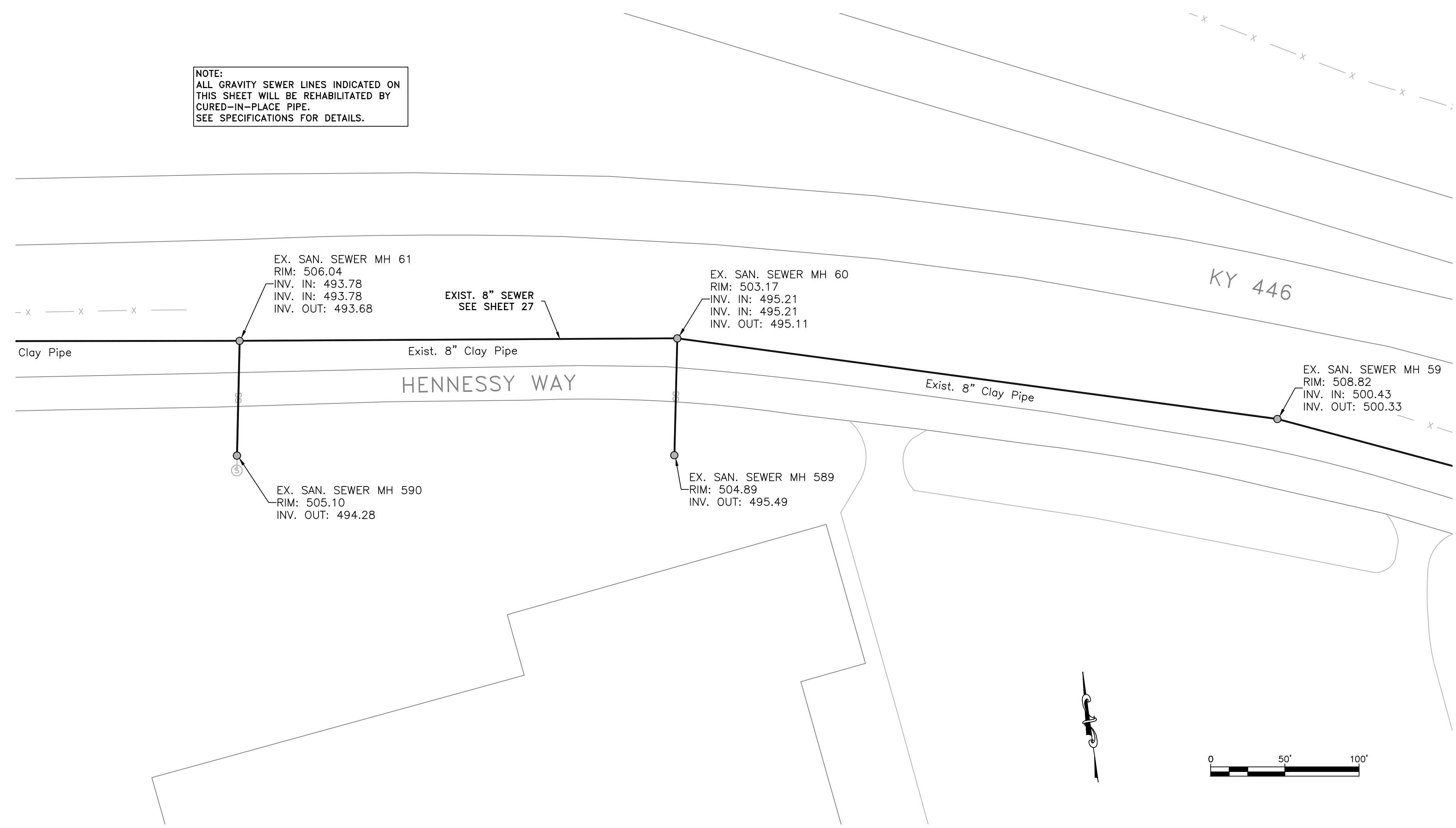


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SCALE: NTS

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| DATE: | 10/18/18 |
| PROJECT #: | 300873 |
| DESIGNED: | RJL |
| DRAWN: | KDH |
| CHECKED: | JNL |

