

**GENERAL STRUCTURAL NOTES:**

- THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS. THESE NOTES APPLY TO ALL STRUCTURAL WORK UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL METHODS AND MEANS OF CONSTRUCTION AND FOR JOB SITE SAFETY. PROVIDE PROPER PROTECTIVE BARRICADES TO MAINTAIN THE PUBLIC SAFETY AND TO PREVENT DAMAGE TO ADJACENT PROPERTY. DESIGN AND CONSTRUCT IN ACCORDANCE WITH THE LOCAL PREVAILING CODES AND OF ALL OTHER APPLICABLE REGULATORY AGENCIES.
- THE ACCURACY OF THE EXISTING INFORMATION IS NOT GUARANTEED. DIMENSIONS AND ELEVATIONS MUST BE ASSUMED TO BE APPROXIMATE AND MUST BE SITE VERIFIED, BY CONTRACTOR PRIOR TO BIDDING.
- VERIFY ALL DIMENSIONS WITH THE DRAWINGS OF THE OTHER TRADES PRIOR TO FABRICATION OF ANY PIECES. NO CONNECTION OR DIMENSION SHALL BE REVISED OR MODIFIED IN THE FIELD WITHOUT THE WRITTEN APPROVAL BY THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS AND TO REPORT ANY DISCREPANCIES TO THE ENGINEER.
- THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE STRUCTURAL DRAWINGS WITH OTHER DISCIPLINES.
- VERIFY LOCATION OF ALL OPENINGS, EMBEDDED ITEMS AND CONCRETE CONFIGURATIONS WITH DRAWINGS AND SPECIFICATIONS FROM ALL OTHER DISCIPLINES. LOCATE AND SHOW ALL THESE ITEMS ON APPROVED WORKING (SHOP) DRAWINGS.
- FIELD DRILLING OF HOLES IN ANY STRUCTURAL MEMBER IS NOT PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- ALL SECTIONS, DETAILS AND NOTES ARE TYPICAL UNLESS OTHERWISE INDICATED. PREPARE WORKING DRAWINGS TO SHOW THE APPLICATION OF TYPICAL SECTIONS AND DETAILS FOR SIMILAR SITUATIONS.
- PROVIDE A 3/4" CHAMFER AT EXPOSED CORNERS AND PROVIDE A 3/4" FLAT FILLET AT RE-ENTRANT CORNERS UNLESS OTHERWISE NOTED.
- OBTAIN ENGINEER'S APPROVAL FOR USE OF CONSTRUCTION JOINTS AT LOCATIONS NOT SHOWN ON THE DRAWINGS.
- STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL, HYDROSTATIC, AND BACKFILL LOADS ON THE COMPLETED STRUCTURES. THE STRUCTURES HAVE NOT BEEN DESIGNED TO RESIST THESE LOADS WHILE ONLY PARTIALLY CONSTRUCTED. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED FROM ALL CONSTRUCTION LOADS BY BRACING AND BALANCING UNTIL ALL STRUCTURAL ELEMENTS ARE IN PLACE, AND ALL CONCRETE HAS REACHED THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH. OVERLOADING OF ANY STRUCTURAL ELEMENT IS PROHIBITED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DESIGN AND DETAILS FOR EACH TEMPORARY BRACING/RETENTION SYSTEM, COMPLETE WITH CALCULATIONS AND DRAWINGS, SIGNED AND SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER, FOR THE CM'S REVIEW AND ACCEPTANCE BEFORE STARTING WORK.
- CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION, ELEVATION, TYPE AND SIZE OF ALL UTILITIES PENETRATING THE SOLDIER PILE WALLS PRIOR TO FABRICATION OF PRECAST PANELS OR CONSTRUCTION BY EXCAVATING AND SURVEYING.

**FOUNDATION:**

- ALLOWABLE SOIL BEARING PRESSURE, EXCAVATION AND BACKFILL FOR FOUNDATIONS AND STRUCTURES SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS AND SPECIFICATIONS.
- BACKFILL MATERIAL, PLACING AND COMPACTION OF BACKFILL SHALL BE IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS. PLACE BACKFILL EQUALLY ON BOTH SIDES OF FOUNDATION WALLS, SHEET PILING, SOLDIER PILE WALLS, AND STRUCTURES AND/OR EXCAVATE EQUALLY ON ALL SIDES OF EXISTING STRUCTURES TO PREVENT IMPOSING UNBALANCED FORCES ON STRUCTURES.
- CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SUPPORT OF EXCAVATION REQUIRED FOR CONSTRUCTION INCLUDING BUILDINGS, UTILITIES AND OTHER FEATURES THAT MAY BE IN CLOSE PROXIMITY TO THE PROPOSED WALLS.
- BACKFILL SHALL BE MECHANICALLY HAND TAMPED TO ACHIEVE A DEGREE OF COMPACTION GREATER THAN OR EQUAL TO THAT SPECIFIED.
- PERCENT COMPACTION IS DEFINED AS THE RATIO OF THE FIELD DRY DENSITY, DETERMINED BY ASTM D1556, TO THE MAXIMUM DRY DENSITY, DETERMINED BY ASTM D1557 (MODIFIED PROCTOR).
- COMPACT BACKFILL UNDER FOUNDATION MATS, BASE SLABS, FOOTINGS, AND SLABS ON GRADE TO A MINIMUM OF 95 PERCENT. COMPACT EMBANKMENTS AND BACKFILL NOT SUPPORTING STRUCTURES TO A MINIMUM OF 95 PERCENT. PLACE AND COMPACT ALL BACKFILL IN 8-INCH MAXIMUM LAYERS.
- COMPACT THE BOTTOM SURFACE OF EXPOSED EXCAVATIONS WITH A VIBRATORY STEEL DRUM ROLLER OR VIBRATORY PLATE TO ACHIEVE A NEAR SURFACE DENSITY OF AT LEAST 95 PERCENT.

**CONCRETE:**

- COMPRESSIVE STRENGTH OF CAST-IN-PLACE CONCRETE:  
 F'C = 4,000 PSI AT 28 DAYS --- ALL STRUCTURES  
 F'C = 2,000 PSI AT 28 DAYS --- WORKMATS
- PROVIDE ASTM A615, GRADE 60 REINFORCING STEEL AND DETAIL ACCORDING TO THE ACI DETAILING MANUAL PUBLICATION SP-66.
- PROVIDE THE FOLLOWING CONCRETE PROTECTION FOR REINFORCEMENT, UNLESS OTHERWISE INDICATED ON THE PLANS OR ORDERED BY THE ENGINEER.

SLABS

A) FOR DRY CONDITIONS:	
SLABS 8" THICK OR LESS	1"
SLABS OVER 8" THICK	2"
B) EXPOSED TO EARTH, WATER OR WEATHER	
AND FOR BOTTOMS BEARING ON WORK MATS	2"

WALLS

A) FOR DRY CONDITIONS:	
WALLS 8" THICK OR LESS	1"
WALLS OVER 8 THICK	2"
B) EXPOSED TO EARTH, WATER OR WEATHER:	2"
FOOTINGS AND BASE SLABS	
TOP OF FOOTING OR BASE SLAB	2"
ALL FORMED SIDES AND ENDS, AND	
BOTTOMS BEARING ON CONCRETE WORKMAT	2"
AT UNFORMED SIDES AND ENDS, AND	
BOTTOMS IN CONTACT WITH EARTH	3"

**STEEL:**

- STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE LATEST EDITION OF AISC STEEL CONSTRUCTION MANUAL.
- PROVIDE 3/4" DIAMETER, HIGH STRENGTH BOLTS CONFORMING TO ASTM A325 TYPE N, UNLESS NOTED OTHERWISE. PROVIDE E70XX ELECTRODES FOR WELDING, COMPLYING WITH AWS D1.1.
- STEEL MATERIAL
 

A) STRUCTURAL W SHAPES	---	ASTM A992 GRADE 50
B) STRUCTURAL S, M, AND H SHAPES	---	ASTM A572 GRADE 50
C) ANGLES AND PLATES	---	ASTM A36
D) ANCHOR RODS	---	ASTM F1554 GRADE 55
E) PIPE AND BOLLARDS	---	ASTM A53, TYPE E OR S, GRADE B STANDARD WEIGHT, UNO

**WELDING:**

- ALL WELDING SHALL BE BY THE SHIELDED ARC METHOD AND SHALL CONFORM TO AWS CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION. QUALIFICATIONS OF WELDERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR STANDARD QUALIFICATION PROCEDURE OF THE AWS.
  - ALL JOINTS SHALL BE FIT-UP TIGHT BEFORE WELDING. FILLER WELDING OF POORLY FIT-UP JOINTS IS NOT ALLOWED.
  - WELDING PROCEDURES AND WELDER QUALIFICATIONS SHALL BE MAINTAINED IN THE FABRICATOR'S AND CONTRACTOR'S FILES FOR ALL SHOP AND FIELD WELDING, RESPECTIVELY.
  - WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND MUST HAVE A MINIMUM FILLET WELD SIZE OF 3/16" UNLESS NOTED OTHERWISE.
- CARBON STEELS:**  
 ALL WELDS OF CARBON STEEL MATERIAL SHALL BE MADE USING E70XX OR STRONGER ELECTRODES UNLESS NOTED OTHERWISE.
- STAINLESS STEEL:**  
 ALL WELDS OF STAINLESS STEEL MATERIAL SHALL BE MADE USING E316 OR STRONGER ELECTRODES UNLESS NOTED OTHERWISE.

**DEMOLITION AND SHORING:**

- DEMOLITION INCLUDES ALL WORK NECESSARY FOR THE REMOVAL AND DISPOSAL OF CONCRETE, STEEL AND ANY OTHER MATERIAL SHOWN OR SPECIFIED TO BE REMOVED.
- CARRY OUT THE DEMOLITION IN SUCH A MANNER THAT ADJACENT STRUCTURES AND PORTIONS OF STRUCTURES WHICH ARE TO REMAIN ARE NOT ENDANGERED.
- DEMOLITION ALSO INCLUDES THE CUT OF VARIOUS WELDS. SPECIAL CARE NEED BE TAKEN AT THESE LOCATIONS, IN THAT MOST WILL BE REQUIRED TO BE RE-WELDED AFTER A REPAIR HAS BEEN DONE.
- PROVIDE DUST CONTROL AND MAKE PROVISIONS FOR SAFETY.
- INSPECTION: VISIT THE SITE AND INSPECT ALL EXISTING STRUCTURES. TAKE SPECIAL CARE TO OBSERVE AND RECORD ANY DEFECTS WHICH MAY EXIST IN BUILDINGS OR STRUCTURES ADJACENT TO BUT NOT DIRECTLY AFFECTED BY THE DEMOLITION WORK. SUBMIT TO THE ENGINEER A COPY OF THIS INSPECTION AT LEAST FIVE (5) WORKING DAYS PRIOR TO COMMENCING THE DEMOLITION.
- PERFORM DEMOLITION WORK IN ACCORDANCE WITH THE APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS INCLUDING 29 CFR PART 1926.
- PROVIDE WARNING SIGNS AND PROTECTION BARRIERS AS NECESSARY, ADJACENT TO THE WORK AS APPROVED. MAINTAIN THESE ITEMS DURING THE DEMOLITION PERIOD.
- UNDERTAKE NO DEMOLITION WORK UNTIL ALL MECHANICAL AND ELECTRICAL SERVICES AFFECTED BY THE WORK HAVE BEEN PROPERLY DISCONNECTED AND CAPPED.
- PROVIDE ADEQUATE SCAFFOLDING, SHORING, BRACING AND PROTECTIVE COVERING TO PROTECT PERSONNEL AND EQUIPMENT AGAINST INJURY OR DAMAGE.
- REMOVAL: REMOVE ALL DEBRIS FROM STRUCTURES DURING DEMOLITION. DO NOT ALLOW DEBRIS TO ACCUMULATE IN PILES. PROVIDE ADEQUATE LIGHTING AT ALL TIMES DURING DEMOLITION. CLOSE AREAS BELOW DEMOLITION WORK TO WORKMEN WHILE REMOVAL IS IN PROGRESS. REMOVE ALL DEBRIS, RUBBISH, SCRAP PIECES, EQUIPMENT AND MATERIALS RESULTING FROM THE DEMOLITION. TAKE TITLE TO ALL DEMOLISHED MATERIAL AND REMOVE IT FROM THE SITE, EXCEPT FOR ITEMS TO BE SAVED.
- DO NOT ALLOW ANY WORKMEN TO STAND ON ANY WALL TO REMOVE MATERIAL EXCEPT WHEN ADEQUATE STAGING OR SCAFFOLD PROTECTION IS PROVIDED BELOW THE TOP OF SUCH WALLS AND OTHER REASONABLE PRECAUTIONS ARE TAKEN.

**UTILITIES CROSSING SOLDIER PILE OR GABION WALLS:**

- EXISTING UTILITIES CROSSING THE WALLS SHOWN ON THE DRAWINGS ARE BASED ON RECORD DRAWINGS AND UTILITY ATLASES AND ARE NOT GUARANTEED.
- CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COORDINATION DURING CONSTRUCTION.
- CONTRACTOR SHALL FIELD LOCATE, SURVEY AND MARK ALL UTILITIES IN ADVANCE OF CONSTRUCTION AND ADJUST PILE LOCATIONS AS NEEDED. ANY CHANGES TO THE DESIGN PLANS SHALL BE PROVIDED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.
- CONTRACTOR SHALL USE HIS UTILITY SURVEY TO PLAN AND ADJUST HIS PLAN FOR SOLDIER PILE WALL PENETRATION AND REINFORCEMENT, AND GABION CONSTRUCTION.

**SOLDIER PILE WALL DESIGN SPECIFICATIONS**

2017 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH ED.

**DESIGN LOADING**

LATERAL EARTH PRESSURE FROM RETAINED EARTH SUBJECTED TO SURCHARGE.

MINIMUM BEARING CAPACITY FOR GABIONS:  
 REACH 2: 1800 PSF  
 REACH 3: 1800 PSF  
 REACH 4: 2000 PSF  
 REACH 5: 2000 PSF  
 REACH 8: 2000 PSF

DEAD LOADS: CONCRETE = 150 PCF  
 EARTH = 130 PCF

LIVE LOADS: LIVE LOAD SURCHARGE 100 PSF

EARTH PRESSURE COEFFICIENTS: PER GEOTECH REPORT



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1	ADDENDUM NO. 2	MA	01/06/23

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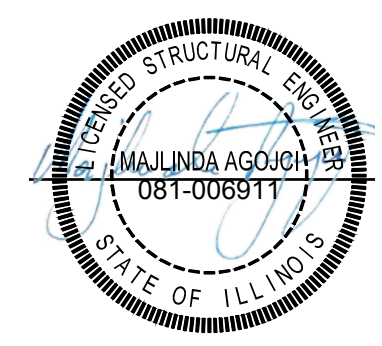
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ADDISON CREEK CHANNEL IMPROVEMENTS

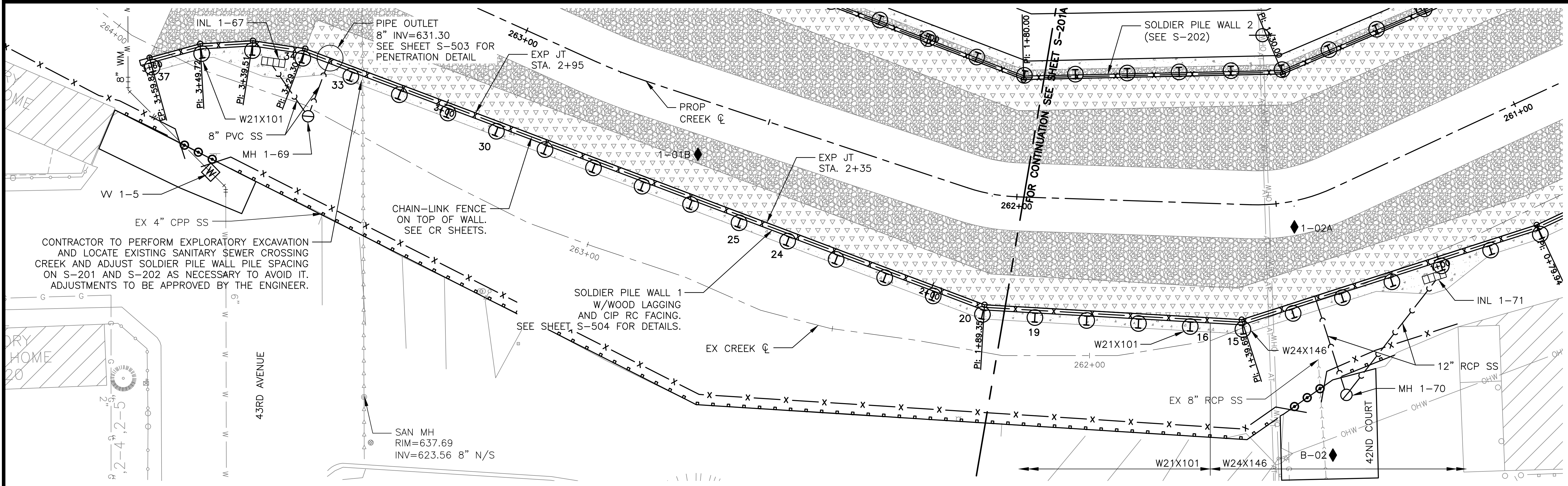
**STRUCTURAL GENERAL NOTES**

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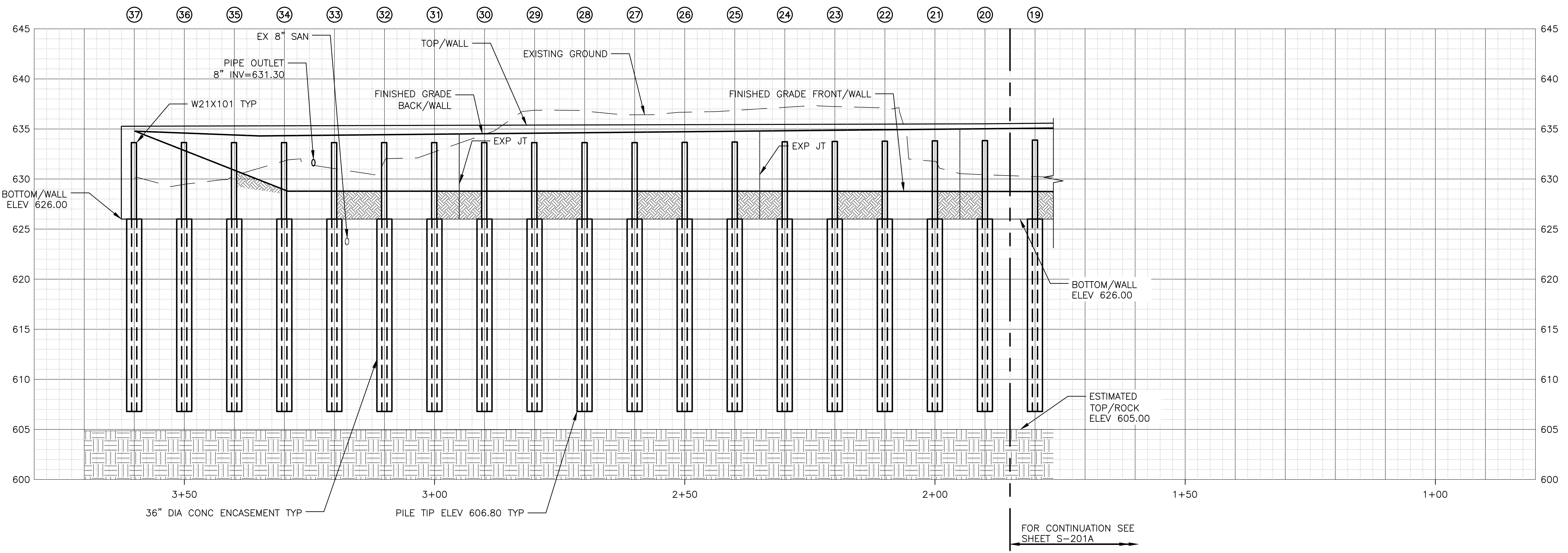
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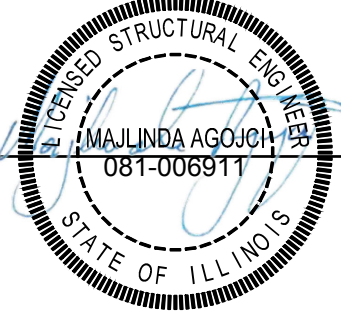
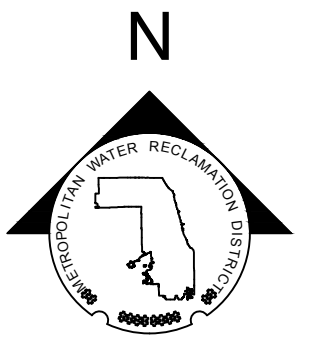
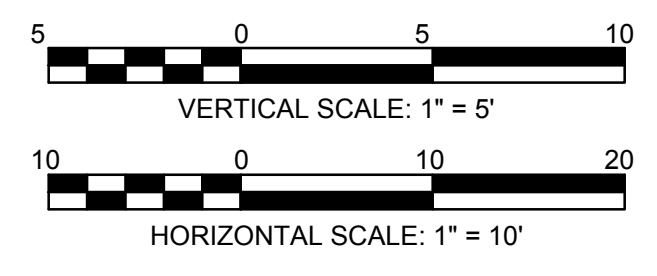
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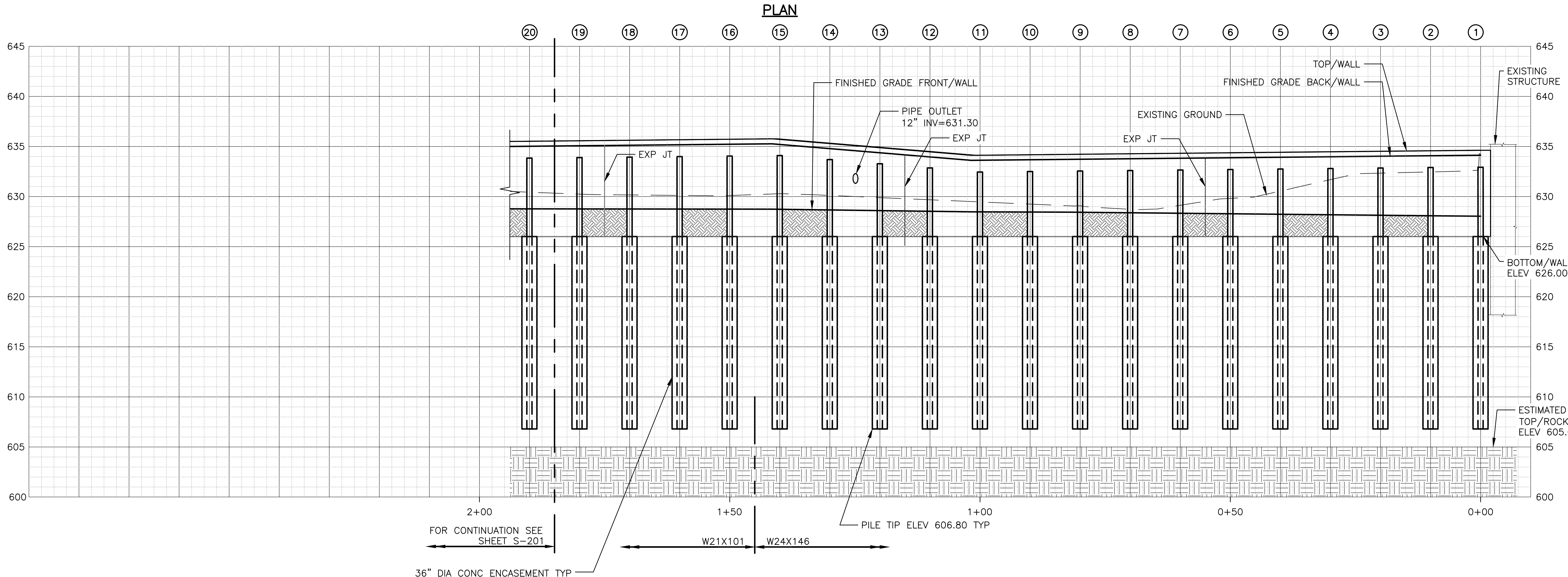
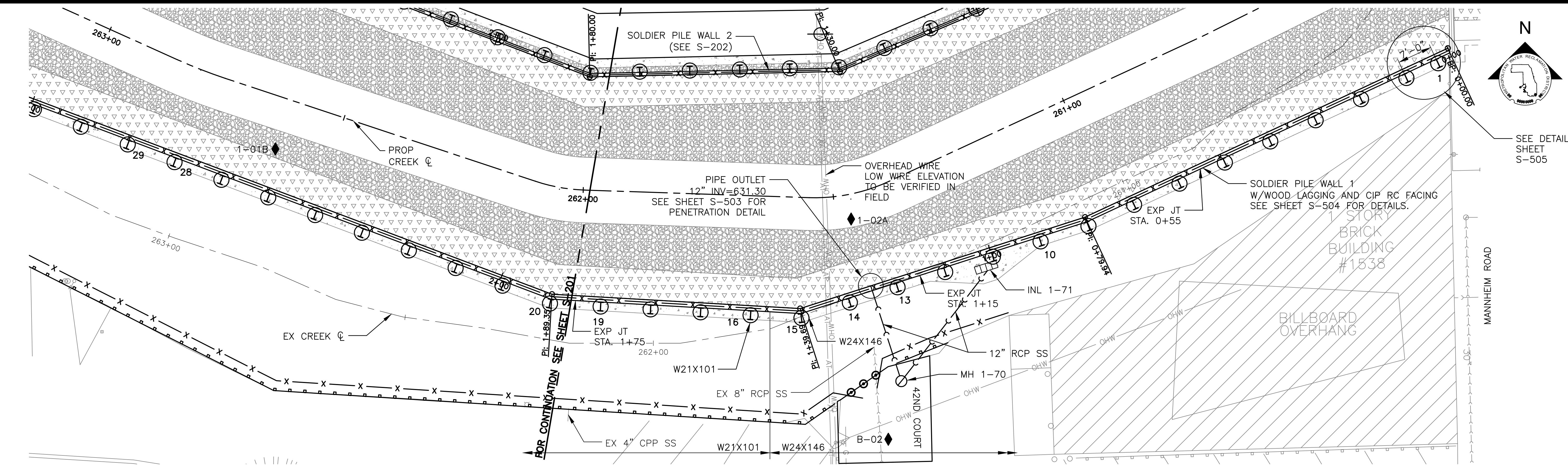
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 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 1 P&P - REACH 1**  
 STA. 263+67 TO STA. 262+00

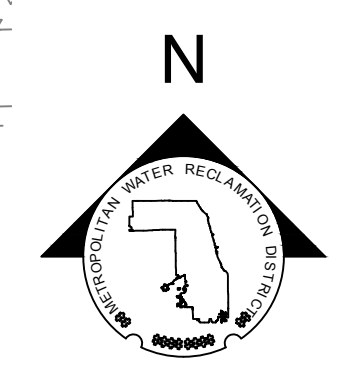
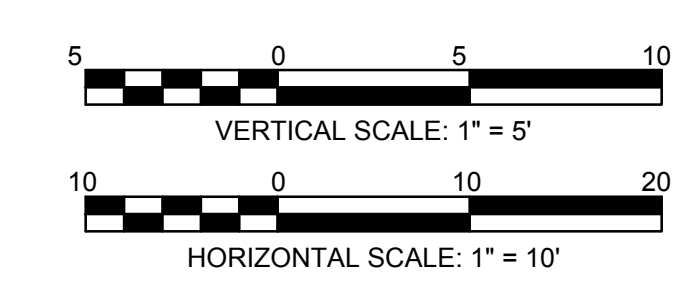
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SEE DETAIL SHEET S-505

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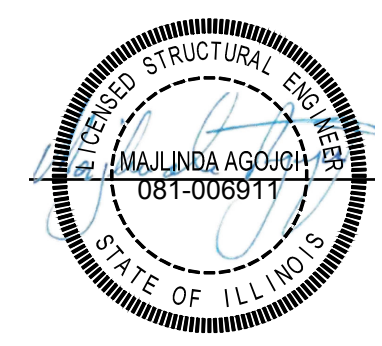
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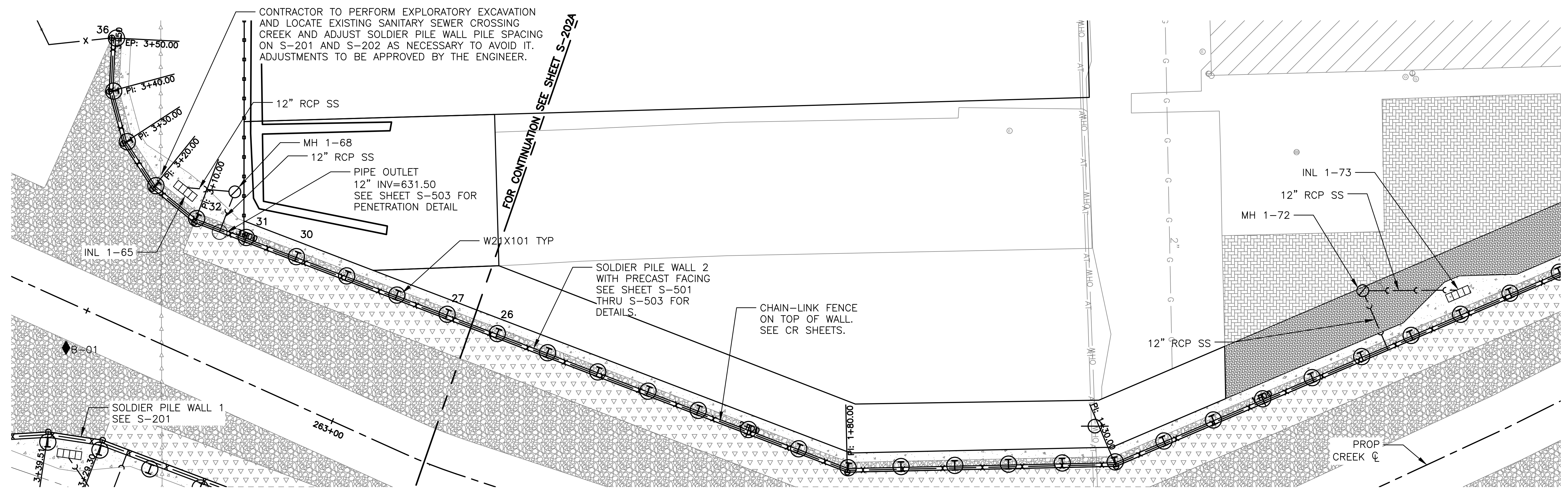
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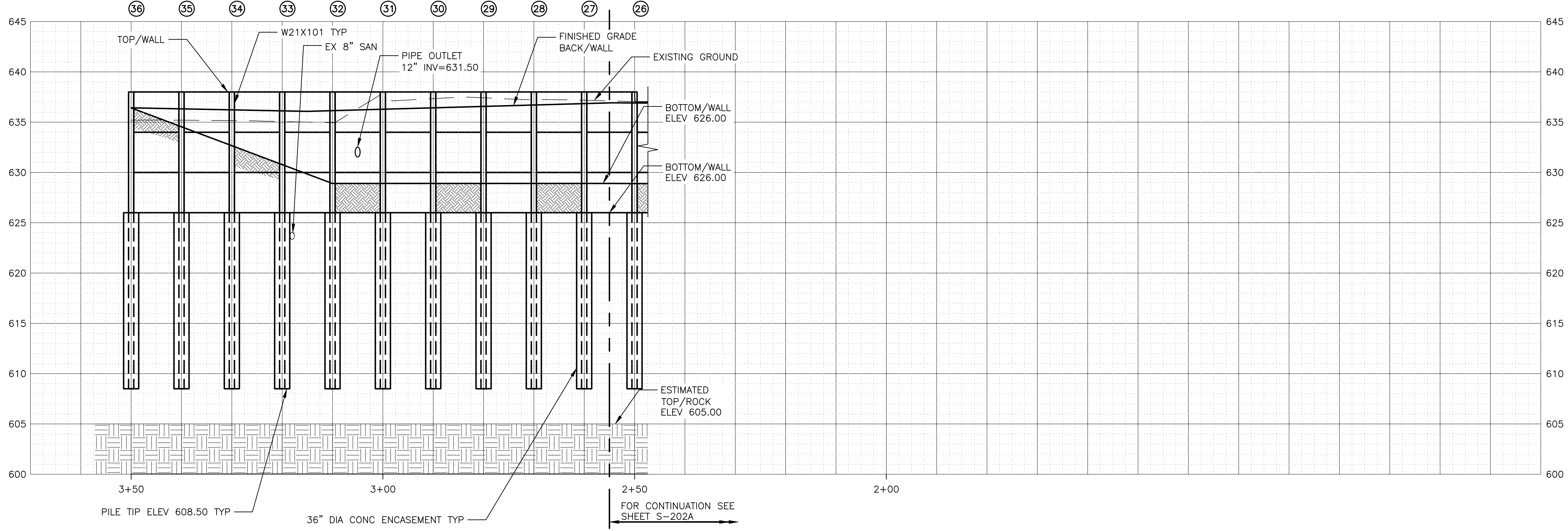
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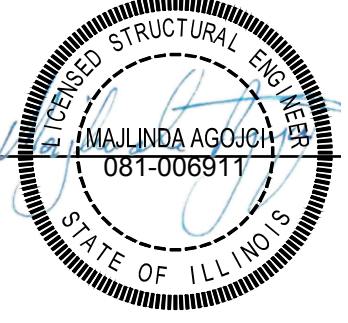
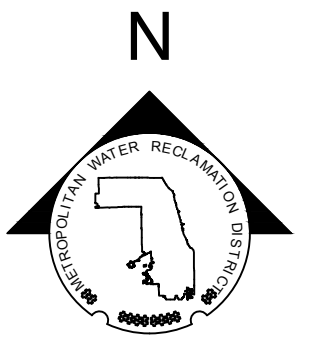
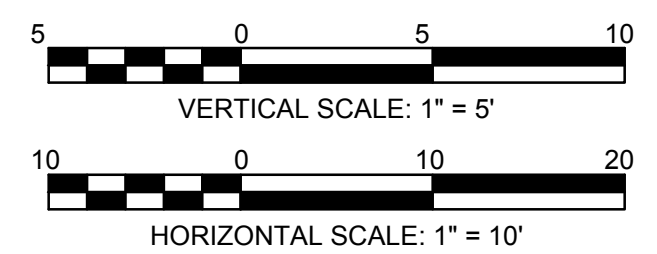
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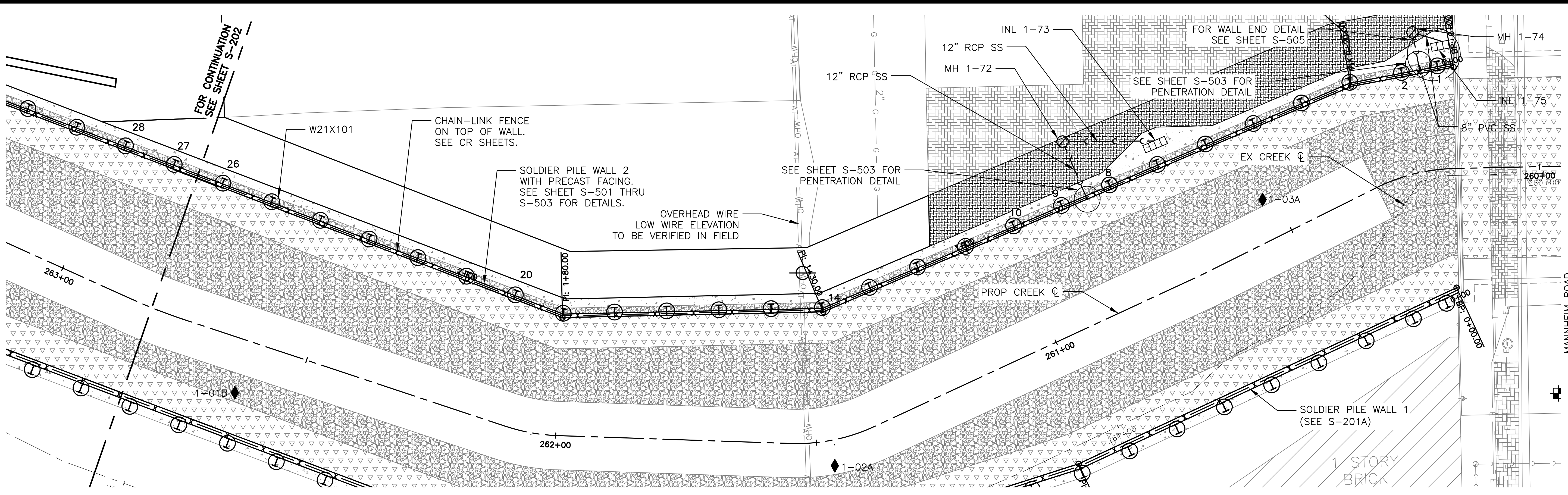
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**SOLDIER PILE WALL 2 P&P - REACH 1**  
 STA. 263+67 TO STA. 262+00

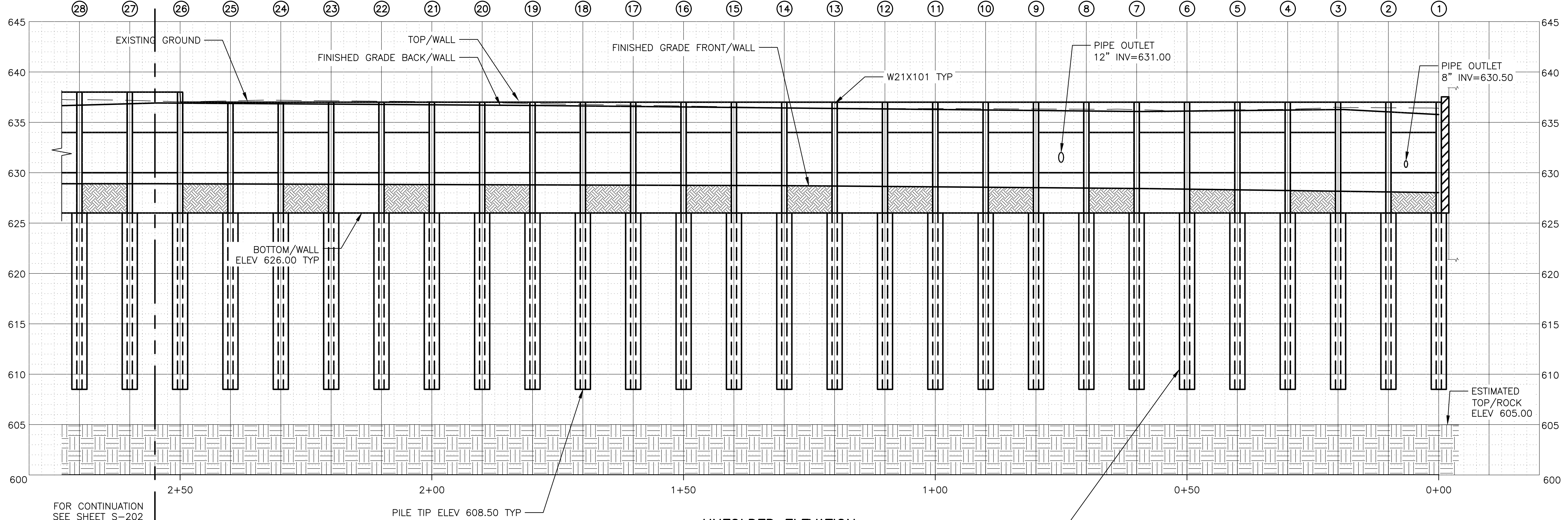
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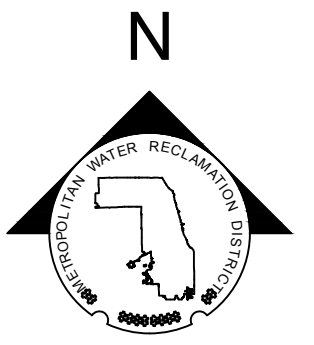
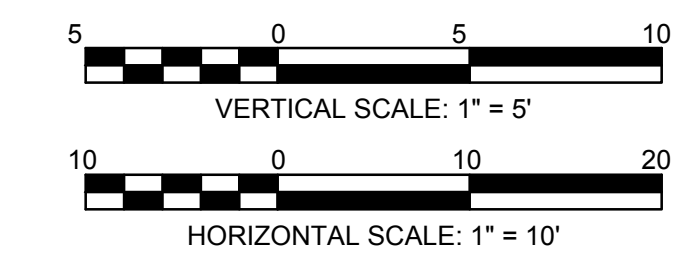
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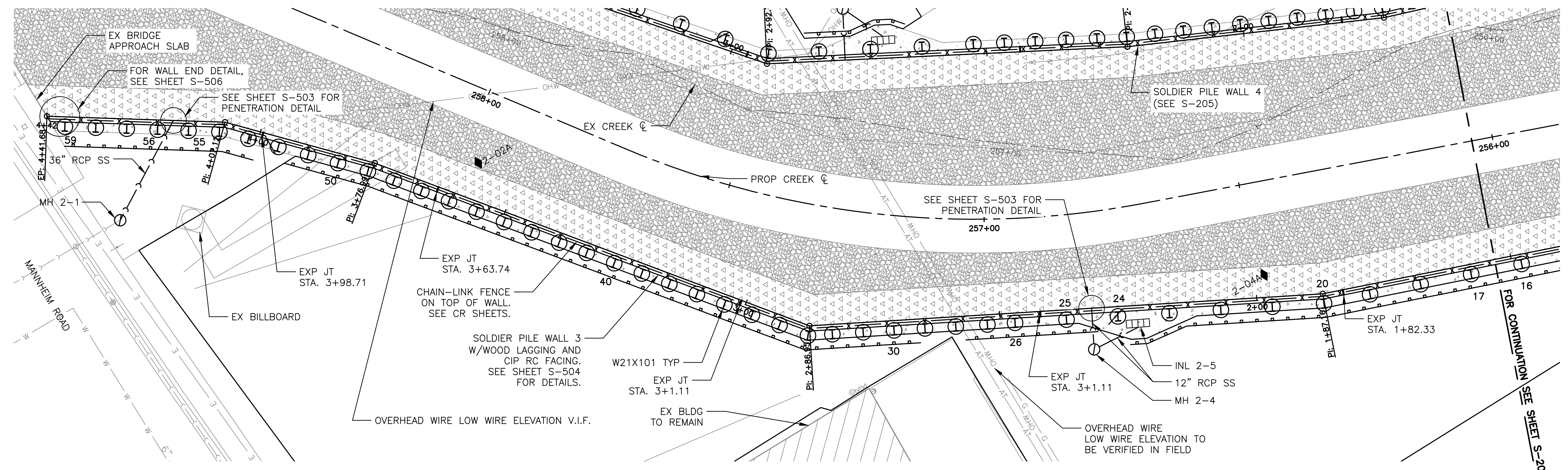
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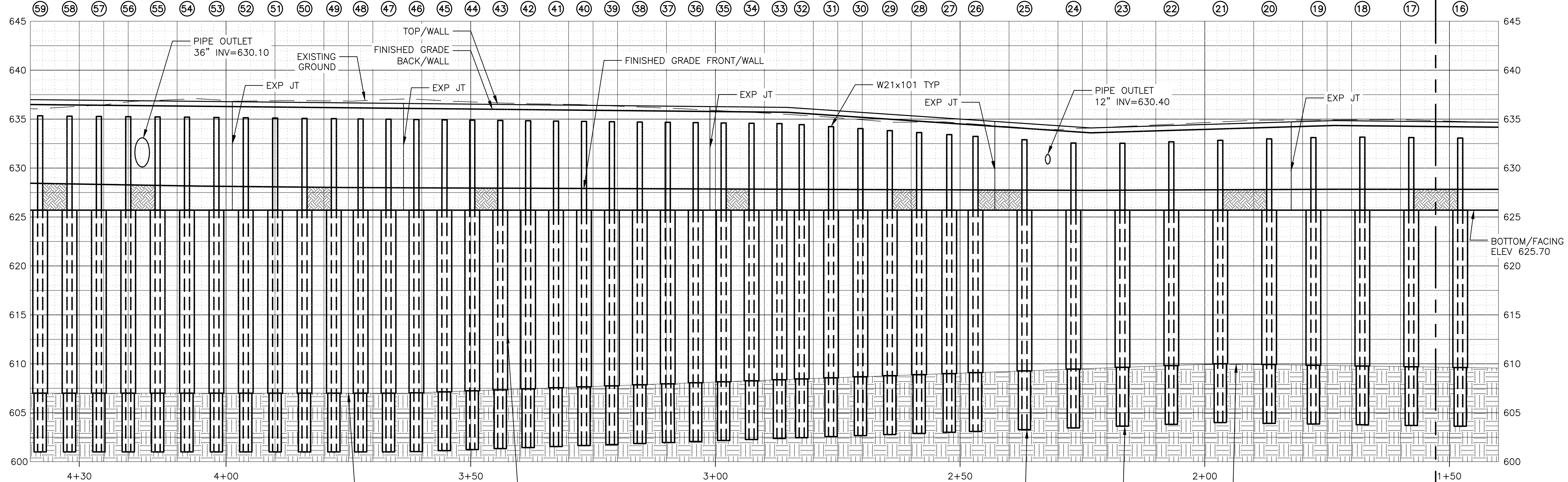
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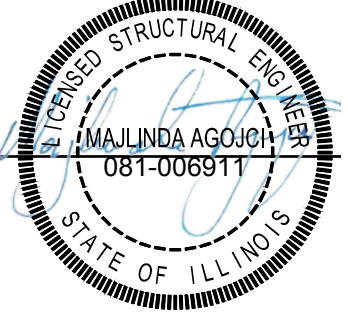
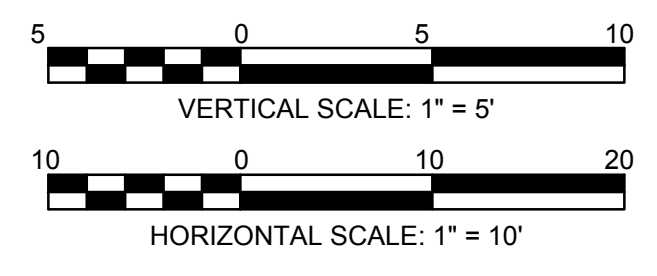
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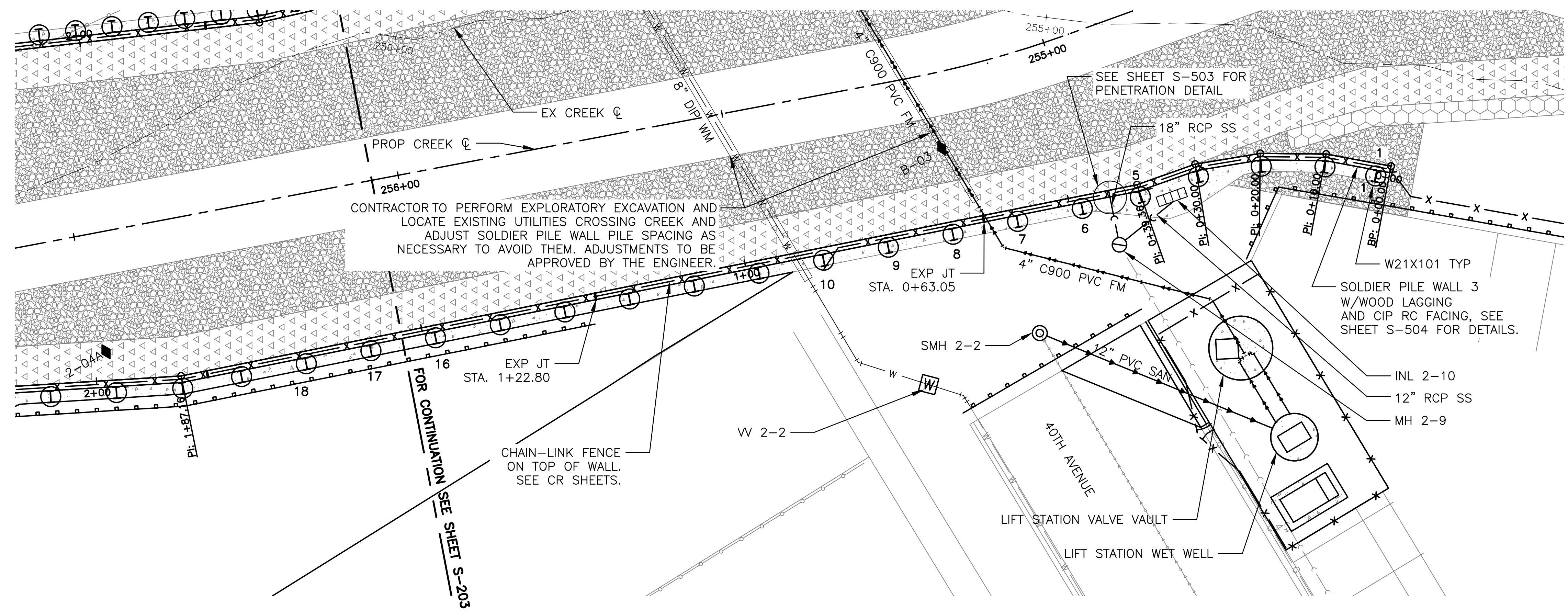
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**SOLDIER PILE WALL 3 P&P - REACH 2**  
 STA. 259+01 TO STA. 256+20

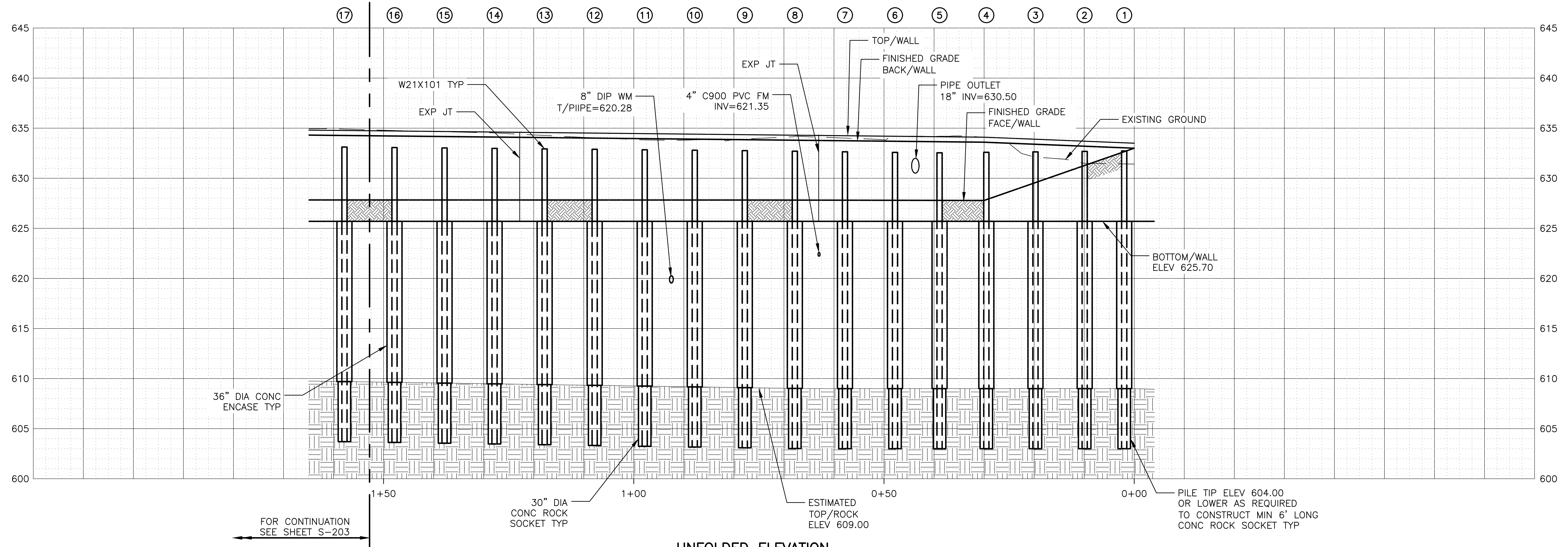
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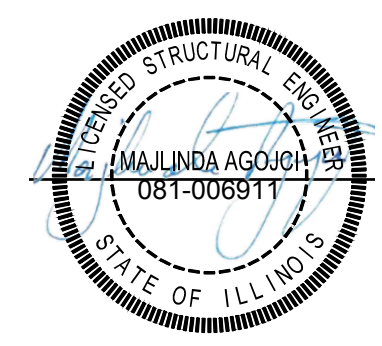
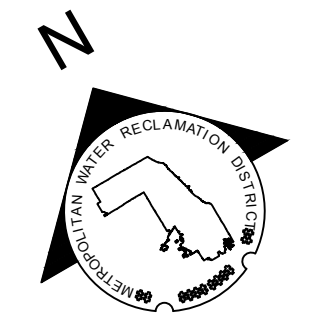
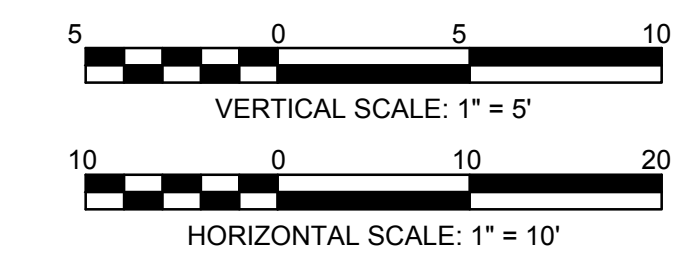
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SCALE: AS SHOWN  
 DATE: 2022

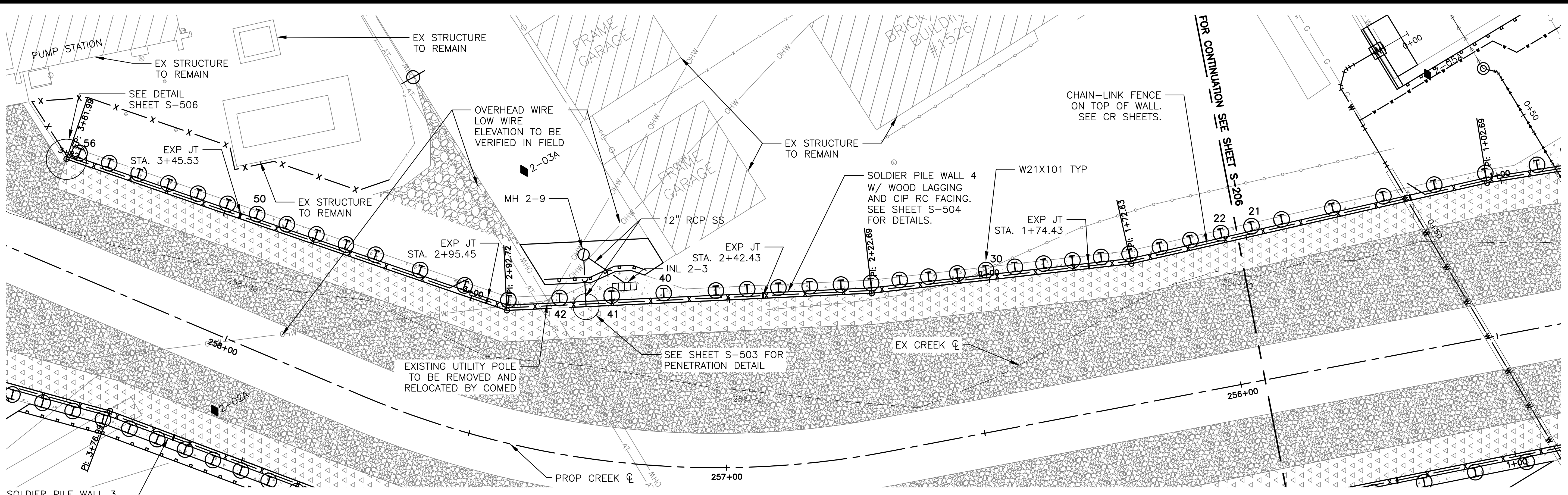
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 3 P&P - REACH 2**  
 STA. 256+20

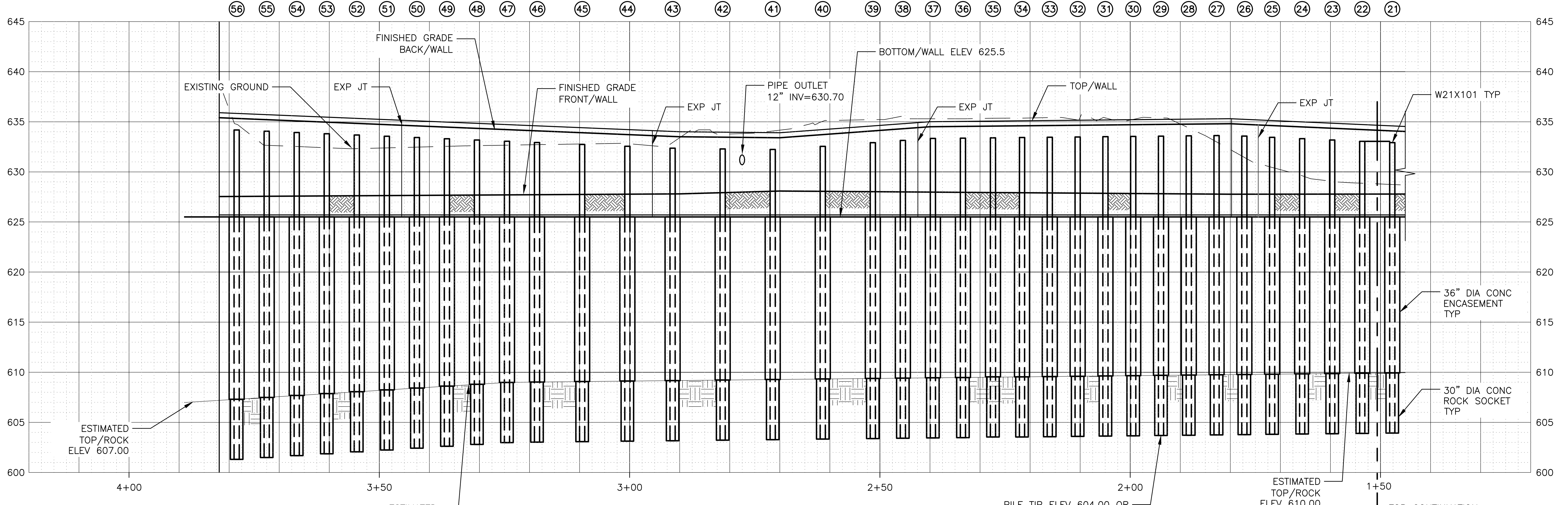
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**S-204**

Page Number: **390**

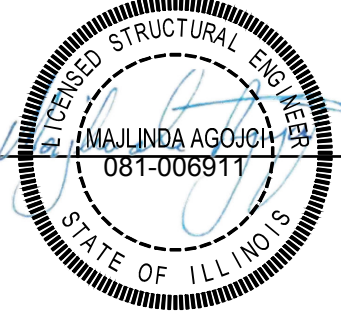
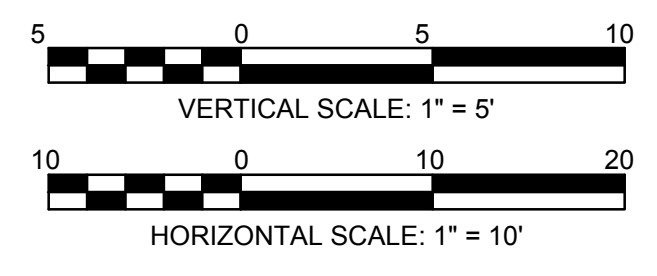
PLOT DATE: 10/17/2022 10:44 AM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Structural\Sheets\S-205.dwg 10/12/2022 10:54 AM



PLAN



UNFOLDED ELEVATION  
 LOOKING AT FRONT FACE/WALL



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 Date: 2022

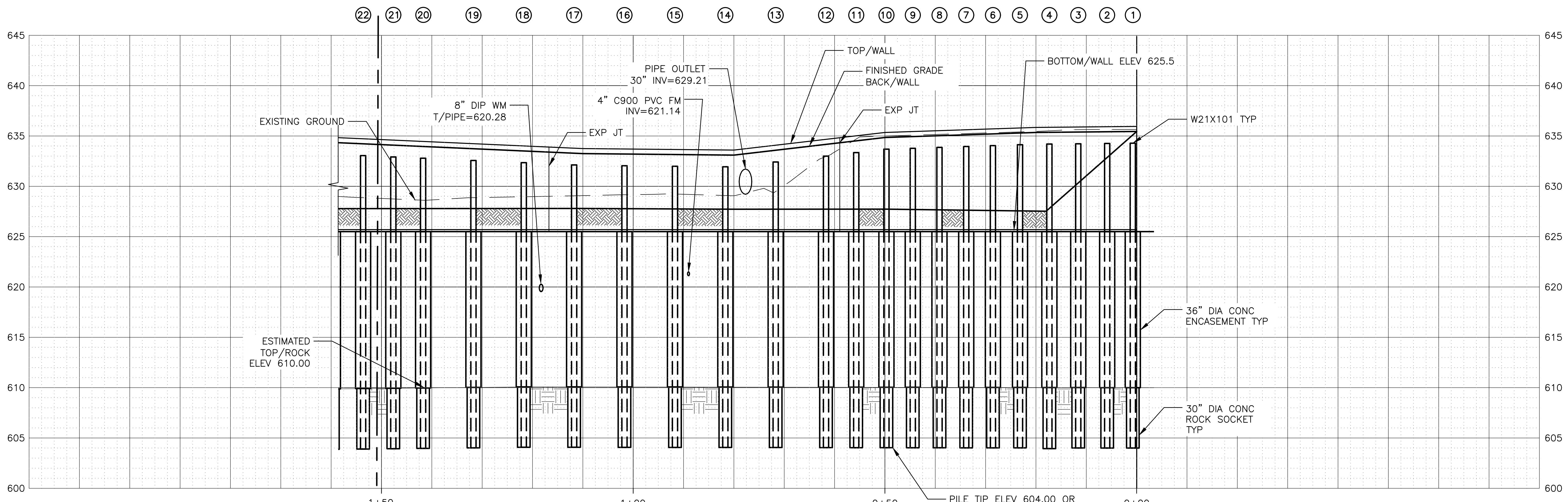
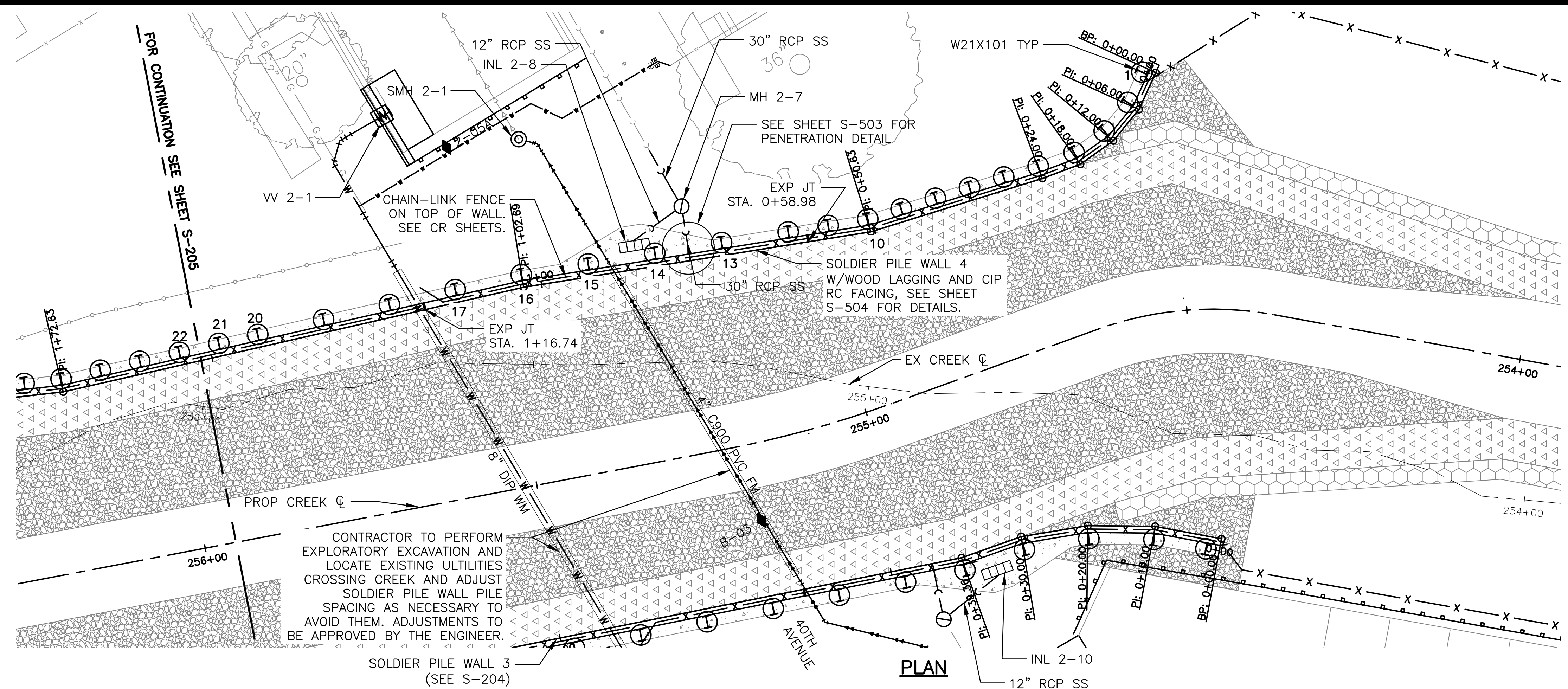
Designed by: LAN  
 Checked by: MA  
 Drawn by: AN  
 Reviewed by: AN  
 Correct:

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

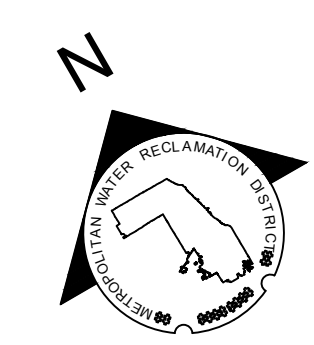
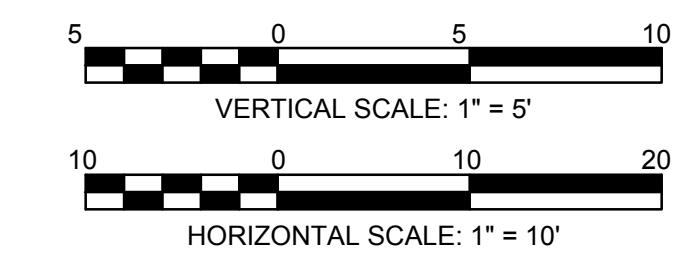
**SOLDIER PILE WALL 4 P&P - REACH 2**  
 STA. 258+42



PLOT DATE: 10/17/2022 10:50 AM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\DATA\CAD\11-187-3F\Structural\Sheets\S-206.dwg 10/12/2022 10:53 AM



UNFOLDED ELEVATION  
 LOOKING AT FRONT FACE/WALL



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DESIGNED BY: LAN  
 CHECKED BY: MA  
 DRAWN BY: AN  
 CORRECT:

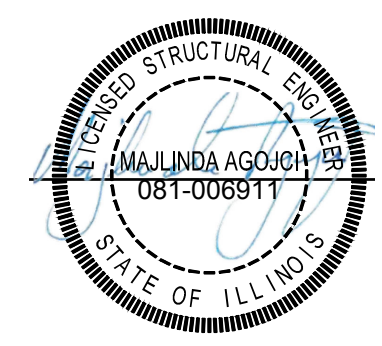
SCALE: AS SHOWN  
 DATE: 2022

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

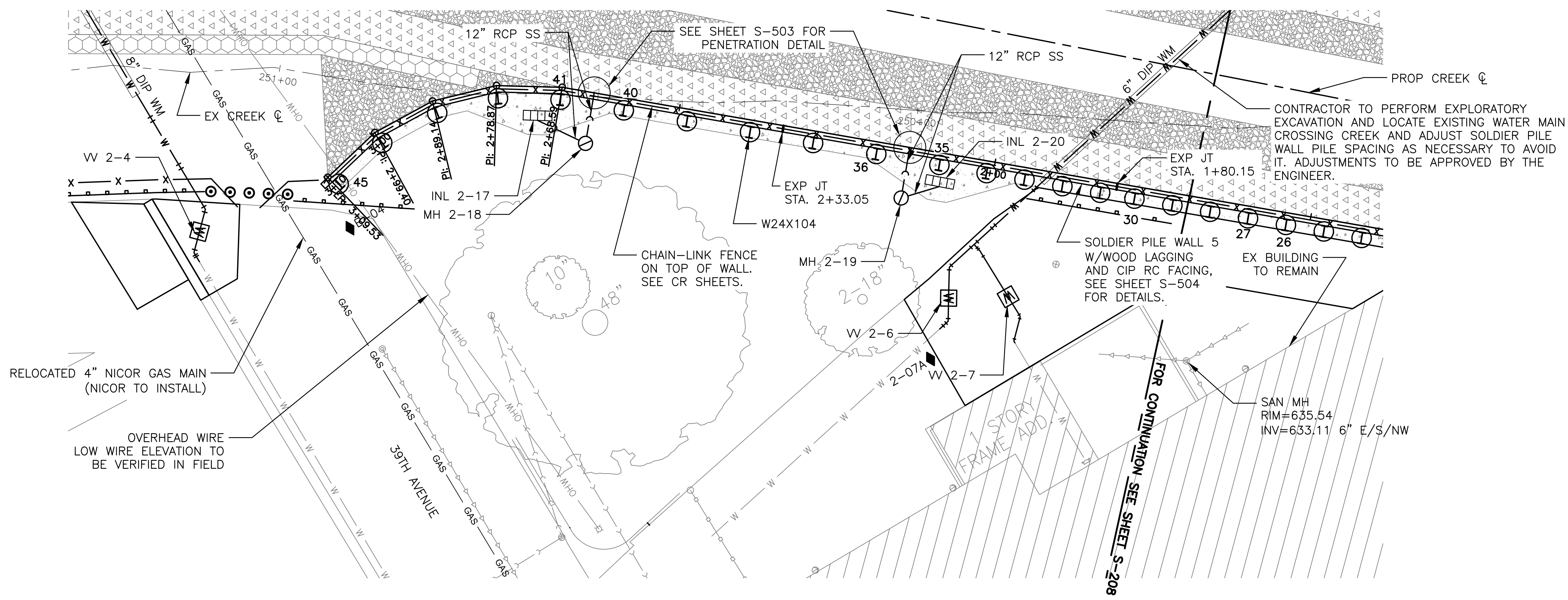
**SOLDIER PILE WALL 4 P&P - REACH 2**  
 STA. 255+90 TO STA. 254+50

Sheet Number:  
**S-206**

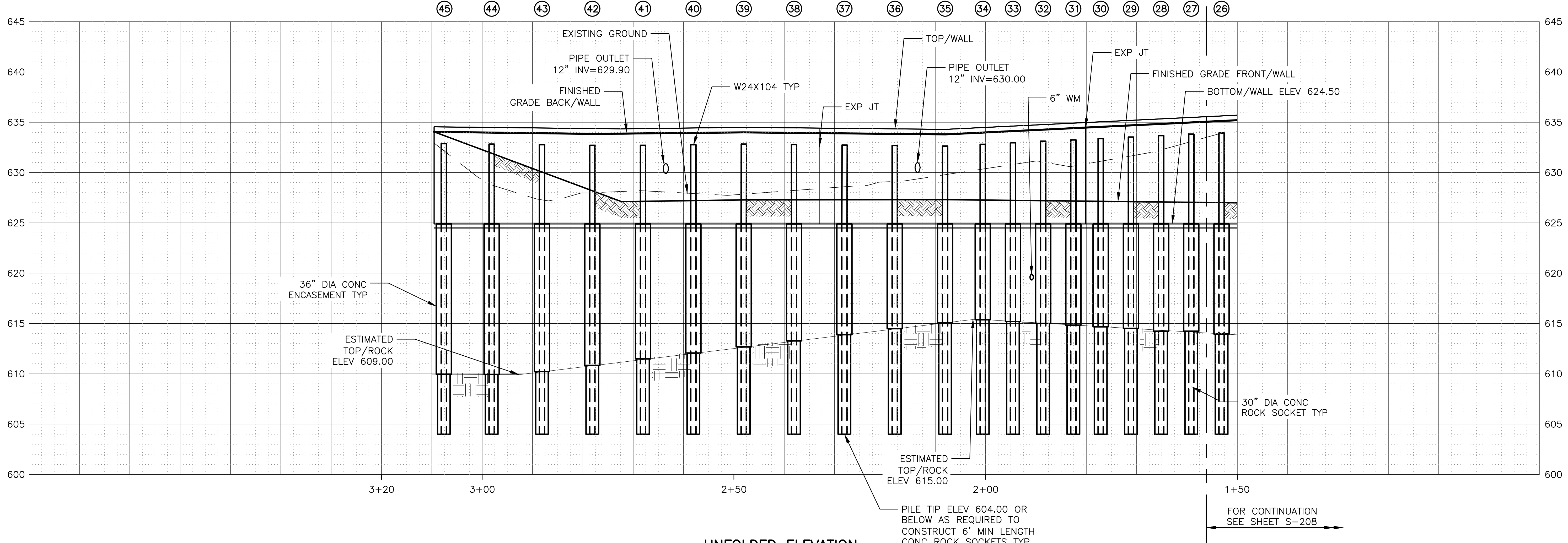
Page Number: **392**



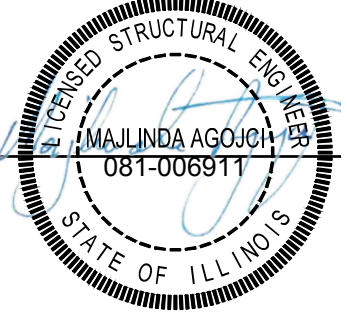
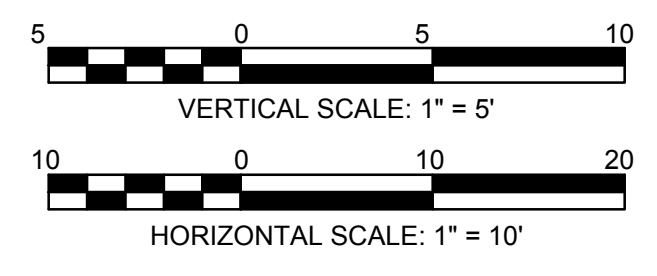
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PLAN



UNFOLDED ELEVATION  
 LOOKING AT BACK FACE/WALL



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Designed by: LAN	Checked by: MA	Scale: AS SHOWN
Drawn by: AN	Reviewed by:	Date: 2022
Correct:		

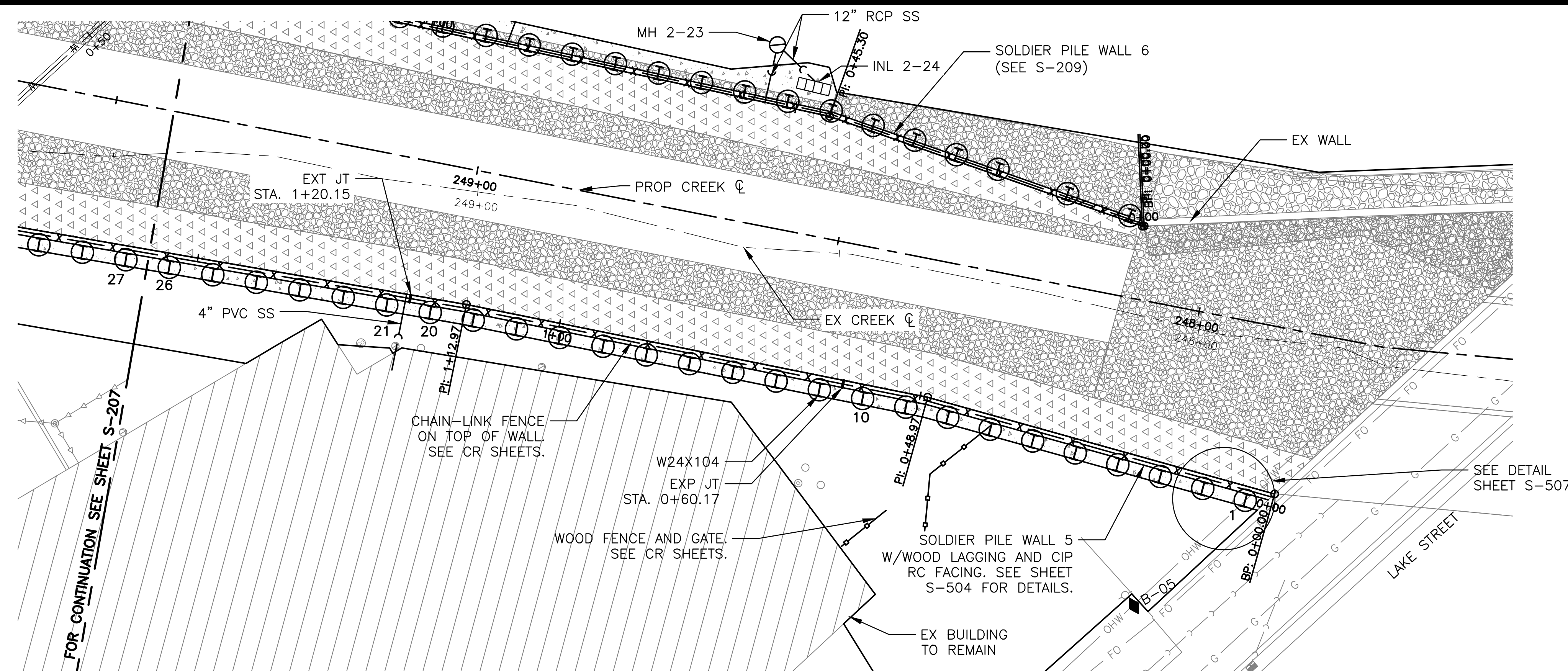
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 5 P&P - REACH 2**  
 STA. 251+10 TO STA. 249+50

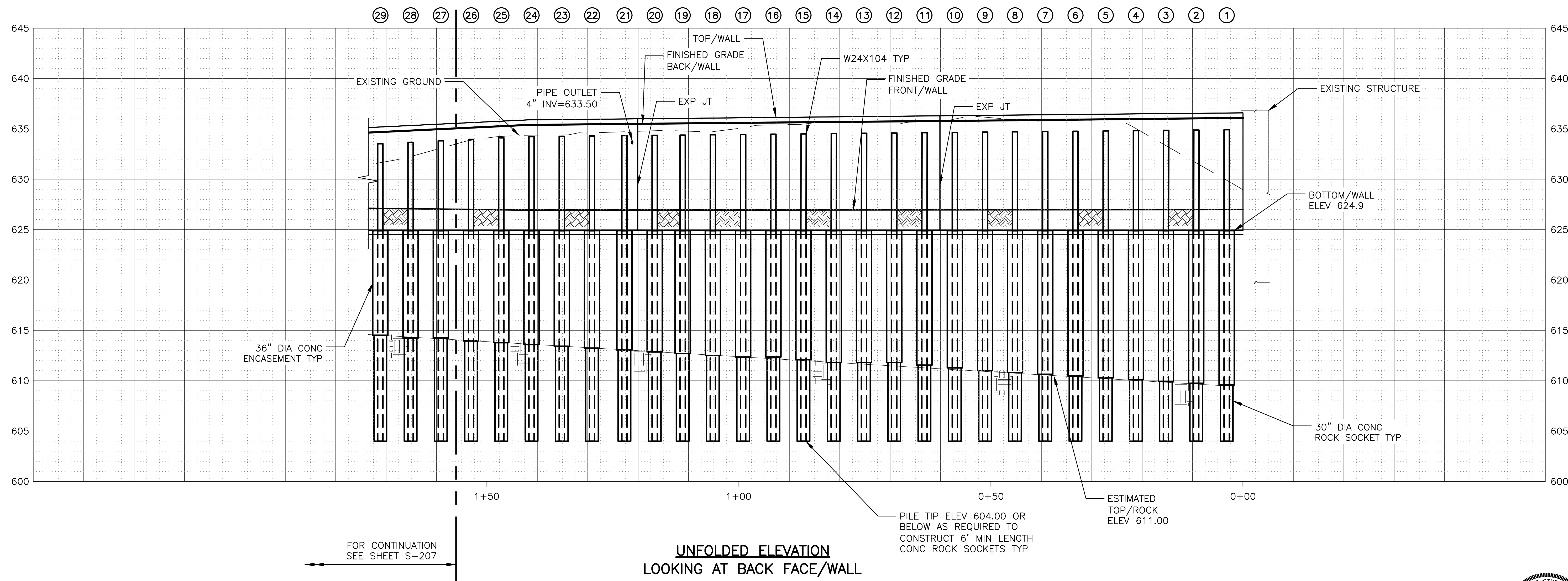
Sheet Number:  
**S-207**

Page Number: **393**

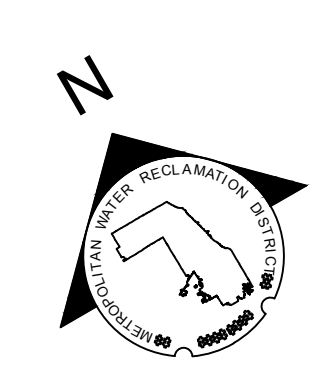
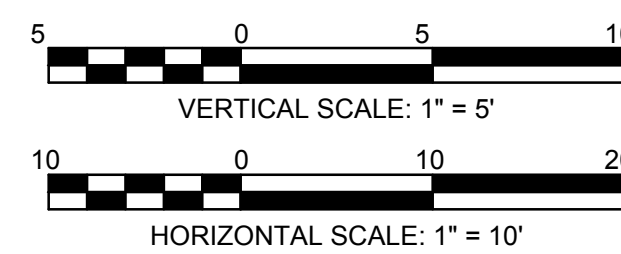
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 PLOT DATE: 10/17/2022 10:57 AM PLOTTED BY: KYLE SOLNER



PLAN



UNFOLDED ELEVATION  
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 DRAWN BY: AN  
 CORRECT:

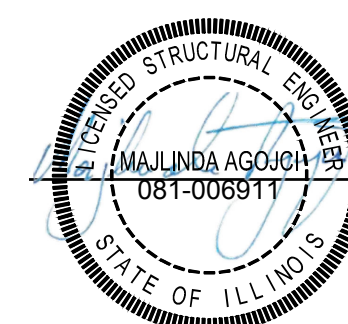
SCALE: AS SHOWN  
 DATE: 2022

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

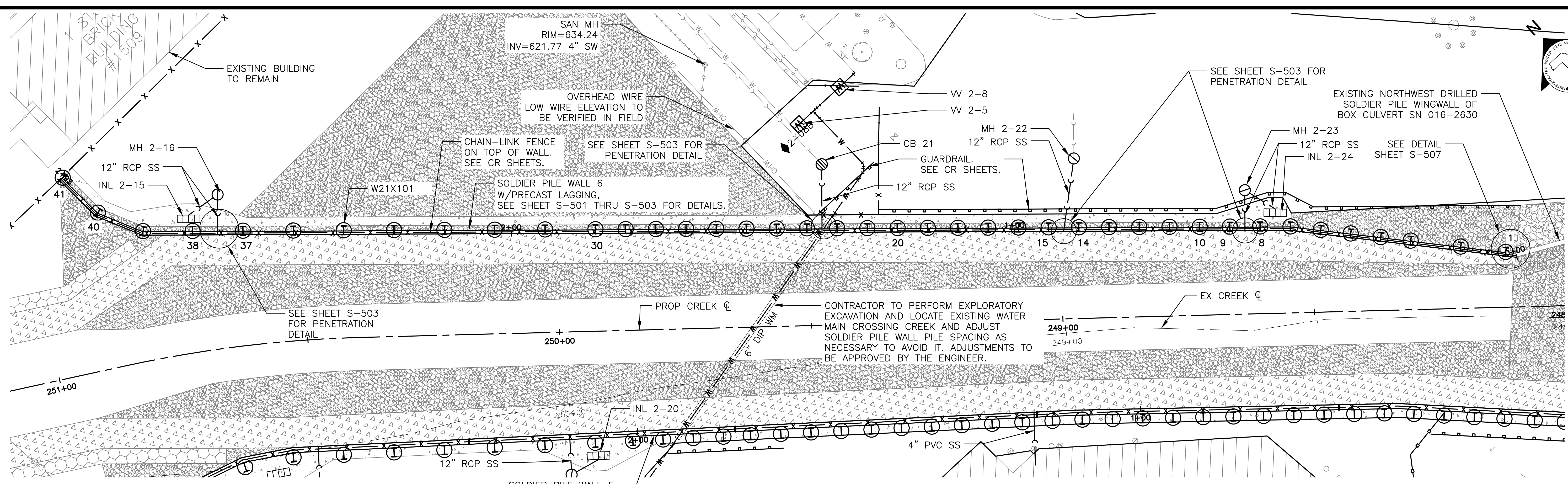
**SOLDIER PILE WALL 5 P&P - REACH 2**  
 STA. 249+50 TO STA. 247+93

Sheet Number:  
**S-208**

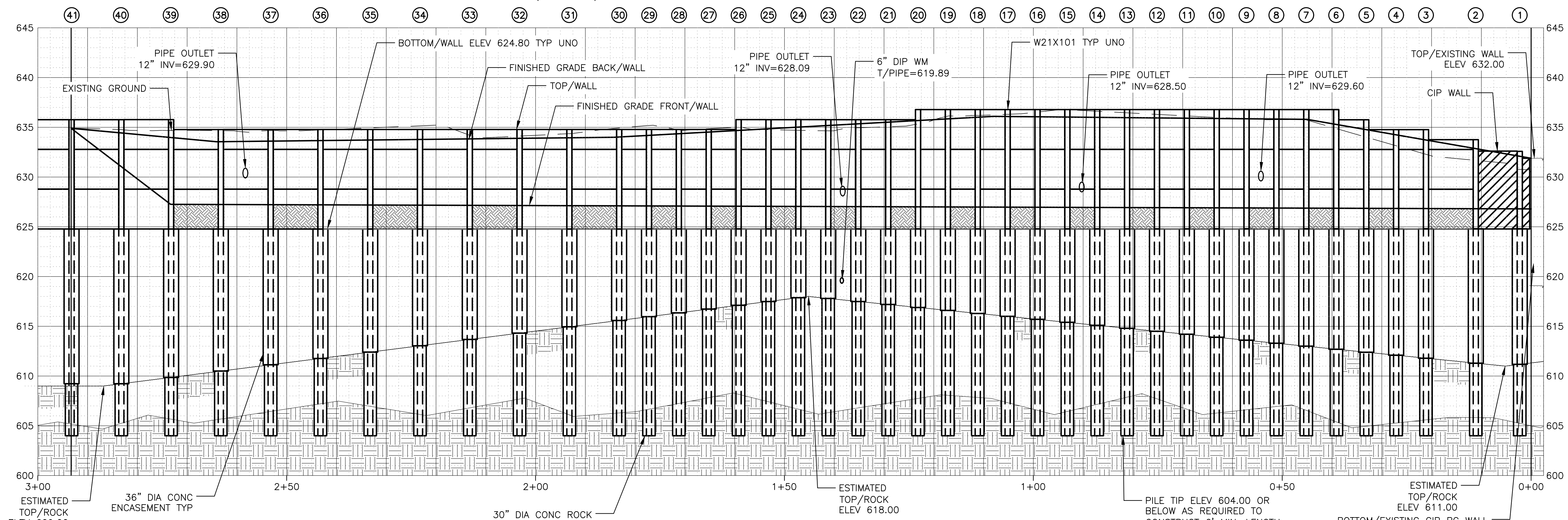
Page Number: **394**



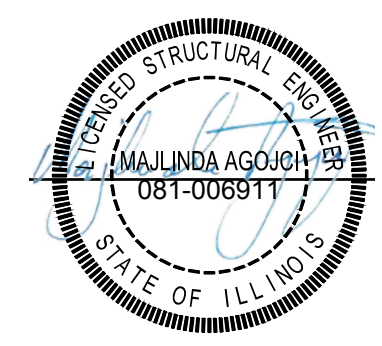
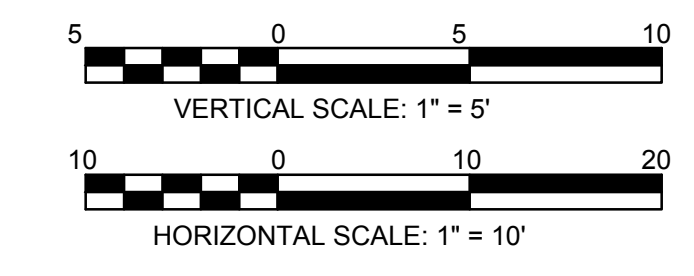
PLOT DATE: 10/18/2022 12:27 PM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Structural\Sheets\S-209.dwg 10/12/2022 10:59 AM



PLAN



UNFOLDED ELEVATION  
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Correct:		

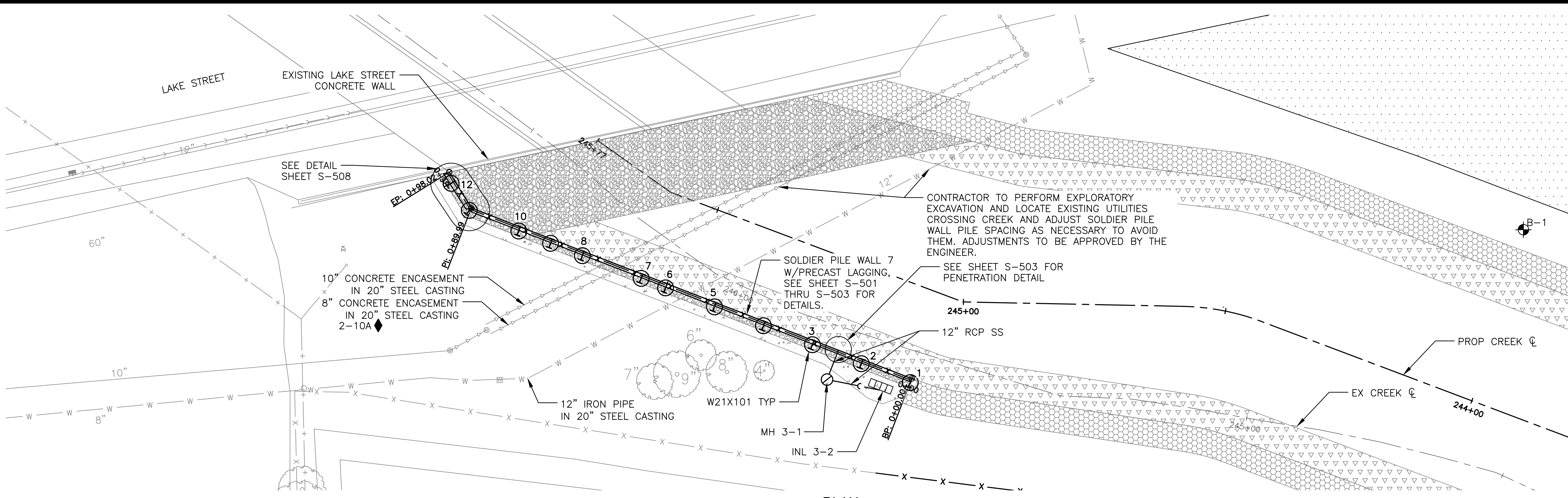
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 6 P&P - REACH 2**  
 STA. 251+10 TO STA. 248+10

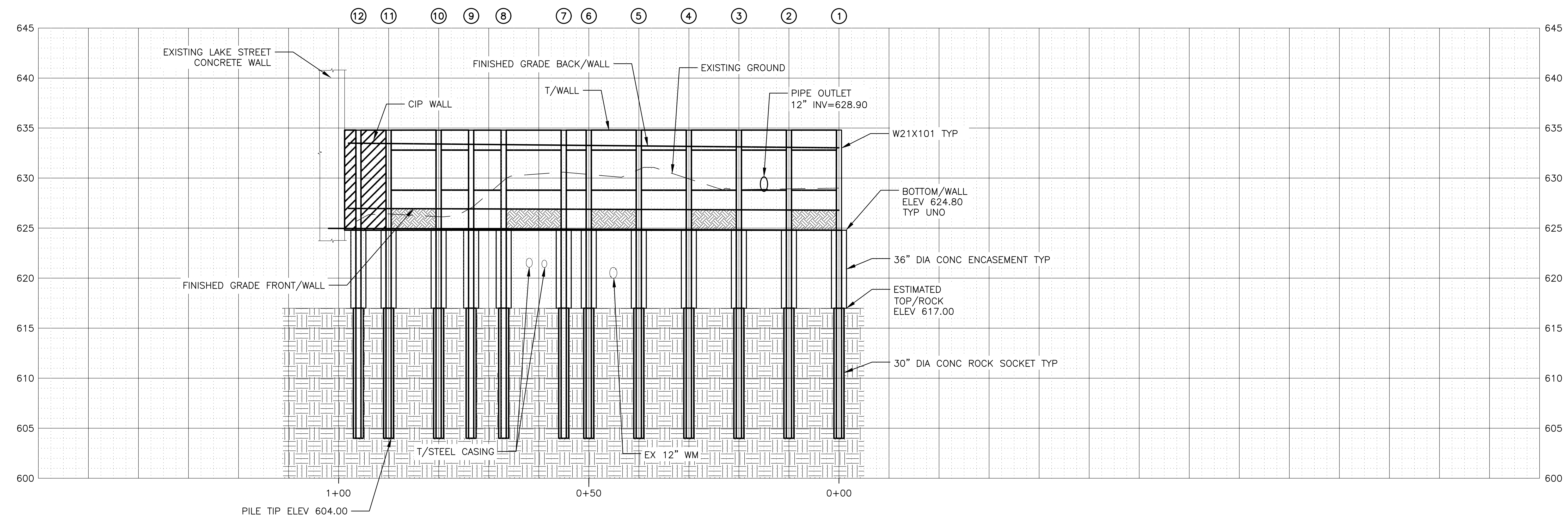
Sheet Number:  
**S-209**

Page Number: 395

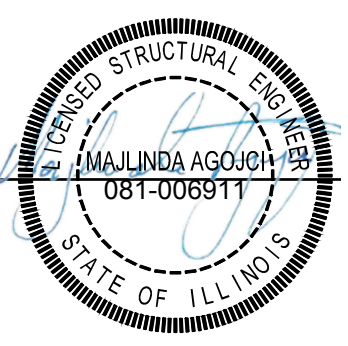
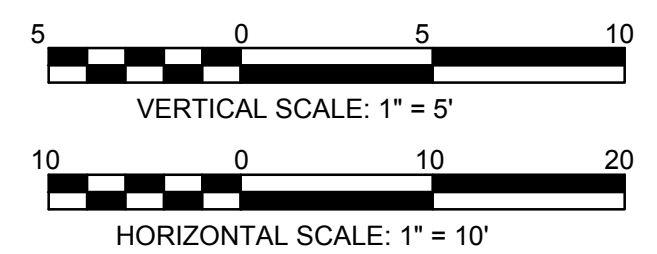
PLOT DATE: 10/17/2022 11:10 AM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\DATA\CAD\11-187-3F\Structural\Sheets\S-210.dwg 10/12/2022 11:00 AM



PLAN



UNFOLDED ELEVATION  
 LOOKING AT BACK FACE/WALL



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Drawn by: AN	Reviewed by:		
Correct:			

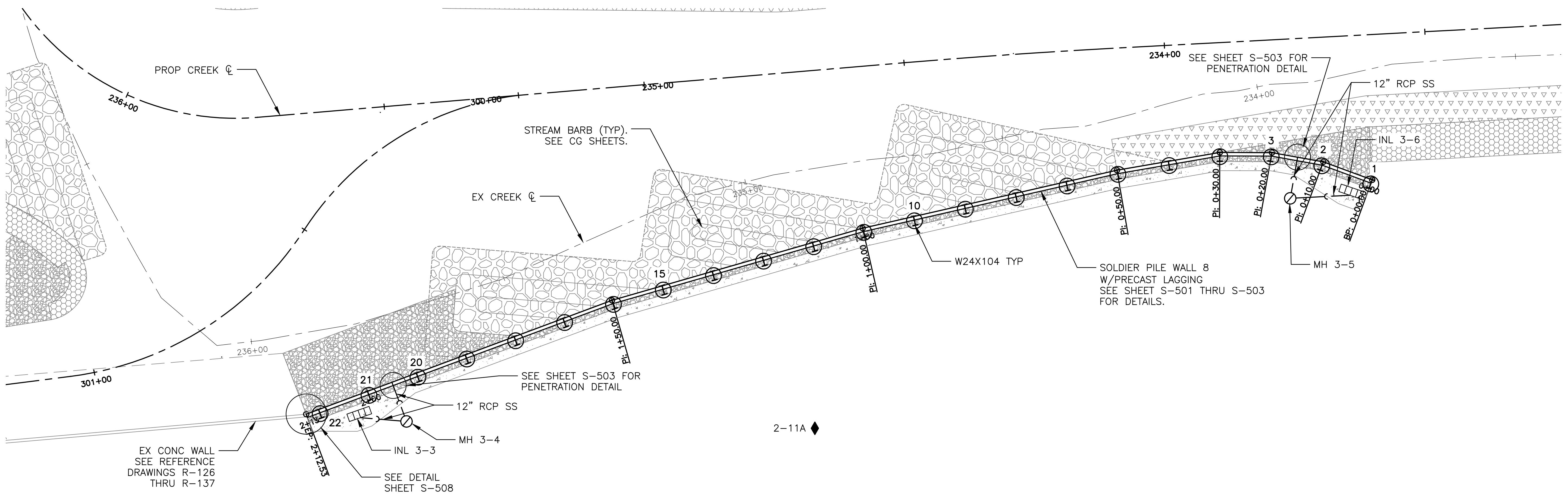
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 7 P&P - REACH 3**  
 STA. 245+77 TO STA. 245+00