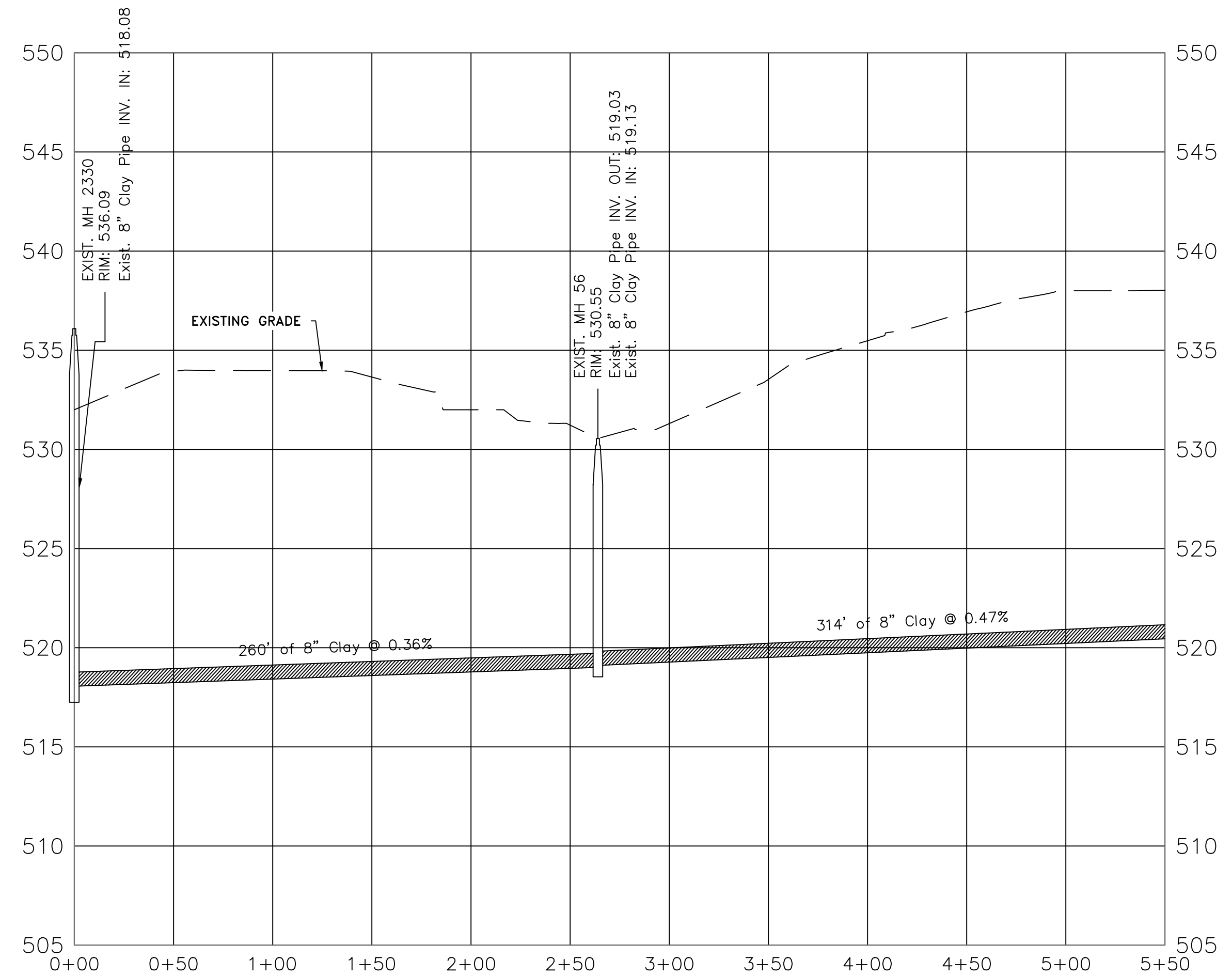
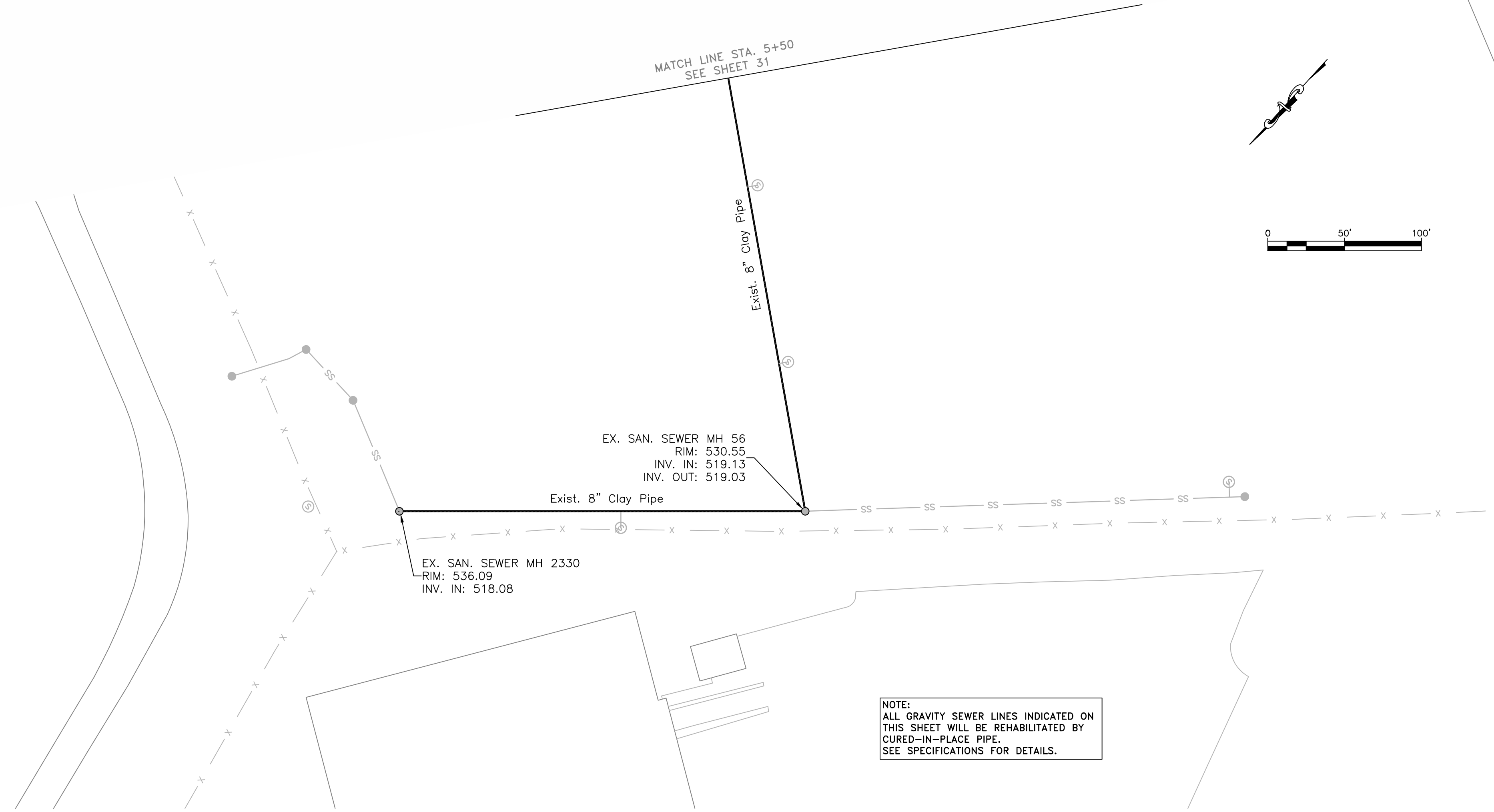
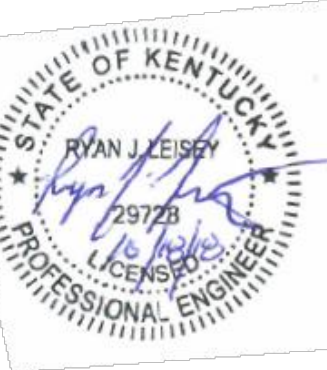
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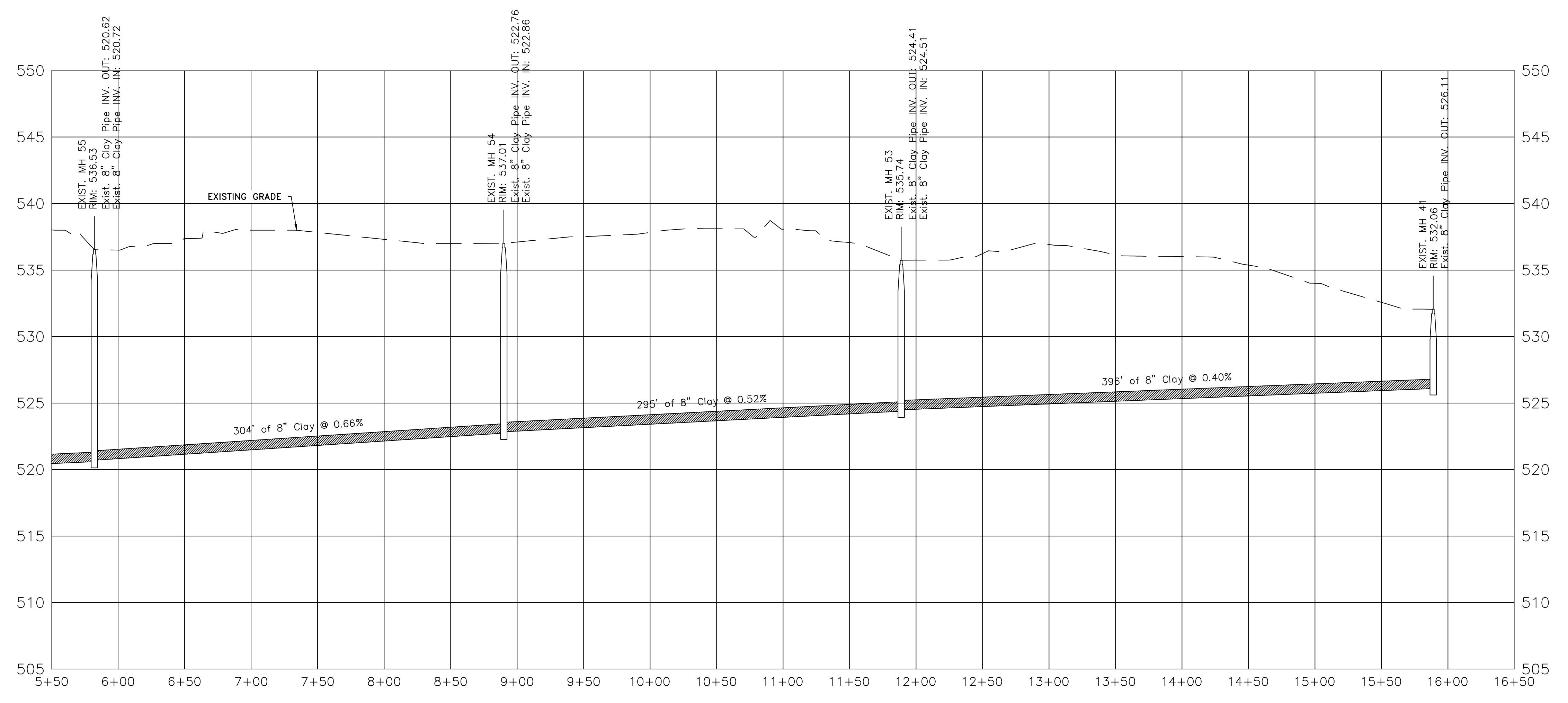
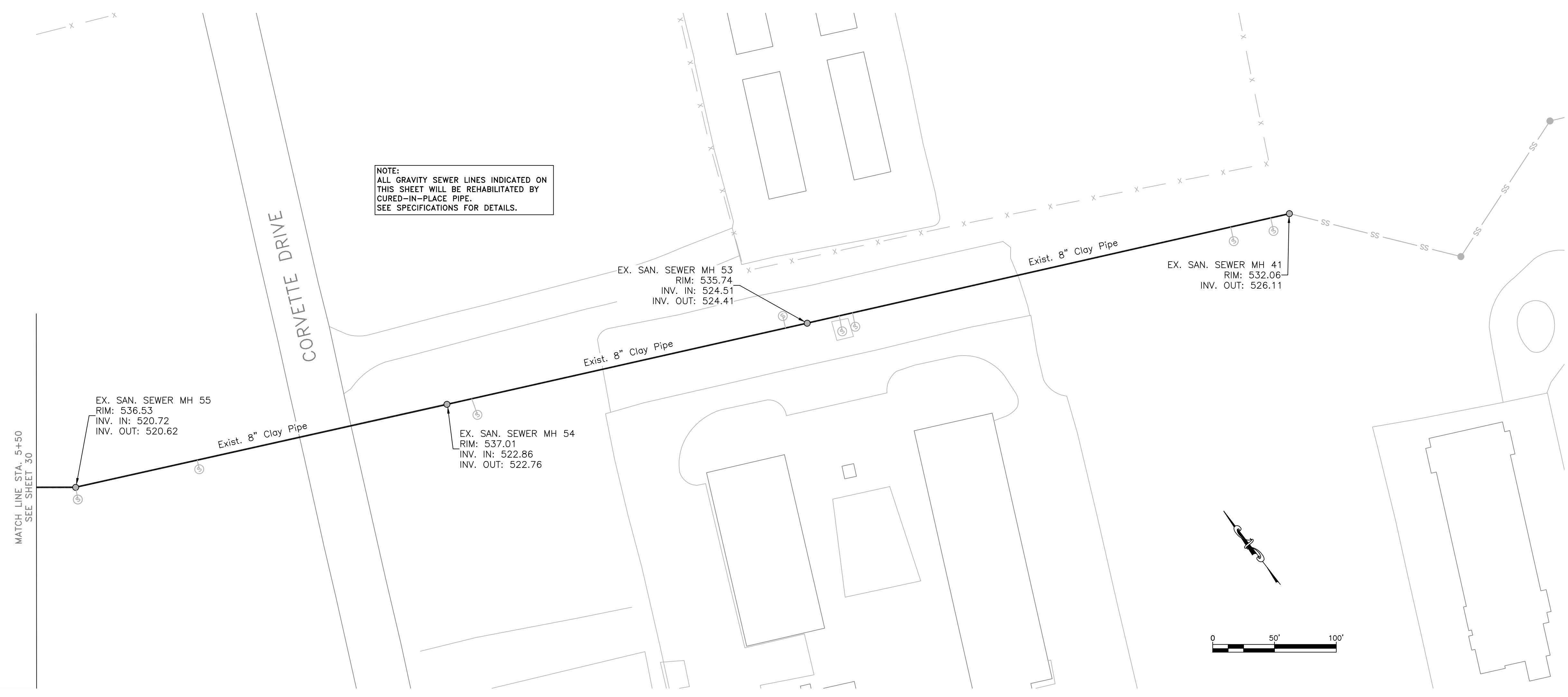


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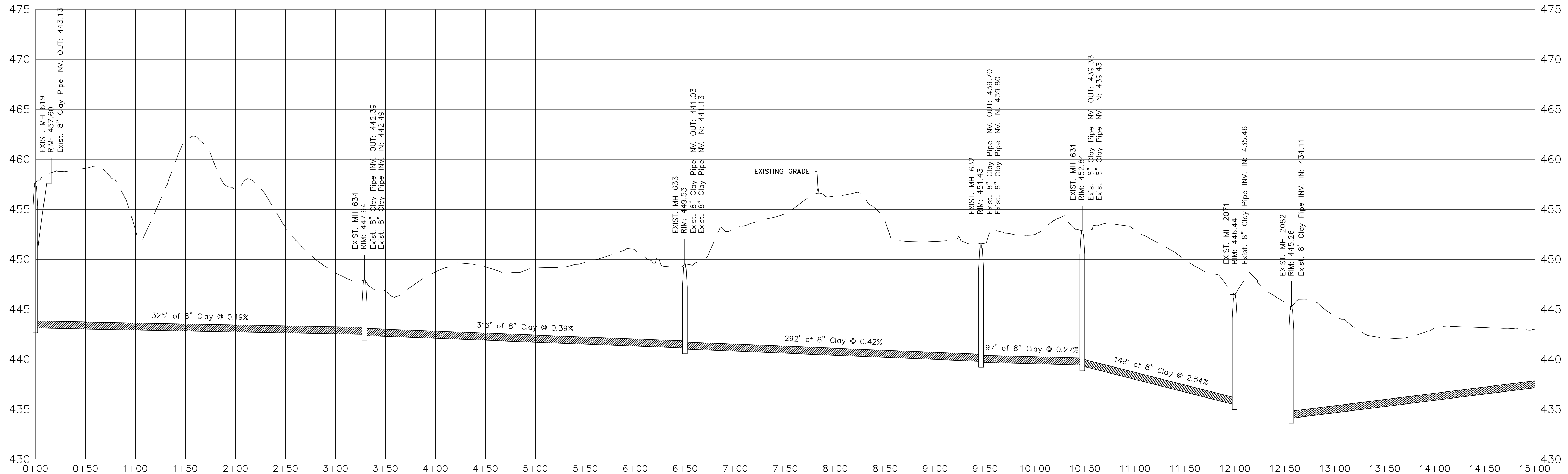
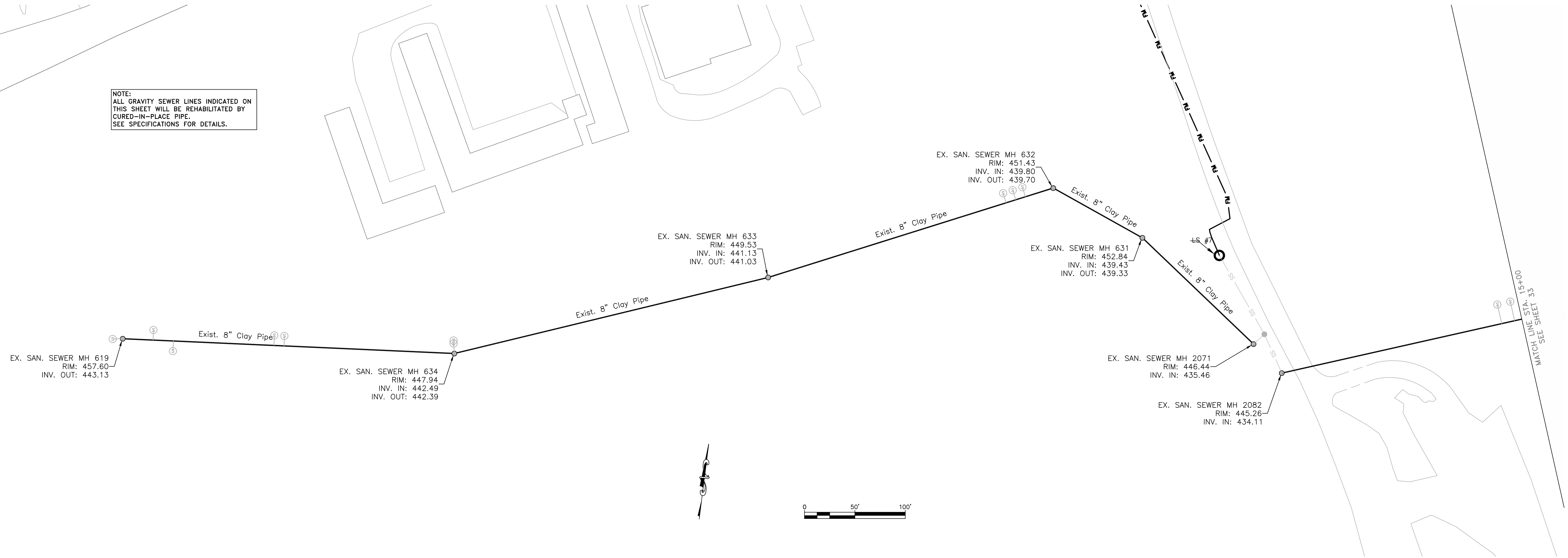
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| PROJECT #: 300873 | |
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| DRAWN: KDH | |
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NOTE:
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SCALE: NTS
DATE: 10/18/18
PROJECT #: 300873
DESIGNED: R/JL
DRAWN: KDH
CHECKED: JNL