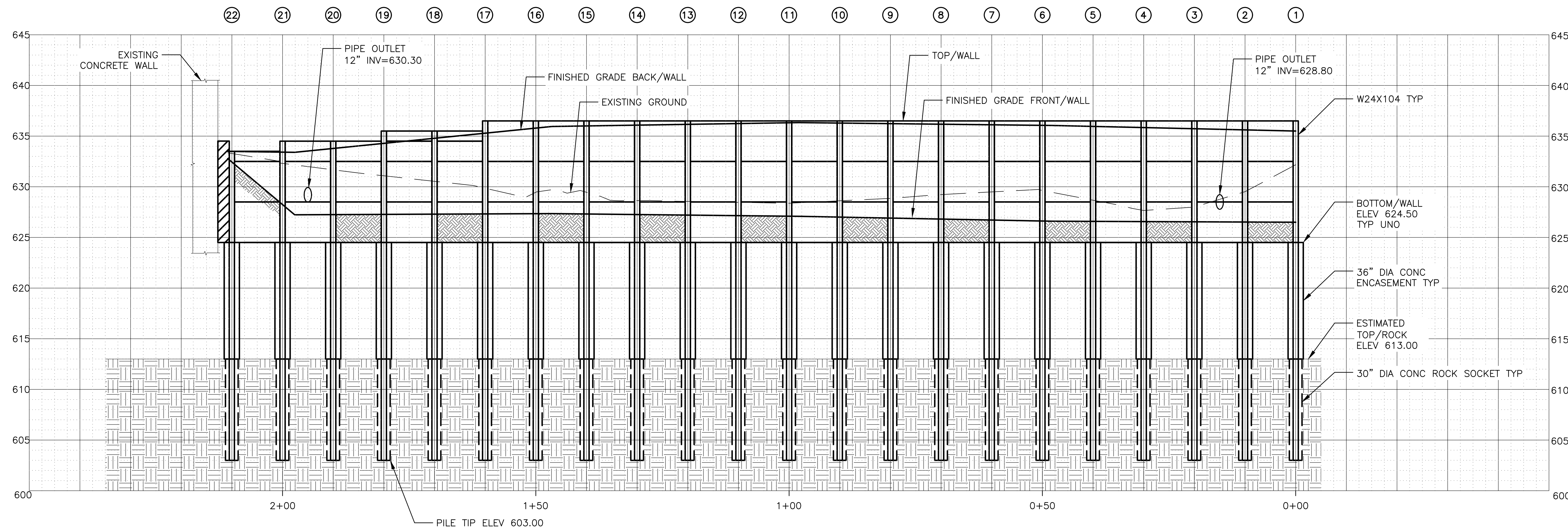
Sheet Number:  
**S-210**

Page Number: **396**

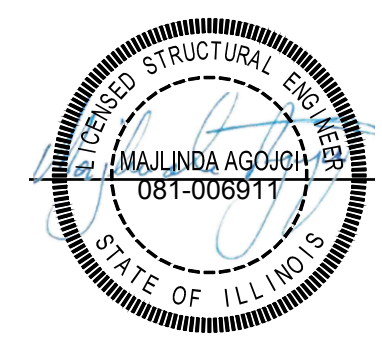
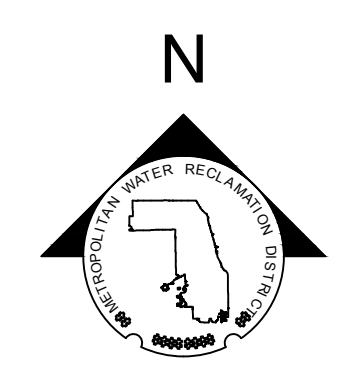
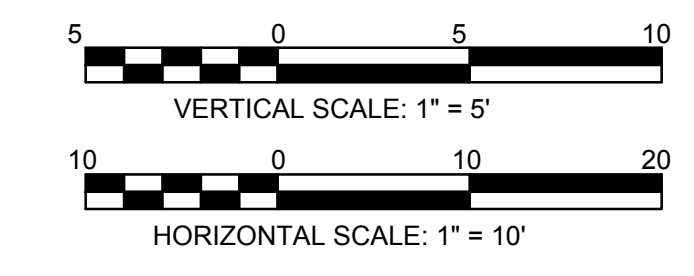
PLOT DATE: 9/27/2022 3:50 PM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\Data\CAD\11-187-3F\Structural\Sheets\S-211.dwg 9/27/2022 1:32 PM



**PLAN**



**UNFOLDED ELEVATION  
 LOOKING AT BACK FACE/WALL**



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SCALE: AS SHOWN  
 DATE: 2022

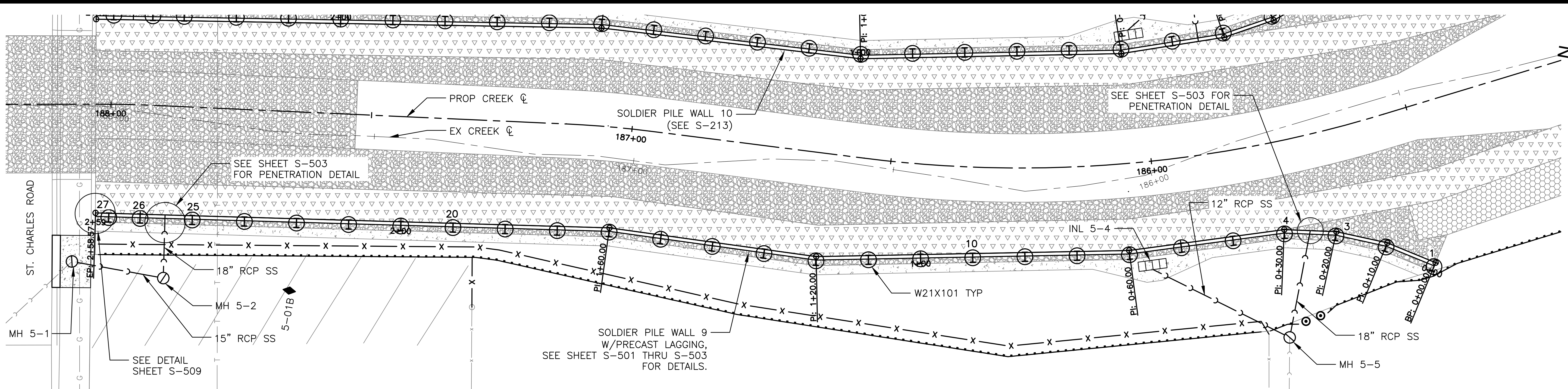
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 8 P&P - REACH 3**  
 STA. 235+70 TO STA. 233+62

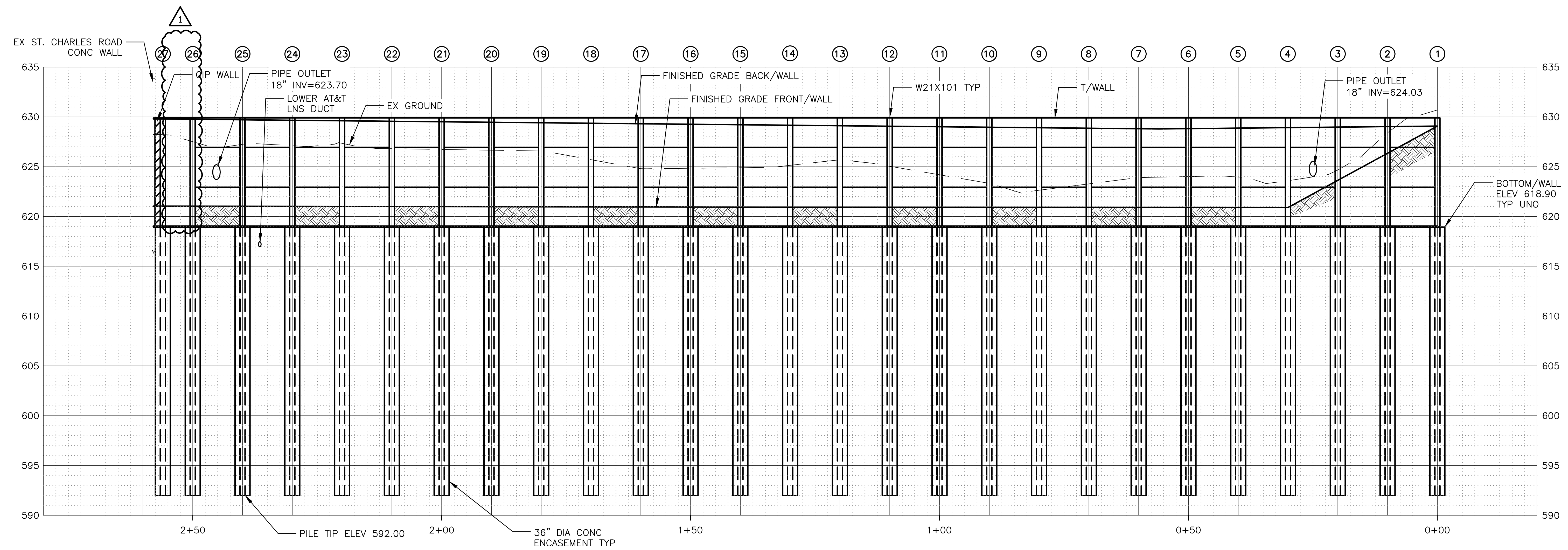
Sheet Number:  
**S-211**

Page Number: **397**

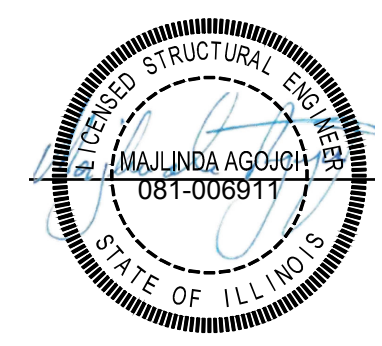
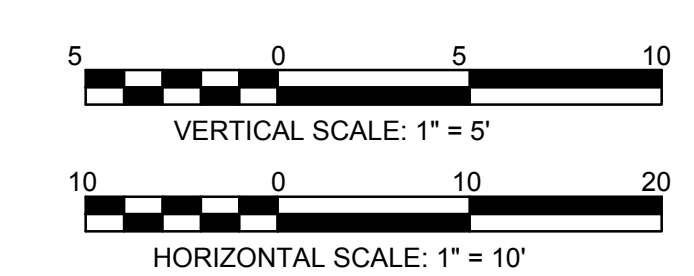
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PLAN



UNFOLDED ELEVATION  
 LOOKING AT FRONT FACE/WALL



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 2	MA	01/06/23

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

DESIGNED BY: LAN  
 CHECKED BY: MA  
 DRAWN BY: AN  
 CORRECT:

SCALE: AS SHOWN  
 DATE: 2022

CONSULTANTS: IVE  
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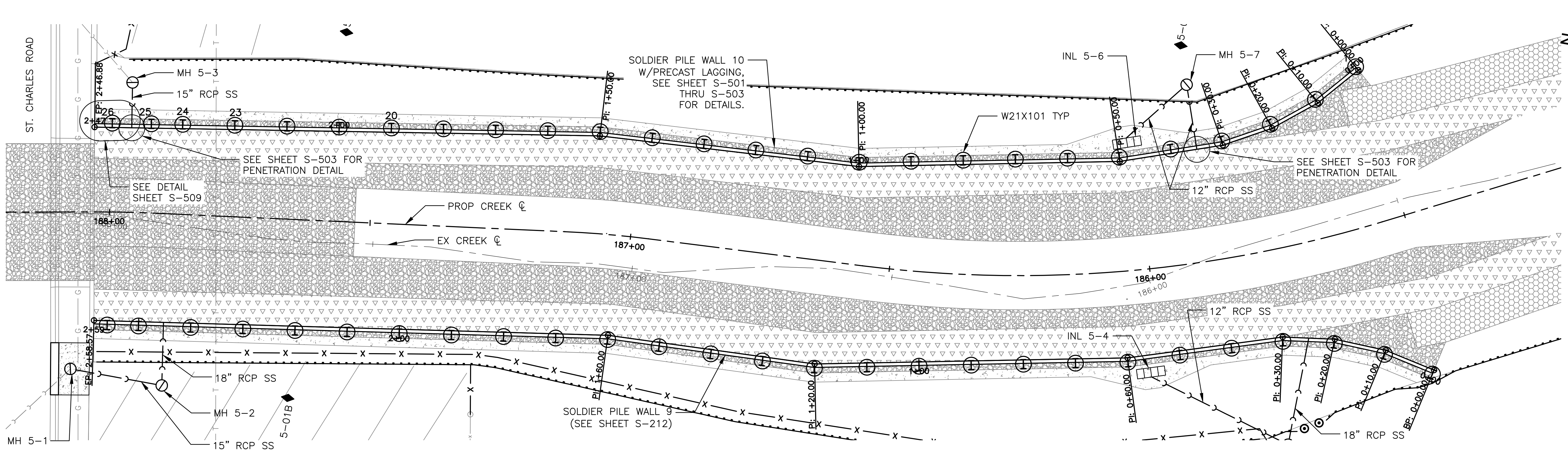
CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

SOLDIER PILE WALL 9 P&P - REACH 5  
 STA. 188+02 TO STA. 185+50

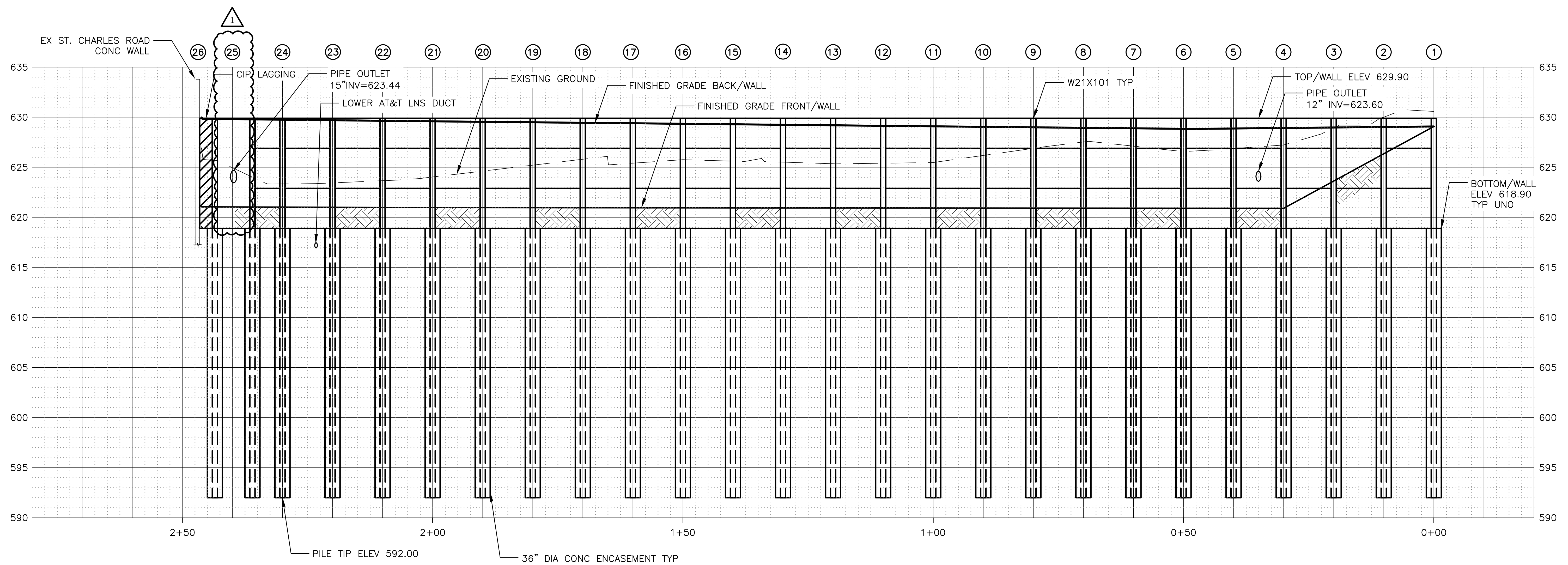
Sheet Number:  
**S-212**

Page Number: 398

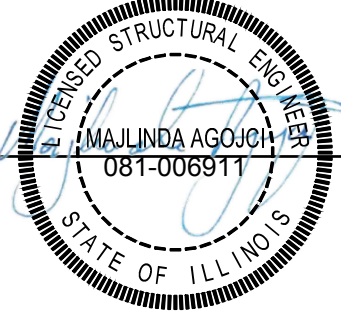
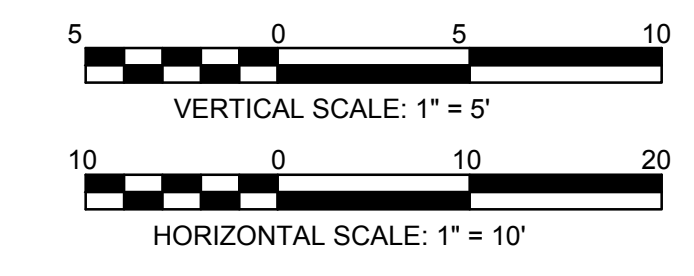
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 PLOT DATE: 1/6/2023 3:24 PM PLOTTED BY: KYLE SOLNER



PLAN



UNFOLDED ELEVATION  
 LOOKING AT FRONT FACE/WALL



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 2	MA	01/06/23

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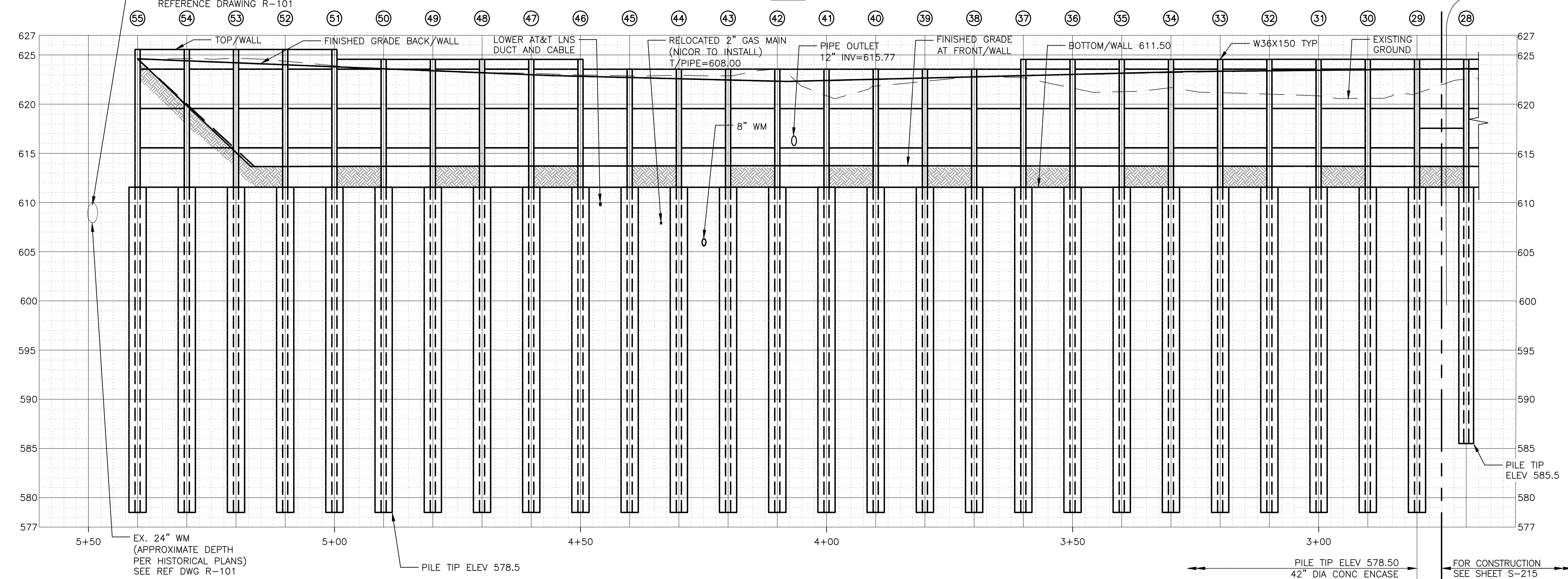
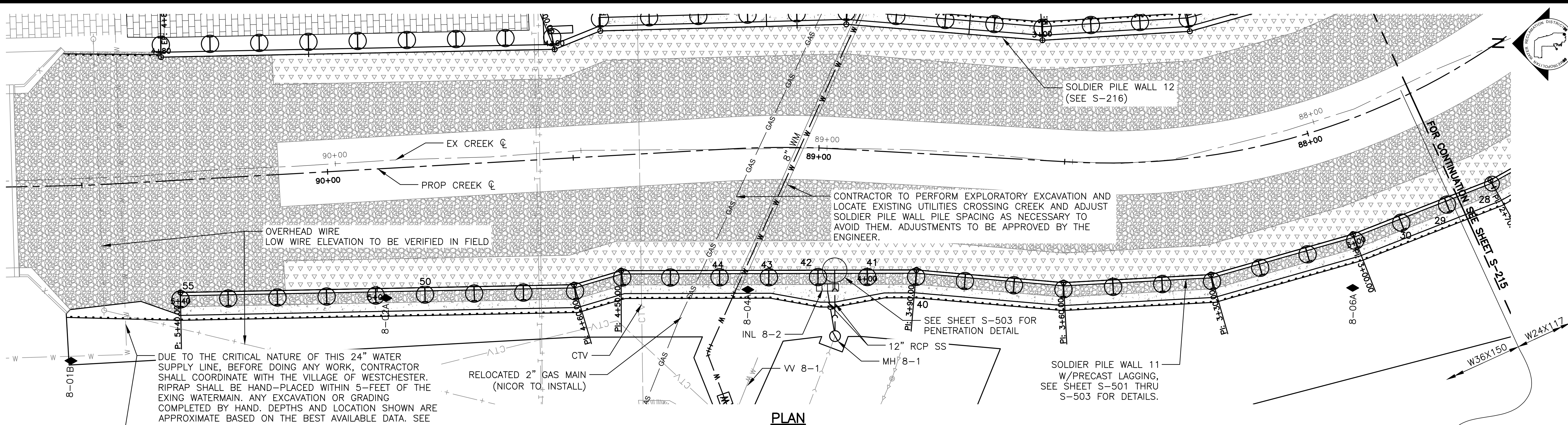
Scale: AS SHOWN  
 Designed by: LAN  
 Checked by: MA  
 Drawn by: AN  
 Reviewed by: AN  
 Date: 2022  
 Correct:

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**SOLDIER PILE WALL 10 P&P - REACH**  
 5 STA. 188+02 TO STA. 185+40

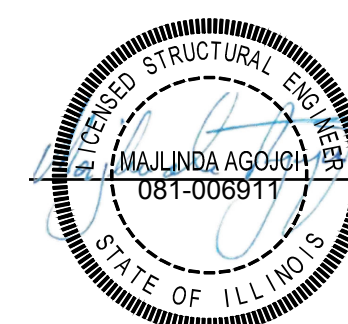
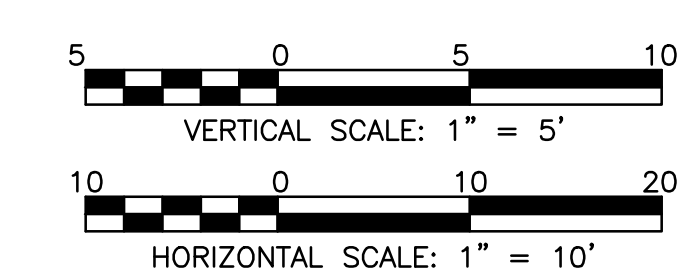
Sheet Number:  
**S-213**  
 Page Number: 399



PLOT DATE: 10/17/2022 12:08 PM PLOTTED BY: KYLE SOLNER P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\DATA\CAD\11-187-3F\Structural\Sheets\S-214.dwg 10/12/2022 11:12 AM



UNFOLDED ELEVATION  
LOOKING AT BACK FACE/WALL



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

Scale: AS SHOWN  
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Designed by: LAN  
Reviewed by: AN  
Date: 2022  
Correct:

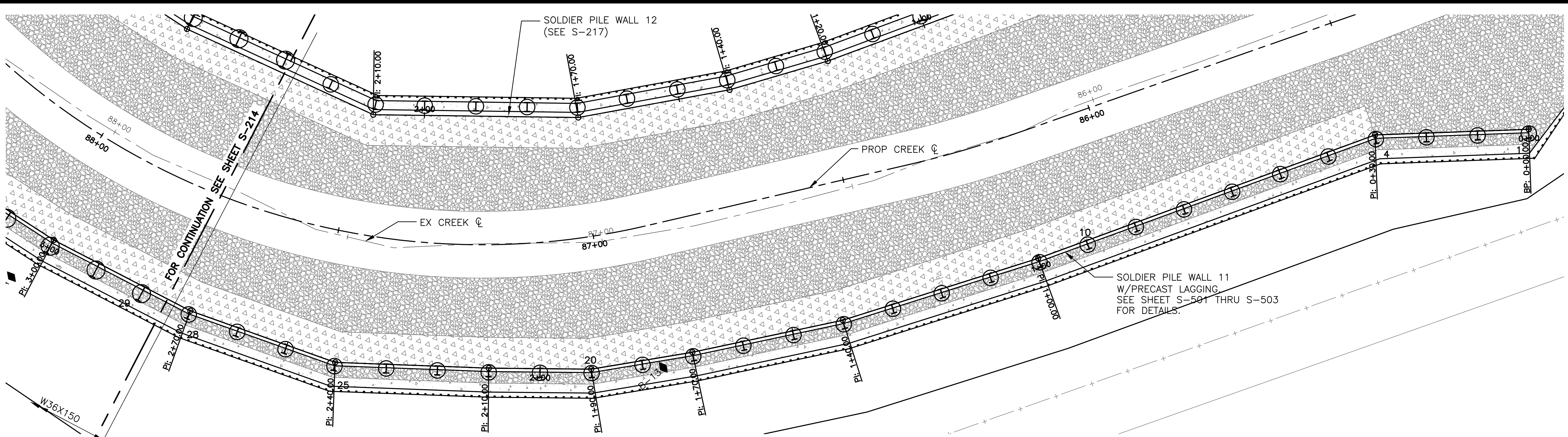
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**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

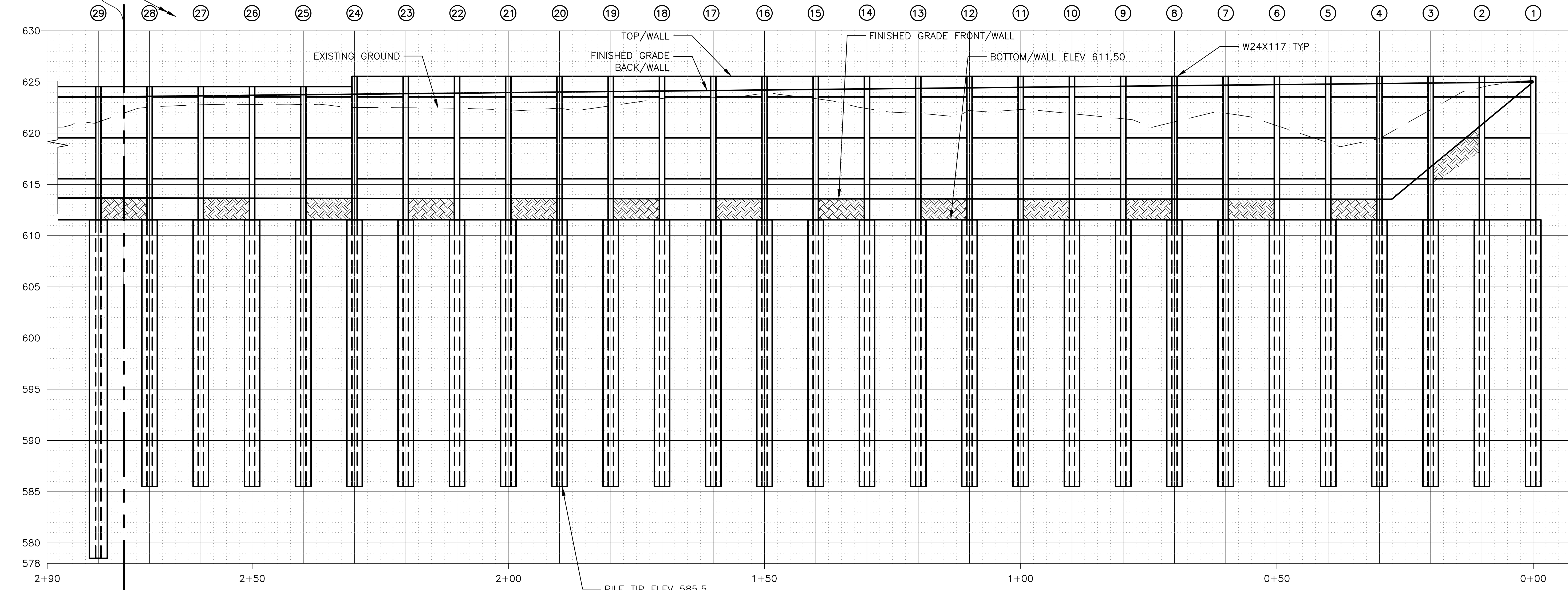
**SOLDIER PILE WALL 11 P&P - REACH**  
8 STA. 90+65 TO STA. 87+80

Sheet Number:  
**S-214**  
Page Number: 400

PLOT DATE: 10/17/2022 1:47 PM PLOTTED BY: KYLE SOLNER  
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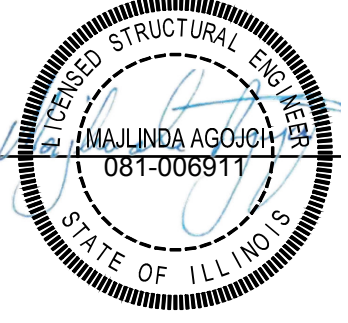
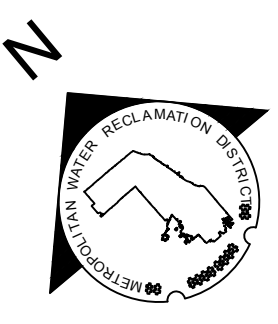
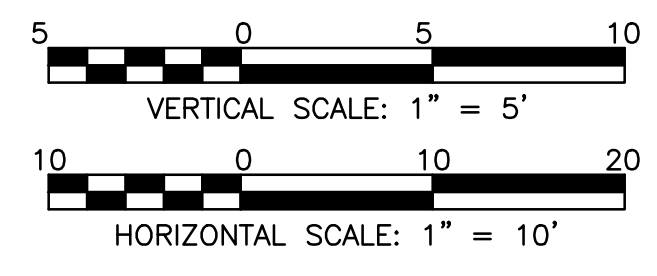


PLAN



UNFOLDED ELEVATION  
 LOOKING AT BACK FACE/WALL

FOR CONTINUATION SEE SHEET S-214  
 PILE TIP ELEV 585.50  
 36" DIA CONC ENCASE



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Drawn by: AN	Reviewed by: 	Date: 2022
Correct:		

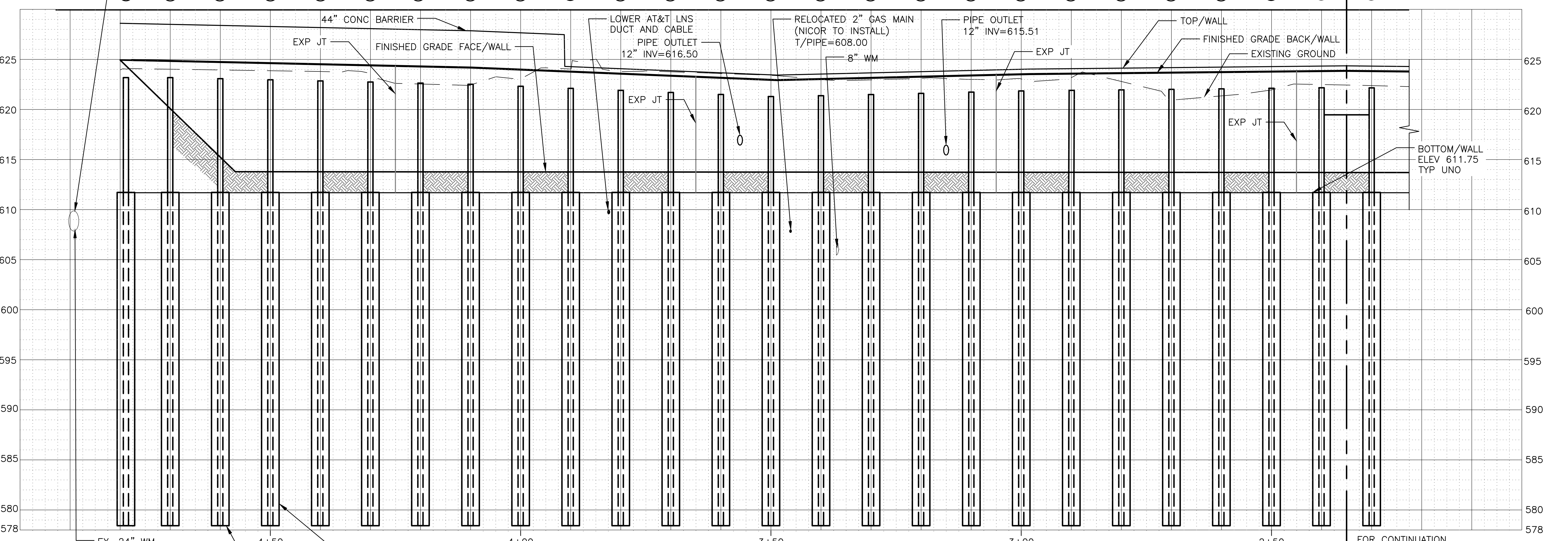
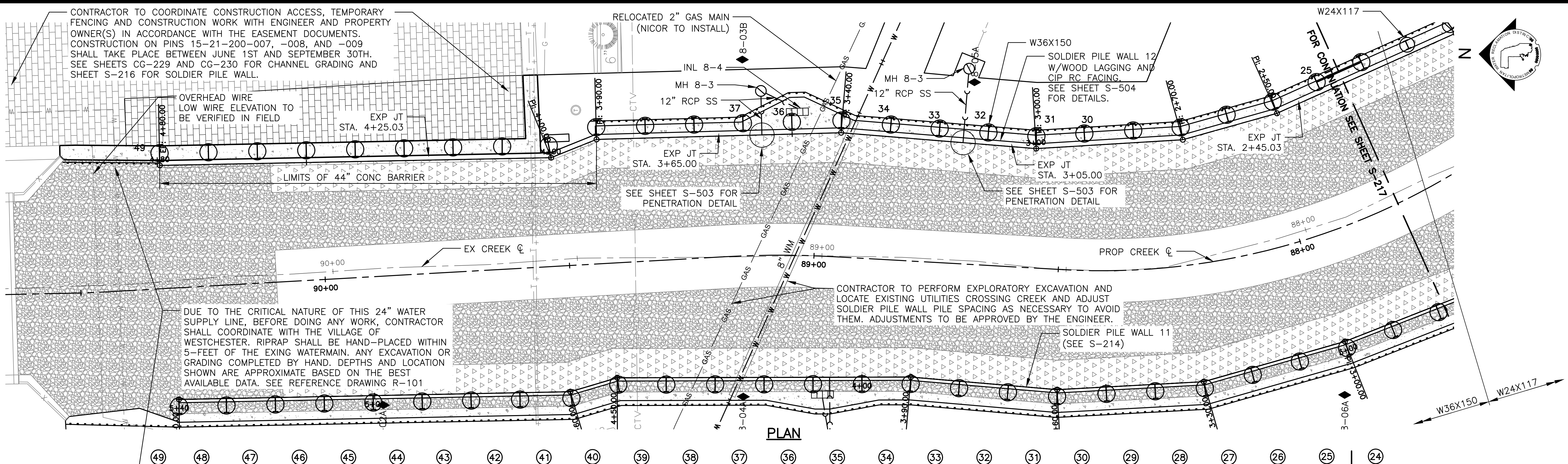
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL 11 P&P - REACH**  
 8 STA. 87+80 TO STA. 85+20

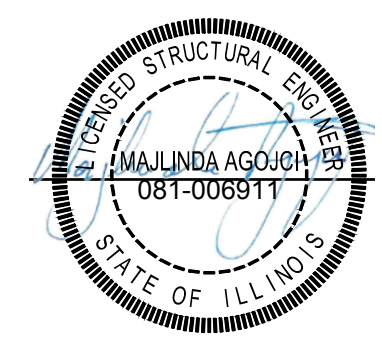
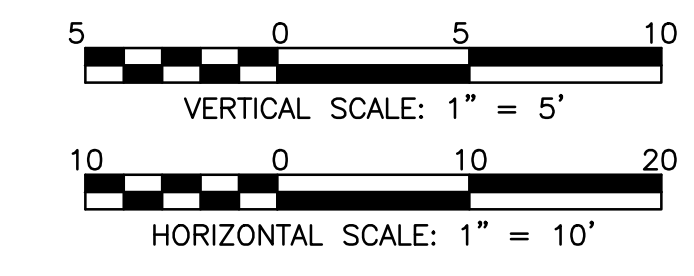
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**S-215**

Page Number: 401

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 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\DATA\CAD\11-187-3F\Structural\Sheets\S-216.dwg 10/12/2022 11:14 AM



UNFOLDED ELEVATION  
 LOOKING AT FRONT FACE/WALL



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

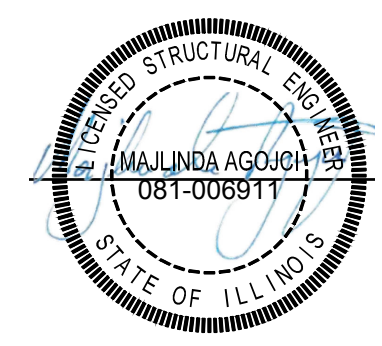
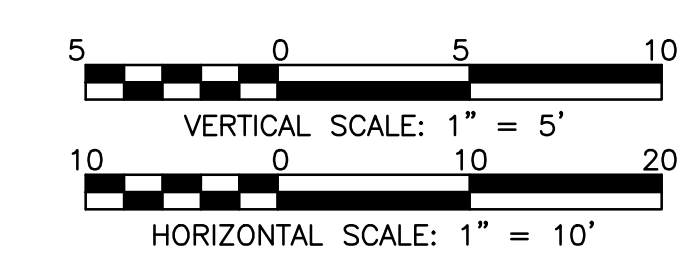
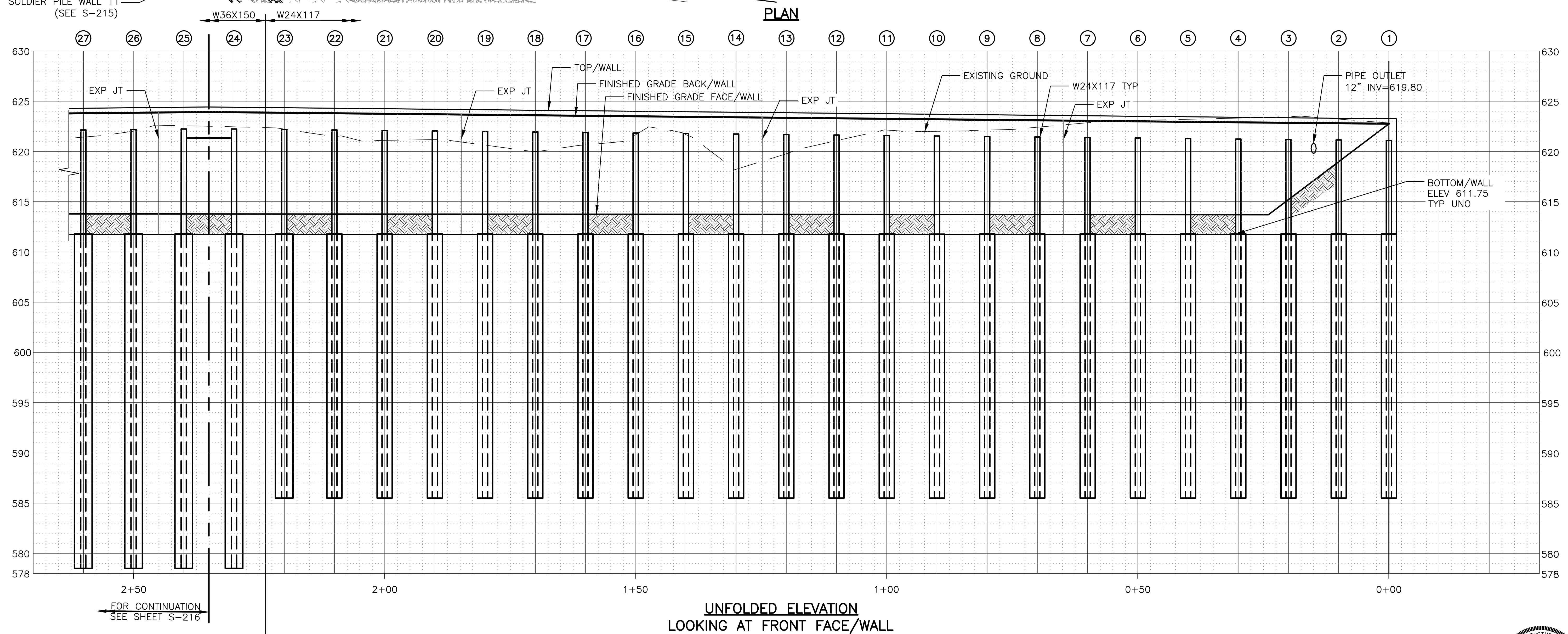
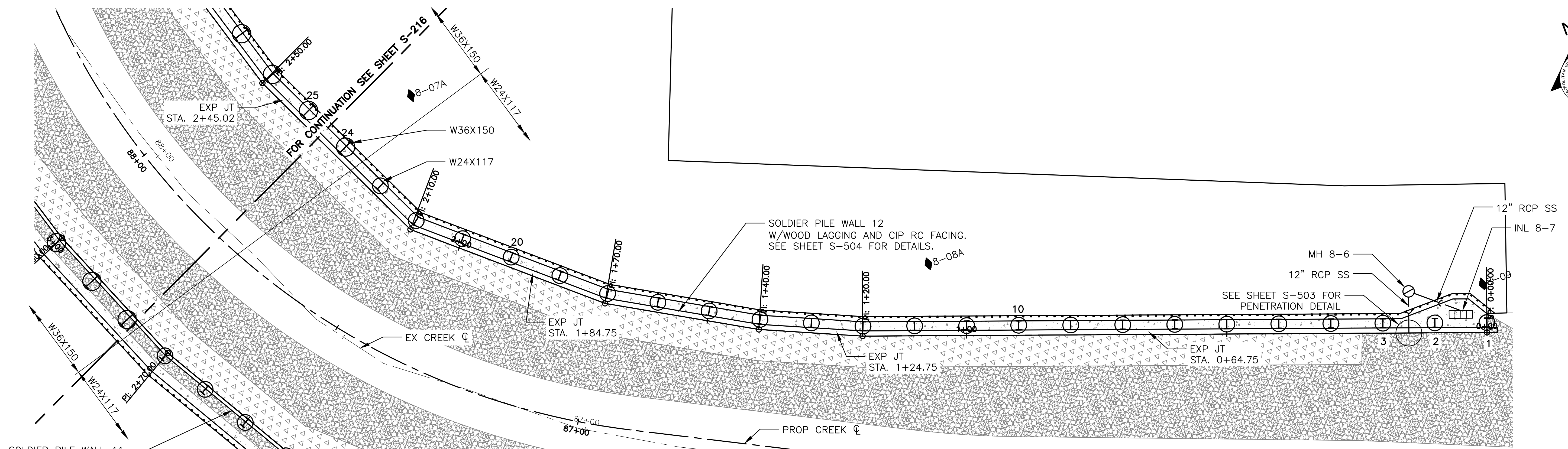
Scale: AS SHOWN  
 Checked by: MA  
 Designed by: LAN  
 Drawn by: AN  
 Date: 2022  
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 Correct:

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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**SOLDIER PILE WALL 12 P&P - REACH**  
 8 STA. 90+65 TO STA. 87+80

Sheet Number:  
**S-216**  
 Page Number: 402

PLOT DATE: 10/17/2022 1:59 PM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Structural\Sheets\S-217.dwg 10/12/2022 11:17 AM



Rev.	Description	Appr.	Date

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 DRAWN BY: AN  
 SCALE: AS SHOWN  
 DATE: 2022

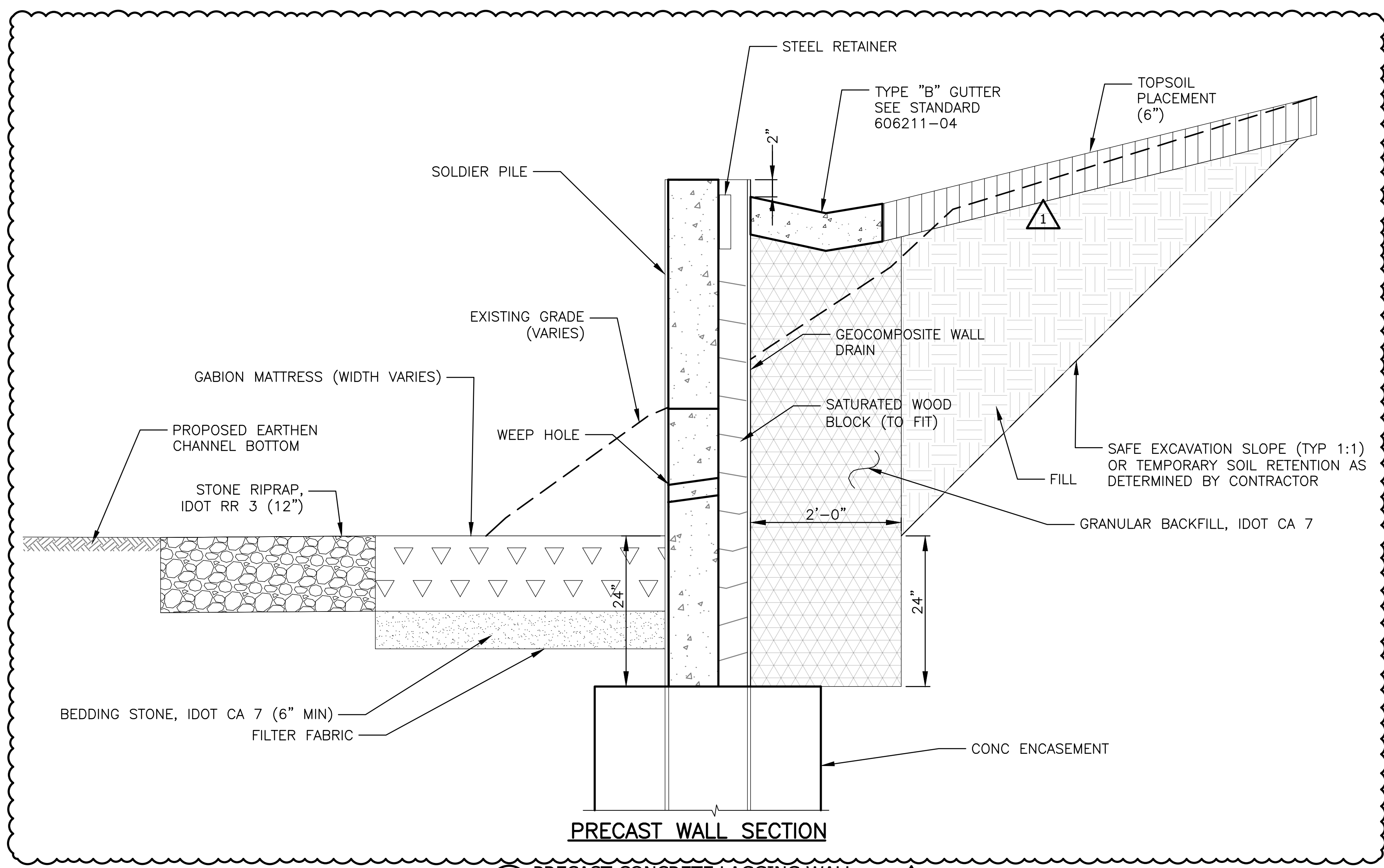
Correct:

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

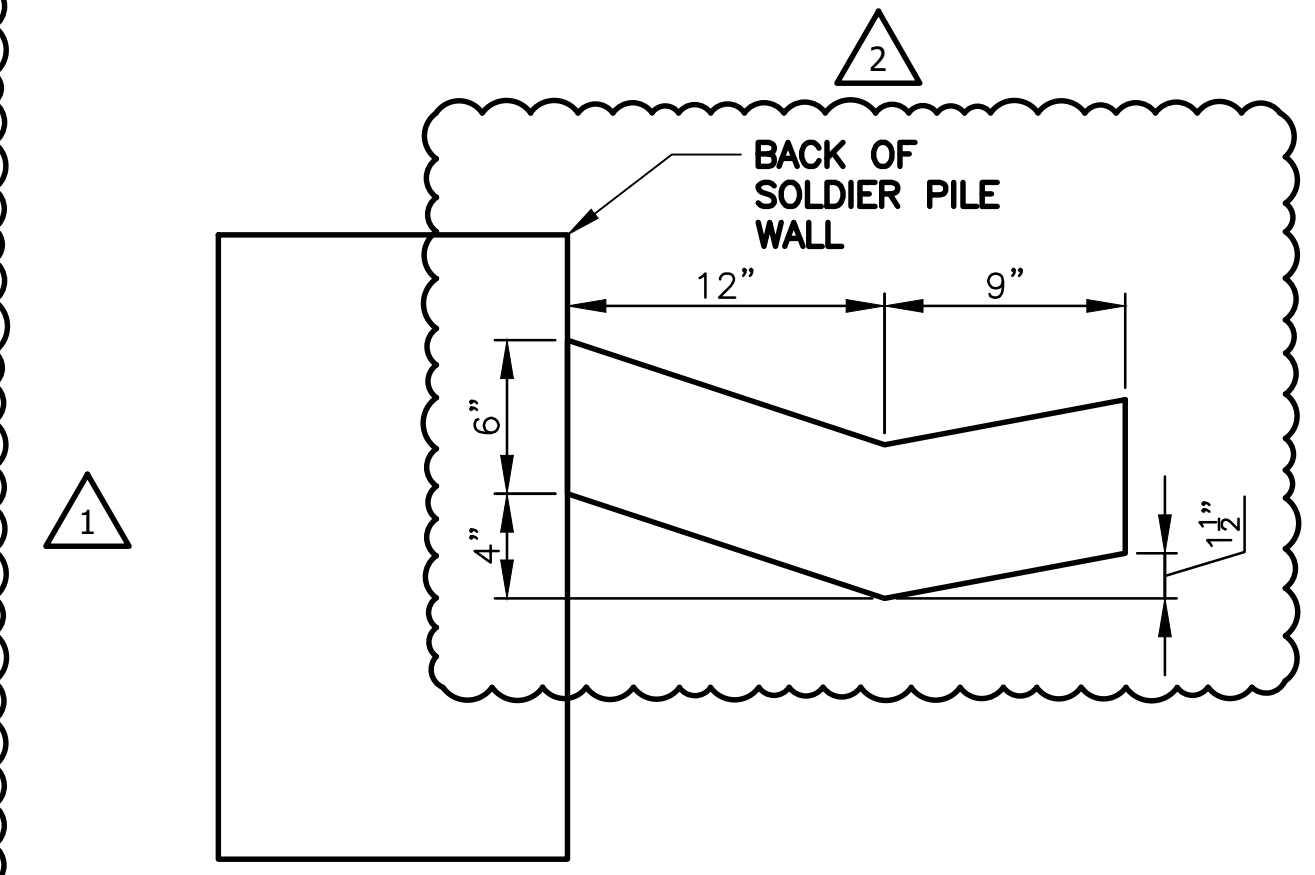
**SOLDIER PILE WALL 12 P&P - REACH 8**  
 STA. 87+80 TO STA. 85+20

Sheet Number:  
**S-217**

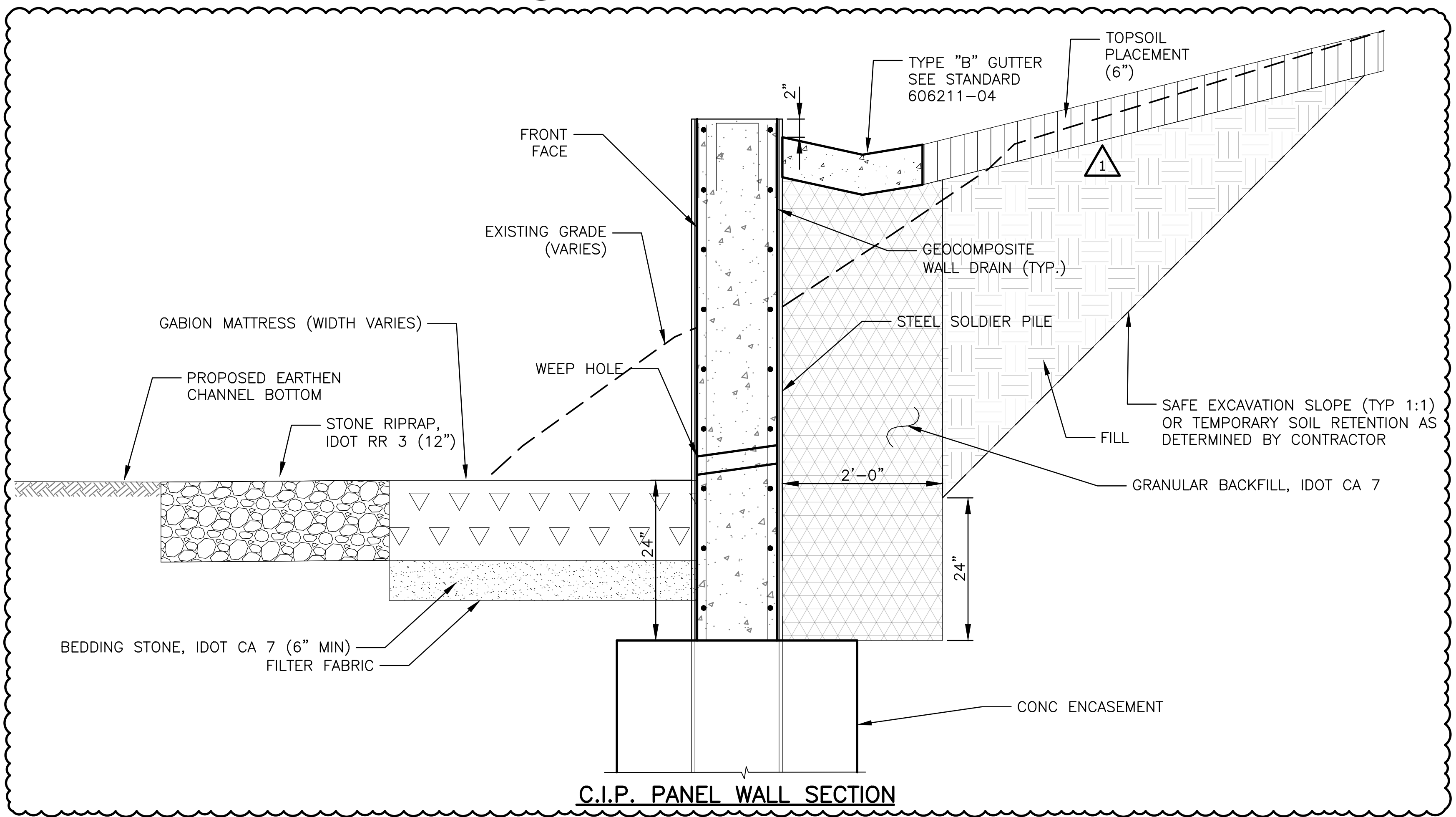
Page Number: 403



**1 PRECAST CONCRETE LAGGING WALL**  
 SCALE: NTS



**3 TYPICAL GUTTER DETAIL**  
 SCALE: NTS



**2 SPECIAL WALL END DETAIL (SEE SHEETS S-505 THRU S-509 FOR LOCATION)**  
 SCALE: NTS

**NOTES:**

1. SEE SOLDIER PILE PLAN AND PROFILE SHEETS FOR WALL ALIGNMENT, TOP ELEVATION, PILE TIP ELEVATIONS, AND PILE SIZE.
2. CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS, ELEVATIONS AND SIZES BY EXPOSING AND SURVEYING PRIOR TO CONSTRUCTION AND PRIOR TO MANUFACTURING PRECAST PANELS.
3. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SUPPORT OF EXCAVATION REQUIRED FOR CONSTRUCTION, INCLUDING BUILDINGS, UTILITIES AND OTHER FEATURES THAT MAY BE IN CLOSE PROXIMITY TO PROPOSED WALL.

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 2	MA	01/06/23
2	ADDENDUM NO. 7	MA	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

DESIGNED BY: LAN  
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 SCALE: AS SHOWN

DRAWN BY: NM  
 REVIEWED BY: NM  
 DATE: 2022

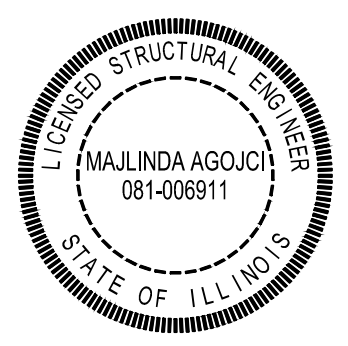
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

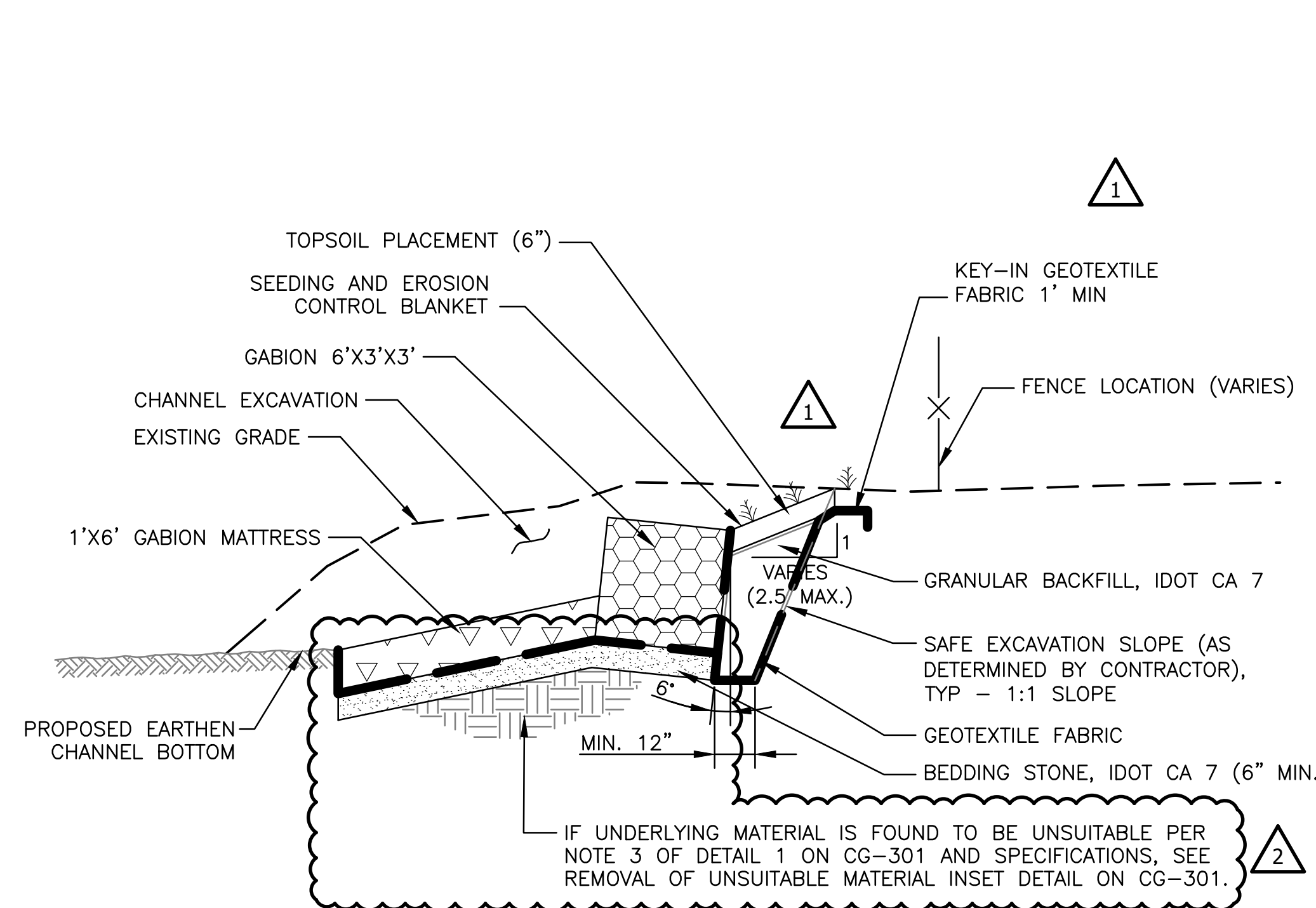
**SOLDIER PILE WALL TYPICAL SECTIONS**  
 PRECAST CONCRETE LAGGING

Sheet Number:  
**S-301**

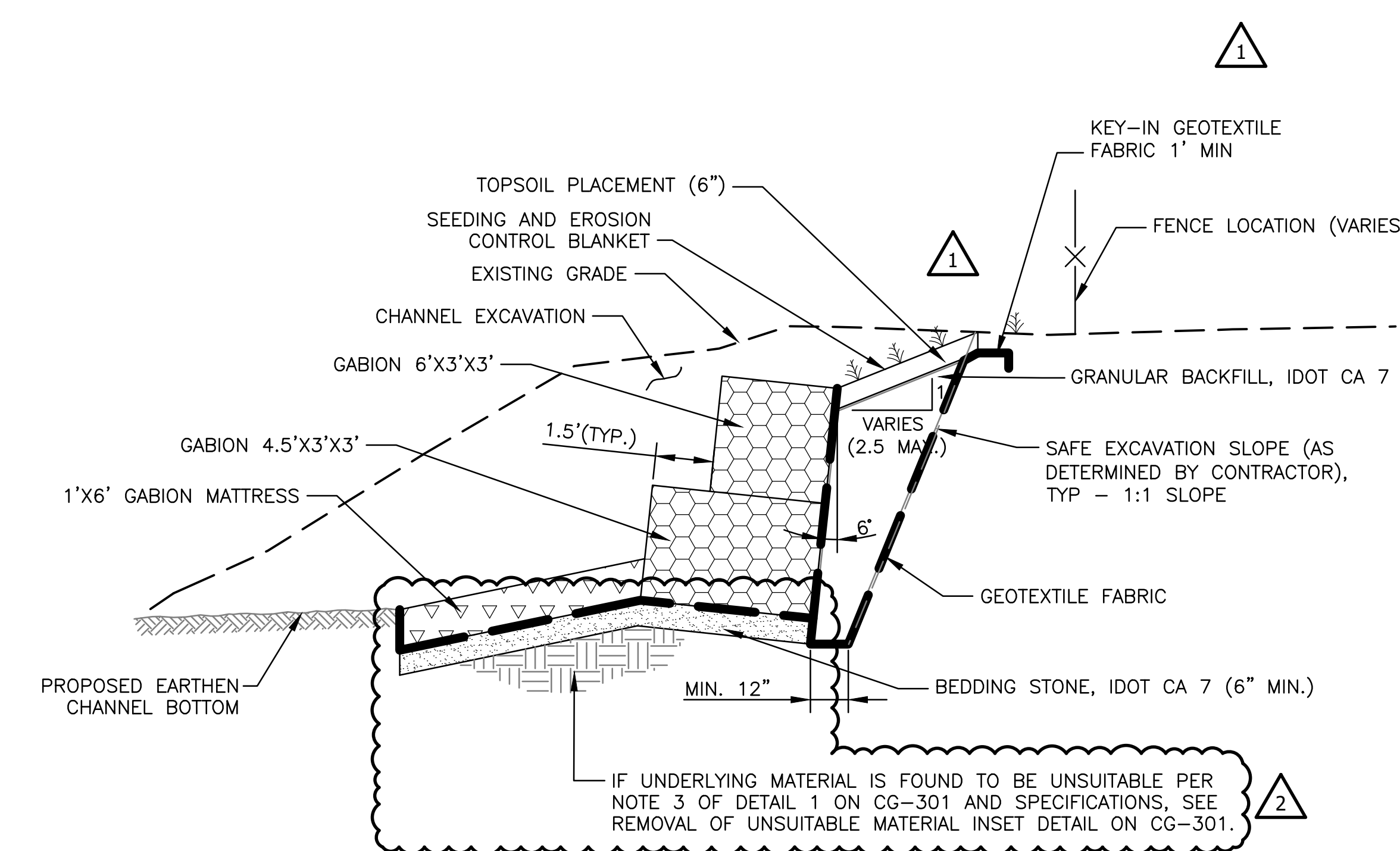
Page Number: 404



P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Structural\Sheets\S-302-Rev2.dwg 5/25/2023 4:04 PM  
 PLOT DATE: 5/26/2023 10:16 AM PLOTTED BY: KYLE SOLINER

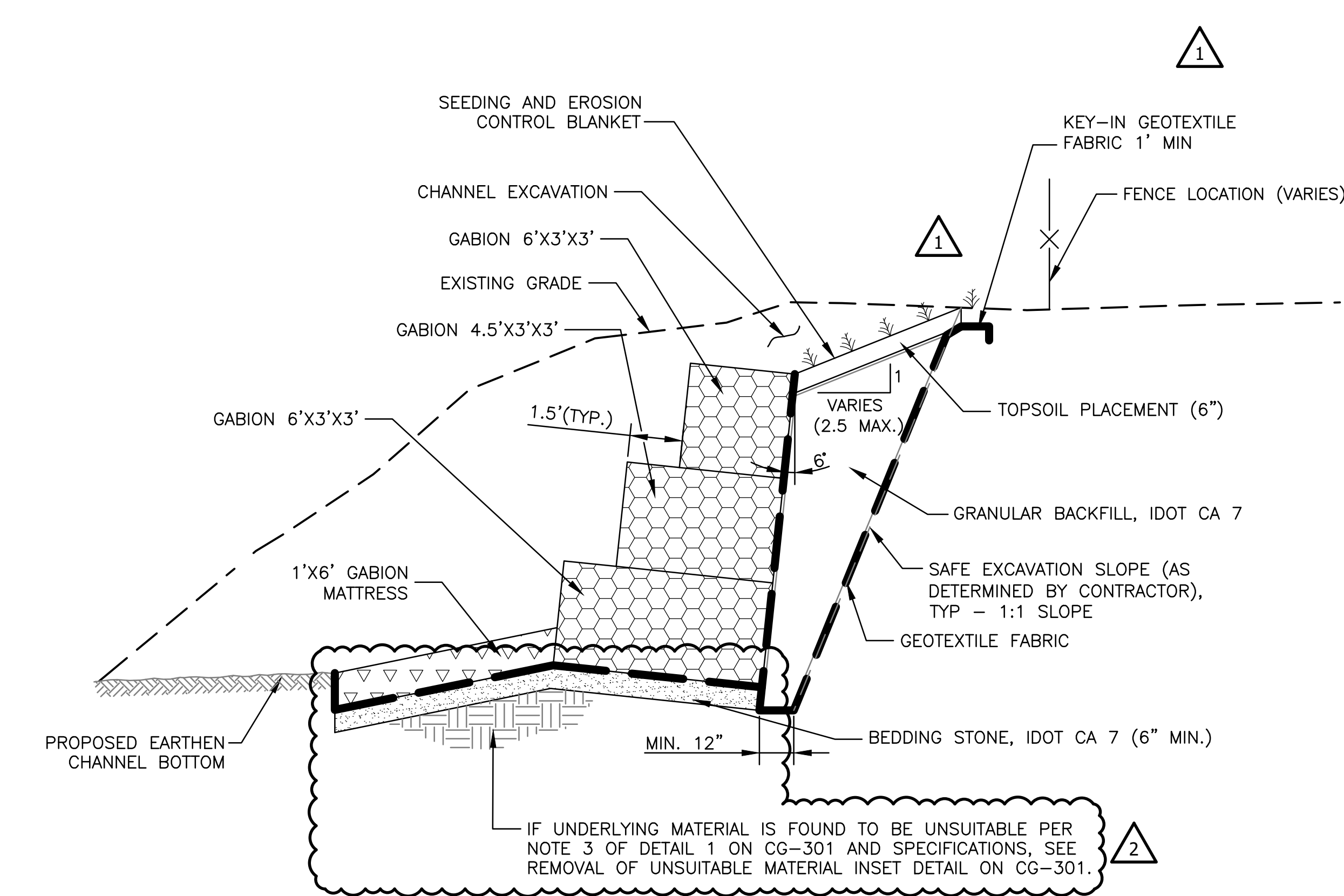


**1** TYPICAL 1- BASKET GABION WALL CONFIGURATION  
 SCALE: NTS



**2** TYPICAL 2- BASKET GABION WALL CONFIGURATION  
 SCALE: NTS

NOTE: SEE S-521 FOR GABION WALL DETAILS AND LAYOUT.



**3** TYPICAL 3- BASKET GABION WALL CONFIGURATION  
 SCALE: NTS

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 4	MA	01/25/23
2	ADDENDUM NO. 8	MA	05/24/23

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

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 DRAWN BY: NM  
 CORRECT:

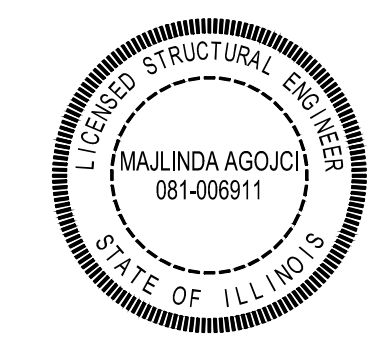
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 DATE: 2022

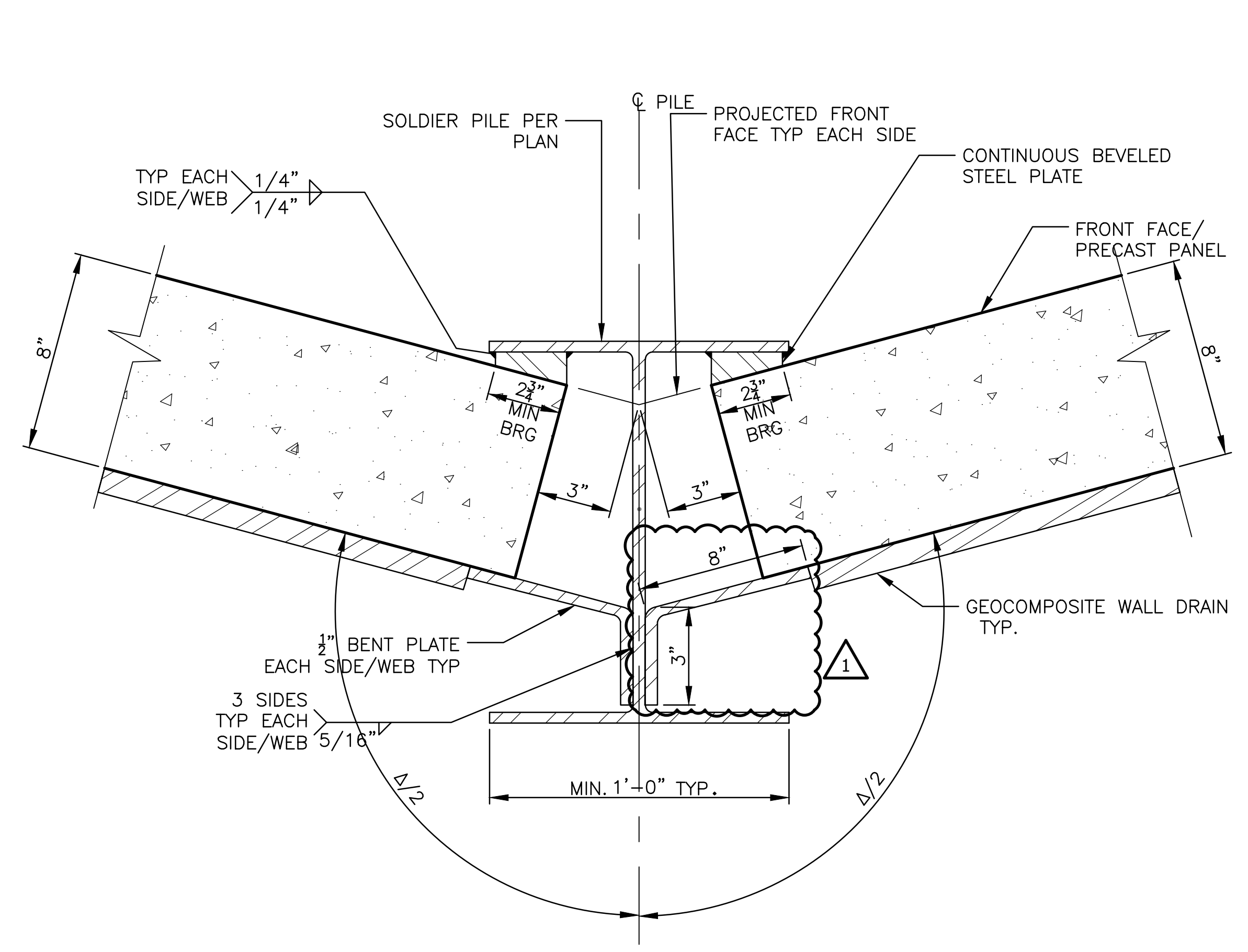
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 ADDISON CREEK CHANNEL IMPROVEMENTS

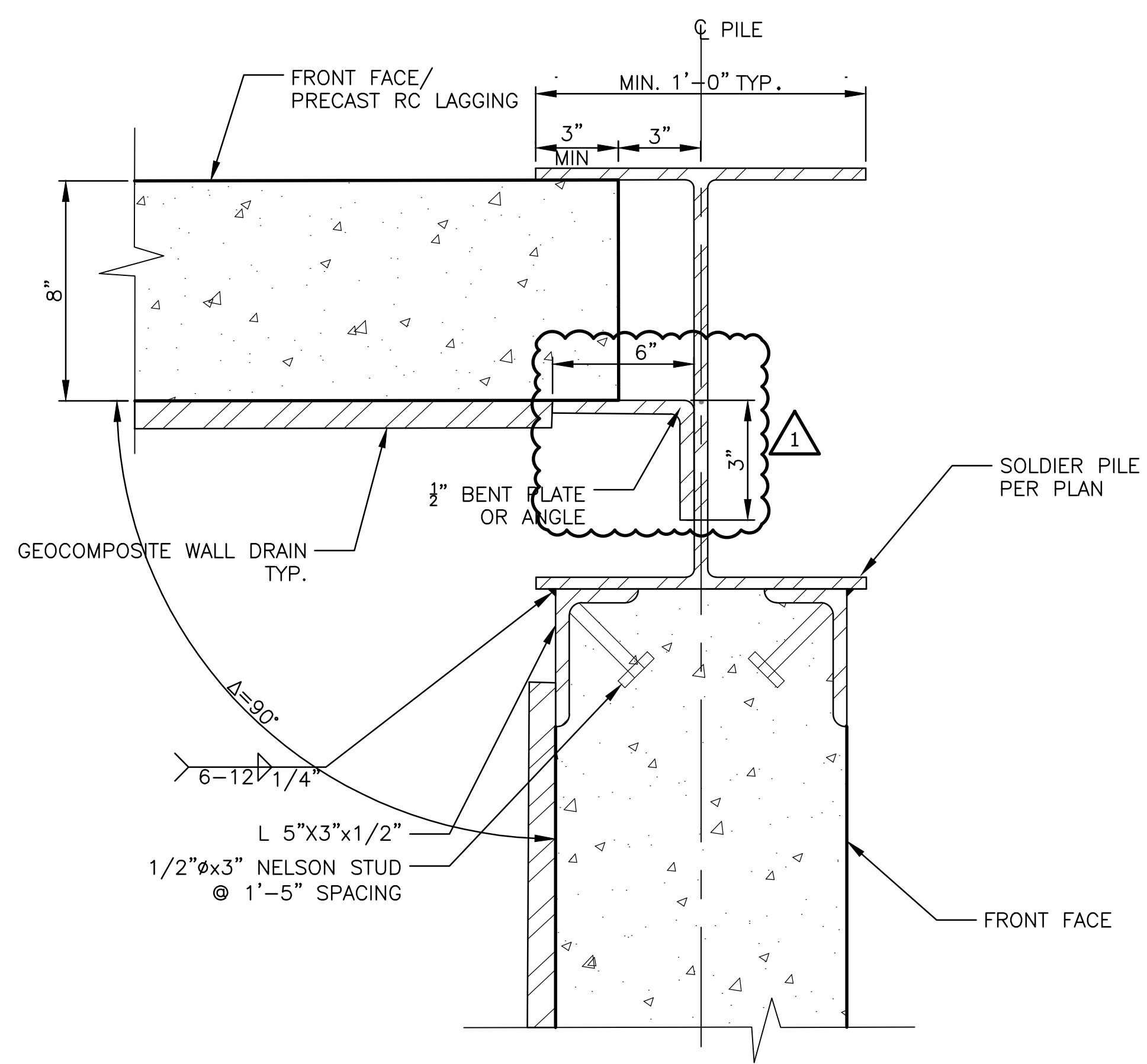
**GABION WALL TYPICAL SECTIONS**

Sheet Number:  
**S-302**  
 Page Number: 405

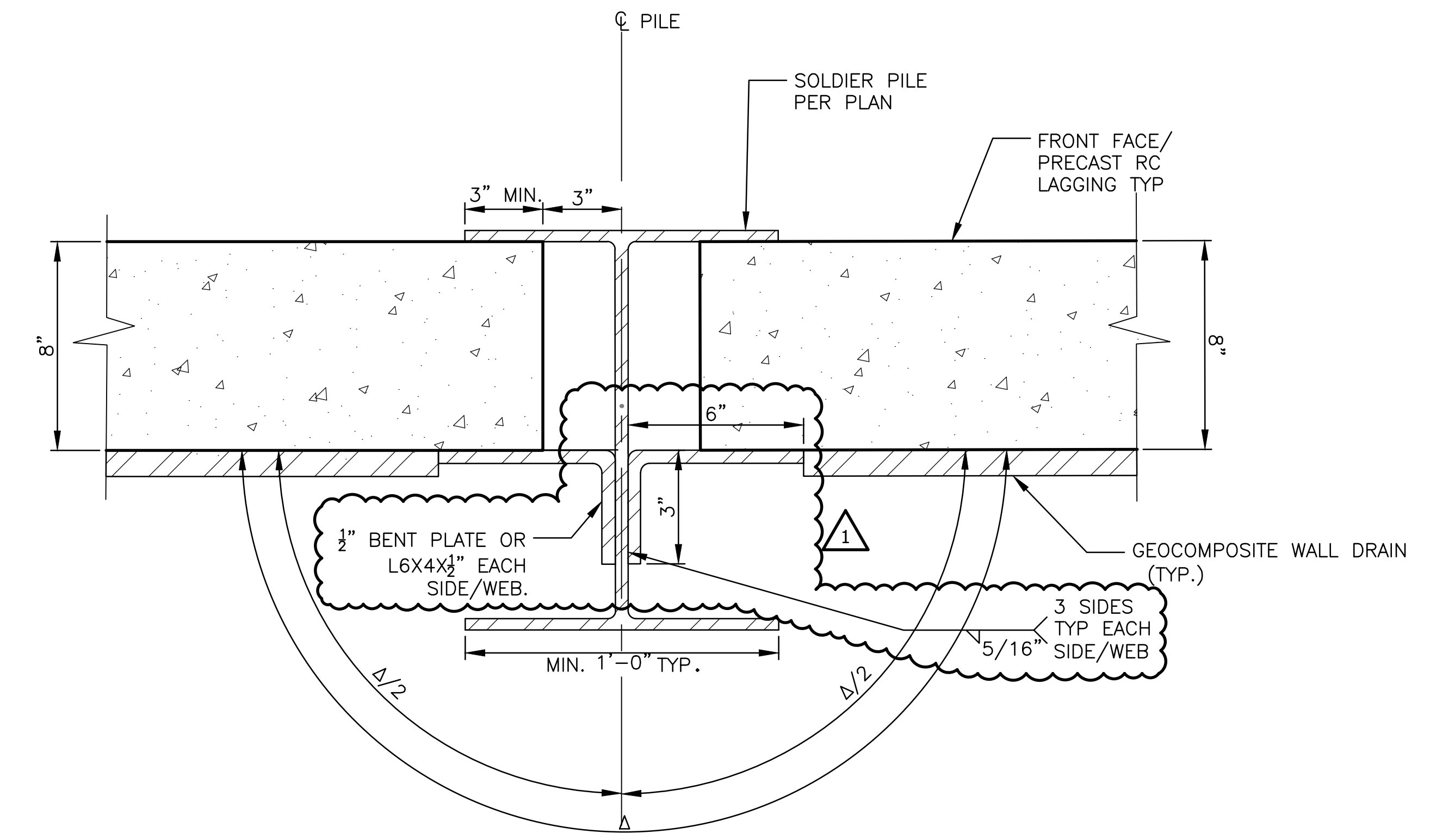




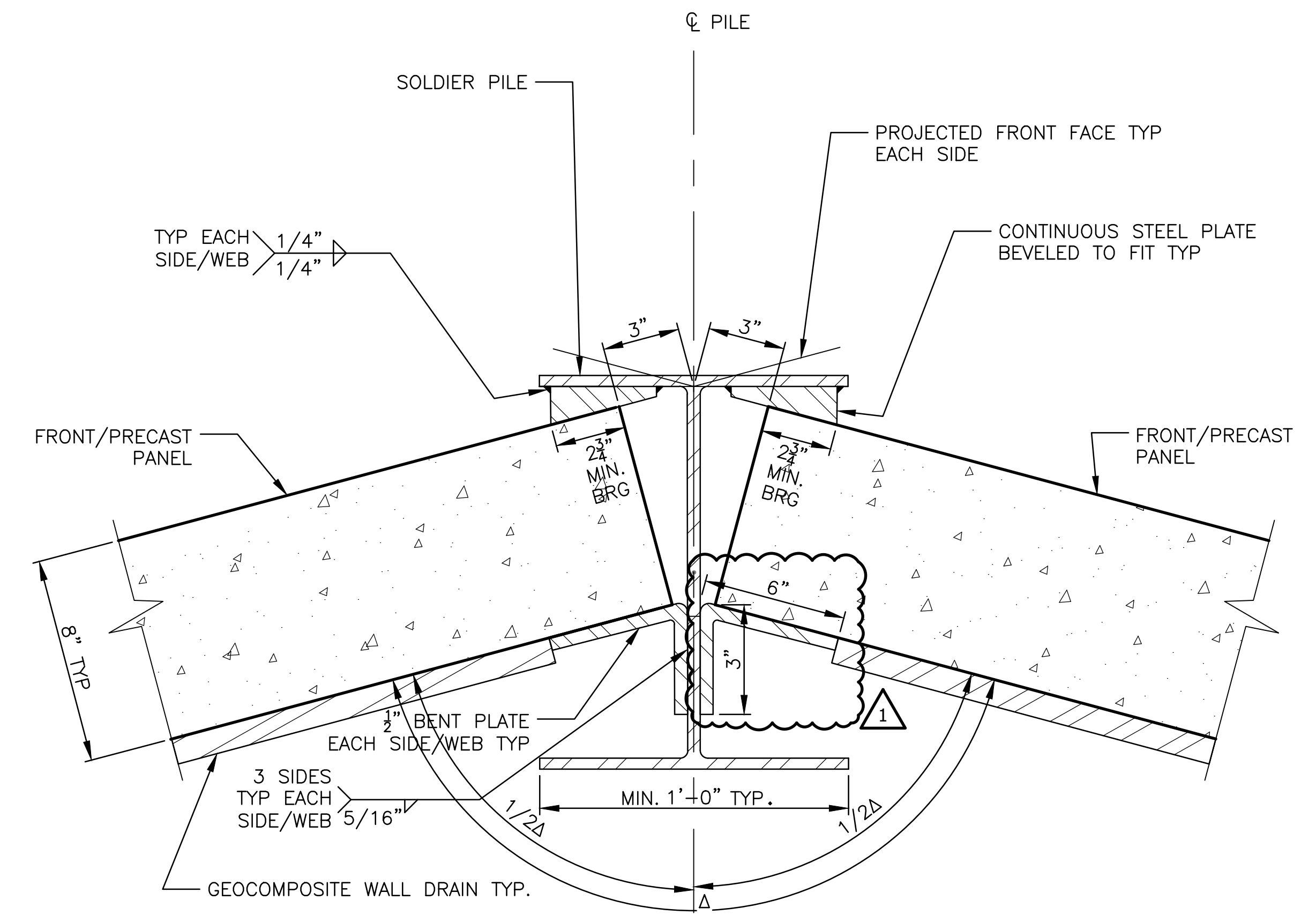
**PLAN DETAIL FOR  $180^\circ \leq \Delta \leq 210^\circ$**   
 NOTE: SHOWN FOR  $\Delta=210^\circ$   
 SCALE: NTS



**PLAN DETAIL FOR  $\Delta=90^\circ$**   
 SCALE: NTS



**PLAN DETAIL FOR  $\Delta=180^\circ$**   
 SCALE: NTS



**PLAN DETAIL FOR  $150 \leq \Delta \leq 180^\circ$**   
 SCALE: NTS  
 NOTES: SHOWN FOR  $\Delta=150^\circ$

**NOTES:**

1. PROVIDE 1/2" MINIMUM THICKNESS STEEL PLATES CONTINUOUS AS SHOWN, BEVELED WHERE REQUIRED.
2. SATURATED TIGHT FIT WOODEN BLOCK TO BRACE PANEL INTO FINAL SUPPORT POSITION.

TIMBER TYPE: STANDARD GRADE-SPRUCE, PINE, OR DOUGLAS FIR.  
 PARALLEL TO GRAIN: COMPRESSION,  $F_c=1000$  PSI, TENSION,  $F_t=225$  PSI, SHEAR,  $F_v=135$  PSI, PERPENDICULAR TO GRAIN,  $F_c=335$  PSI.