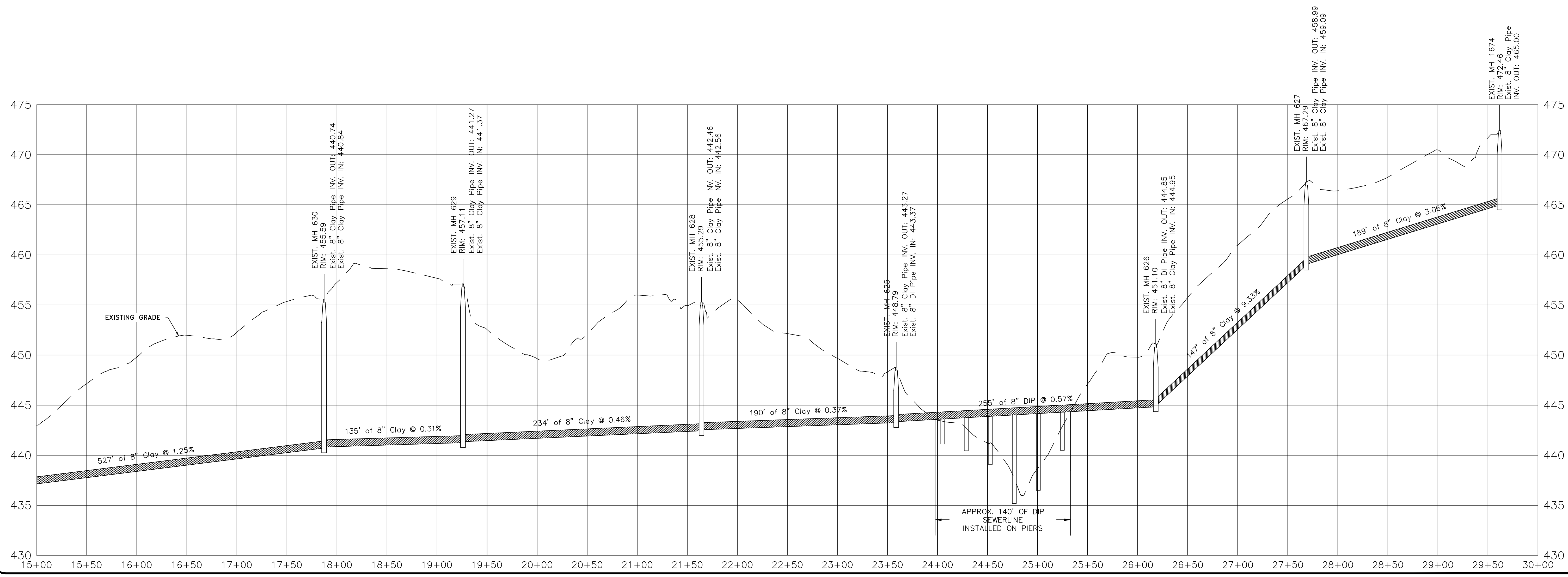
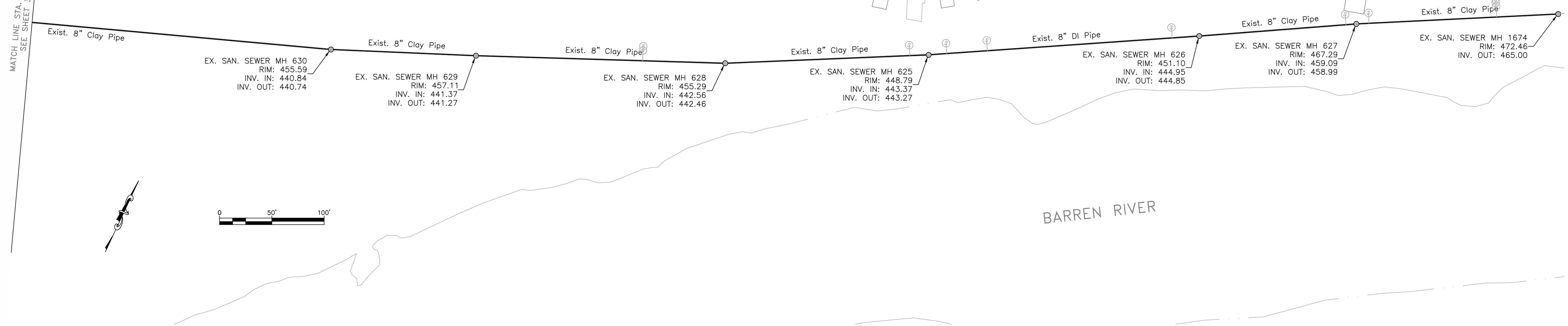
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MATCH LINE STA. 15+00
SEE SHEET 32

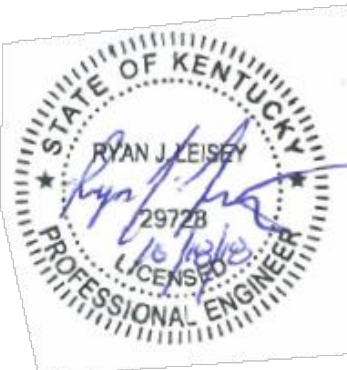
NOTE:
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THIS SHEET WILL BE REHABILITATED BY
CURED-IN-PLACE PIPE.
SEE SPECIFICATIONS FOR DETAILS.