3. WELDED CONNECTION MAY BE REPLACED WITH (2) 13/16" DIA. A307 BOLTS @ 7" O.C.

1. PRECAST LAGGING CONNECTION TO PILES  
 SCALE: NTS

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 8	MA	05/24/23

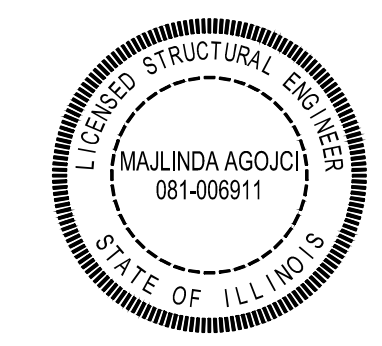
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Drawn by: NM	Reviewed by: MA	Date: 2022
Correct:		

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**SOLDIER PILE WALL DETAILS PRECAST LAGGING CONNECTION TO PILES**

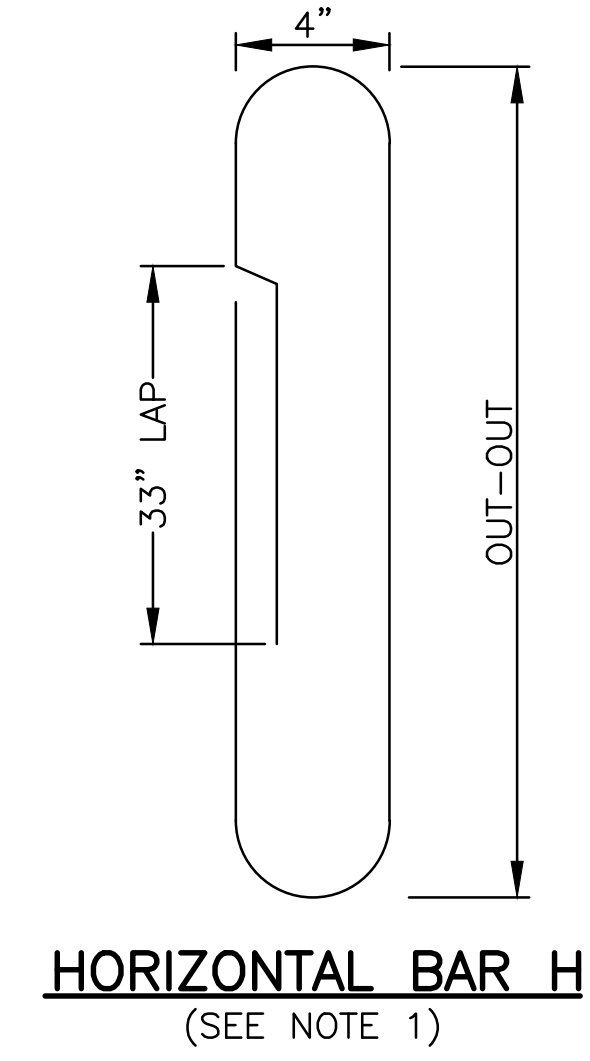
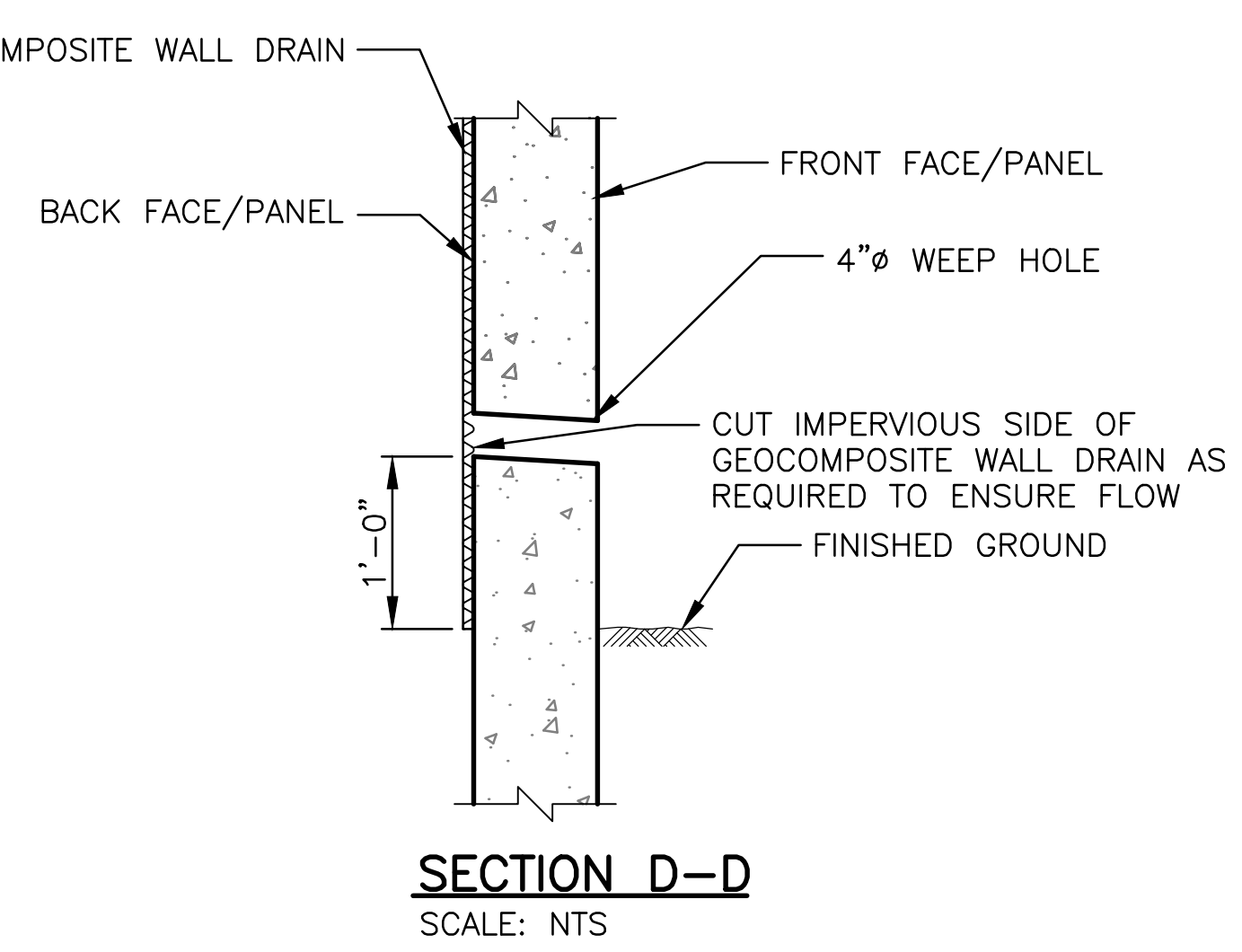
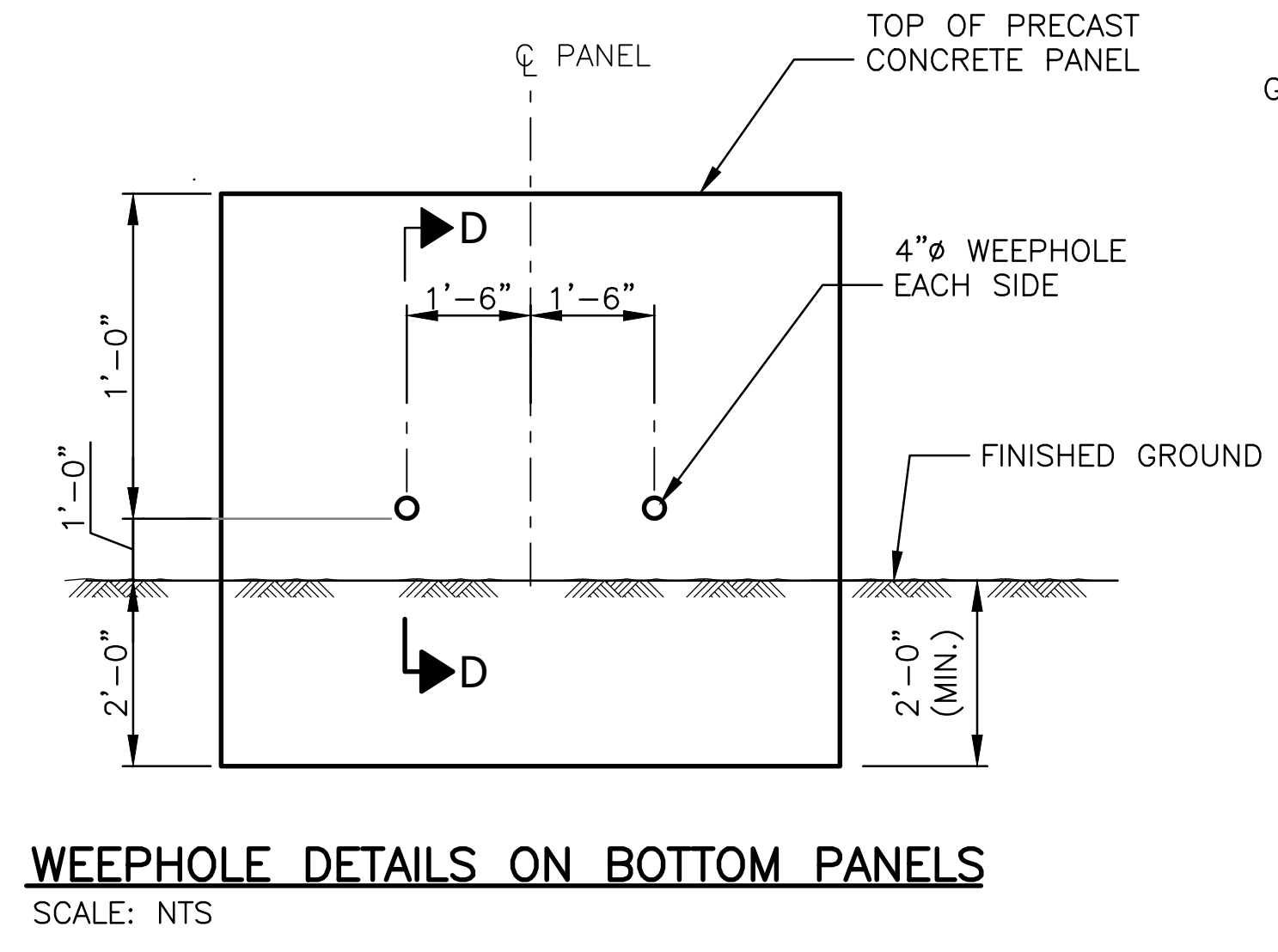
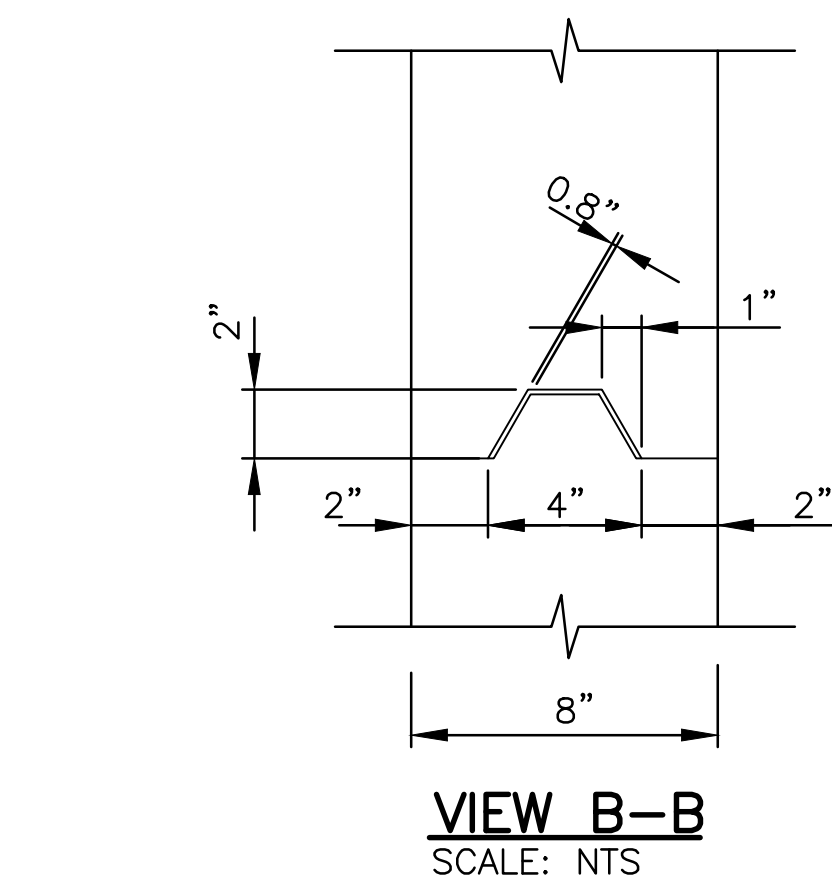
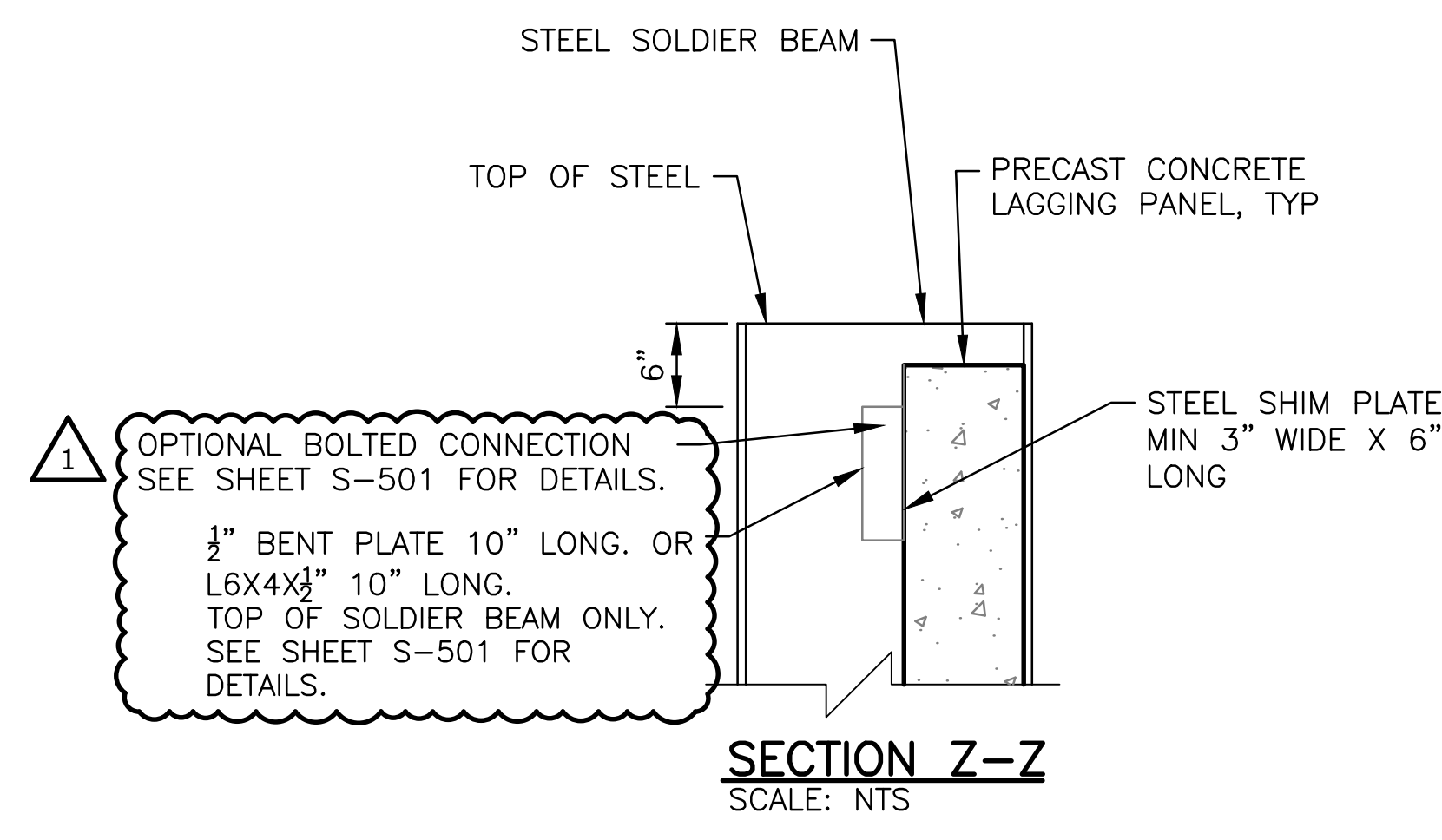
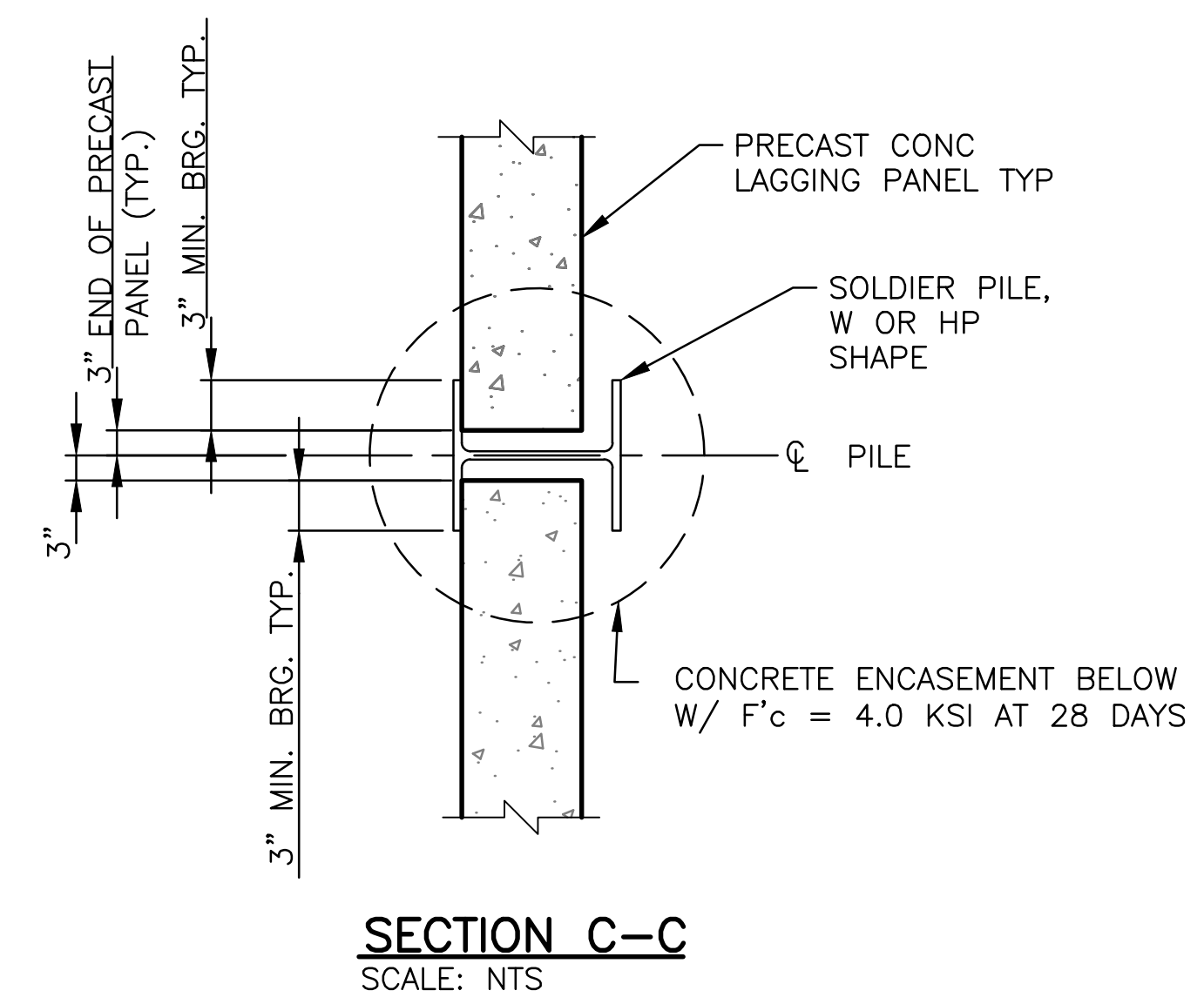
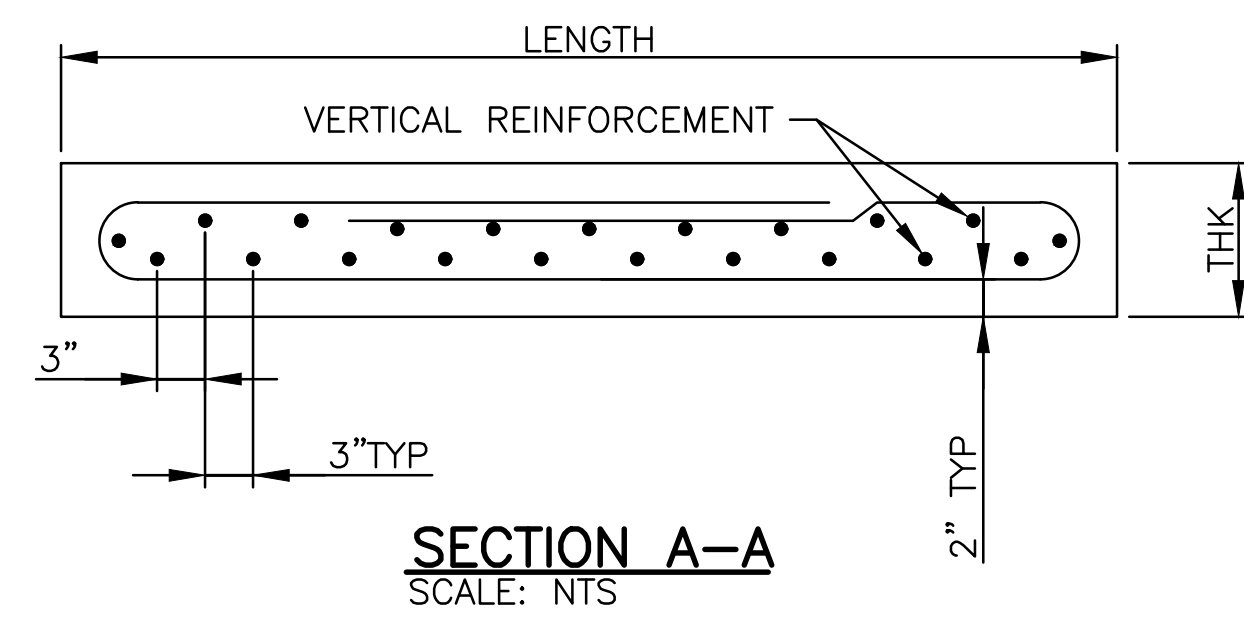
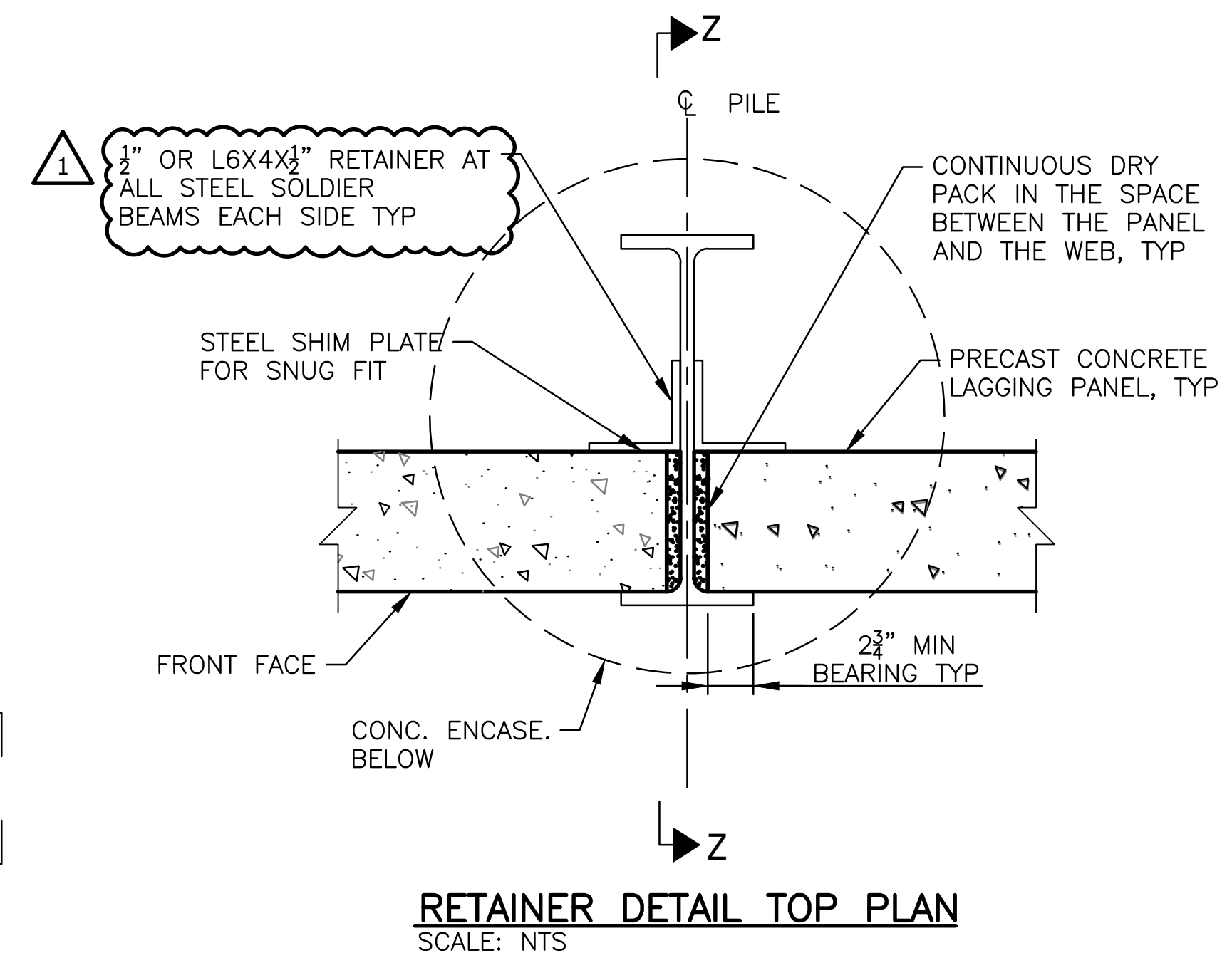
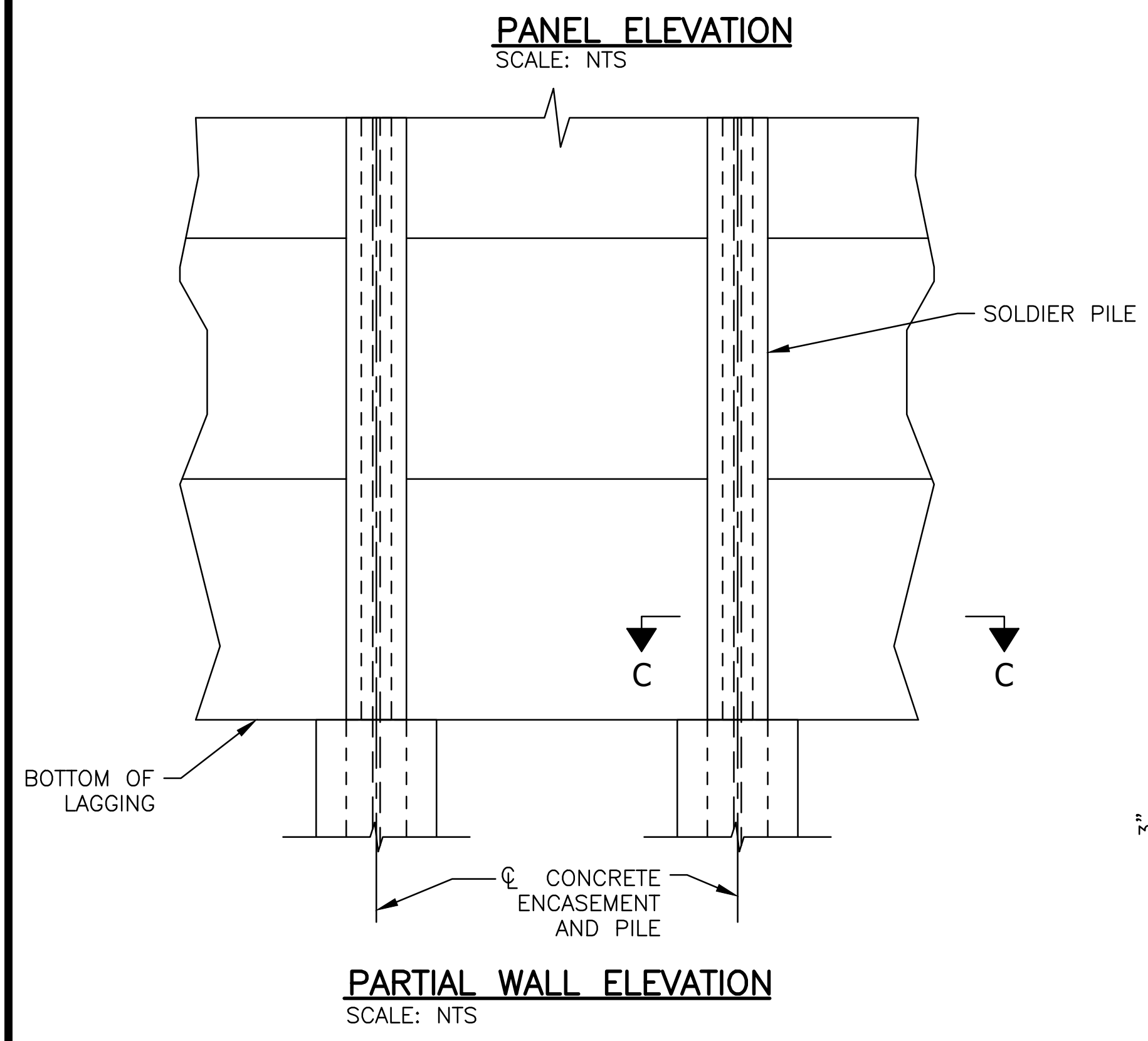
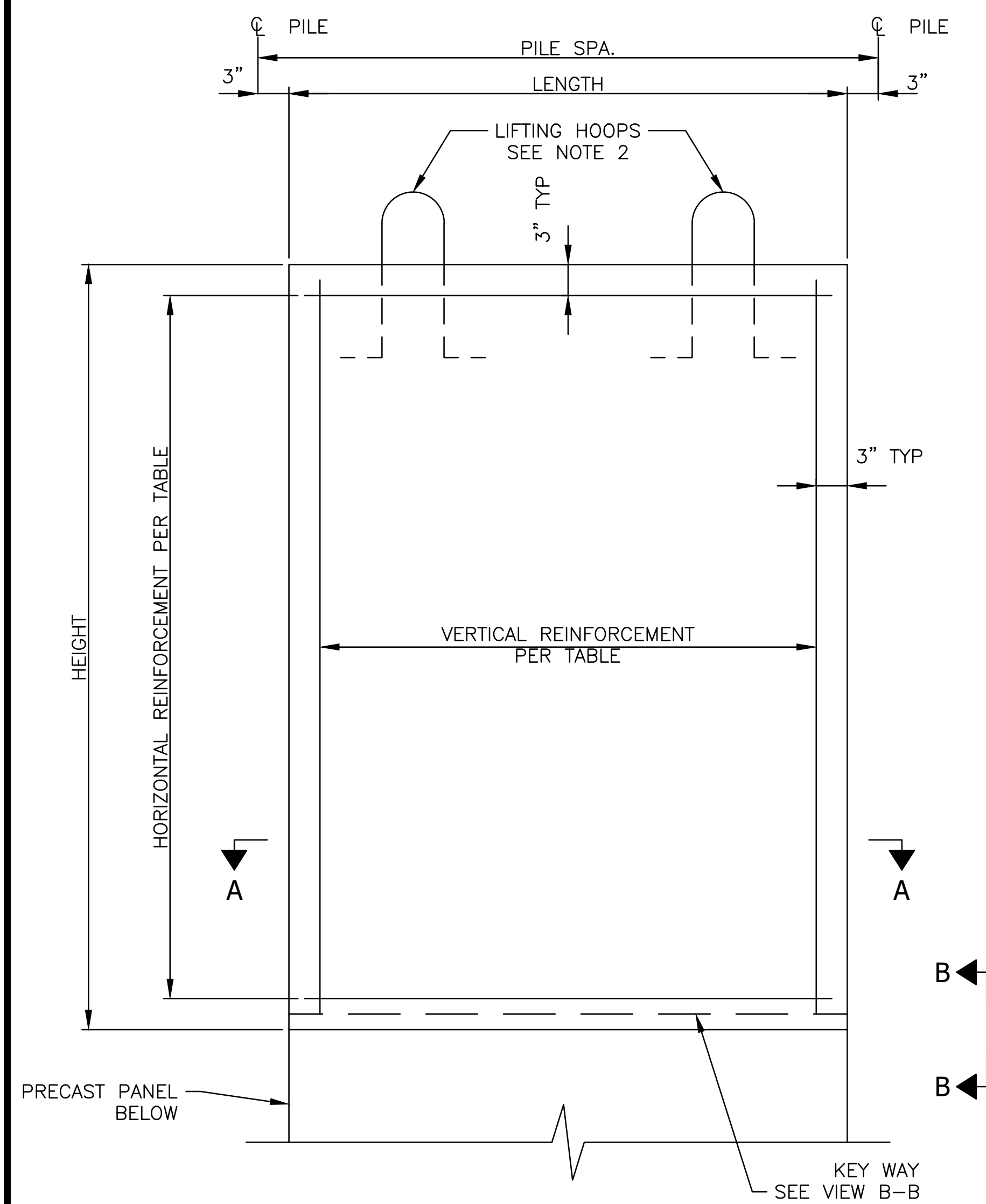
Sheet Number:  
**S-501**  
 Page Number: 406



PLOT DATE: 5/25/2023 8:52 AM PLOTTED BY: KYLE SOLNER  
 P:\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\DATA\CAD\11-187-3F\Structural\Sheets\S-502-Rev1.dwg 5/23/2023 1:35 PM

**PANEL TABLE**

PANEL MARK	PANEL WEIGHT		PILE SPA.	PANEL DIMENSIONS			HORIZONTAL REINFORCEMENT					VERTICAL REINFORCEMENT					
	TONS	QTY.		LENGTH	HEIGHT	THICK.	BAR	QTY.	SIZE	SPA.	OUT-OUT	SHAPE	BAR	QTY.	SIZE	SPA.	SHAPE
P5540	1.10	-	6'-0"	5'-6"	4'-0"	0'-8"	H6	8	#5	6"	5'-2"		V4308	21	#4	6" EA. FA.	---
P9540	1.90	-	10'-0"	9'-6"	4'-0"	0'-8"	H10	8	#5	6"	9'-2"		V4308	37	#4	6" EA. FA.	---
P11540	2.30	-	12'-0"	11'-6"	4'-0"	0'-8"	H12	8	#5	6"	11'-2"		V4308	45	#4	6" EA. FA.	---
P6040	1.20	-	6'-6"	6'-0"	4'-0"	0'-8"	H6.5	8	#5	6"	5'-8"		V4308	23	#4	6" EA. FA.	---
P4540	0.90	-	5'-0"	4'-6"	4'-0"	0'-8"	H5	8	#5	6"	4'-2"		V4308	15	#4	6" EA. FA.	---



**NOTES:**

1. BARS MUST BE HEATED TO OBTAIN REQUIRED INSIDE BEND DIAMETER (I.D.).
2. PRECASTER TO DESIGN LIFTING HOOPS.
3. PANELS SHALL HAVE BOTH A FEMALE END ON THE BOTTOM EDGE AND A MALE END ON THE TOP EDGE. UNO
4. PANELS PLACED AT THE TOP OF THE WALL SHALL HAVE A FLAT END ON THE TOP EDGE (I.E. NO MALE END) AND A FEMALE END ON THE BOTTOM EDGE. FLAT END MUST BE FABRICATED AND NOT CUT/FILLED IN FIELD.
5. PANELS PLACED AT THE BOTTOM OF THE WALL SHALL HAVE A FLAT END ON THE BOTTOM EDGE (I.E. NO FEMALE END) AND A MALE END ON TOP EDGE. FLAT END MUST BE FABRICATED AND NOT CUT/FILLED IN FIELD.
6. ALL REINFORCEMENT SHALL BE EPOXY COATED.
7. PRECAST CONCRETE PANEL  
F<sub>c</sub>' = 5.0 KSI AT 28 DAYS

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 8	MA	05/24/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

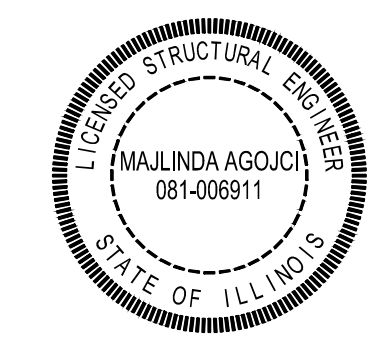
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 Checked by: MA  
 Designed by: LAN  
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL DETAILS PRECAST CONCRETE LAGGING PANELS**

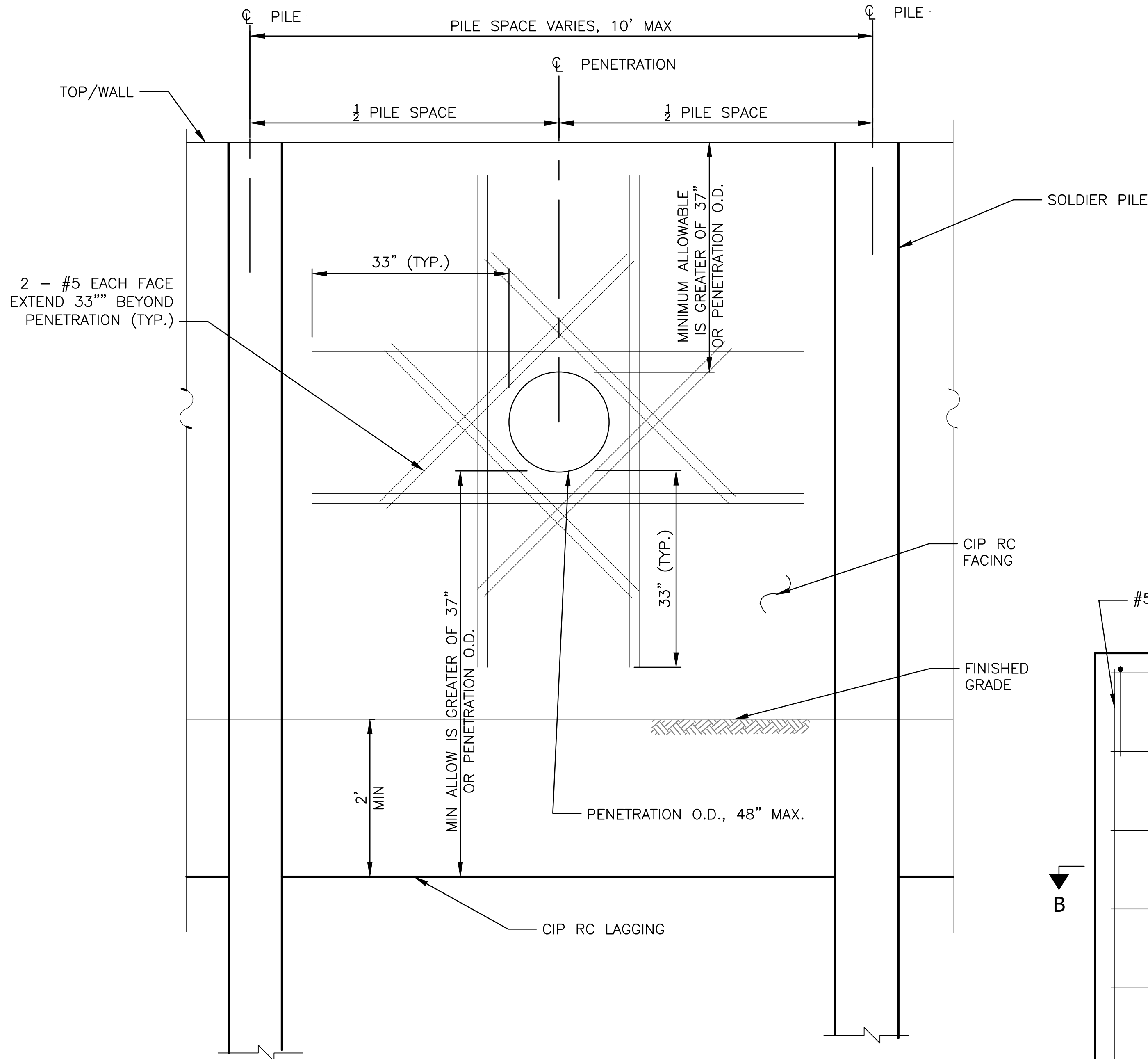
Sheet Number:  
**S-502**  
 Page Number: 407



**1 PRECAST CONCRETE LAGGING PANELS**  
SCALE: NTS



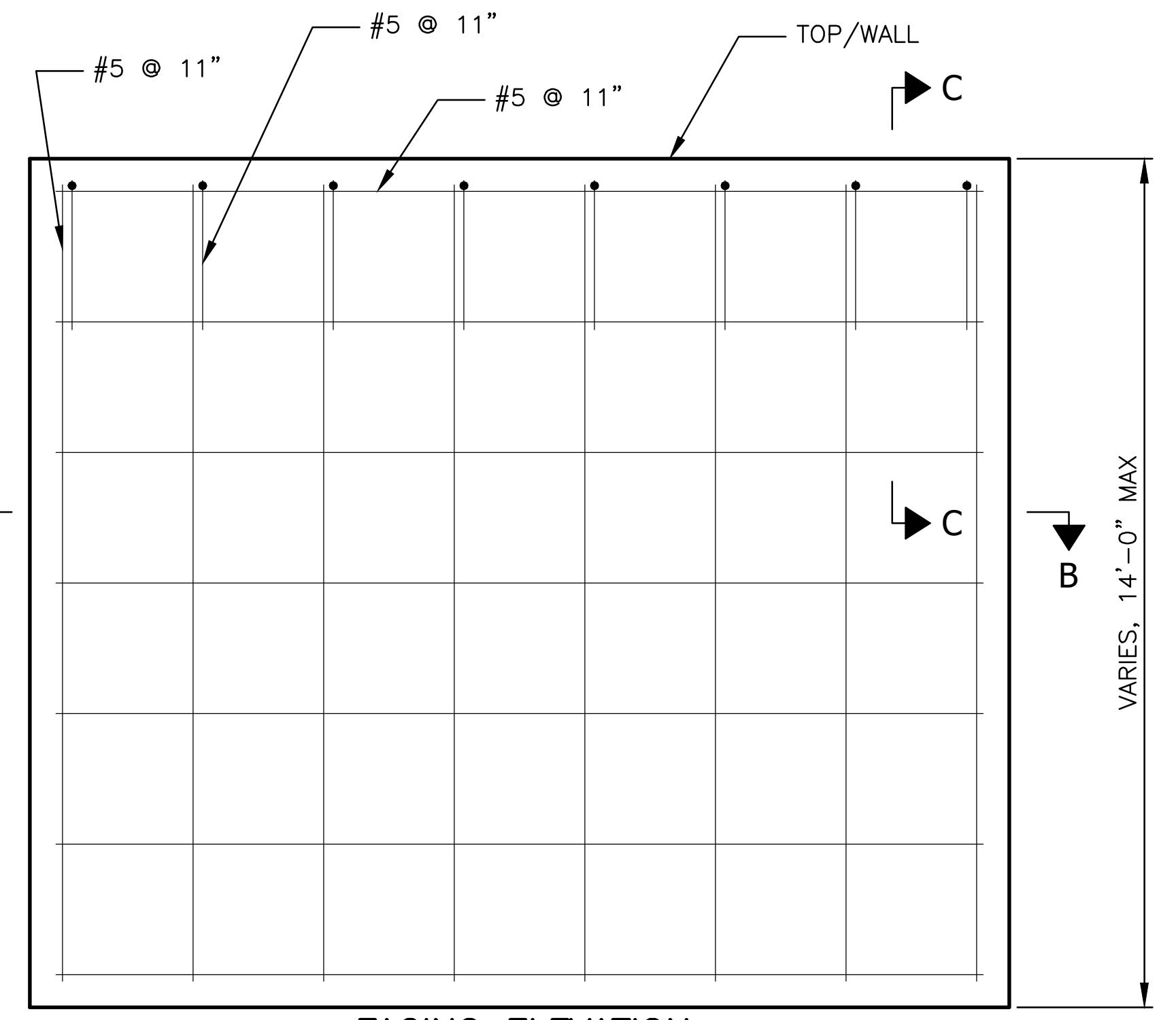
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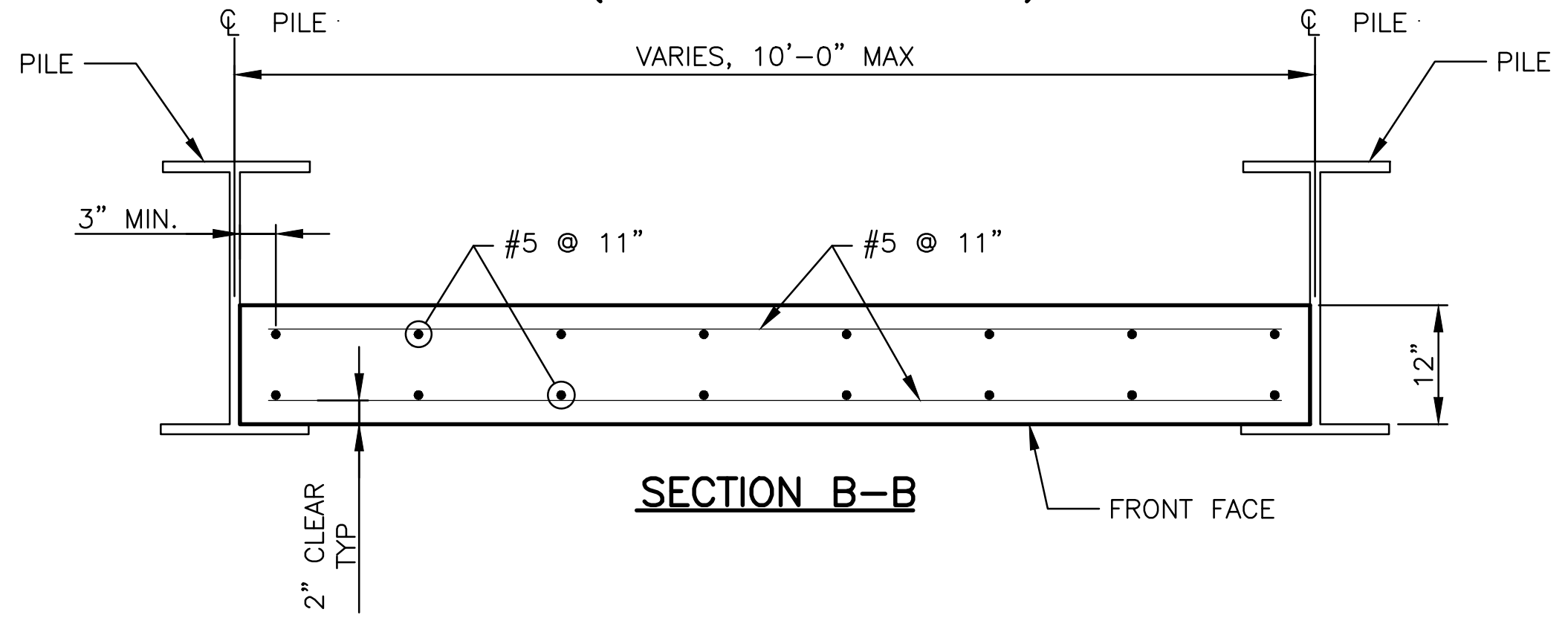
**TYPICAL PENETRATION DETAIL**  
 (CIP FACING SHOWN, PRECAST FACING SIMILAR)  
 SCALE: NTS

**NOTES:**

1. CUT BARS 2" BACK FROM PENETRATION.
2. REPLACE EACH CUT BAR WITH 1 BAR ABOVE PENETRATION AND PROVIDE HALF OF CUT HORIZONTAL AND VERTICAL BARS ON EACH SIDE OF OPENING AS ADDITIONAL BARS, MINIMUM ONE ADDITIONAL BAR ON EACH SIDE OF OPENING. EXTEND BARS 33" BEYOND PENETRATION IN EACH DIRECTION. PLACE ADDITIONAL DIAGONAL BARS AT PENETRATION AS SHOWN.
3. USE PIPE OF SAME TYPE AND SIZE AS PIPE BEHIND WALL. EXTEND PIPE MINIMUM 6" BEYOND WALL. NO HUBS OR CONNECTIONS WITHIN 6" OF THE WALL.



**FACING ELEVATION**  
 (SEE SHEETS S-507 & S-508)



**SECTION B-B**

**EPOXY COATED REINFORCEMENT REQUIREMENTS**

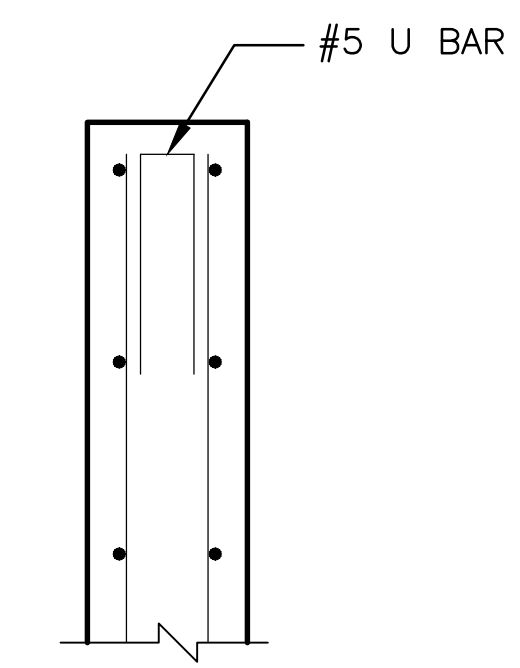
BAR SIZE	REINFORCEMENT LAP LENGTHS			
	Tension Lap Splice Lengths (inches)		Tension Lap Splice Lengths (inches)	
	CLASS A= 1.0*d	CLASS B= 1.3*d	CLASS A= 1.0*d	CLASS B= 1.3*d
#3	20	26	18	24
#4	27	36	24	32
#5	33	43	29	38
#6	43	56	38	50
#7	58	76	51	67
#8	75	98	66	86
#9	96	125	84	110
#10	121	158	107	140
#11	149	194	132	172

Above values were calculated using the following criteria

28 DAY CONCRETE STRENGTH $f'_c$ (KSI) = 4.0
CONCRETE UNIT WEIGHT, $w_c$ (KCF) = 0.15
AGGREGATE STIFFNESS CORRECTION FACTOR ( $K_1$ ) = 1.00
$E_c$ (KSI) = $120,000 * w_c^{1.5} * f'_c^{0.33} = 4266$
REINFORCEMENT YIELD STRENGTH, $f_y$ (KSI) = 60
EPOXY-COATED BAR? = YES
CLEAR SPACING BETWEEN BARS < 6DB? = YES
COVER < 3DB? = NO
CONCRETE DENSITY MODIFICATION FACTOR, $I = 1.00$
CONSIDER REINFORCEMENT CONFINEMENT FACTOR, $IRC = YES$
DISTANCE FROM BAR CENTER TO NEAREST CONCRETE SURFACE, $CB_1$ (in) = 1.75
ONE-HALF THE CENTER-TO-CENTER BAR SPACING, $CB_2$ (in) = 3.00
IS THERE TRANSVERSE (STIRRUP) REINFORCEMENT? = NO
EXCESS REINFORCEMENT: $l_{er} = (AS_{REQUIRED}) / (AS_{PROVIDED}) = 1.00$

**NOTES:**

1. USE LAP LENGTH AS DETERMINED FROM THESE TABLES UNLESS SHOWN OTHERWISE.
2. THE TABLES SHOWN ARE FOR  $f'_c=4,000$  PSI,  $f_y=60,000$  PSI, 1.5" MIN CONCRETE COVER AND 6" MIN BAR SPACING.
3. UNLESS NOTED OTHERWISE USE REBAR COUPLERS FOR SPLICES OF #11 AND LARGER BARS.



**SECTION C-C**

Rev.	Description	Appr.	Date

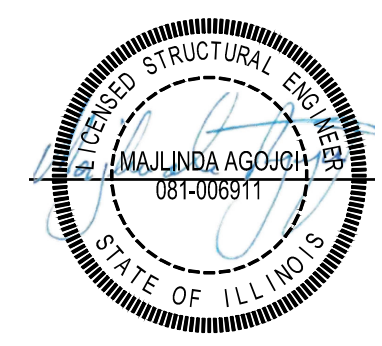
**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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 CHECKED BY: MA  
 DRAWN BY: AN  
 SCALE: AS SHOWN  
 DATE: 2022

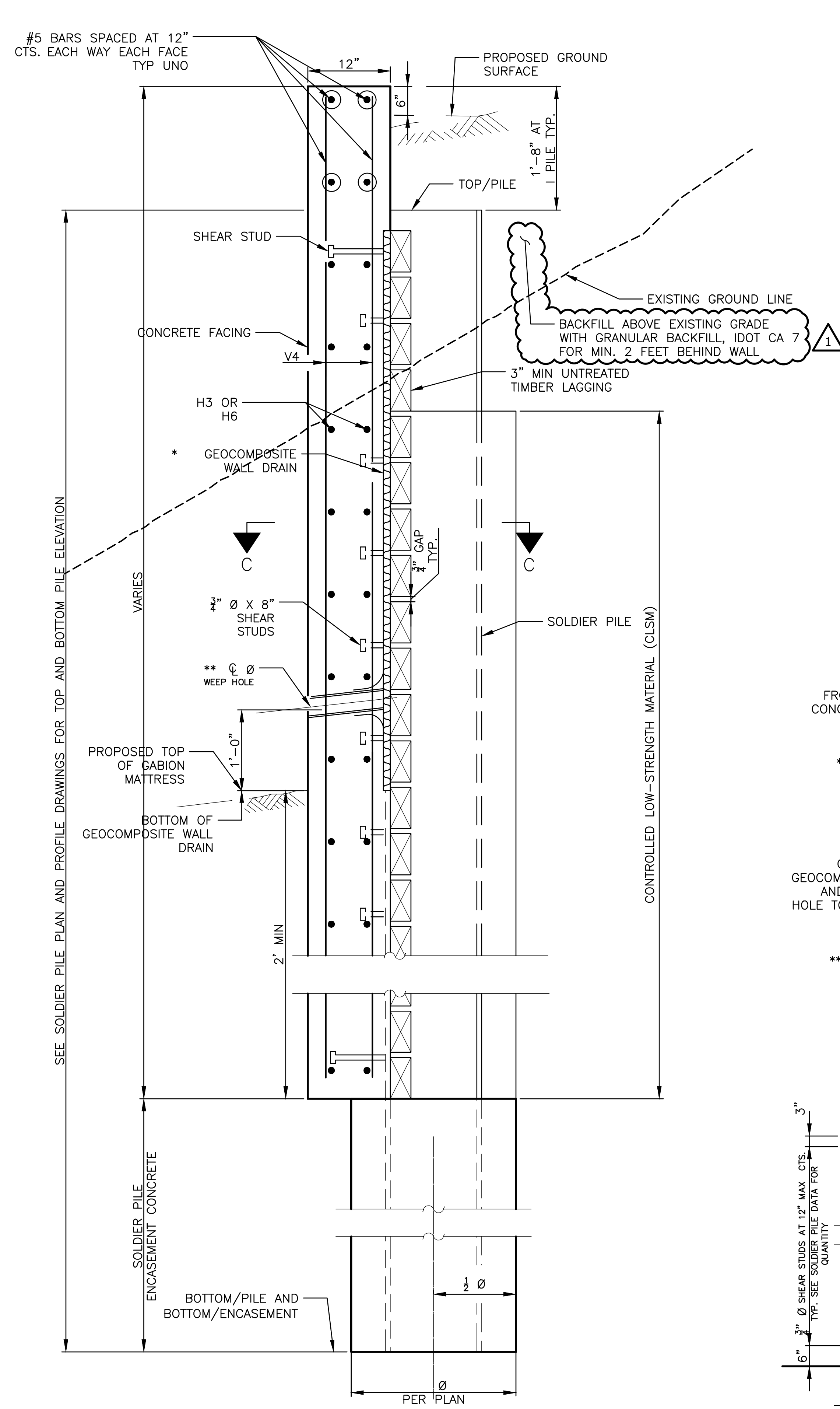
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL DETAILS SPECIAL CAST-IN-PLACE CONCRETE FACING**

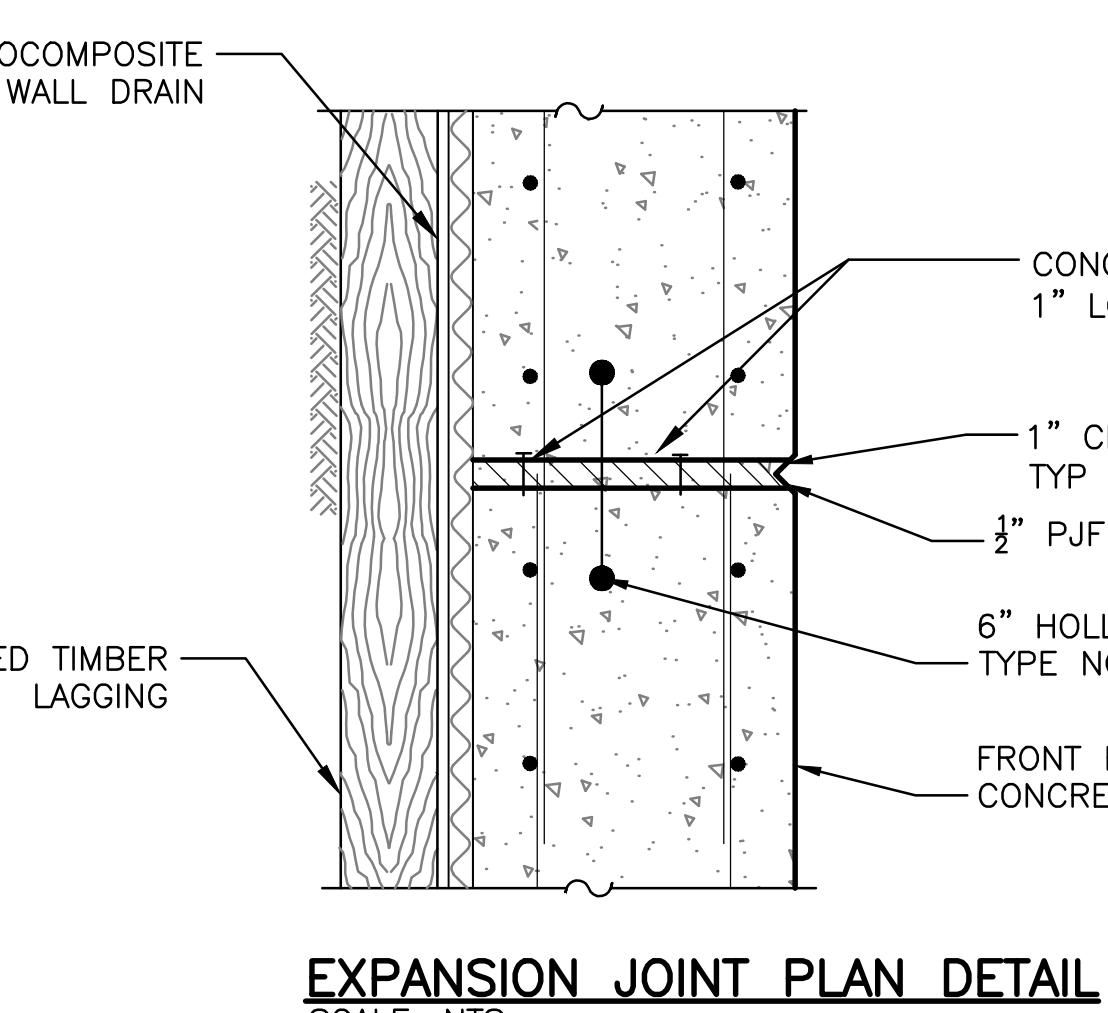
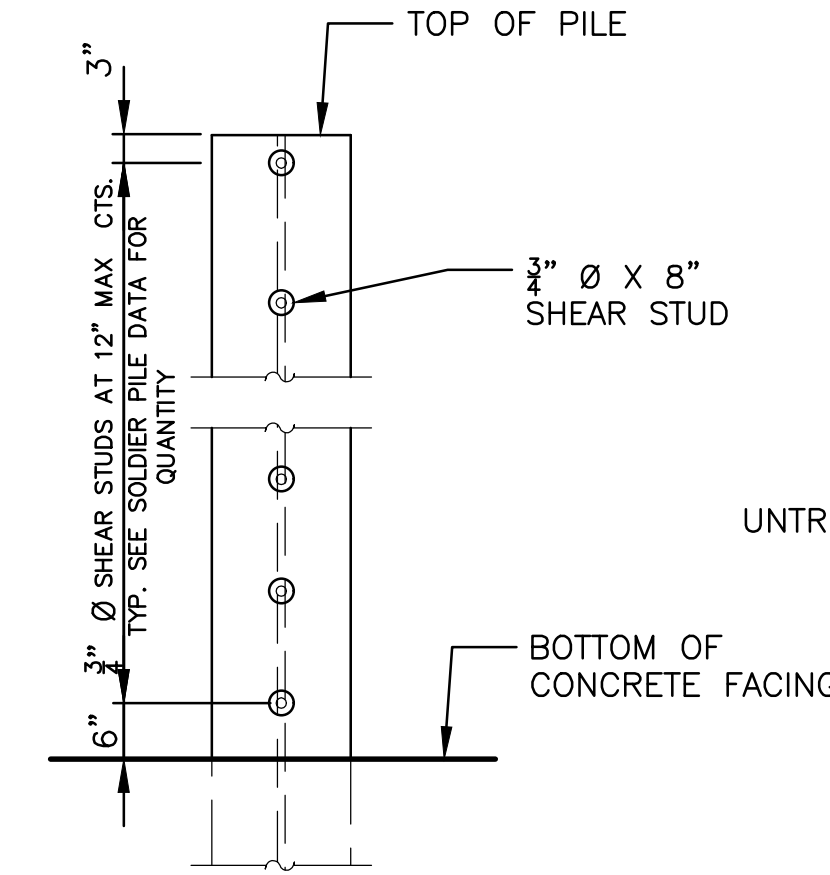


**1 CAST-IN-PLACE CONCRETE FACING @ END OF WALLS 6 & 7**  
 SCALE: NTS

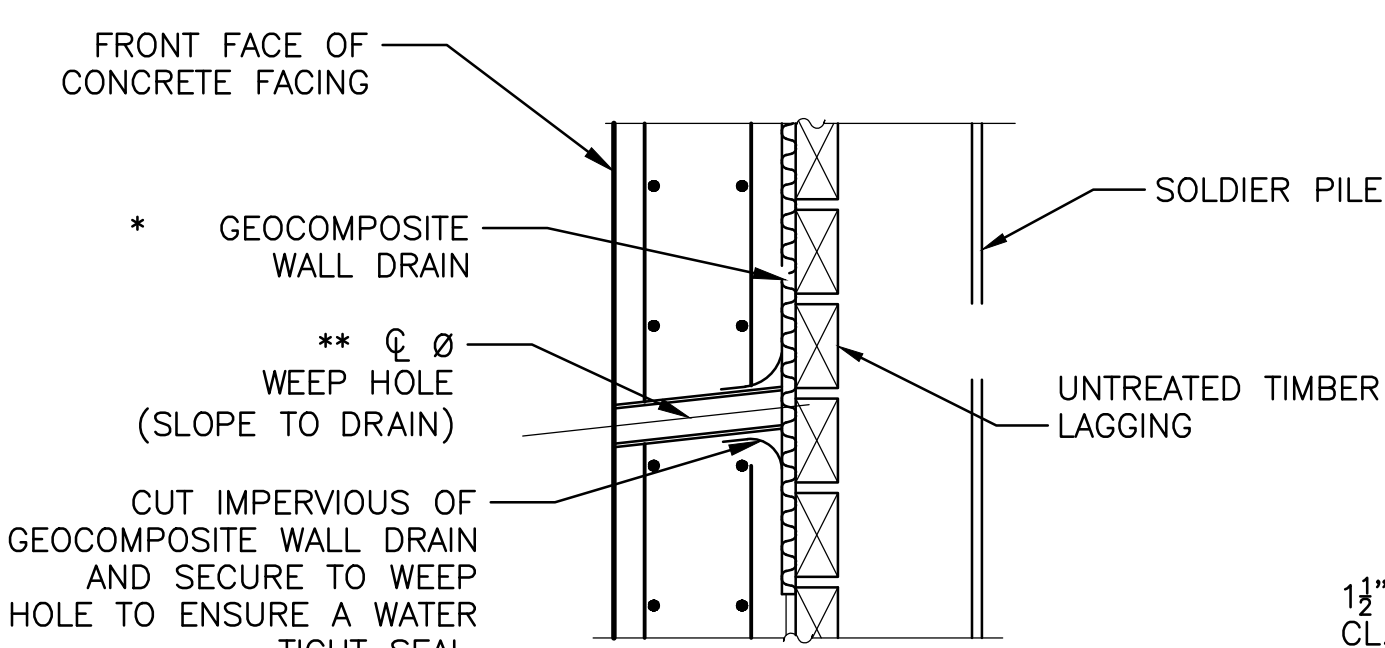


**SECTION A-A**

**SHEAR STUD DETAIL**  
 (ELEVATION OD PILE SHOWN)



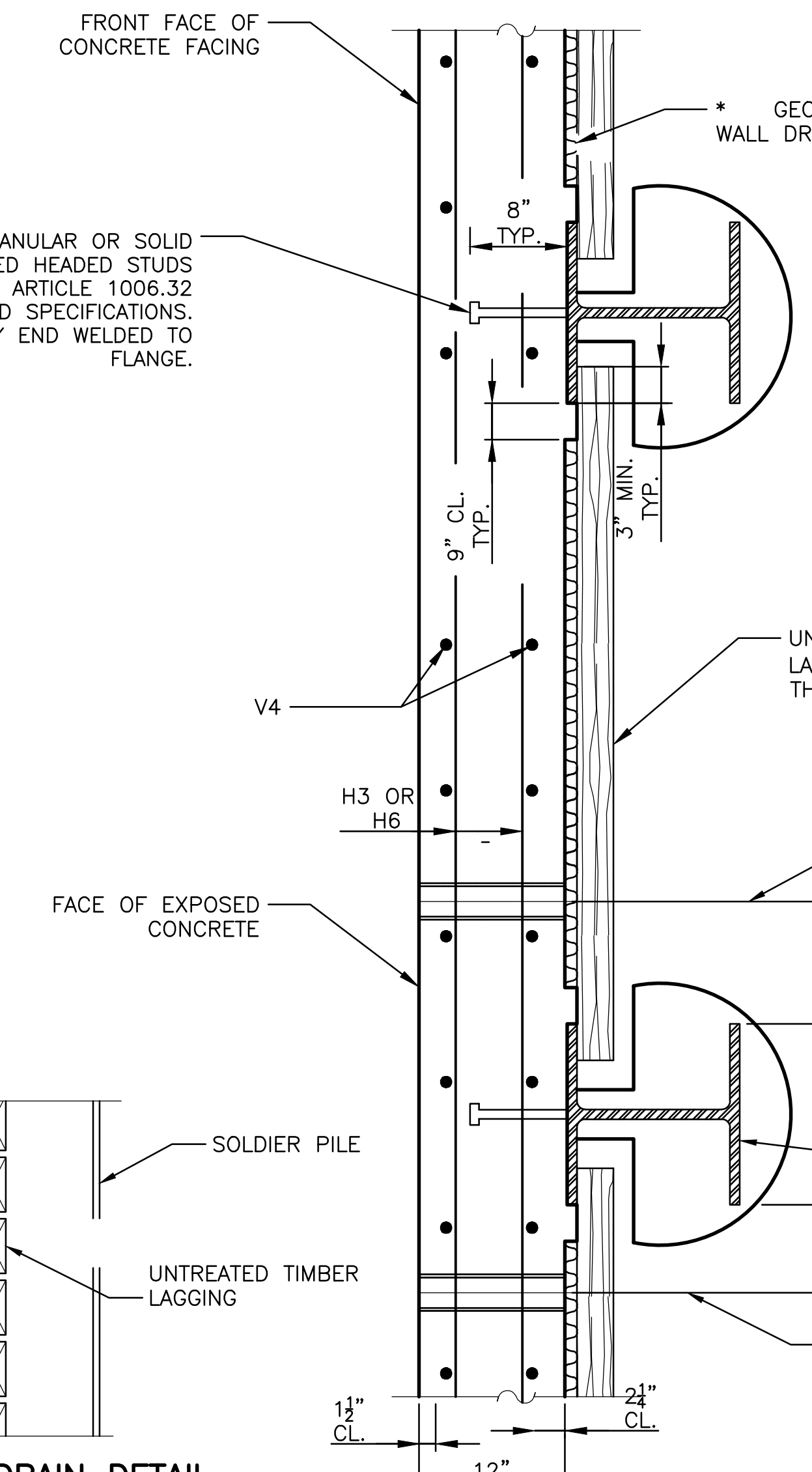
**EXPANSION JOINT PLAN DETAIL**  
 SCALE: NTS



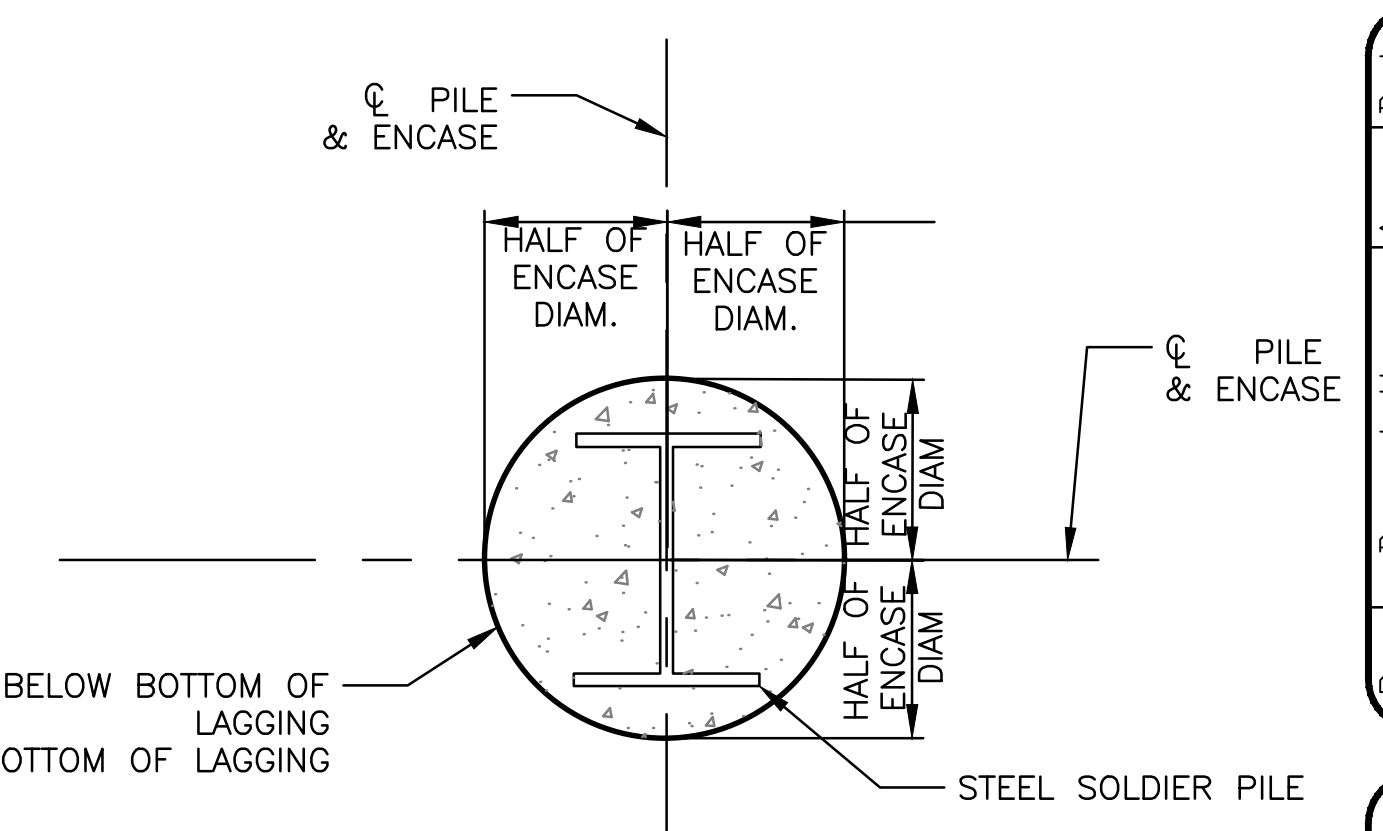
**WEEP HOLE DRAIN DETAIL**

\*\* COST OF THE WEEP HOLE DRAIN AND CONNECTION TO THE GEOCOMPOSITE WALL DRAIN ARE INCLUDED IN THE COST OF GEOCOMPOSITE WALL DRAIN

3/4" Ø X 8" GRANULAR OR SOLID FLUX FILLED HEADED STUDS CONFORMING TO ARTICLE 1006.32 OF THE STANDARD SPECIFICATIONS. AUTOMATICALLY END WELDED TO FLANGE.



**SECTION C-C**



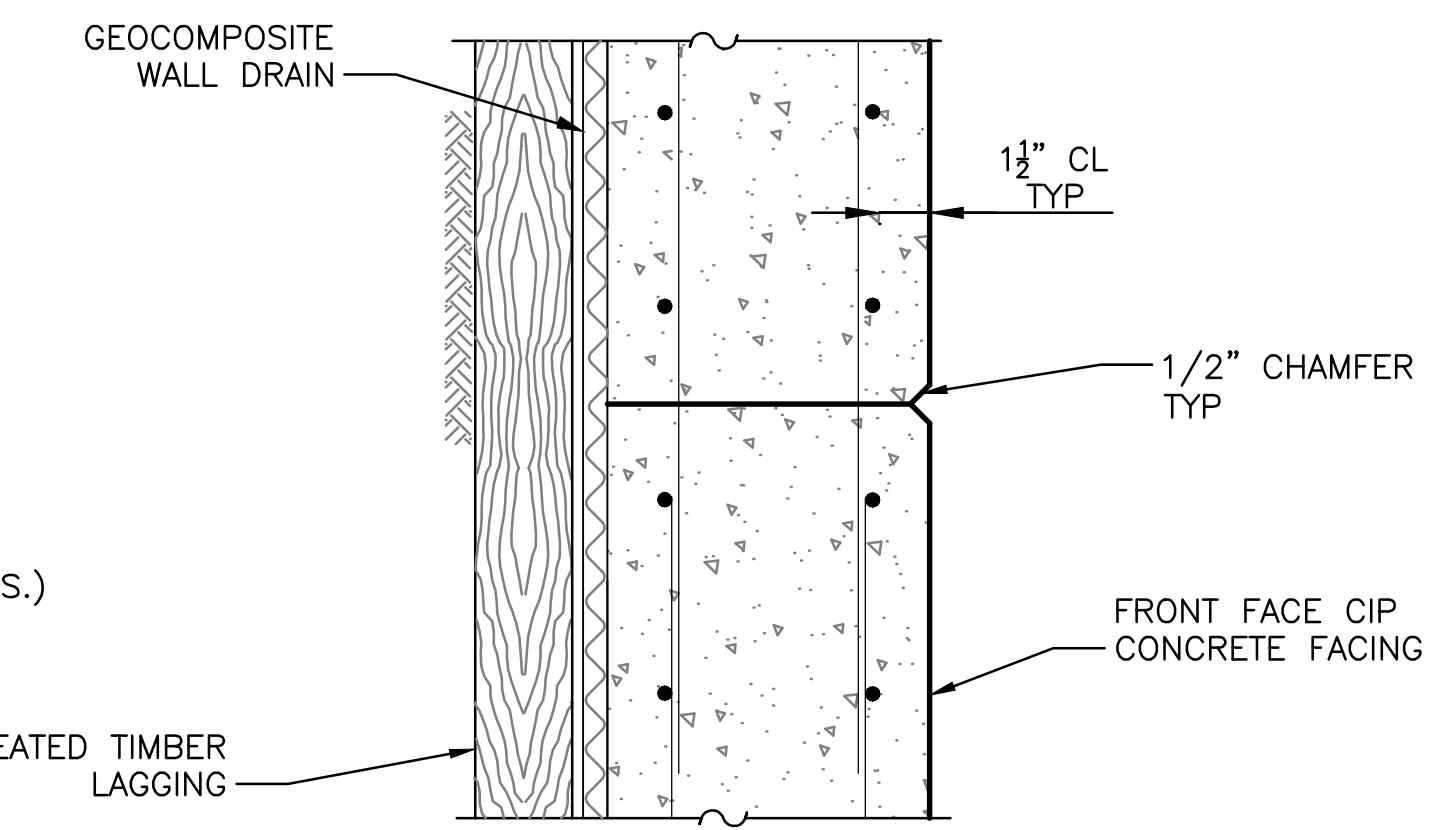
**TYPICAL PILE ENCASEMENT PLAN**  
 SCALE: NTS

**SOLDIER PILE WALL CONSTRUCTION SEQUENCE:**

1. DRILL SOLDIER PILES.
2. INSTALL TIMBER LAGGING.
3. INSTALL SHEAR STUD CONNECTORS
4. PLACE REINFORCEMENT AND FORM CONCRETE WALL FACE.
5. CAST CONCRETE WALL FACING.

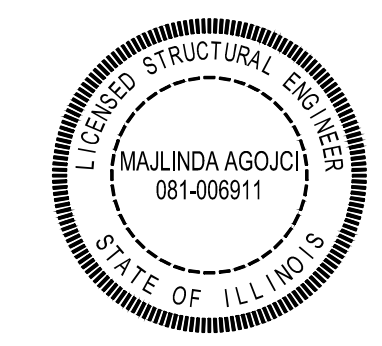
**NOTES:**

- IN ORDER TO MINIMIZE EXCESSIVE DEFLECTION AND/OR STRESSES IN THE SOLDIER PILES, COMPACTION EQUIPMENT USED WITHIN 4 FT. OF THE BACK FACE OF THE TIMBER LAGGING SHALL BE LIMITED TO LIGHTWEIGHT MECHANICAL TAMPERS, ROLLERS, OR VIBRATORY SYSTEMS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND PERFORMANCE OF THE TIMBER LAGGING USING NO LESS THAN A 3 INCH NOMINAL ROUGH-SAWN THICKNESS AND TIMBER WITH A MINIMUM ALLOWABLE BENDING STRESS OF 1000 PSI.



**CONSTRUCTION JOINT PLAN DETAIL**  
 SCALE: NTS

**1 CAST-IN-PLACE CONCRETE FACING**  
 SCALE: NTS



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	MA	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

DESIGNED BY: LAN  
 CHECKED BY: MA  
 DRAWN BY: AN  
 CORRECT:

SCALE: AS SHOWN  
 DATE: 2022

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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**SOLDIER PILE WALL DETAILS TYPICAL**  
 CAST-IN-PLACE CONCRETE FACING





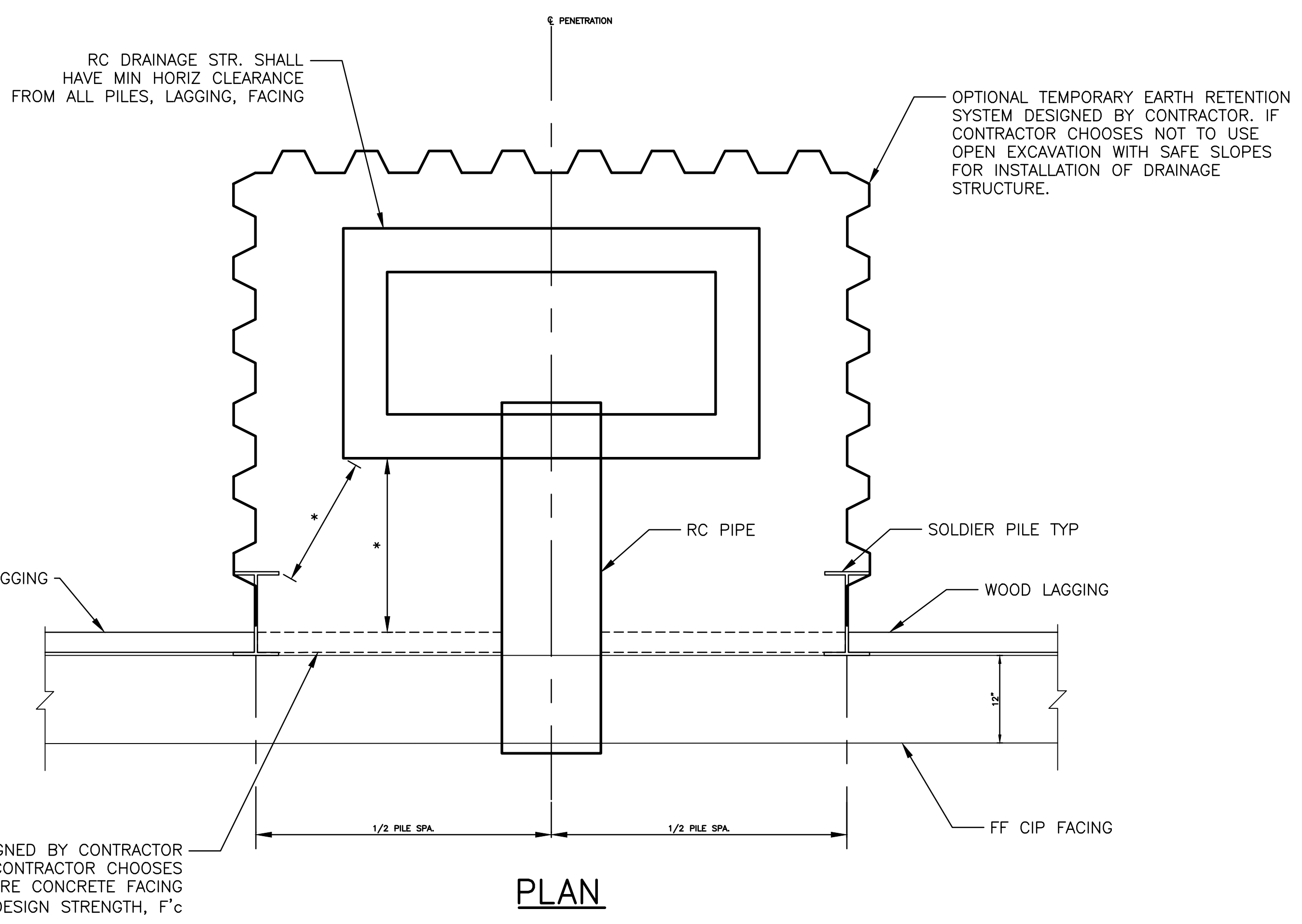






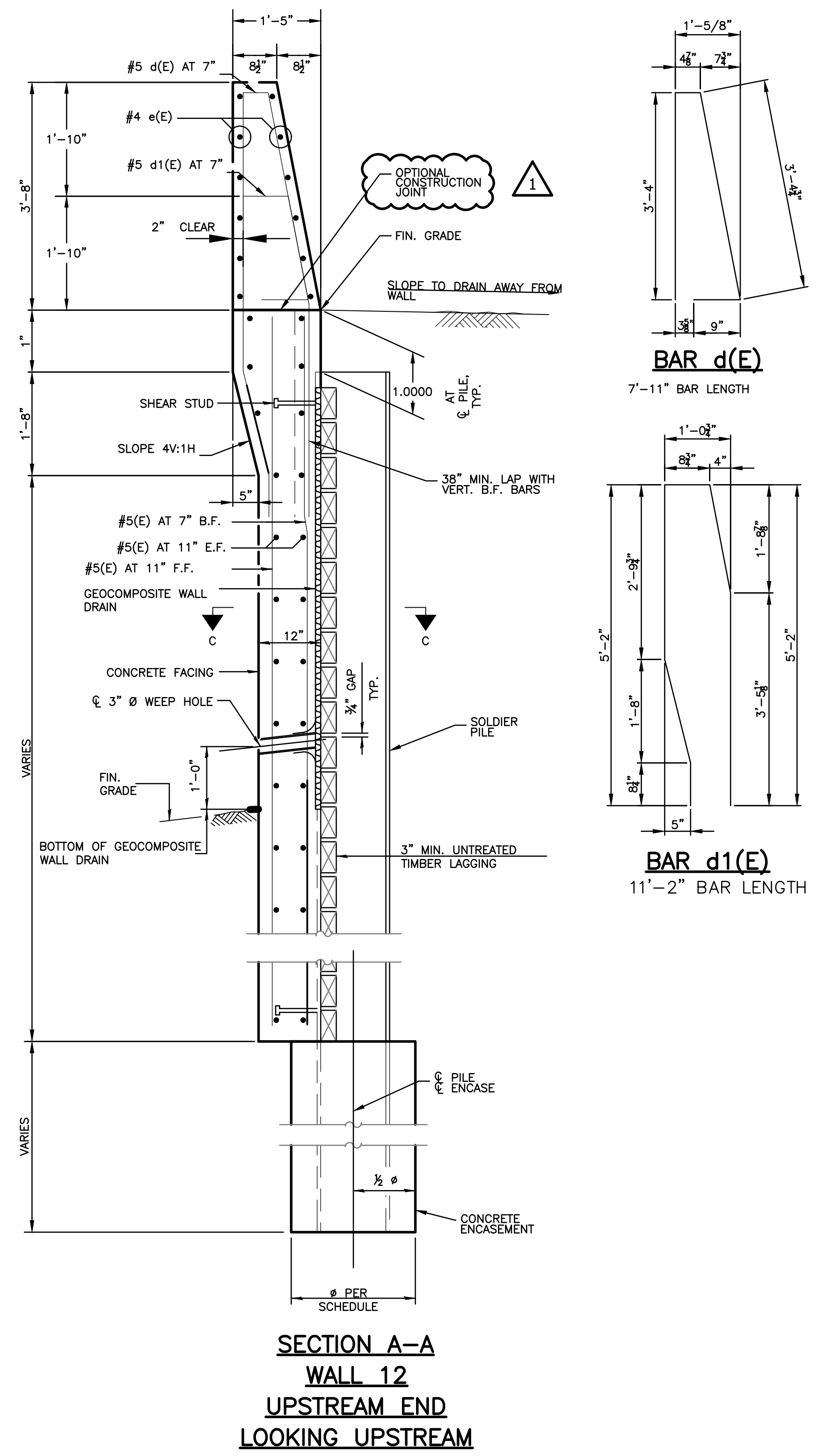






SPECIAL LAGGING SYSTEM DESIGNED BY CONTRACTOR TO ALLOW PIPE PENETRATION, IF CONTRACTOR CHOOSES TO BACK FILL EXCAVATION BEFORE CONCRETE FACING ATTAINS COMPRESSIVE DESIGN STRENGTH, F'c

**1** CONCRETE FACED SOLDIER PILE WALL DETAILS AT PENETRATIONS  
 SCALE: NTS



**2** WALL 12 UPSTREAM CROSS SECTION  
 SCALE: NTS

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 2	MA	01/06/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

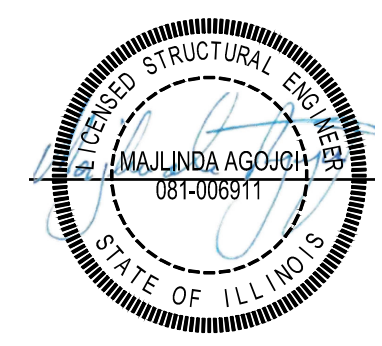
DESIGNED BY: LAN  
 CHECKED BY: MA  
 SCALE: AS SHOWN

DRAWN BY: NM  
 REVIEWED BY: NM  
 DATE: 2022

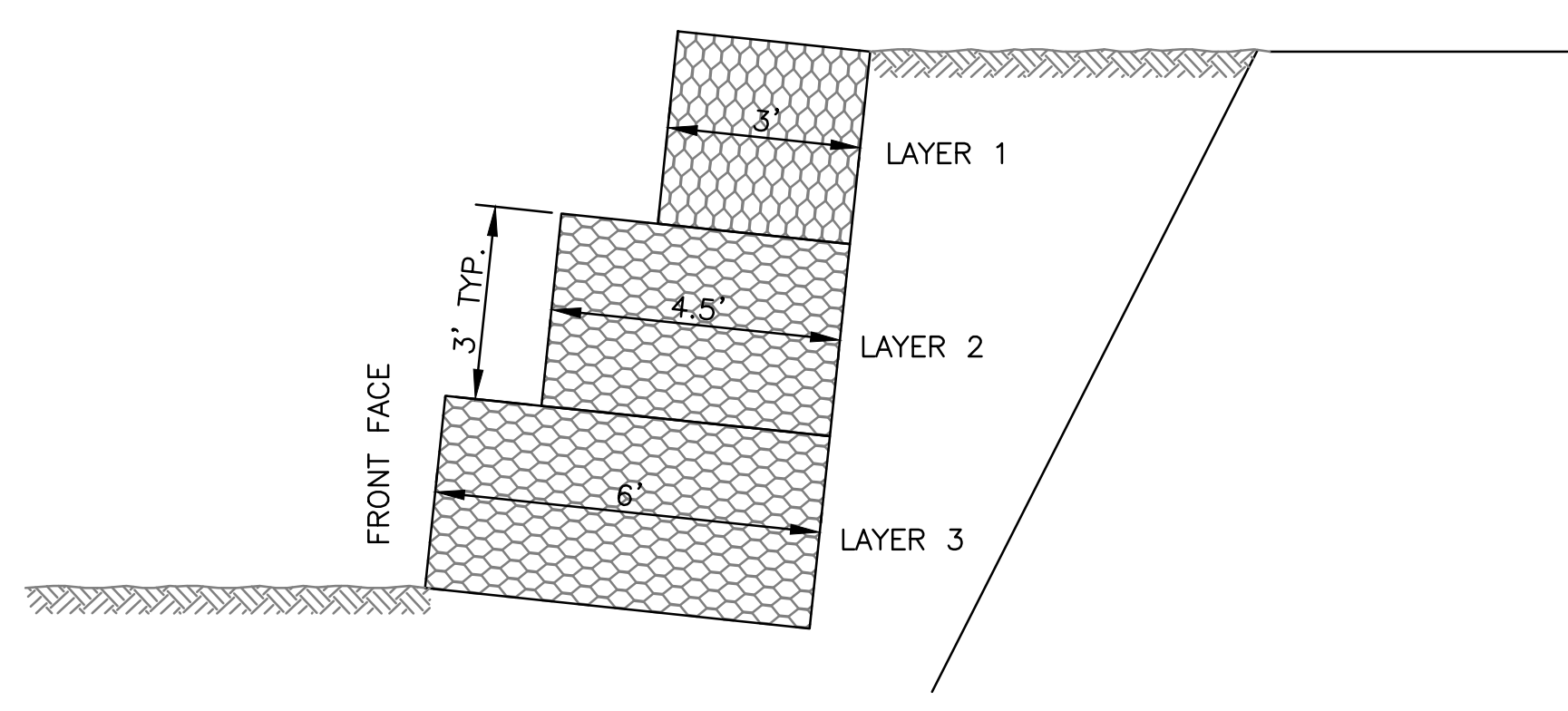
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

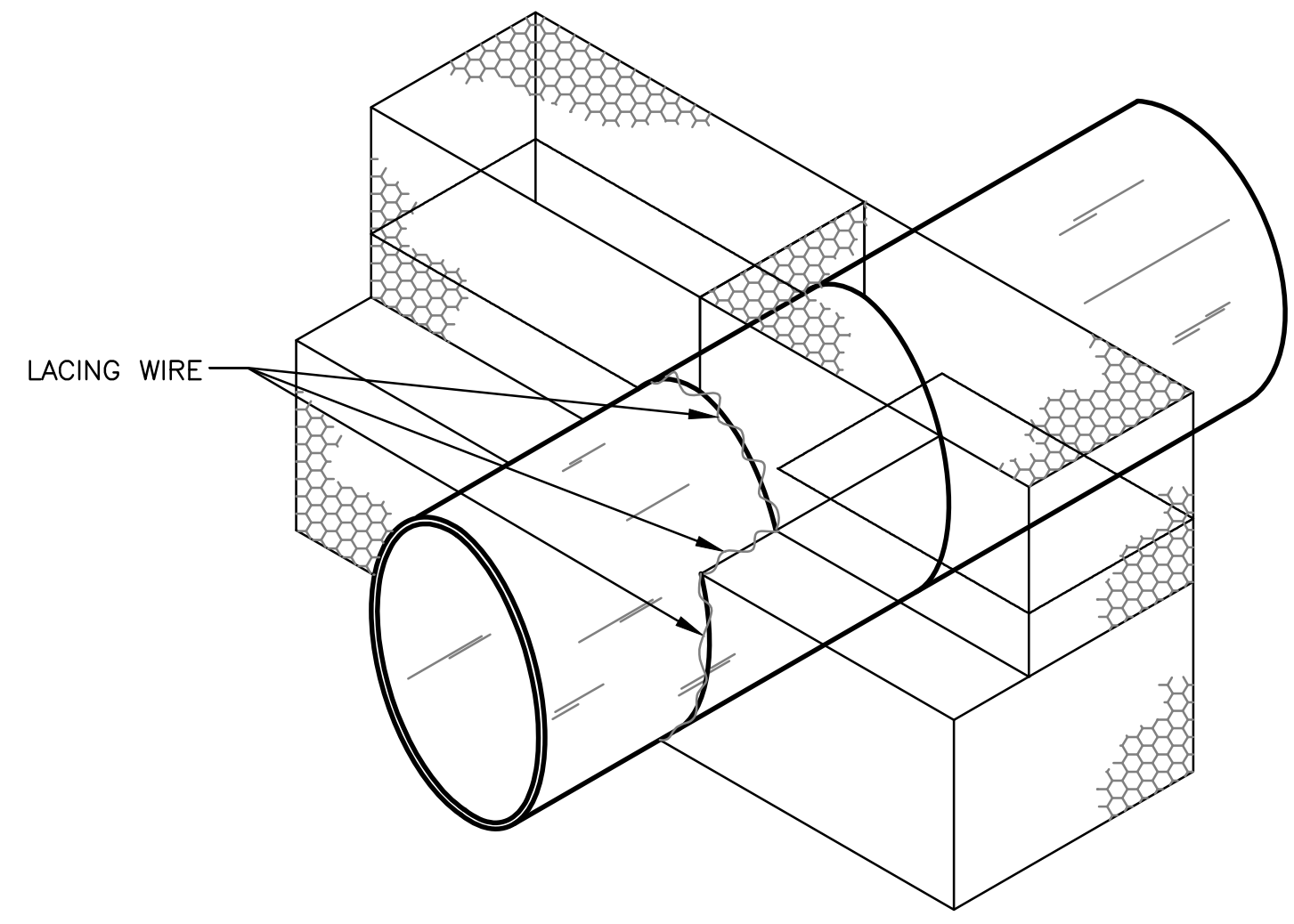
**CONCRETE FACED SOLDIER PILE WALL DETAILS AT PENETRATIONS**



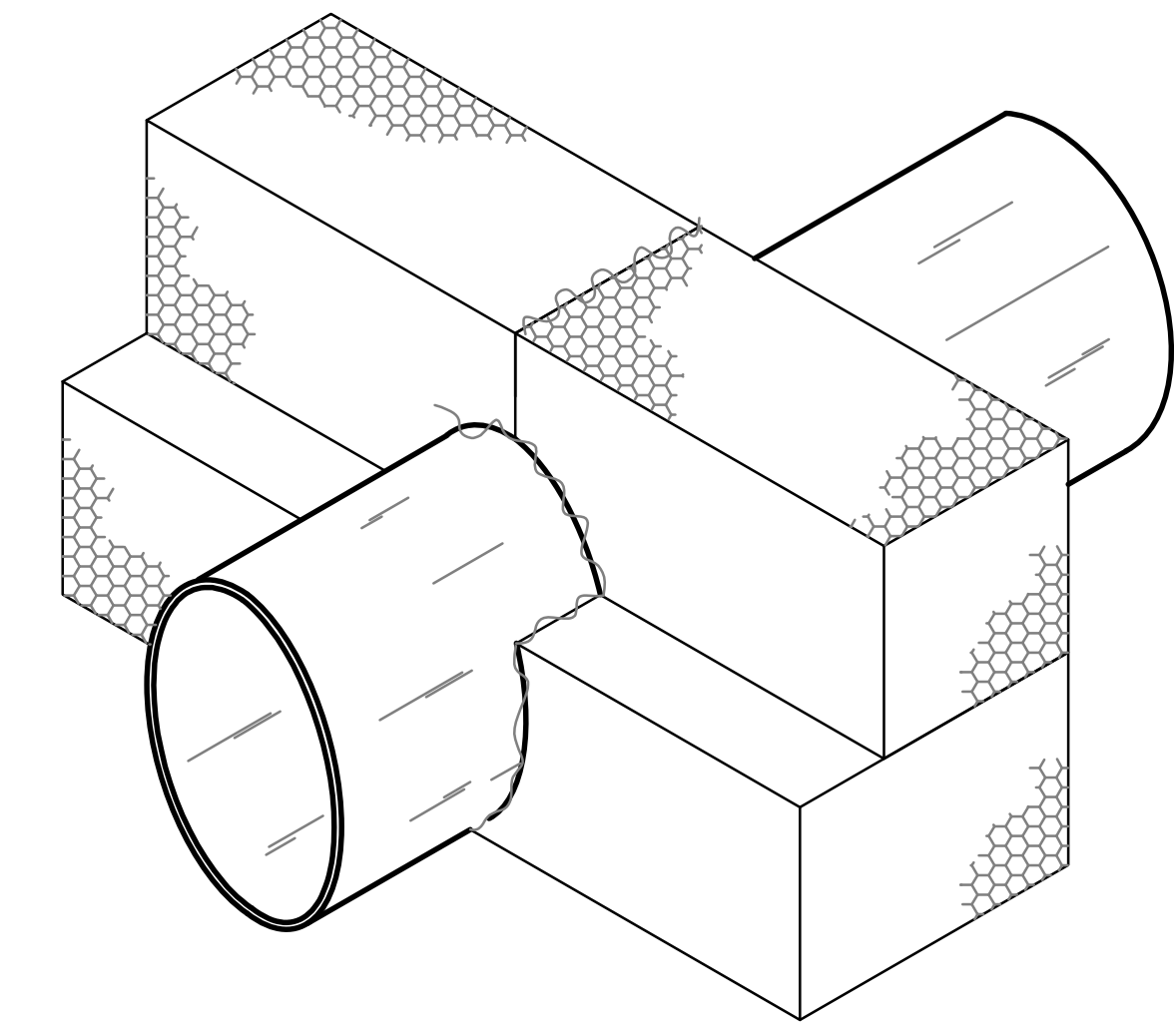
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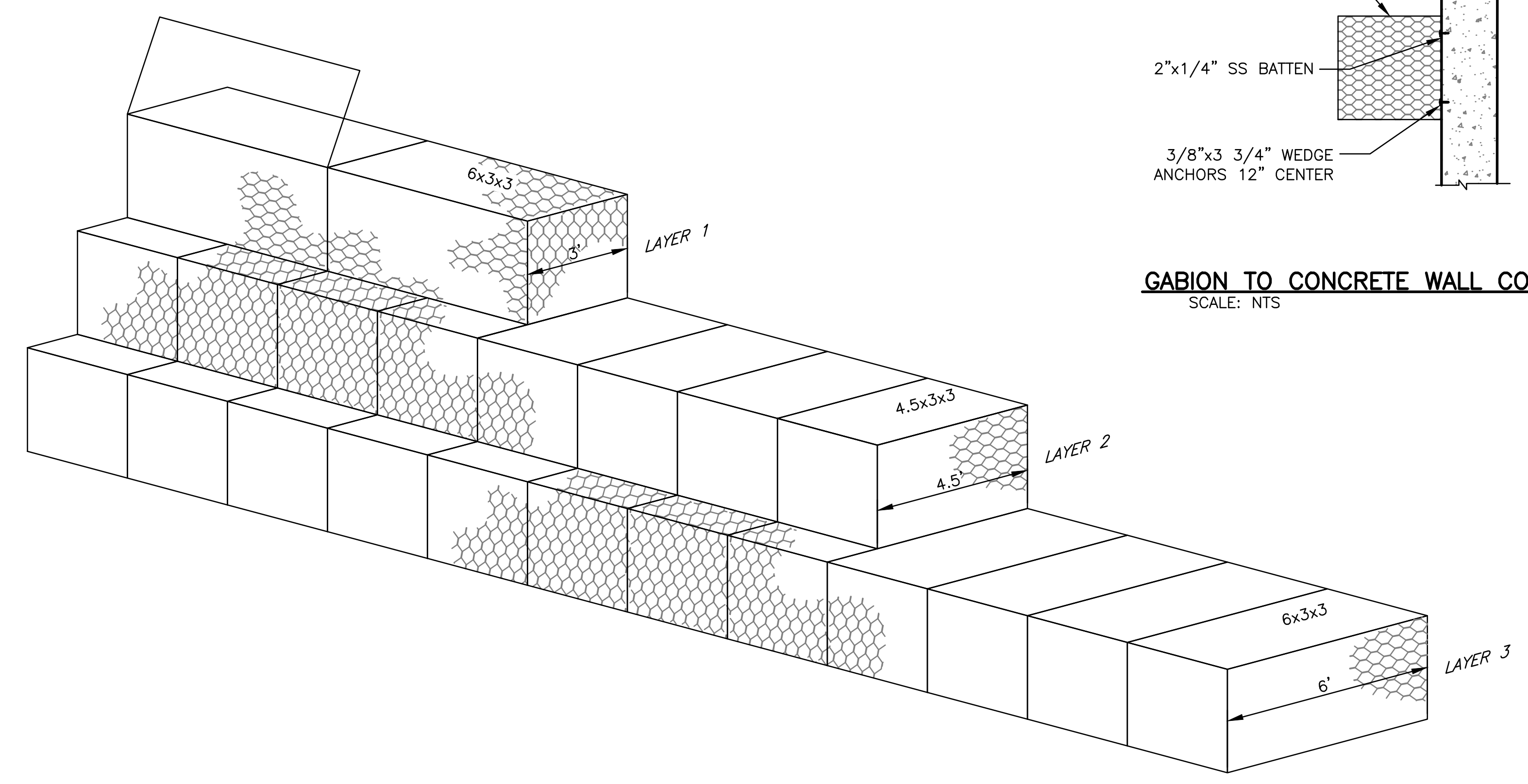
**TYPICAL CROSS SECTION**  
 SCALE: NTS



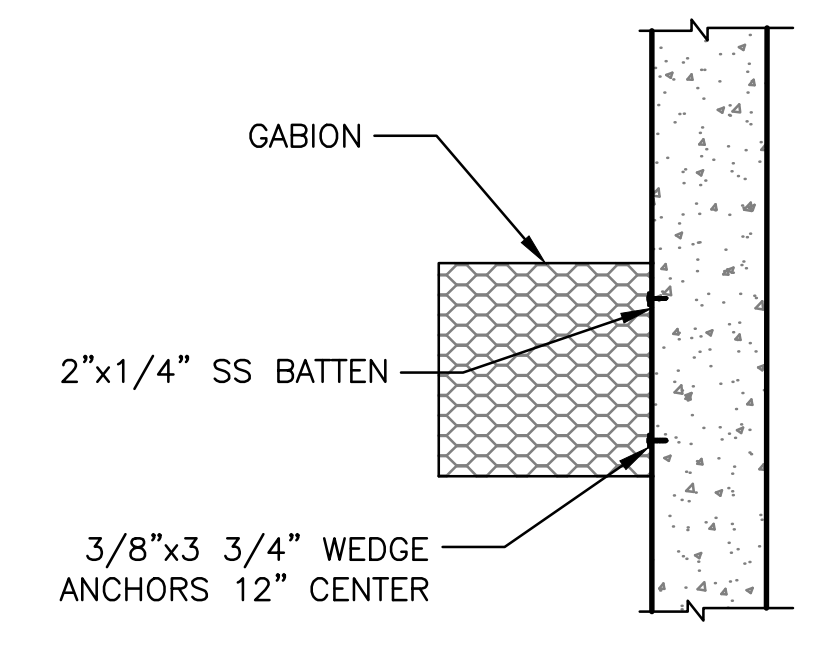
**GABION WALL PIPE PENETRATION DETAIL**  
 PLACE THE PIPE AND LIFT END PANELS AROUND PIPE AND TIE THEM TOGETHER AT TOP OF PIPE.