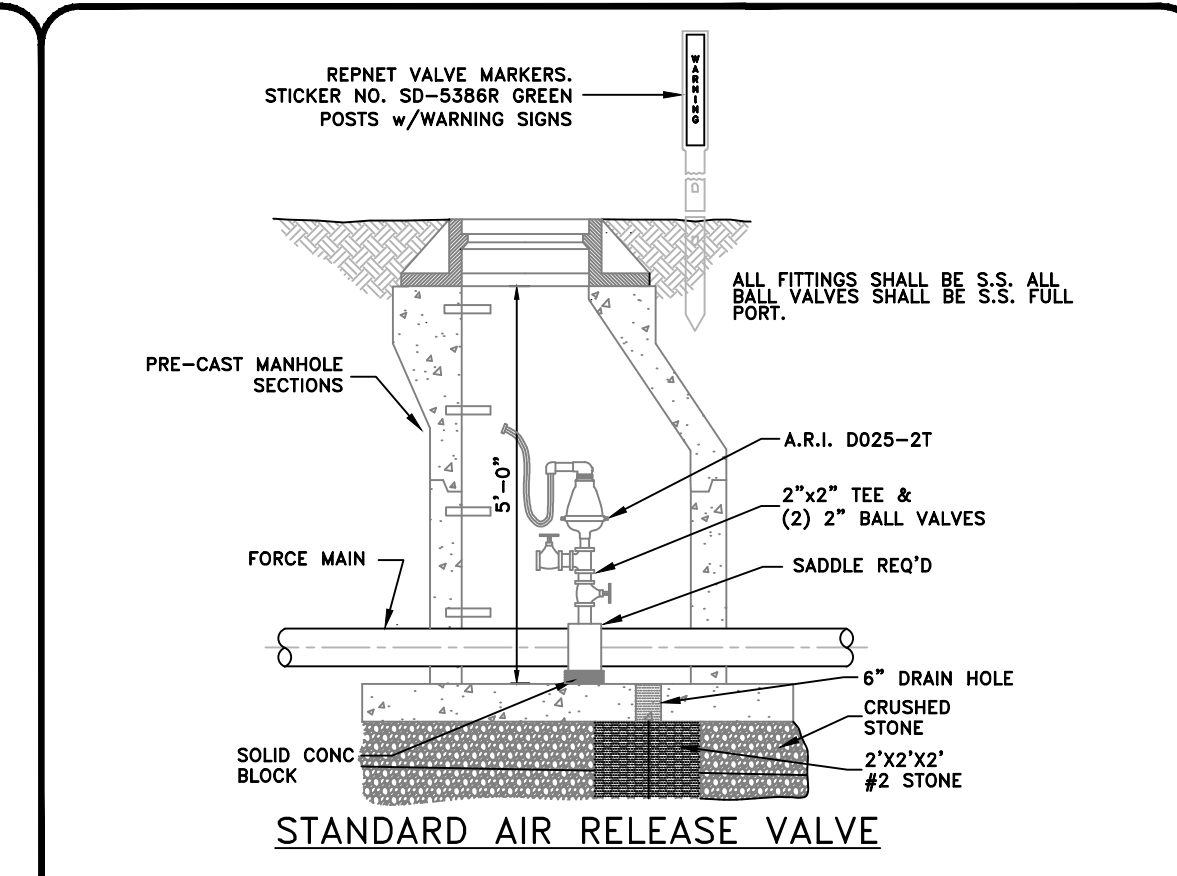
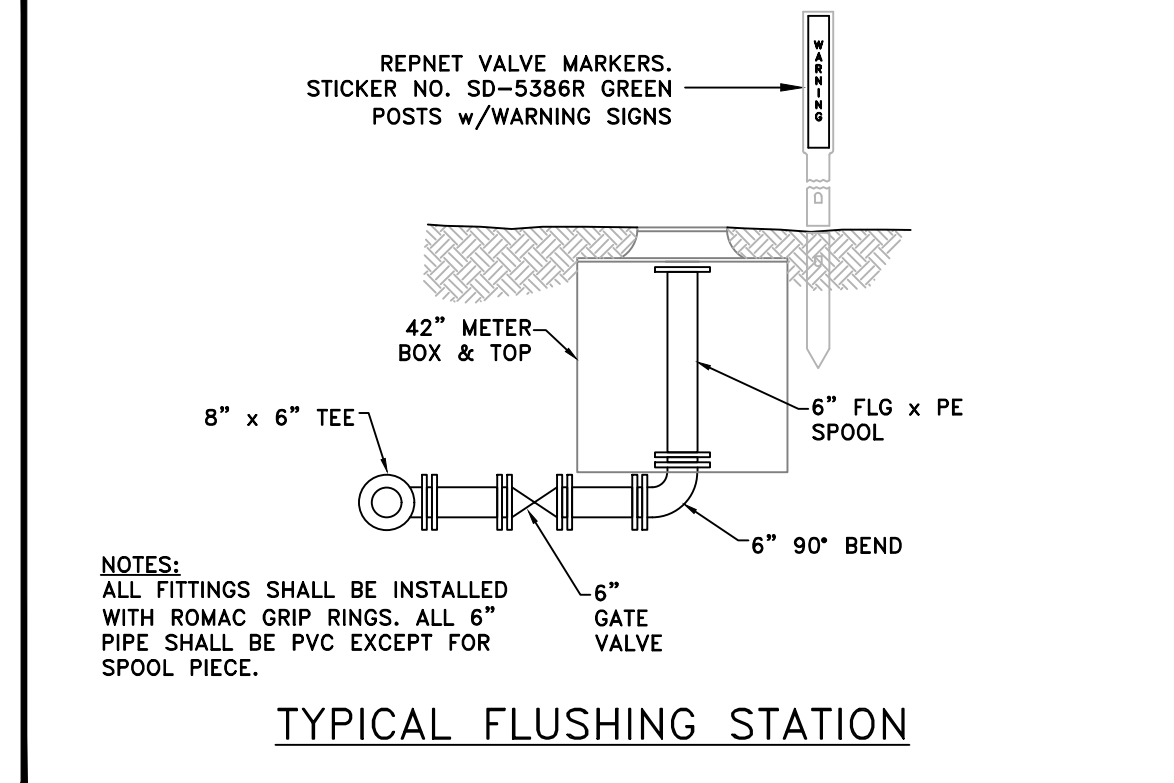
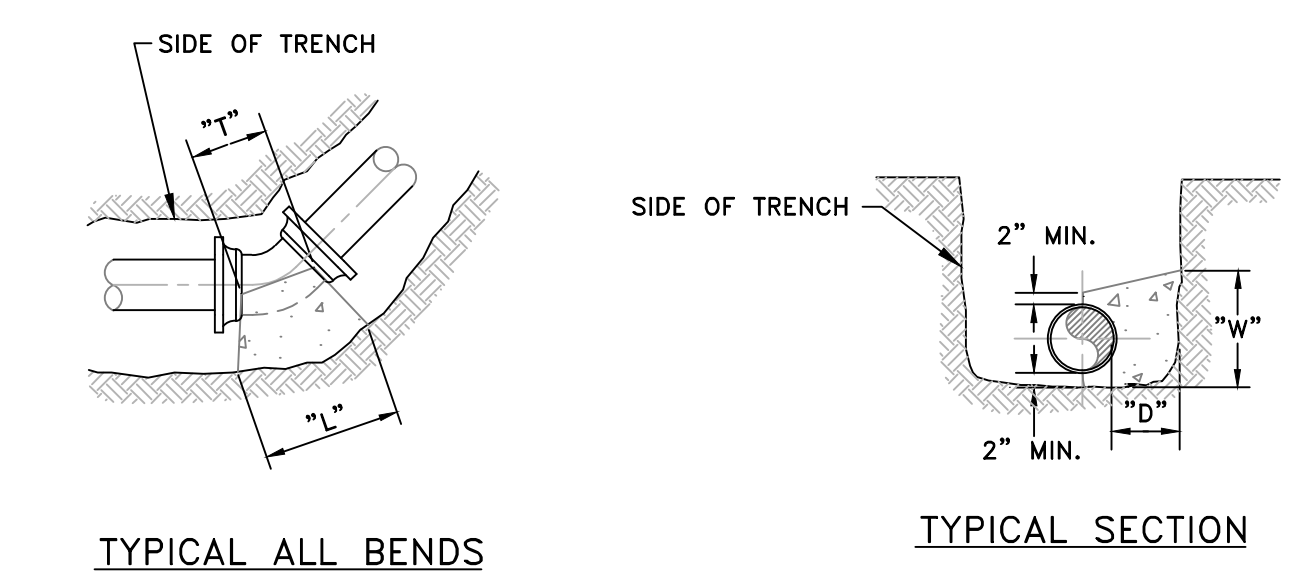
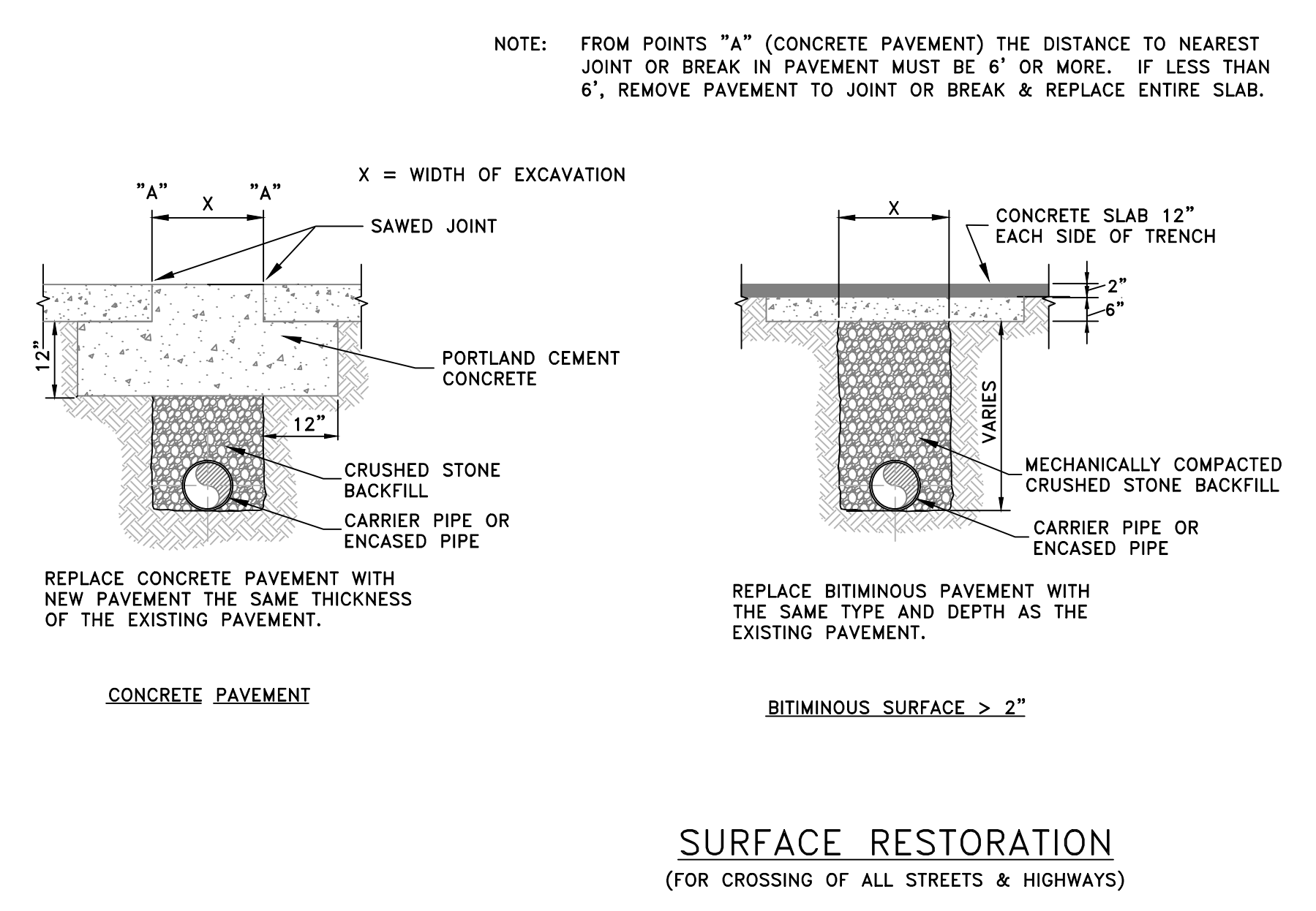
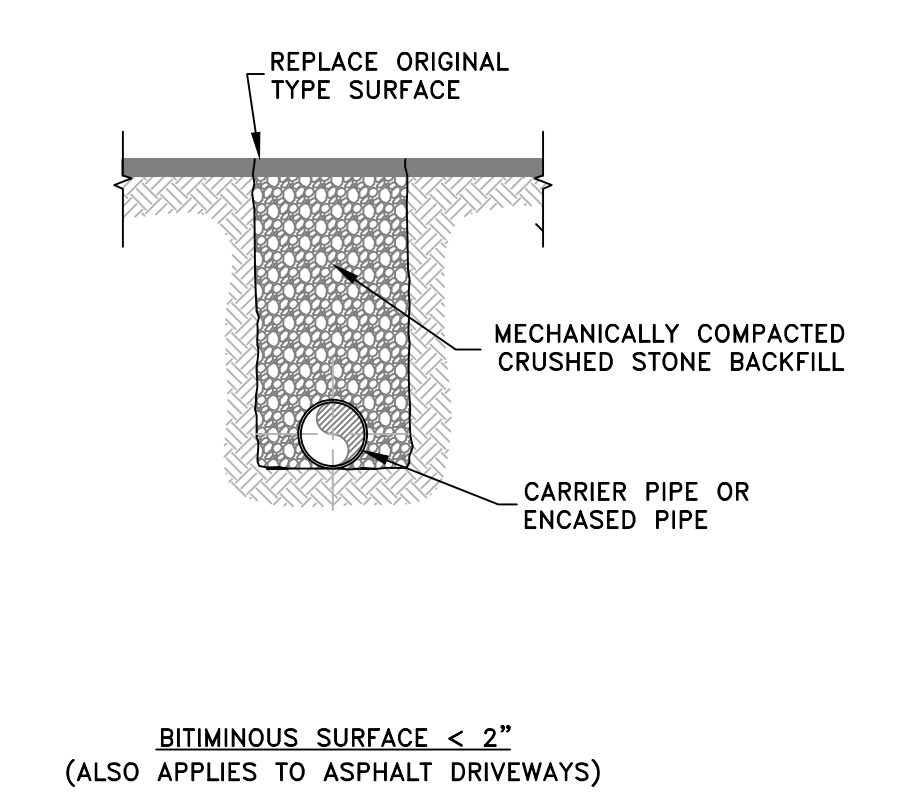
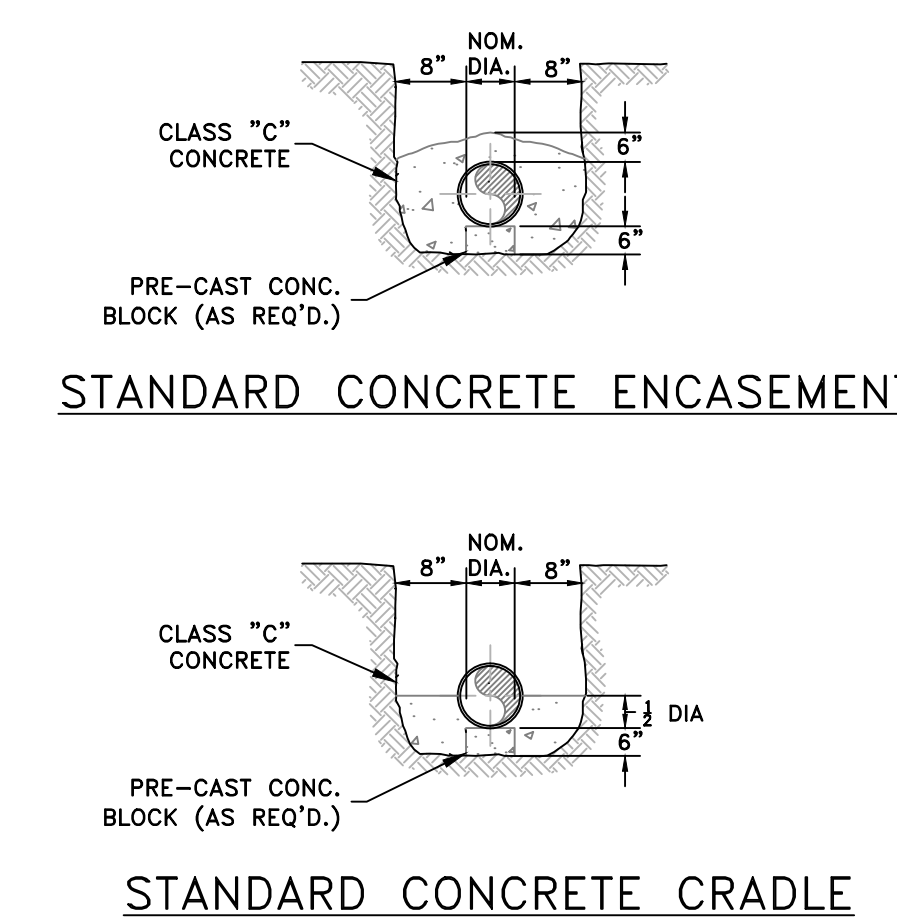


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90° BENDS

| SIZE | 2" | 4" | 6" | 8" | 12" | 16" | 20" | 24" | 30" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D | 6" | 8" | 8" | 10" | 14" | 22" | 24" | 30" | 30" |
| L | 16" | 20" | 24" | 30" | 34" | 68" | 80" | 96" | 120" |
| W | 8" | 10" | 12" | 18" | 24" | 34" | 40" | 48" | 60" |
| T | 10" | 12" | 16" | 20" | 22" | 38" | 40" | 44" | 52" |

45° BENDS

| SIZE | 2" | 4" | 6" | 8" | 12" | 16" | 20" | 24" | 30" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| D | 6" | 6" | 8" | 10" | 12" | 22" | 24" | 30" | 30" |
| L | 14" | 18" | 18" | 22" | 24" | 51" | 60" | 72" | 90" |
| W | 8" | 10" | 12" | 16" | 18" | 25" | 29" | 36" | 44" |
| T | 10" | 12" | 16" | 18" | 18" | 38" | 40" | 44" | 52" |

22 1/2" & 11 1/4" BENDS

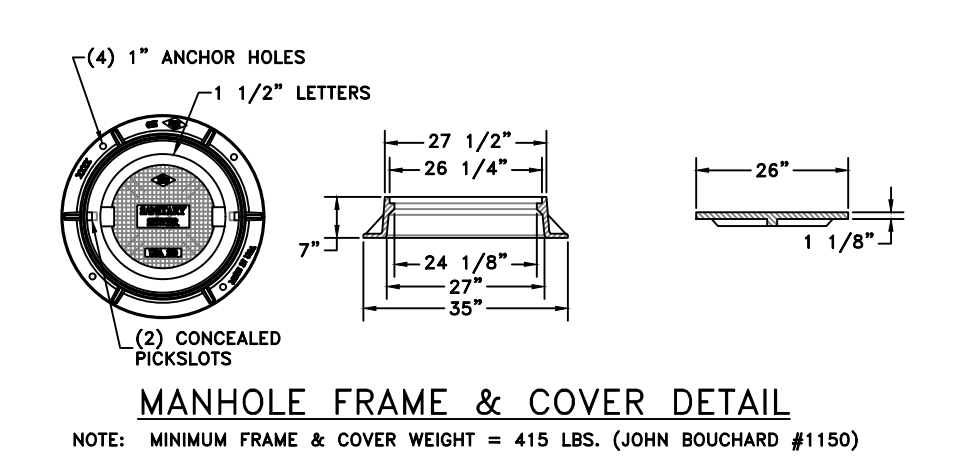
| SIZE | 2" | 4" | 6" | 8" | 12" | 16" | 20" | 24" | 30" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| D | 6" | 10" | 14" | 18" | 20" | 22" | 24" | 30" | 30" |
| L | 20" | 24" | 28" | 28" | 28" | 36" | 42" | 54" | 66" |
| W | 18" | 20" | 22" | 24" | 24" | 18" | 21" | 24" | 31" |
| T | 12" | 14" | 16" | 18" | 18" | 38" | 40" | 44" | 52" |