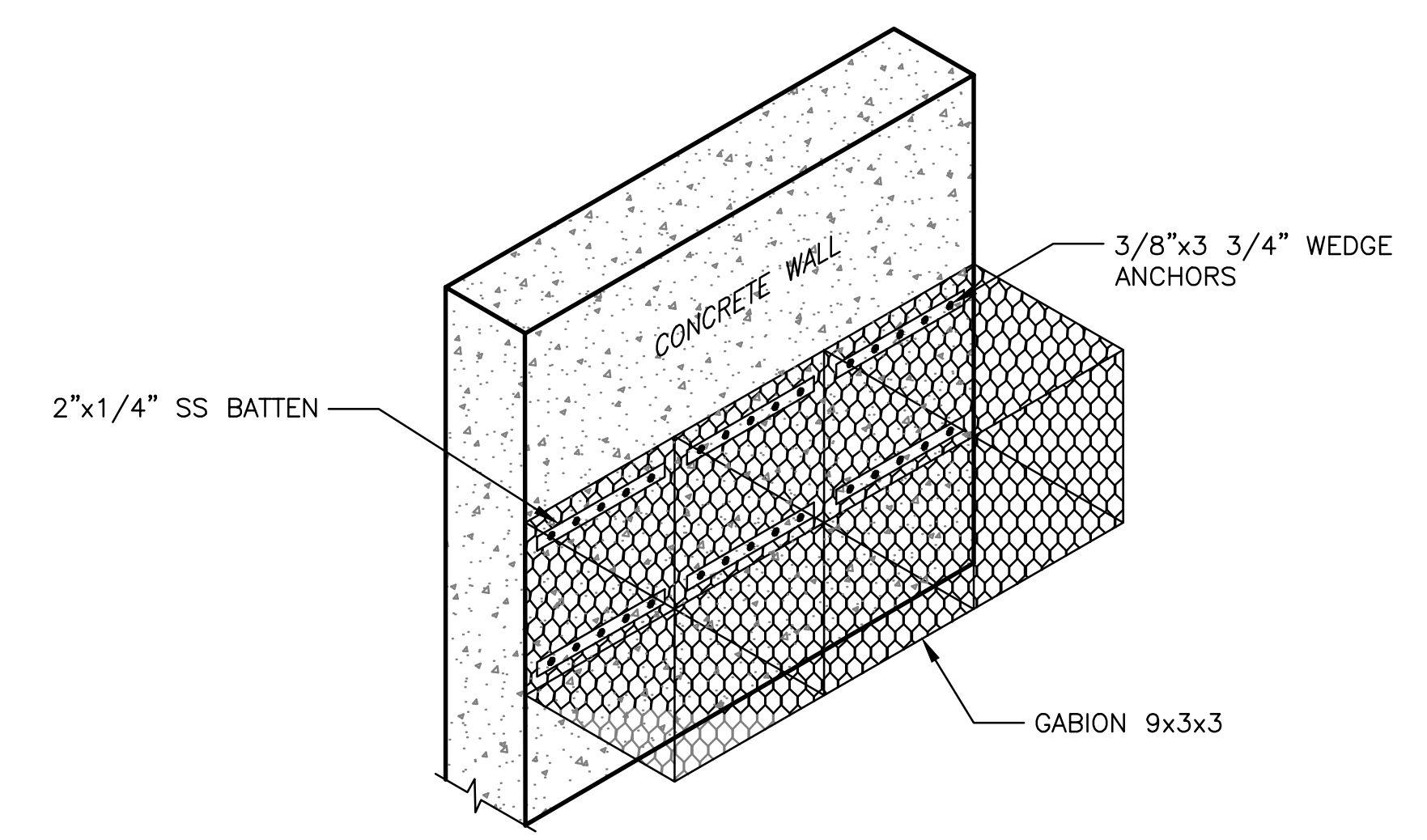
**GABION WALL PIPE PENETRATION DETAIL**  
 COMPLETE FILLING AND CLOSE LIDS



**ISOMETRIC VIEW**  
 GABION LAYOUT AS PER ASTM D7014  
 SCALE: NTS



**GABION TO CONCRETE WALL CONNECTION**  
 SCALE: NTS



**ISOMETRIC VIEW**  
 SCALE: NTS

**1 GABION WALL DETAILS**  
 SCALE: NTS

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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DRAWN BY: NM  
 REVIEWED BY: 2022  
 DATE: 2022

Correct:

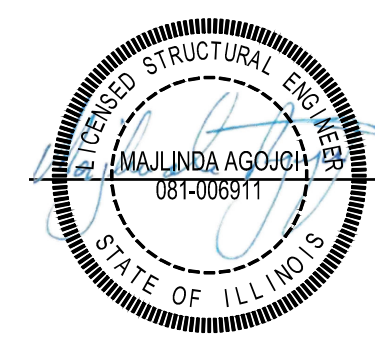
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**GABION WALL DETAILS**

Sheet Number:  
**S-521**

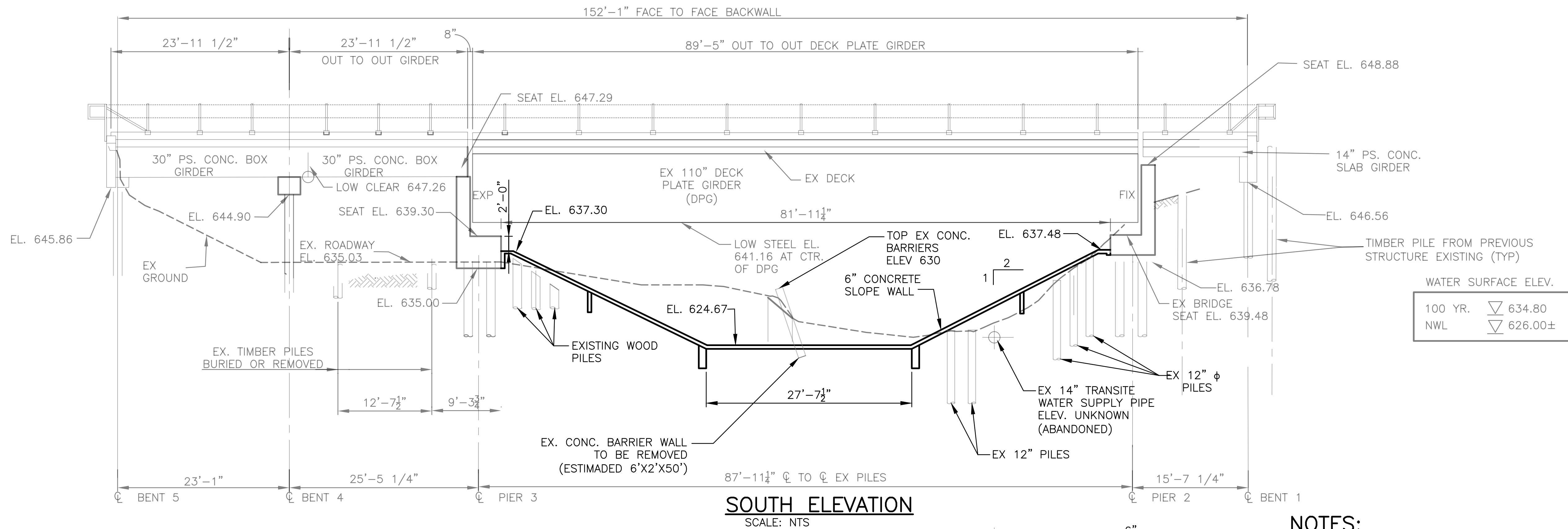
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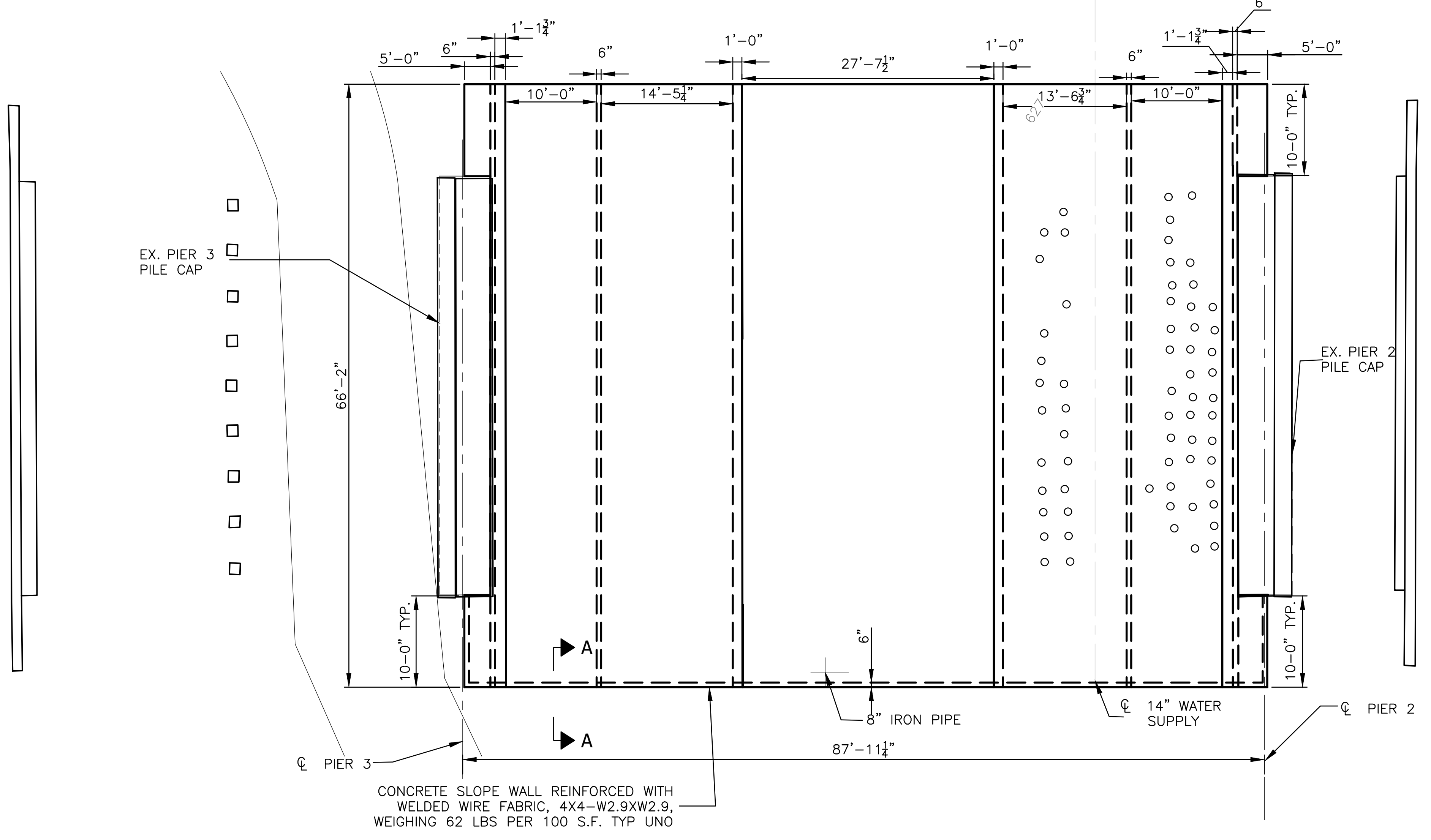


WATER SURFACE ELEV.	
100 YR.	▽ 634.80
NWL	▽ 626.00±

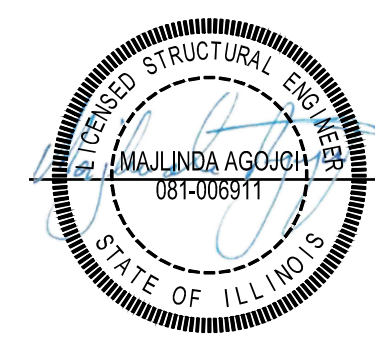
**SOUTH ELEVATION**  
SCALE: NTS

**NOTES:**

1. BASED ON DRAWINGS PROVIDED BY UPRR DATED AUGUST 1996.
2. CONTRACTOR TO CUT OFF AND REMOVE EXISTING PILES AT LEAST 2' BELOW PROPOSED FINISHED GRADE.
3. NO WORK IS PROPOSED UNDER THE BRIDGE FROM BENT 5 TO PIER 3 (SPANS 3 AND 4) AT THIS TIME, EXCEPT FOR ANY INCIDENTAL FILLING OF VOIDS UNDER PIER 3.
4. SUGGESTED CONSTRUCTION SEQUENCE FOR ANY INCIDENTAL FILLING OF VOIDS UNDER PIER 3 IS AS FOLLOWS:  
 A.) OBTAIN PERMISSION FROM UPRR TO FILL VOID UNDER PILE CAP  
 B.) AFTER RECEIVING PERMISSION FROM UPRR, AND ONLY WHILE UPRR REPRESENTATIVE IS ON SITE TO OBSERVE, USING A TRACK HOE WITH 100 ENGINE HORSEPOWER OR LESS, PUSH SAND OR PEA GRAVEL UNDER CAP.  
 C.) WHEN MATERIAL ROLLS OUT OTHER SIDE OF CAP, VOID IS FILLED.  
 D.) AFTER VOID IS FILLED, PLACE CA-7 AGGREGATE TO BRING UP THE GRADE AND SHAPE IT TO CONSTRUCT CONCRETE SLOPE WALL ON.
5. SEE SHEET S-536 FOR SECTION A-A.



**SLOPEWALL PLAN**



Rev.	Description	Appr.	Date

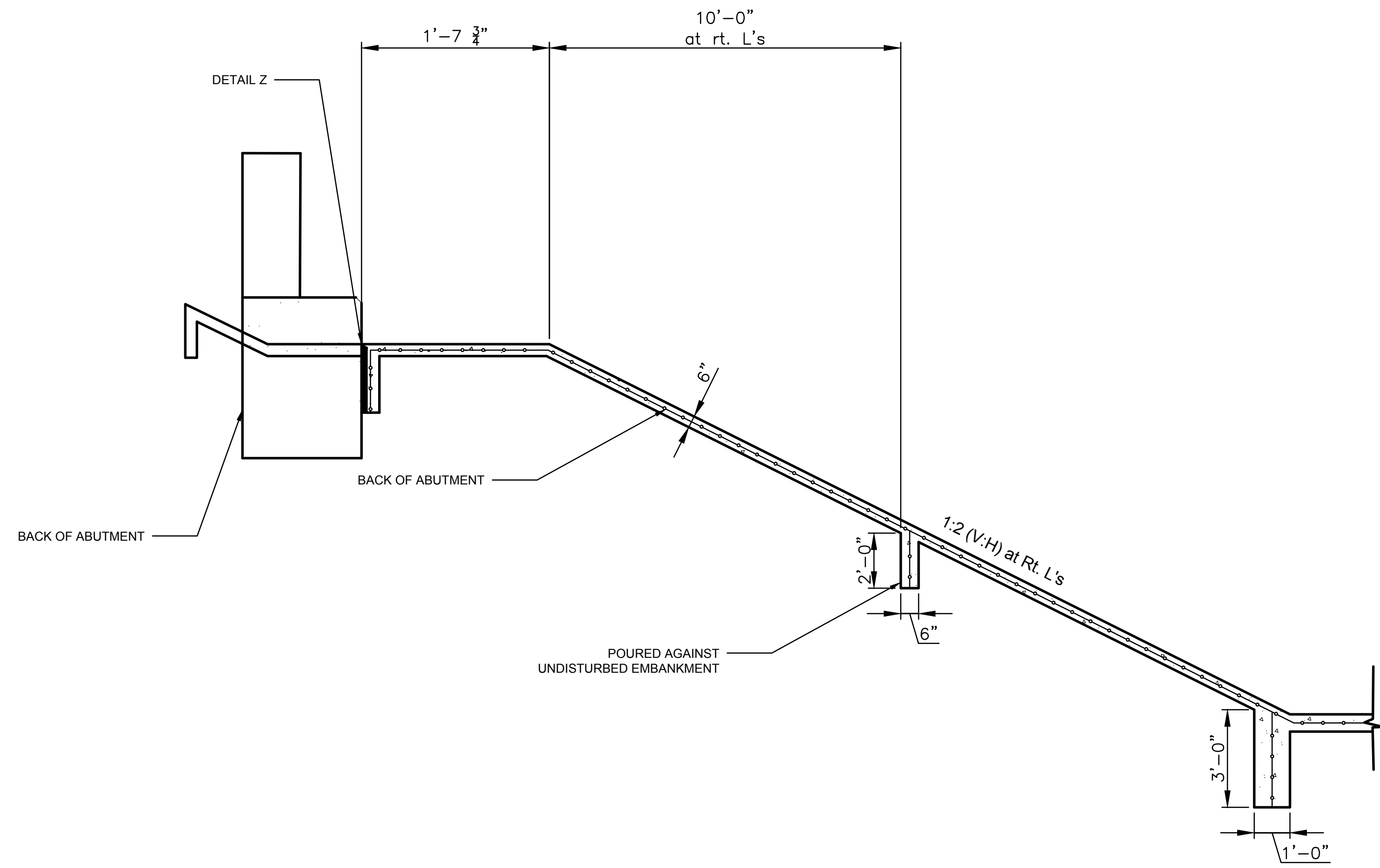
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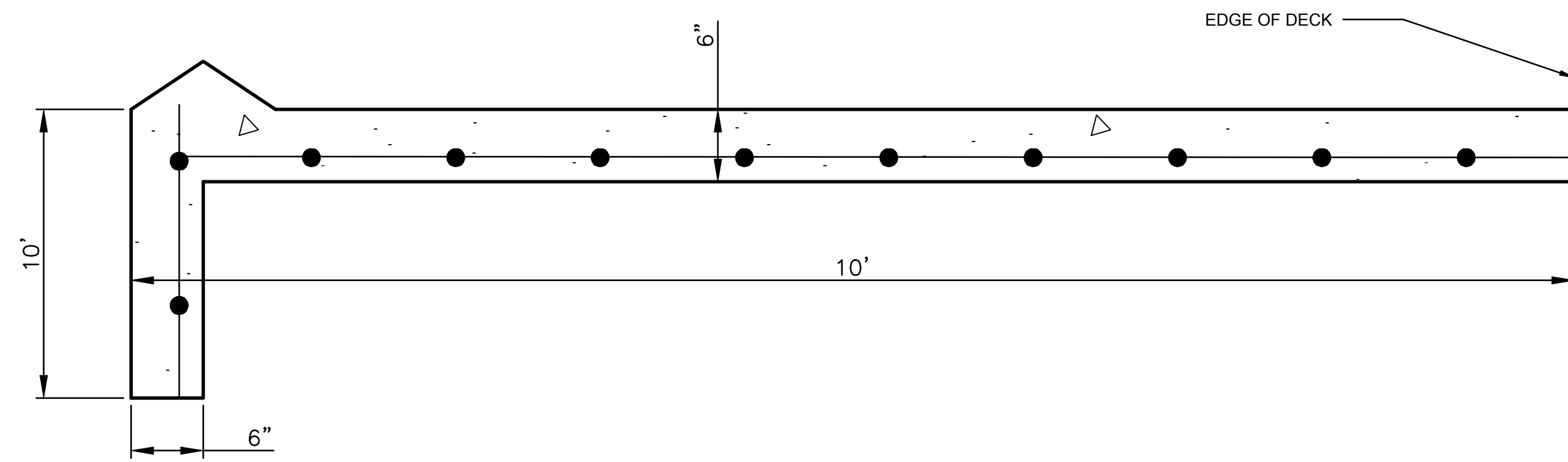
DRAWN BY: NM  
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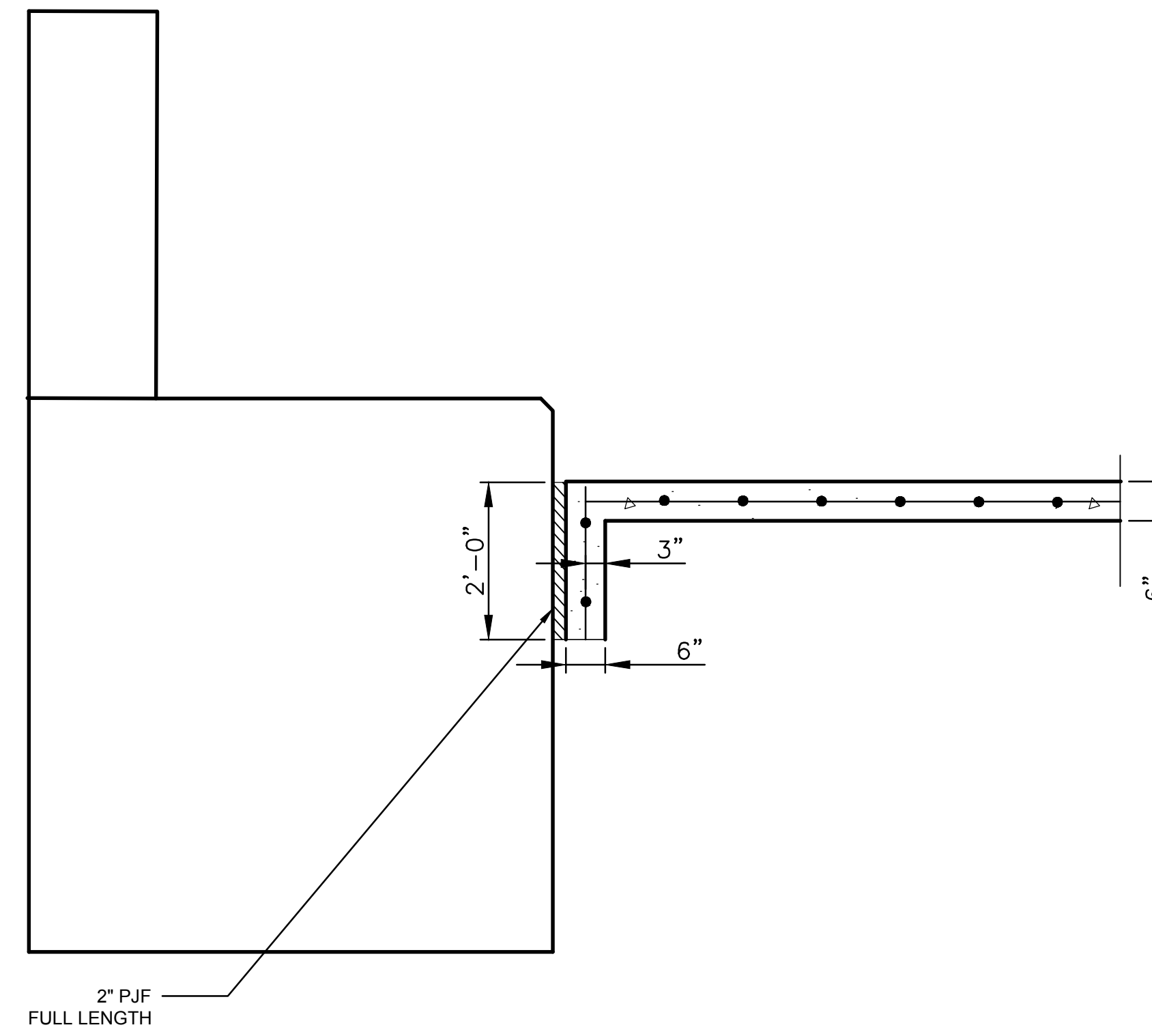
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**CONC SLOPE WALL AT UPRR BRIDGE 12.07**  
 OVER ADDISON CREEK



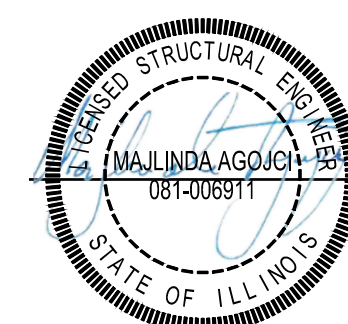
TYPICAL SECTION THRU CONCRETE SLOPE WALL



SECTION A-A  
SEE SHEET S-525



DETAIL Z



Rev.	Description	Appr.	Date

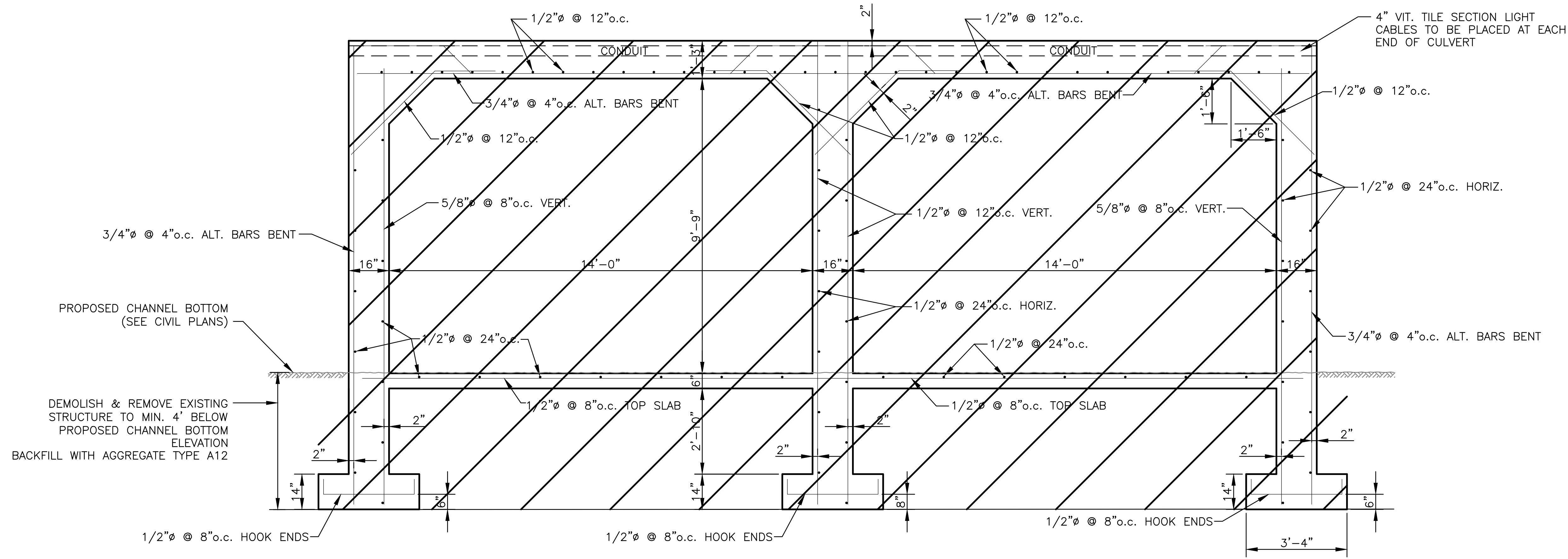
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**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

**CONCRETE SLOPE WALL DETAILS**



**SECTION AT TRANSVERSE CENTER LINE**  
SCALE: NTS

**NOTES:**

- EXISTING PLANS FOR BRIDGES TO BE REMOVED AT 30TH, 31ST AND 32ND AVENUE IN BELLWOOD (REACH 6) DO NOT EXIST. SECTION SHOWN ON THIS SHEET IS FROM SIMILAR BRIDGE NEARBY. CONTRACTOR TO FIELD VERIFY CULVERT GEOMETRY PRIOR TO BIDDING.
- RELOCATE SANITARY SEWER MAINS RUNNING THROUGH CULVERTS (NOT SHOWN) PRIOR TO DEMOLITION. SEE CIVIL DRAWINGS.
- COORDINATE WORK WITH VILLAGE OF BELLWOOD MINIMUM 14 DAYS PRIOR TO CONSTRUCTION.
- SECTION ABOVE SHOWS SUPPORTING STRUCTURE ONLY AND DOES NOT SHOW PAVEMENT, WING WALLS OR EXISTING CHANNEL CONCRETE LINING. SEE CG SHEETS FOR DETAILS



**30TH AVENUE BRIDGE**  
LOOKING DOWNSTREAM



**31ST AVENUE BRIDGE**  
UPSTREAM FACE



**32ND AVENUE BRIDGE**  
UPSTREAM FACE

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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Correct:

**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS  
**DEMOLITION PLANS FOR BRIDGES REACH 6**

Sheet Number:  
**S-527**  
Page Number: 422

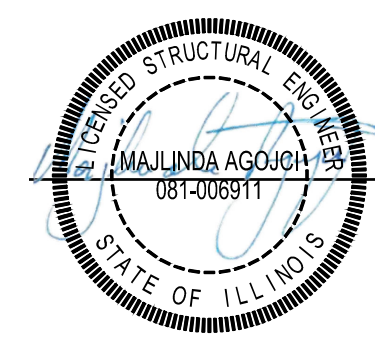












Table with columns: WALL#, PILE#, PILE SECTION, STATION, OFFSET=FF LAGGING / FACING TO CTR. PILE / ENCAS., TOP/WALL ELEV, TOP/PILE ELEV, TOP/ENCASE ELEV, TOP/ROCK ELEV, PILE TIP ELEV, PILE LENGTH, ENCASE LENGTH, ROCK SOCK LENGTH, # SHEAR CONNECTORS, ROCK SOCK DIAM, MIN ENCASE DIAM, SHEAR CONNECTOR SPACING, LENGTH OF PILE ABOVE ENCASE, TOP STUD TO TOP OF PILE, BOTTOM STUD TO TOP OF ENCASE, d, tf, w, ENCASE CONC. AREA, ENCASE CONC. AREA, ENCASE CONC. VOLUME, ROCK SOCK AREA, ROCK SOCK VOLUME, FACING THICKNESS, LAGGING TYPE. Rows 5-45.

GENERAL NOTE:

PROVIDE TOP/WALL ELEV: EST & AS-BUILT COLUMNS FOR CIP WALL SECTIONS, SINCE THE HEIGHT OF THE PILE AND GRADATION CONTROL WALL PLACEMENT. SEE S-504.

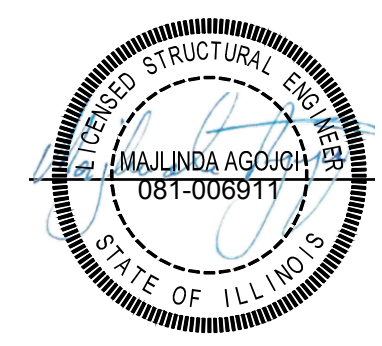


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CONTRACT 11-187-3F ADDISON CREEK CHANNEL IMPROVEMENTS SCHEDULE - SOLDIER PILES - WALL 5

Sheet Number: S-605 Page Number: 427



WALL #	PILE #	PILE SECTION	STATION	OFFSET=FF LAGGING / FACING TO CTR. PILE / ENCAS.	TOP/WALL ELEV		TOP/PILE ELEV		TOP/ENCASE ELEV		TOP/ROCK ELEV		PILE TIP ELEV		PILE LENGTH		ENCASE LENGTH		ROCK SOCK LENGTH		# SHEAR CONNECTORS		ROCK SOCK DIAM		MIN ENCASE DIAM		SHEAR CONNECTOR SPACING	LENGTH OF PILE ABOVE ENCASE	TOP STUD TO TOP OF PILE	BOTTOM STUD TO TOP OF ENCASE	d	tf	w	ENCASE CONC. AREA	ENCASE CONC. AREA	ENCASE CONC. VOLUME	ROCK SOCK AREA	ROCK SOCK VOLUME	FACING THICKNESS	LAGGING TYPE
					EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	EST	AS-BUILT	MIN. REQ.	AS-BUILT	EST	AS-BUILT														
7	1	W21x101	0	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	2	W21x101	10	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	3	W21x101	20	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	4	W21x101	30	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	5	W21x101	40	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	6	W21x101	50	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	7	W21x101	55	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	8	W21x101	67	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	9	W21x101	73.5	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	10	W21x101	80	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	11	W21x101	90	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		
7	12	W21x101	96	0.83	634.80	634.80	624.80	624.80	617.00	617.00	604.00	604.00	30.80	30.80	20.80	20.80	13.00	13.00	N/A	N/A	30	30	36	36	12.00	10.00	3.00	6.00	21.4	0.80	101.00	3110.80	7.07	147.03	4.91	63.81	0.00	PRECAST		

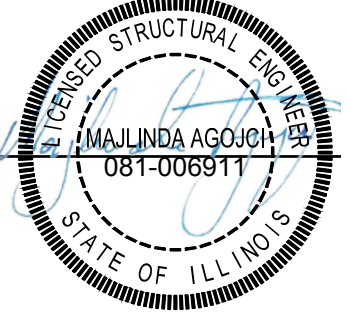
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CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
 SCHEDULE - SOLDIER PILES - WALL 7

Sheet Number: S-607  
 Page Number: 429



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 2	MA	01/06/23









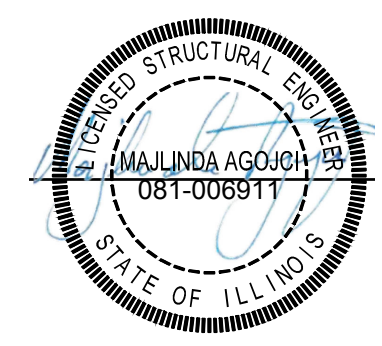




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GENERAL NOTE:

PROVIDE TOP/WALL ELEV: EST & AS-BUILT COLUMNS FOR CIP WALL SECTIONS, SINCE THE HEIGHT OF THE PILE AND GRADATION CONTROL WALL PLACEMENT. SEE S-504.



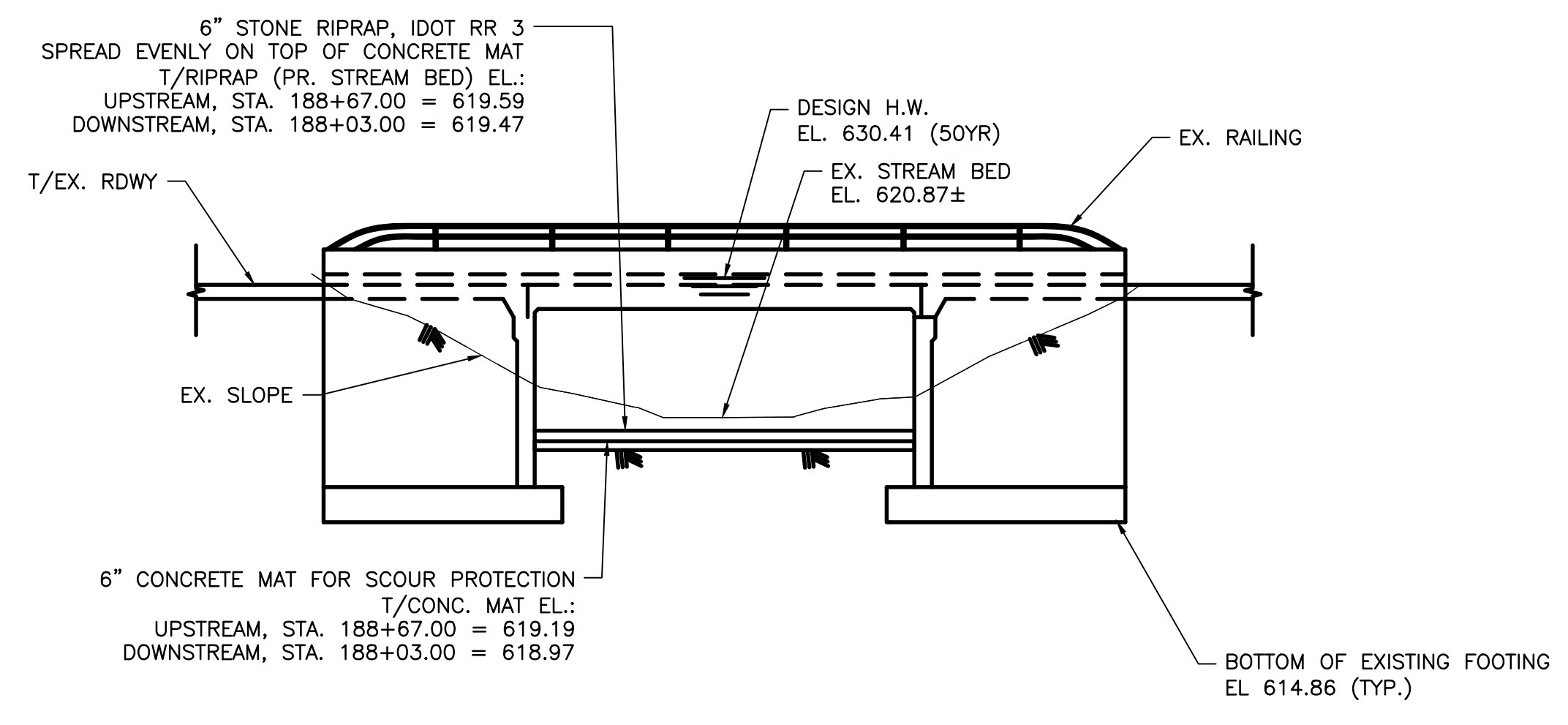
Revision table with columns: Rev., Description, Appr., Date.

Project information: METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO, 623 Cooper Court • Schaumburg, IL 60173, Tel: 830.994.2600 • Fax: 312.733.9612, Integrity | Quality | Reliability. Designated by: LAN, Checked by: MA, Scale: AS SHOWN, Drawn by: AN, Reviewed by: AN, Date: 2022, Correct.

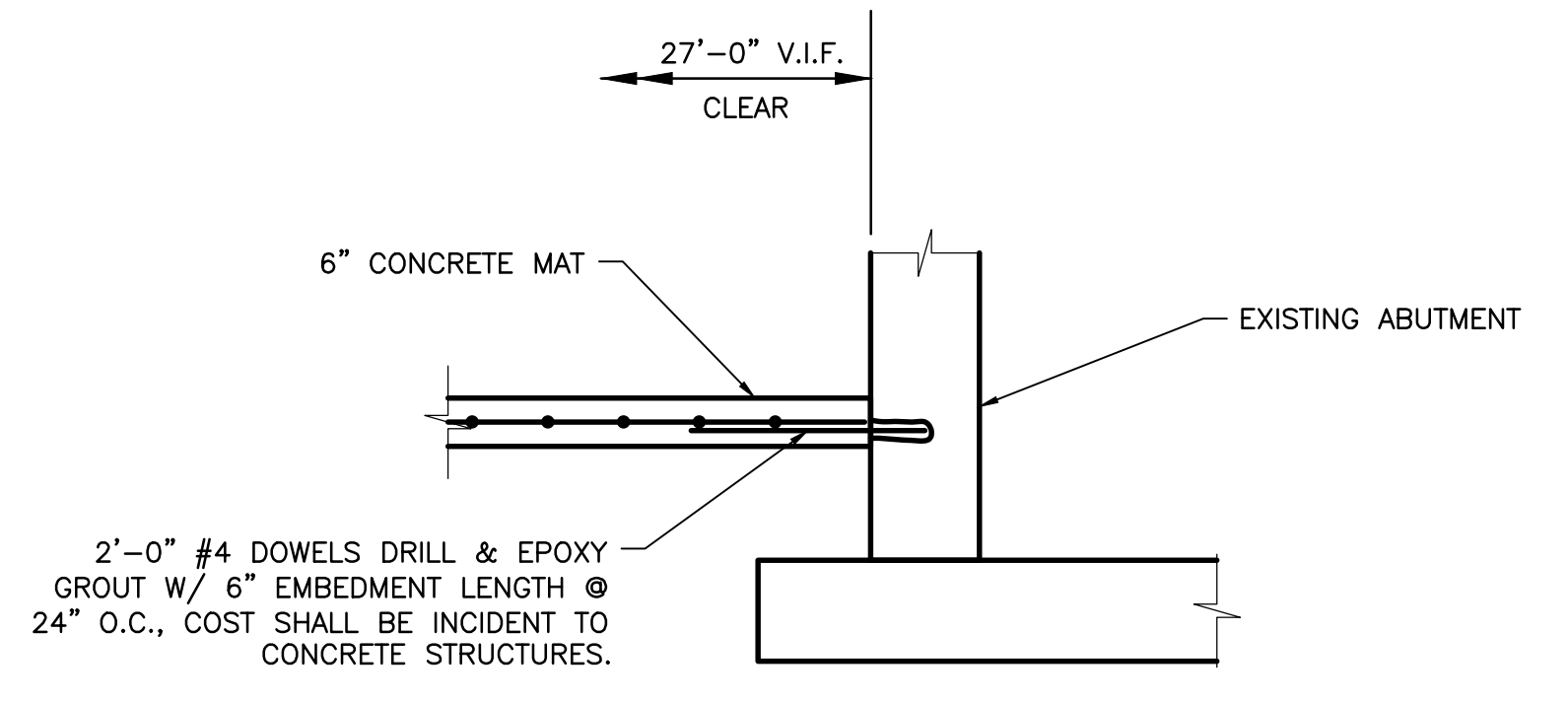
Project title: CONTRACT 11-187-3F ADDISON CREEK CHANNEL IMPROVEMENTS SCHEDULE - SOLDIER PILES - WALL 12

Sheet Number: S-612 Page Number: 434

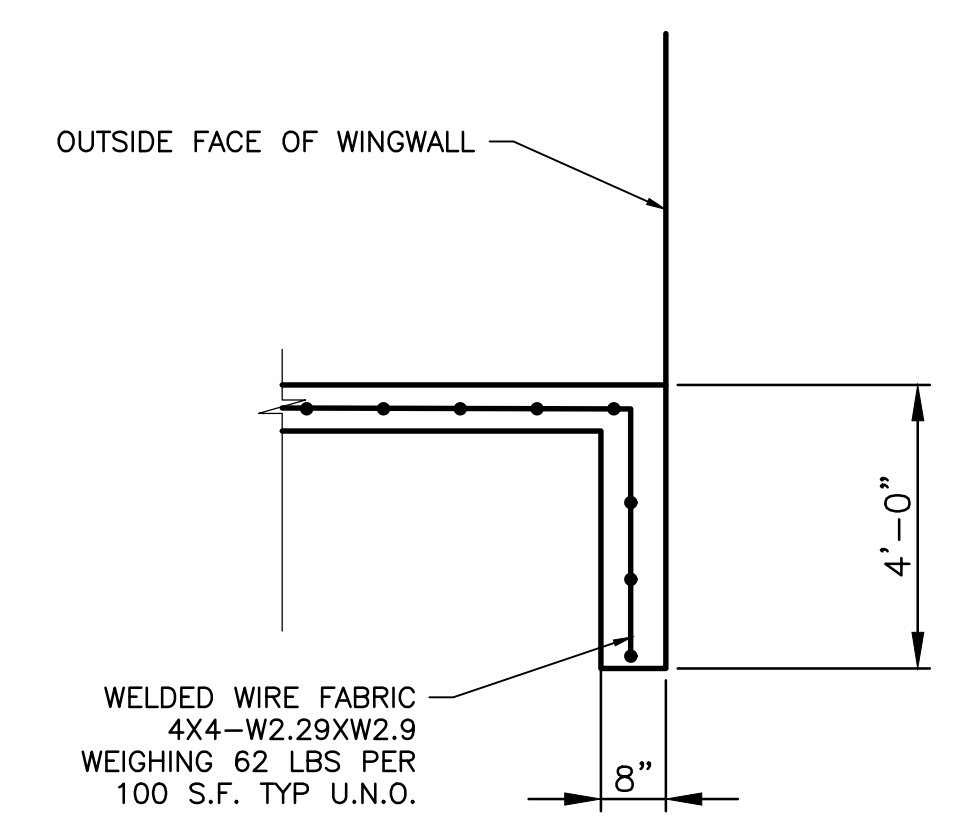
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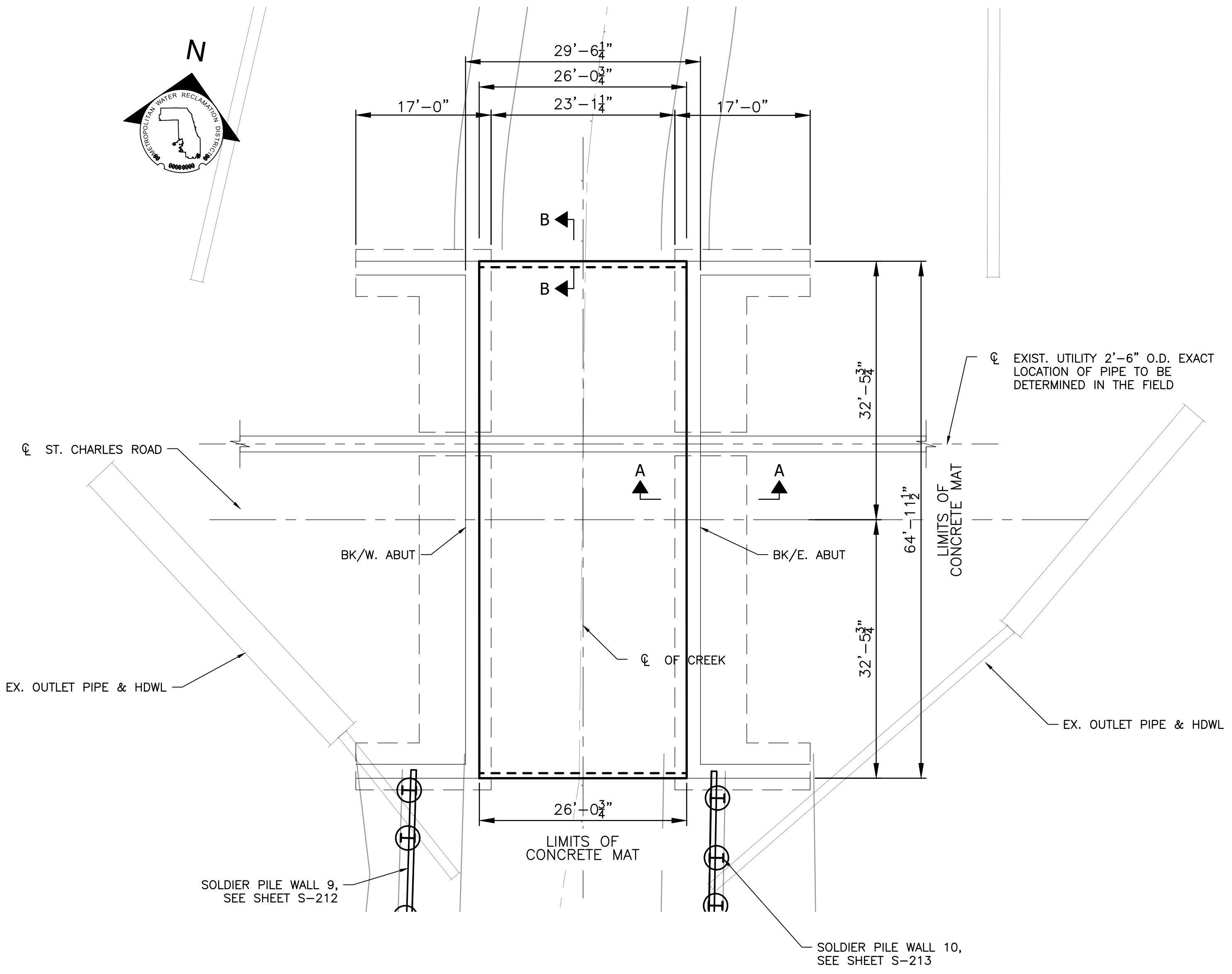
**ELEVATION**  
LOOKING NORTH



**SECTION A-A**



**SECTION B-B**



**PLAN VIEW**  
(SUPERSTRUCTURE NOT SHOWN FOR CLARITY)



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

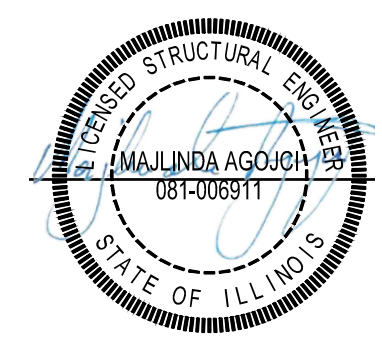
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 SCALE: AS SHOWN

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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**GENERAL PLAN AND ELEVATION ST. CHARLES RD. OVER ADDISON CREEK**



**ELECTRICAL SYMBOLS**

- FLUORESCENT LIGHT FIXTURE "NL" DENOTES "NIGHT LIGHT". (TYPICAL ALL FIXTURES)
- RECESSED CAN LIGHT
- EXIT LIGHT, SHADING DENOTES FACE(S), ARROW SHOWN IF REQUIRED
- EMERGENCY BATTERY FIXTURE (WALL MOUNT)
- EMERGENCY BATTERY FIXTURE (RECESSED)
- MOTOR CONNECTION / EQUIPMENT TERMINAL POINT
- NON-FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MAGNETIC STARTER
- COMBINATION MAGNETIC STARTER NON-FUSED DISCONNECT SWITCH.
- COMBINATION MAGNETIC STARTER FUSED DISCONNECT SWITCH.
- BRANCH CIRCUIT PANEL BOARD
- OCCUPANCY SENSOR FOR LIGHTING
- TELEPHONE TERMINAL CABINET
- JUNCTION BOX
- SINGLE POLE WALL SWITCH
- WALL BOX TIME SWITCH
- MANUAL MOTOR STARTER WITH THERMAL OVERLOAD RELAY
- WALL SWITCH WITH LIGHTING MOTION SENSOR
- LIGHTING SYSTEM WALL SWITCH WITH MOTION SENSOR
- NEMA 5-20R SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE - CROSS HASH MARK INDICATES MOUNTING HEIGHT 42" AFF OR 6" ABOVE COUNTERTOP
- NEMA 5-20R, DUPLEX RECEPTACLE
- QUADRUPLEX RECEPTACLE
- ISOLATED GROUND DUPLEX OUTLET
- RED RECEPTACLE W/RED COVER PLATE
- ISOLATED GROUND SURGE SUPPRESSION TYPE NEMA 5-20R DUPLEX RECEPTACLE
- FLOOR MOUNTED RECEPTACLE
- SPECIAL RECEPTACLE W/ NEMA RATING AS NOTED
- TELEPHONE OUTLET, "W" DENOTES WALL MOUNTED
- DATA OUTLET
- TELEPHONE/DATA OUTLET
- CONDUIT IN CEILING OR WALL
- CONDUIT EXPOSED
- HOME RUN TO PANEL BOARD, "LP-1" DENOTES PANEL BOARD "1,3,5" INDICATES CIRCUIT NUMBERS INCLUDED LONG HASH MARK DENOTES NEUTRAL CONDUCTOR, LONG HASH MARK W/ DOT AT TOP INDICATES GREEN GROUND WIRE SHORT MARK DENOTES PHASE OR SWITCH WIRE
- CONDUIT UP
- CONDUIT DN

REFER TO SPECIFICATIONS AND/OR DRAWINGS FOR MOUNTING HEIGHTS. MOUNTING HEIGHTS ARE GIVEN TO CENTER LINE OF DEVICES FROM FLOOR UNLESS OTHERWISE NOTED.

LOWER CASE LETTERS AT SWITCHES AND FIXTURES INDICATE ASSOCIATED UNIT FOR SWITCHING.

UPPER CASE LETTERS AT FIXTURE INDICATE FIXTURE TYPE. NUMBER AT FIXTURE OR OUTLET INDICATES PANEL CIRCUIT NUMBER.  
 "3" ADJACENT TO SWITCH SYMBOL DENOTES THREE WAY SWITCH.  
 "4" ADJACENT TO SWITCH SYMBOL DENOTES FOUR WAY SWITCH.  
 "D" ADJACENT TO SWITCH SYMBOL DENOTES DIMMER SWITCH.  
 "K" ADJACENT TO SWITCH SYMBOL DENOTES KEY SWITCH.  
 "M" ADJACENT TO SWITCH SYMBOL DENOTES SPDT CENTER-OFF MOMENTARY CONTACT SWITCH.  
 "P" ADJACENT TO SWITCH SYMBOL DENOTES PILOT LAMP.  
 "T" ADJACENT TO SWITCH SYMBOL DENOTES THERMAL OVERLOAD PROTECTION.

REFER TO THE SCADA PLAN FOR ADDITIONAL SYMBOLS

**ELECTRICAL ABBREVIATIONS**

- A, AMPS - AMPERES
- AC - ABOVE COUNTER
- AHU - AIR HANDLING UNIT
- ATS - AUTOMATIC TRANSFER SWITCH
- BKR - BREAKER
- C - CONDUIT
- CB - CIRCUIT BREAKER
- CF - CEILING FAN
- CKT / CCT - CIRCUIT
- CS - CONTROL STATION
- CT - CURRENT TRANSFORMER
- DAS - DISASTER ALERT SYSTEM
- DD - DUCT DETECTOR
- DISC - DISCONNECT
- DS - DISCONNECT SWITCH
- DTS - DATA & TELEPHONE SYSTEM
- EF - EXHAUST FAN
- ECS - EMERGENCY CONTROL STATION
- EGS - EMERGENCY GAS SHUT-OFF CONTROL STATION
- EHD - ELECTRIC HAND DRYER
- EM - EMERGENCY
- EMS - ENERGY MANAGEMENT SYSTEM
- EMT - ELECTRICAL METAL TUBING
- EOLD - END OF LINE DEVICE
- EWC - ELECTRIC WATER COOLER
- EW - ELECTRIC WATER HEATER
- (EX.) - EXISTING
- EXP. - EXPLOSION PROOF
- F - FUSE
- FAAP - FIRE ALARM ANNUNCIATOR PANEL
- FACP - FIRE ALARM CONTROL PANEL
- FAF - FORCED AIR FURNACE
- FAS - FIRE ALARM SYSTEM
- FDS - FUSED DISCONNECT SWITCH
- FIXT - FIXTURE
- FPN - FLOOR PLAN NOTE
- GEN - GENERATOR
- GFI - GROUND FAULT INTERRUPTER
- GRD / GND - GROUND
- GRS - GALVANIZED RIGID STEEL
- HD - HEAT DETECTOR
- HOA - HAND-OFF-AUTO SELECTOR SWITCH
- HZ - HERTZ
- IMC - INTERMEDIATE METAL CONDUIT
- J, JB - JUNCTION BOX
- KW - KILOWATT
- LA - LOCAL ALARM /SHIELD
- LC - LIGHTING CONTACTOR
- LV - LOW VOLTAGE
- MCB - MAIN CIRCUIT BREAKER
- MCC - MOTOR CONTROL CENTER
- MDP - MAIN DISTRIBUTION PANEL
- MH - MOUNTING HEIGHT
- MLO - MAIN LUGS ONLY
- MTS - MANUAL TRANSFER SWITCH
- NDXL - NEW DEVICE EXISTING LOCATION
- NL - NIGHT LIGHT
- NLXD - NEW LOCATION OF EXISTING DEVICE OR ITEM
- ODO - OVERHEAD DOOR OPERATOR
- P - POLE
- PB - PULL BOX
- PC - PHOTOCELL
- PH - PHASE
- PMCP - PIPE MOUNTED CIRCULATING PUMP
- PNL - PANEL
- PRE - POWER ROOF EXHAUSTER
- RC - RATE COMPENSATED
- RTU - ROOF TOP UNIT
- RX - REMOVE EXISTING
- SC - SPEED CONTROLLER
- SD - SMOKE DETECTOR
- SMR - SURFACE METAL RACEWAY
- SS - SECURITY SYSTEM
- SUH - SUSPENDED UNIT HEATER
- SW - SWITCH
- SWBD - SWITCHBOARD
- TR - TRANSFORMER
- TTB - TELEPHONE TERMINAL BOARD
- TVSS - TRANSIENT VOLTAGE SURGE SUPPRESSOR
- U.N.O. - UNLESS NOTED OTHERWISE
- V - VOLTS
- VC - VOLUME CONTROL
- VFD - VARIABLE FREQUENCY DRIVE
- VR - VANDAL RESISTANT
- W - WIRE, WATTS
- W/ - WITH
- WG - WIRE GUARD
- WP - WEATHER PROOF
- WEF - WALL EXHAUST FAN
- X-RLC - EXISTING DEVICE OR ITEM TO BE RELOCATED
- X-TR - EXISTING TO REMAIN

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: K.E.P. Checked by: C.B. Scale: AS SHOWN  
 Drawn by: J.P.S. Reviewed by: S.T.D. Date: 2022  
 Correct: \_\_\_\_\_

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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**ELECTRICAL NOTES, SYMBOLS AND ABBREVIATIONS**

Sheet Number: **E-001**  
 Page Number: 436



### ELECTRICAL GENERAL SPECIFICATIONS

1. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS, INSURANCES, AND LICENSES FOR THE WORK.
2. THE NAMING OF A CERTAIN BRAND, MAKE, OR MANUFACTURER IN THE SPECIFICATIONS IS TO ESTABLISH A QUALITY STANDARD FOR THE ARTICLE DESIRED.
3. THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES THE REQUIRED DRAWINGS OR EQUIPMENT DATA SHEETS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR REVIEW AND APPROVAL.
4. PREPARE AND SUBMIT SCADA ALARM POINT-TO-POINT DRAWINGS TO MWRD.
5. PREPARE AND SUBMIT SWITCHBOARD FABRICATION DRAWINGS TO BOTH THE ELECTRICAL UTILITY AND THE DEPARTMENT OF ELECTRICAL INSPECTION.
6. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL APPLICABLE CODES, SPECIFICATIONS, LOCAL ORDINANCES, INDUSTRY STANDARDS, AND UTILITY COMPANY AND FIRE INSURANCE CARRIER'S REQUIREMENTS.
7. ALL WORK SHALL COMPLY WITH NFPA 70 NATIONAL ELECTRICAL CODE
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE LOCAL AUTHORITY HAVING JURISDICTION IN ORDER THAT LOCAL INSPECTION MAY BE CARRIED OUT AT THE PROPER STAGE.
9. THE CONTRACTOR SHALL INCLUDE ALL CUTTING, DRILLING, AND PATCHING FOR INSTALLATION OF THE WORK.
10. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS TO WATER SMOKE SEAL ALL OPENINGS, AROUND THE ELECTRICAL WORK. THE FIRE AND/OR SMOKE RESISTANCE RATING OF THE PENETRATION SEAL SHALL BE AT LEAST EQUAL TO THE BARRIER INTO WHICH THE SEAL WILL BE INSTALLED.
11. THE CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING, CONSISTING OF OSHA APPROVED TEMPORARY LIGHTING SOCKET SYSTEM, 50 FOOT-CANDLES MINIMUM, WITH LIGHT EVENLY DISTRIBUTED THROUGHOUT THE BUILDING.
12. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER OUTLETS, GFCI PROTECTED.
13. PROVIDE ALL ELECTRICAL DEMOLITION REQUIRED TO COMPLETE THE WORK.
14. ALL POWER WIRING SHALL BE IN CONDUIT. THE USE OF AC, MC, NM, NMC, NMS, AND FCC CABLE SHALL NOT BE ALLOWED.
15. RACEWAY AND CONDUIT SIZES SHALL BE INDICATED ON DRAWINGS, OR MINIMUM IN ACCORDANCE WITH THE CODE, INCLUDING PROVISION FOR GREEN EQUIPMENT GROUNDING CONDUCTORS.
16. MINIMUM CONDUIT SIZE SHALL BE 3/4 INCH.
17. RIGID STEEL CONDUIT SHALL BE USED FOR ALL CONDUITS, UNLESS SPECIFICALLY NOTED ON THE DRAWINGS AND IN THE SPECIFICATIONS. RIGID STEEL CONDUITS SHALL BE UL APPROVED, LOW CARBON, HOT DIPPED GALVANIZES BOTH INSIDE AND OUTSIDE, WITH MATCHING THREADED JOINTS. ALL RIGID STEEL FITTINGS SHALL BE THREADED. TAPED PRESSURE CONNECTORS MAY BE USED WHEN ENCASED IN CONCRETE. SETSCREW, THREAD LESS, OR COMPRESSION FITTINGS SHALL NOT BE USED WITH RIGID STEEL CONDUIT.
18. WIRE AND CABLE SHALL MEET ALL STANDARDS AND SPECIFICATIONS APPLICABLE AND SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE CODE. INSULATED WIRE AND CABLE SHALL HAVE SIZE, TYPE OF INSULATION, VOLTAGE AND MANUFACTURER'S NAME PERMANENTLY MARKED ON OUTER COVERING AT REGULAR INTERVALS NOT EXCEEDING FOUR FEET. WIRE AND CABLE SHALL BE DELIVERED IN COMPLETE COILS OR REELS WITH IDENTIFYING TAGS, STATING SIZE, TYPE OF INSULATION, ETC. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH THE CODE.
19. ALL WIRE SHALL BE A STRANDED SOFT DRAWN COPPER CONDUCTOR, USING 600-VOLT INSULATION. WIRE #8 AWG OR SMALLER MAY BE SOLID OR STRANDED.
20. WIRE INSTALLED IN RACEWAYS INDOOR DRY LOCATIONS, OUTDOORS, IN CONCRETE SLABS, UNDERGROUND, IN DAMP, OR WET LOCATIONS SHALL BE DUAL RATED TYPE THHN / THWN OR XHHW-2, UNLESS OTHERWISE NOTED.
21. ALL OVERHEAD SERVICE DROP WIRE INSULATION SHALL BE UV PROTECTED SUNRES COPPER WIRE. UP TO 100A SHALL USE 60C AMPACITY AND TERMINATIONS. AT 100A OR LARGER SHALL USE 75C AMPACITY AND TERMINATIONS.
22. THE CONDUCTORS INDICATED ON THE DRAWINGS ARE BASED ON COPPER.
23. MINIMUM WIRE SIZE SHALL BE #12 AWG COPPER.
24. ALL BRANCH CIRCUIT WIRING SHALL CONSIST OF ONE NEUTRAL PER EACH SINGLE POLE BREAKER.
25. RECEPTACLES AND SWITCHES SHALL BE TRADITIONAL STYLE WITH FINDER GROOVE FACE, 20 AMP RATED, SIDE WIRED, PLATED STEEL WRAPAROUND BRIDGE, TOGGLE TYPE OPERATORS, THERMOPLASTIC NYLON FACE, AND MATCHING NYLON FACEPLATE.
26. THE CONTRACTOR SHALL FURNISH AND INSTALL AN ELECTRIC SERVICE WITH RELATED DISTRIBUTION EQUIPMENT AS INDICATED ON THE PLANS, DIAGRAMS, AND SPECIFICATIONS.
27. COORDINATE THE INSTALLATION WITH THE UTILITIES TO MEET THE PROJECT SCHEDULE.
28. COMPLY WITH THE UTILITY COMPANY'S RULES AND REGULATIONS.
29. SLOPE ALL BURIED CONDUITS AWAY FROM THE BUILDING. MINIMUM SLOPE IS 1 INCH PER 20 FEET.
30. POWER AND LIGHTING PANELS SHALL BE OF THE DEAD FRONT, SAFETY TYPE, WITH THERMAL MAGNETIC, QUICK MAKE QUICK BREAK, TRIP FREE, BOLTED TYPE MOLDED CASE CIRCUIT BREAKERS. PUSHDOWN OR TWIN CIRCUIT BREAKERS WILL NOT BE ACCEPTED.
31. VARIABLE FREQUENCY DRIVES
  - 1.1. CONTRACTOR SHALL PROVIDE A COMPLETE, FULLY TESTED, ADJUSTABLE / VARIABLE SPEED DRIVE SYSTEM SUITABLE FOR MANNED OR UNMANNED OPERATION. VFD UNITS SHALL BE AS MANUFACTURED BY EATON, ALLEN BRADLEY, OR SCHNEIDER ELECTRIC (NO SUBSTITUTES).
  - 1.2. EACH VFD UNIT SHALL BE COORDINATED WITH THE REQUIREMENTS OF THE DRIVEN EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR MATCHING THE MOTOR AND THE VFD. LOAD REQUIREMENTS, TORQUE, HORSEPOWER, AND SPEED RANGE OF VFDs SHALL BE COORDINATED WITH AND MEET OR EXCEED THAT OF THE DRIVEN EQUIPMENT.
  - 1.3. HARMONIC DISTORTION LIMITS: THE HARMONIC DISTORTION VALUES RESULTING FROM THE OPERATION OF ALL OR ANY COMBINATION OF VFDs OPERATING AT FULL LOAD AND WITHOUT ANY LINEAR LOADS SHALL BE LIMITED TO THE FOLLOWING:
    - 1.4. MAXIMUM ALLOWABLE TOTAL HARMONIC VOLTAGE DISTORTION, THD VOLTAGE SHALL BE 8%.
    - 1.5. MAXIMUM ALLOWABLE INDIVIDUAL FREQUENCY HARMONIC VOLTAGE DISTORTION SHALL BE 5%.
    - 1.6. MAXIMUM ALLOWABLE INDIVIDUAL FREQUENCY HARMONIC CURRENT DISTORTION; TOTAL HARMONIC CURRENT DISTORTION, THD CURRENT; AND TOTAL DEMAND DISTORTION, TDD SHALL BE WITHIN THE LIMITS OF IEEE 519.
  - 1.7. EACH VFD UNIT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING MAJOR COMPONENTS: SOLID STATE VFD, INPUT LINE POWER DISCONNECT, ENCLOSURE WITH DOOR MOUNTED OPERATOR INTERFACE AND PILOT DEVICES, CONTROL POWER TRANSFORMER, INTEGRATED CONTROLS, ENCLOSURE COOLING FANS, AND ENCLOSURE SPACE HEATER.
  - 1.8. VFDs SHALL HAVE AN OVERLOAD CURRENT CAPACITY FOR A DURATION OF ONE (1) MINUTE OF AT LEAST 110% OF RATED MOTOR CURRENT FOR VARIABLE TORQUE UNITS AND AT LEAST 150% OF RATED MOTOR CURRENT FOR CONSTANT TORQUE UNITS.
  - 1.9. VFD EFFICIENCY SHALL BE 98% OR BETTER AT THE FULL RATED CAPABILITY OF THE VFD AT FULL SPEED AND LOAD. VFD UNIT OVERALL EFFICIENCY, INCLUDING ALL HARMONIC MITIGATION EQUIPMENT, OUTPUT REACTOR, SINE WAVE FILTER, DV/DT FILTERS, COOLING FANS, CONTROL POWER TRANSFORMERS, ETC. SHALL BE 95% OR BETTER OF THE FULL RATED CAPABILITY OF THE VFD AT FULL SPEED AND LOAD. OPERATOR INTERFACE (DIGITAL DISPLAY/KEYPAD UNIT). UNIT SHALL CONTROL, MONITOR AND DISPLAY VFD FUNCTIONS, OPERATING CONDITIONS AND FAULTS. OPERATING CONDITIONS SHALL INCLUDE, BUT NOT BE LIMITED TO: OUTPUT FREQUENCY, OUTPUT VOLTAGE, MOTOR CURRENT, RUNNING SPEED (RPM), INPUT AND OUTPUT POWER.
  - 1.10. THE VFD SHALL INTERFACE WITH ETHERNET COMMUNICATIONS
2. LIGHTING FIXTURES SHALL BE PROVIDED COMPLETE WITH LAMPS, LENSES, END CAPS, MOUNTING HARDWARE, ETC.

1.7. EACH VFD UNIT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING MAJOR COMPONENTS: SOLID STATE VFD, INPUT LINE POWER DISCONNECT, ENCLOSURE WITH DOOR MOUNTED OPERATOR INTERFACE AND PILOT DEVICES, CONTROL POWER TRANSFORMER, INTEGRATED CONTROLS, ENCLOSURE COOLING FANS, AND ENCLOSURE SPACE HEATER.

Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	LJM	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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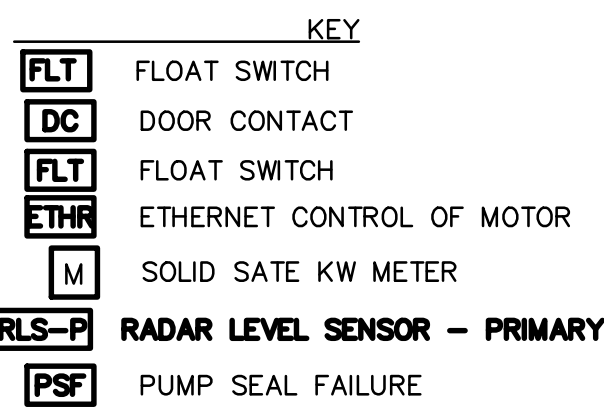
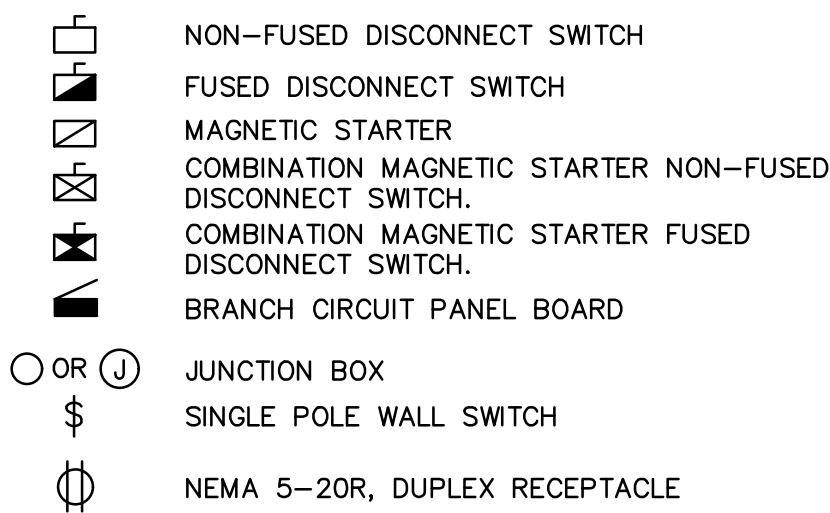
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**ELECTRICAL GENERAL SPECIFICATIONS**



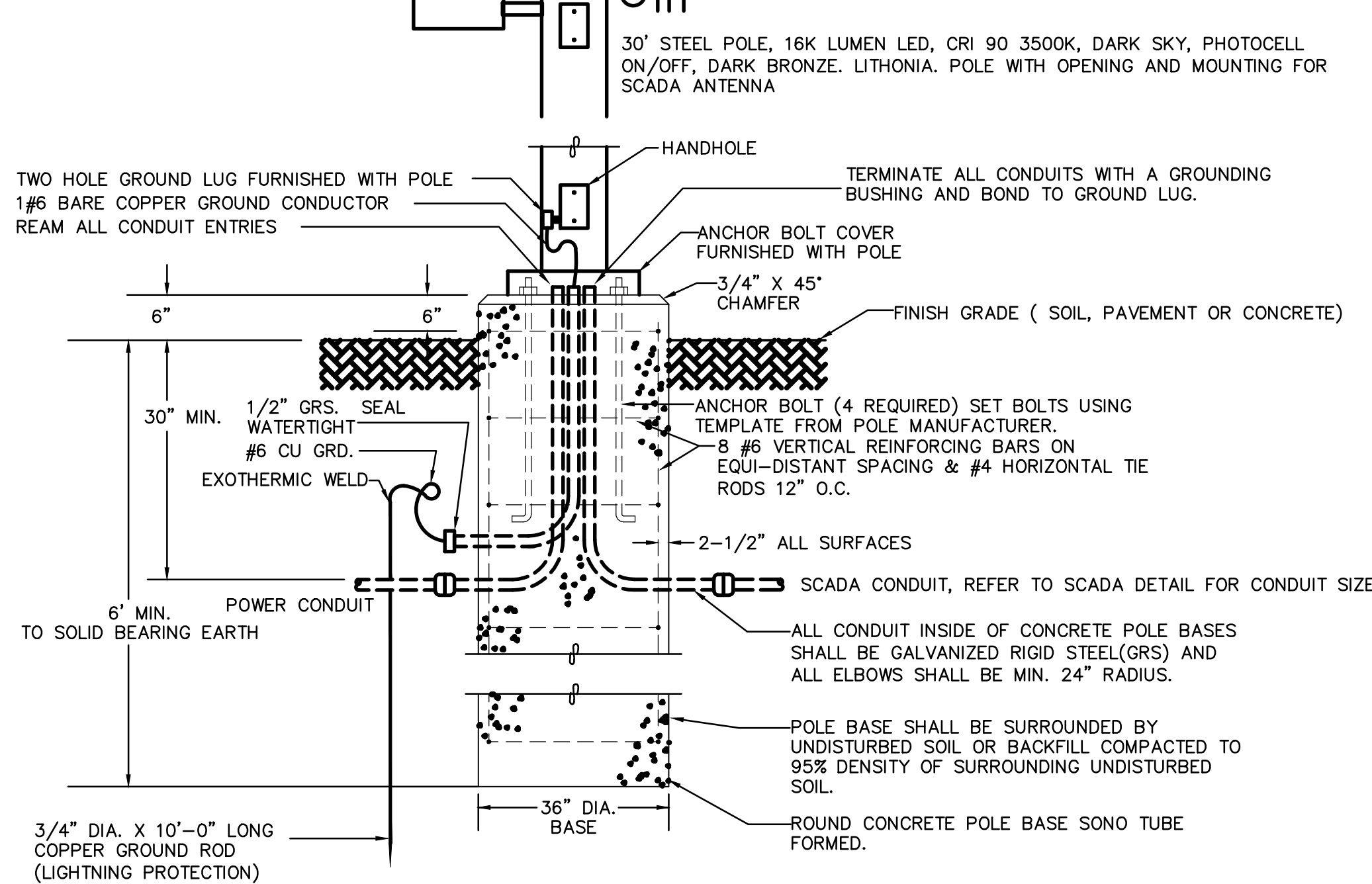
ELECTRICAL SYMBOLS



- SCADA PLAN NOTES:
- A. SCADA PLC AND CABINET INSIDE THE MAIN ENCLOSURE
  - B. RADAR LEVEL SENSOR FOR PUMP CONTROL, 4-20ma, 16 TSP, 1" THREADED RIGID
  - C. FLOAT SWITCH: HIGH AND HIGH-HIGH LEVEL ALARM, 9#12, CU, XHHW2, 1" THREADED RIGID
  - D. DOOR CONTACT FOR INTRUSION MONITORING THE MAIN ENCLOSURE
  - E. SOLID STATE METER WITH ETHERNET CONNECTION TO MONITOR POWER. MONITOR POWER AVAILABILITY AND THE METER WILL RETAIN POWER QUALITY HISTORY
  - F. SCADA ANTENNA, 1" THREADED RIGID WITH ANTENNA CABLE. COORDINATE THE ANTENNA TYPE AND ANTENNA CABLE WITH MWRD, SUBMIT DETAILS WITH SHOP DRAWINGS. COORDINATE WITH THE VILLAGE FOR ANTENNA CONNECTION AND PROVIDE PROGRAMMING OF THE VILLAGE'S SYSTEM AS REQUIRED.
  - G. SEAL ALL CONDUITS INTO THE WET WELL (CLASS 1 DIV 1)
  - H. FLOAT SWITCH FOR DRY WELL PIT, 9#12, XHHW2, 1" THREADED RIGID.
  - I. ALARMS: HIGH LEVEL, HIGH-HIGH LEVEL,
  - J. INDICATION: LEAD PUMP ON, LAG PUMP ON, BOTH PUMPS ON, PUMP FAIL, POWER FAIL (FROM KWH METER)
  - K. CONTROL: LEAD PUMP ON, LAG PUMP ON, BOTH PUMPS ON.
  - L. PUMP SEAL FAILURE: 16 GA SHIELDED PAIR, 1" THREADED RIGID

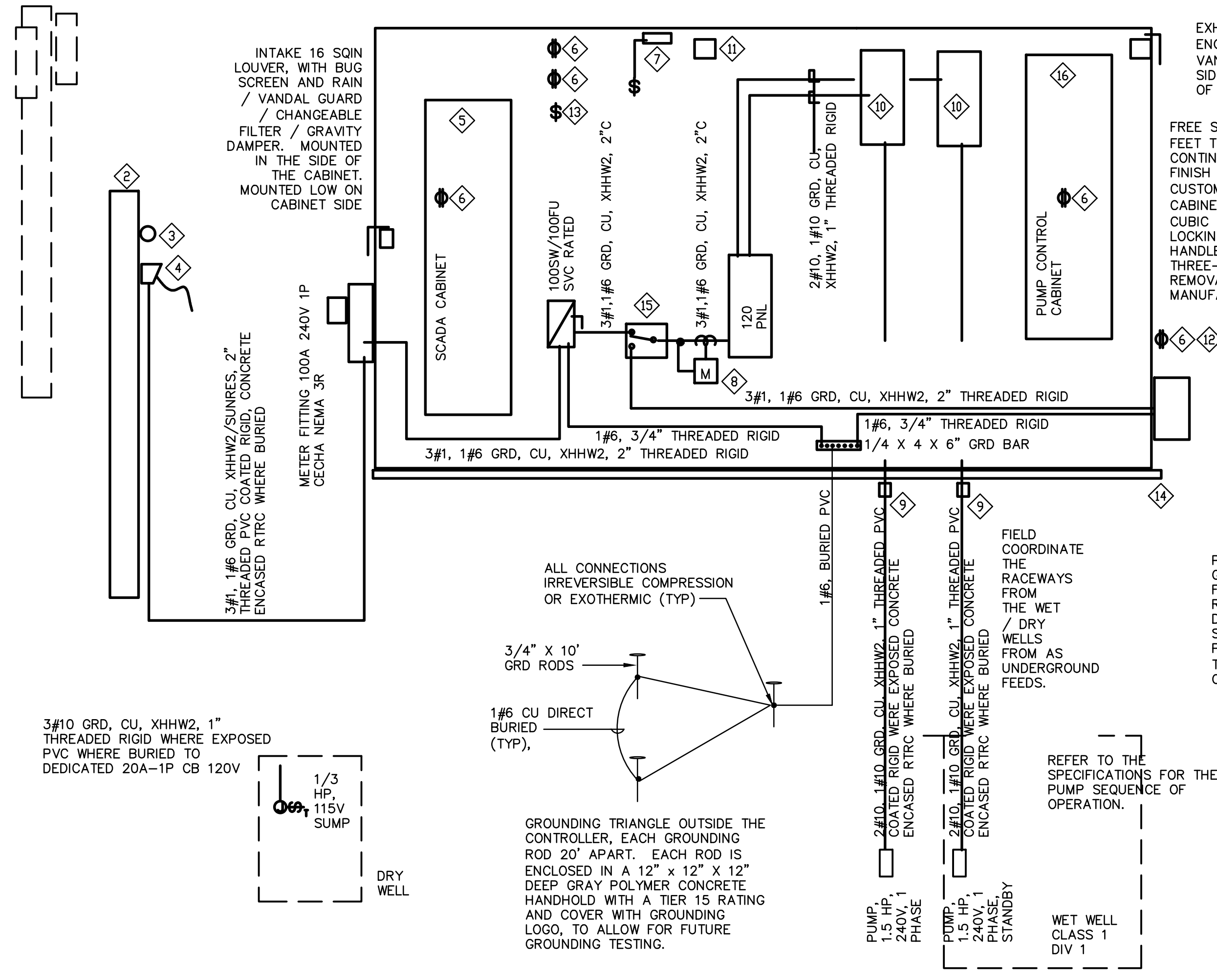
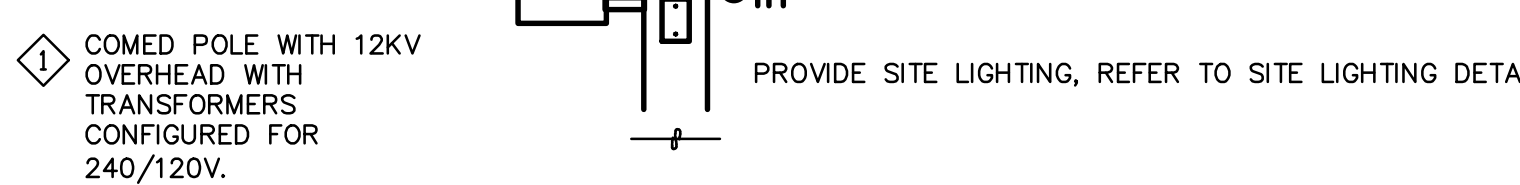
SCADA RISER

PROVIDE A HANDHOLE OPENING AND FACTORY MOUNTING BRACKETS FOR MOUNTING THE SCADA ANTENNA ON THE POLE. REFER TO THE SCADA DETAIL FOR ADDITIONAL INFORMATION AND MOUNTING. FIELD COORDINATE THE POLE MOUNTING OF THE ANTENNA AND THE HANDHOLE DURING THE POLE SHOP DRAWING REVIEW.



SITE LIGHTING AND POLE BASE DETAIL  
 NTS

- NOTES
- COORDINATE WITH THE UTILITY FOR A NEW ELECTRICAL SERVICE.
  - PROVIDE CUSTOMER WOOD SERVICE POLE MATCHING THE REQUIREMENTS OF THE ELECTRIC UTILITY. American Standards Committee 05 ASC 03.4, Naturally Durable Hardwood Pole, 41' LONG WITH 6' BURIED GROUND DEPTH, CLASS 6
  - SERVICE CLEVIS MEETING THE REQUIREMENTS OF THE UTILITY
  - WEATHERHEAD. PROVIDE COIL OF SERVICE CABLE FOR TERMINATION WITH UTILITY OVERHEAD. COORDINATE THE FINAL LENGTH WITH THE UTILITY
  - SCADA CABINET INSIDE THE MAIN ENCLOSURE, NEMA 12, WITH PLC, 8" GUI, 30 MINUTE UPS, LINE VOLTAGE TVSS, SCADA SOFTWARE INTEGRATED INTO THE MUNICIPAL SYSTEM COMPLETE. CONTRACTOR SHALL PROVIDE AND INSTALL SCADA CABINET AND COORDINATE WITH ENGINEER FOR CONNECTION INTO THE MUNICIPAL SYSTEM
  - RECEPTACLE, NEMA 5-20R GFI DEDICATED 120V 20A-1P COT LED LIGHT, PROVIDE MOUNTING BRACKETS. 1X4 VAPOR TIGHT, LED LAMPS 9000 INITIAL LUMENS 3500K, ELECTRONIC BALLAST, 120V, GASKETED LENS, ALL PLASTIC, 67W MAX, LITHONIA # FHE SERIES OR APPROVED EQUAL
  - SOLID STATE POWER METER WITH ETHERNET OUTPUT. MFD BY SQ-D, EATON, SIEMENS
  - SEAL ALL CONDUIT INTO THE WET WELL (CLASS 1 DIV 1). FACTORY PVC COATED THREADED RIGID CONDUIT AND FACTORY PVC COATED FITTING FROM THE ENCLOSURE INTO THE WELLS. MOUNT THE SEALS ABOVE GROUND WITHIN 12 FEET OF THE WELL. PROVIDE STAINLESS METAL FRAMING CHANNEL SUPPORT.
  - SIZE 1 W/D WITHOUT BYPASS WITH ETHERNET CONTROL
  - HEATER 120V 1500W WITH INTERNAL THERMOSTAT AND FAN
  - GFI/WP OUTSIDE OF ENCLOSURE
  - SWITCH BEFORE THE SITE LIGHTING PHOTOCCELL FOR OVERRIDE OFF. 3#10, CU, XHHW2, 1" (PVC WHERE BURIED, THREADED RIGID WHERE EXPOSED).
  - CONCRETE PAD. SEE CU-118, CG-409, CR-119A, AND CR-508.
  - 100AMP 600V, THREE POSITION (CENTER OFF) DOUBLE THROW SAFETY SWITCH, NON-FUSED. MFD BY EATON, SQ-D, SIEMENS
  - PUMP CONTROL PANEL, REFER TO SECTION 33 3211FIELD-ERECTED WASTEWATER PUMP STATIONS.



STONE PARK LIFT STATION - POWER ONE LINE DIAGRAM

BY OTHERS - - - -  
 PROPOSED - - - -

1 PHASE PANEL SCHEDULE: STONE 120PNL												
		VOLTAGE 240 120	NEUTRAL BUS 100%					MNTD SURFACE				
		PHASE WIRE 1PHASE 3 WIRE	GROUND BUS STD GRD					ENCLOSURE NEMA 12				
		BUS TYPE 100										
		PHASE BUS AMPS 100										
		TRIP 100A MCB										
		WITHSTAND RATING (kAmp) 22										
DESCRIPTION	CCT NO.	TRIP	CHECK CCT AMP	CIRCUIT WATTS	CONNECTED WATTS	A	C	CIRCUIT WATTS	CHECK CCT AMP	TRIP	CCT NO.	DESCRIPTION
M PUMP	1	30.2	7.5	900	1150			350	2.1	20A	2	L SCADA
M	3			900	1150			550	2.1	20A	4	R RECEPTACLE OUTSIDE
M PUMP	5	30.2	7.5	900	1450			550	4.6	20A	6	L LTO 50W FAN
M	7			900	1150			125	2.0A		8	H HEATER
X	9	20A	0.0	0	333			333	2.8	20A	10	M SUMP
X	11	20A	0.0	0	200			200	1.7	20A	12	R INTERIOR DED REC
X	13	20A	0.0	0	200			200	1.7	20A	14	R INTERIOR DED REC
X	15	20A	0.0	0	0			0	0.0	20A	16	X
X	17	20A	0.0	0	0			0	0.0	20A	18	X
X	19	20A	0.0	0	0			0	0.0	20A	20	X
X	21	20A	0.0	0	0			0	0.0	20A	22	X
X	23	20A	0.0	0	0			0	0.0	20A	24	X
<b>CONNECTED LOAD SUMMARY</b>					<b>3133</b>	<b>3750</b>	<b>WATTS CONNECTED PER PHASE</b>		<b>1250</b>	<b>1250</b>	<b>31</b>	<b>UNBALANCED MAX AMPS (COSR)</b>
							<b>7500</b>	<b>CONN WATTS MAX(BALANCED)</b>				
							<b>6683</b>	<b>TOTAL CONNECTED WATTS</b>			<b>29</b>	<b>TOTAL CONNECTED AMPS</b>
							<b>8%</b>	<b>% UNBALANCE</b>				

1. ALL CIRCUITS SHALL BE PROVIDED WITH DEDICATED NEUTRAL.  
 2. ALL CBLS ARE SWD RATED.  
 3. GFCI = GROUND FAULT CIRCUIT INTERRUPTER, HB=HANDLE BLOCK, HACR=HVAC RATED, AF=ARC FAULT

Rev.	Description	Appr.	Date
1		LJM	05/07/23
2	ADDENDUM NO. 7	LJM	05/24/23
3	ADDENDUM NO. 8	LJM	05/24/23

METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO

Engineering Enterprises, Inc.  
 Consulting Engineers  
 92 Wheeler Road  
 Sugar Grove, Illinois 60554  
 630.466.6700  
 www.eeiweb.com

Scale: AS SHOWN  
 Checked by: C.B.  
 Designed by: K.E.P.

Date: 2022  
 Reviewed by: S.T.D.  
 Drawn by: J.P.S.

Correct:

CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

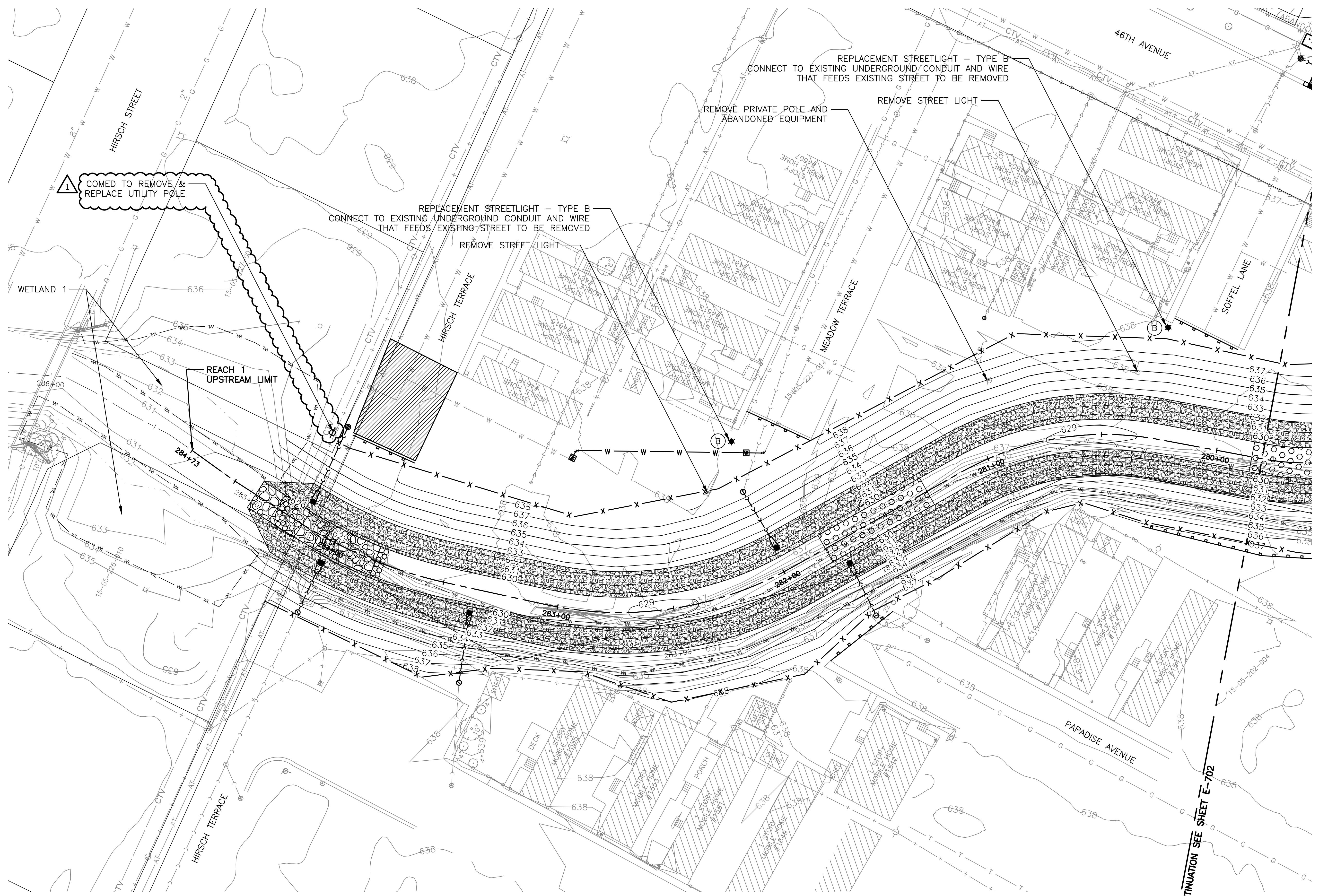
ELECTRICAL SITE PLAN &  
 ONE-LINE DIAGRAM - REACH 2  
 LIFT STATION

Sheet Number:  
**E-101**  
 Page Number: 438

REGISTERED PROFESSIONAL ENGINEER  
 LAWRENCE J. McELHENY  
 062-051700  
 STATE OF ILLINOIS

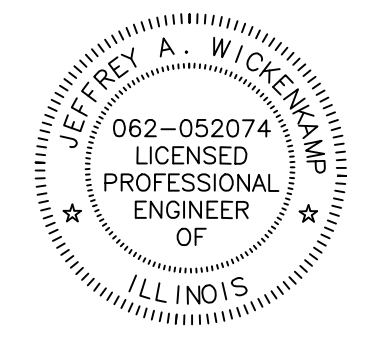
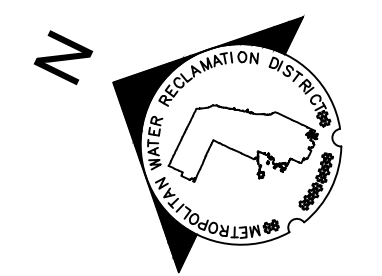
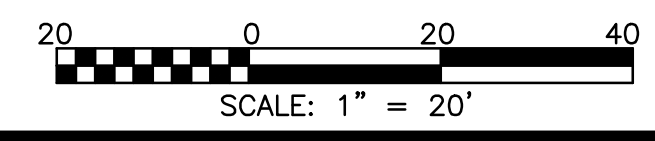






**NOTES:**  
 1. CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS.  
 2. CONNECTIONS AND LAYOUT TO BE DETERMINED BY CONTRACTOR.  
 3. EXISTING ELECTRICAL LINES AND CIRCUITS TO BE FIELD VERIFIED BY CONTRACTOR.

- LEGEND**
- PROP/RELOCATED UTILITY POLE
  - PARK LIGHT - TYPE A
  - REPLACEMENT STREET LIGHT - TYPE B
  - MUNICIPAL STREET LIGHT



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	JAW	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

Designed by: KSS  
 Drawn by: KSS  
 Correct:

Checked by: PML  
 Reviewed by: JAW

Scale: AS SHOWN  
 Date: 2022

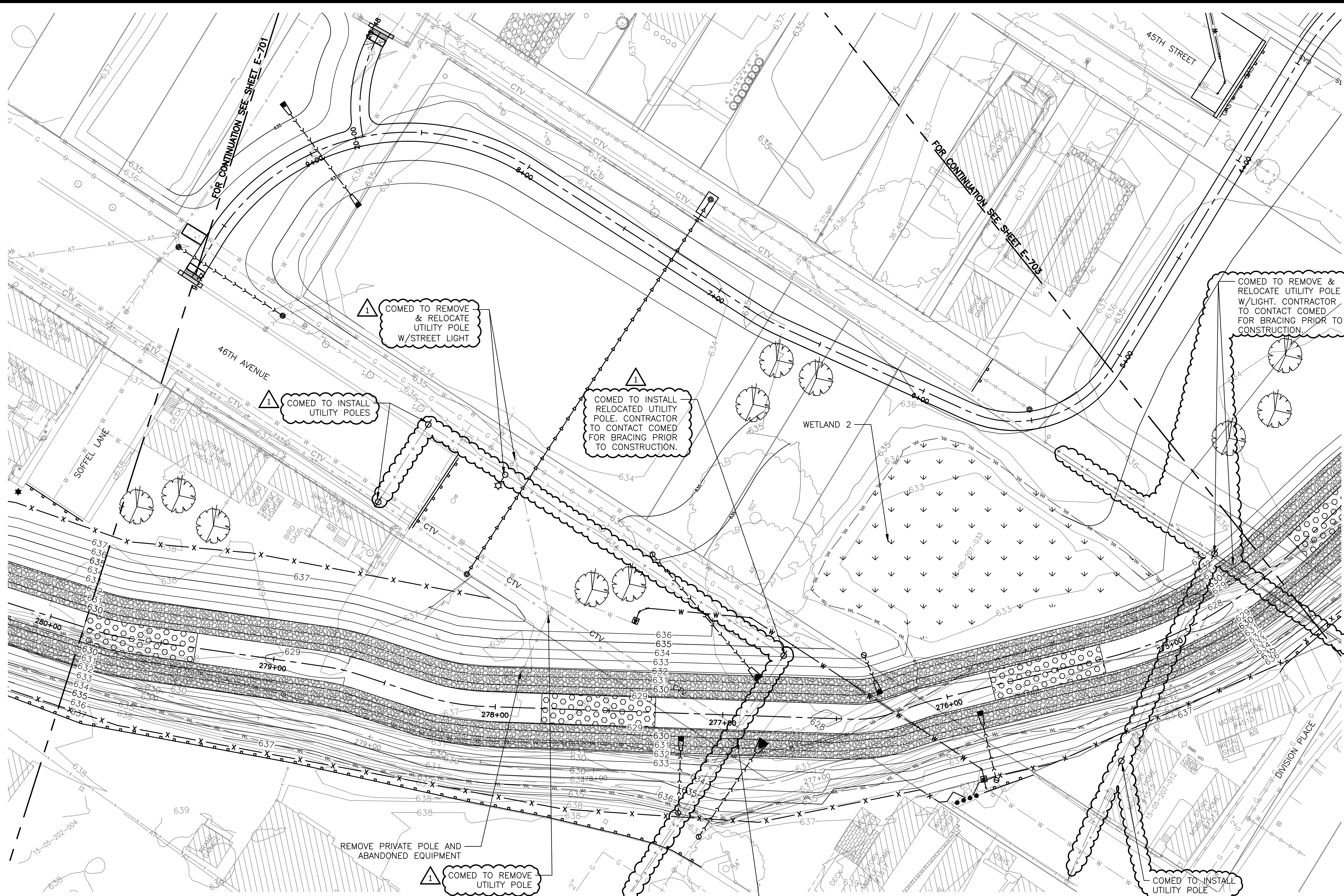
**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYANCO.COM  
 LICENSE NO. 18406289

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**LIGHTING AND UTILITY PLAN - REACH 1**  
 STA. 284+72 TO STA. 279+80

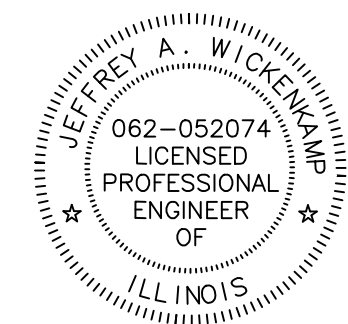
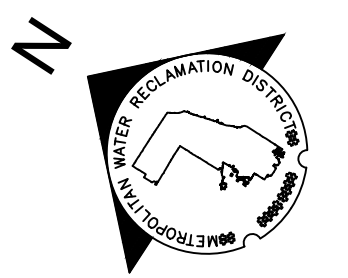
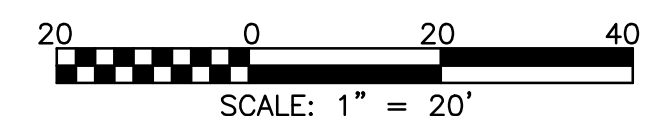
Sheet Number:  
**E-701**  
 Page Number: 440

FOR CONTINUATION SEE SHEET E-702



**NOTES:**  
 1. CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS.  
 2. CONNECTIONS AND LAYOUT TO BE DETERMINED BY CONTRACTOR.  
 3. EXISTING ELECTRICAL LINES AND CIRCUITS TO BE FIELD VERIFIED BY CONTRACTOR.

- LEGEND**
- PROP/RELOCATED UTILITY POLE
  - PARK LIGHT - TYPE A
  - REPLACEMENT STREET LIGHT - TYPE B
  - MUNICIPAL STREET LIGHT



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	JAW	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

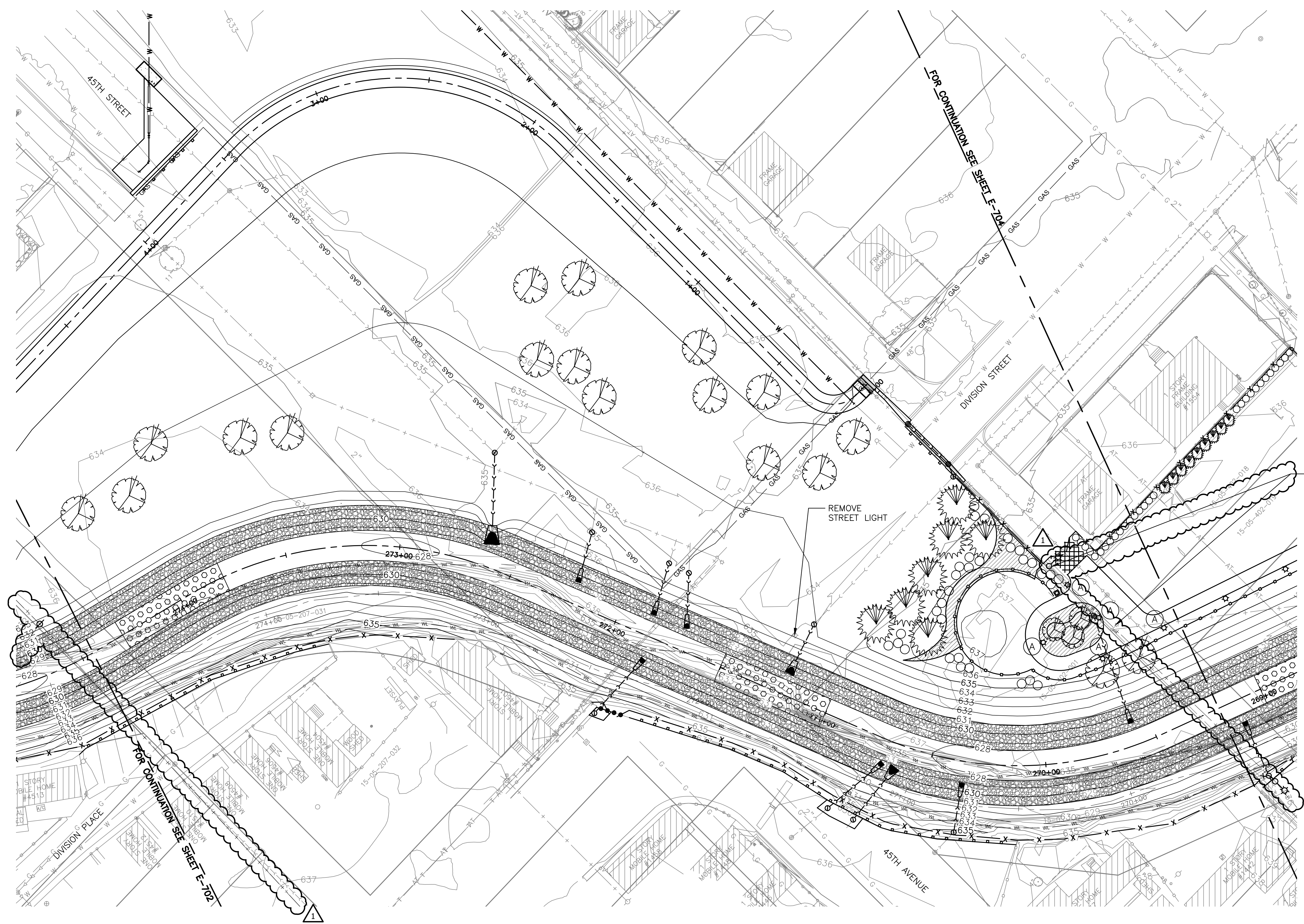
**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERGANS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
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Designed by:	Checked by:	Scale:	
KSS	PML	AS SHOWN	
Drawn by:	Reviewed by:	Date:	
KSS	JAW	2022	
Correct:			

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

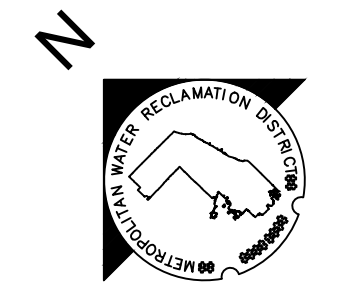
**LIGHTING AND UTILITY PLAN - REACH 1**  
 STA. 279+80 TO STA. 274+40

Sheet Number:  
**E-702**  
 Page Number: 441

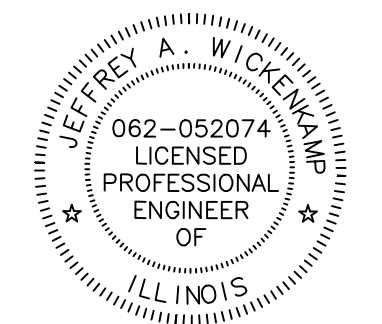
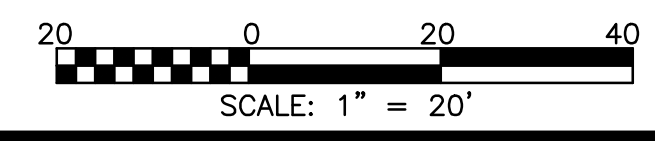


**LEGEND**

- ⊕ PROP/RELOCATED UTILITY POLE
- (A) ☆ PARK LIGHT - TYPE A
- (B) ★ REPLACEMENT STREET LIGHT - TYPE B
- (C) ■ MUNICIPAL STREET LIGHT



- NOTES:**
1. CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS.
  2. CONNECTIONS AND LAYOUT TO BE DETERMINED BY CONTRACTOR.
  3. EXISTING ELECTRICAL LINES AND CIRCUITS TO BE FIELD VERIFIED BY CONTRACTOR.



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	JAW	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: KSS  
 Checked by: PML  
 Scale: AS SHOWN

Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022

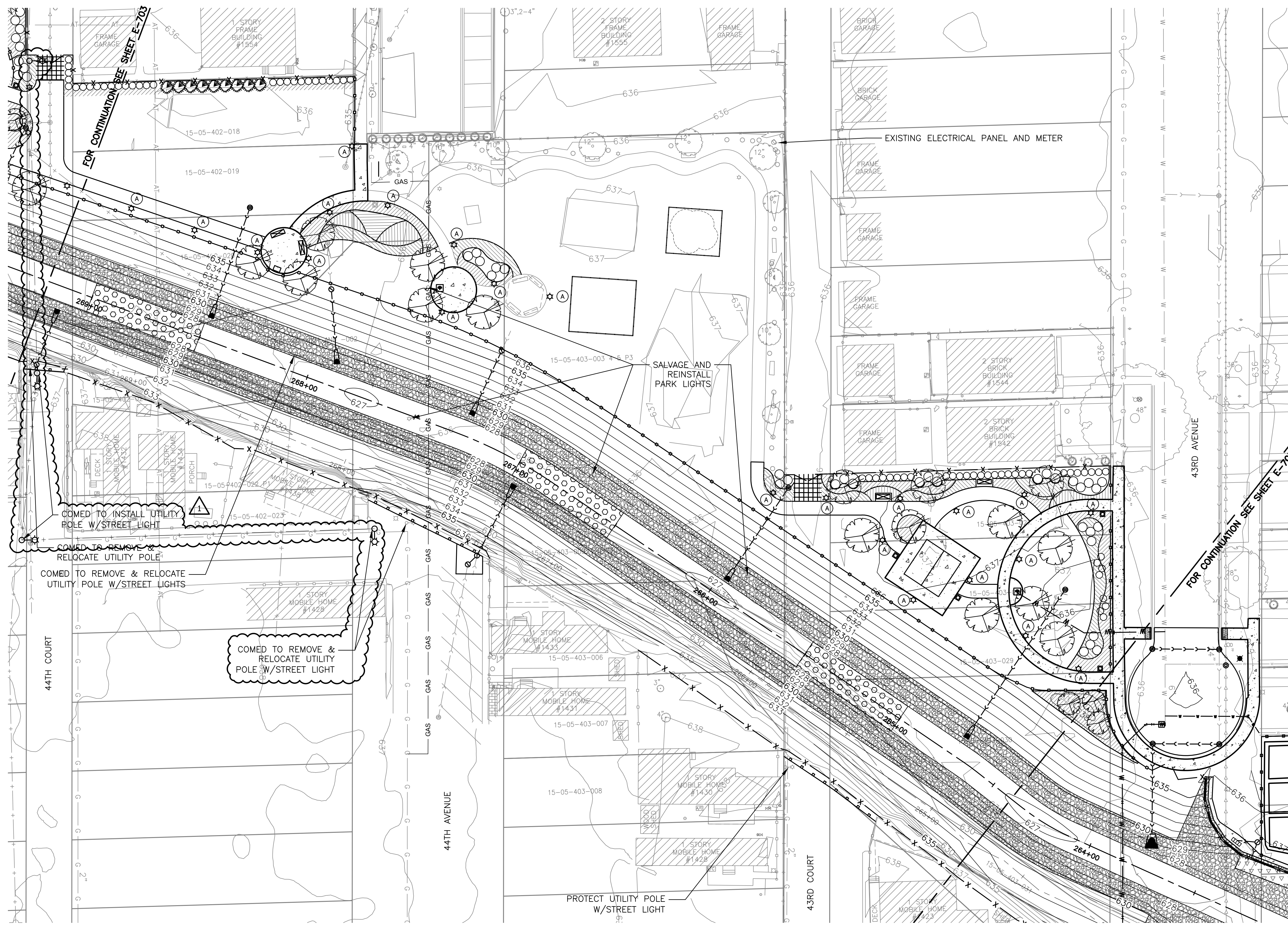
Correct:

**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 695-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 18400429

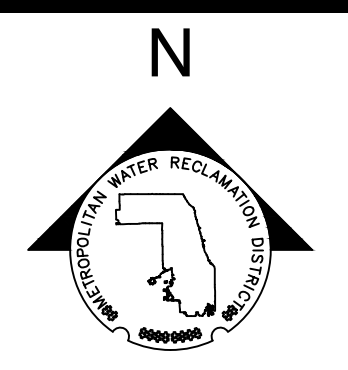
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**LIGHTING AND UTILITY PLAN - REACH 1**  
 STA. 274+40 TO STA. 269+20

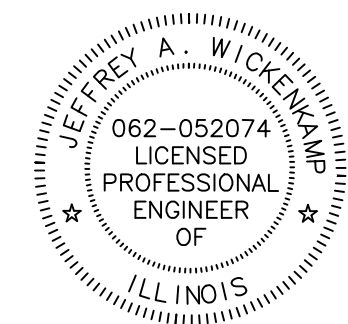
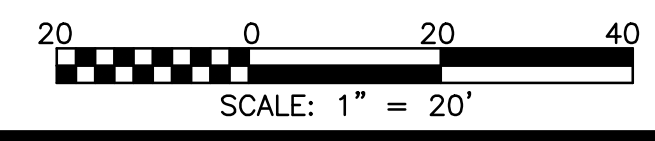
Sheet Number:  
**E-703**  
 Page Number: 442



- LEGEND**
- ⊕ PROP/RELOCATED UTILITY POLE
  - (A) ☆ PARK LIGHT - TYPE A
  - (B) ☆ REPLACEMENT STREET LIGHT - TYPE B
  - (C) ☆ MUNICIPAL STREET LIGHT



- NOTES:**
1. CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS.
  2. CONNECTIONS AND LAYOUT TO BE DETERMINED BY CONTRACTOR.
  3. EXISTING ELECTRICAL LINES AND CIRCUITS TO BE FIELD VERIFIED BY CONTRACTOR.



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	JAW	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: KSS  
 Checked by: PML  
 Scale: AS SHOWN

Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022

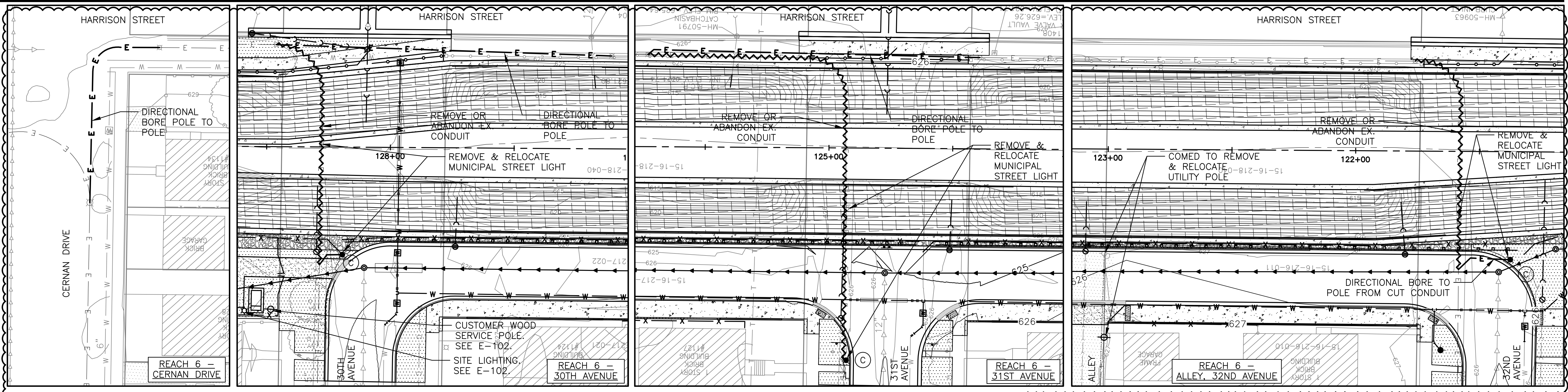
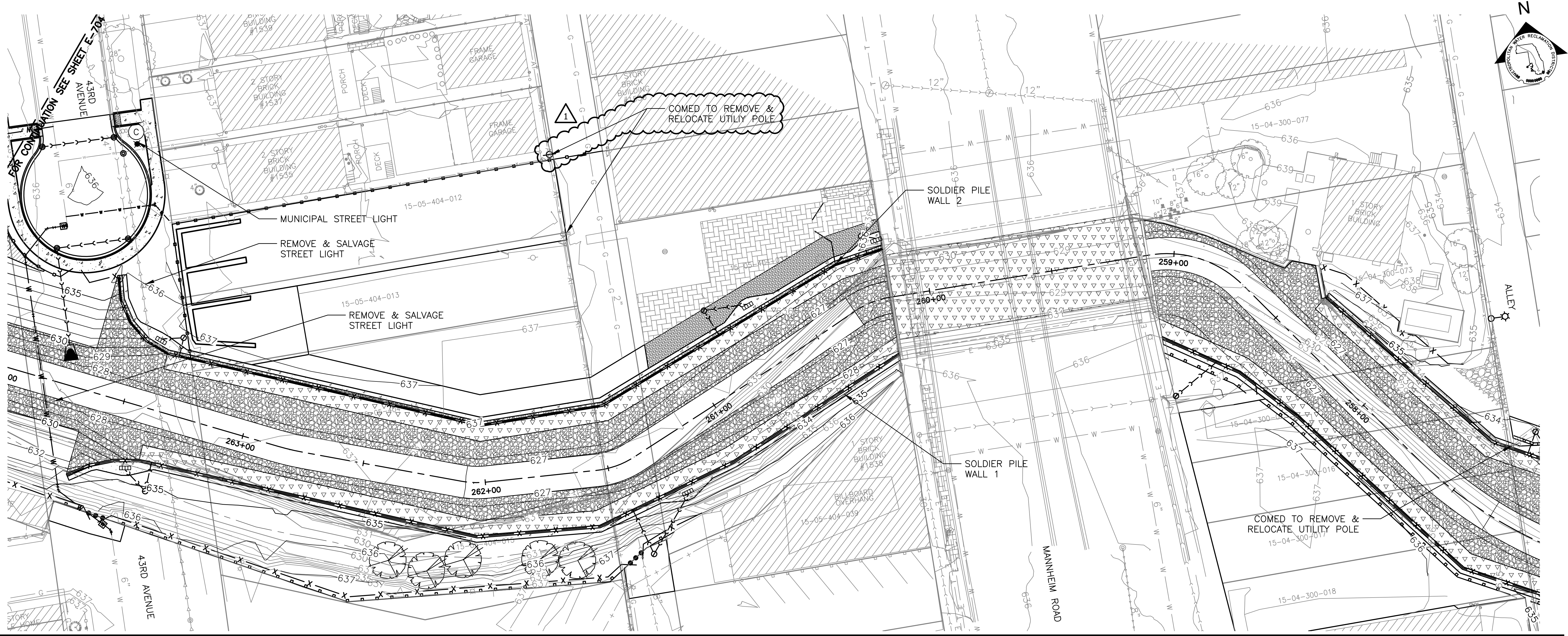
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**Hey and Associates, Inc.**  
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 8755 WEST HERGANS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 695-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 18400289

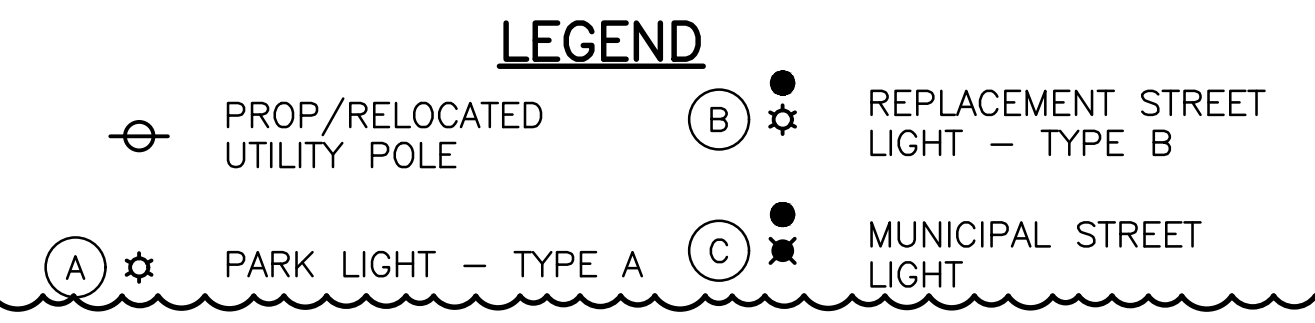
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**LIGHTING AND UTILITY PLAN - REACH 1**  
 STA. 269+20 TO STA. 264+40

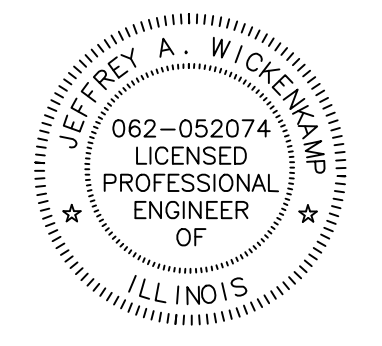
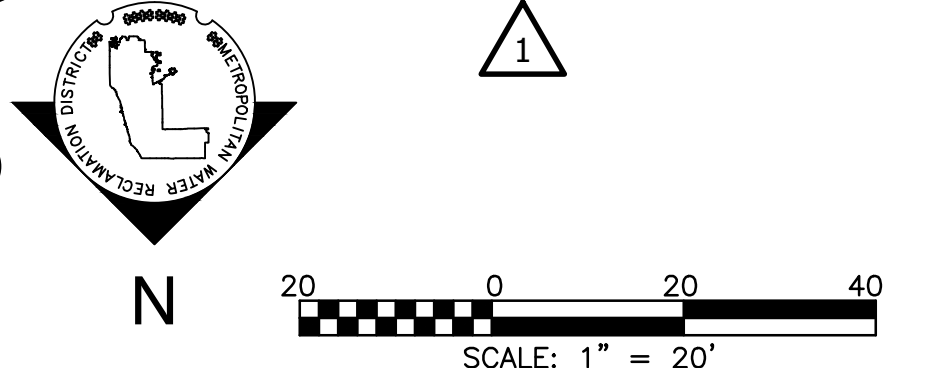
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**E-704**  
 Page Number: 443



- NOTES:**
- CONTRACTOR TO SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SPECIFICATIONS.
  - CONNECTIONS AND LAYOUT TO BE DETERMINED BY CONTRACTOR.
  - EXISTING ELECTRICAL LINES AND CIRCUITS TO BE FIELD VERIFIED BY CONTRACTOR.



**NOTE:**  
 UNDERGROUND CONDUIT SHALL BE 2" DIAMETER GALVANIZED STEEL AND SHALL BE USED TO CROSS ROADWAY PAVEMENT FROM CURB TO CURB. WIRING SHALL BE UNIT DUCT, 600V, 2-1C NO. 6, 1/C NO.8 GROUND, (XLP-TYPE USE), 1" DIAMETER POLYETHYLENE. CONDUIT AND WIRING SHALL IN ACCORDANCE WITH IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND TO BE APPROVED BY THE ENGINEER.



Rev.	Description	Appr.	Date
1	ADDENDUM NO. 7	JAW	05/01/23

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HIGGINS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYASAC.COM

Scale: AS SHOWN  
 Checked by: PML  
 Drawn by: KSS  
 Correct: KSS

Date: 2022  
 Reviewed by: JAW

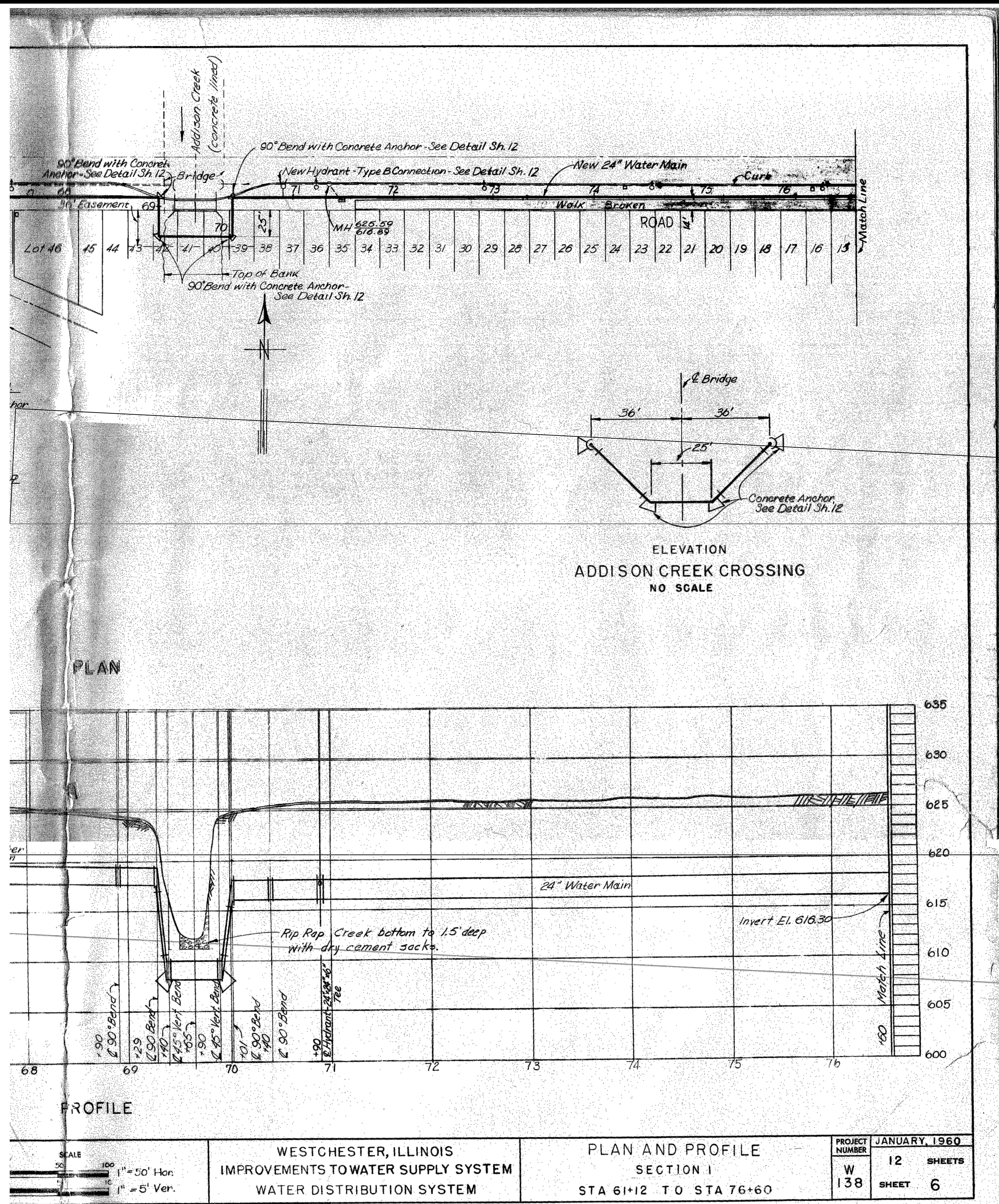
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 LICENSE NO. 184002429

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

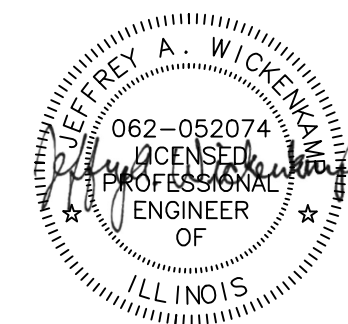
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Sheet Number:  
**E-705**  
 Page Number: 444

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SCALE 1" = 50' Hor. 1" = 5' Ver.	WESTCHESTER, ILLINOIS IMPROVEMENTS TO WATER SUPPLY SYSTEM WATER DISTRIBUTION SYSTEM		PLAN AND PROFILE SECTION I STA 61+12 TO STA 76+60		PROJECT NUMBER W 138	JANUARY, 1960 12 SHEETS SHEET 6



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

Designed by: PML  
 Checked by: PML  
 Drawn by: KSS  
 Reviewed by: JAW  
 Correct:      

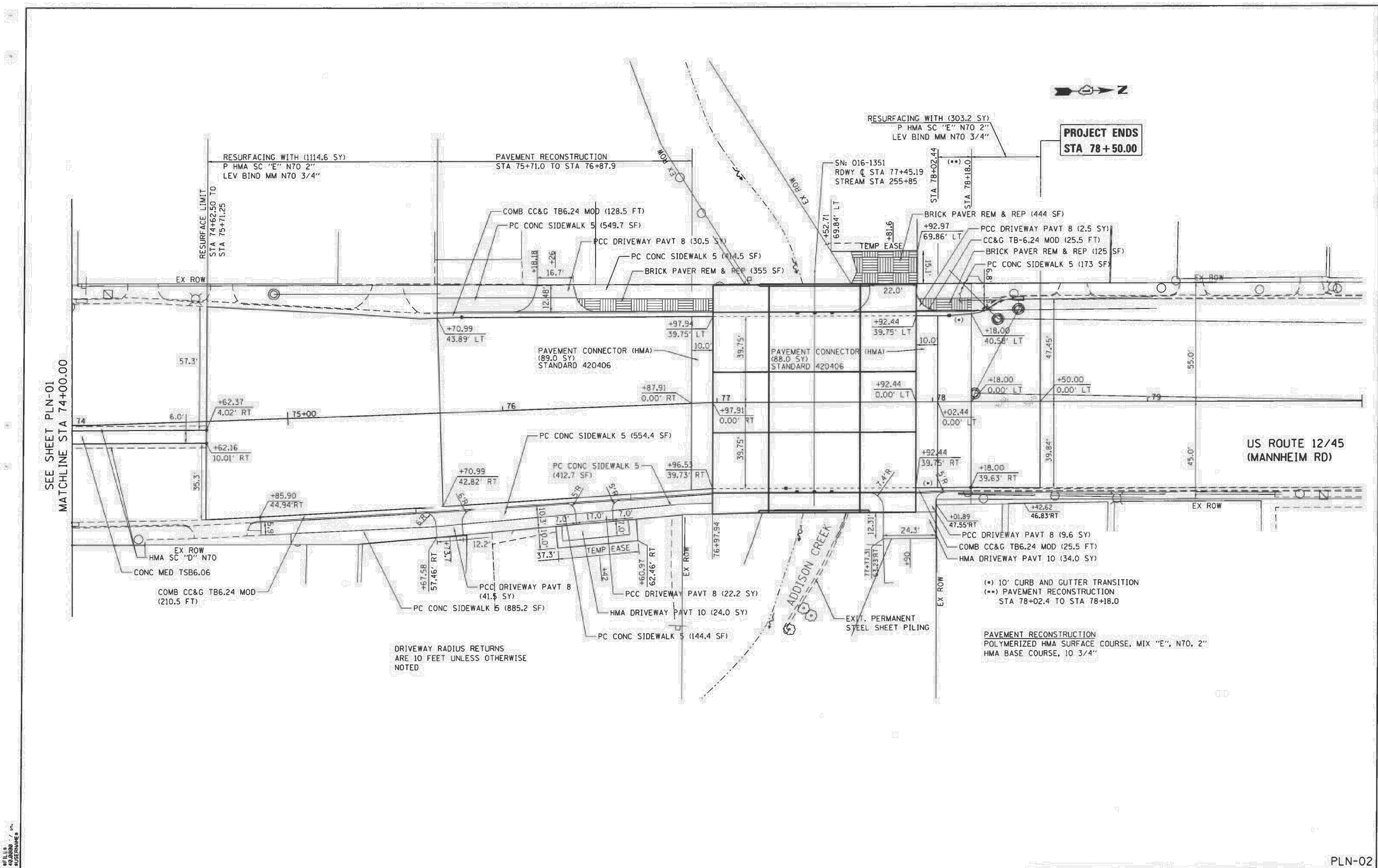
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**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
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 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGNER, PDB  
 LICENSE NO. 18406289

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**WESTCHESTER 24-INCH WATER SUPPLY LINE**

Sheet Number:  
**R-101**  
 Page Number: 445

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**MILLENNIA PROFESSIONAL SERVICES**  
 2609 Warrsville Road, Suite 203, Downers Grove, IL 60515  
 630.785.9110 voice, 630.839.2566 fax  
 www.mps-ill.com

DESIGNED - TVN	REVISED -
DRAWN - JP	REVISED -
CHECKED - TVN	REVISED -
DATE - 12/14/2017	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**US1245 (MANNHEIM RD) OVER ADDISON CREEK**  
**PROPOSED PLAN**

SCALE: 1"=20'    SHEET OF SHEETS    STA. TO STA.

F.A.P. RATE: 330	SECTION: 464-B	COUNTY: COOK	TOTAL SHEETS: 97	SHEET NO.: 15
CONTRACT NO. 60V22			ILLINOIS FED. AID PROJECT	

PLN-02

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT**  
**OF GREATER CHICAGO**

Designed by: PML  
 Checked by: NTS  
 Drawn by: KSS  
 Reviewed by: JAW  
 Correct:

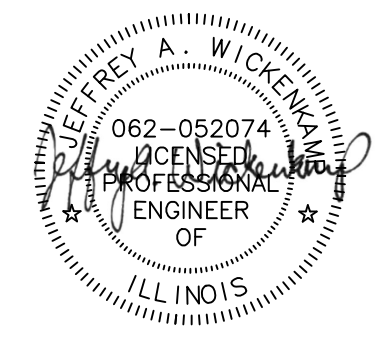
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**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
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 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 184002829

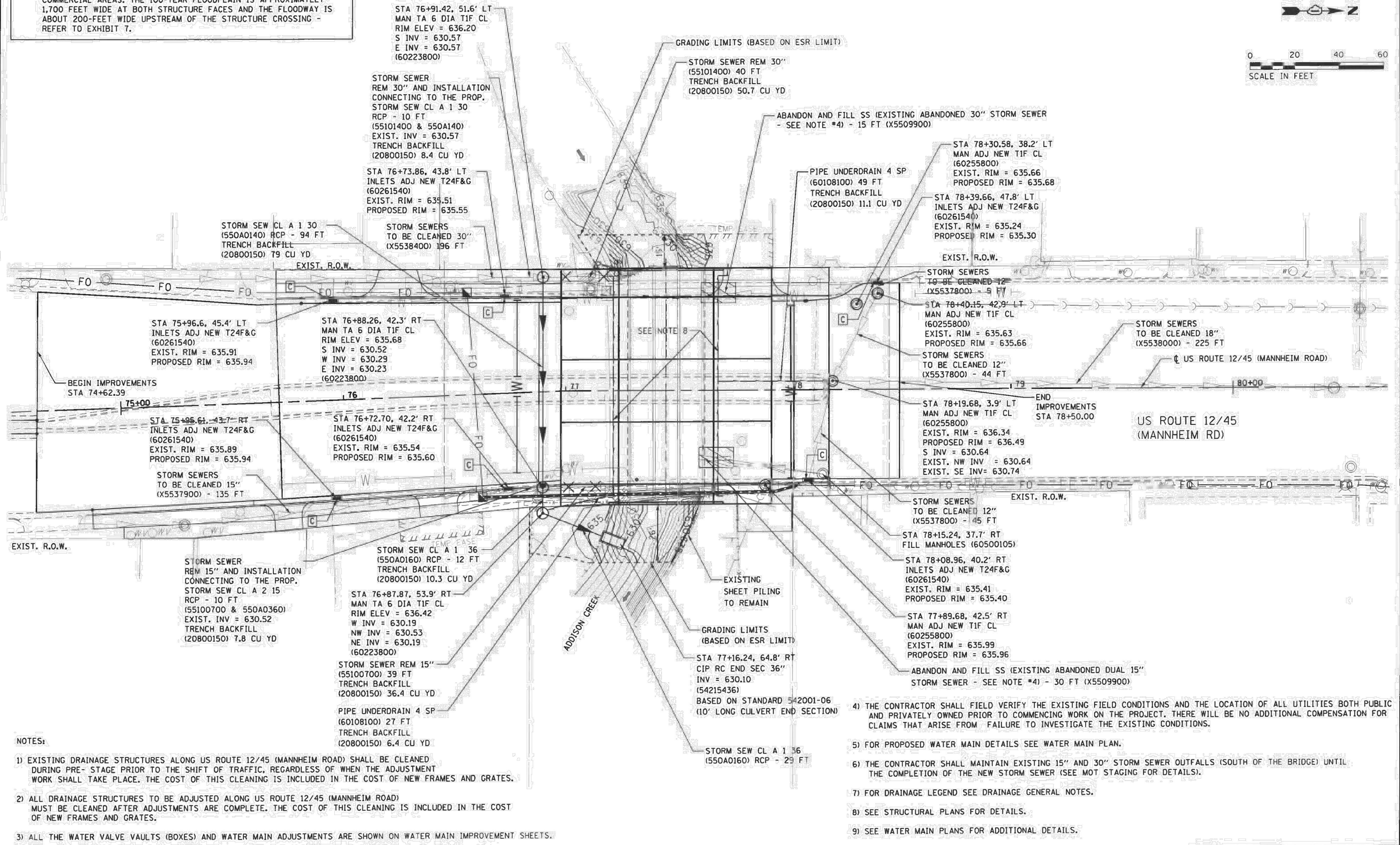
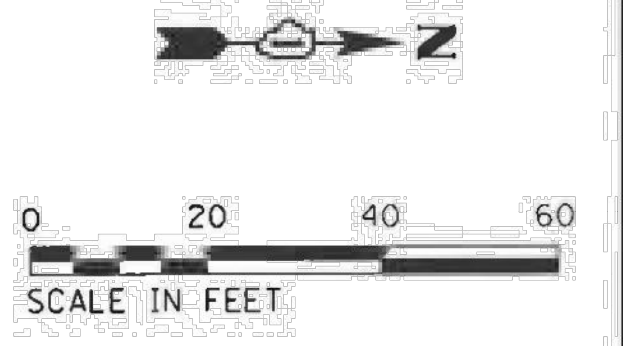
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT MANNHEIM ROAD OVER ADDISON CREEK**  
 PLANS DATED 12-07-2017

Sheet Number:  
**R-102**  
 Page Number: 446



NOTE: BASED ON THE HYDRAULIC REPORT, THE ADDISON CREEK FLOODPLAIN EXPANDS OUT TO INCLUDE A LARGE AREA OF RESIDENTIAL AND COMMERCIAL AREAS. THE 100-YEAR FLOODPLAIN IS APPROXIMATELY 1,700 FEET WIDE AT BOTH STRUCTURE FACES AND THE FLOODWAY IS ABOUT 200-FEET WIDE UPSTREAM OF THE STRUCTURE CROSSING - REFER TO EXHIBIT 7.



- NOTES:
- EXISTING DRAINAGE STRUCTURES ALONG US ROUTE 12/45 (MANNHEIM ROAD) SHALL BE CLEANED DURING PRE-STAGE PRIOR TO THE SHIFT OF TRAFFIC, REGARDLESS OF WHEN THE ADJUSTMENT WORK SHALL TAKE PLACE. THE COST OF THIS CLEANING IS INCLUDED IN THE COST OF NEW FRAMES AND GRATES.
  - ALL DRAINAGE STRUCTURES TO BE ADJUSTED ALONG US ROUTE 12/45 (MANNHEIM ROAD) MUST BE CLEANED AFTER ADJUSTMENTS ARE COMPLETE. THE COST OF THIS CLEANING IS INCLUDED IN THE COST OF NEW FRAMES AND GRATES.
  - ALL THE WATER VALVE VAULTS (BOXES) AND WATER MAIN ADJUSTMENTS ARE SHOWN ON WATER MAIN IMPROVEMENT SHEETS.

- THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING FIELD CONDITIONS AND THE LOCATION OF ALL UTILITIES BOTH PUBLIC AND PRIVATELY OWNED PRIOR TO COMMENCING WORK ON THE PROJECT. THERE WILL BE NO ADDITIONAL COMPENSATION FOR CLAIMS THAT ARISE FROM FAILURE TO INVESTIGATE THE EXISTING CONDITIONS.
- FOR PROPOSED WATER MAIN DETAILS SEE WATER MAIN PLAN.
- THE CONTRACTOR SHALL MAINTAIN EXISTING 15" AND 30" STORM SEWER OUTFALLS (SOUTH OF THE BRIDGE) UNTIL THE COMPLETION OF THE NEW STORM SEWER (SEE MOT STAGING FOR DETAILS).
- FOR DRAINAGE LEGEND SEE DRAINAGE GENERAL NOTES.
- SEE STRUCTURAL PLANS FOR DETAILS.
- SEE WATER MAIN PLANS FOR ADDITIONAL DETAILS.

**AEG** Ltd.  
 3100 Dundee Road, Suite 502, Northbrook, IL 60062  
 847.753.8020 office 847.753.8023 fax

DESIGNED - GS	REVISED
DRAWN - GS	REVISED
CHECKED - YO	REVISED
DATE - 3/08/2017	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

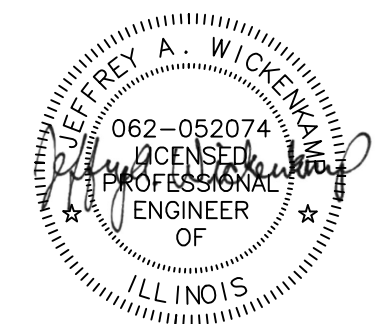
US 12/45 (MANNHEIM RD) OVER ADDISON CREEK		DRAINAGE PLAN	
SCALE: 1"=20'	SHEET OF SHEETS	STA. TO STA.	

F.A.P. RTE. 330	SECTION 464-B	COUNTY COOK	TOTAL SHEETS 97	SHEET NO. 23
ILLINOIS FED. AID PROJECT				CONTRACT NO. 60V22

METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO

Designed by: PML	Checked by: PML	Scale: NTS
Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
 IDOT MANNHEIM ROAD OVER ADDISON CREEK  
 PLANS DATED 12-07-2017



Sheet Number:  
**R-103**  
 Page Number: 447

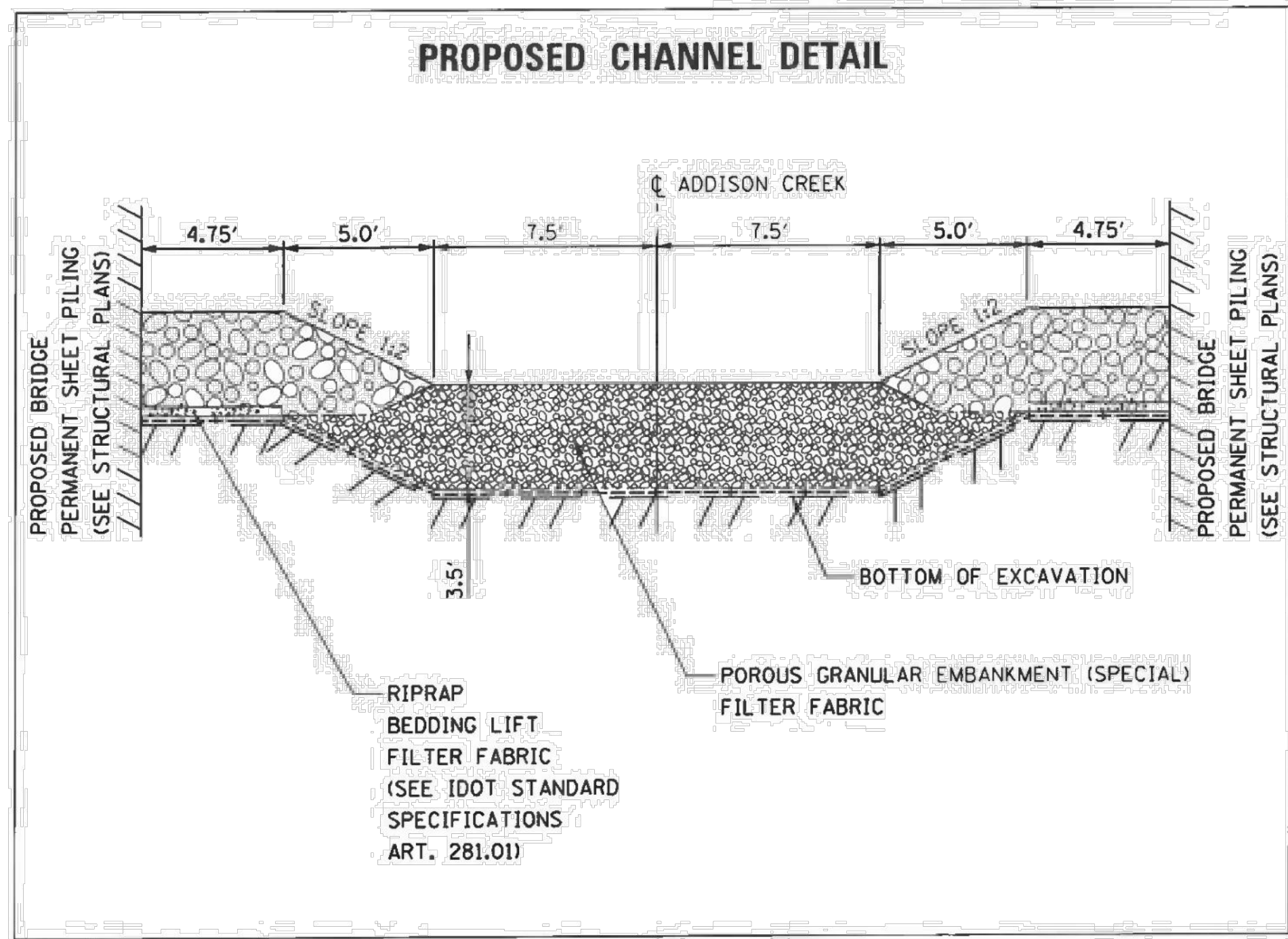
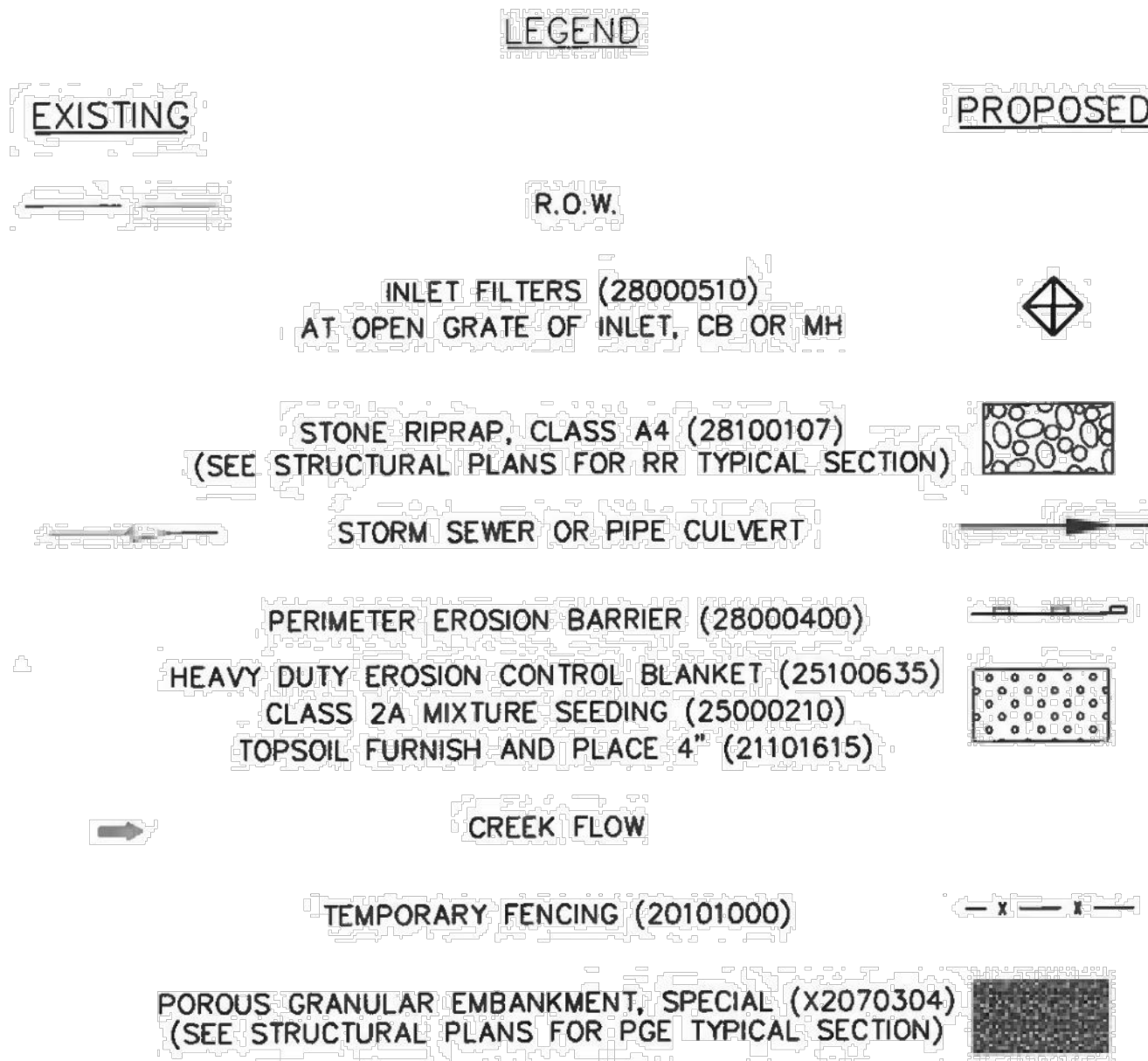


**EROSION CONTROL GENERAL NOTES**

1. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL AND MAINTAIN SILT FENCE AS INDICATED IN THE PLAN PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES WHICH WILL POTENTIALLY CREATE EROSION CONDITIONS. THE CONSTRUCTION LIMITS MAY BE ADJUSTED BY THE ENGINEER TO PRESERVE TREES AND NO ADDITIONAL COST WILL BE PAID TO THE CONTRACTOR FOR CHANGED CONSTRUCTION LIMITS.
2. PERIMETER EROSION BARRIER SHALL BE ERECTED ADJACENT TO THE CONSTRUCTION LIMITS. THE RESIDENT ENGINEER SHALL MAKE THE FINAL DETERMINATION ON THE PLACEMENT AND LOCATION OF THE PERIMETER EROSION BARRIER. IN ADDITION TO THE LOCATIONS INDICATED ON THE PLAN, SILT FENCE SHALL BE PLACED AROUND THE PERIMETER OF THE EARTH STOCKPILES.
3. THE TOTAL DISTURBED PROJECT AREA IS 42,207.73 SQ. FT. (LESS THAN 1 ACRE). NO SWPPP (STORM WATER POLLUTION PREVENTION PLAN) WILL BE REQUIRED FOR THE PROJECT.
4. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF THE YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY AND PERMANENT MEASURES.
5. EXISTING CULVERTS WITHIN THE DISTURBED LIMIT SHALL BE PROTECTED PRIOR TO ANY CONSTRUCTION ACTIVITIES COMMENCING UPSTREAM.
6. INLETS EXPOSED TO TRAFFIC, AND ALONG CURB & GUTTER WITHIN 4' OF STAGED TRAFFIC, WITH INLET FILTER PROTECTION SHALL HAVE FILTER BASKETS WITH OVERFLOW TO ALLOW FOR THE POSITIVE DRAINAGE OF WATER OFF THE ROADWAY. THESE INLET FILTERS SHALL BE INSPECTED AND CLEANED UTILIZING OFF-PEAK LANE CLOSURES AS APPROVED BY THE ENGINEER. THE COST OF TRAFFIC CONTROL FOR INSPECTION AND MAINTENANCE OF EROSION CONTROL SYSTEMS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR "TRAFFIC CONTROL AND PROTECTION".
7. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
8. THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES, BUT NOT LIMITED TO, WILL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER IN A 24-HOUR PERIOD):
  - A. SEEDING - ALL ERODIBLE BARE EARTH AREAS WILL BE TEMPORARILY SEEDED ON A WEEKLY BASIS.
  - B. PERIMETER EROSION BARRIER - SEDIMENT WILL BE REMOVED WHEN IT EXCEEDS HALF THE HEIGHT OF THE FENCE AND FENCE THAT COLLAPSES WILL BE REPLACED IMMEDIATELY.
  - C. EROSION CONTROL - ANY AREAS WHICH FAIL WILL BE REPAIRED IMMEDIATELY.
  - D. EROSION CONTROL BLANKET AND OTHER EROSION CONTROLS WILL BE INSPECTED AFTER EVERY RUNOFF EVENT AND MAINTAINED AS NEEDED.
  - E. INLET FILTERS WILL BE INSPECTED AFTER EVERY RUNOFF EVENT AND MAINTAINED AS NEEDED.

ALL MAINTENANCE OF EROSION CONTROL SYSTEMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL LOCATIONS WHERE VEHICLES ENTER OR EXIT THE CONSTRUCTION SITE AND ALL OTHER AREAS SUBJECT TO EROSION SHOULD ALSO BE INSPECTED PERIODICALLY.

ALL ESC MEASURES WILL BE MAINTAINED IN ACCORDANCE WITH THE IDOT EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONSTRUCTION INSPECTION AND IDOT'S BEST MANAGEMENT PRACTICES -MAINTENANCE GUIDE: (<http://www.idot.illinois.gov/transportation-system/environment/erosion-and-sediment-control>).
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AS APPROVED BY THE ENGINEER.
10. CONSTRUCTION ACTIVITIES SHALL BE SCHEDULED TO MINIMIZE THE TIME SOIL IS EXPOSED AND UNPROTECTED. IN NO CASE SHALL THE EXISTING VEGETATION BE DESTROYED, REMOVED, OR DISTURBED MORE THAN FOURTEEN (14) CALENDAR DAYS PRIOR TO THE INITIATION OF IMPROVEMENTS.
11. IN AREAS WHERE WORK IS COMPLETED, PERMANENT STABILIZATION SHALL BE INITIATED IMMEDIATELY UPON COMPLETION OR CESSATION OF DISTURBANCE FOR 14 DAYS, AND THE INSTALLATION SHALL BE COMPLETED BY THE 14TH DAY AFTER NO DISTURBANCE.
12. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE ENGINEER.



**AEG** Ltd.  
3100 Dundee Road, Suite 502, Northbrook, IL 60062  
847.753.8020 office 847.753.8023 fax

DESIGNED - GS	REVISED -
DRAWN - GS	REVISED -
CHECKED - YO	REVISED -
DATE - 3/08/2017	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

US 1245 (MANNHEIM RD)  
OVER ADDISON CREEK

EROSION CONTROL  
GENERAL NOTES

F.A.P. RTE. 330	SECTION 464-B	COUNTY COOK	TOTAL SHEETS 97	SHEET NO. 25
SCALE: N.T.S.			CONTRACT NO. 60V22	
ILLINOIS FED. AID PROJECT				

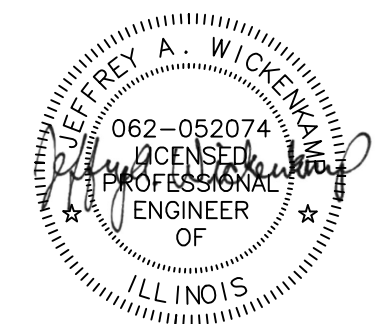
METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO

**Hey and Associates, Inc.**  
Engineering, Ecology and Landscape Architecture  
8755 WEST HERCULES ROAD, SUITE 835  
CHICAGO, ILLINOIS 60631  
OFFICE (773) 699-9200  
CHICAGO@HEYASAC.COM  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 184002829

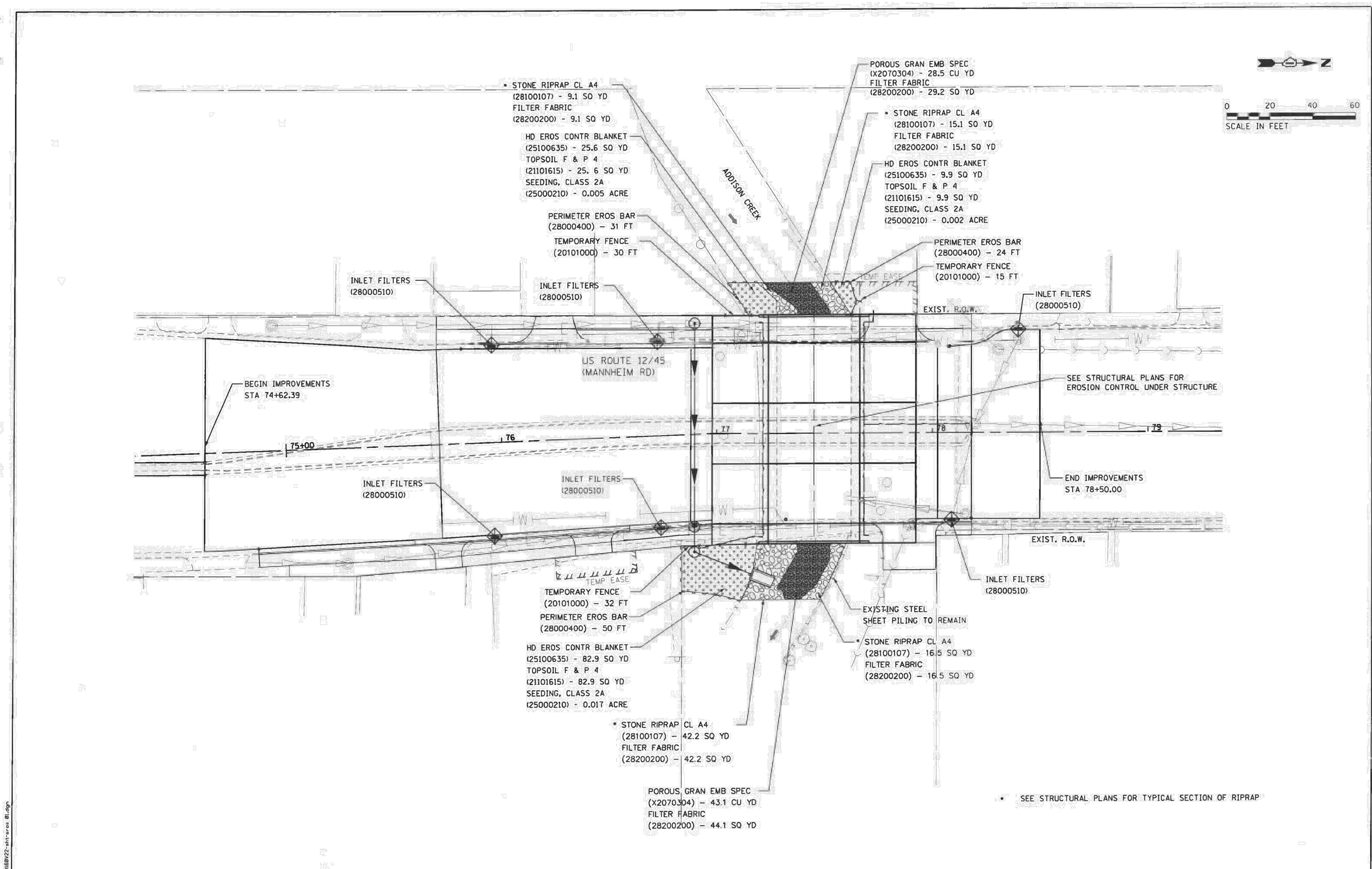
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Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

CONTRACT 11-187-3F  
ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT MANNHEIM ROAD OVER ADDISON CREEK  
PLANS DATED 12-07-2017



Sheet Number:  
**R-104**  
Page Number: 448



**AEG** Ltd  
 3100 Dundee Road, Suite 502, Northbrook, IL 60062  
 847.753.8020 office 847.753.8023 fax

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DRAWN	GS	REVISED	-
CHECKED	YO	REVISED	-
DATE	3/08/2017	REVISED	-

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

US 12/45 (MANNHEIM RD)  
 OVER ADDISON CREEK  
 SOIL EROSION CONTROL PLAN  
 SCALE: 1"=20' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	464-B	COOK	97	26
CONTRACT NO. 60V22				
ILLINOIS FED. AID PROJECT				

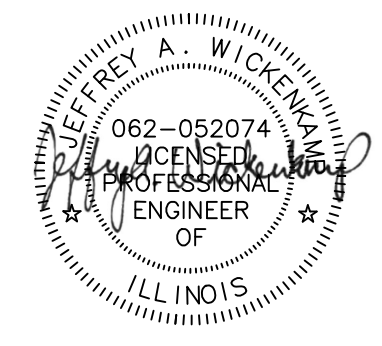
METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO

Designed by:	Checked by:	Scale:
PML	PML	NTS
Drawn by:	Reviewed by:	Date:
KSS	JAW	2022
Correct:		

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CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
 IDOT MANNHEIM ROAD OVER ADDISON CREEK  
 PLANS DATED 12-07-2017

Sheet Number:  
**R-105**  
 Page Number: 449

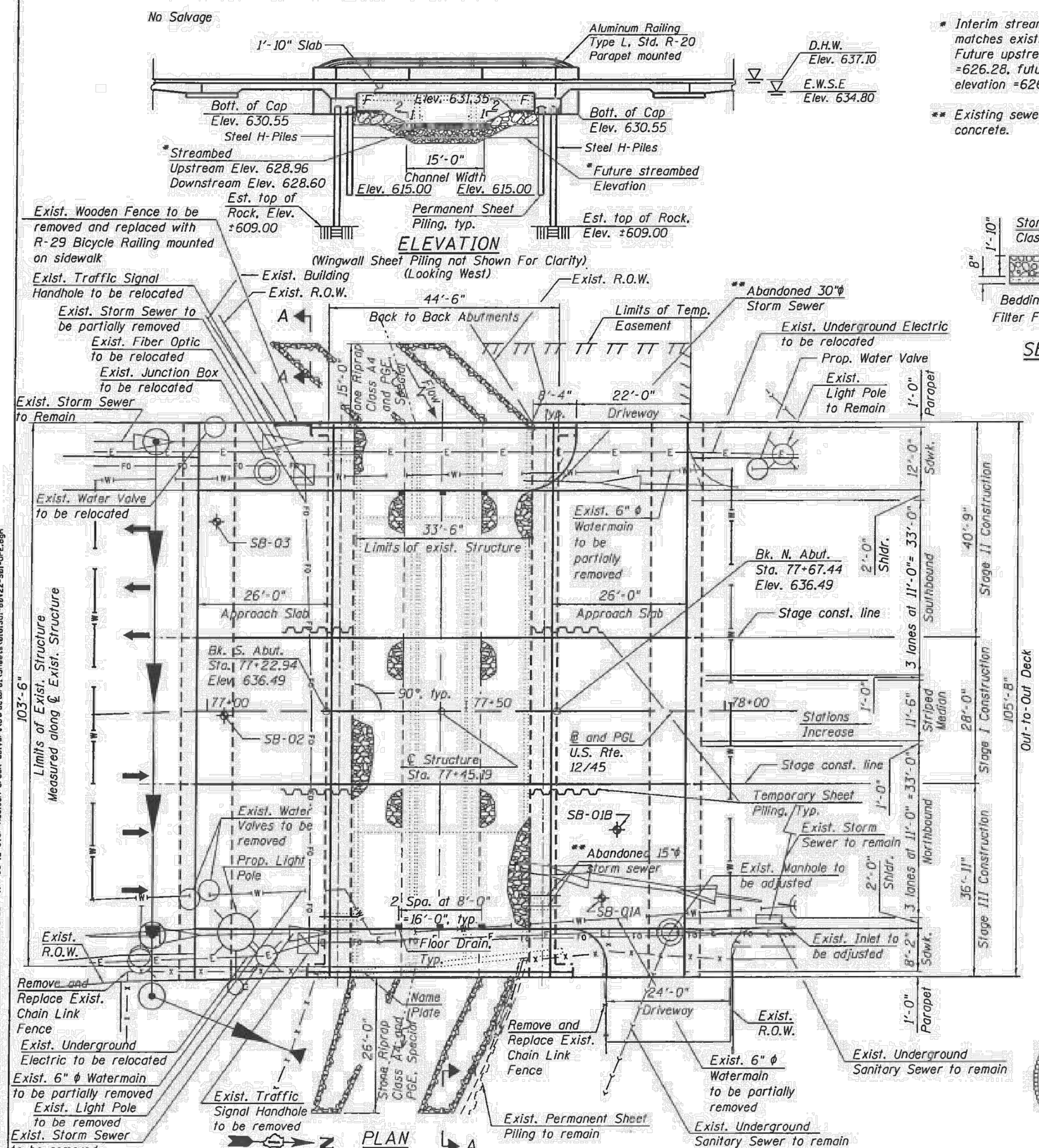


Rev.	Description	Appr.	Date

PLOT DATE: 9/27/2022 5:21 PM PLOTTED BY: KYLE SOLNER  
 \\HEV-chi-fs01\projects\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Reference\Sheets\R-106.dwg 9/22/2022 2:10 PM

Bench Mark: Found square cut in north part of east bridge parapet of Mannheim rd. bridge over Addison Creek. Elev. 637.02.

Existing Structure: S.N. 016-1036 originally constructed in 1924 as a cast-in-place box culvert three cells 10' wide and 4' high and 35'-4" length. The culvert was extended at an unknown date to be 60' long. A second culvert extension in 1964 resulted in a 94'-6" long culvert. In 1969, the center cell of the culvert was removed and dredged to achieve a final middle cell depth of 7'-3" vertical clearance. The culvert was extended to the east in 1974 to become 103'-6" long. Two lanes of traffic shall be maintained for each direction utilizing Stage Construction.



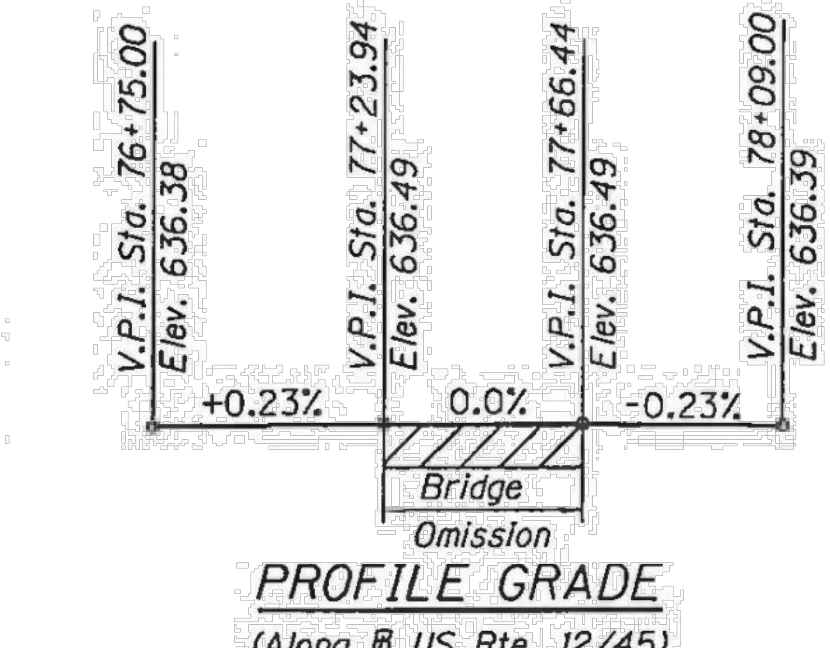
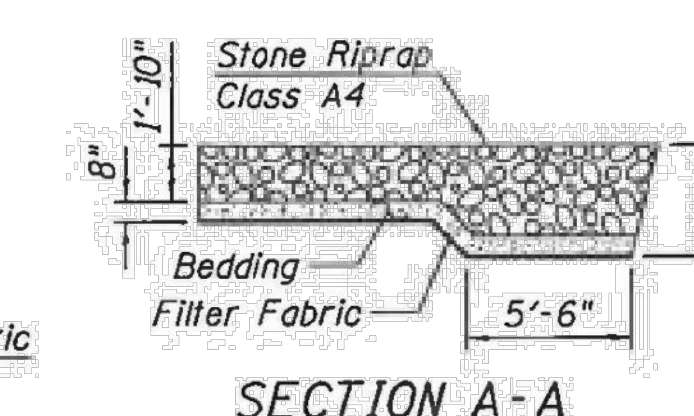
\* Interim streambed elevation matches existing condition. Future upstream elevation = 626.28, future downstream elevation = 626.13 per MWRD.  
 \*\* Existing sewer is plugged with concrete.

**WATERWAY INFORMATION**

Drainage Area = 8.31 sq. mi. Low Grade Elev. = 635.06 at Sta. 83+30 Max. Recorded H.W.E. = 637.33

Flood	Freq. Yr.	Discharge - C.F.S		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	494	494	117	143	635.9	1.1	0.3	637.0	636.2
Base	50	774	774	117	143	637.1	1.1	0.4	638.2	637.5
Overtopping	100	863	863	117	143	637.4	1.1	0.4	638.5	637.8
Max. Calc.	500	1060	1060	117	143	638.2	0.9	0.3	639.1	638.5

10-year velocity through the existing structure = 5.2 fps. 10-year velocity through the proposed structure = 3.6 fps.  
 2 Year Peak Flow (Q) = 284 C.F.S. Estimated Water Surface Elevation = 634.8



**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f'_s = 4,000$  psi (Superstructure Concrete)  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (AASHTO M270 Grade 50)

**SEISMIC DATA**  
 Seismic Performance Zone (SPZ) = I  
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.061g  
 Design Spectral Acceleration at 0.2 sec. (SDS) = 0.113g  
 Soil Site Class = C

**DESIGN SPECIFICATIONS**  
 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 and 2016 Interim Revisions.

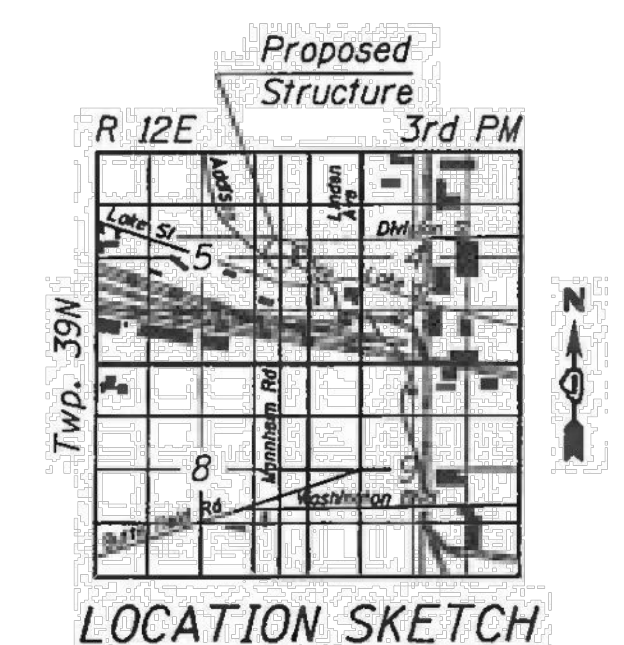
**LOADING HL-93**  
 Allow 50 lb/sq. ft. for future wearing surface.

**DESIGN SCOUR ELEVATION TABLE**

Event / Limit State	Design Scour Elevations (ft.)		Item
	S. Abut.	N. Abut.	
0100	617.40	617.90	5
0200	616.30	616.90	
Design	617.40	617.90	
Check	616.30	616.90	

- LEGEND**
- Soil Boring location
  - Exist. Water Main
  - Exist. Light Pole
  - Exist. Underground Electric
  - Exist. Water Valve
  - Exist. Telephone Line
  - Exist. Telephone Junction Box
  - Exist. Traffic Signal Handhole
  - Exist. Manhole
  - Exist. Permanent Steel Sheet Piling
  - Exist. Fiber Optic
  - Exist. Storm Sewer
  - Prop. Storm Sewer
  - Prop. Water Main
  - Prop. Water Valve
  - Prop. Manhole
  - Prop. End Section

**NOTE:**  
 1. Layout of riprap may be varied to suit the ground in the field as directed by the Engineer.



**GENERAL PLAN AND ELEVATION**  
 U.S. RTE. 12/45  
 (MANNHEIM ROAD) OVER  
 ADDISON CREEK  
 F.A.P. RTE. 330 - SEC. 464-B  
 COOK COUNTY  
 STATION 77+45.19  
 STRUCTURE NO. 016-1351

Signed *Moussa A. Issa*  
 Moussa A. Issa, HBM II. Lic. No. 081-005738  
 Expires 11-30-2018  
 Date 12/08/2017 For Sheets S-01 Thru S-30 (Total of 30 Sheets)

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	464-B	COOK	97	46

SCALE: SHEET S-01 OF 5-30 SHEETS STA. TO STA.

DESIGNED	REVISIONS
MI, MA	REVISIONS
MA, KJD	REVISIONS
LAB, MI	REVISIONS
DATE 12/08/2017	REVISIONS

FILE PATH: P:\111-532 IDOT P18161 Item 8 (Vertical) Mannheim\Mark Order 11 - US 12 over Addison Creek\_Culvert\Structure\Sheets\0161351-68V22-501-GPE.dgn  
 HBM 445 WEST HARRISON ST. SUITE 231 HILLSIDE, IL 60162 PHONE: (708) 236-0900 FAX: (708) 236-0901  
 USER NAME = lisa.burton  
 PLOT SCALE = 24.00' / 1" IN.  
 PLOT DATE = 12/8/2017

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: PML  
 Checked by: PML  
 Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022

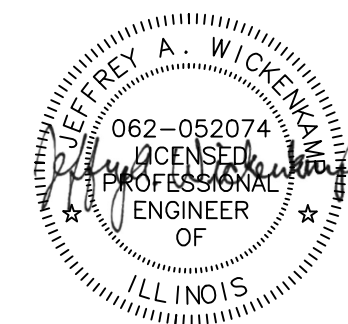
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**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT MANNHEIM ROAD OVER ADDISON CREEK PLANS DATED 12-07-2017**

Sheet Number:  
**R-106**  
 Page Number: 450



**GENERAL NOTES**

- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- Reinforcement bars designated (E) shall be epoxy coated.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection. Forms for deck slab shall be removed prior to placement of bridge approach slab.
- The Contractor shall exercise extreme caution during construction to make certain that construction activities, live load surcharge, structure excavation, driving piles and other loads applied will not have detrimental effects on adjacent structures, utilities, and the existing north east sheet piling. Any damage to adjacent structures, utilities, and the existing north east sheet piling during construction shall be repaired by the contractor at his expense at no charge to IDOT.
- Hard driving of permanent sheet piling in hardpan clay may be encountered below elevation 619.00. The Contractor shall provide the appropriate driving equipment for such.

**CONSTRUCTION SEQUENCE FOR EACH STAGE CONSTRUCTION**

- Install temporary concrete barriers and temporary sheet piling.
- Perform pavement removal and structure excavation for the approach slab and the abutments construction.
- Install new permanent sheet piling and H-piles for the abutments.
- Install shear studs, forms and reinforcement and construct concrete abutments.
- Remove the existing portions of pavement and structure within limits of the current stage construction.
- Perform channel excavation, install porous granular embankment, special and stone riprap.
- Construct deck slab and approach slabs.

STATION 77+45.19  
 BUILT 201- BY  
 STATE OF ILLINOIS  
 F.A. RT. 330 SEC. 464-B  
 LOADING HL-93  
 STR. NO. 016-1351

**NAME PLATE**  
 See Std. 515001

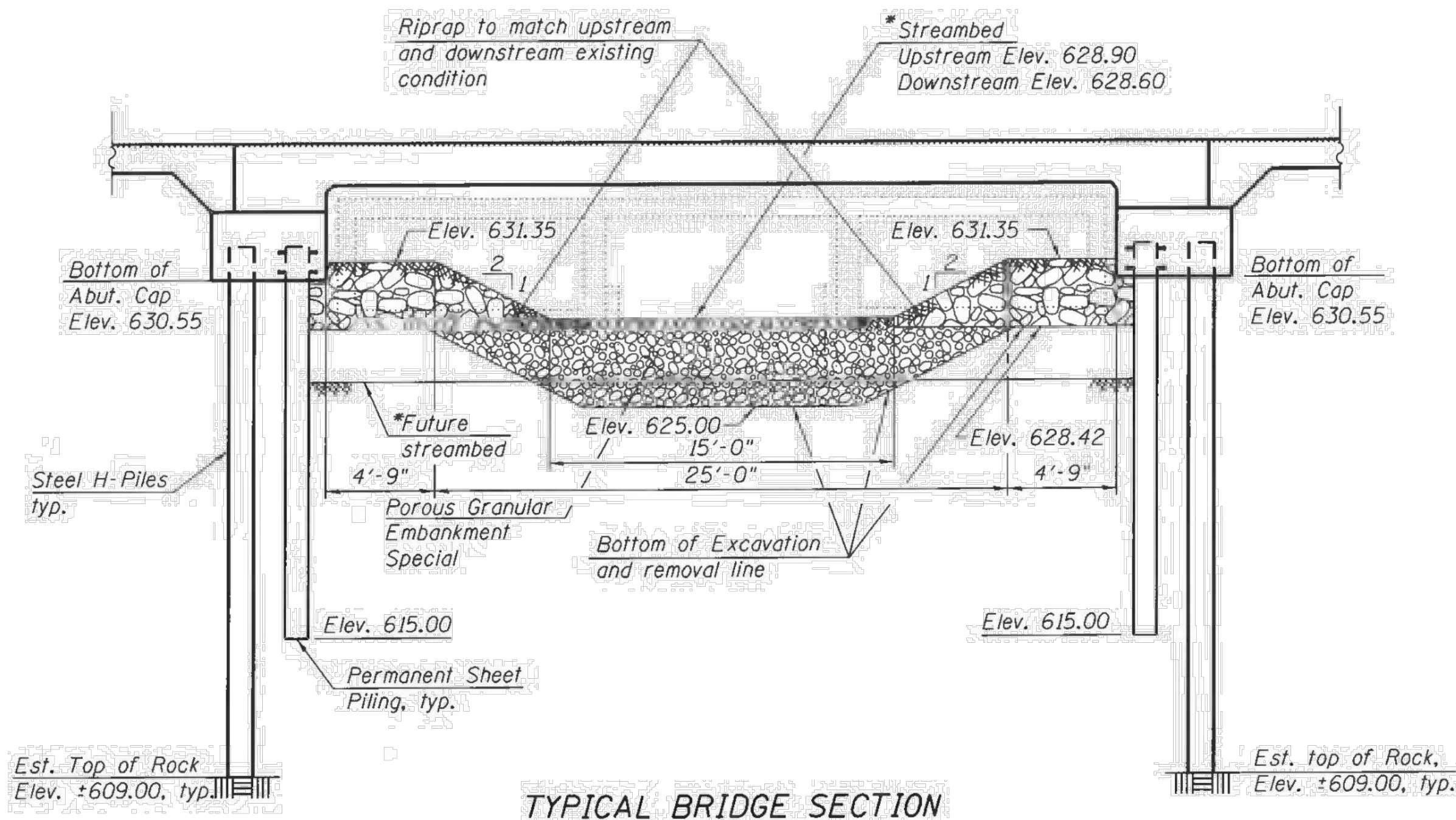
Locate Name Plate at the Front Face of East Parapet on the South Approach

**INDEX OF SHEETS**

S-01	General Plan and Elevation
S-02	General Notes, Index of Sheets and Total Bill of Material
S-03	Stages I and II Removal and Construction
S-04	Stage III Removal and Construction and Final Cross Section
S-05	Substructure Layout and Temporary Sheet Piling
S-06	Temporary Concrete Barrier for Stage Construction
S-07	Top of Slab Elevation Locations
S-08	Top of Slab Elevations
S-09	Top of South Approach Slab Elevations
S-10	Top of North Approach Slab Elevations
S-11	Deck Plan
S-12	Deck Cross Section
S-13	Deck Sections and Details
S-14	South Approach Slab Plan
S-15	South Approach Slab Details
S-16	North Approach Slab Plan
S-17	North Approach Slab Details
S-18	North Approach Sidewalk Details
S-19	Aluminum Railing, Type L
S-20	Bicycle Railing
S-21	South Abutment Plan and Elevation
S-22	South Abutment Permanent Sheet Piling
S-23	South Abutment Sections and Details
S-24	North Abutment Plan and Elevation
S-25	North Abutment Permanent Sheet Piling
S-26	North Abutment Sections and Details
S-27	HP Pile Details
S-28	Bar Splicer Assembly and Mechanical Splicer Details
S-29	Boring Logs I
S-30	Boring Logs II

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUB.	TOTAL QUANTITY
Stone Riprap, Class A4	Sq Yd	-	329	329
Filter Fabric	Sq Yd	-	329	329
Removal of Existing Structures	Each	1	-	1
Structure Excavation	Cu Yd	-	478	478
Floor Drains	Each	6	-	6
Concrete Structures	Cu Yd	-	187.3	187.3
Concrete Superstructure	Cu Yd	382.5	-	382.5
Bridge Deck Grooving	Sq Yd	912	-	912
Protective Coat	Sq Yd	1,173	-	1,173
Concrete Superstructure (Approach Slab)	Cu Yd	259.0	-	259.0
Stud Shear Connectors	Each	608	-	608
Reinforcement Bars, Epoxy Coated	Pound	195,155	30,695	225,850
Bar Splicers	Each	728	224	952
Bicycle Railing	Foot	7	-	7
Aluminum Railing, Type L	Foot	103	-	103
Furnishing Steel Piles HP14x73	Foot	-	624	624
Driving Piles	Foot	-	624	624
Test Pile Steel HP14x73	Each	-	2	2
Pile Shoes	Each	-	28	28
Name Plates	Each	1	-	1
Temporary Sheet Piling	Sq Ft	-	650	650
Permanent Steel Sheet Piling	Sq Ft	-	4,020	4,020
Geocomposite Wall Drain	Sq Yd	-	76	76
Porous Granular Embankment, Special	Cu Yd	-	398	398
Granular Backfill For Structures	Cu Yd	-	164	164
Pipe Underdrains For Structures 4"	Foot	-	232	232



\* Interim streambed elevation matches existing conditions. Future upstream elevation = 626.28, future downstream elevation = 626.13 per MWRD.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Porous Granular Embankment, Special	Cu Yd	398
Stone Riprap, Class A4	Sq Yd	329
Filter Fabric	Sq Yd	329

<b>HBM</b> ENGINEERING GROUP, LLC 4415 WEST HARRISON ST. SUITE 231 HILLSDALE, IL 60142 PHONE: (708) 236-0900 FAX: (708) 236-0901	0161351-60V22-S02-Notes, Index & BOM.dgn USER NAME: j11aebuntn PLOT SCALE: 1/4" = 1'-0" PLOT DATE: 12/8/2017	DESIGNED: MJ, KJD, SK DRAWN: KJD, SK CHECKED: LAB, MI DATE: 12/08/2017	REVISED: [REVISIONS]
--	---	---	----------------------

<b>STATE OF ILLINOIS                  DEPARTMENT OF TRANSPORTATION</b>	
<b>GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL</b> STRUCTURE NO. 016-1351	
SCALE:	SHEET S-02 OF S-30 SHEETS STA. TO STA.

F.A.I. RTE: 330	SECTION: 464-B	COUNTY: COOK	TOTAL SHEETS: 97	SHEET NO.: 47
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60V22	

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

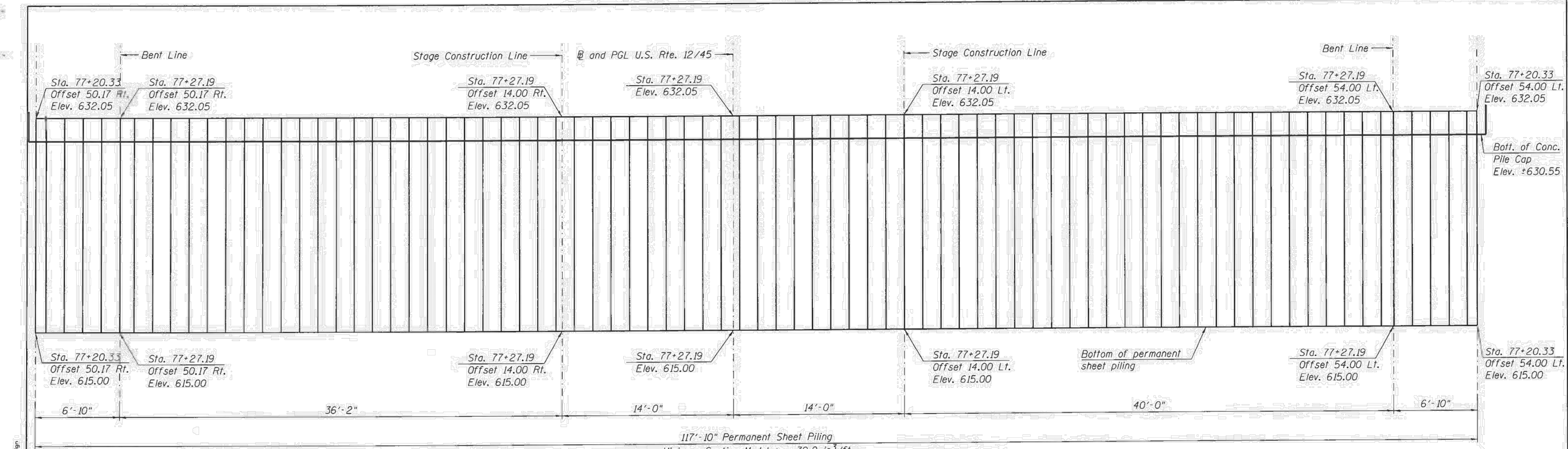
**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
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 OFFICE: (773) 699-9200  
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 PROFESSIONAL DESIGN: FIRM LICENSE NO. 184042829

Designed by: PML	Checked by: PML	Scale: NTS
Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

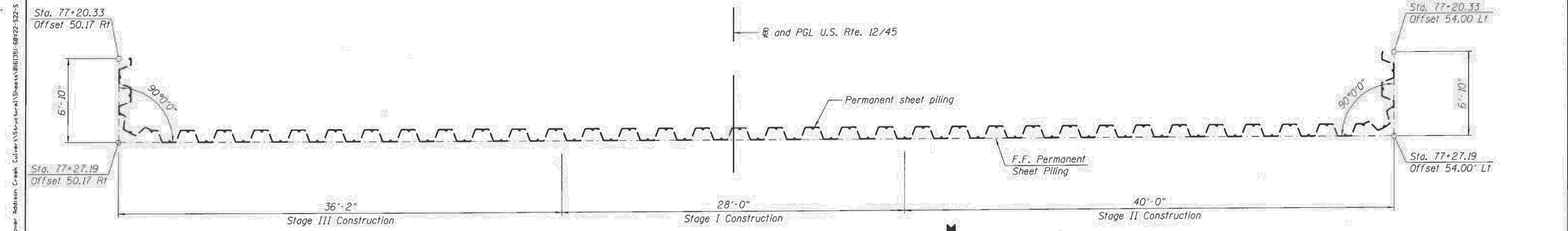
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**IDOT MANNHEIM ROAD OVER ADDISON CREEK**  
 PLANS DATED 12-07-2017



Sheet Number:  
**R-107**  
 Page Number: 451



**ELEVATION - PERMANENT SHEET PILING**  
 (Looking at Front Face)  
 (All dimensions and offsets are along Front Face of sheet piling)

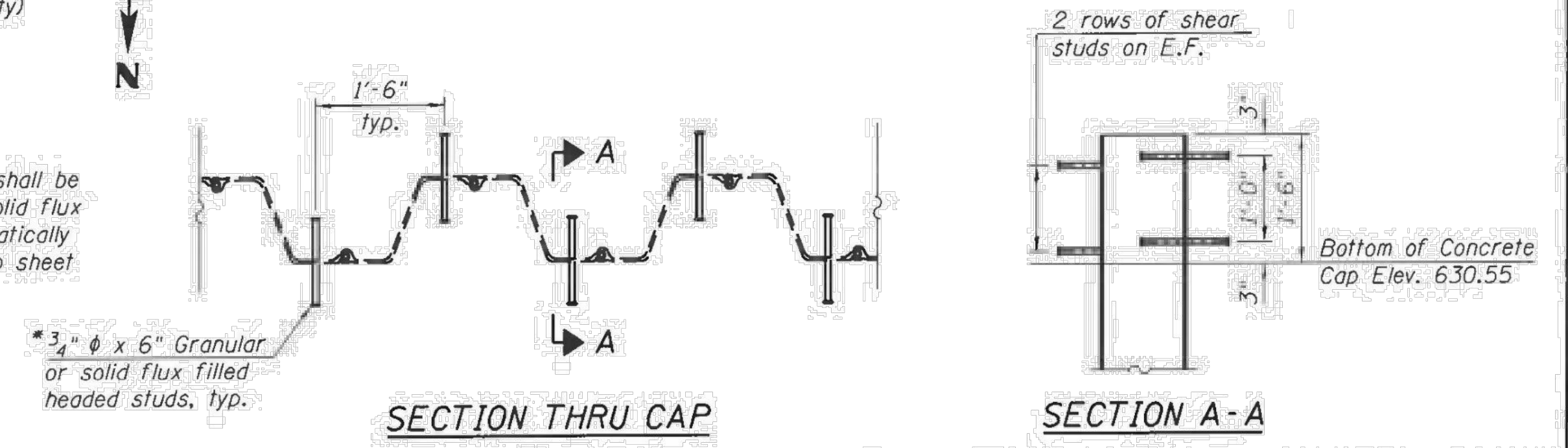


**PLAN - PERMANENT SHEET PILING**  
 (Stud Shear Connectors are not shown for clarity)

**NOTES:**

1. Station and offset points are provided along the front face of sheet piling.
2. Contractor shall submit for review and approval shop drawings that detail fabrication, erection, installation, etc. of permanent steel sheet piling.
3. Permanent sheet pile shall meet requirements of ASTM A328. Sheet pile shall have an effective section modulus meeting or exceeding section modulus shown. Use of an alternative section is subject to approval of the engineer. See special provisions for additional information.
4. Hard driving of permanent sheet piling in hardpan clay may be encountered below elevation 619.00. The Contractor shall provide the appropriate driving equipment for such.
5. For additional notes, see Sheet S-21.

\*Stud Shear Connectors shall be 3/4" φ x 6" granular or solid flux filled headed studs automatically end welded in the field to sheet piling.



<b>HBM</b> ENGINEERING GROUP, LLC CONSULTING & DESIGN INSPECTION & TESTING RESEARCH & TESTING 4415 WEST HARRISON ST. SUITE 231 HILLSIDE, IL 60162 PHONE: (708) 236-0900 FAX: (708) 236-0901	0161351-60V22-S22-S Abut Sec & Det Ldg USER NAME: lisa.buntin PLOT SCALE: 8@ 1" / in. PLOT DATE: 12/8/2017	DESIGNED - MA, SK DRAWN - SK, MAA CHECKED - LAB, MI DATE: 12/08/2017	REVISED REVISED REVISED REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOUTH ABUTMENT PERMANENT SHEET PILING STRUCTURE NO. 016-1351	F.A.L. R.T.E.: 330 SECTION: 464-B COUNTY: COOK TOTAL SHEETS: 97 SHEET NO.: 67 CONTRACT NO. 60V22 ILLINOIS FED. AID PROJECT
	SCALE: SHEET S-22 OF S-30 SHEETS STA. TO STA.				ILLINOIS FED. AID PROJECT	

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

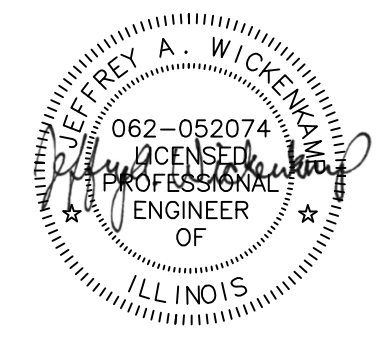
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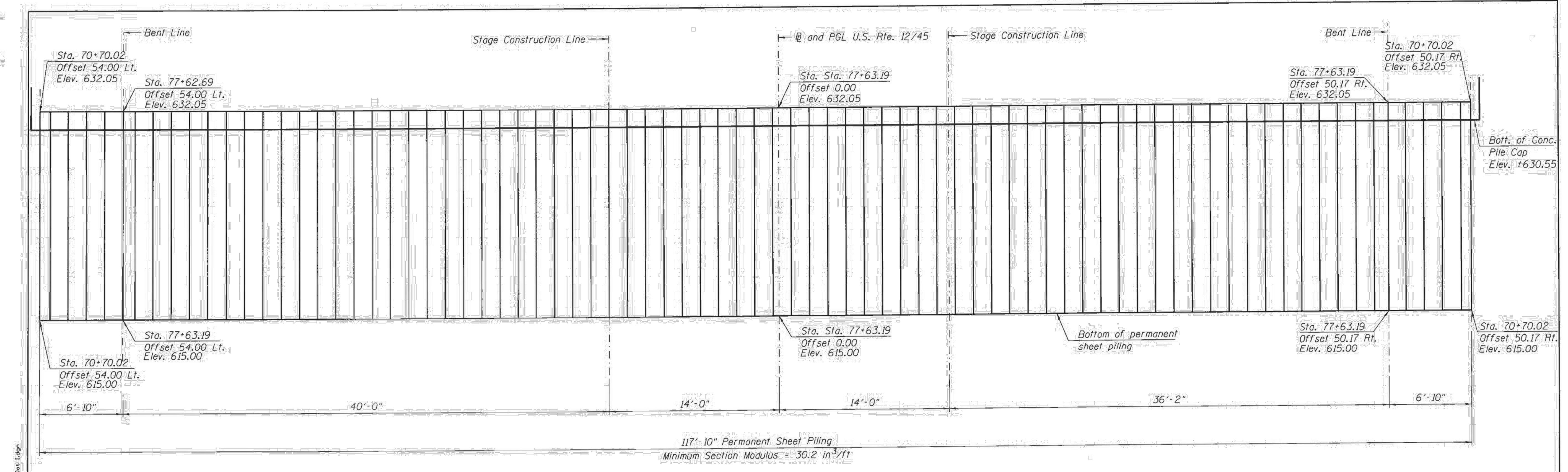
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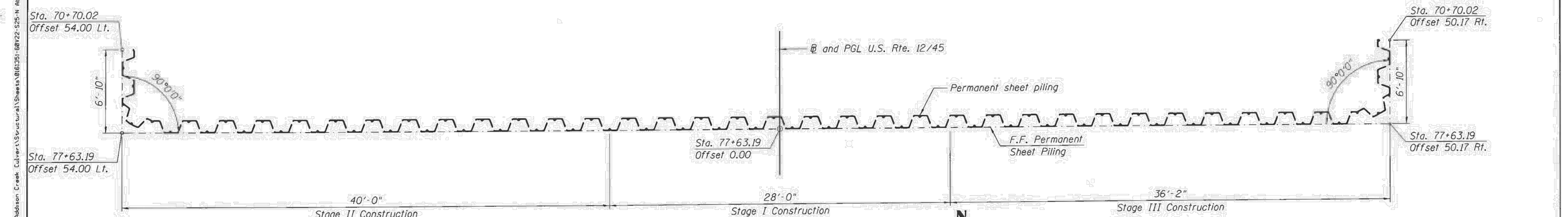
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT MANNHEIM ROAD OVER ADDISON CREEK**  
 PLANS DATED 12-07-2017





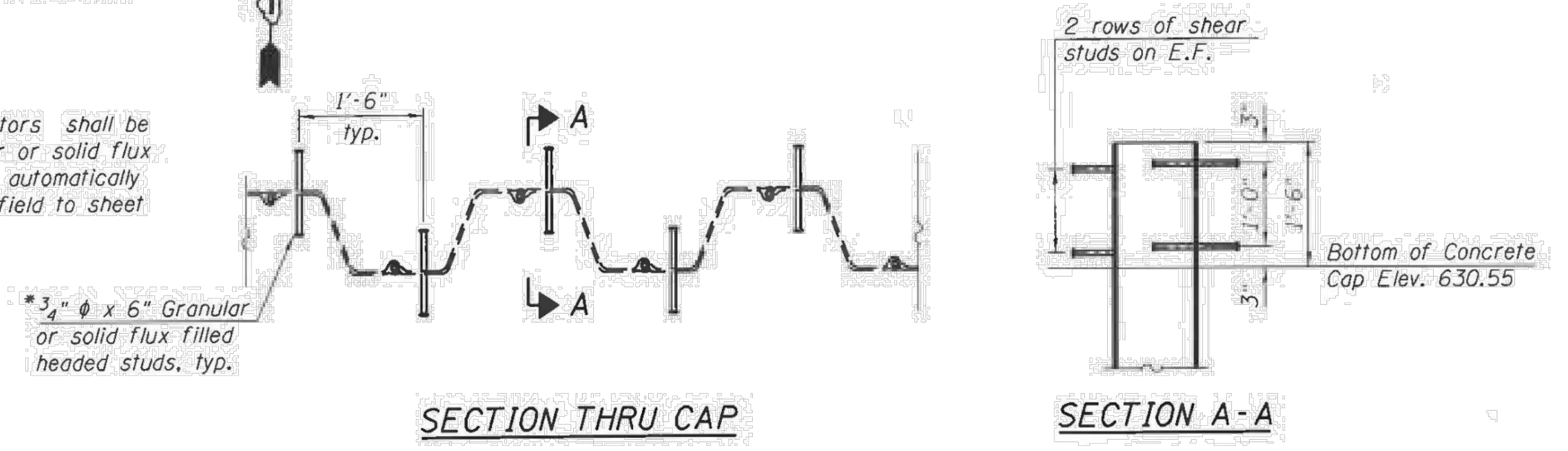
**ELEVATION - PERMANENT SHEET PILING**  
 117'-10" Permanent Sheet Piling  
 Minimum Section Modulus = 30.2 in<sup>3</sup>/ft



**PLAN - PERMANENT SHEET PILING**  
 (Stud Shear Connectors are not shown for clarity)

**NOTES:**

- Station and offset points are provided along the front face of sheet piling.
- Contractor shall submit for review and approval shop drawings that detail fabrication, erection, installation, etc. of permanent steel sheet piling.
- Permanent sheet pile shall meet requirements of ASTM A328. Sheet pile shall have an effective section modulus meeting or exceeding section modulus shown. Use of an alternative section is subject to approval of the engineer. See special provisions for additional information.
- Hard driving of permanent sheet piling in hardpan clay may be encountered below elevation 619.00. The Contractor shall provide the appropriate driving equipment for such.
- For additional notes, see Sheet S-24.



<b>HBM</b> ENGINEERING GROUP, LLC CONSULTING & DESIGN INSPECTION & TESTING 4415 WEST HARRISON ST. SUITE 230 HILLSIDE, IL 60122 PHONE: (708) 236-0900 FAX: (708) 236-0901	0161351-60V22-S25-N Abut. Sec & Det. Ldgn	DESIGNED - MA, SK	REVISED
	USER NAME = lisa.buntin	DRAWN - SK, MAA	REVISED
	PLOT SCALE = 8.00' / in.	CHECKED - LAB, MI	REVISED
	PLOT DATE = 12/8/2017	DATE - 12/08/2017	REVISED

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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NORTH ABUTMENT PERMANENT SHEET PILING STRUCTURE NO. 016-1351	
SCALE:	SHEET S-25 OF S-30 SHEETS STA. TO STA.