TEES & PLUGS

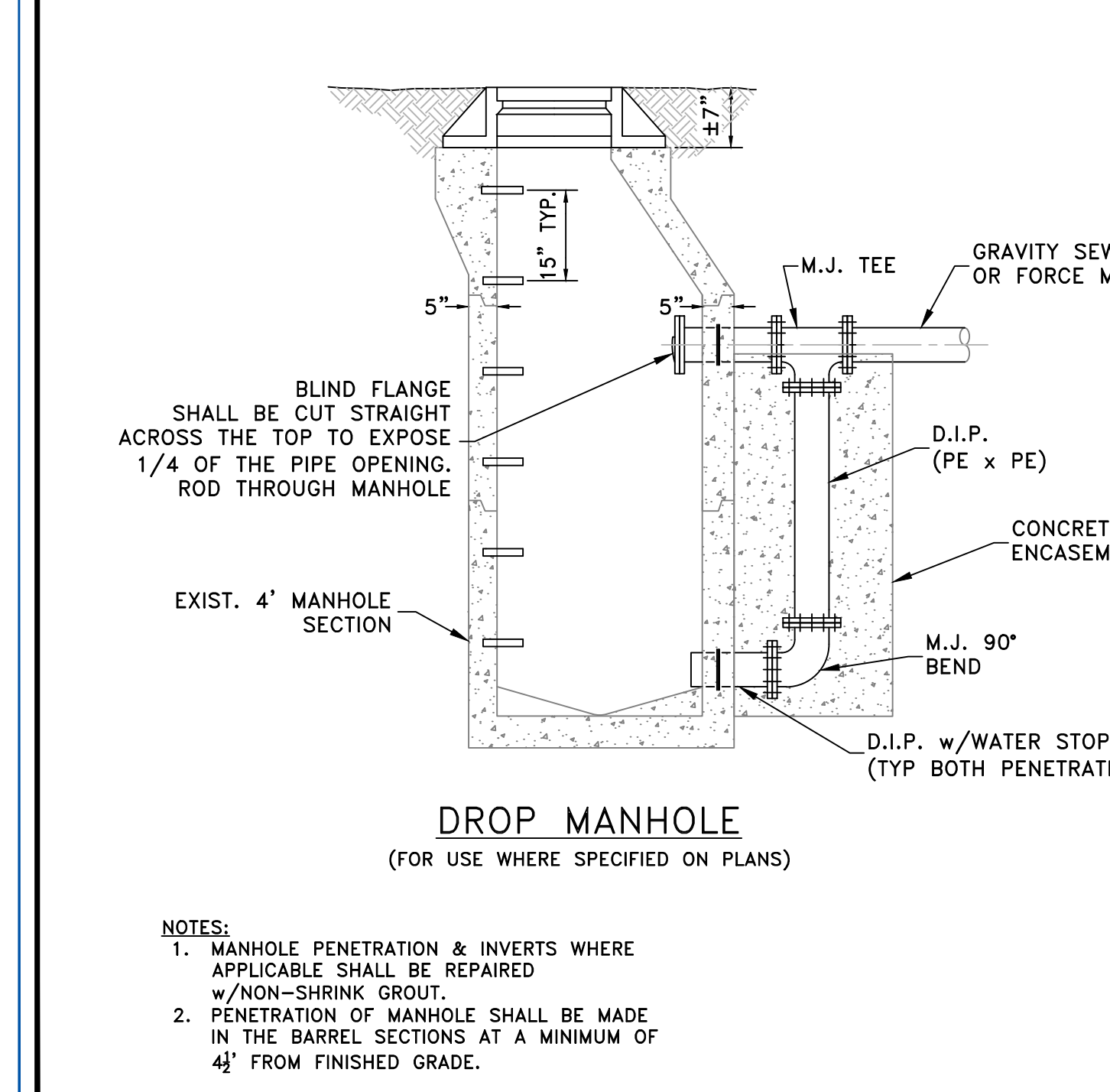
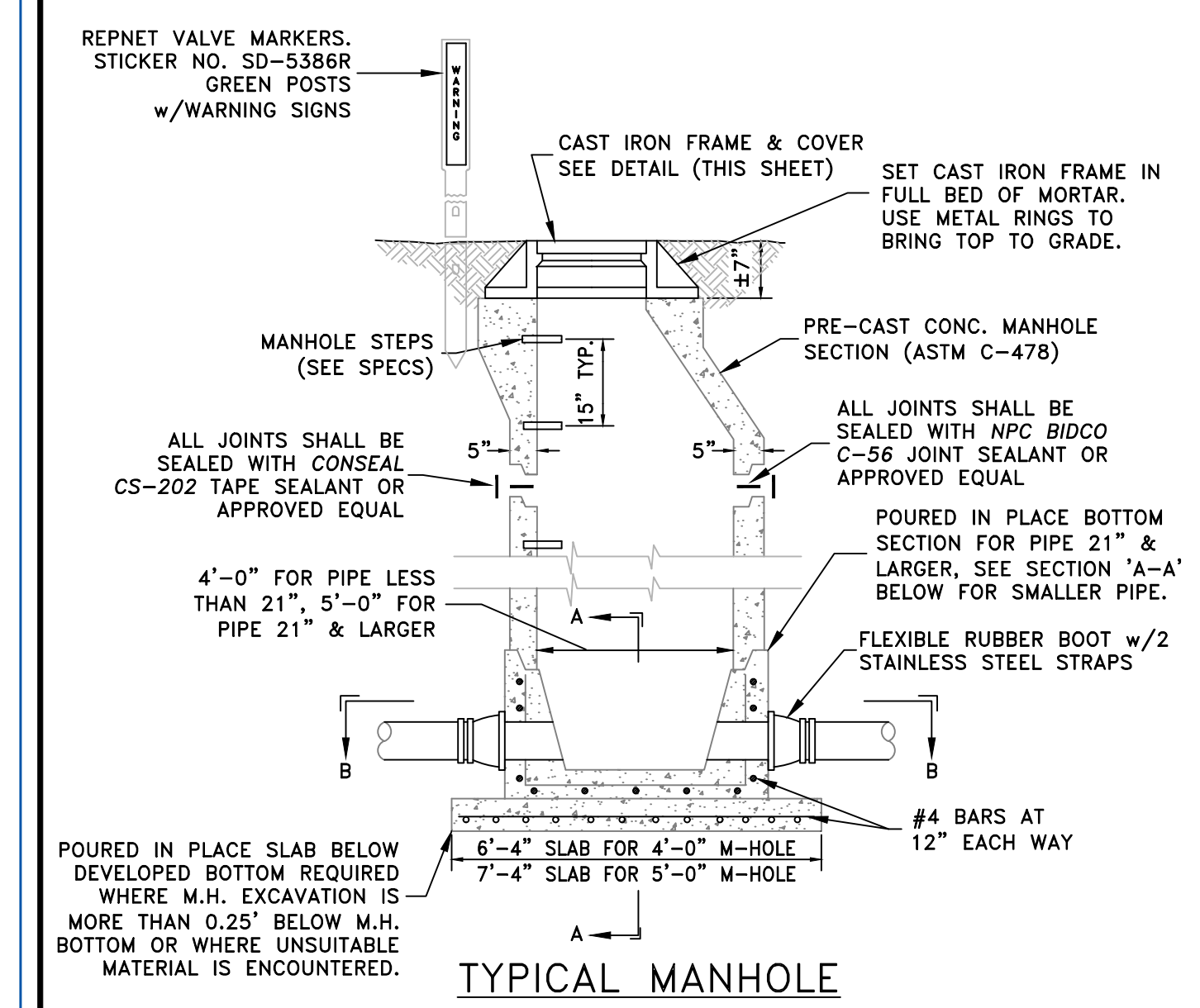
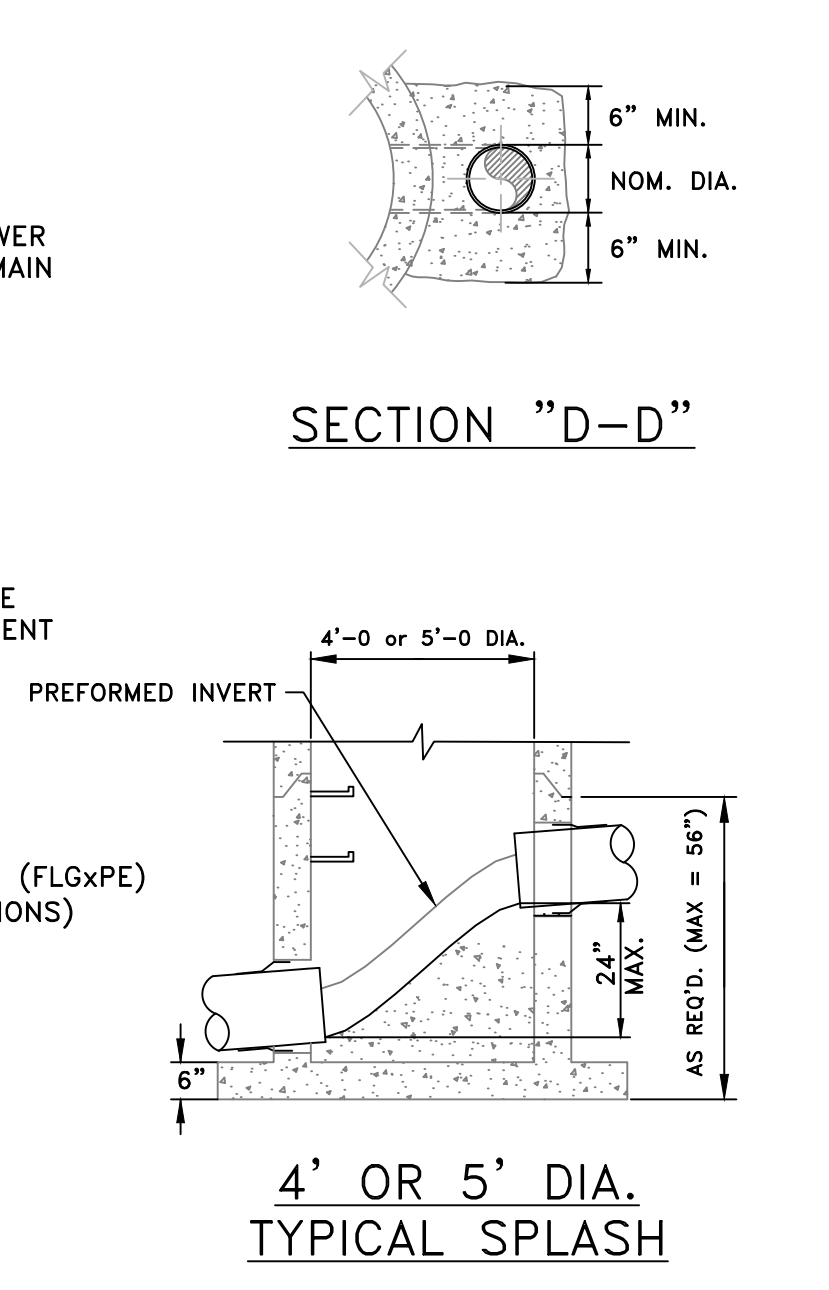
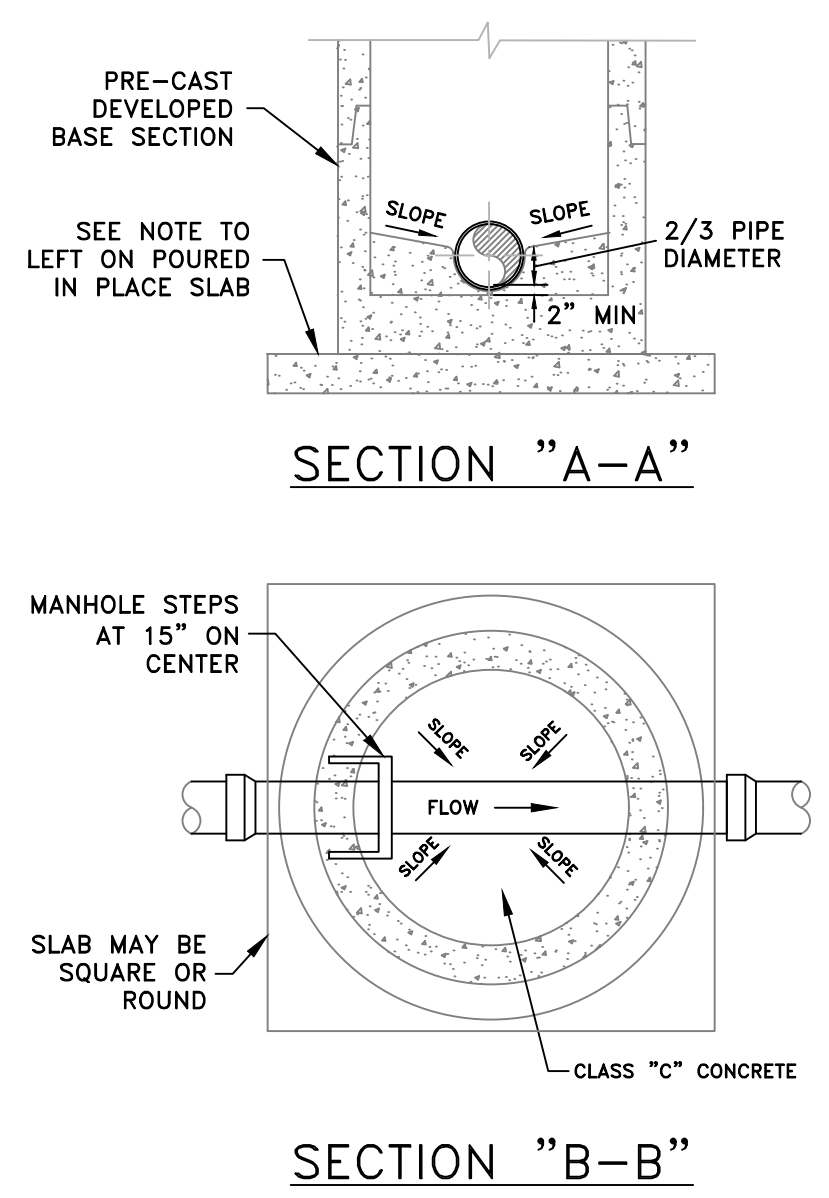
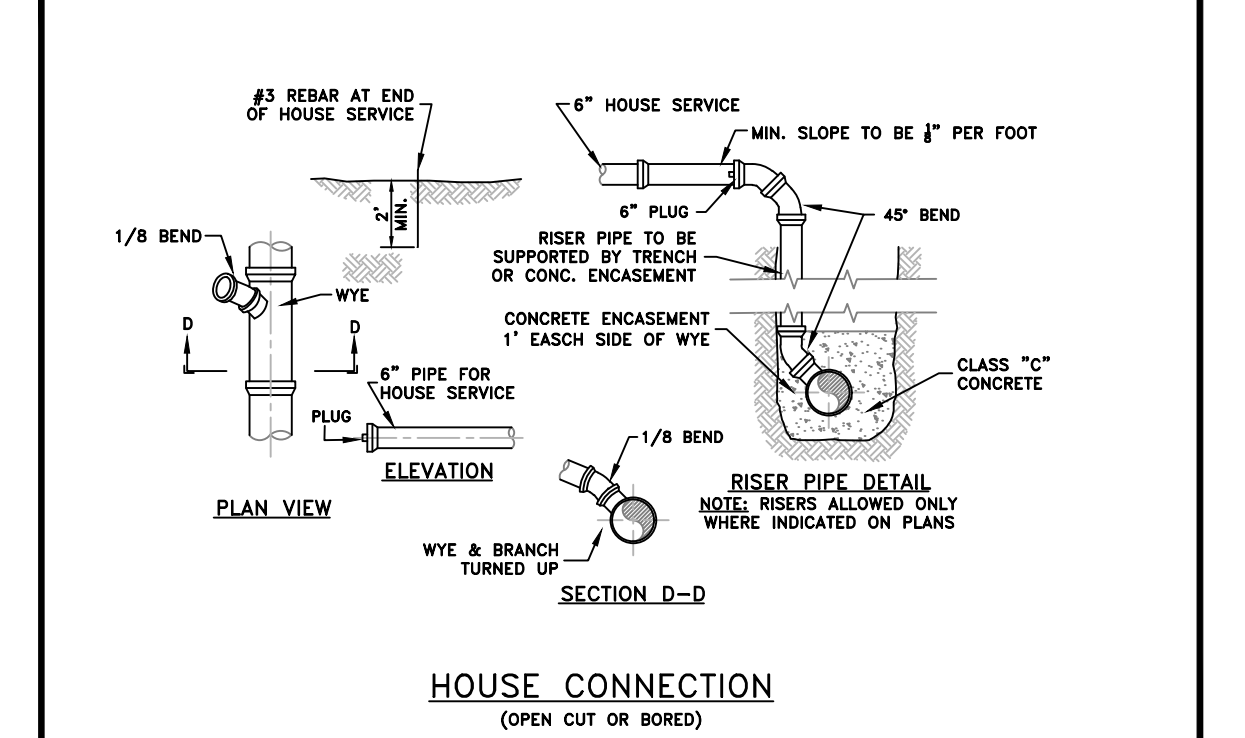
| SIZE | 2" | 4" | 6" | 8" | 12" | 16" | 20" | 24" | 30" |
|------|-----|-----|-----|-----|-----|-----|-----|-----|------|
| D | 12" | 16" | 18" | 24" | 30" | 30" | 30" | 30" | 36" |
| L | 12" | 16" | 18" | 24" | 30" | 60" | 72" | 84" | 102" |
| W | 14" | 16" | 18" | 18" | 24" | 28" | 32" | 40" | 51" |
| T | 10" | 10" | 12" | 12" | 12" | 38" | 40" | 44" | 52" |

NOTE: BLOCKING FOR REDUCER SHALL BE AS THAT SHOWN FOR PLUGS, BUT THE "L" DIMENSION SHALL BE AS REQUIRED FOR THE KICKER TO EXTEND 6" INTO EACH SIDE OF THE TRENCH. BLOCKING FOR GATE VALVES SHALL BE SIMILAR TO THAT SHOWN ABOVE FOR TEES WITH CONCRETE PLACED ON EACH SIDE OF VALVE.

MINIMUM CONCRETE BLOCKING FOR PIPE
(BLOCKING DIMENSIONS FOR 14" FITTINGS SHALL BE AS SHOWN ABOVE FOR 16", AND BLOCKING FOR 18" FITTINGS SHALL BE AS SHOWN FOR 20")



NOTES:
STANDARD MANHOLE: MINIMUM FRAME & COVER WEIGHT = 415 LBS. (JOHN BOUCHARD #1150 OR EQUAL)
WATER TIGHT LIDS (WHERE REQ'D): MINIMUM FRAME & COVER WEIGHT = 535 LBS. (JOHN BOUCHARD #1123 OR EQUAL)
ALL WATER TIGHT CASTING SHALL BE BOLTED TO TOP MANHOLE SECTION
ALL MANHOLES THAT ARE NOT ALONG A TRAVELED SURFACE SHALL HAVE REPNET VALVE MARKER. INSTALL AS SHOWN ON MANHOLE DETAIL.



NOTES:
1. MANHOLE PENETRATIONS AND INVERTS WHERE APPLICABLE SHALL BE REPAIRED w/ NON-SHRINK GROUT.
2. PENETRATION OF MANHOLE SHALL BE MADE IN THE BARREL SECTIONS AT A MINIMUM OF 4' FROM FINISHED GRADE.