F.A.I. RTE. 330	SECTION 464-B	COUNTY COOK	TOTAL SHEETS 97	SHEET NO. 70
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60V22	

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

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 Checked by: PML  
 Drawn by: KSS  
 Correct: JAW

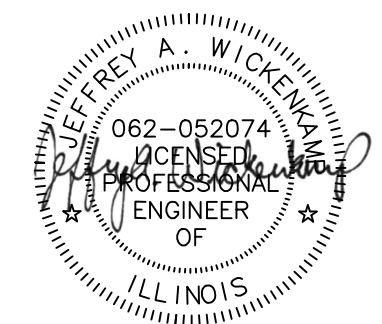
Scale: NTS  
 Date: 2022

**Hey and Associates, Inc.**  
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 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 PHONE: (773) 699-9200  
 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGN PERM  
 LICENSE NO. 184042429

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT MANNHEIM ROAD OVER ADDISON CREEK  
 PLANS DATED 12-07-2017**

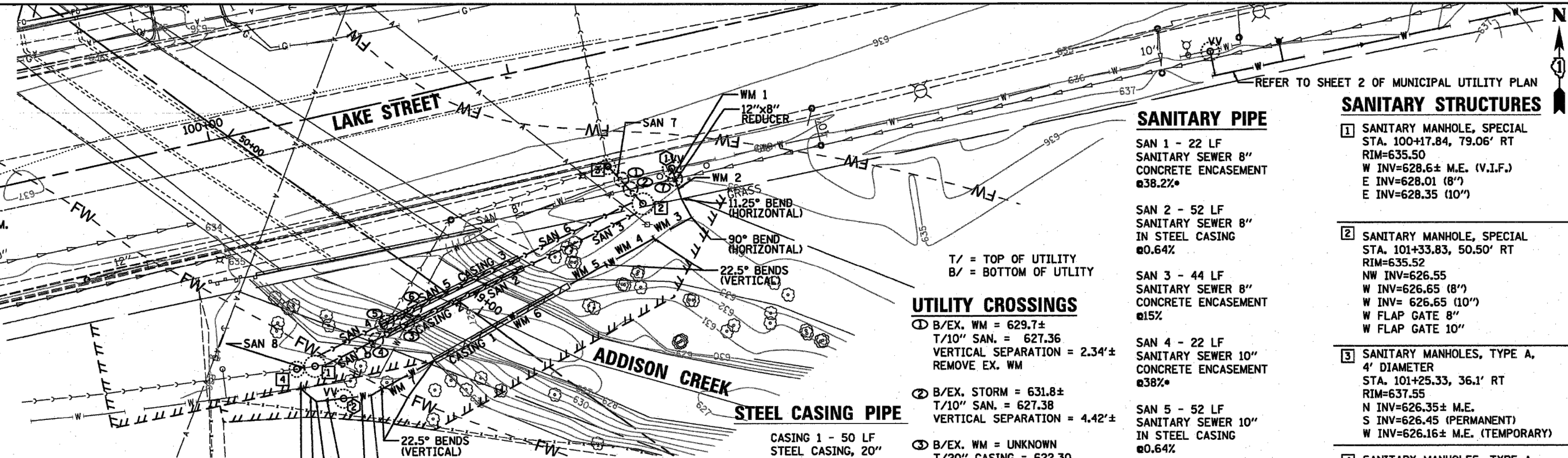
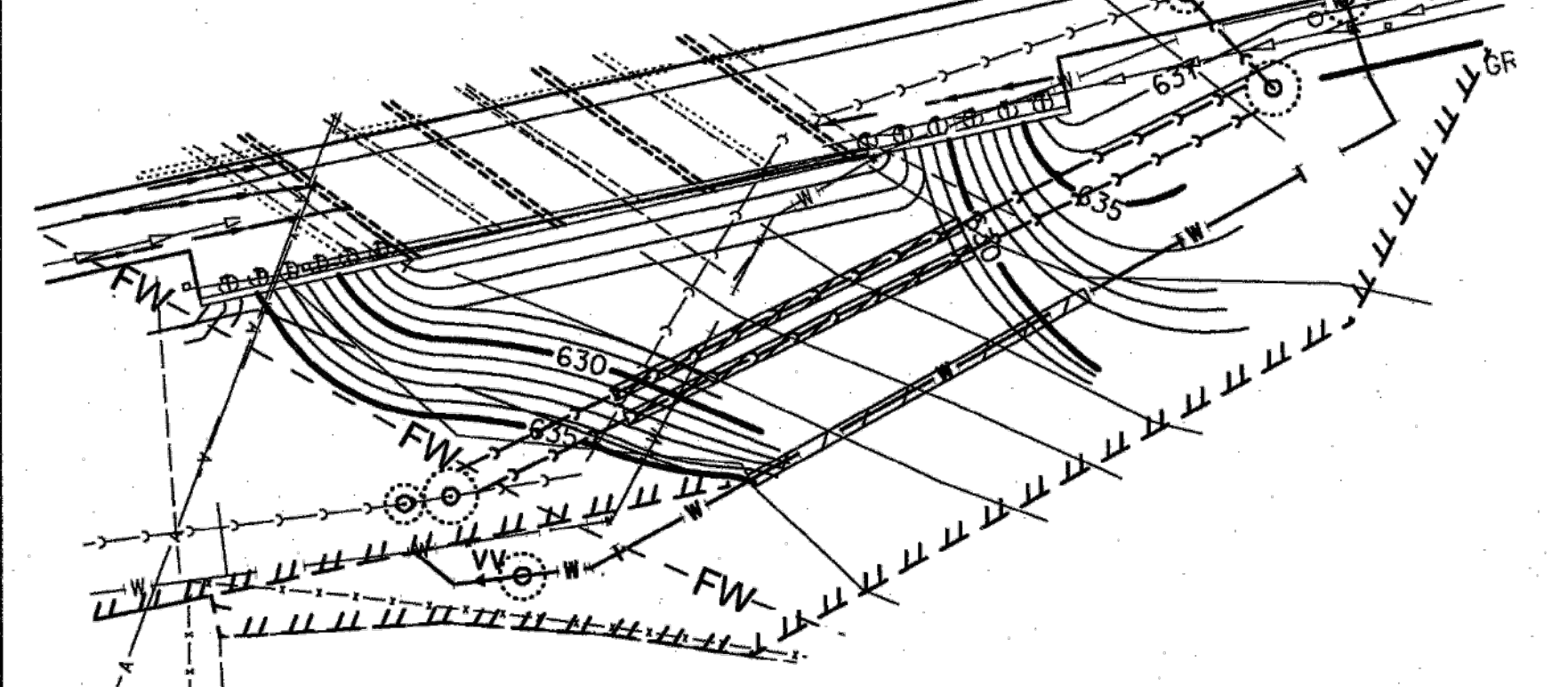
Sheet Number:  
**R-109**  
 Page Number: 453



**INSTALLATION NOTES**

- PRIOR TO BOX CULVERT CONSTRUCTION, PROPOSED WATER MAIN AND PROPOSED SANITARY SHALL BE INSTALLED AND OPERATIONAL.
- THE PROPOSED WATER MAIN SHALL BE INSTALLED AND OPERATIONAL PRIOR TO THE INSTALLATION OF THE PROPOSED SANITARY SEWER.
- SANITARY FLOWS SHALL BE MAINTAINED AT ALL TIMES.
- A) PRESSURE CONNECTION @ WATER STRUCTURE ①
  - B) INSTALL WM 1 TO WM 8, WATER STRUCTURE ② & THE TEMPORARY FLUSHING HYDRANT OR BLOW-OFF VALVE OR OTHER VILLAGE APPROVED FLUSHING MECHANISM.
  - C) PERFORM TESTING ON INSTALLED WATER MAIN
  - D) FLUSH AND CHLORINATE INSTALLED WATER MAIN
  - E) VILLAGE TO ISOLATE EXISTING MAIN
  - F) CAP EXISTING LINE TO WEST OF ①
  - G) INSTALL WM 9 AND CONNECT TO EXISTING WATER MAIN
  - H) VILLAGE TO TURN WATER SYSTEM ON
  - I) REMOVE / ABANDON SPECIFIED WATER MAIN
  - J) INSTALL PROPOSED SANITARY SYSTEM

**PROPOSED UTILITY RELOCATIONS WITH PROPOSED CONDITIONS**



**SANITARY PIPE**

- SAN 1 - 22 LF SANITARY SEWER 8" IN STEEL CASING @38.2%
- SAN 2 - 52 LF SANITARY SEWER 8" IN STEEL CASING @0.64%
- SAN 3 - 44 LF SANITARY SEWER 8" CONCRETE ENCASMENT @15%
- SAN 4 - 22 LF SANITARY SEWER 10" CONCRETE ENCASMENT @38%
- SAN 5 - 52 LF SANITARY SEWER 10" IN STEEL CASING @0.64%
- SAN 6 - 44 LF SANITARY SEWER 10" CONCRETE ENCASMENT @15%
- SAN 7 - 17 LF SANITARY SEWER 10" @0.64%
- SAN 8 - 7 LF SANITARY SEWER 10" @0.6%± M.E. SLOPE & INVERTS

**SANITARY STRUCTURES**

- ① SANITARY MANHOLE, SPECIAL STA. 100+17.84, 79.06' RT RIM=635.50 W INV=628.6± M.E. (V.I.F.) E INV=628.01 (8") E INV=628.35 (10")
- ② SANITARY MANHOLE, SPECIAL STA. 101+33.83, 50.50' RT RIM=635.52 NW INV=626.55 W INV=626.65 (8") W INV= 626.65 (10") W FLAP GATE 8" W FLAP GATE 10"
- ③ SANITARY MANHOLES, TYPE A, 4' DIAMETER STA. 101+25.33, 36.1' RT RIM=637.55 N INV=626.35± M.E. S INV=626.45 (PERMANENT) W INV=626.16± M.E. (TEMPORARY)
- ④ SANITARY MANHOLES, TYPE A, 4' DIAMETER WITH SLIDING GATE STA. 100+12, 78.7' RT RIM=635.6 INV=628.7± M.E.

**UTILITY CROSSINGS**

- ① B/EX. WM = 629.7± T/10" SAN. = 627.36 VERTICAL SEPARATION = 2.34'± REMOVE EX. WM
- ② B/EX. STORM = 631.8± T/10" SAN. = 627.38 VERTICAL SEPARATION = 4.42'±
- ③ B/EX. WM = UNKNOWN T/20" CASING = 622.30 B/20" CASING = 620.57 REMOVE EX. WM
- ④ B/EX. SAN = 626.2± T/10" SAN. = 621.77 VERTICAL SEPARATION = 4.43'± REMOVE EX. SAN.
- ⑤ B/EX. SAN. = 626.15± T/STEEL CASING = 622.39 T/10" SAN. = 621.97 VERTICAL SEPARATION = 3.76± REMOVE EX. SAN.
- ⑥ B/EX. WM. = UNKNOWN T/STEEL CASING = 622.32 T/10" SAN. = 621.91 REMOVE EX. WM
- ⑦ B/EX STORM = 632.00± T/8" WM = 630.50 VERTICAL SEPARATION = 1.5'±

**STEEL CASING PIPE**

- CASING 1 - 50 LF STEEL CASING, 20" @0%
- CASING 2 - 50 LF STEEL CASING, 20" @0.64%
- CASING 3 - 50 LF STEEL CASING, 20" @0.64%

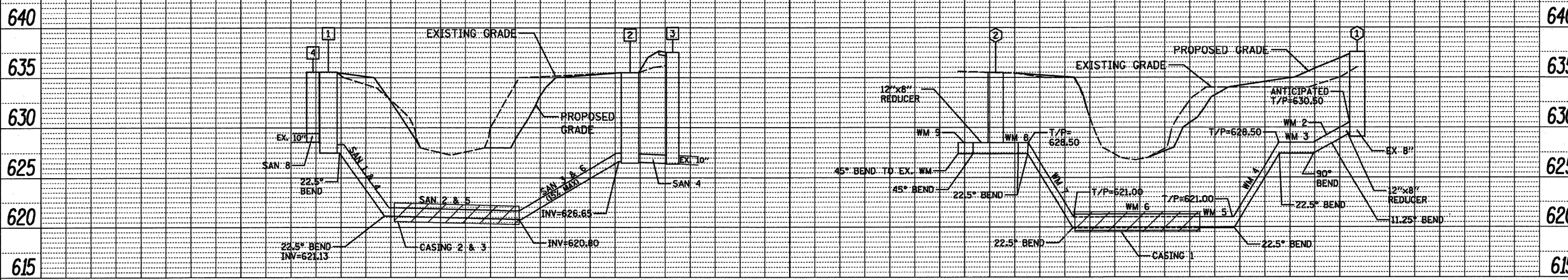
**WATER STRUCTURES**

- ① PRESSURE CONNECTION, 8"x8", VALVE VAULT, TYPE A, TYPE 1 FRAME, CLOSED LID, SPECIAL STA. 101+45.49, 41.3' RT RIM=637.52
- ② VALVE VAULT, TYPE A, TYPE 1 FRAME, CLOSED LID, SPECIAL WITH GATE VALVE, 12" STA. 100+24.74, 91.29' RT RIM=635.50

**WATER MAIN**

- WM 1 - 4 LF DUCTILE IRON WATER MAIN, 8"
- WM 2 - 14 LF DUCTILE IRON WATER MAIN, 12"
- WM 3 - 14 LF DUCTILE IRON WATER MAIN, 12"
- WM 4 - 20 LF DUCTILE IRON WATER MAIN, 12"
- WM 5 - 14 LF DUCTILE IRON WATER MAIN, 12"
- WM 6 - 50 LF DUCTILE IRON WATER MAIN, 12" IN STEEL CASING
- WM 7 - 20 LF DUCTILE IRON WATER MAIN, 12"
- WM 8 - 19 LF DUCTILE IRON WATER MAIN, 12"
- WM 9 - 9 LF DUCTILE IRON WATER MAIN, 8"

\*SLOPE BASED ON ELEVATION DIFFERENCE AT 22.5°



**SANITARY PROFILE**

SCALE H: 1"=20'  
V: 1"=5'

**WATER MAIN PROFILE**

SCALE H: 1"=20'  
V: 1"=5'

	USER NAME = #USER#	DESIGNED - KB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MUNICIPAL UTILITY PLAN LAKE STREET OVER ADDISON CREEK		F.A.I. RTE. 3537	SECTION 3264-T	COUNTY COOK	TOTAL SHEETS 110	SHEET NO. 26
	PLOT SCALE = #SCALE#	DRAWN - CEY	REVISED -		SCALE: 1"=20'	SHEET NO. 1 OF 2 SHEETS	STA. 100+24 TO STA. 101+45	ILLINOIS FED. AID PROJECT		CONTRACT NO. 60H44	
	PLOT DATE = 3/3/2011	CHECKED -	REVISED -								

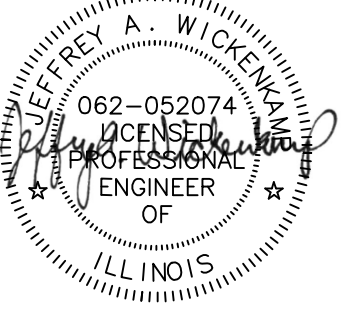
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Hcy and Associates, Inc.  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-2000  
 CHICAGO@HYASNC.COM  
 LICENSE NO. 18406287

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PML	NTS	PML	NTS
Drawn by:	Date:	Reviewed by:	Date:
KSS	2022	JAW	2022
Correct:			

CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT LAKE STREET OVER ADDISON CREEK  
 PLANS DATED 01-24-2011



PLOT DATE: 9/27/2022 5:21 PM PLOTTED BY: KYLE SOLNER  
 \\\HEY-ehi-fs01\projects\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Reference\Sheets\R-111.dwg 10/29/2021 10:43 AM

Bench Mark: Chiseled square on West end of the South headwall S.N. 016-2007 Elev: 638.22  
 Existing Structure: S.N. 016-2007, built in 1928 as a triple cell 12' wide x 5' high cast-in-place concrete box culvert skewed at 45 degrees. The original structure was later lengthened on both ends. The middle cell was also lowered to 9'. Structure is to be removed and replaced. Traffic to be maintained utilizing stage construction.  
 No Salvage.  
 Precast alternate is not allowed.

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

WATERWAY INFORMATION

Drainage Area = 4.06 sq. mile    Exist. Low Grade Elev. 634.34 @ Sta. 114+20  
 Prop. Low Grade Elev. 634.34 @ Sta. 114+20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Nat. H.W.E.	Head - Ft. Exist.	Prop.	Exist. Prop.	Headwater EL. Exist. Prop.
Ten-Year	10	494	204.0	237.9	634.4	0.14	0.06	634.6	634.5
Design	50	774	204.0	249.4	635.7	0.42	0.21	636.1	635.9
Base	100	863	204.0	249.4	636.1	0.57	0.30	636.7	636.4
Max. Calc.	500	1060	204.0	249.4	637.0	0.59	0.47	637.6	637.5

10 year velocity through Exist. Culvert = 1.36 fps  
 10 year velocity through Prop. Culvert = 2.25 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	622.28	622.28

LOADING HS20-44

Allow 50#/#sq. ft. For future wearing surface.

DESIGN SPECIFICATIONS

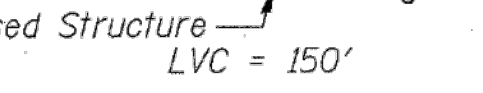
2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 36,000 (Soldier Piles)

PROFILE GRADE

(along Lake St.)  
 Proposed Structure LVC = 150'

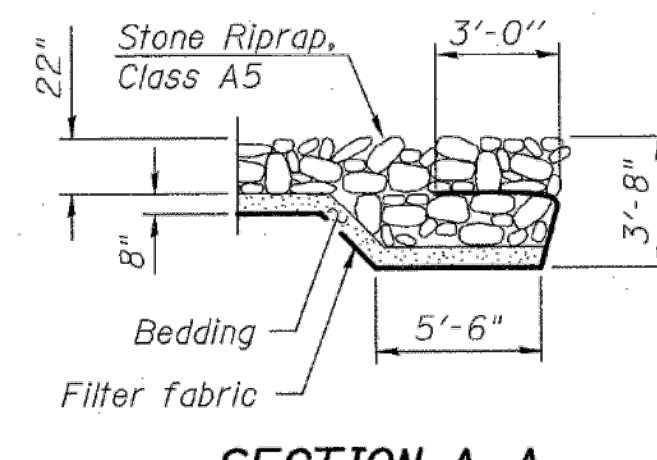


Expires 11-3-2012  
 Brian Malone

APPROVED FOR STRUCTURAL ADEQUACY ONLY

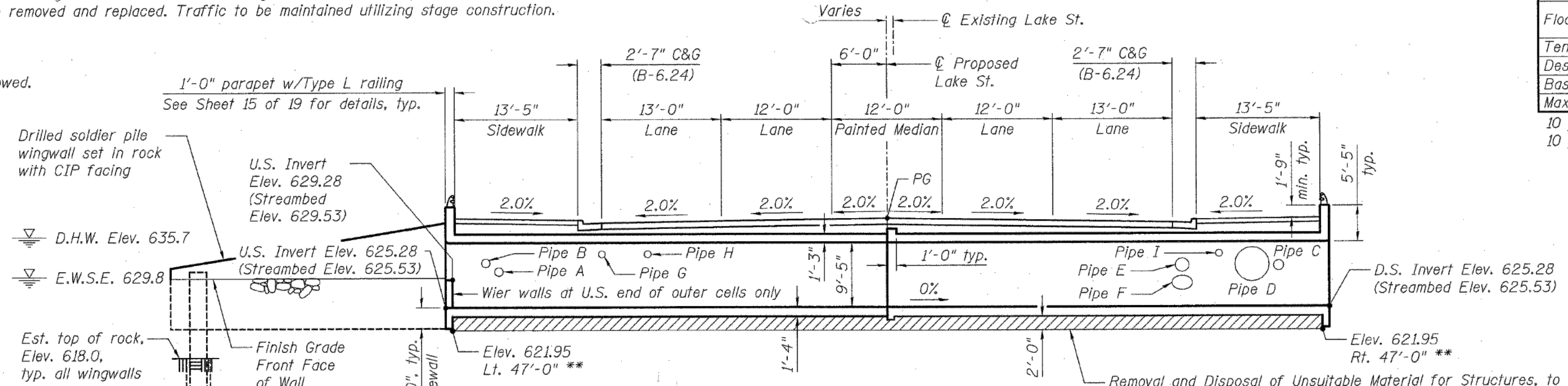
Richard P. ...  
 ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN  
 LAKE STREET OVER ADDISON CREEK  
 F.A.U. RT. 3537 - SEC. 3264-T  
 COOK COUNTY  
 STATION 100+06.27  
 STRUCTURE NO. 016-2630



SECTION A-A

\*\*\* Only existing ROW shown. Proposed temporary and permanent easements are not shown here for clarity. Proposed ROW is not required. See Roadway Plans for details.



LONGITUDINAL SECTION

(Looking East, Horiz. Dim. at Rt. L's to Lake St.)

Removal and Disposal of Unsuitable Material for Structures, to be replaced with Porous Granular Embankment. Material shall be coarse aggregate with a gradation of either CA 5 or CA 7. See Plan below for limits. The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

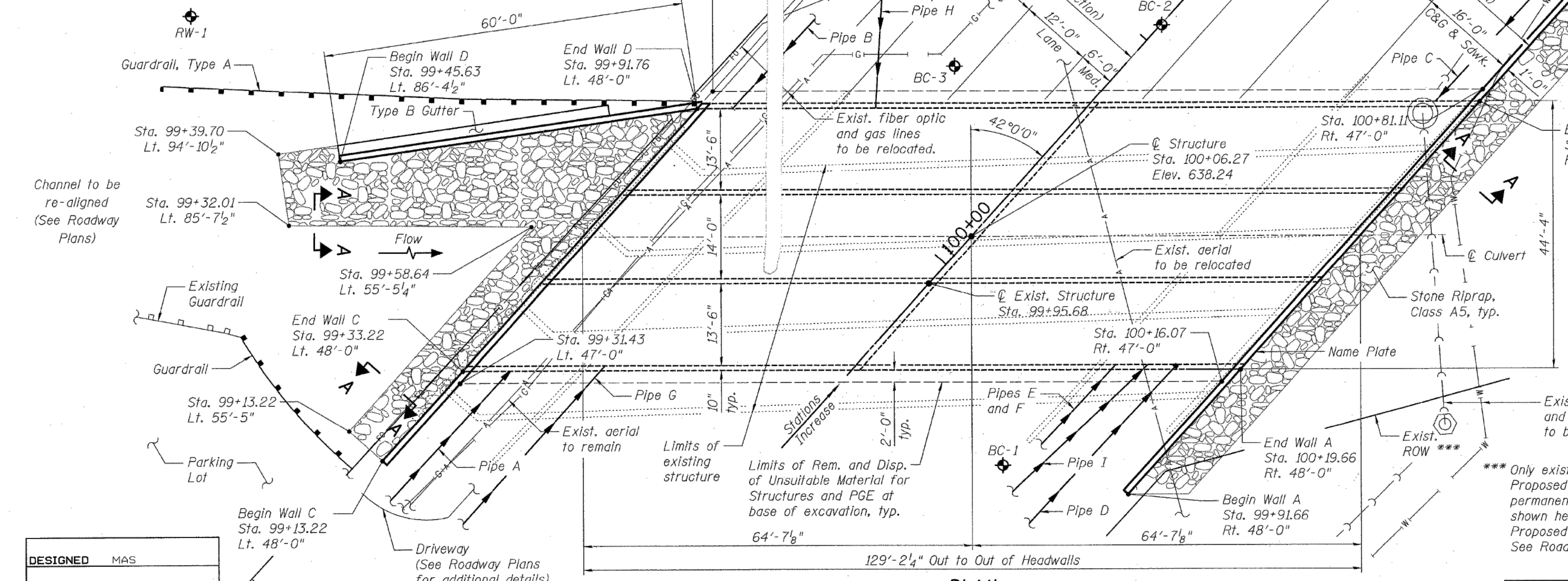
PIPE SCHEDULE

Location	Size	Shape	Invert
<b>Existing Pipe</b>			
Pipe A	15"	Circular	629.81
Pipe B	15"	Circular	631.08
Pipe C	18"	Circular	630.48
Pipe D	60"	Circular	628.90
Pipe E	24"	Circular	630.28
Pipe F	30"x19"	Elliptical	627.70
<b>Proposed Pipe</b>			
Pipe G	12"	Circular	632.53
Pipe H	12"	Circular	632.52
Pipe I	12"	Circular	632.50

Pipes A through F shall be reconnected to the proposed culvert. Inverts listed for these existing pipes are the approximate existing inverts. The proposed inverts shall be determined in the field in order to maintain the grade of the existing pipes. The Contractor shall also verify existing pipe sizes.

\*\* Bottom of Removal of Unsuitable Material

Disposal



PLAN



Wight & Company  
 2500 North Frontage Road, Darien, IL 60561  
 630.969.7000 630.969.7979 fax  
 Design Firm Registration 184-000451

SHEET NO.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
19 SHEETS	3537	3264-T	COOK	110	45
CONTRACT NO. 60H44					
ILLINOIS FED. AID PROJECT					

DESIGNED	MAS
CHECKED	BJM
DRAWN	MAS
CHECKED	BRT

Rev.	Description	Appr.	Date

METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO

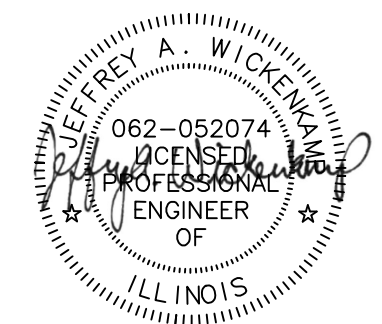
Hey and Associates, Inc.  
 Engineering, Ecology and Landscape Architecture  
 8755 West Higgins Road, Suite 835  
 Chicago, Illinois 60631  
 Office (773) 699-9200  
 Chicago@HEYASAC.COM

Designed by:	Checked by:	Scale:
PML	NTS	
Drawn by:	Reviewed by:	Date:
KSS	JAW	2022
Correct:		

CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT LAKE STREET OVER ADDISON CREEK  
 PLANS DATED 01-24-2011

Sheet Number:  
 R-111  
 Page Number: 455

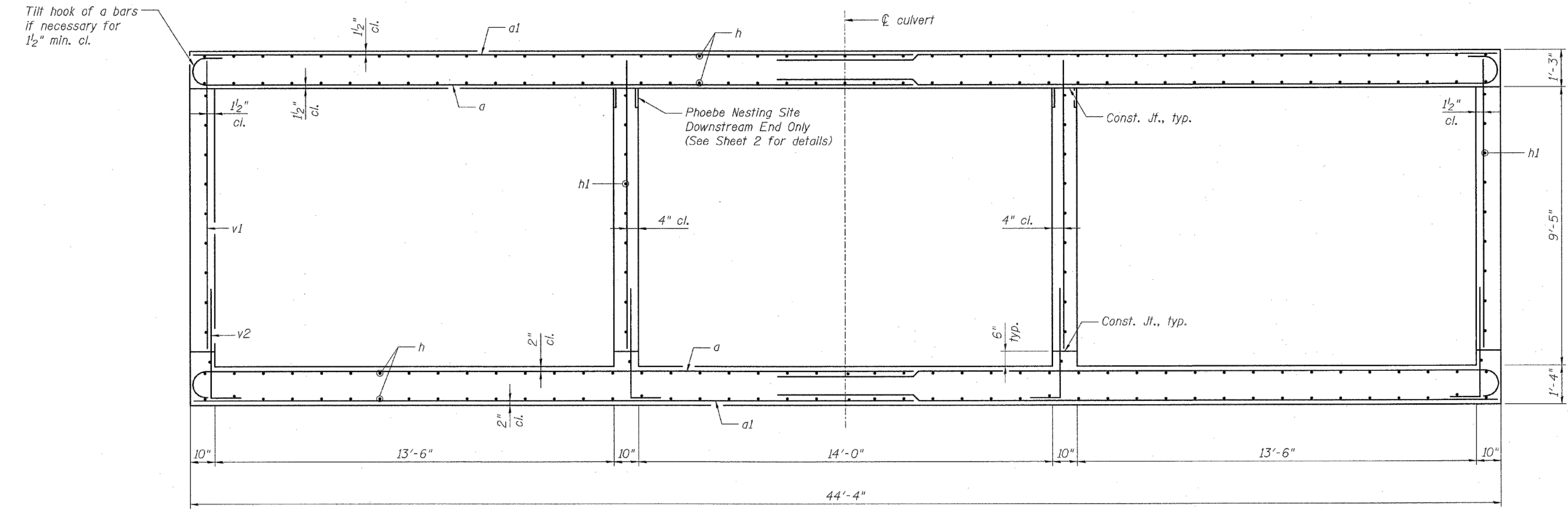




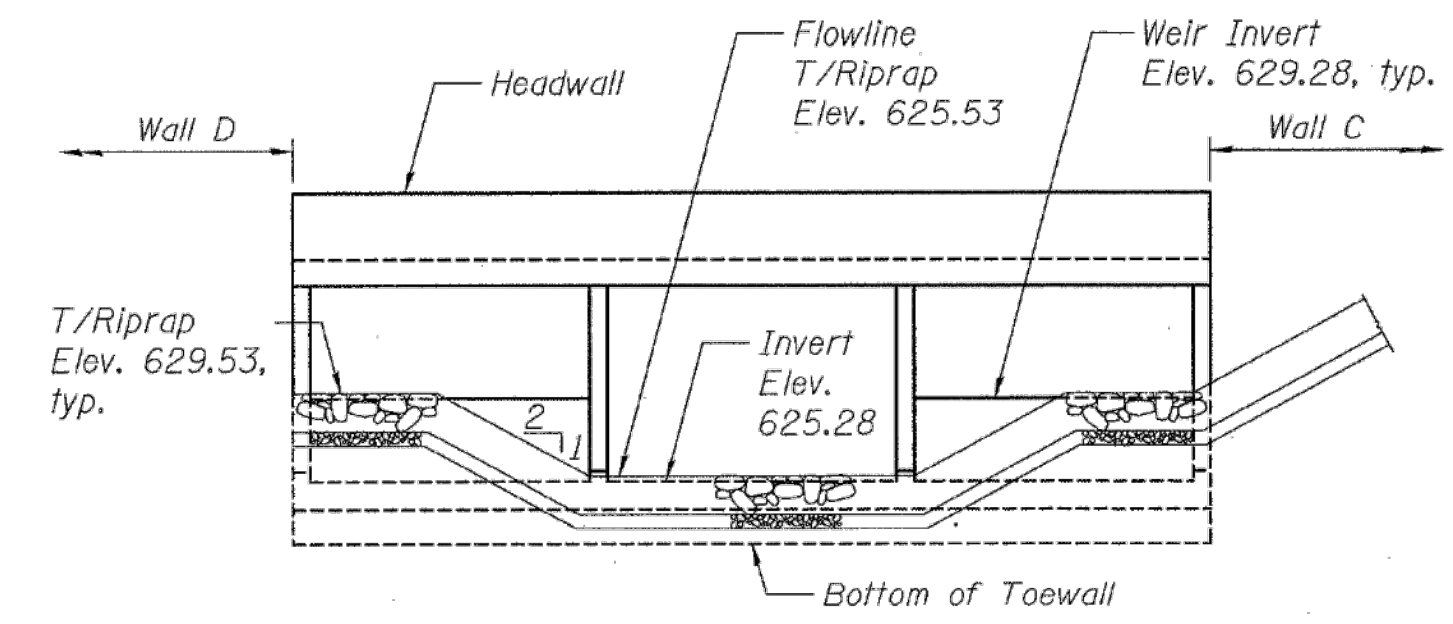
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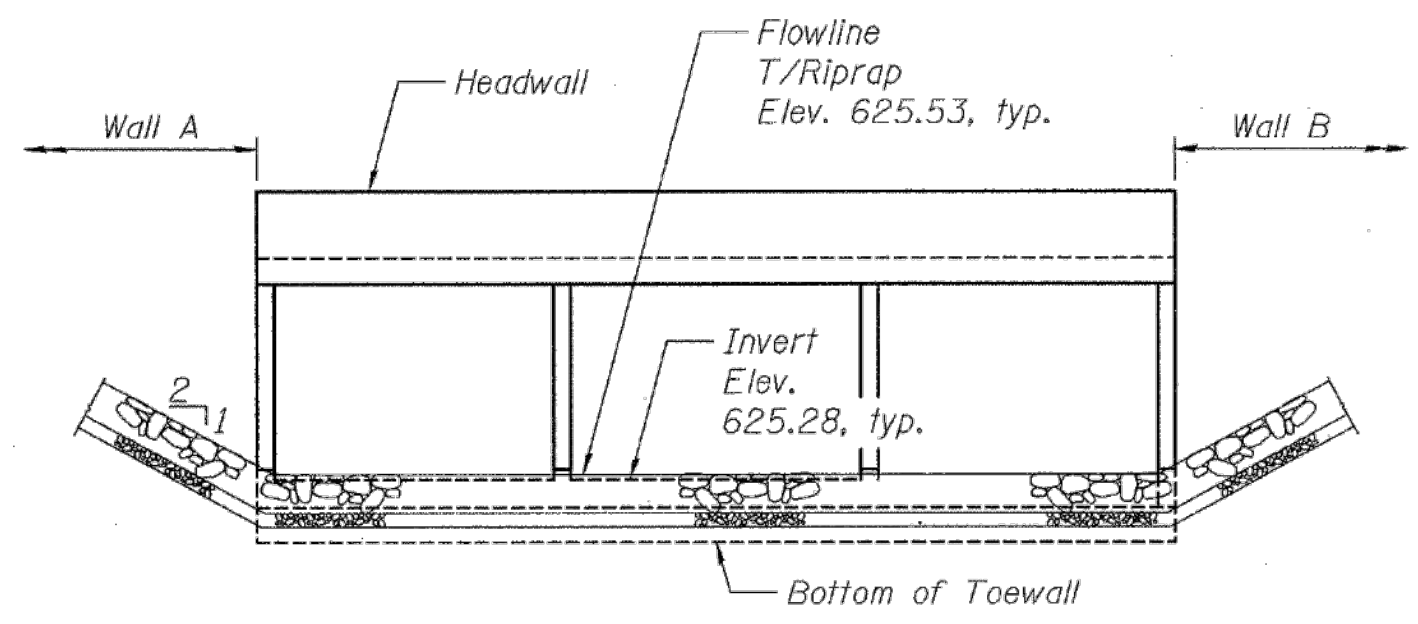
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



CROSS SECTION



RIPRAP AT UPSTREAM END OF CULVERT  
 (Looking South - Slopes shown at right L's to centerline)



RIPRAP AT DOWNSTREAM END OF CULVERT  
 (Looking North - Slopes shown at right L's to centerline)

- NOTES:**
1. For Bill of Material see Sheet 6.
  2. For lap length see Sheet 2.

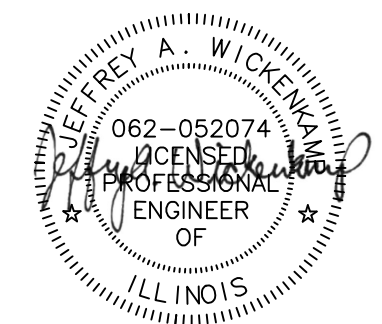
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DRAWN	MAS
CHECKED	BJM

CROSS SECTION  
 STRUCTURE NO. 016-2630



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 630.969.7000 630.969.7979 fax  
 Design Firm Registration 184-000451

SHEET NO. 7 19 SHEETS	F.A.U. RTE. 3537	SECTION 3264-T	COUNTY COOK	TOTAL SHEETS 110	SHEET NO. 51
	CONTRACT NO. 60H44 ILLINOIS FED. AID PROJECT				



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

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 Drawn by: KSS  
 Correct:

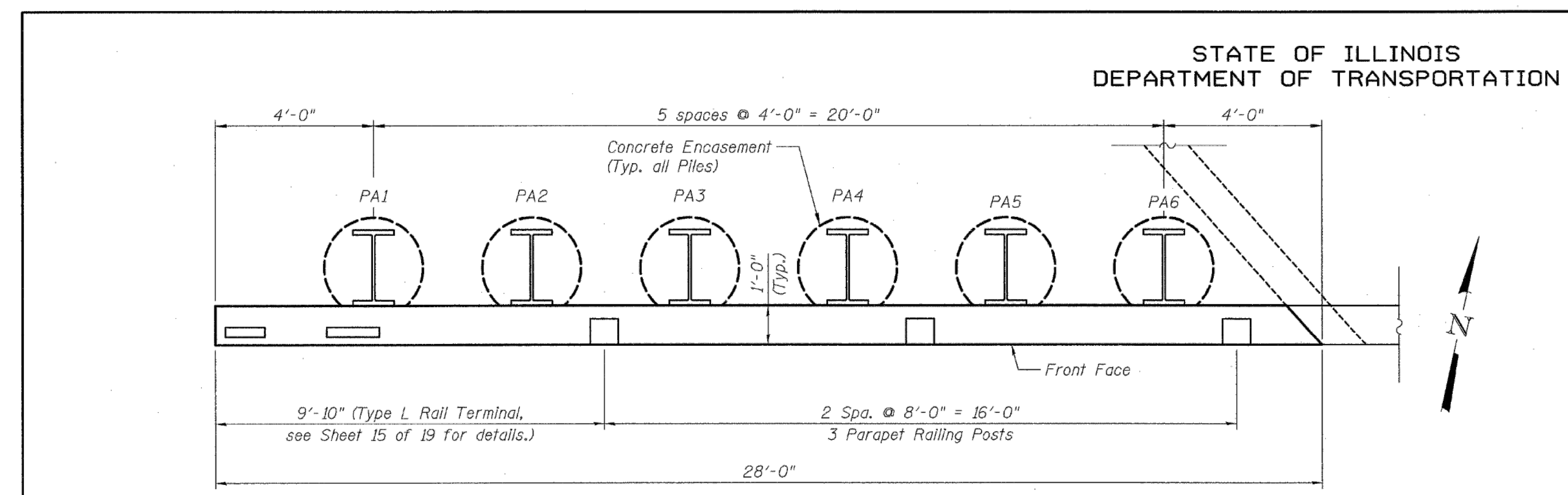
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 Date: 2022

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 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 18400451

CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT LAKE STREET OVER ADDISON CREEK  
 PLANS DATED 01-24-2011

PLOT DATE: 9/27/2022 5:21 PM PLOTTED BY: KYLE SOLNER \\HEY-chi-fs01\projects\16000\16-0005 MWRD - FINAL DESIGN FOR ADDISON CREEK\CAD\11-187-3F\Reference\Sheets\R-113.dwg 10/29/2021 10:45 AM

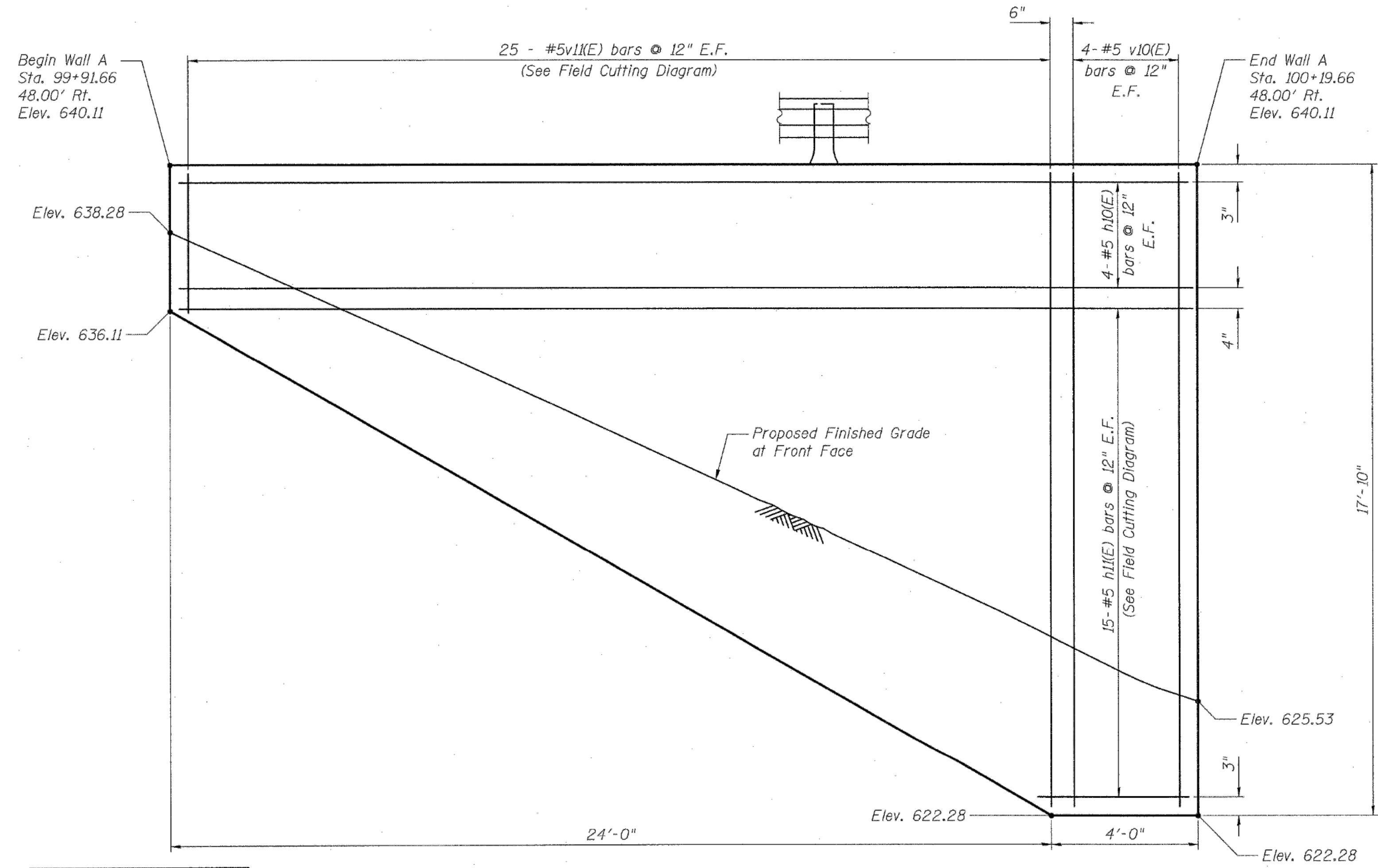


**PLAN - WALL A**

**WALL A  
SOLDIER PILE SCHEDULE**

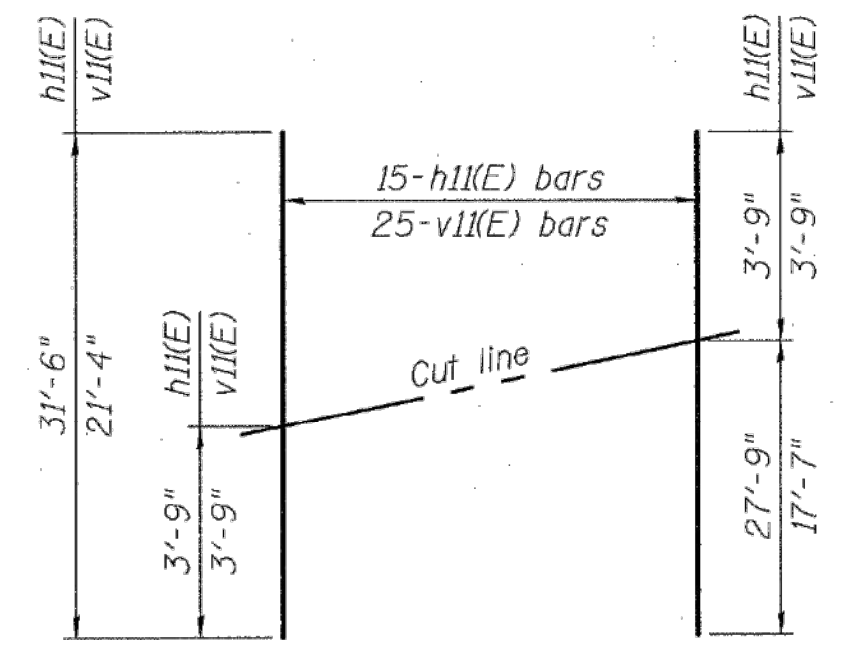
Pile No.	Station	Offset to $\phi$ of Hole	Pile Section	Top of Pile Elev.		Pile Length (ft.)	No. of Stud Shear Conn.	ENCASUREMENT DATA		
				636.78	602.30			34.48	10	30
PA1	99+95.66	46.05' Rt.	W21x182	636.78	602.30	34.48	10	30	633.80	31.50
PA2	99+99.66	46.05' Rt.	W21x182	636.78	602.30	34.48	16	30	631.50	29.20
PA3	100+03.66	46.05' Rt.	W21x182	636.78	602.30	34.48	20	30	629.19	26.89
PA4	100+07.66	46.05' Rt.	W21x182	636.78	602.30	34.48	24	30	626.89	24.59
PA5	100+11.66	46.05' Rt.	W21x182	636.78	602.30	34.48	30	30	624.58	22.28
PA6	100+15.66	46.05' Rt.	W21x182	636.78	602.30	34.48	34	30	622.28	19.98

Conn. = Connectors  
Enc. = Encasement



**ELEVATION - WALL A**  
(Looking at Front Face of wall)

DESIGNED	JNH
CHECKED	BJM
DRAWN	JNH
CHECKED	BRT



**FIELD CUTTING DIAGRAM**

Order h1(K) and v1(K) bars full length. Cut to fit and use the remainder of bars in opposite face.

**WALL A  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1(K)	8	#5	27'-9"	—
h1(K)	15	#5	31'-6"	—
h1(K)	8	#5	17'-7"	—
v1(K)	25	#5	21'-4"	—
Concrete Structures			Cu. Yd.	12.4
Stud Shear Connectors			Each	134
Untreated Timber Lagging			Sq. Ft.	206
Reinforcement Bars, Epoxy Coated			Pound	1430
Furnishing Soldier Piles (W Section)			Foot	206.9
Geocomposite Wall Drain			Sq. Yd.	11
Pipe Underdrain for Structures, 4"			Foot	32.2
Drilling & Setting Soldier Piles (In Soil)			Cu. Ft.	266.3
Drilling & Setting Soldier Piles (In Rock)			Cu. Ft.	500.8

**WALL A  
STRUCTURE NO. 016-2630**

SHEET NO. 9	F.A.U. RTE. 3537	SECTION 3264-T	COUNTY COOK	TOTAL SHEETS 110	SHEET NO. 53
19 SHEETS					
ILLINOIS FED. AID PROJECT					

**Wight & Company**  
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Design Firm Registration 184-000451



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**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

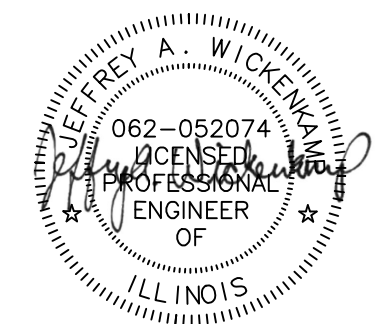
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ILLINOIS PROFESSIONAL ENGINEER LICENSE NO. 18404287

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Checked by: PML  
Scale: NTS  
Drawn by: KSS  
Reviewed by: JAW  
Date: 2022  
Correct:

**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT LAKE STREET OVER ADDISON CREEK  
PLANS DATED 01-24-2011**

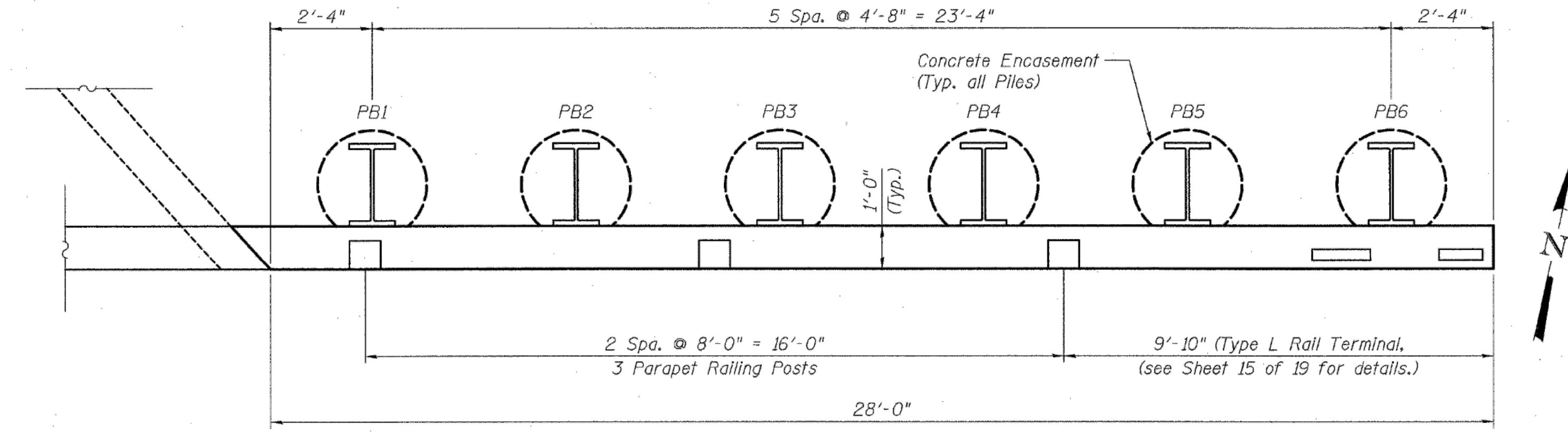
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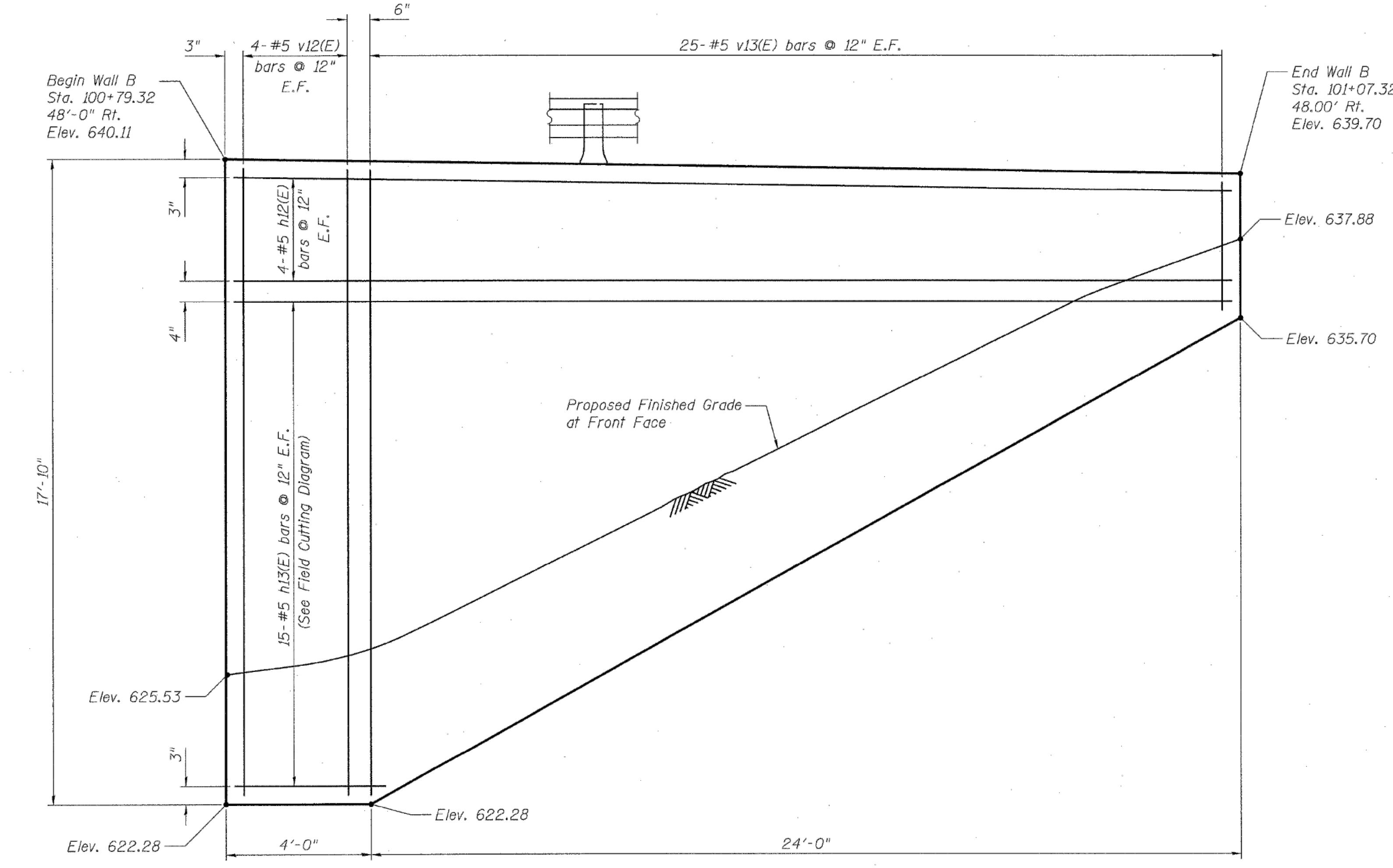
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**PLAN - WALL B**



**ELEVATION - WALL B**  
(Looking at Front Face of wall)

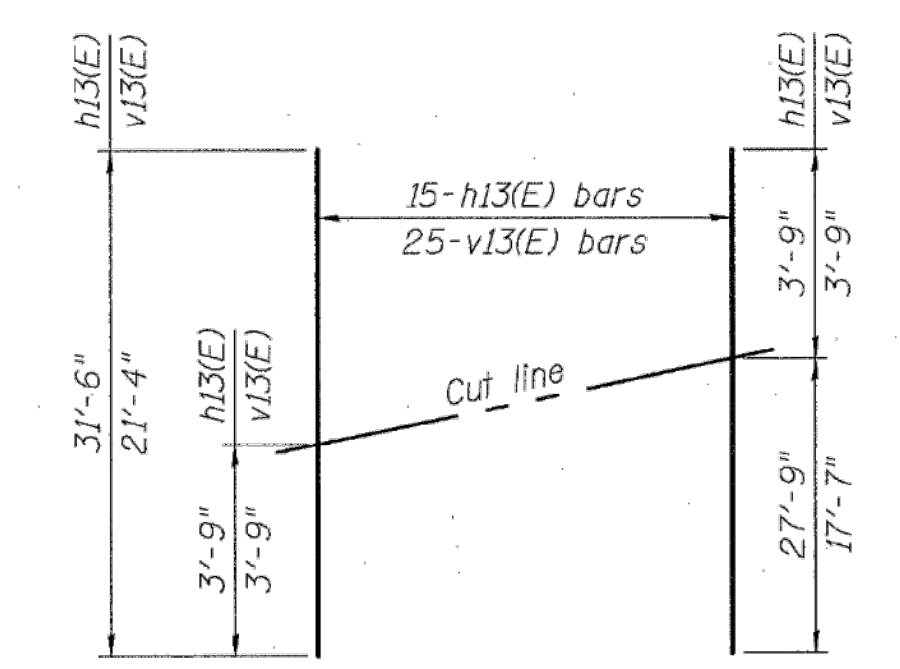
**WALL B  
SOLDIER PILE SCHEDULE**

Pile No.	Station	SOLDIER PILE DATA			ENCASUREMENT DATA					
		Offset to $\phi$ of Hole	Pile Section	Top of Pile Elev.	Bot. of Pile Elev.	Pile Length (ft.)	No. of Stud Shear Conn.	Dia. (in.)	Top of Enc. Elev.	Enc. Length (ft.)
PB1	100+81.65	46.05' Rt.	W21x182	636.78	602.30	34.48	34	30	622.28	19.98
PB2	100+86.32	46.05' Rt.	W21x182	636.78	602.30	34.48	30	30	623.96	21.66
PB3	100+90.98	46.05' Rt.	W21x182	636.78	602.30	34.48	24	30	626.57	24.27
PB4	100+95.65	46.05' Rt.	W21x182	636.78	602.30	34.48	20	30	629.18	26.88
PB5	101+00.32	46.05' Rt.	W21x182	636.78	602.30	34.48	16	30	631.79	29.49
PB6	101+04.98	46.05' Rt.	W21x182	636.78	602.30	34.48	10	30	634.40	32.10

Conn. = Connectors  
Enc. = Encasement

**WALL B  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h12(E)	8	#5	27'-9"	---
h13(E)	15	#5	31'-6"	---
v12(E)	8	#5	17'-7"	---
v13(E)	25	#5	21'-4"	---
Concrete Structures			Cu. Yd.	12.4
Stud Shear Connectors			Each	134
Untreated Timber Lagging			Sq. Ft.	212
Reinforcement Bars, Epoxy Coated			Pound	1430
Furnishing Soldier Piles (W Section)			Foot	206.9
Geocomposite Wall Drain			Sq. Yd.	11
Pipe Underdrain for Structures, 4"			Foot	32.2
Drilling & Setting Soldier Piles (In Soil)			Cu. Ft.	266.0
Drilling & Setting Soldier Piles (In Rock)			Cu. Ft.	500.8



**FIELD CUTTING DIAGRAM**  
Order h13(E) and v13(E) bars full length. Cut to fit and use the remainder of bars in opposite face.

DESIGNED	JNH
CHECKED	BJM
DRAWN	JNH
CHECKED	BRT



**Wight & Company**  
2500 North Frontage Road, Darien, IL 60561  
630.969.7000 630.969.7979 fax  
Design Firm Registration 184-000451

SHEET NO. 10	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	3537	3264-T	COOK	110	54
19 SHEETS	CONTRACT NO. 60H44			ILLINOIS FED. AID PROJECT	

**WALL B  
STRUCTURE NO. 016-2630**

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

**Hey and Associates, Inc.**  
Engineering, Ecology and Landscape Architecture  
Chicago, Illinois 60631  
Office (773) 699-9200  
Chicago@HEYASSOCI.COM  
ILLINOIS No. 18404287

Designed by: PML  
Checked by: NTS  
Scale: NTS

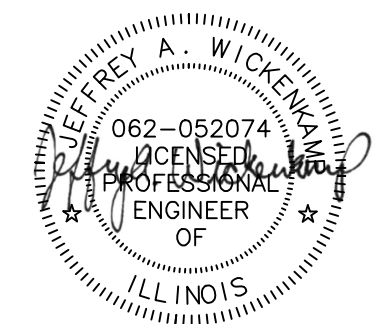
Drawn by: KSS  
Reviewed by: JAW  
Date: 2022

Correct:

**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT LAKE STREET OVER ADDISON CREEK  
PLANS DATED 01-24-2011**

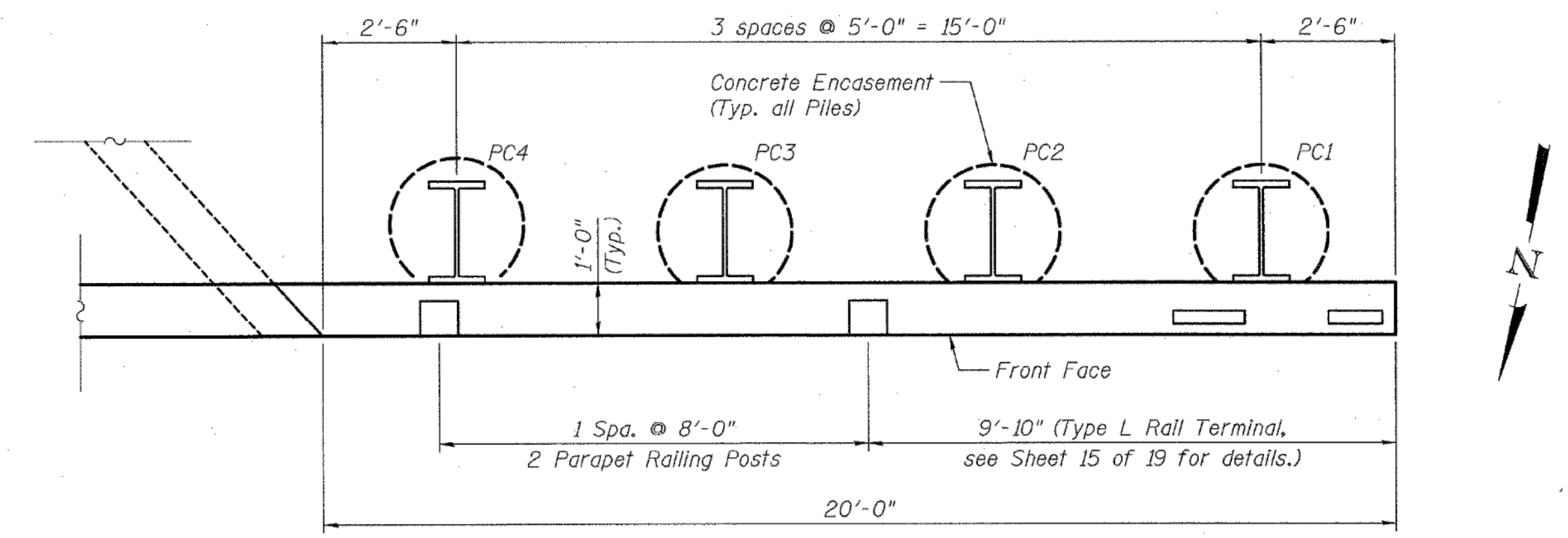
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Page Number: 458



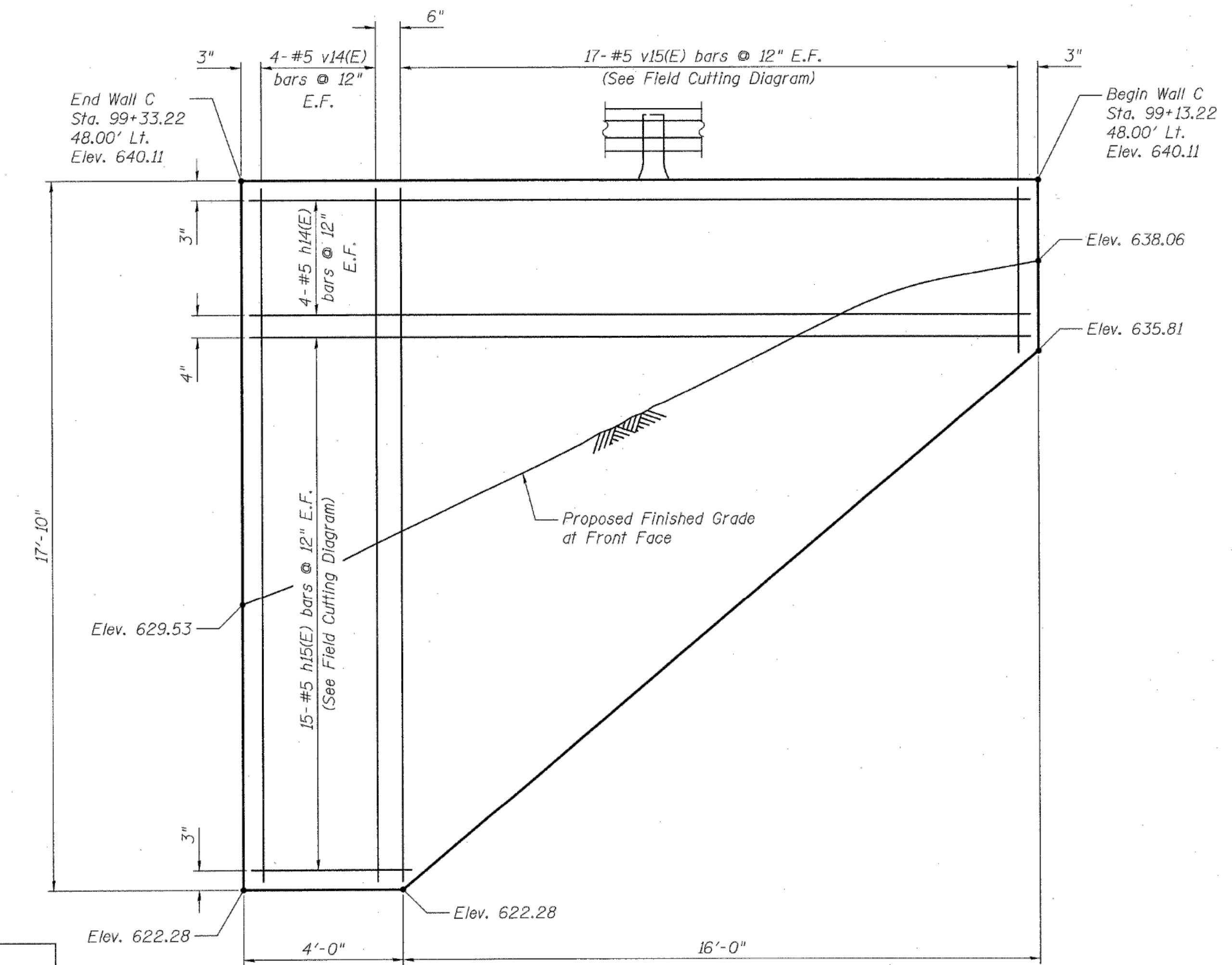
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION



PLAN - WALL C



ELEVATION - WALL C  
 (Looking at Front Face of wall)

DESIGNED	JNH
CHECKED	BRT
DRAWN	JNH
CHECKED	BJM



**Wight & Company**  
 2500 North Frontage Road, Darien, IL 60561  
 630.969.7000 630.969.7979 fax  
 Design Firm Registration 184-000451

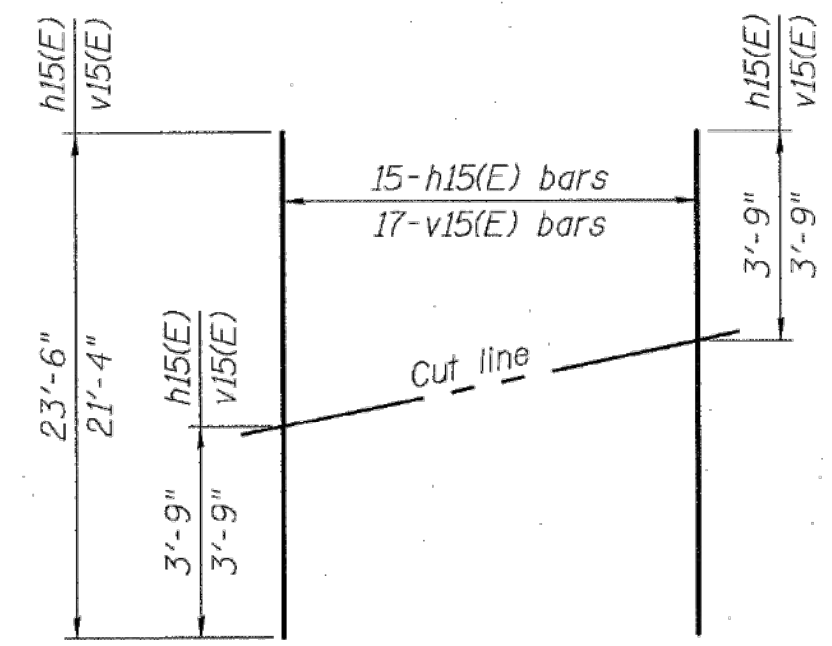
WALL C  
 SOLDIER PILE SCHEDULE

Pile No.	Station	SOLDIER PILE DATA				ENCASUREMENT DATA		
		Offset to $\ell$ of Hole	Pile Section	Top of Pile Elev.	Bot. of Pile Elev.	Pile Length (ft.)	No. of Stud Shear Conn.	Enc. Length (ft.)
PC1	99+15.72	46.05' Lt.	W21x182	636.78	600.70	36.08	10	30
PC2	99+20.72	46.05' Lt.	W21x182	636.78	600.70	36.08	20	30
PC3	99+25.72	46.05' Lt.	W21x182	636.78	600.70	36.08	28	30
PC4	99+30.72	46.05' Lt.	W21x182	636.78	600.70	36.08	34	30

Conn. = Connectors  
 Enc. = Encasement

WALL C  
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h14(E)	8	#5	19'-9"	---
h15(E)	15	#5	23'-6"	---
v14(E)	8	#5	17'-7"	---
v15(E)	17	#5	21'-4"	---
Concrete Structures			Cu. Yd.	9.2
Stud Shear Connectors			Each	92
Untreated Timber Lagging			Sq. Ft.	155
Reinforcement Bars, Epoxy Coated			Pound	1060
Furnishing Soldier Piles (W Section)			Foot	144.3
Geocomposite Wall Drain			Sq. Yd.	9
Pipe Underdrain for Structures, 4"			Foot	25.6
Drilling & Setting Soldier Piles (In Soil)			Cu. Ft.	171.5
Drilling & Setting Soldier Piles (In Rock)			Cu. Ft.	359.4



FIELD CUTTING DIAGRAM

Order h15(E) and v15(E) bars full length. Cut to fit and use the remainder of bars in opposite face.

WALL C  
 STRUCTURE NO. 016-2630

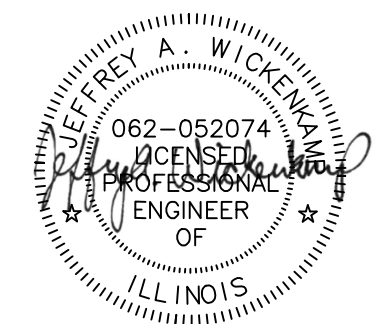
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19 SHEETS	CONTRACT NO. 60H44			ILLINOIS FED. AID PROJECT	

METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO

Designed by: PML	Checked by: PML	Scale: NTS
Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO, ILLINOIS 60642  
 PROFESSIONAL DESIGN FIRM LICENSE NO. 18404287

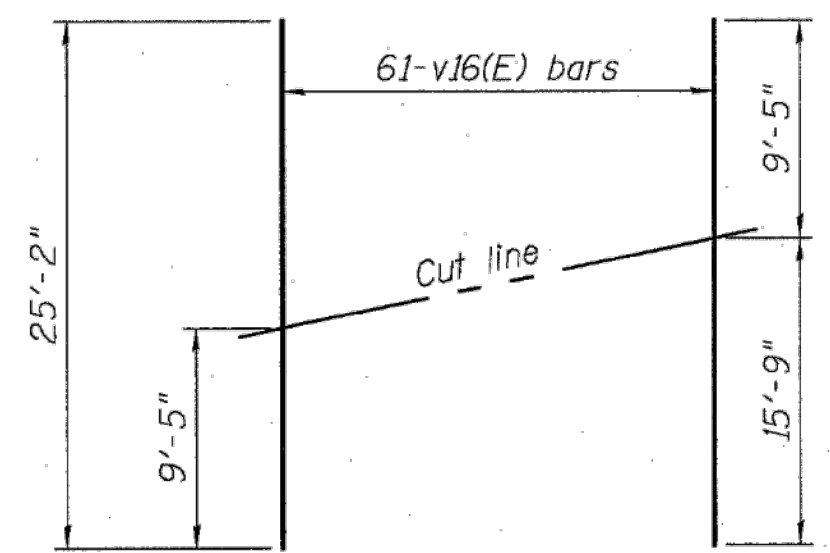
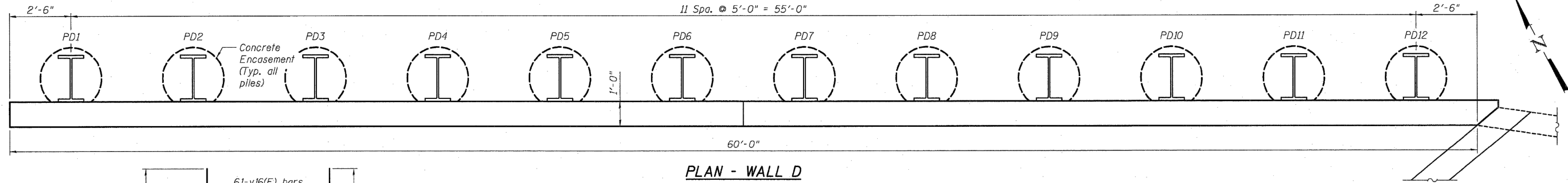
CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
 IDOT LAKE STREET OVER ADDISON CREEK  
 PLANS DATED 01-24-2011



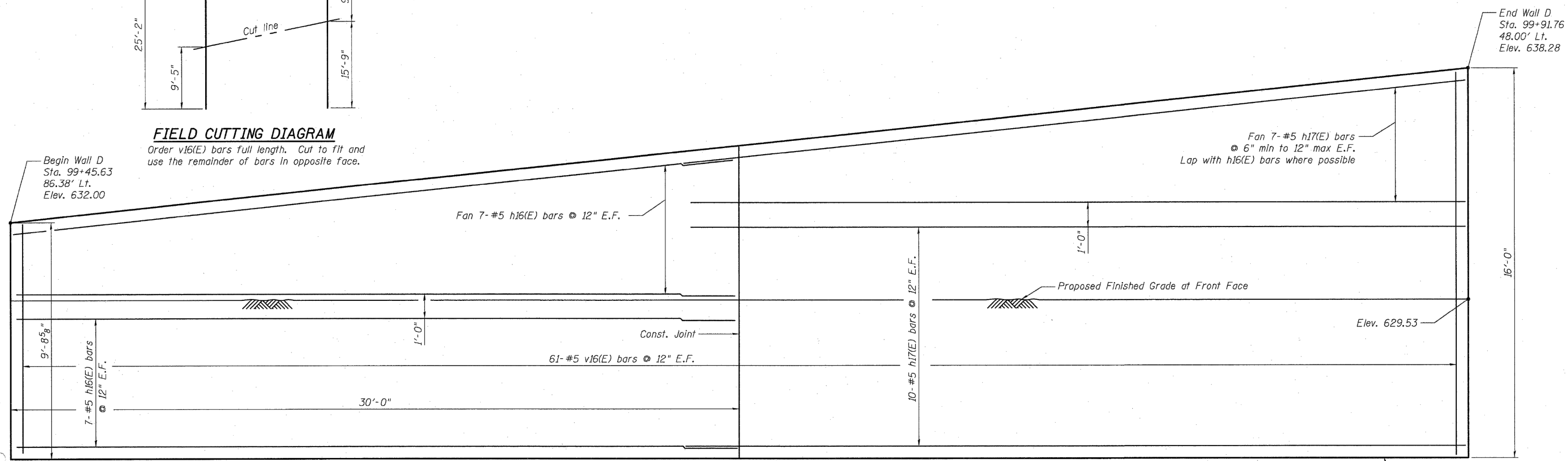
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 Page Number: 459

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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
 11 Spa. @ 5'-0" = 55'-0"



**FIELD CUTTING DIAGRAM**  
 Order v16(E) bars full length. Cut to fit and use the remainder of bars in opposite face.



**WALL D - SOLDIER PILE SCHEDULE**

Pile No.	Station	SOLDIER PILE DATA				ENCASEMENT DATA				
		Offset to $\phi$ of Hole	Pile Section	Top of Pile Elev.	Bot. of Pile Elev.	Pile Length (ft.)	No. of Stud Shear Conn.	Dia. (in.)	Top of Enc. Elev.	Enc. Length (ft.)
PD1	99+48.79	86.26' Lt.	W21x182	630.76	600.70	30.06	18	30	622.28	21.58
PD2	99+52.64	83.07' Lt.	W21x182	631.29	600.70	30.59	20	30	622.28	21.58
PD3	99+56.48	79.87' Lt.	W21x182	631.81	600.70	31.11	20	30	622.28	21.58
PD4	99+60.33	76.67' Lt.	W21x182	632.33	600.70	31.63	22	30	622.28	21.58
PD5	99+64.17	73.47' Lt.	W21x182	632.86	600.70	32.16	22	30	622.28	21.58
PD6	99+68.01	70.28' Lt.	W21x182	633.38	600.70	32.68	24	30	622.28	21.58
PD7	99+71.86	67.08' Lt.	W21x182	633.90	600.70	33.20	24	30	622.28	21.58
PD8	99+75.70	63.88' Lt.	W21x182	634.43	600.70	33.73	26	30	622.28	21.58
PD9	99+79.55	60.68' Lt.	W21x182	634.95	600.70	34.25	26	30	622.28	21.58
PD10	99+83.39	57.49' Lt.	W21x182	635.47	600.70	34.77	28	30	622.28	21.58
PD11	99+87.23	54.29' Lt.	W21x182	636.00	600.70	35.30	28	30	622.28	21.58
PD12	99+91.08	51.09' Lt.	W21x182	636.52	600.70	35.82	30	30	622.28	21.58

Conn. = Connectors    Enc. = Encasement

**WALL D - BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h16(E)	28	#5	29'-9"	—
h17(E)	34	#5	33'-9"	—
v16(E)	61	#5	25'-2"	—
Concrete Structures				Cu. Yd. 28.6
Stud Shear Connectors				Each 288
Untreated Timber Lagging				Sq. Ft. 589
Reinforcement Bars, Epoxy Coated				Pound 3670
Furnishing Soldier Piles (W Section)				Foot 395.3
Geocomposite Wall Drain				Sq. Yd. 35
Pipe Underdrain for Structures, 4"				Foot 60
Drilling & Setting Soldier Piles (In Soil)				Cu. Ft. 193.3
Drilling & Setting Soldier Piles (In Rock)				Cu. Ft. 1078.2



**Wight & Company**  
 2500 North Frontage Road, Darien, IL 60561  
 630.969.7000    630.969.7979 fax  
 Design Firm Registration    184-000451

SHEET NO. 12	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	3537	3264-T	COOK	110	56
19 SHEETS	CONTRACT NO. 60H44			ILLINOIS FED. AID PROJECT	

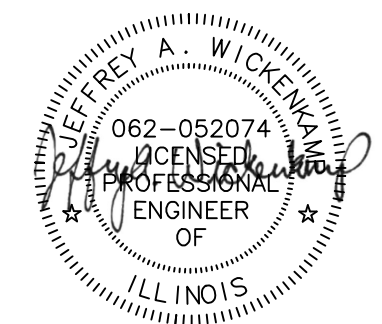
**WALL D**  
**STRUCTURE NO. 016-2630**

**METROPOLITAN WATER RECLAMATION DISTRICT**  
**OF GREATER CHICAGO**

Designed by:	Checked by:	Scale:
PML	PML	NTS
Drawn by:	Reviewed by:	Date:
KSS	JAW	2022
Correct:		

**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 184002829

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
**IDOT LAKE STREET OVER ADDISON CREEK**  
 PLANS DATED 01-24-2011

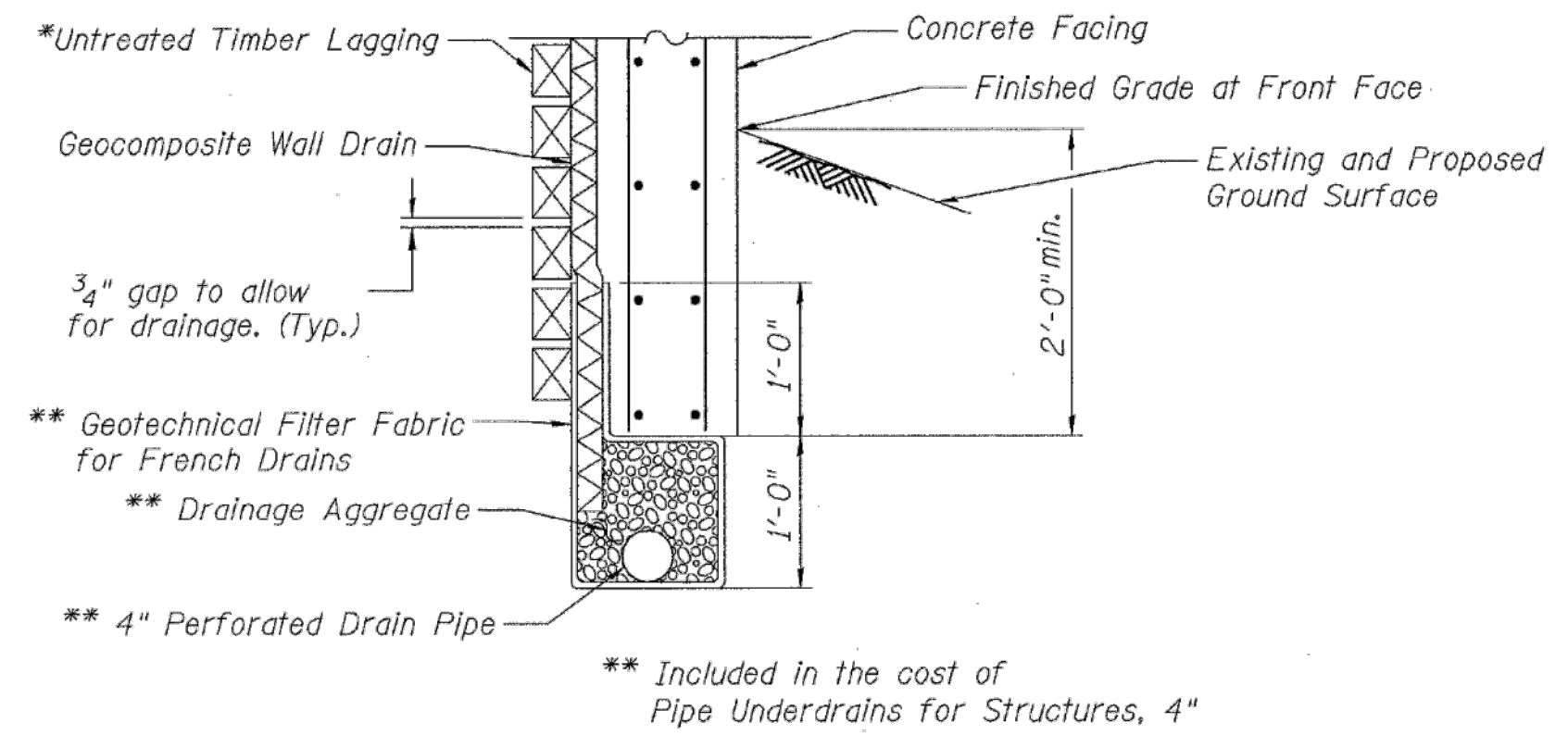


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**R-116**  
 Page Number: 460

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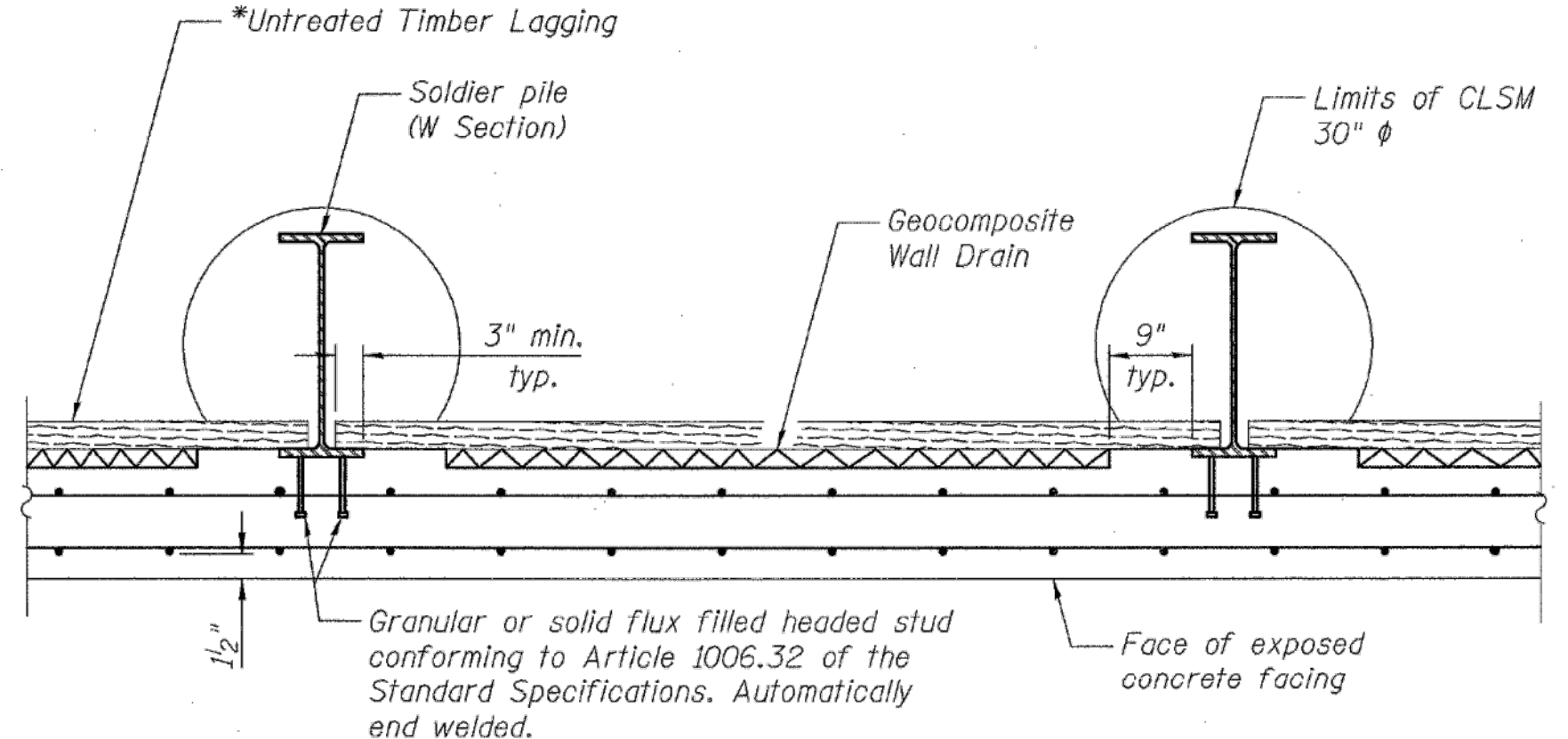
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

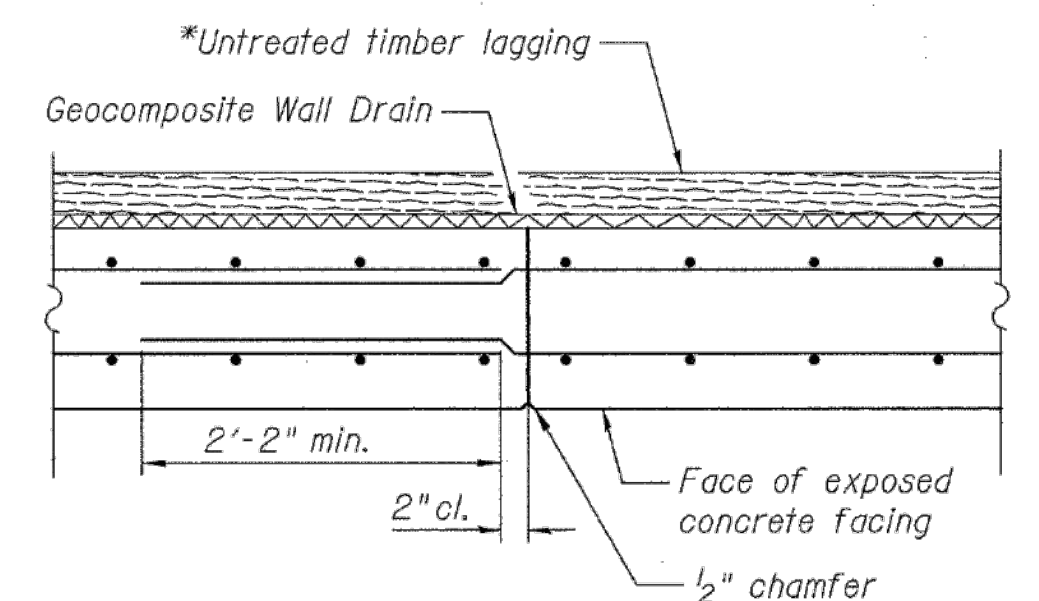


PIPE UNDERDRAIN DETAIL

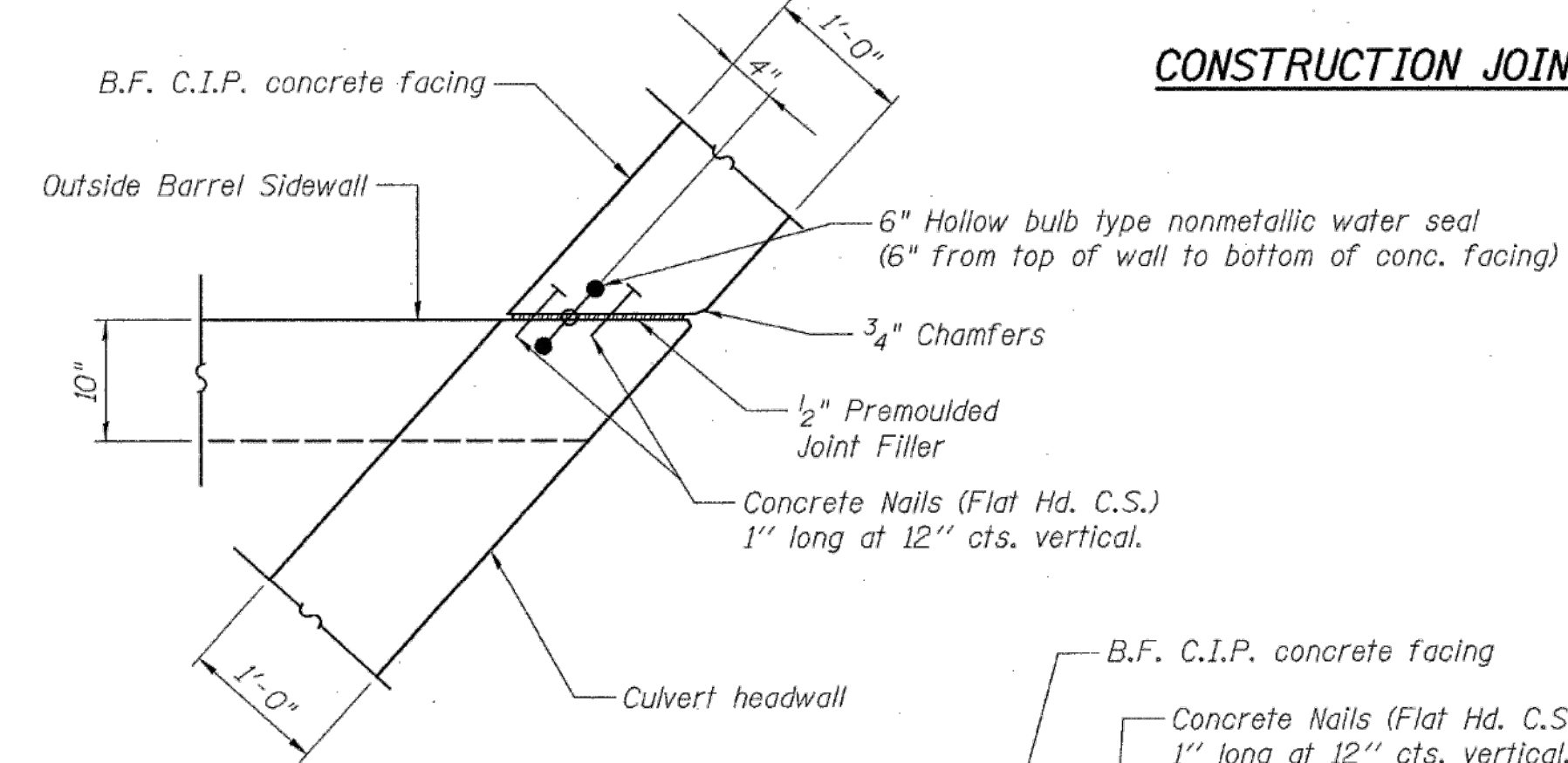
\* The Contractor shall be responsible for the design and performance of the Untreated Timber Lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.



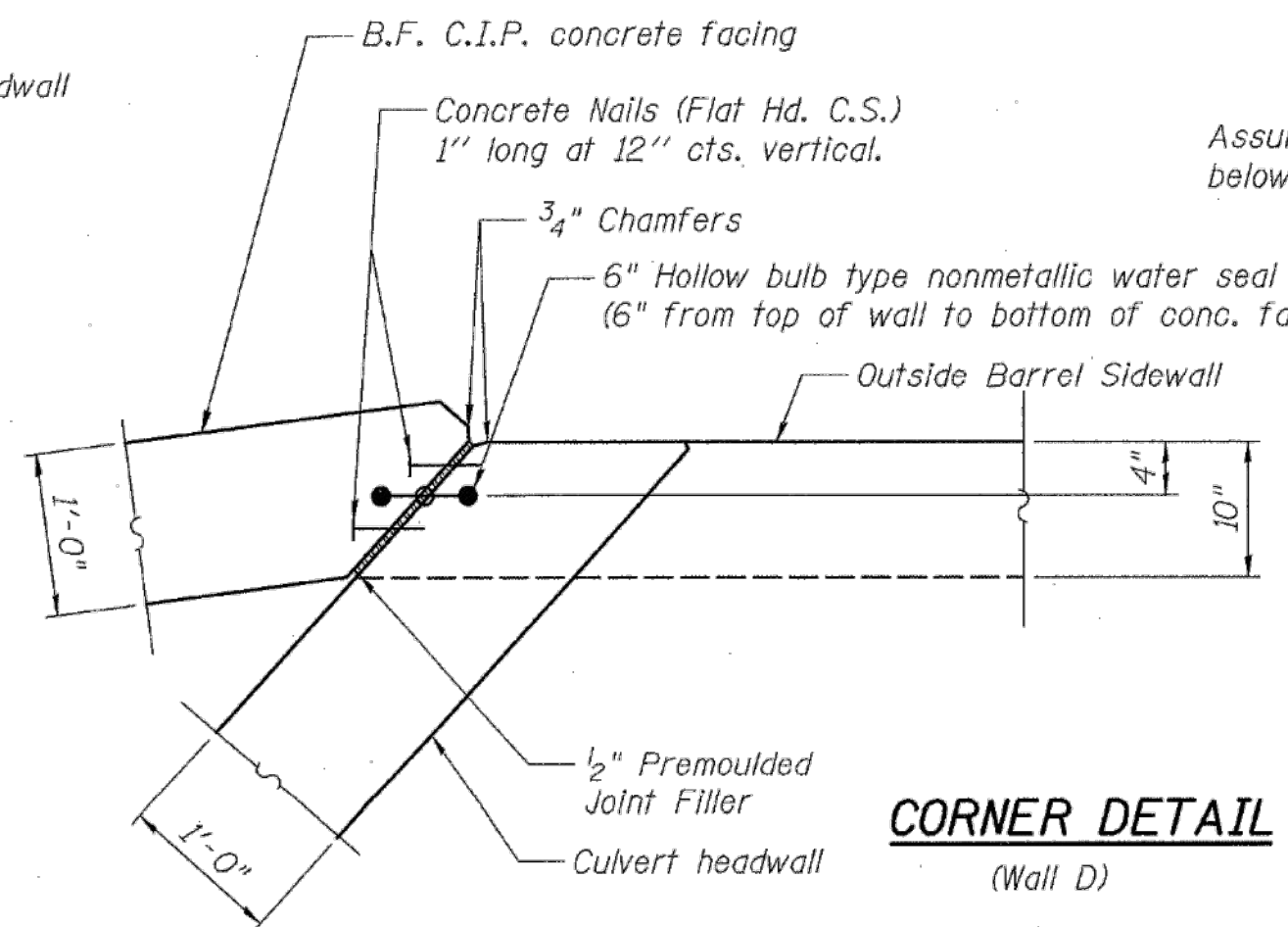
SECTION THRU SOLDIER PILE WALL



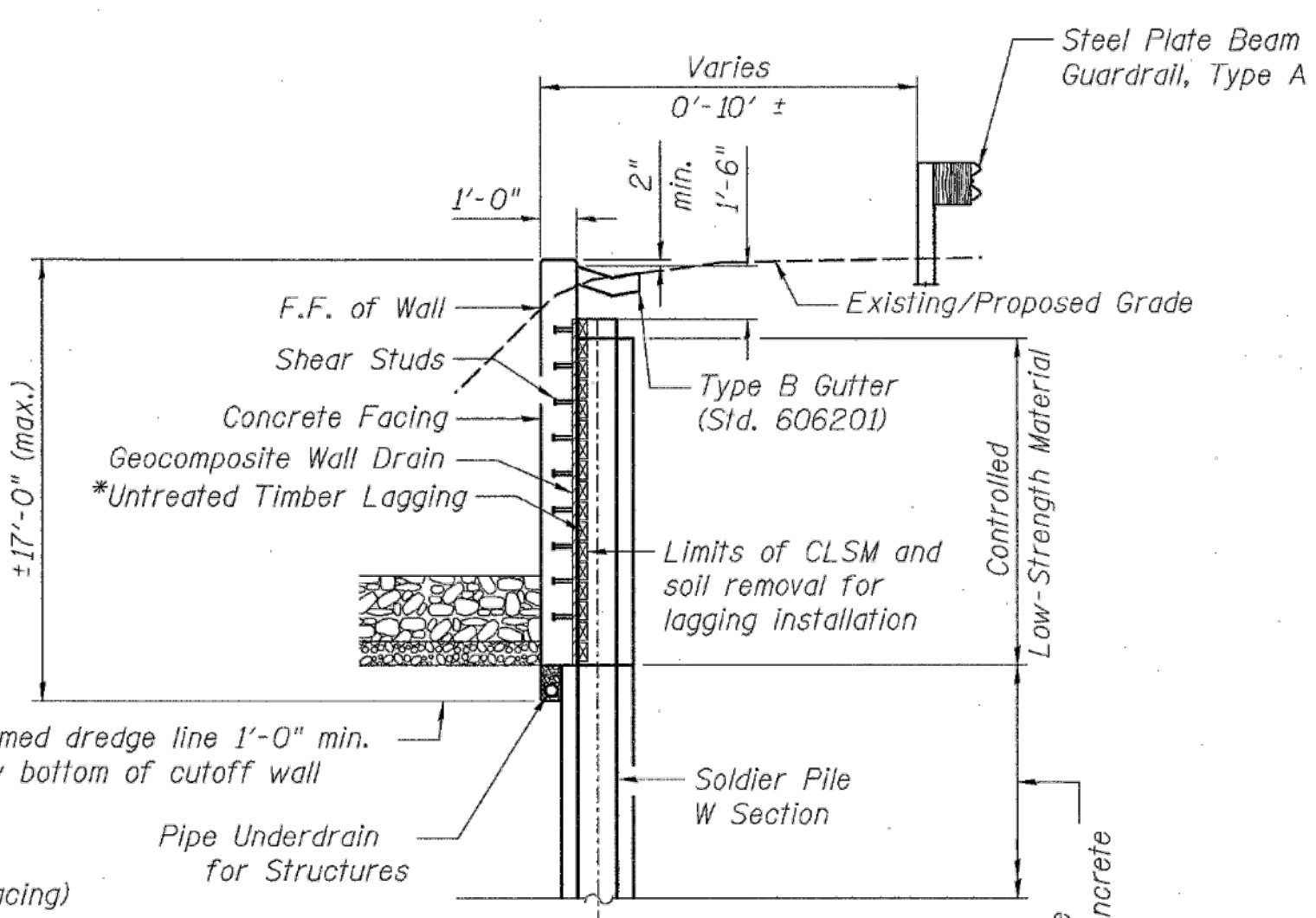
CONSTRUCTION JOINT DETAIL



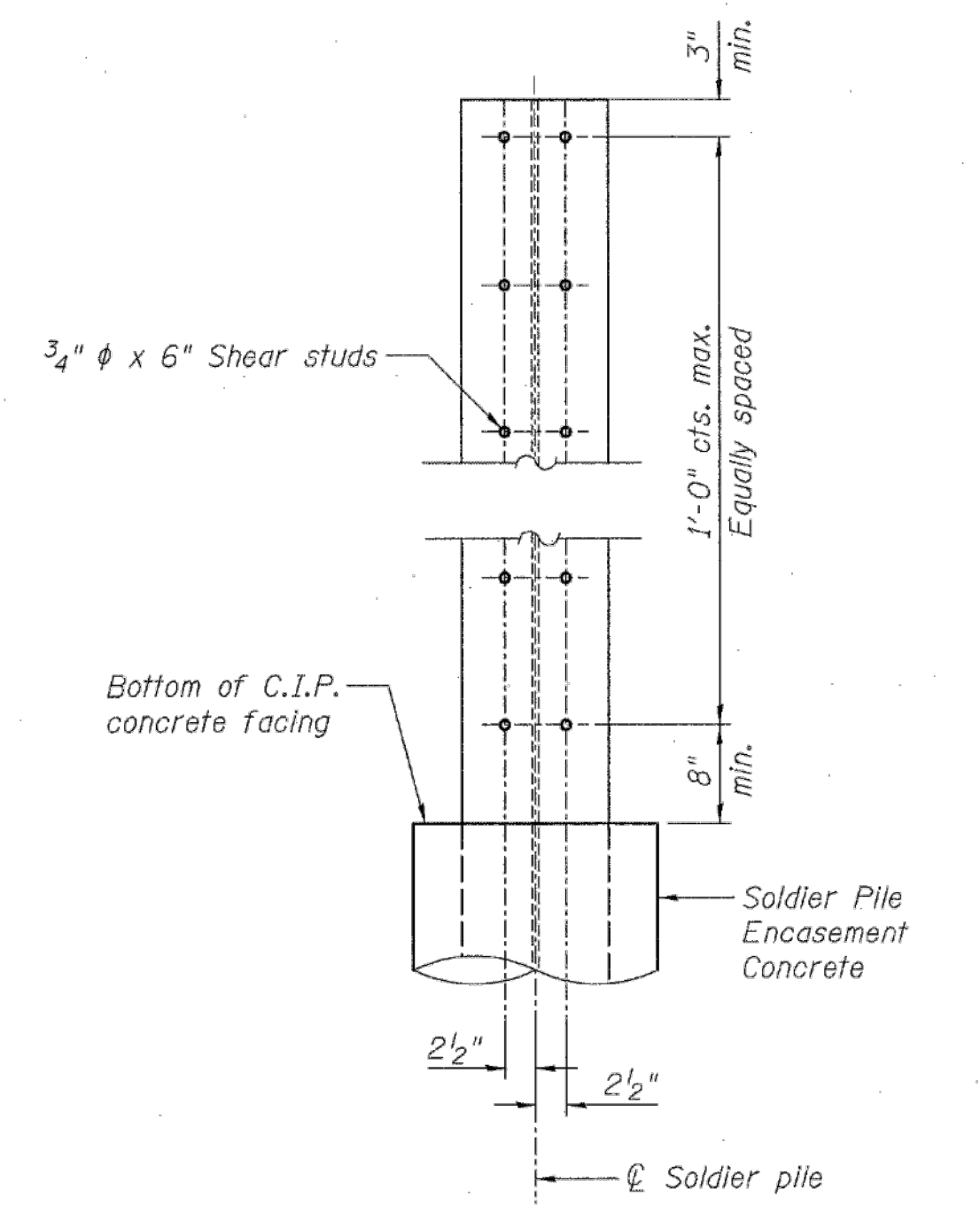
CORNER DETAIL  
(Walls B & C shown.)  
(Wall A Similar.)



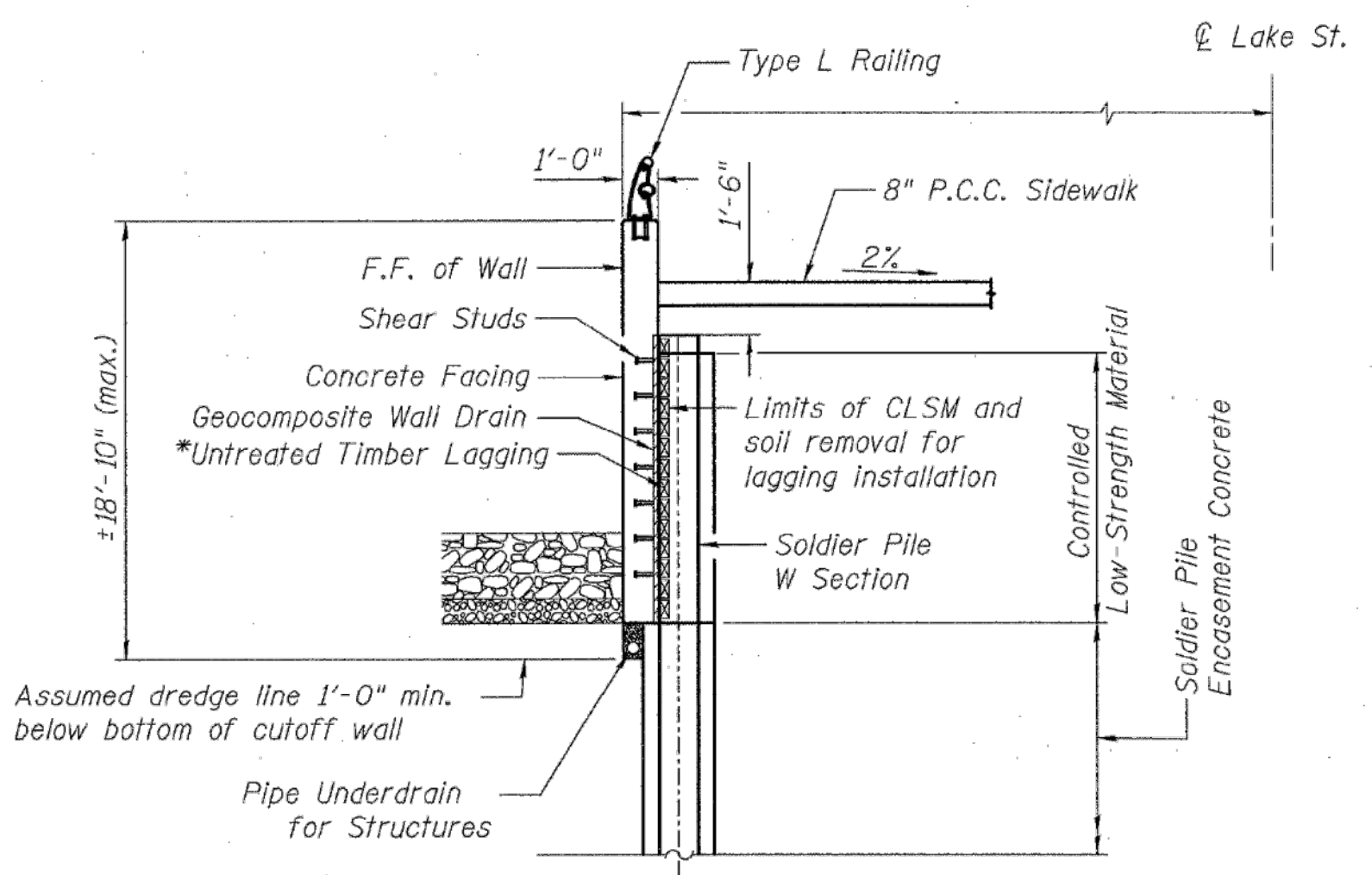
CORNER DETAIL  
(Wall D)



TYPICAL WALL SECTION  
(Wall D)



SHEAR STUD CONNECTION DETAIL



TYPICAL WALL SECTION  
(Walls A, B, & C)  
(Existing grades not shown for clarity.)

WINGWALL DETAILS  
STRUCTURE NO. 016-2630

DESIGNED	JNH
CHECKED	BJM
DRAWN	MWS
CHECKED	BRT



**Wight & Company**  
2500 North Frontage Road, Darien, IL 60561  
630.969.7000 630.969.7979 fax  
Design Firm Registration 184-000451

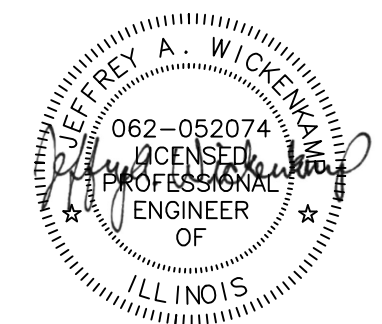
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CONTRACT NO. 60H44					
ILLINOIS FED. AID PROJECT					

METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO

Designed by:	PML	Checked by:	PML	Scale:	NTS
Drawn by:	KSS	Reviewed by:	JAW	Date:	2022
Correct:					

CONTRACT 11-187-3F  
ADDISON CREEK CHANNEL IMPROVEMENTS  
  
IDOT LAKE STREET OVER ADDISON CREEK  
PLANS DATED 01-24-2011

Sheet Number:  
**R-117**  
Page Number: 461



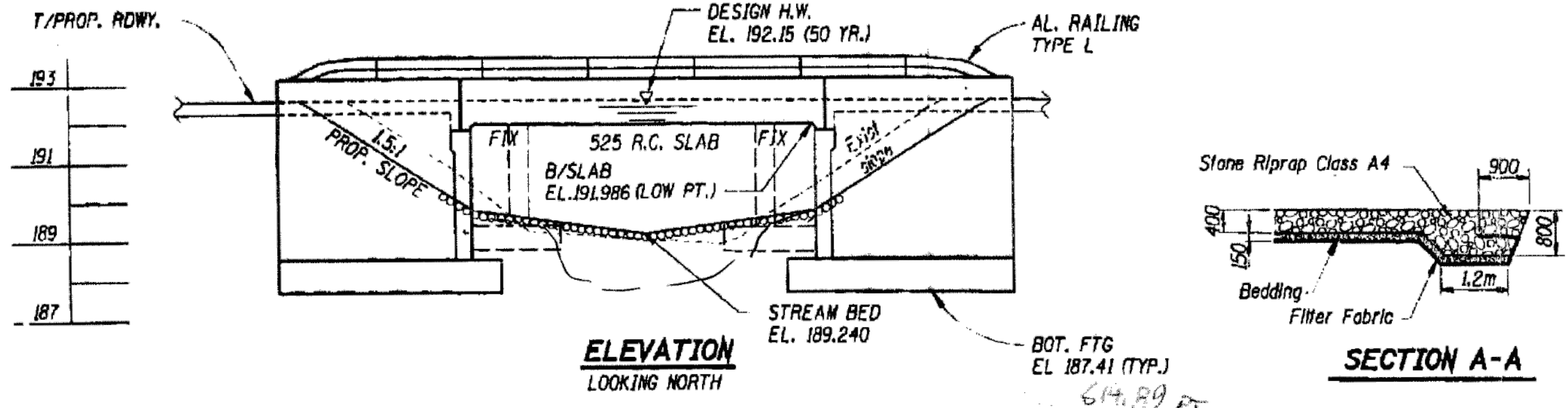
**Hey and Associates, Inc.**  
Engineering, Ecology and Landscape Architecture  
CHICAGO, ILLINOIS 60631  
OFFICE (773) 699-9200  
CHICAGO (773) 699-9200  
CHICAGO@HEYASAC.COM  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 18404287

Rev.	Description	Appr.	Date



PLOT DATE: 9/27/2022 5:22 PM. PLOTTED BY: KYLE SOLNER  
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SPAN R.C. SLAB SUPERSTRUC. ON CLOSED ABUTMENTS. THE ROAD SHALL BE KEPT OPEN TO ONE LANE OF TRAFFIC IN EACH DIRECTION ALL TIMES BY UTILIZING STAGE CONSTRUCTION.  
 NO SALVAGE.  
 FOR STAGING DETAILS, SEE DWG. ST-02.

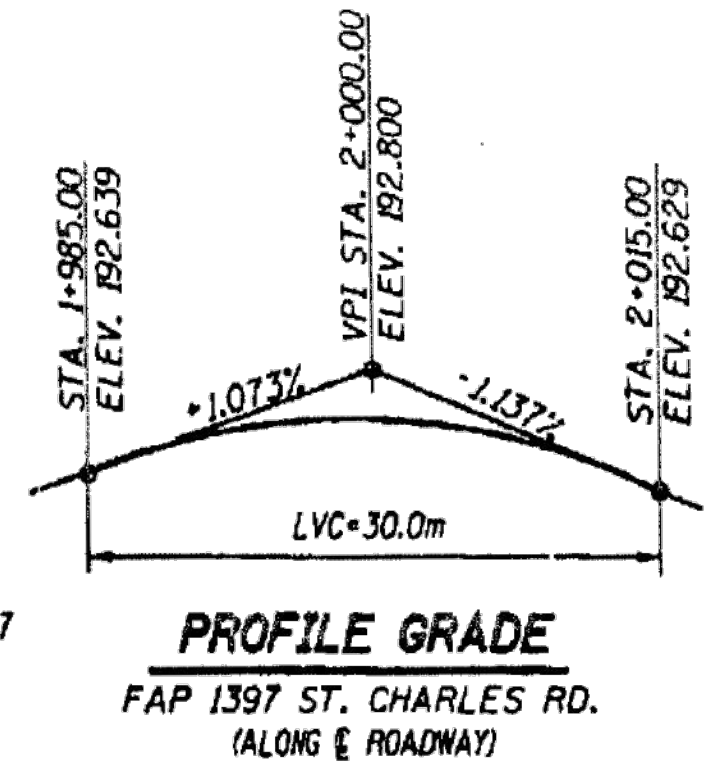
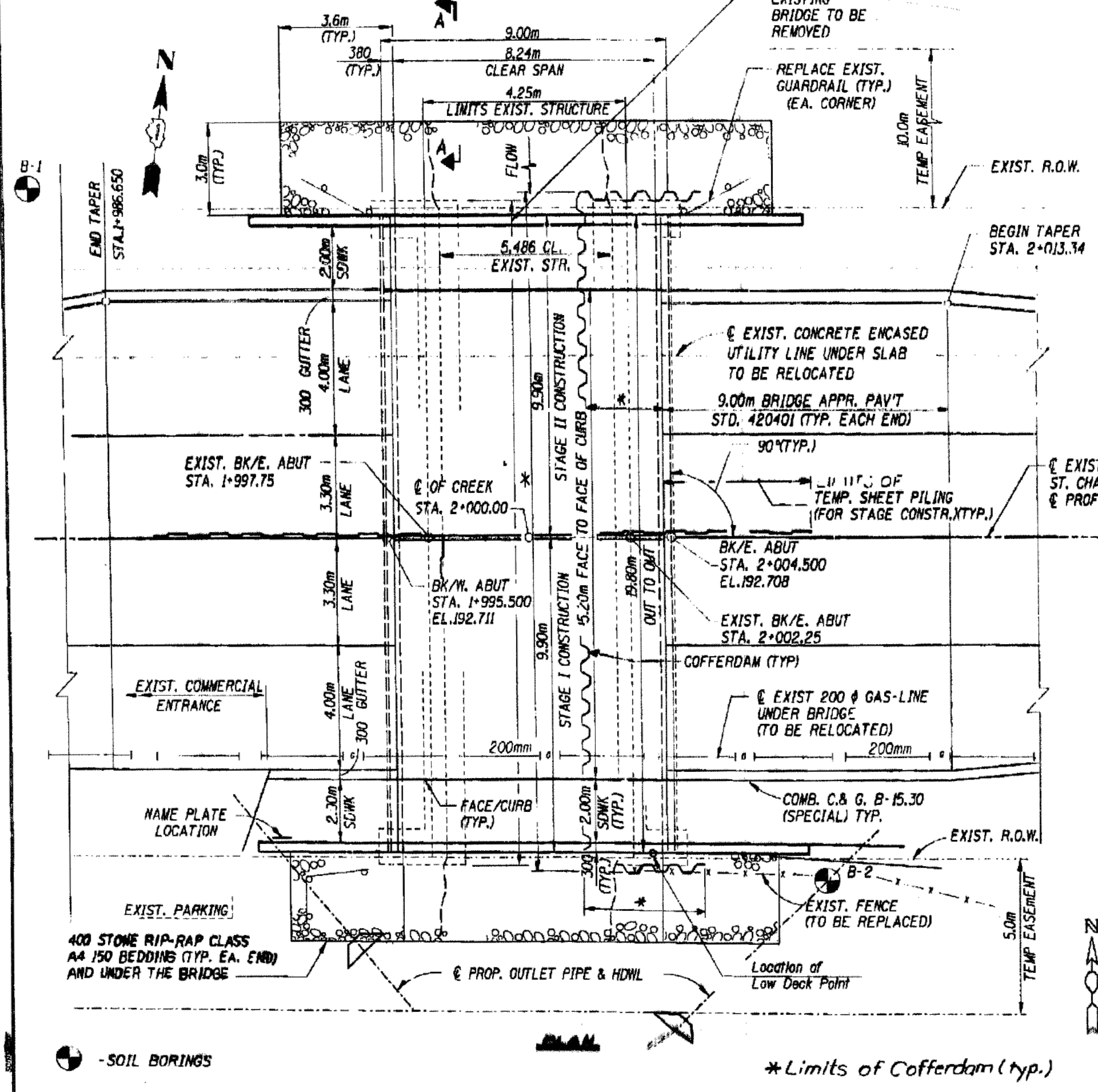


Reinforcement Bars shall conform to the requirements of AASHTO M-31M, M-42M or M-53M Grade 400.  
 All exposed concrete edges shall be chamfered 20mm unless otherwise noted.  
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 Backfill shall be placed behind the abutment after the superstructure has been poured and the falsework removed. See Article 502.10 of Standard Specifications.  
 The back face of Closed Abutment and Wingwalls shall be waterproofed according to Article 503.18 of the Standard Specifications.  
 The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework, in addition to allowance for dead load deflection.  
 All dimensions are in millimeters (mm) except as noted.

FED. RD. DIST. NO. ILLINOIS FED. AID PROJECT

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub	Total
Parous Granular Embankment	m <sup>3</sup>	--	1032	1032
Stone Riprap, Class A4	m <sup>2</sup>	--	540	540
Filter Fabric For Use With Riprap	m <sup>2</sup>	--	760	760
Removal of Existing Structures	Each	---	---	1
Cofferdam Excavation	m <sup>3</sup>	--	1898	1898
Concrete Structures	m <sup>3</sup>	--	182.2	182.2
Concrete Superstructure	m <sup>3</sup>	106.8	--	106.8
Protective Coat	m <sup>2</sup>	195	--	195
Bridge Deck Grooving	m <sup>2</sup>	133	--	133
Reinforcement Bars, Epoxy Coated	kg	12020	20345	32365
Aluminum Railing, Type L	m	33.6	--	33.6
Temporary Sheet Piling	m <sup>2</sup>	--	293	293
Name Plates	Each	1	--	1
Bar Splicers	Each	--	92	92
Cofferdams	Each	--	2	2
Geocomposite Wall Drain	m <sup>2</sup>	--	203	203
Pipe Underdrain 150mm	m	--	55	55



**NAME PLATE**  
 See Std. 515001

**INDEX OF DRAWINGS**

Dwg. No.	Title
ST-01	General Plan and Elevation
ST-02	Footing Layout & Staging Details
ST-03	Temporary Concrete Barriers
ST-04	Top of Slab Elevations-I
ST-05	Top of Slab Elevations-II
ST-06	Deck Details
ST-07	Aluminum Railing, Type L
ST-08	Abutment Details
ST-09	Abutment and Wingwall Details
ST-10	Bar Splicer Assembly Details
ST-11	Boring Logs

**SI UNITS HYDRAULIC DATA**

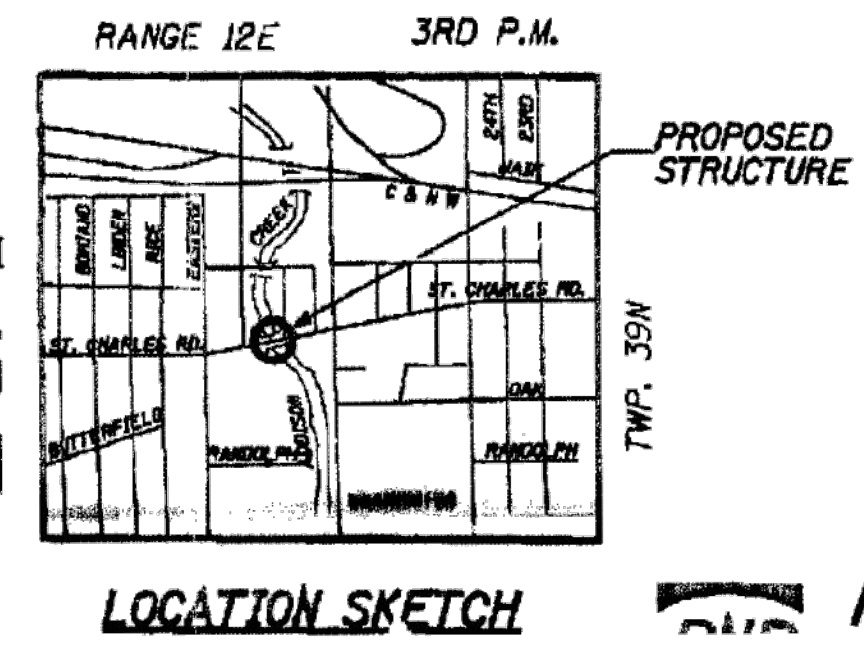
FLOOD FREQ. (YRS.)	DRAINAGE AREA (Sq. Km)	OPENING SQ. m		LOW GRADE: 192.36m NAT. HEAD - m		ST. 2+075 HEADWATER EL.			
		EXIST.	PROP.	H.W.E.	EXIST.	PROP.	EXIST.	PROP.	
10	15	9.5	13.2	191.57	0.12	0.06	191.69	191.63	
DESIGN	50	22	9.5	15.7	192.15	0.24	0.09	192.39	192.24
BASE	100	26	9.5	15.7	192.27	0.24	0.15	192.51	192.42
OVERTOPPING	50<100								
MAX. CALC.	500	34	9.5	15.7	192.51	0.12	0.09	192.63	192.60

**DESIGN SPECIFICATIONS**  
 1996 AASHTO W/ 1997 & 1998 INTERIMS

**LOADING MS18**  
 ALLOW 2.4KN/m<sup>2</sup> FOR FUTURE WEARING SURFACE.

**DESIGN STRESSES**  
 FIELD UNITS:  
 F'C = 24MPa  
 F'Y = 400MPa(Reinf.)

**SEISMIC DATA**  
 SEISMIC PERFORMANCE CATEGORY (SPC) = A  
 BEDROCK ACCELERATION COEFFICIENT (A) = 3.3%  
 SITE COEFFICIENT (S) = 1.0



Patel and Pellizzari, Inc.

DWG. ST-01 of 11

**REVISIONS**

NO.	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**GENERAL PLAN AND ELEVATION**  
 ST. CHARLES RD. OVER ADDISON CREEK  
 FAP ROUTE 1397 SECTION 1888-R  
 COOK COUNTY  
 STA. 2+000.000 STR. NO. 016-2714  
 SCALE: NONE

Rev. Description Appr. Date


**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: PML  
 Checked by: PML  
 Scale: NTS

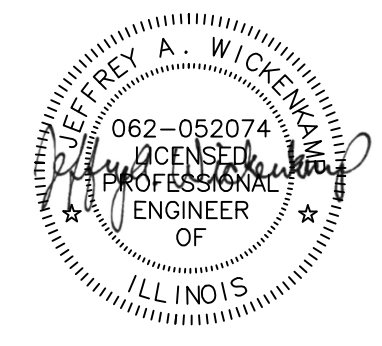
Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022

Correct:

Professional Design Firm  
 LICENSE NO. 18406287

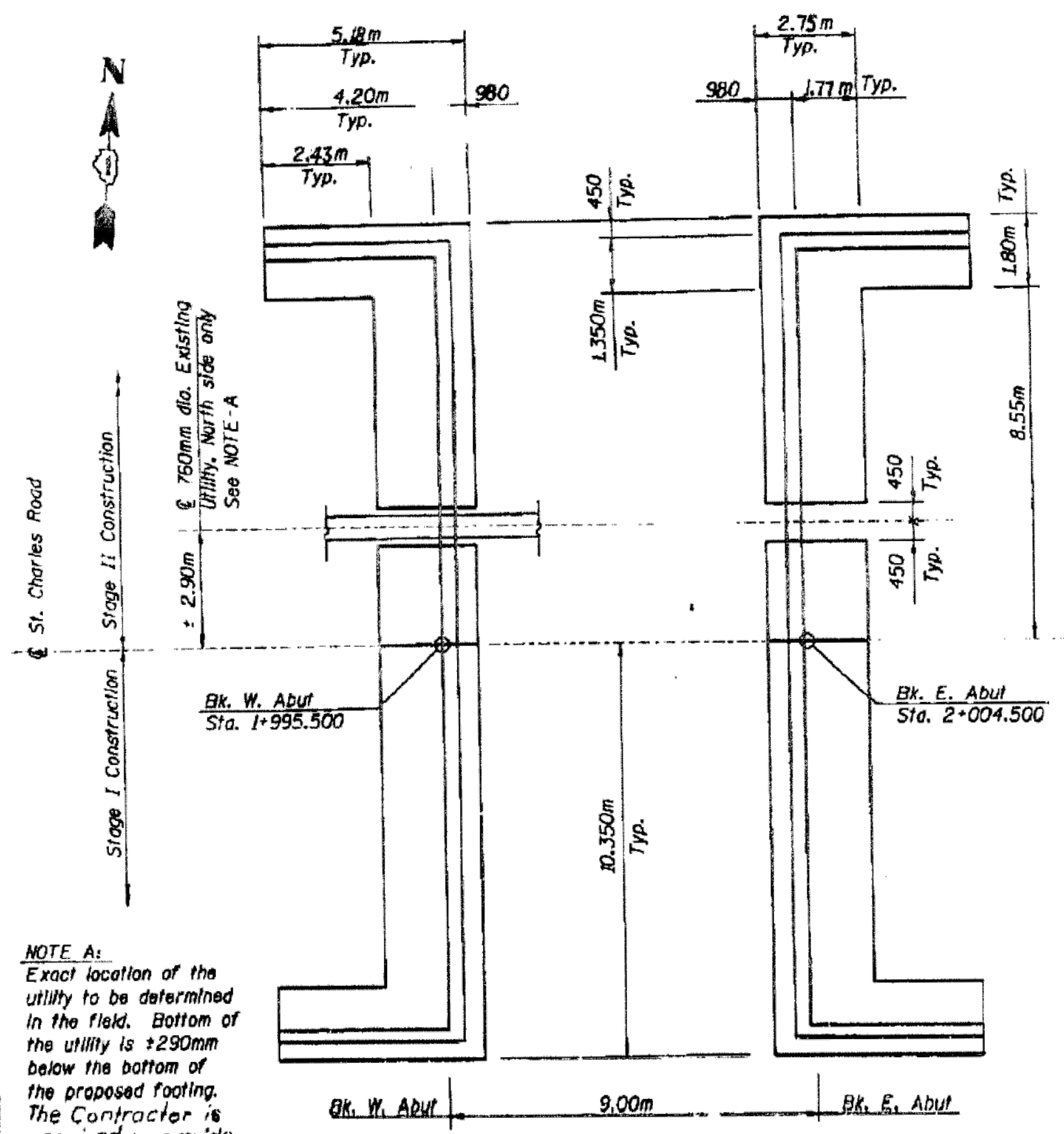
**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT ST. CHARLES ROAD OVER ADDISON CREEK PLANS DATED 10-13-2000**



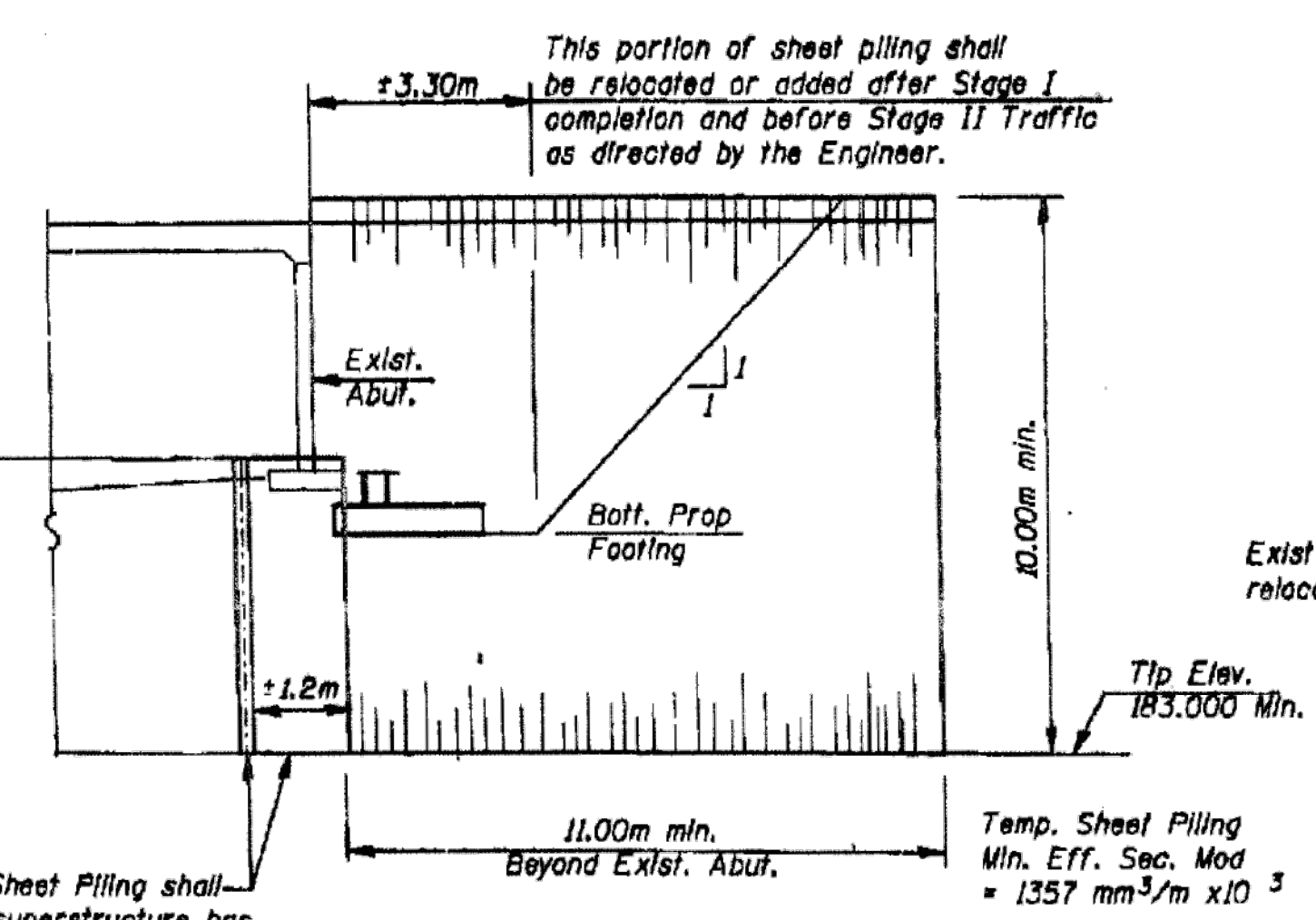


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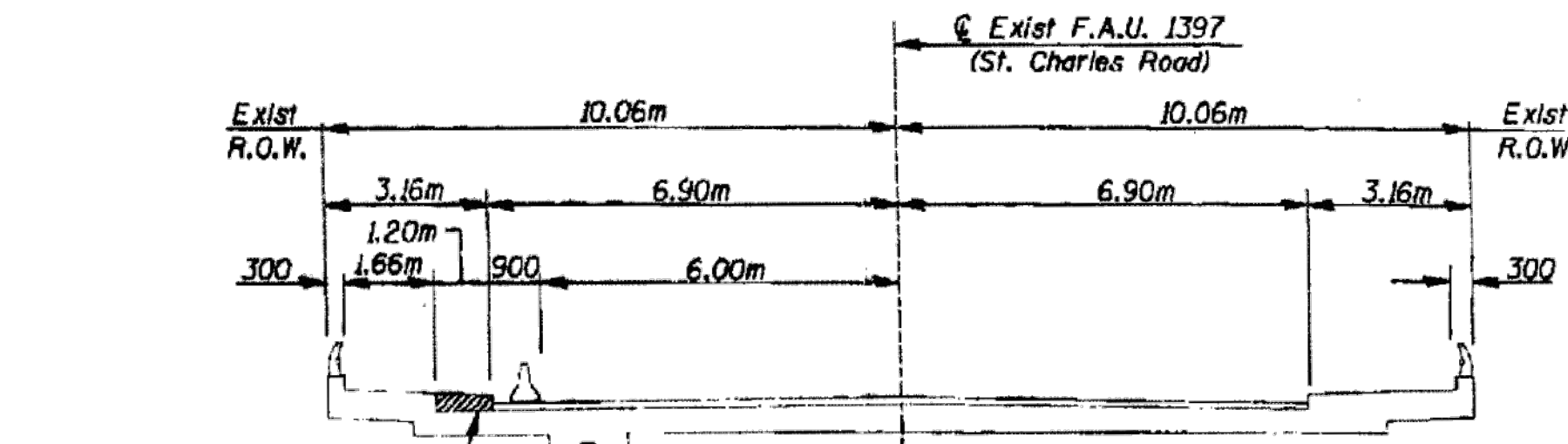
**FOOTING LAYOUT**

**NOTE A:**  
 Exact location of the utility to be determined in the field. Bottom of the utility is +290mm below the bottom of the proposed footing. The Contractor is required to provide details, design and solution to the seepage of water in the vicinity of this utility line during the cofferdam installation. The Contractor should take precaution not to do any existing utility line during construction of the Cofferdam. Cost is included with Cofferdam.



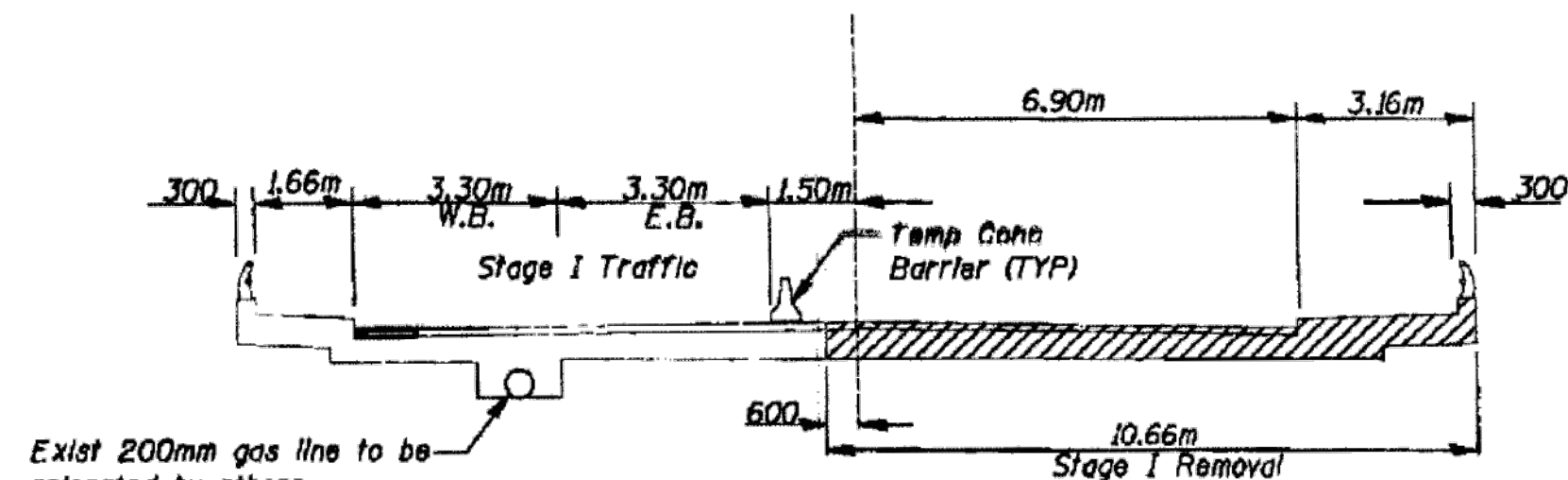
**TEMPORARY SHEET PILING ELEVATION**

**NOTES:**  
 Saw cut abutments at stage removal line prior to any removal of existing superstructure. Excavate behind the abutment footing prior to removal of Stage I or II Superstructure. Cost included with Removal of Existing Structures. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans for lesser design requirements, then full design submittals with required seals will be expected by the Department, for review and approval.

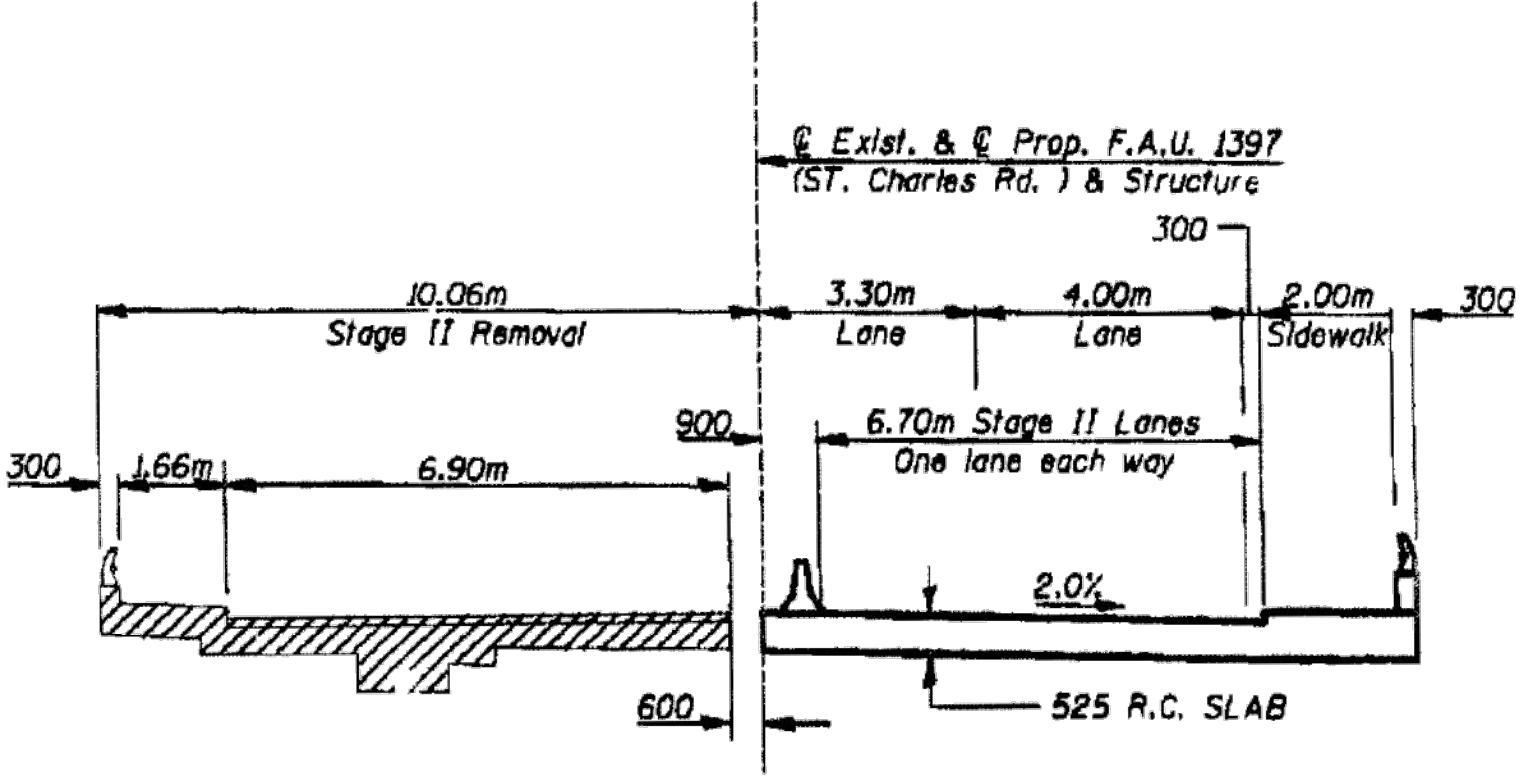


**EXISTING CROSS SECTION PRE-STAGE I-A LOOKING EAST**

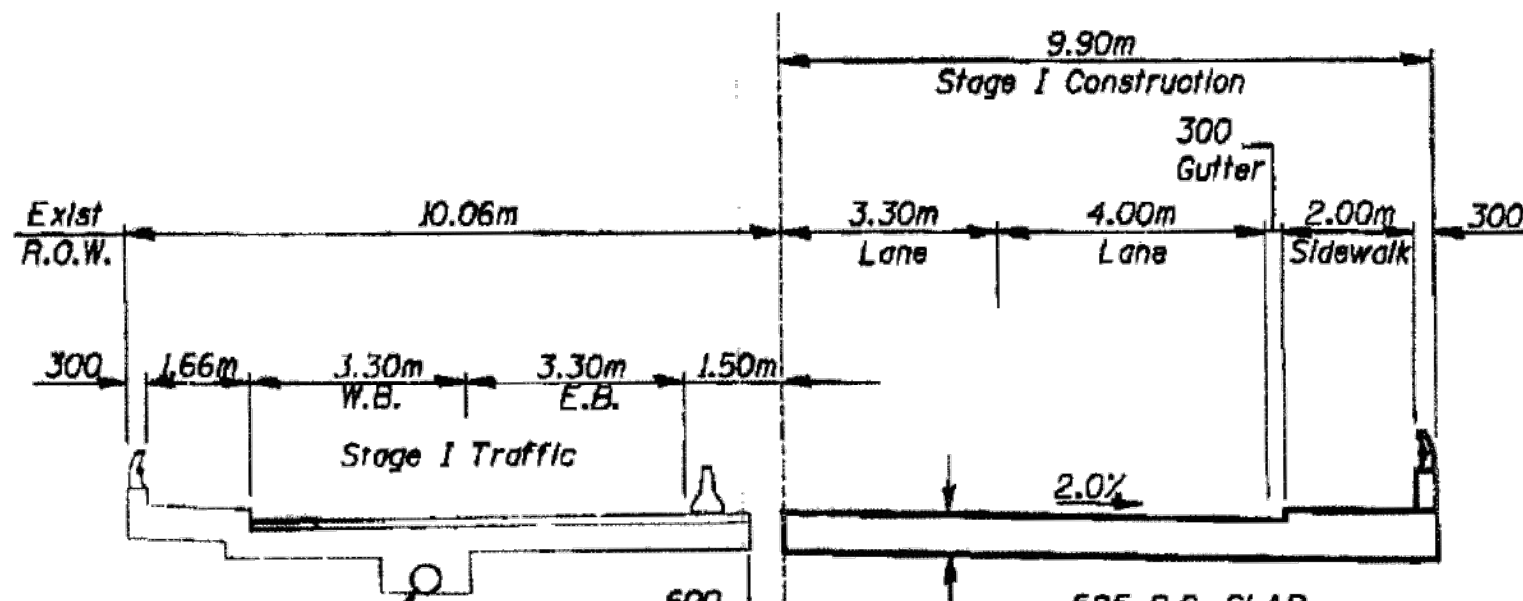
Exist curb & gutter removal. Temporary widening shall be constructed placing bituminous to the top of bridge deck. See Roadway Plans.



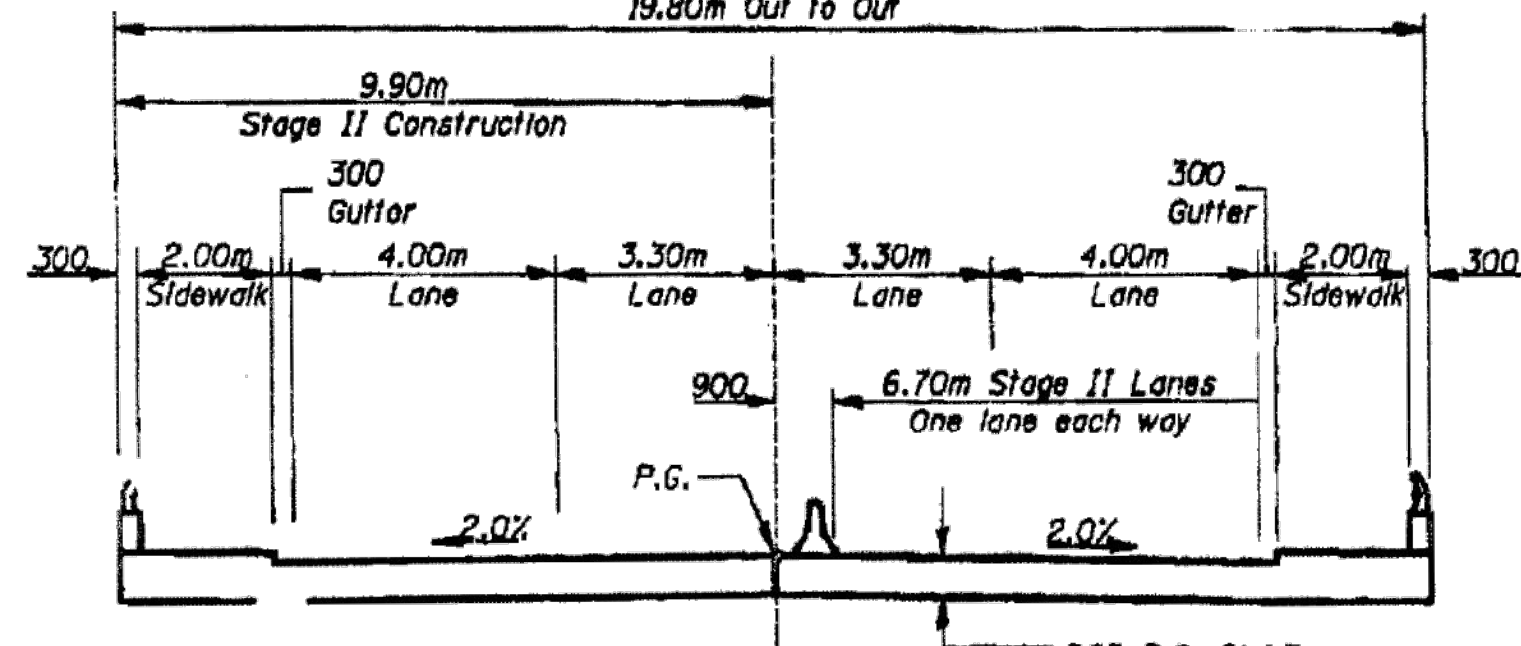
**EXISTING CROSS SECTION STAGE I - REMOVAL LOOKING EAST**



**EXISTING & PROPOSED CROSS SECTION STAGE II - REMOVAL LOOKING EAST**



**EXISTING & PROPOSED CROSS SECTION STAGE I - CONSTRUCTION LOOKING EAST**



**PROPOSED CROSS SECTION STAGE II - CONSTRUCTION LOOKING EAST**

Notes: For quantity of Temporary Concrete Barrier, see roadway plans.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Removal of Existing Structures	Each	1
Temporary Sheet Piling	m <sup>3</sup>	293

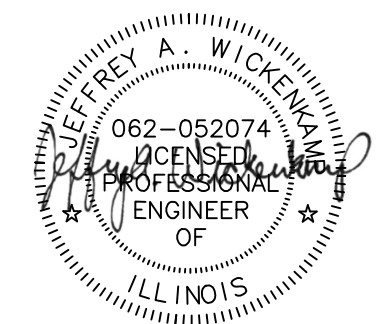
DWG. ST-02 of 11

**REVISIONS**

NAME	DATE

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**FOOTING LAYOUT & STAGING DETAILS**  
 ST. CHARLES RD. OVER ADDISON CREEK  
 FAU ROUTE 1397 SECTION 168B-R  
 COOK COUNTY  
 STA 2+000.000 STR. NO. 018-2714  
 Scale: NONE  
 Date: Drawn by: Checked by: QAQC by:

**PNP Patel and Pellizzari, Inc.**  
 Consulting Engineers & Architects



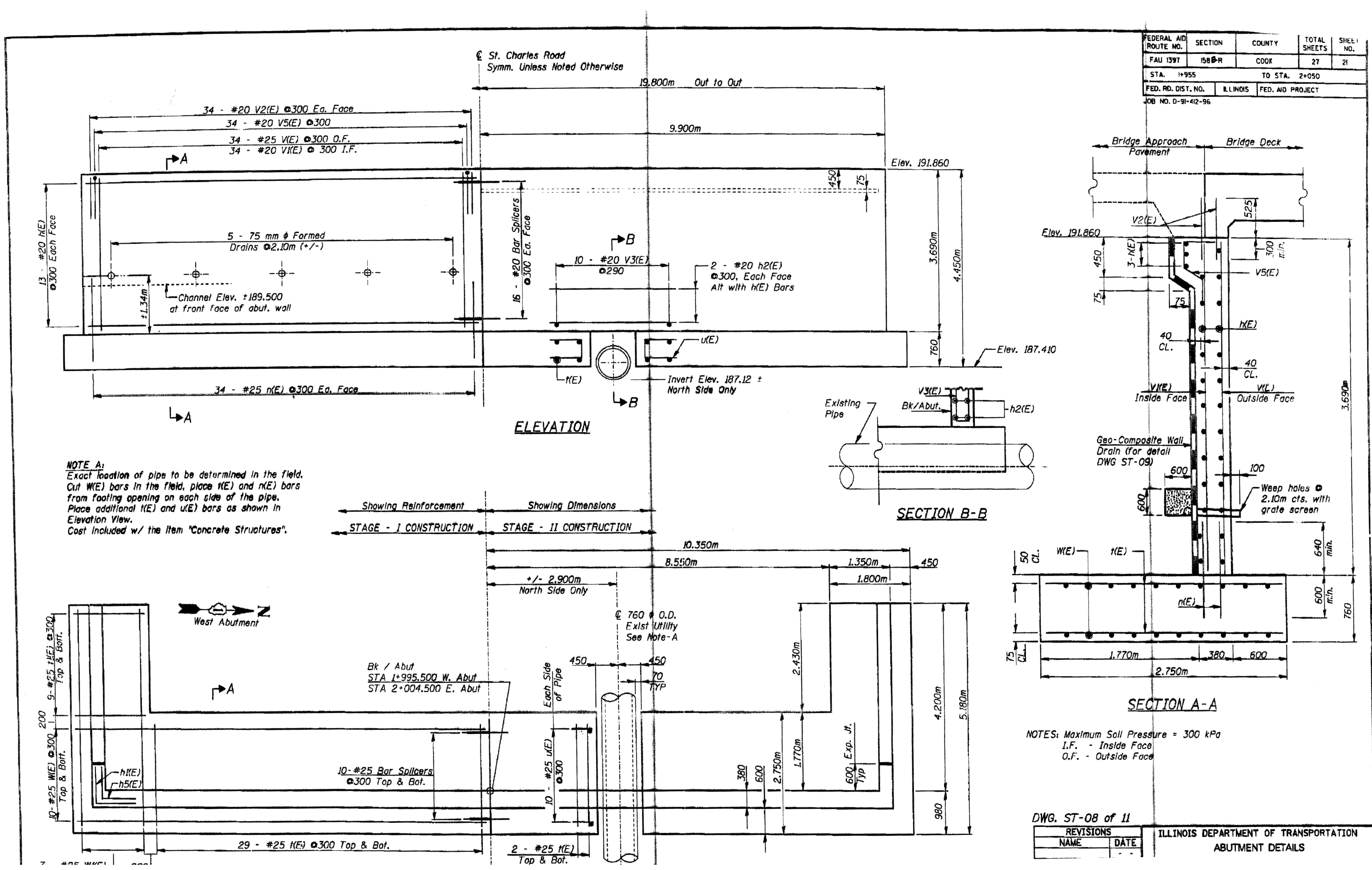
Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**  
 Designed by: PML  
 Checked by: NTS  
 Drawn by: KSS  
 Reviewed by: JAW  
 Correct:   
 Scale: NTS  
 Date: 2022  
**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 PROFESSIONAL DESIGNER, P.E.  
 LICENSE NO. 18404229

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS  
 IDOT ST. CHARLES ROAD OVER ADDISON CREEK  
 CREEK PLANS DATED 10-13-2000

Sheet Number:  
**R-120**  
 Page Number: 464

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FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 1397	158-R	COOK	27	21
STA. 1+955	TO STA. 2+050			
FED. RD. DIST. NO.	ILLINOIS	FED. AID PROJECT		
JOB NO. D-91-412-96				

**NOTE A:**  
 Exact location of pipe to be determined in the field. Cut W(E) bars in the field, place h(E) and n(E) bars from footing opening on each side of the pipe. Place additional h(E) and u(E) bars as shown in Elevation View. Cost Included w/ the item "Concrete Structures".

NOTES: Maximum Soil Pressure = 300 kPa  
 I.F. - Inside Face  
 O.F. - Outside Face

DWG. ST-08 of 11

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 ABUTMENT DETAILS

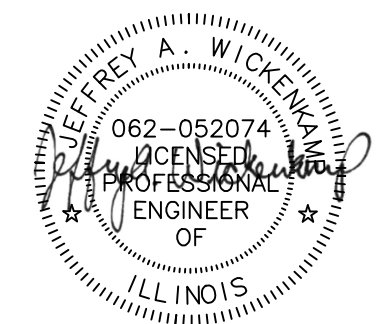
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Designed by: PML  
 Checked by: PML  
 Scale: NTS  
 Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022  
 Correct: JAW

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 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 LICENSE NO. 184062829

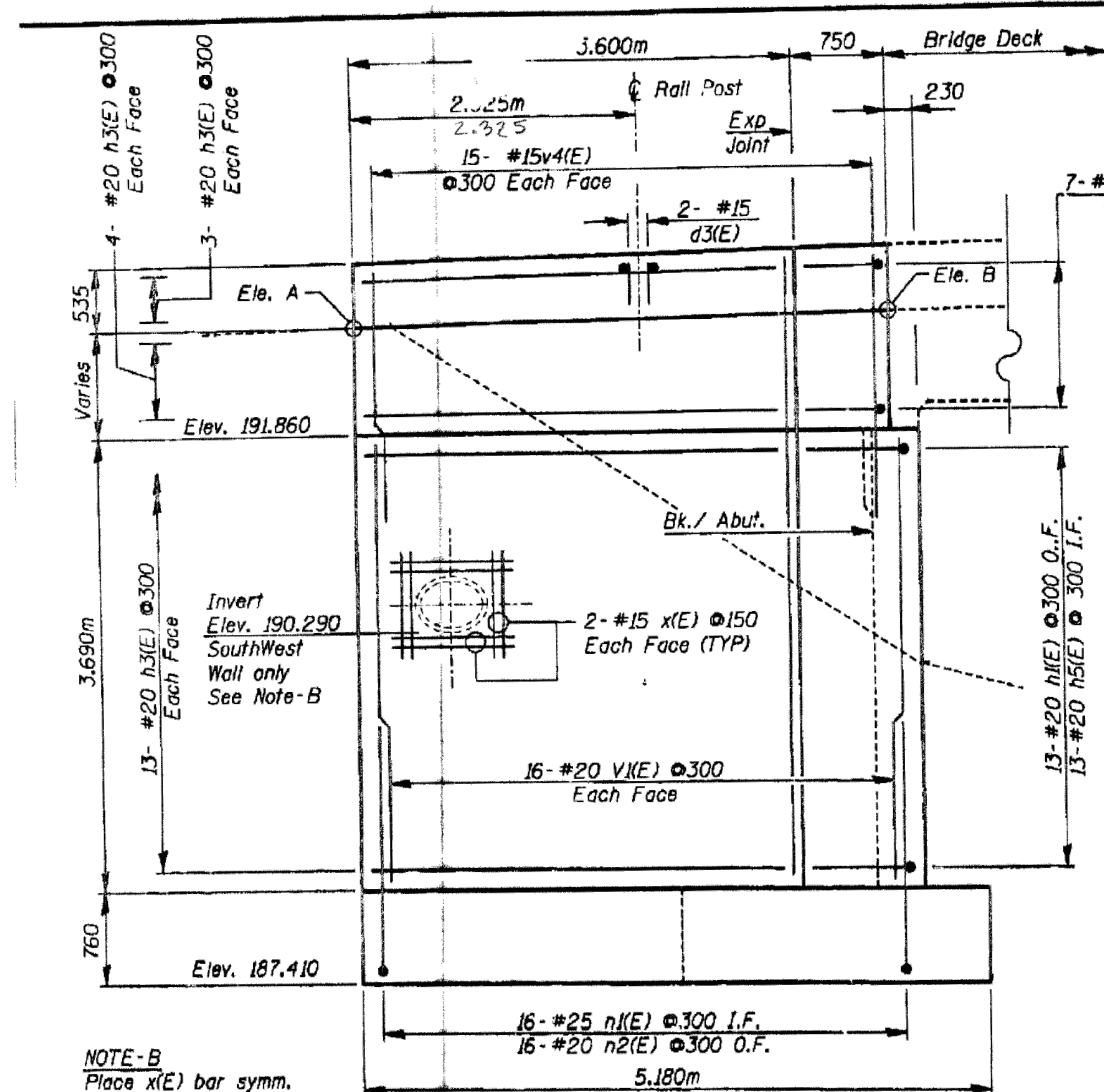
CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT ST. CHARLES ROAD OVER ADDISON CREEK PLANS DATED 10-13-2000



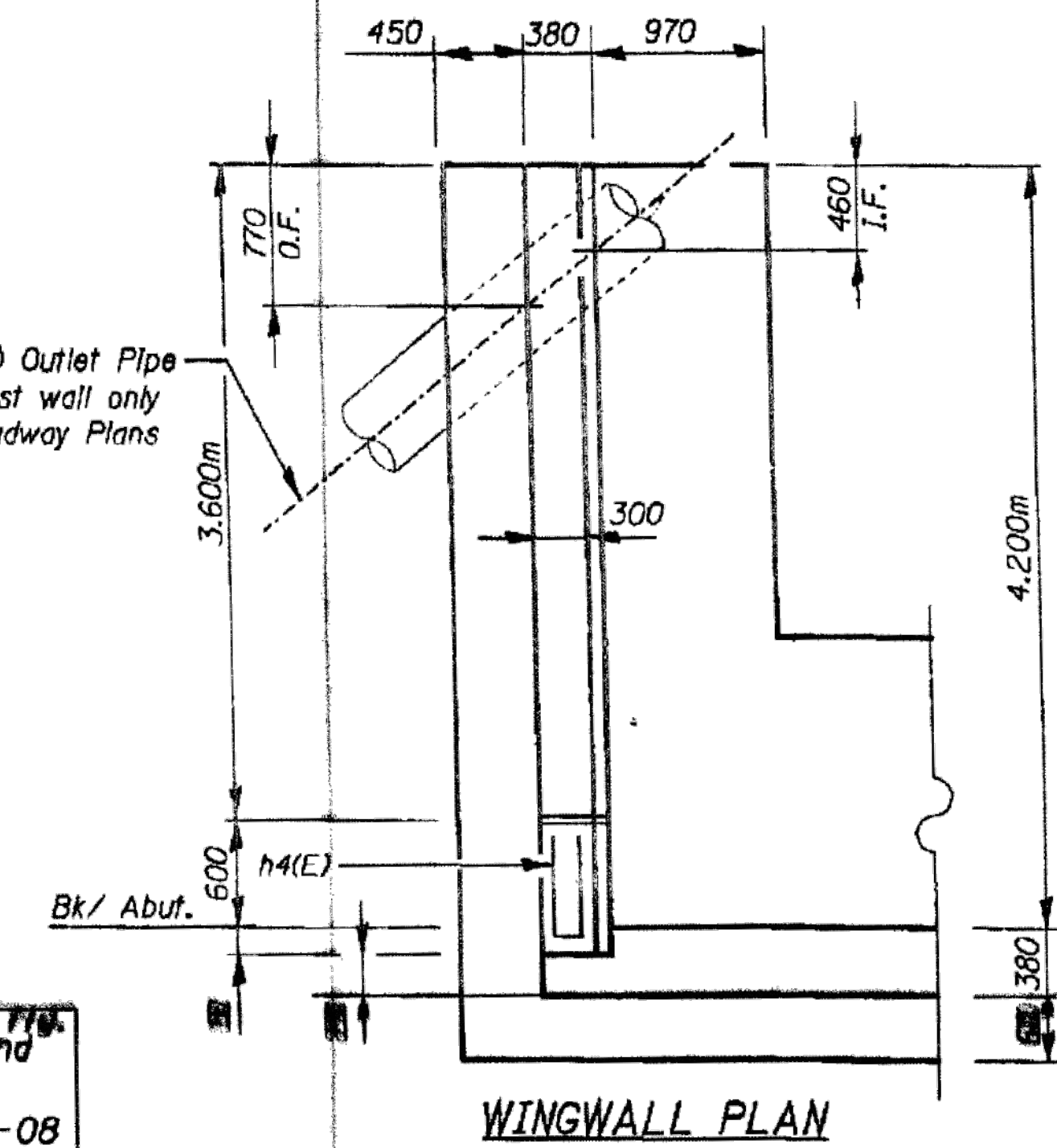
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**R-121**  
 Page Number: 465

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**WINGWALL ELEVATION**

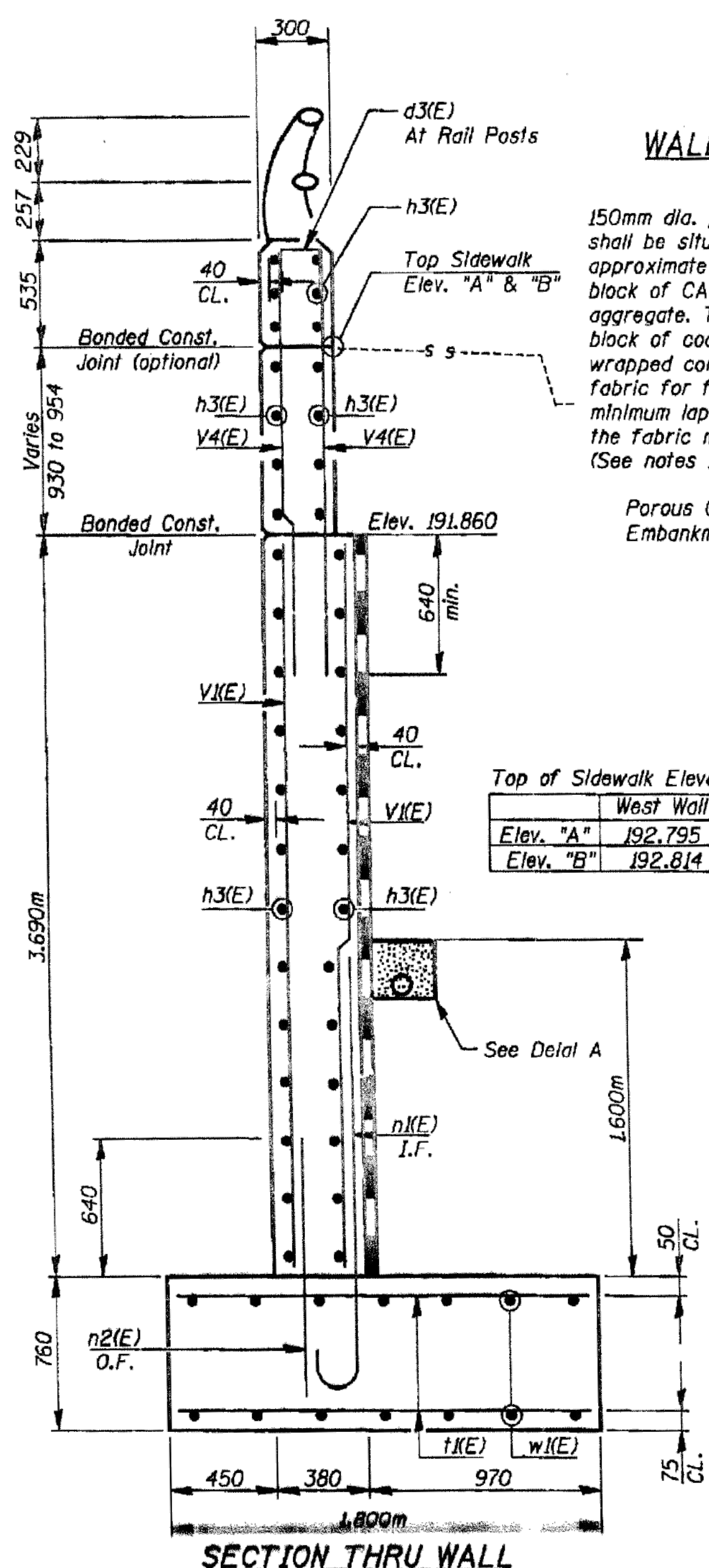
**NOTE-B**  
 Place x(E) bar symm. around the pipe. Cut V(E) bars and bend x(E) bars in the field as directed by the engineer.



**WINGWALL PLAN**

For wingwall dimensions and reinforcement bars, see DWG ST-08

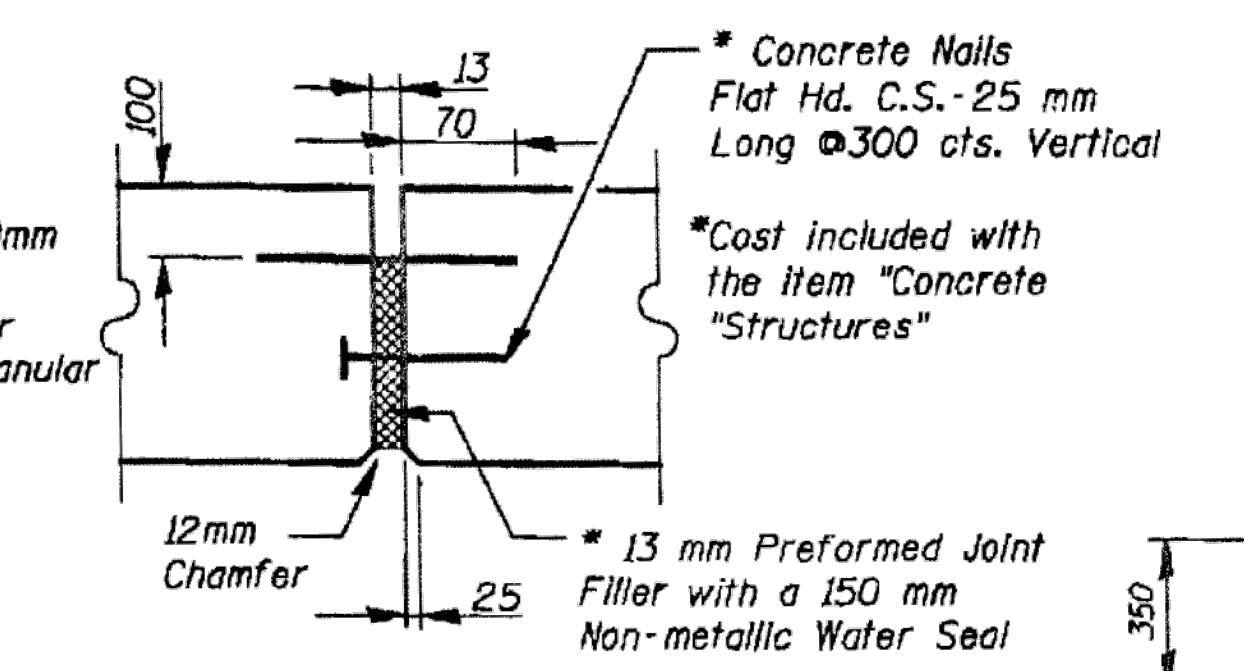
**NOTE:**  
 1. Geotechnical fabric for french drain is included in the cost of Pipe Underdrain 150mm  
 2. Coarse aggregate CA-5, CA-7 to be used for french drain is included in cost of Porous Granular Embankment.



**SECTION THRU WALL**

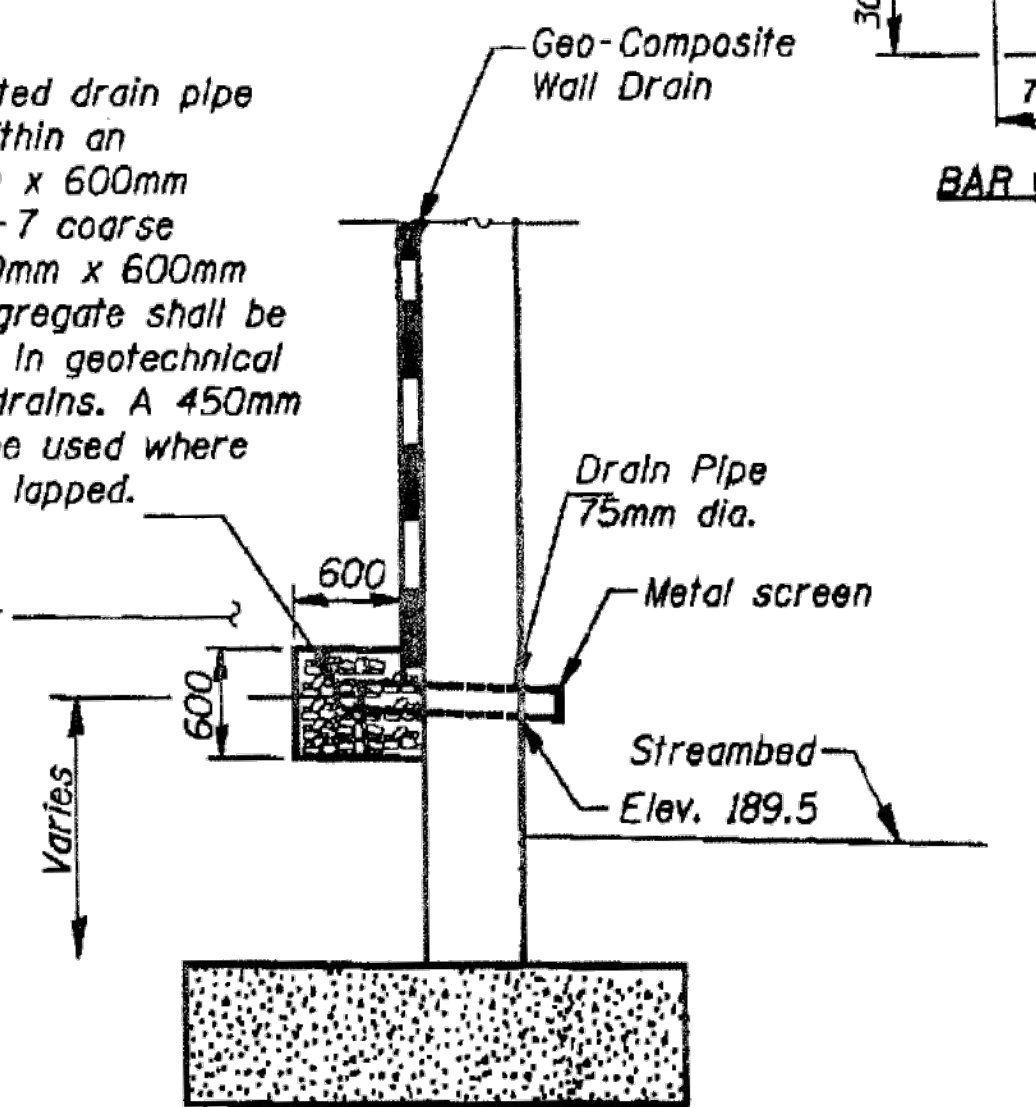
Top of Sidewalk Elevations

	West Wall	East Wall
Elev. "A"	192.795	192.790
Elev. "B"	192.814	192.811

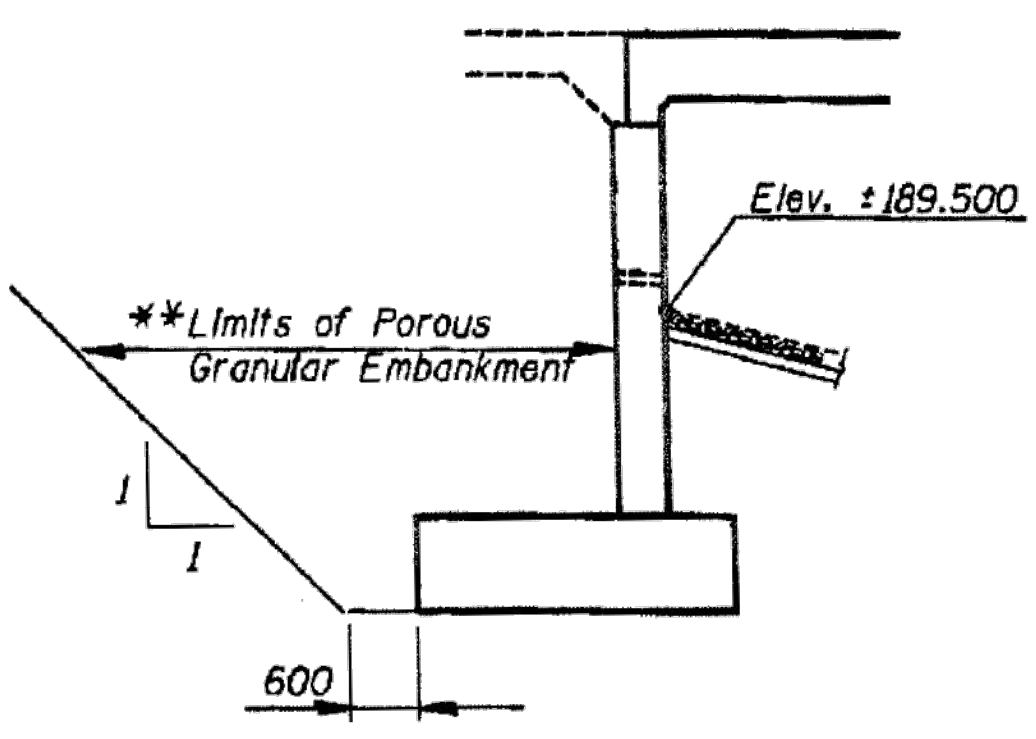


**WALL EXPANSION JOINT DETAIL**

150mm dia. perforated drain pipe shall be situated within an approximate 600mm x 600mm block of CA-5, CA-7 coarse aggregate. The 600mm x 600mm block of coarse aggregate shall be wrapped completely in geotechnical fabric for french drains. A 450mm minimum lap shall be used where the fabric must be lapped. (See notes 1 & 2)



**DETAIL A**



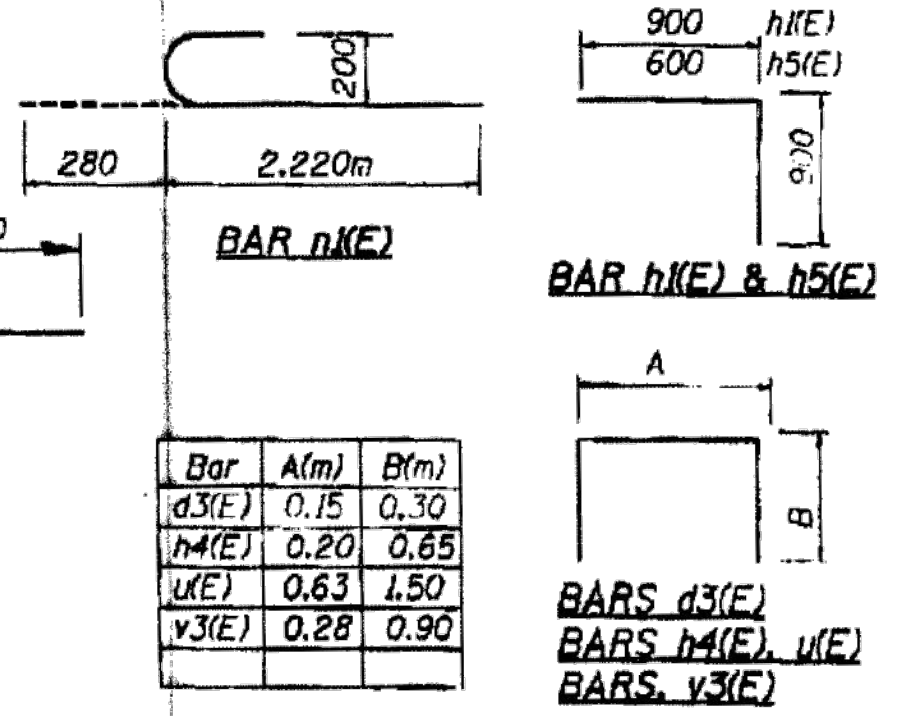
**LIMITS OF POROUS GRANULAR EMBANKMENT**

\*\* Excavation for placing Porous Granular Embankment is paid for as per contract documents.

**PNP Patel and Pellizzari, Inc.**  
 Consulting Engineers & Architects

FEDERAL AID ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 1597	15B-R	COOK	27	22

STA. 1+955 TO STA. 2+050  
 FED. RD. DIST. NO. ILLINOIS FED. AID PROJECT  
 JOB NO. D-91-412-96



**BILL OF MATERIAL**

For Both Abutments and all Wingwalls

Bar	No.	Size	Length(m)	Shape
d3(E)	8	#15	0.75	
h(E)	104	#20	9.80	
h2(E)	52	#20	1.80	
h3(E)	8	#20	2.70	
h3(E)	160	#20	3.50	
h4(E)	28	#20	1.50	
h5(E)	52	#20	1.50	
n(E)	272	#25	1.30	
n2(E)	64	#25	2.50	
n2(E)	64	#20	1.30	
v(E)	248	#25	2.65	
v2(E)	72	#25	1.70	
v(E)	136	#25	3.63	
v2(E)	264	#20	3.63	
v2(E)	272	#20	0.90	
v3(E)	20	#20	2.08	
v4(E)	120	#15	2.10	
v5(E)	136	#20	1.12	
x(E)	40	#25	3.63	
w(E)	80	#25	10.30	
w2(E)	56	#25	5.00	
x(E)	16	#15	1.40	

Excavation	m <sup>3</sup>	1202
Concrete Structures	m <sup>3</sup>	182.2
Reinforcement Bars, Epoxy Coated	kg	20,345
Porous Granular Embankment	m <sup>3</sup>	847
Bar Splicer	Each	92
Pipe Underdrain 150mm	m	55
Geocomposite Wall Drain	m <sup>2</sup>	203

**NOTES:**  
 Reinforcement bars designated (E) shall be epoxy coated.  
 All dimensions are in millimeters (mm) except as noted.  
 I.F. Inside Face  
 O.F. Outside Face

DWG. ST-09 of 11

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 ABUTMENT AND WINGWALL DETAILS  
 AT CHARLES ROAD OVER ADDISON CREEK  
 FAU ROUTE 1597 SECTION 15B-R  
 COOK COUNTY  
 STA 2+000.000 STR. NO. 018-2714  
 Scale: NONE  
 Date: Drawn by: V.B.P.  
 Checked by: V.D.P.

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

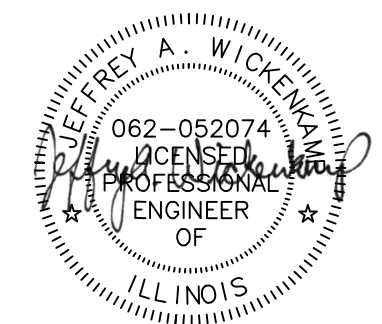
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 Reviewed by: JAW  
 Date: 2022  
 Correct:

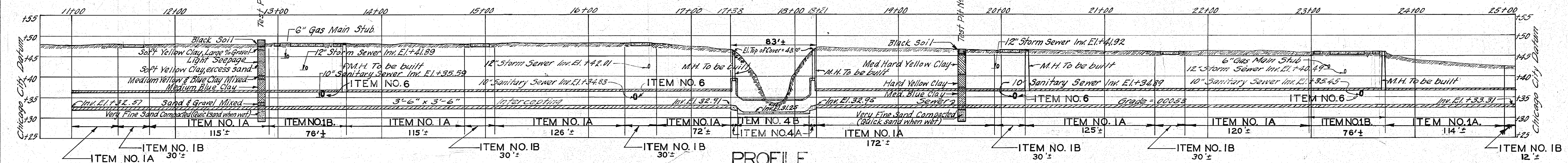
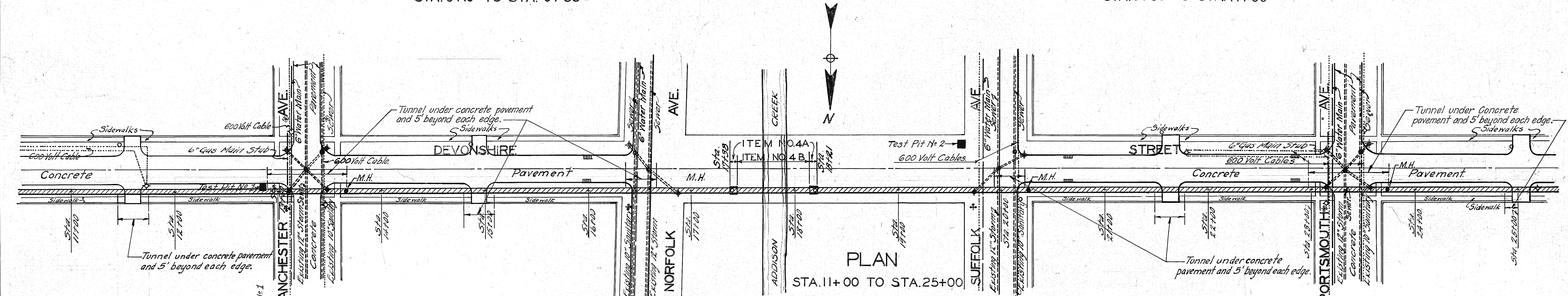
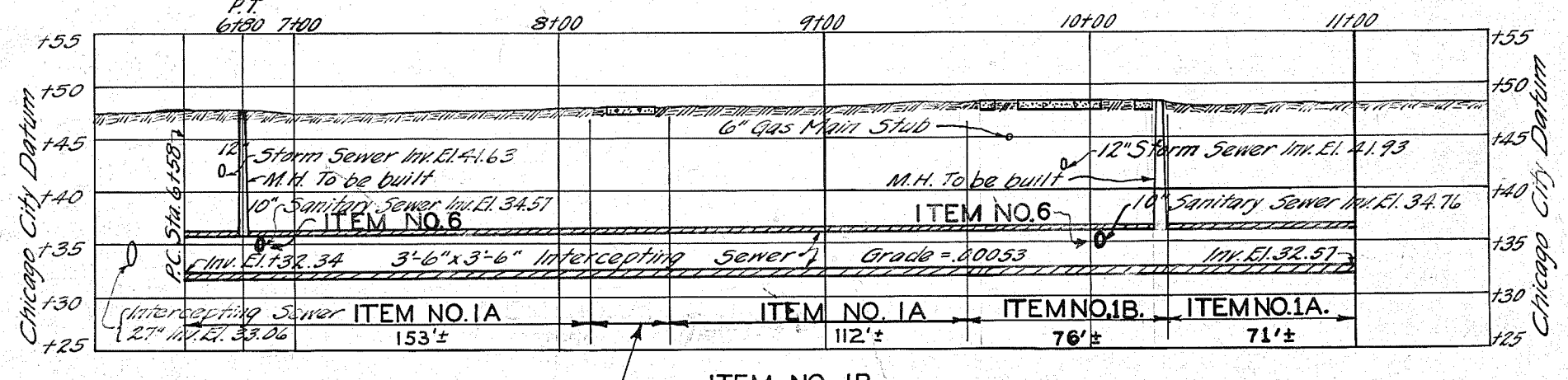
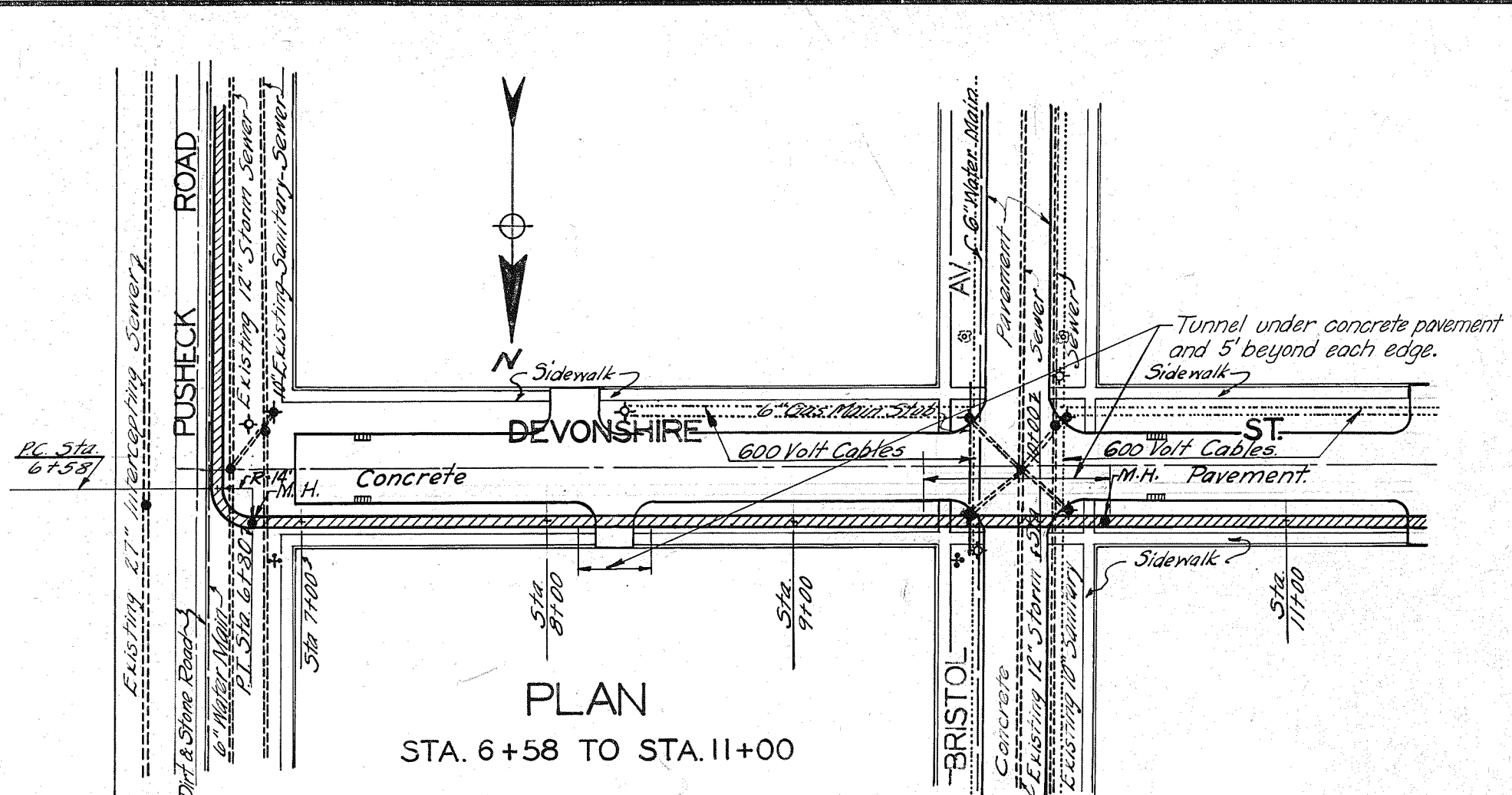
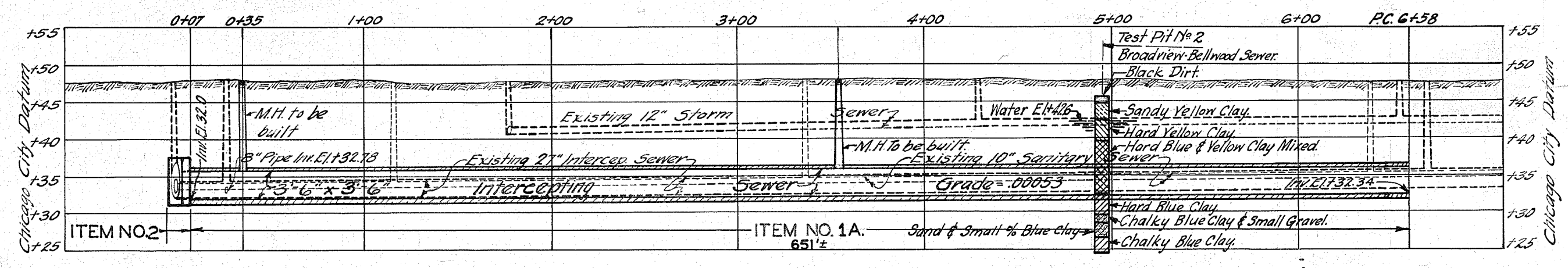
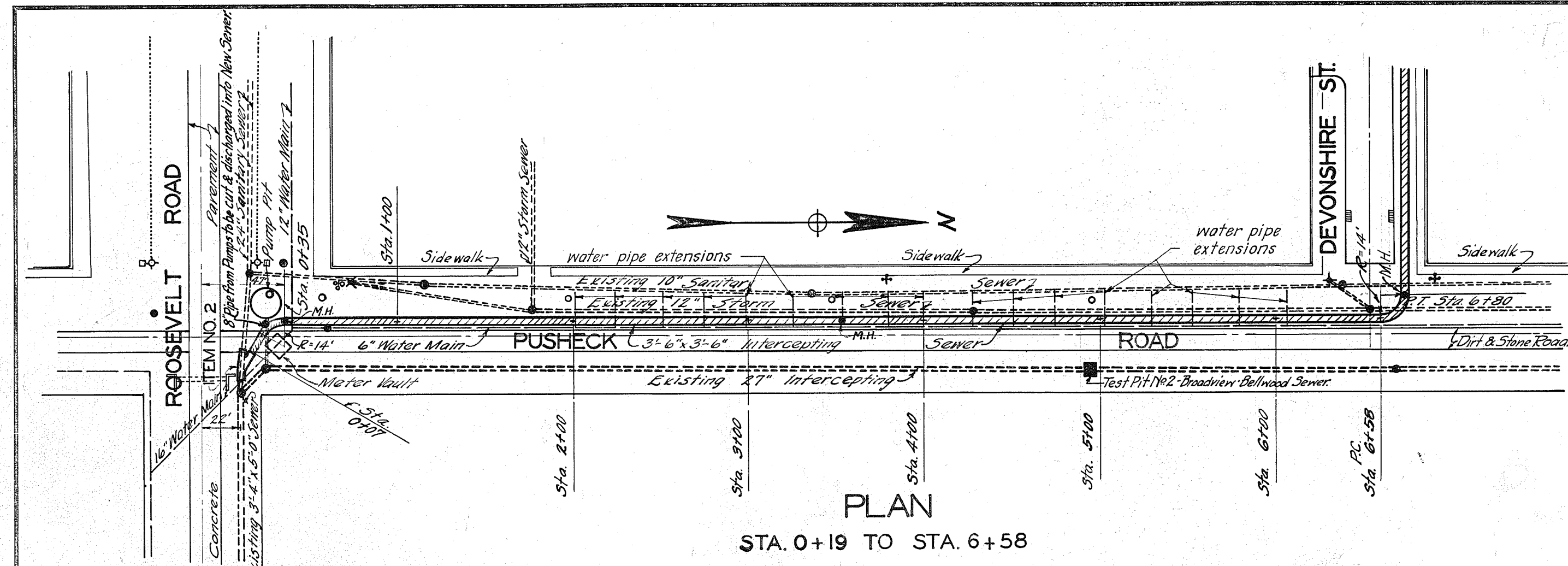
Hey and Associates, Inc.  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HIGGINS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 MOBILE (773) 699-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 LICENSE NO. 184002829

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT ST. CHARLES ROAD OVER ADDISON CREEK PLANS DATED 10-13-2000**

Sheet Number:  
**R-122**  
 Page Number: 466





**ITEM NO. 6**

Note: Cast iron pipe crossings shall be used to make Manchester sanitary sewers continuous through the intercepting sewer at all points where such sanitary sewers are cut, except at Junction Chamber Item No. 2, and 8" pipe from pump pit. For detail of typical service sewer crossing to be built under Item No. 6 see Sheet No. 5.

DATE	REVISIONS	BY
9/15/20	Changed location of sewer in Devonshire St. Changed station locations from Devonshire St to Roosevelt St in blocks 6 & 7. Indicated new concrete pavements & additional tunnel work required.	B.A.S.

Control: *[Signature]*  
 Approved: *[Signature]*  
 Approved: *[Signature]*

THE SANITARY DISTRICT OF CHICAGO  
 BERKELEY - HILLSIDE  
 INTERCEPTING SEWER  
 PLAN AND PROFILE  
 1930 SCALE: Vert. 1"=10'-0"  
 Horiz. 1"=40'-0"

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: PML  
 Checked by: PML  
 Drawn by: KSS  
 Correct: JAW

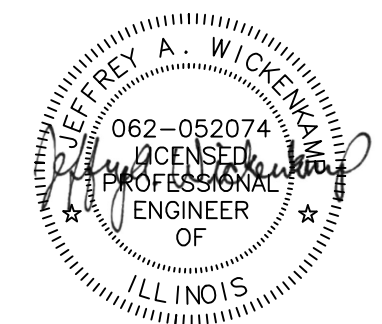
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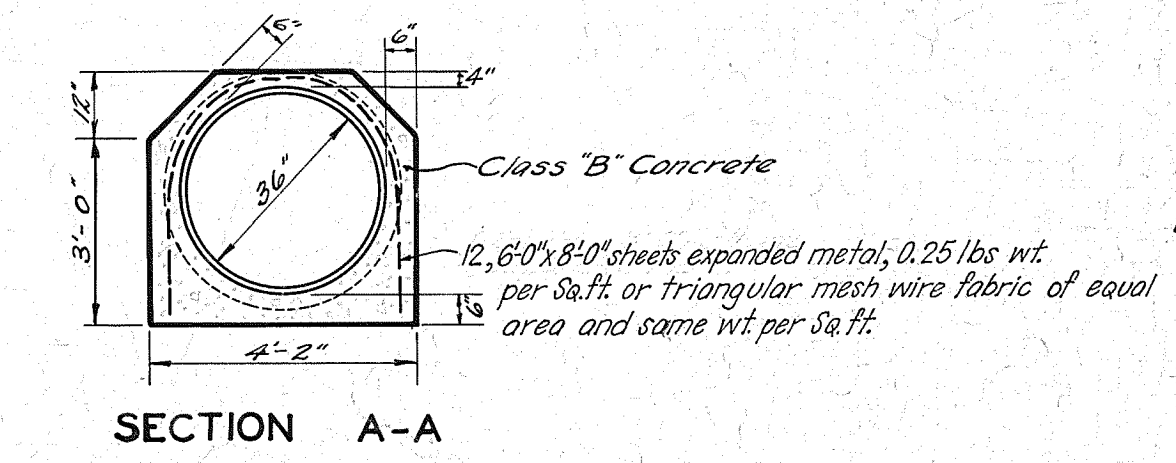
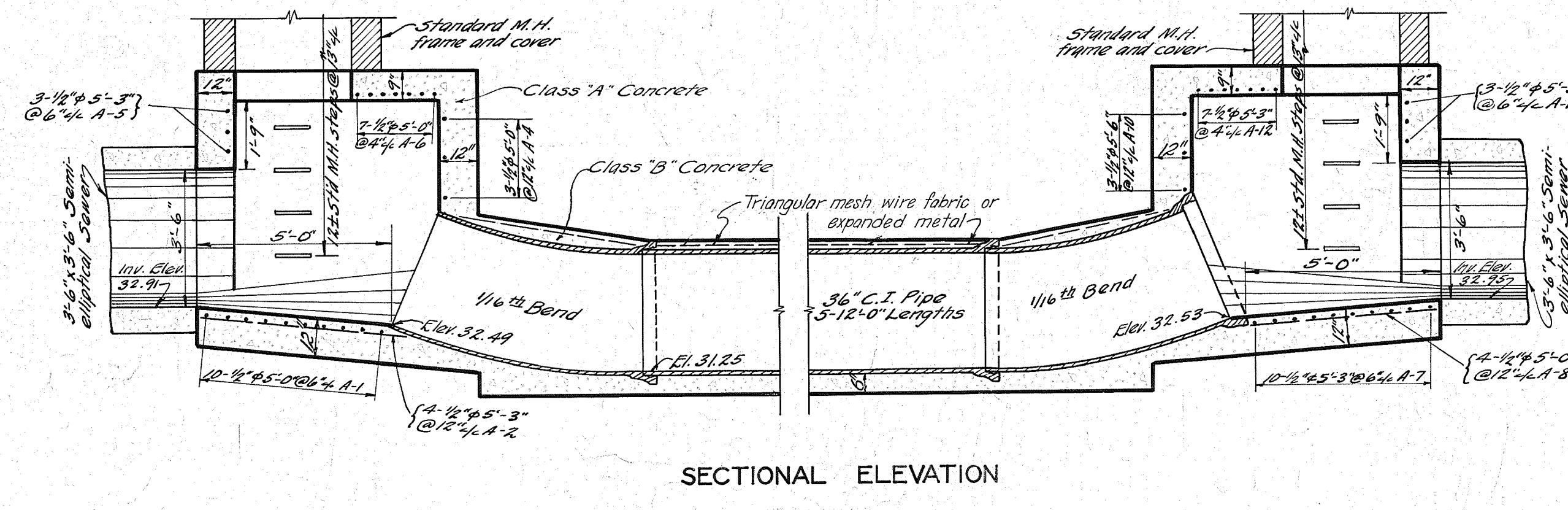
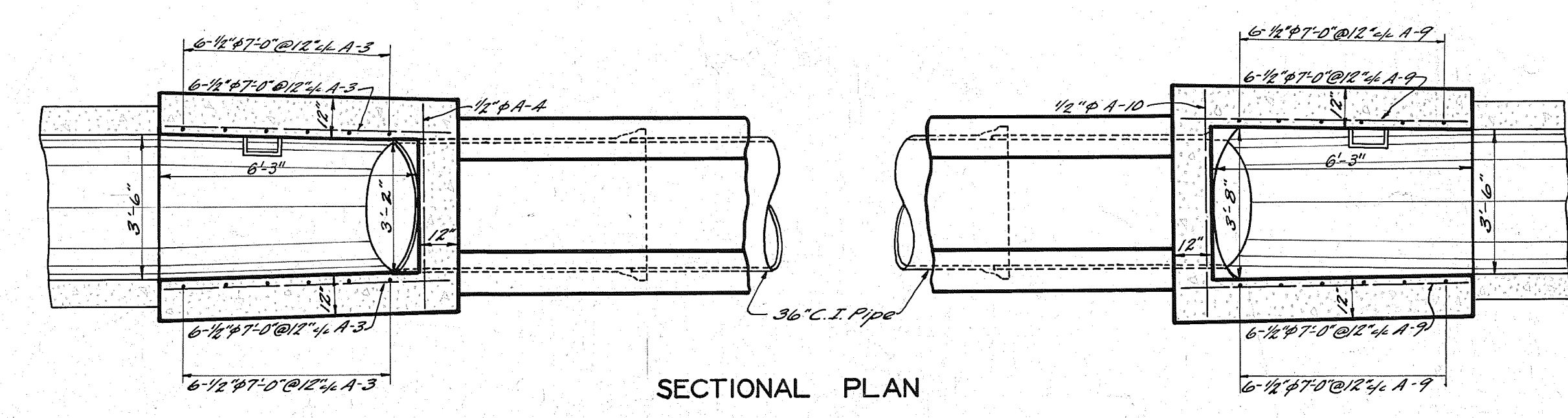
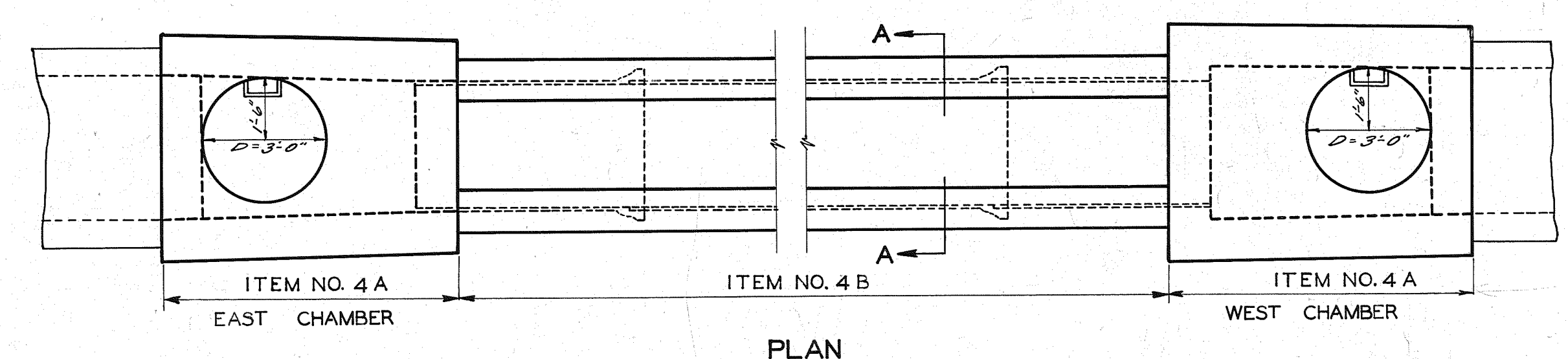
Hey and Associates, Inc.  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HIGGINS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 CHICAGO (773) 699-9200  
 CHICAGO@HEYANDASSOCIATES.COM  
 LICENSE NO. 18400229

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**MWRD BERKELEY-HILLSIDE INTERCEPTING SEWER PLANS DATED 09-05-1930**

Sheet Number:  
**R-123**  
 Page Number: 467





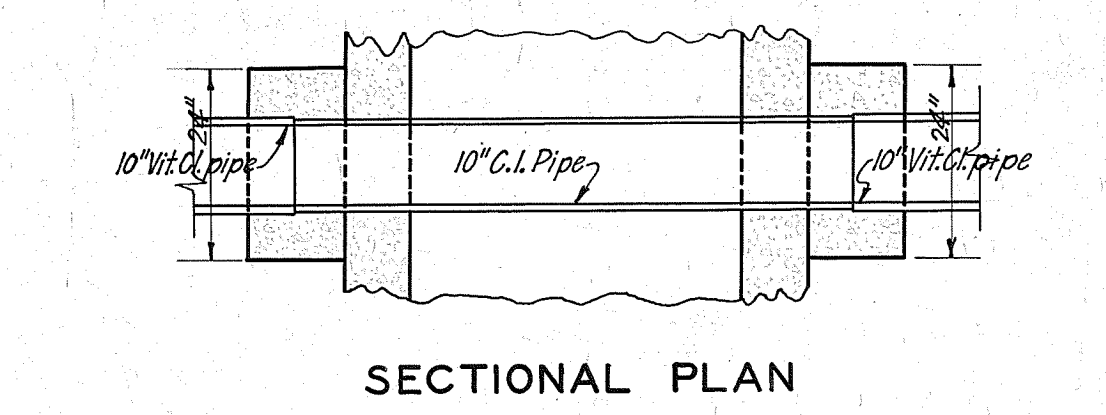
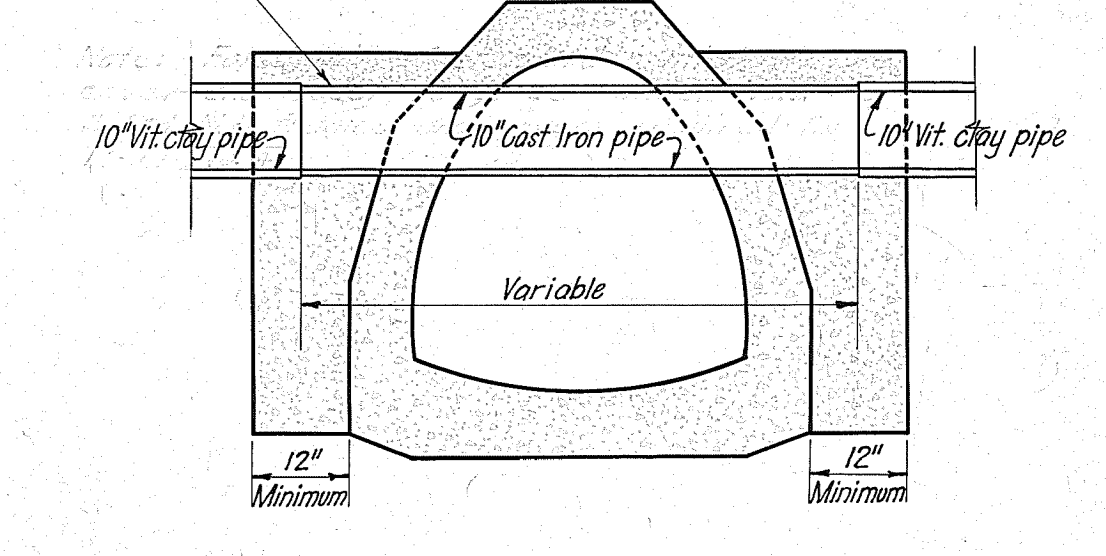
ADDISON CREEK CROSSING  
ITEM NO. 4A & 4B  
Scale 1/2" = 1'-0"

4A

STEEL LIST		ITEM NO. 4 - A			
Mark	Size	No.	Length	Bending	Weight (lbs)
A-1	1/2" x 6"	10	5'-0"	Straight	33.4
A-2	"	4	5'-3"	"	14.0
A-3	"	24	7'-0"	"	112.3
A-4	"	3	5'-0"	"	10.0
A-5	"	3	5'-3"	"	10.5
A-6	"	7	5'-0"	"	25.4
A-7	1/2" x 6"	10	5'-3"	"	35.1
A-8	"	4	5'-0"	"	13.4
A-9	"	24	7'-0"	"	112.3
A-10	"	3	5'-6"	"	10.9
A-11	"	3	5'-3"	"	10.5
A-12	"	7	5'-3"	"	24.6
Total					410.4

Note: For details of standard manhole, frame, cover and manhole steps see sheets N° 3 & 6. 2 Std. M.H. frames and covers required for Item No. 4.

Note: If the length of C.I. pipe run is greater than that shown, the space between the outside of the sewer section and a line 6" beyond the end of the C.I. pipe shall be filled with concrete from bottom of trench to 6" above C.I. pipe.

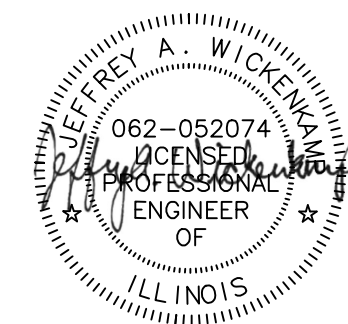


TYPICAL SERVICE SEWER CROSSING  
ITEM NO. 6  
Scale 3/4" = 1'-0"

DRAWN BY: R.J.S.  
TRACED BY: R.J.S.  
CHECKED BY: J.C. BAS  
EXAMINED BY: H.L.M. Miller

Correct: *[Signature]* Sanitary Engineer  
Approved: \_\_\_\_\_ Pin. Asst. Chief Engineer  
Approved: \_\_\_\_\_ Chief Engineer

THE SANITARY DISTRICT OF CHICAGO  
BERKELEY - HILLSIDE 871  
INTERCEPTING SEWER 80552  
**DETAILS ITEM 4A & 4B & ITEM NO. 6**  
1930 SCALE: 1/2" = 1'-0" SHEET NO. 5.  
Unless Noted 6 SHEETS IN SET



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

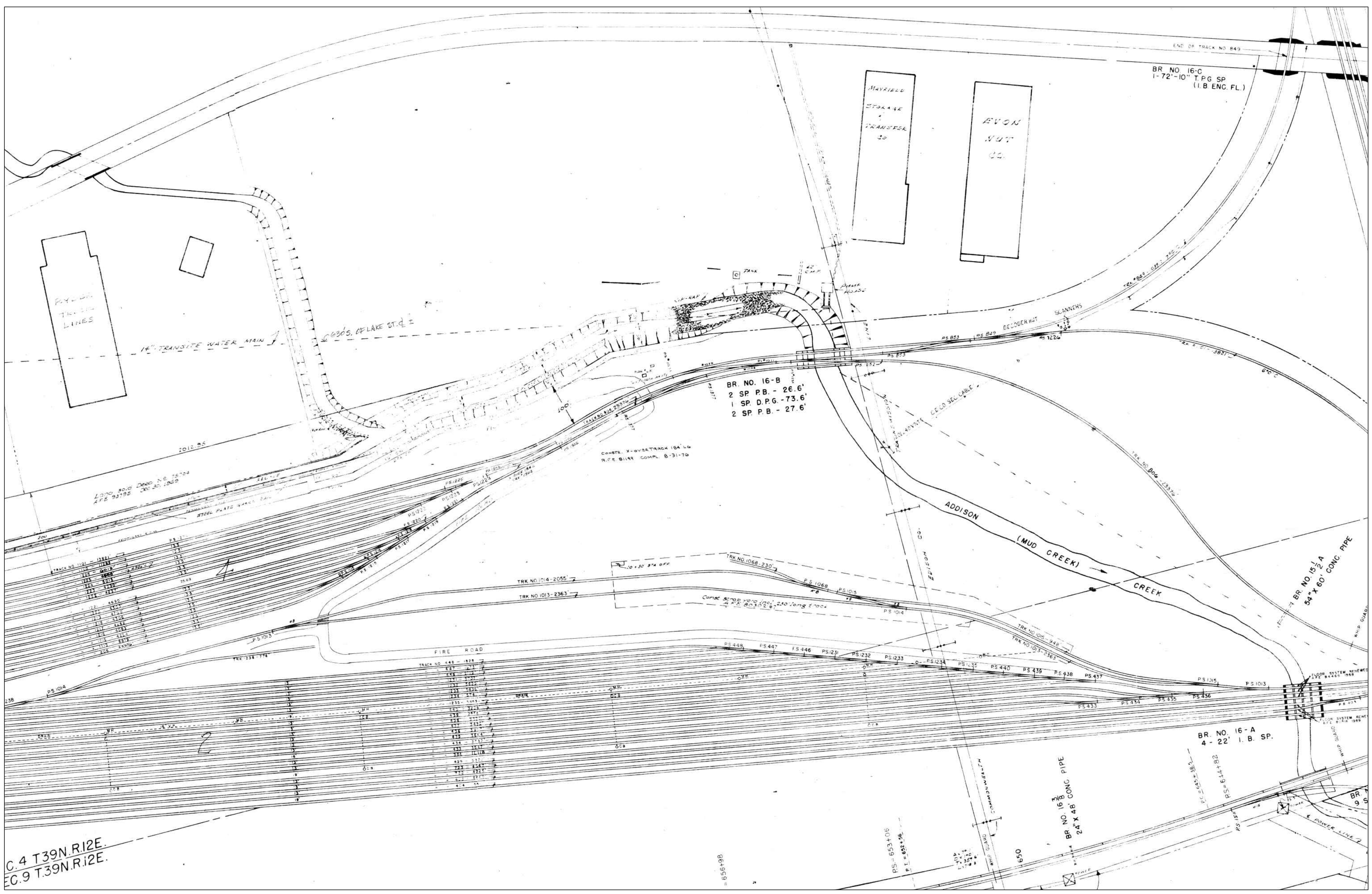
Designed by: PML  
Checked by: PML  
Drawn by: KSS  
Reviewed by: JAW  
Correct: \_\_\_\_\_

Scale: NTS  
Date: 2022

**Hey and Associates, Inc.**  
Engineering, Ecology and Landscape Architecture  
8755 WEST HERCULES ROAD, SUITE 835  
CHICAGO, ILLINOIS 60631  
OFFICE (773) 699-9200  
CHICAGO@HEYASAC.COM  
PROFESSIONAL DESIGN FIRM  
LICENSE NO. 184062829

**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

**MWRD BERKELEY-HILLSIDE INTERCEPTING SEWER PLANS DATED 09-05-1930**



C.4 T39N.R.12E.  
E.C.9 T39N.R.12E.

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

**Contract 11-187-3F  
ADDISON CREEK CHANNEL IMPROVEMENTS  
REACH 3 14 INCH TRANSITE WATER MAIN**

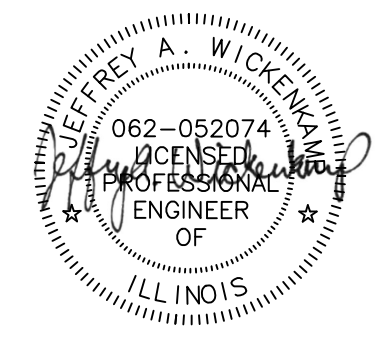
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Drawn by: MAA	Reviewed by: JAW	Date: 2022
Correct:		

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Engineering, Ecology and Landscape Architecture  
Chicago, Illinois 60631  
Office (773) 699-9200  
Chicago@HEYAS.COM  
Professional Design Firm  
License No. 18406289

**CONTRACT 11-187-3F  
ADDISON CREEK CHANNEL IMPROVEMENTS  
REACH 3 14 INCH TRANSITE WATER MAIN**

Sheet Number:  
**R-125**

Page Number: 469

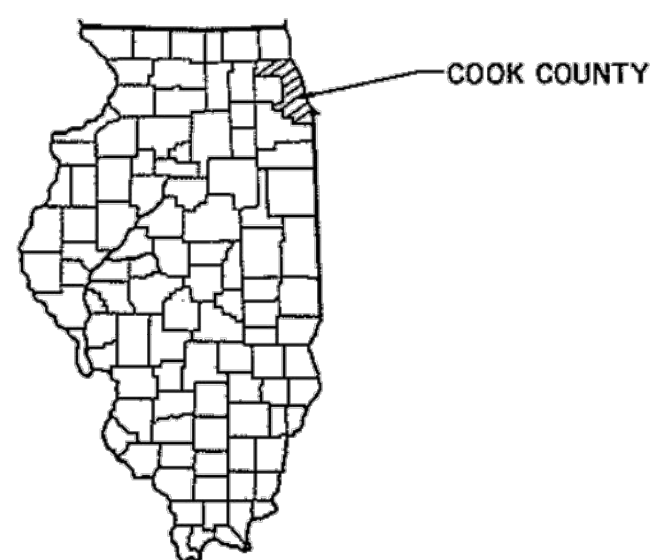
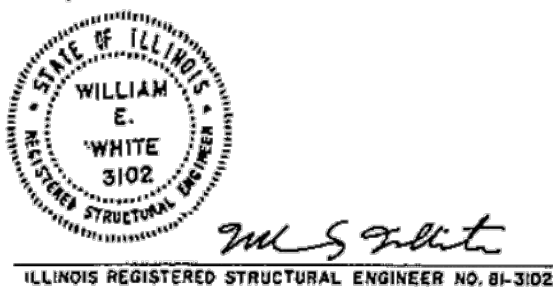


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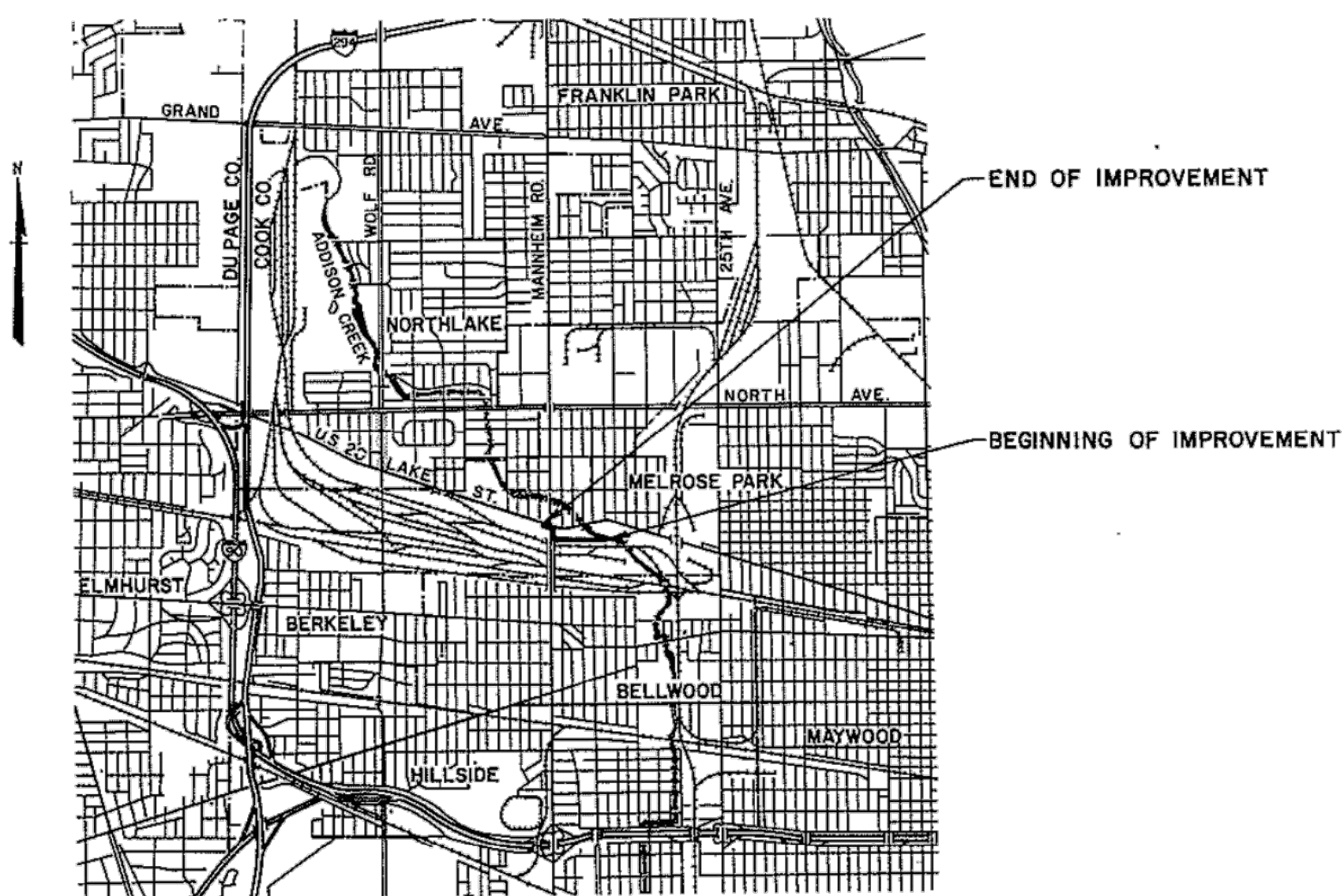
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF WATER RESOURCE MANAGEMENT

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ADDISON CREEK IMPROVEMENT  
 LAKE STREET INTERCEPTOR  
 SECTION I  
 COOK COUNTY  
 FR-244  
 1973



REGIONAL MAP



LOCATION MAP



SCALE

SUBMITTED BY *Alvin G. Alford* DATE *6/29/73*  
 RECOMMENDED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED BY *William E. White* DATE \_\_\_\_\_

ENGINEER OF RIGHT OF WAY AND PERMITS  
 REVIEWED *July 2* 1973

ENGINEER OF CONSTRUCTION AND OPERATIONS  
 REVIEWED *July 2* 1973

(Not Required)  
 REVIEWED \_\_\_\_\_ PRINCIPAL ENGINEER 1973

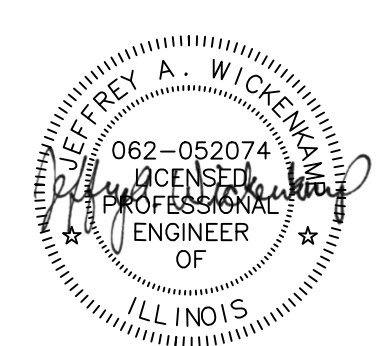
REVIEWED *John B. ...* 1973

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 OF GREATER CHICAGO

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Drawn by: MAA	Reviewed by: JAW	Date: 2022
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 IDOT LAKE STREET INTERCEPTOR PLANS  
 DATED 06-29-1973

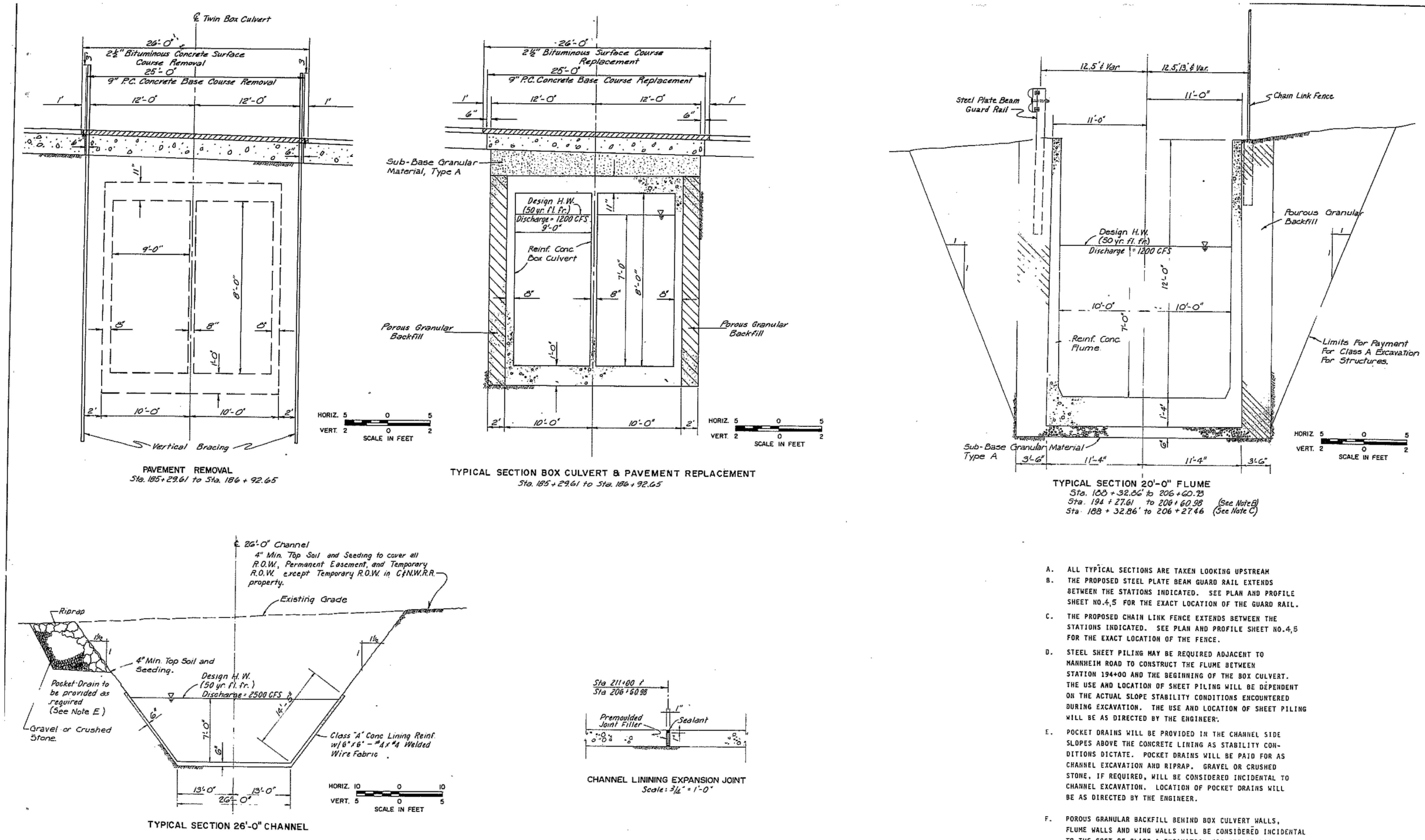
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 Page Number: 470



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 LICENSE NO. 1840628P

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- A. ALL TYPICAL SECTIONS ARE TAKEN LOOKING UPSTREAM
- B. THE PROPOSED STEEL PLATE BEAM GUARD RAIL EXTENDS BETWEEN THE STATIONS INDICATED. SEE PLAN AND PROFILE SHEET NO.4,5 FOR THE EXACT LOCATION OF THE GUARD RAIL.
- C. THE PROPOSED CHAIN LINK FENCE EXTENDS BETWEEN THE STATIONS INDICATED. SEE PLAN AND PROFILE SHEET NO.4,5 FOR THE EXACT LOCATION OF THE FENCE.
- D. STEEL SHEET PILING MAY BE REQUIRED ADJACENT TO MANNHEIM ROAD TO CONSTRUCT THE FLUME BETWEEN STATION 194+00 AND THE BEGINNING OF THE BOX CULVERT. THE USE AND LOCATION OF SHEET PILING WILL BE DEPENDENT ON THE ACTUAL SLOPE STABILITY CONDITIONS ENCOUNTERED DURING EXCAVATION. THE USE AND LOCATION OF SHEET PILING WILL BE AS DIRECTED BY THE ENGINEER.
- E. POCKET DRAINS WILL BE PROVIDED IN THE CHANNEL SIDE SLOPES ABOVE THE CONCRETE LINING AS STABILITY CONDITIONS DICTATE. POCKET DRAINS WILL BE PAID FOR AS CHANNEL EXCAVATION AND RIPRAP. GRAVEL OR CRUSHED STONE, IF REQUIRED, WILL BE CONSIDERED INCIDENTAL TO CHANNEL EXCAVATION. LOCATION OF POCKET DRAINS WILL BE AS DIRECTED BY THE ENGINEER.
- F. POROUS GRANULAR BACKFILL BEHIND BOX CULVERT WALLS, FLUME WALLS AND WING WALLS WILL BE CONSIDERED INCIDENTAL TO THE COST OF CLASS A EXCAVATION FOR STRUCTURES.

ISSUE	REVISION LETTER	REVISOR	DATE

SCALE: AS SHOWN

ADDISON CREEK-SECTION I  
 TYPICAL SECTIONS

FILE NO.  
 CLASSIFICATION NO.  
 SHEET NO. 3 OF 3/ SHEETS

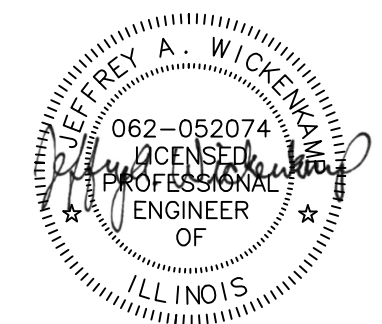
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Drawn by:	Reviewed by:	Date:
MAA	JAW	2022
Correct:		

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 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT LAKE STREET INTERCEPTOR PLANS  
 DATED 06-29-1973

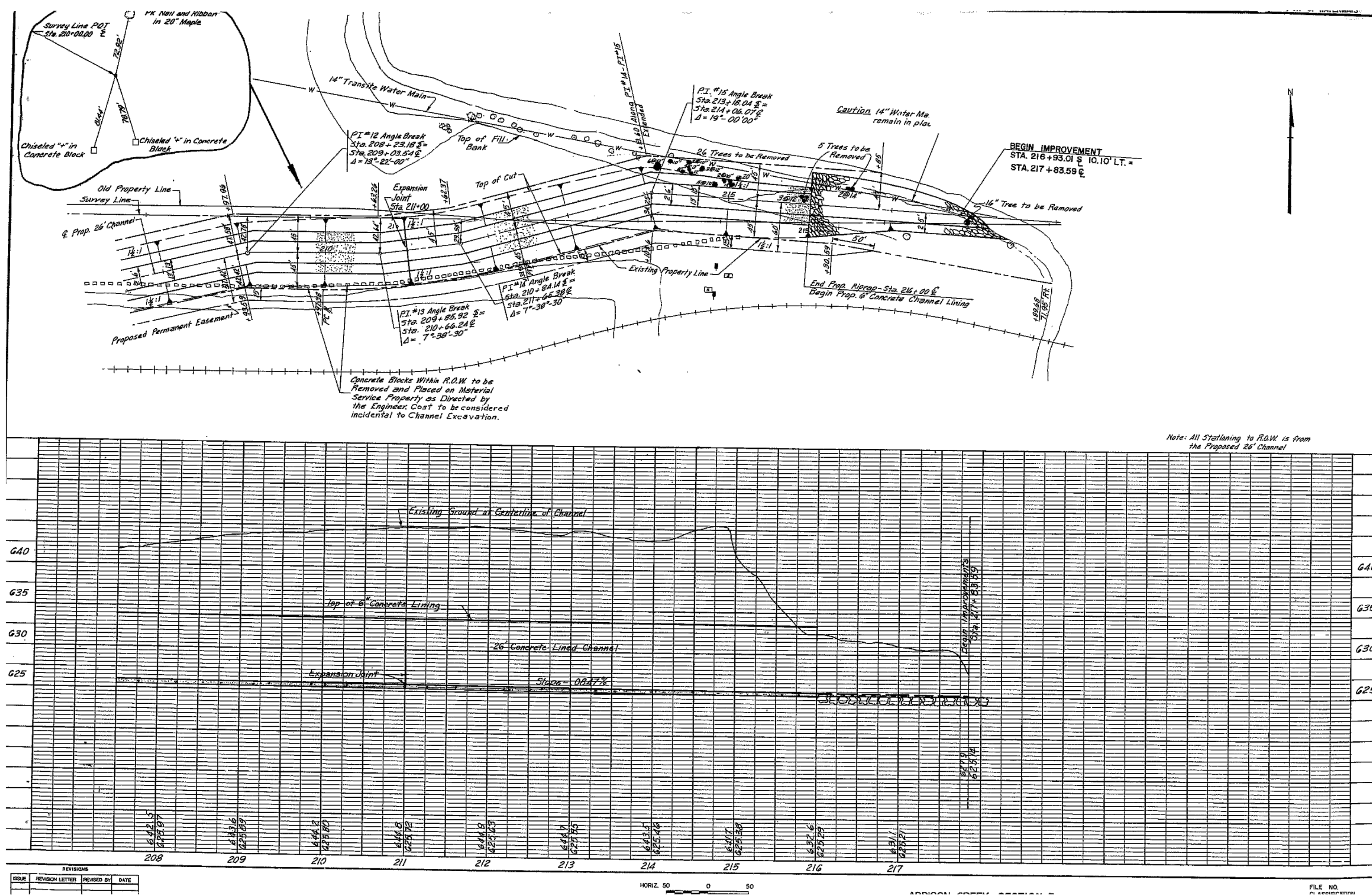
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**R-127**  
 Page Number: 471



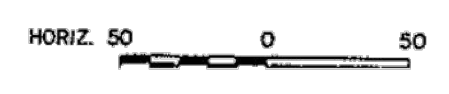
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 LICENSE NO. 18406287





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Note: All Stationing to R.O.W. is from the Proposed 26' Channel

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT LAKE STREET INTERCEPTOR PLANS**  
 DATED 06-29-1973

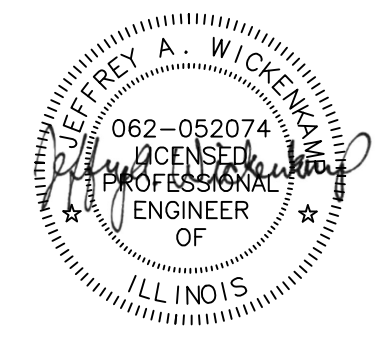
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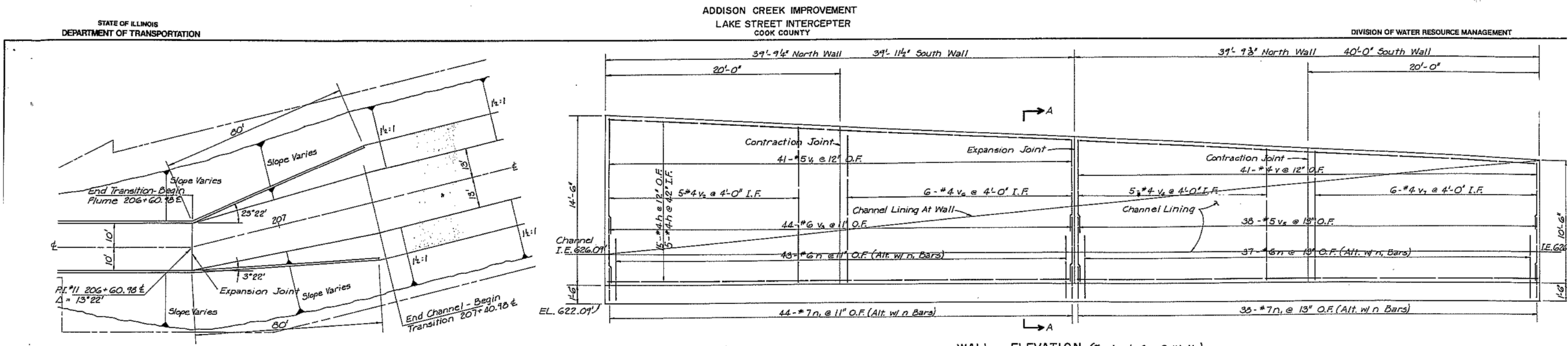
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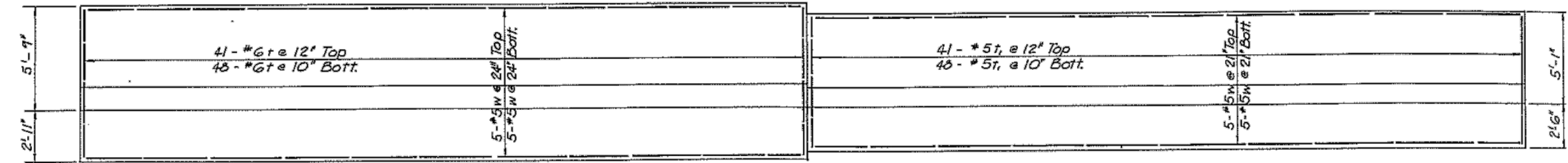




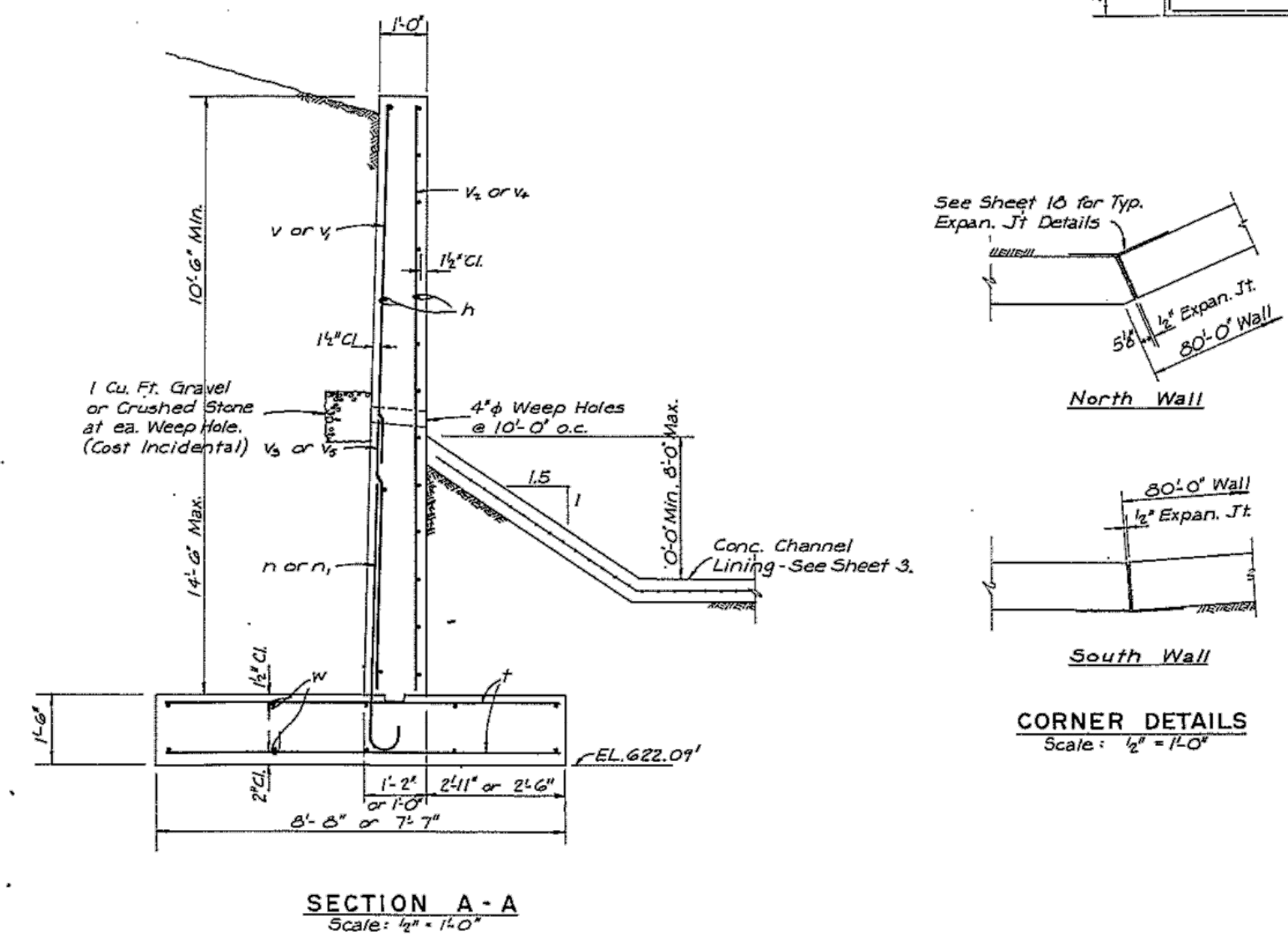


**TRANSITION PLAN**  
Scale: 1" = 20'

**WALL ELEVATION (Typical for 2 Walls)**  
Scale: 1/4" = 1'-0"



**FOOTING PLAN (Typical for 2 Walls)**  
Scale: 1/4" = 1'-0"



**SECTION A-A**  
Scale: 1/2" = 1'-0"

**CORNER DETAILS**  
Scale: 1/2" = 1'-0"

**GENERAL NOTES**

Use Class X Concrete for Wing Walls.  
 Use Class A Concrete for Channel Lining (See Sheet 3).  
 See Sheet 15 for Additional Notes.

**DESIGN STRESSES**

$f_c = 20,000$  p.s.i. (Reinforcing)  
 $f_s = 3000$  p.s.i.  
 $f_v = 1000$  p.s.i.  
 $f_w = 75$  p.s.i.  
 $n = 10$   
 Allowable Soil Pressure = 3000 p.s.f.

**BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	TYPE	LOCATION
h	74	#4	39'-8"	Straight	
n	160	#6	5'-9"	Bent	
n	164	#7	3'-6"	Bent	
v	82	#4	8'-6"	Straight	
v	82	#5	10'-4"	Straight	
v	10	#4	13'-6"	Straight	
v	88	#6	5'-6"	Straight	
v	10	#4	11'-6"	Straight	
v	76	#5	5'-0"	Straight	
v	12	#4	12'-4"	Straight	
v	12	#4	10'-4"	Straight	
w	40	#5	39'-6"	Straight	

Class X Conc. 150 Cu. Yd.  
 Reinforcing 9890 Lb.

ISSUE	REVISION LETTER	REVISED BY	DATE

SCALE: AS SHOWN

**ADDISON CREEK - SECTION I**  
PI AN AND DETAIL S - FLUME TO BOX CULVERT TRANSITION

FILE NO. CLASSIFICATION NO.

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

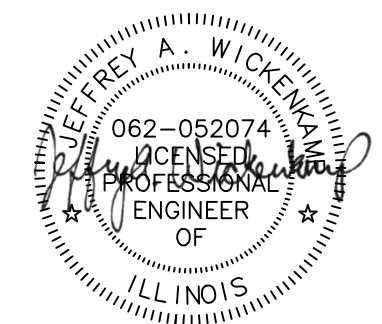
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**IDOT LAKE STREET INTERCEPTOR PLANS**  
DATED 06-29-1973

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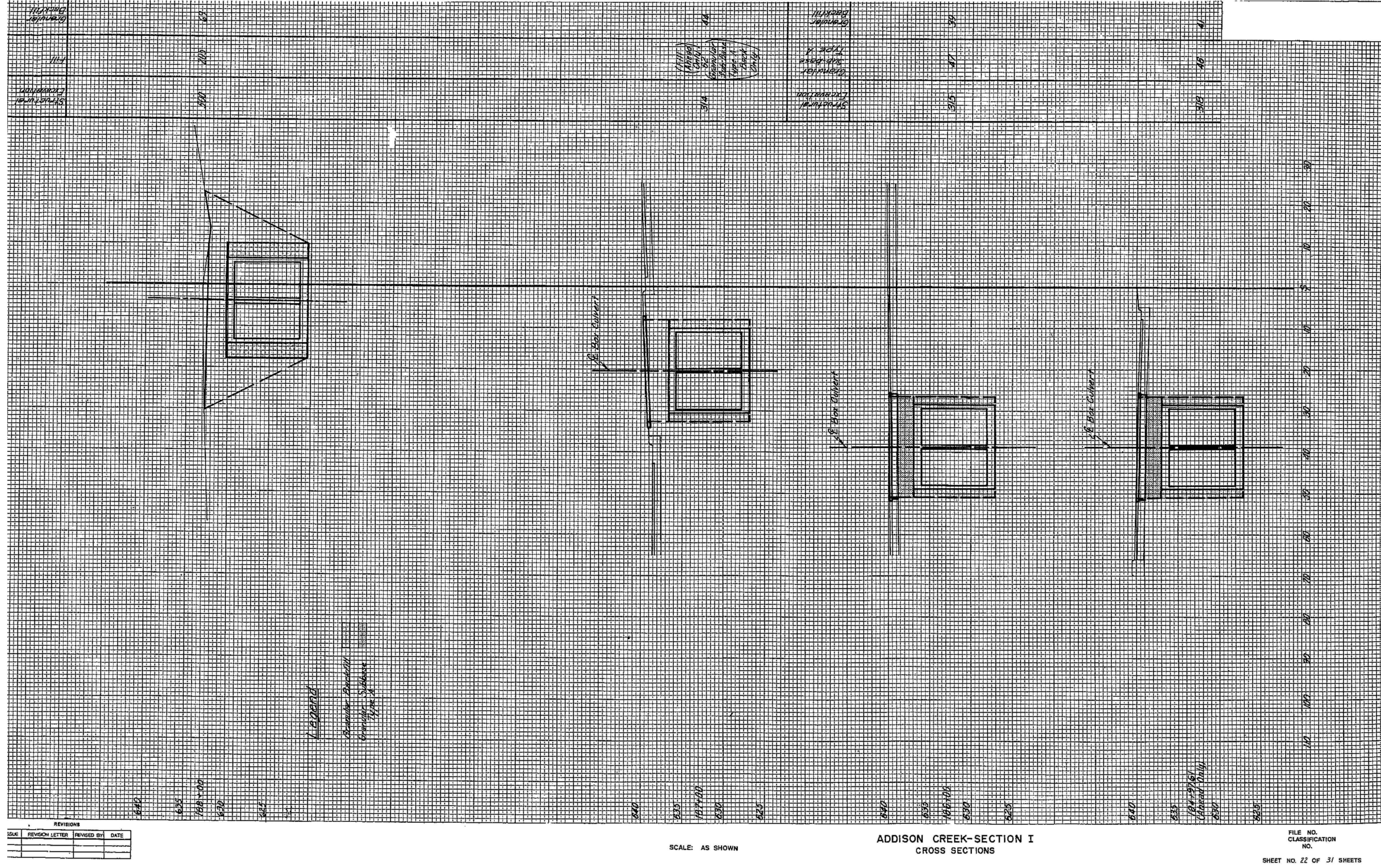
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Sheet Number:  
**R-130**  
Page Number: 474

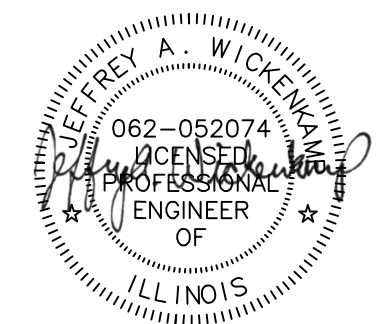


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ADDISON CREEK-SECTION I  
CROSS SECTIONS

FILE NO.  
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SHEET NO. 22 OF 31 SHEETS



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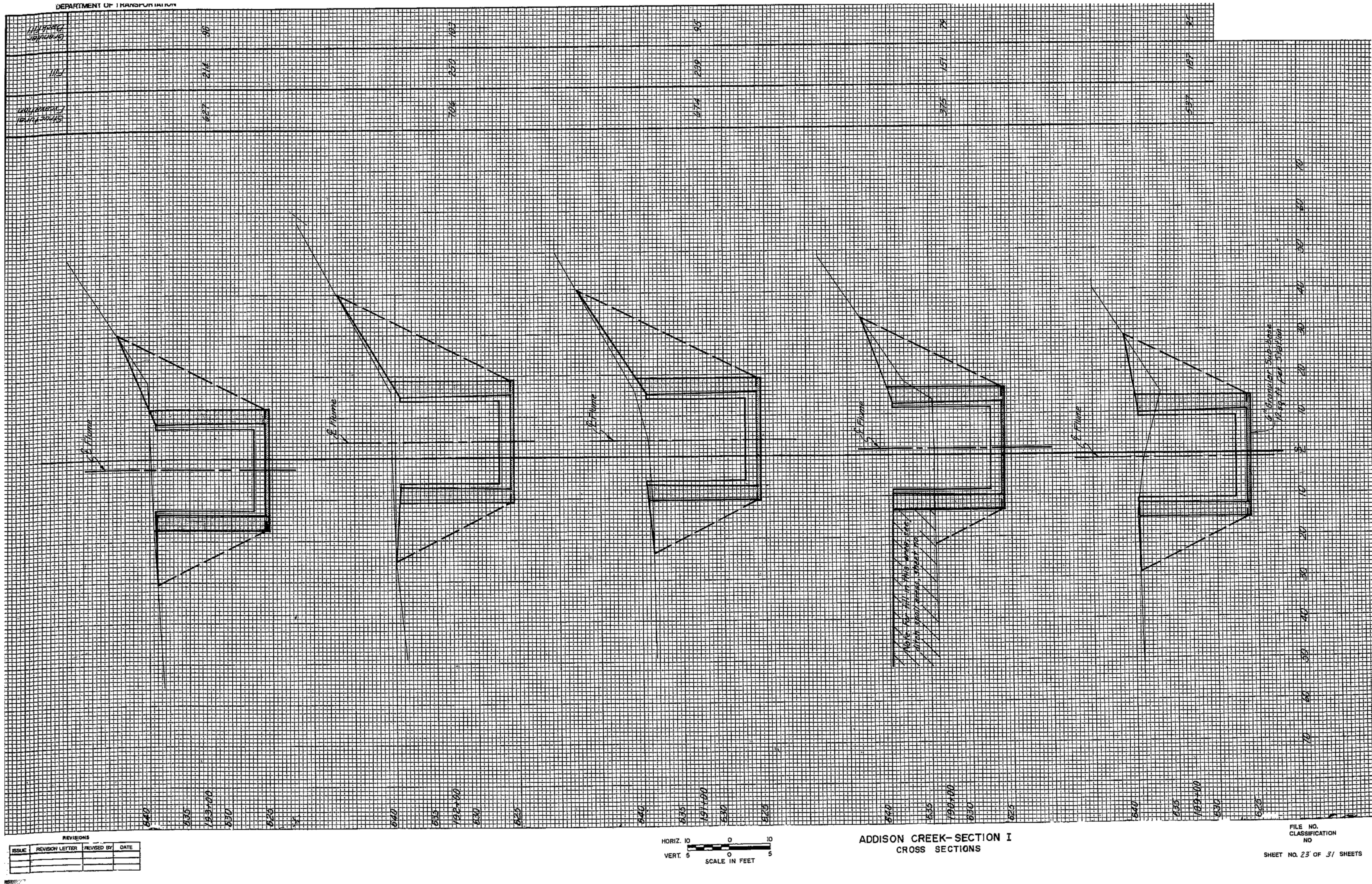
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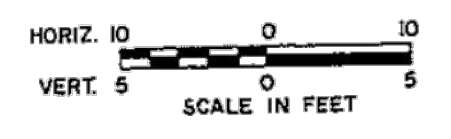
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ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT LAKE STREET INTERCEPTOR PLANS**  
DATED 06-29-1973

Sheet Number:  
**R-131**  
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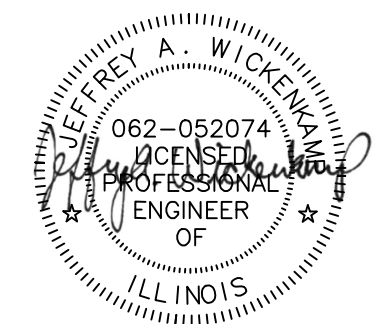
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ADDISON CREEK-SECTION I  
CROSS SECTIONS

FILE NO.  
CLASSIFICATION  
NO  
SHEET NO. 23 OF 37 SHEETS

DEPARTMENT OF	THICKNESS	WEIGHT	DATE
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		6774	2/22/00
		3725	1/27/00
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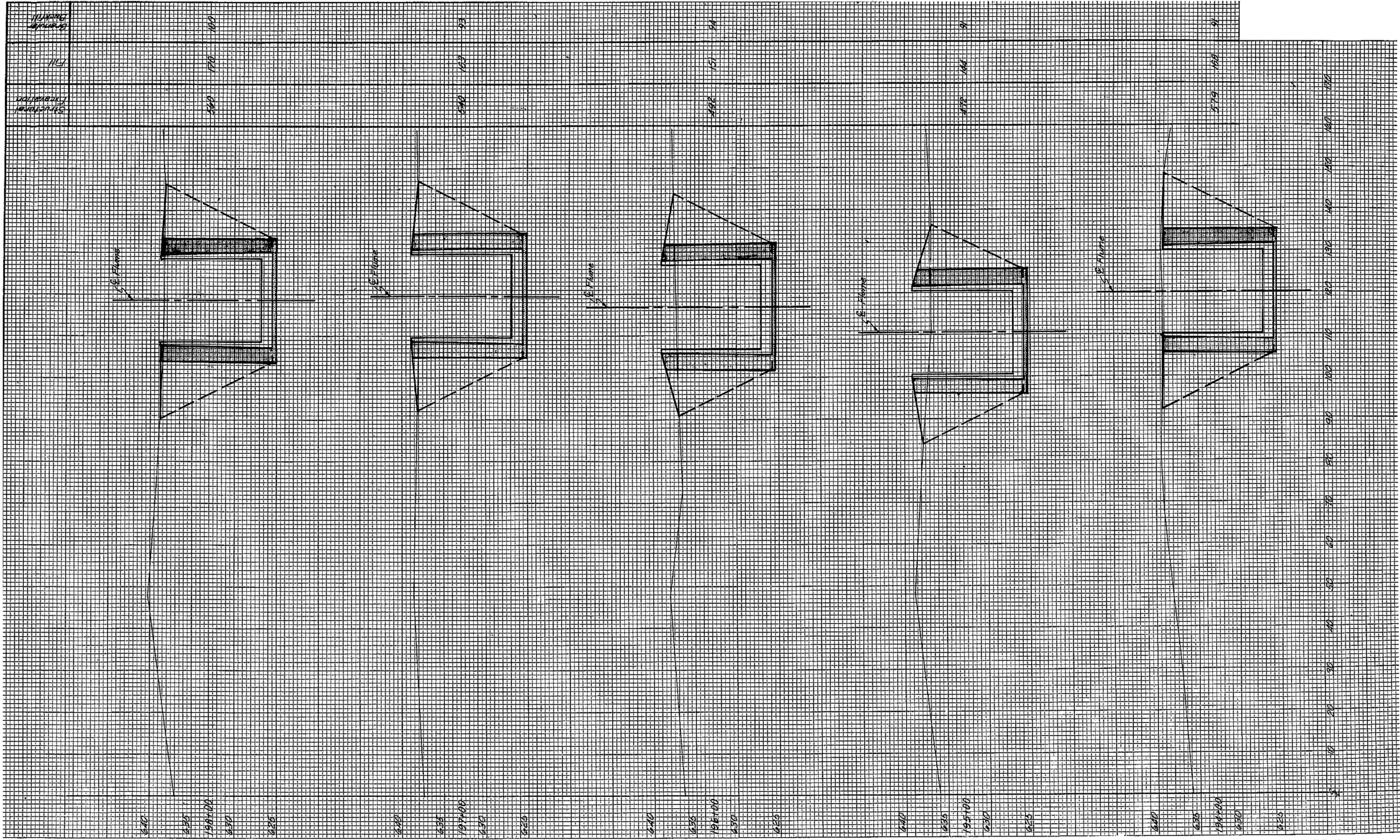


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ADDISON CREEK CHANNEL IMPROVEMENTS  
  
IDOT LAKE STREET INTERCEPTOR PLANS  
DATED 06-29-1973

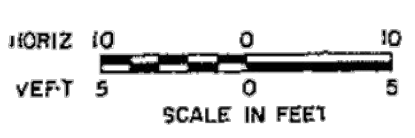
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Page Number: 476

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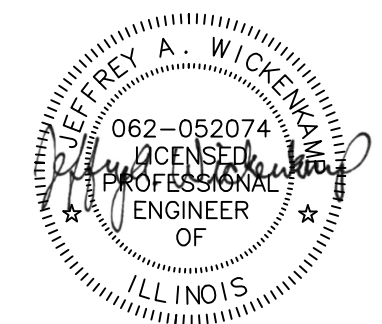
ADDISON CREEK - SECTION I  
CROSS SECTIONS

FILE NO.  
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NO.  
SHEET NO. 24 OF 31 SHEETS

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10/26/21			

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IDOT LAKE STREET INTERCEPTOR PLANS  
DATED 06-29-1973

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**R-133**  
Page Number: 477

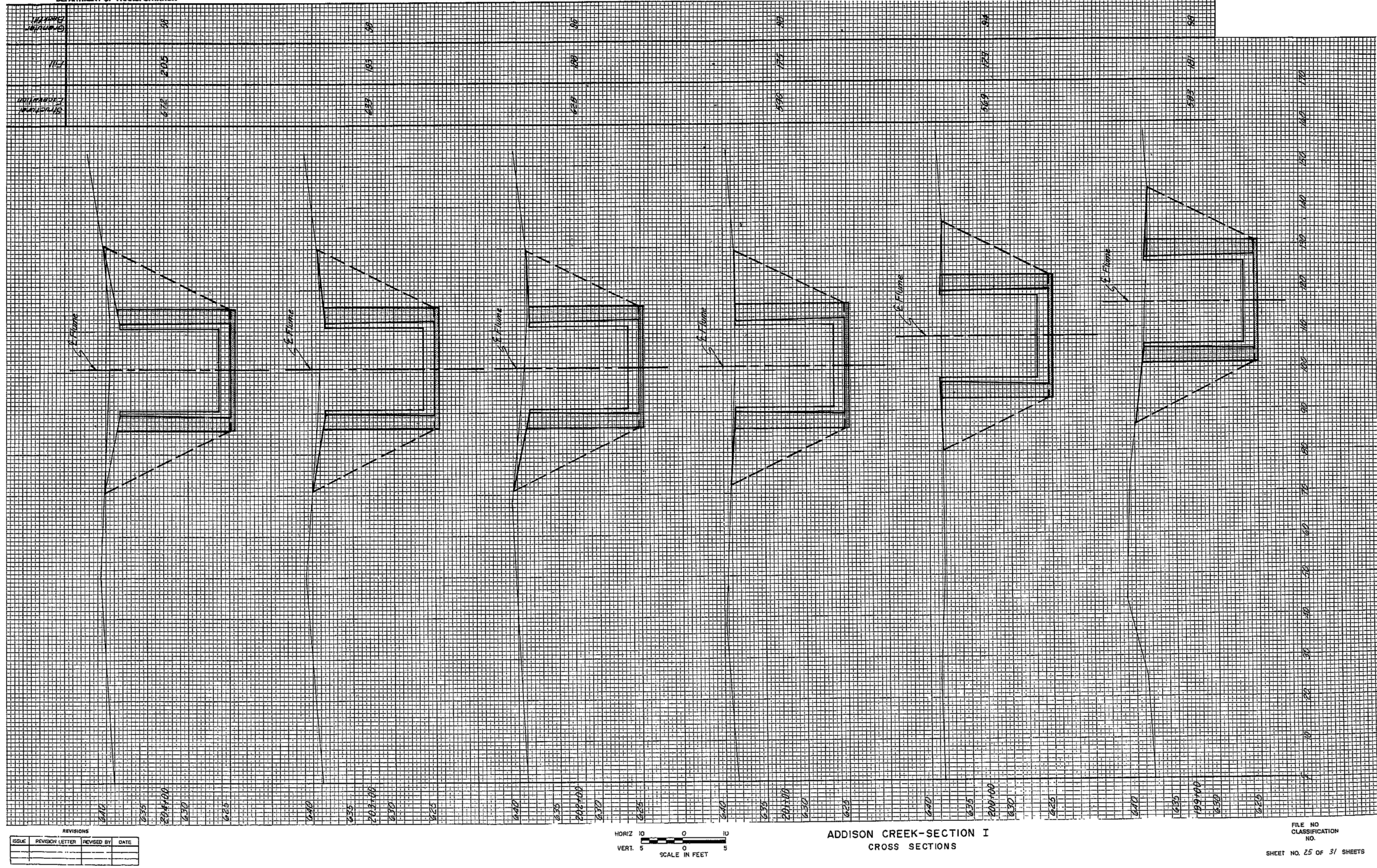


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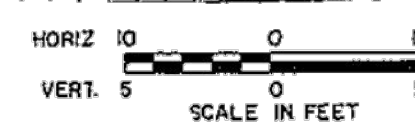
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ADDISON CREEK-SECTION I  
CROSS SECTIONS

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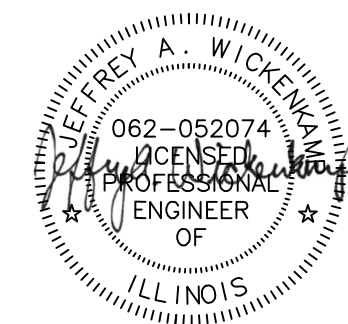
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IDOT LAKE STREET INTERCEPTOR PLANS  
DATED 06-29-1973

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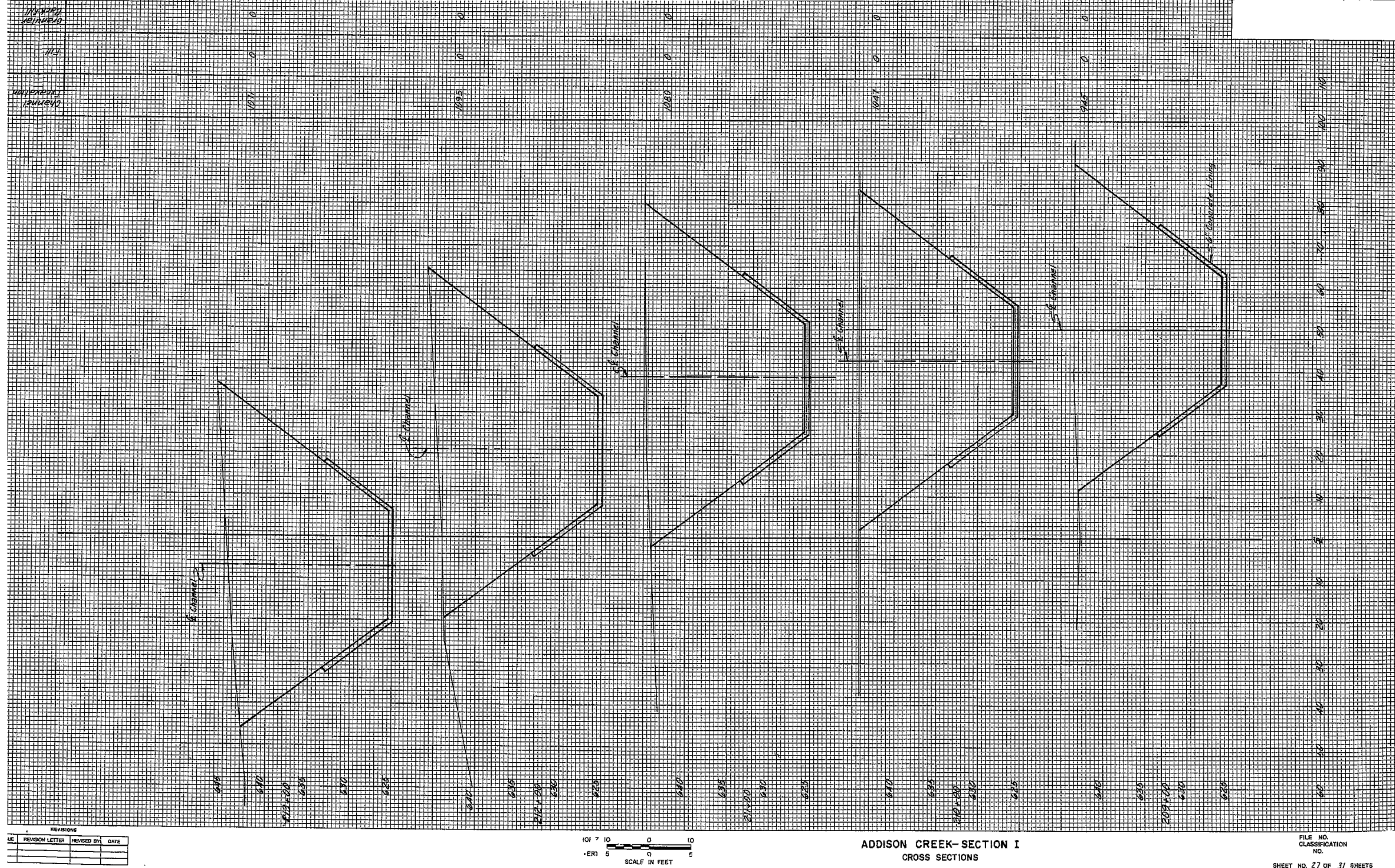
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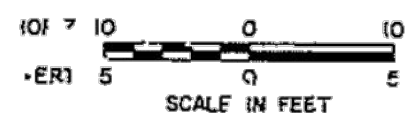
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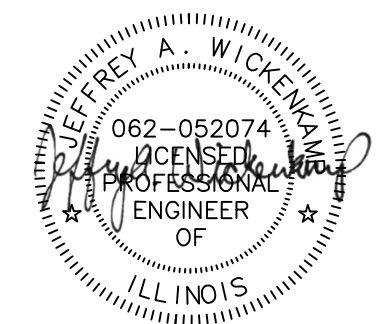


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ADDISON CREEK-SECTION I  
CROSS SECTIONS

FILE NO.  
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OF GREATER CHICAGO**

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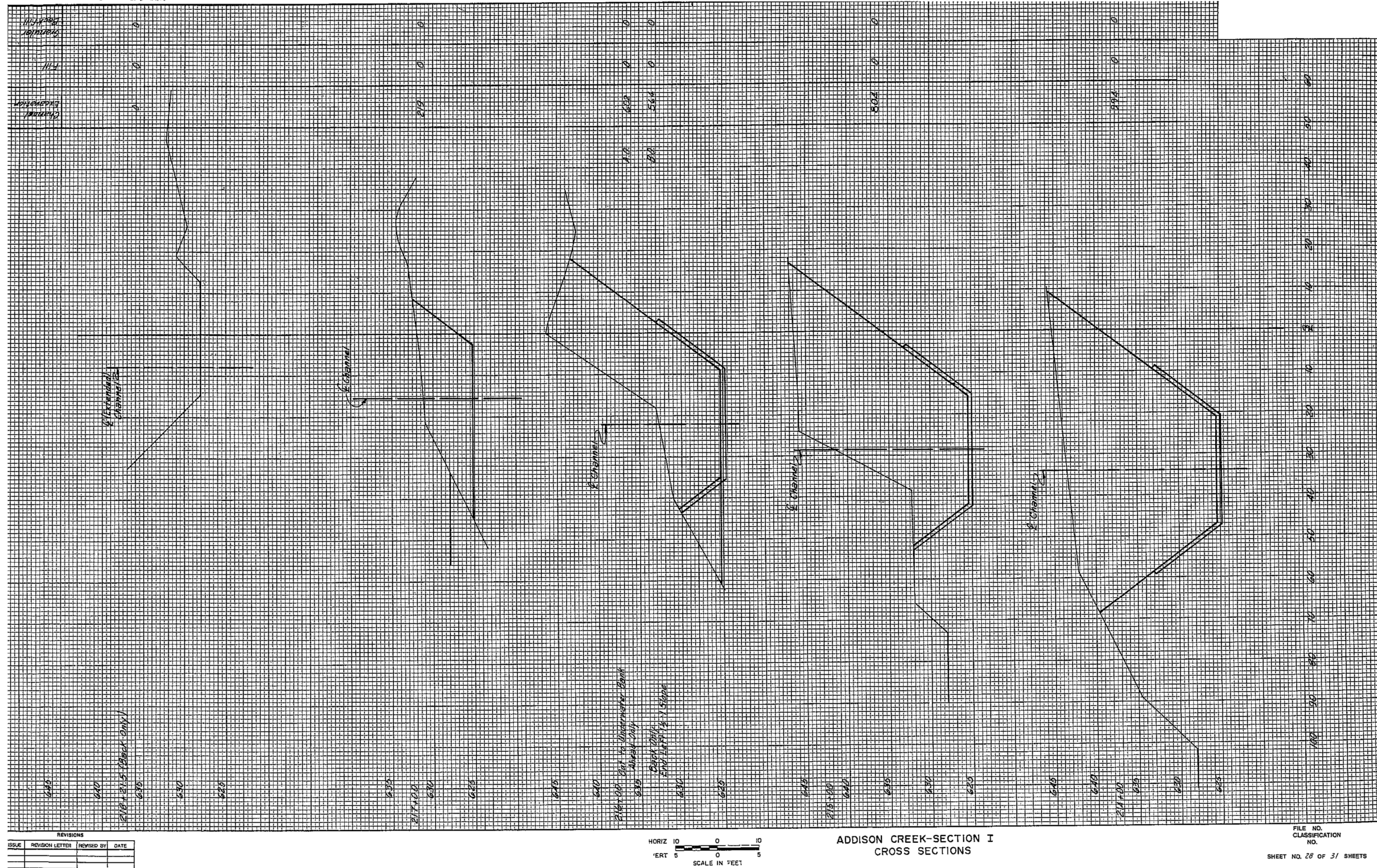
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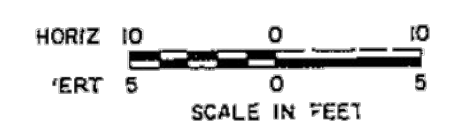
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DATED 06-29-1973

Sheet Number:  
**R-136**  
Page Number: 480

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ISSUE	REVISION LETTER	REVISED BY	DATE



ADDISON CREEK-SECTION I  
CROSS SECTIONS

FILE NO.  
CLASSIFICATION  
NO.  
SHEET NO. 28 OF 31 SHEETS



**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

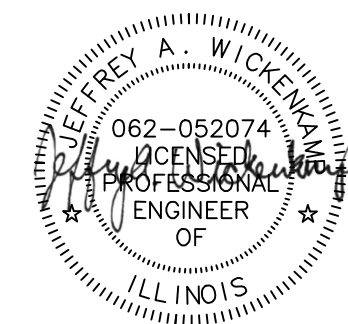
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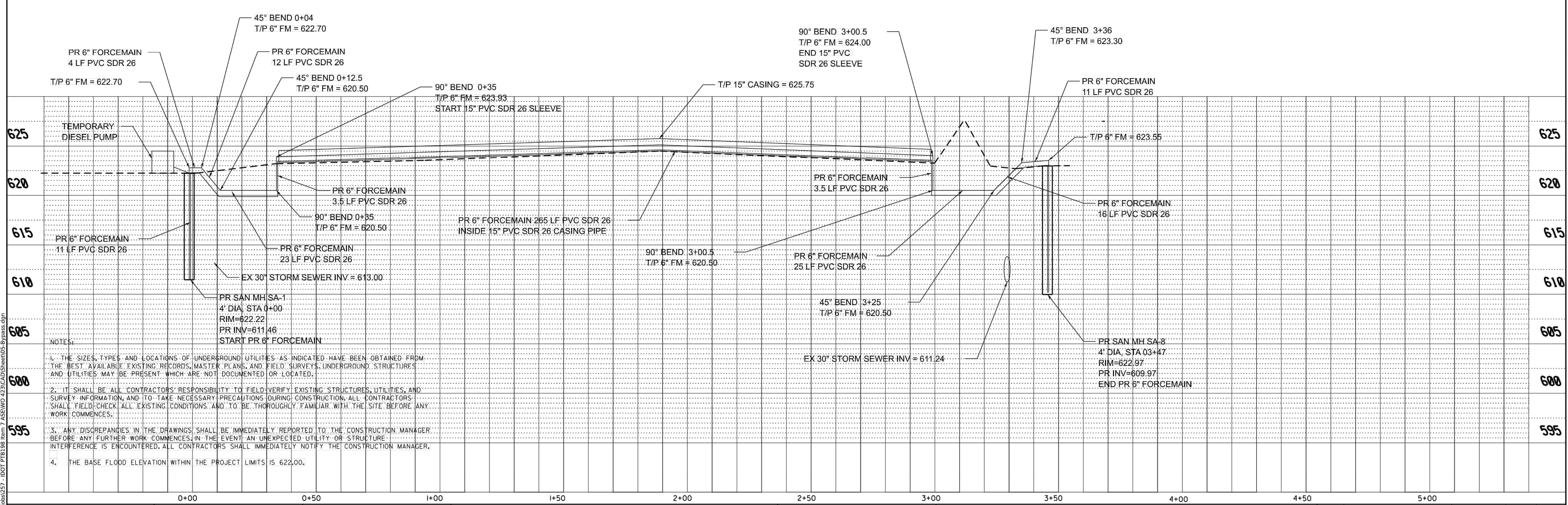
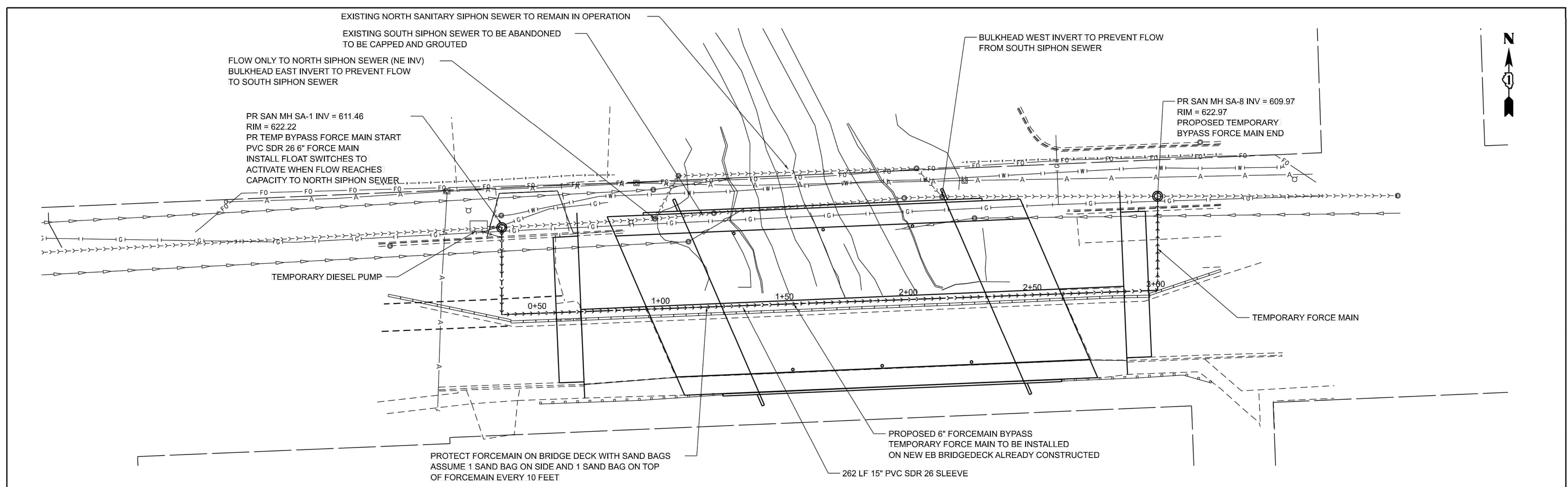
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ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT LAKE STREET INTERCEPTOR PLANS**  
DATED 06-29-1973

Sheet Number:  
**R-137**  
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Rev.	Description	Appr.	Date



DESIGNED - TGB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VERT. 0 5 10	PROPOSED SANITARY BYPASS RELOCATION PLAN		F.A.P. RTE. 1453	SECTION 2018-126-BR	COUNTY COOK	TOTAL SHEETS 12	SHEET NO. 5
DRAWN - DP	REVISED -		HORIZ. 0 20 40	SHEET ___ OF ___ SHEETS STA. ___ TO STA. ___		CONTRACT NO. 62H51				
CHECKED - RTM	REVISED -					FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				
DATE - 7/22/2022	REVISED -									

NOTES:  
 1. THE SIZES, TYPES AND LOCATIONS OF UNDERGROUND UTILITIES AS INDICATED HAVE BEEN OBTAINED FROM THE BEST AVAILABLE EXISTING RECORDS, MASTER PLANS, AND FIELD SURVEYS. UNDERGROUND STRUCTURES AND UTILITIES MAY BE PRESENT WHICH ARE NOT DOCUMENTED OR LOCATED.  
 2. IT SHALL BE ALL CONTRACTORS' RESPONSIBILITY TO FIELD VERIFY EXISTING STRUCTURES, UTILITIES, AND SURVEY INFORMATION, AND TO TAKE NECESSARY PRECAUTIONS DURING CONSTRUCTION. ALL CONTRACTORS SHALL FIELD CHECK ALL EXISTING CONDITIONS AND TO BE THOROUGHLY FAMILIAR WITH THE SITE BEFORE ANY WORK COMMENCES.  
 3. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE CONSTRUCTION MANAGER BEFORE ANY FURTHER WORK COMMENCES. IN THE EVENT AN UNEXPECTED UTILITY OR STRUCTURE INTERFERENCE IS ENCOUNTERED, ALL CONTRACTORS SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER.  
 4. THE BASE FLOOD ELEVATION WITHIN THE PROJECT LIMITS IS 622.00.

Rev.	Description	Apr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

Designed by: XXX  
 Checked by: PML  
 Drawn by: KSS  
 Correct: JAW

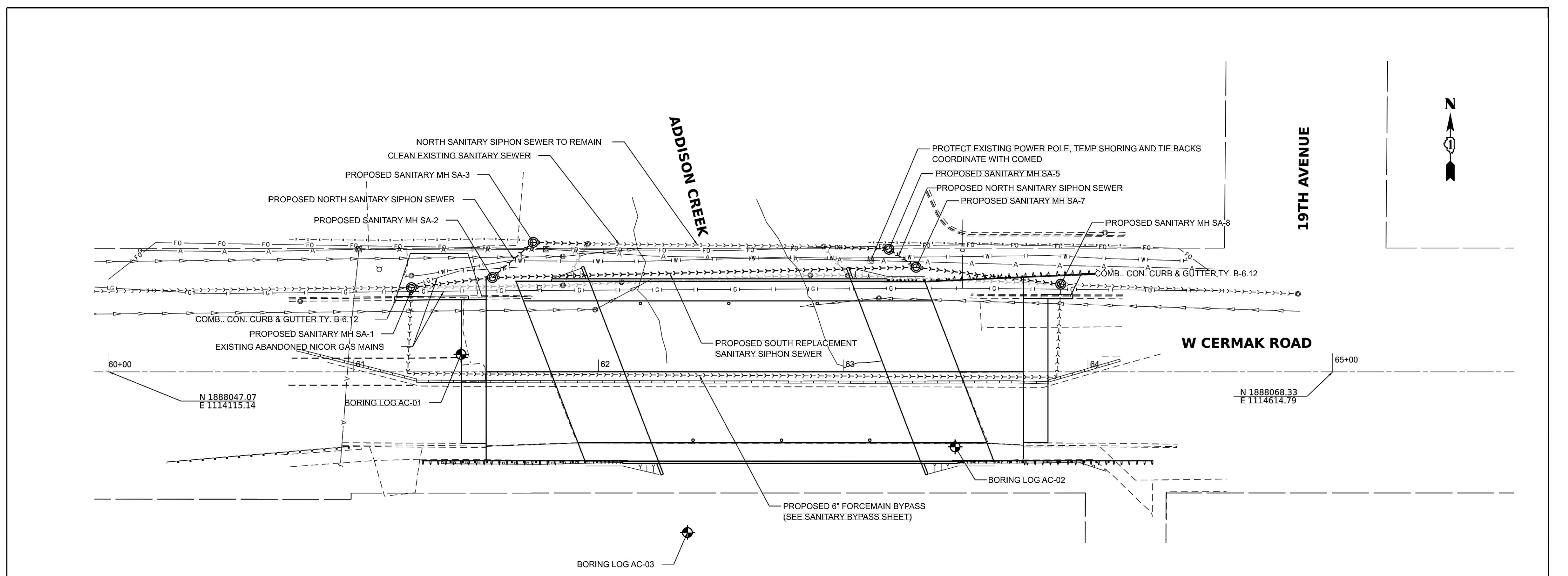
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 CHICAGO@HEYANDASSOCIATES.COM

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT SANITARY SIPHON AT CERMAK ROAD**  
 PLANS DATED 2022-07-22





625	PR SAN MH SA-2 5' DIA STA = 61+56.67 OFFSET = 36.51 L RIM = 622.56 INV (NE) = 611.40 INV (W) = 611.41	PR SAN MH SA-3 4' DIA STA = 61+73.35 OFFSET = 52.84 L RIM = 621.55 INV (E) = 611.34 INV (SW) = 611.35	EX SAN MH STA = 61+92.00 OFFSET = 51.70 RIM = 618.98 INV (W) = 610.73 INV (E) = 610.62 INV (SE) = 611.02	PR SAN MH SA-5 4' DIA STA = 63+18.75 OFFSET = 52.07 L RIM = 622.33 INV (W) = 610.58 INV (SE) = 610.57	625
620	PR SAN MH SA-1 4' DIA STA = 61+23.53 OFFSET = 34.41 L RIM = 622.22 INV (NE) = 611.46 INV (E) = 611.46	EXIST. 12" WATER ASSUMED INV = 615.57	EX SAN MH STA = 61+95.78 OFFSET = 52.26 L RIM = 619.91 INV (W) = 611.31 INV (E) = 610.91 INV (SW) = 611.26	PR SAN MH SA-7 5' DIA STA = 63+29.81 OFFSET = 42.70 L RIM = 622.84 INV (NW) = 610.55 INV (E) = 610.54	620
615	PR SANITARY SEWER 12" 19 LF @ 0.22%	EXIST. 24" STORM SEWER INV = 612.74	PR SANITARY SEWER 15" 23 LF @ 0.15%	EXIST. 12" WATER ASSUMED INV = 615.57	615
610	PR SANITARY SEWER 12" 26 LF @ 0.22%	PR SANITARY SEWER 12" 15 LF @ 0.22%	PR SANITARY SEWER 15" 23 LF @ 0.15%	PR SAN MH SA-8 4' DIA STA = 63+86.81 OFFSET = 35.81 L RIM = 622.97 INV (W) = 610.50 INV (E) = 609.97	610
605	PR SANITARY SEWER 12" 26 LF @ 0.22%	PR SANITARY SEWER 12" 15 LF @ 0.22%	PR SANITARY SEWER 15" 22 LF @ 0.15%	NOTES: 1. THE SIZES, TYPES AND LOCATIONS OF UNDERGROUND UTILITIES AS INDICATED HAVE BEEN OBTAINED FROM THE BEST AVAILABLE EXISTING RECORDS, MASTER PLANS, AND FIELD SURVEYS. UNDERGROUND STRUCTURES AND UTILITIES MAY BE PRESENT WHICH ARE NOT DOCUMENTED OR LOCATED. 2. IT SHALL BE ALL CONTRACTORS' RESPONSIBILITY TO FIELD-VERIFY EXISTING STRUCTURES, UTILITIES, AND SURVEY INFORMATION, AND TO TAKE NECESSARY PRECAUTIONS DURING CONSTRUCTION. ALL CONTRACTORS SHALL FIELD-CHECK ALL EXISTING CONDITIONS AND TO BE THOROUGHLY FAMILIAR WITH THE SITE BEFORE ANY WORK COMMENCES. 3. ANY DISCREPANCIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE CONSTRUCTION MANAGER BEFORE ANY FURTHER WORK COMMENCES. IN THE EVENT AN UNEXPECTED UTILITY OR STRUCTURE INTERFERENCE IS ENCOUNTERED, ALL CONTRACTORS SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER. 4. THE BASE FLOOD ELEVATION WITHIN THE PROJECT LIMITS IS 622.00.	605
600	PR SANITARY SEWER 15" 28 LF @ 0.15%	PR SANITARY SEWER 15" 28 LF @ 0.15%	PR SANITARY SEWER 15" 28 LF @ 0.15%		600
595	PR SANITARY SEWER 15" 28 LF @ 0.15%	PR SANITARY SEWER 15" 28 LF @ 0.15%	PR SANITARY SEWER 15" 28 LF @ 0.15%		595

	DESIGNED - TGB	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	VERT. 0 5 10 HORIZ. 0 20 40	<b>PROPOSED NORTH SIPHON SANITARY SEWER RELOCATION PLAN</b>	F.A.P. RTE. 1453	SECTION 2018-126-BR	COUNTY COOK	TOTAL SHEETS 12	SHEET NO. 6
	DRAWN - DP	REVISED -				SHEET OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT
CHECKED - RTM	REVISED -	DATE - 7/22/2022								

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

Designed by: XXX  
Checked by: PML  
Drawn by: KSS  
Reviewed by: JAW  
Correct:

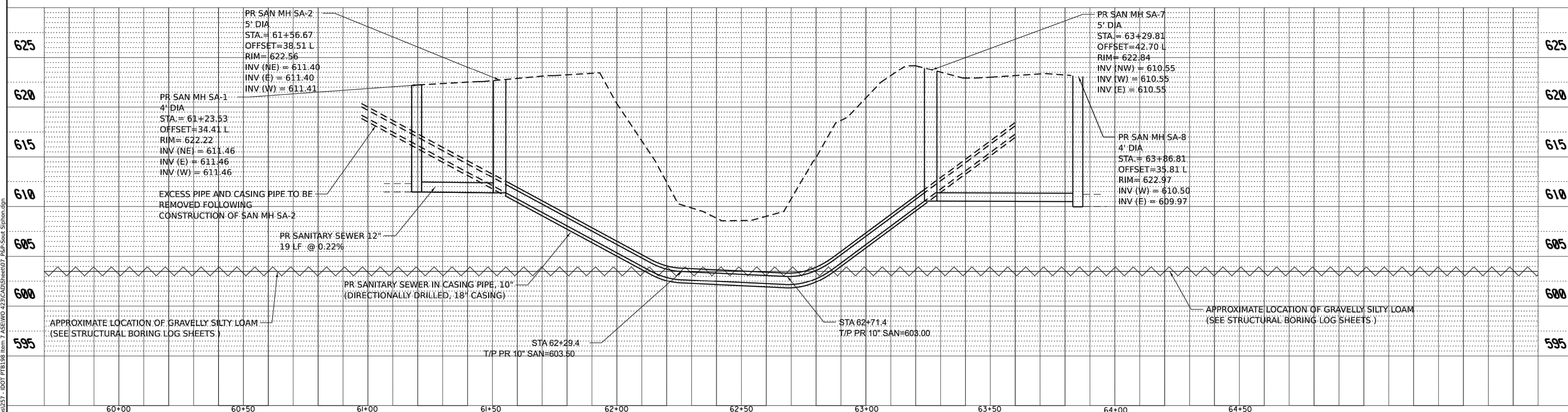
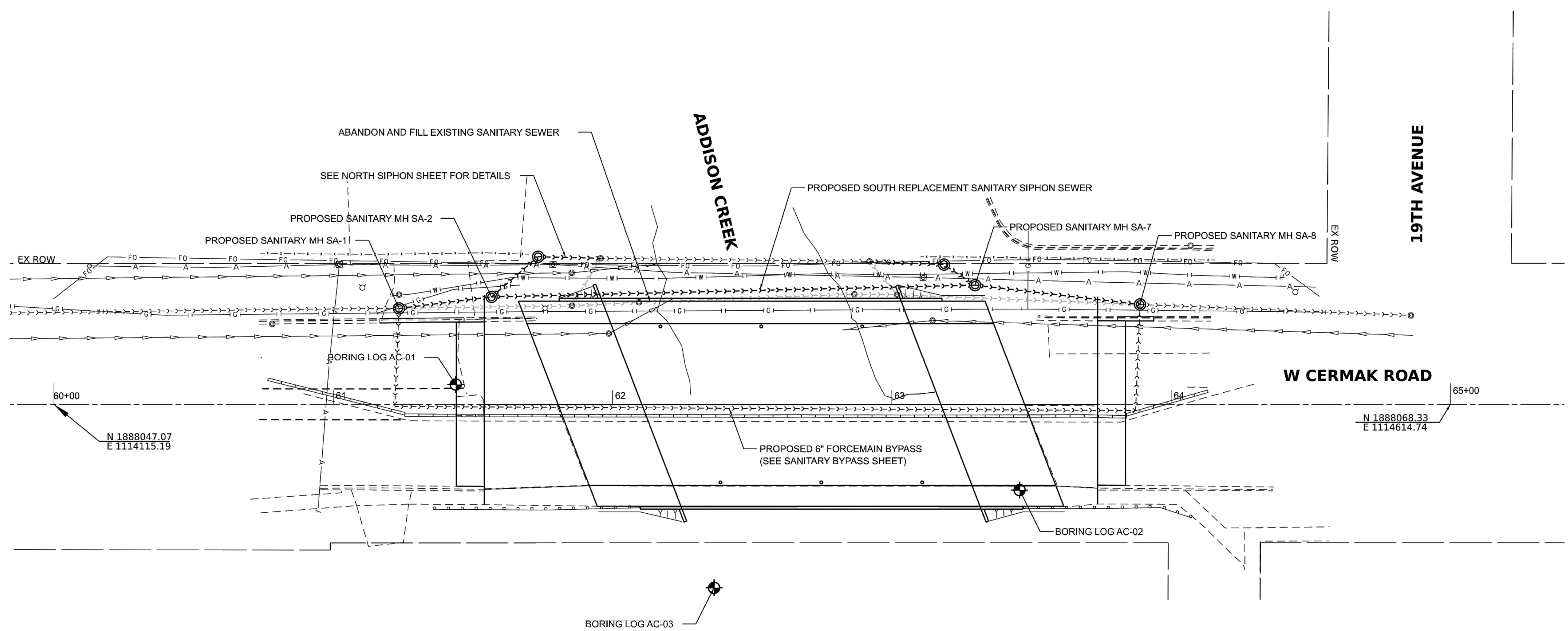
Scale: NTS  
Date: 2022

**Hcy and Associates, Inc.**  
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ILLINOIS LICENSE NO. 184062829

**CONTRACT 11-187-3F**  
ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT SANITARY SIPHON AT CERMAK ROAD  
PLANS DATED 2022-07-22**

PLOT DATE: 9/27/2022 5:24 PM PLOTTED BY: KYLE SOLNER  
 FILE NAME: Y:\001\16-0005 Mwd - Final Design For Addison Creek\CAD\11-187-3F\Reference\Sheets\R-140.dwg 8/31/2022 10:29 AM



DESIGNED - TGB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	VERT. 0 5 10	<b>PROPOSED SOUTH SIPHON SANITARY SEWER RELOCATION PLAN</b>	F.A.P. RTE. 1453	SECTION 2018-126-BR	COUNTY COOK	TOTAL SHEETS 12	SHEET NO. 7
DRAWN - DP	REVISED -		HORIZ. 0 20 40		SHEET OF SHEETS STA. TO STA.	FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	CONTRACT NO. 62H51
CHECKED - RTM	REVISED -								
DATE - 7/22/2022	REVISED -								

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
OF GREATER CHICAGO**

Designed by: XXX  
 Checked by: PML  
 Scale: NTS

Drawn by: KSS  
 Reviewed by: JAW  
 Date: 2022

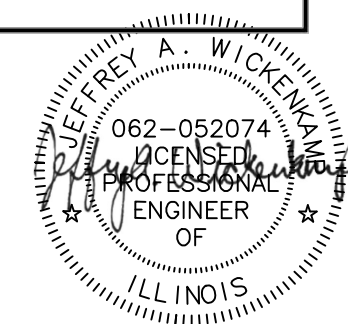
Correct:

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 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 18406287

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

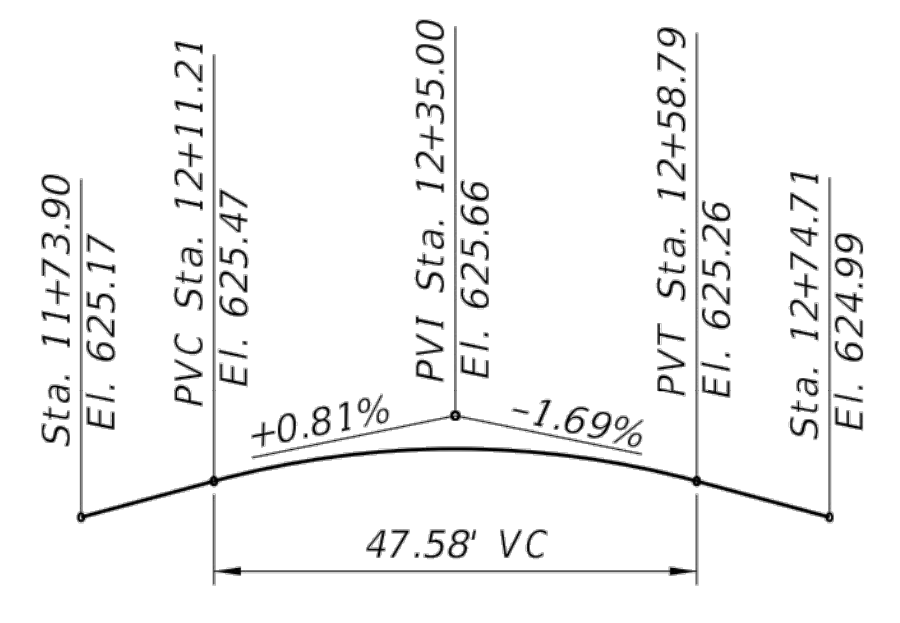
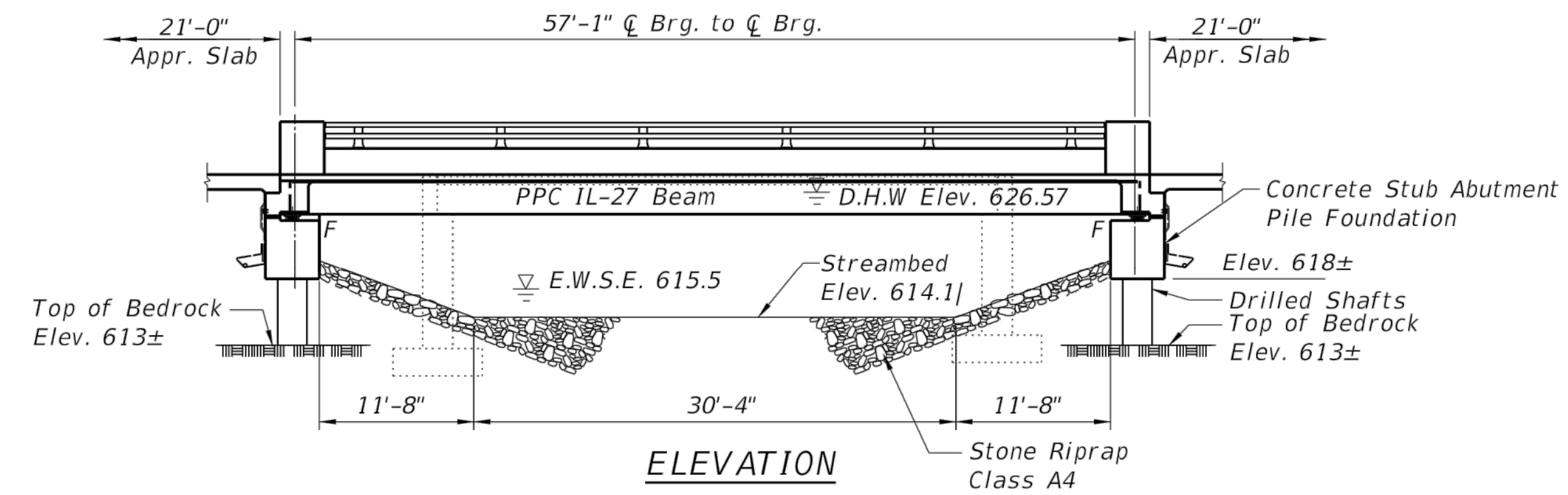
**IDOT SANITARY SIPHON AT CERMAK ROAD  
 PLANS DATED 2022-07-22**

Sheet Number:  
**R-140**  
 Page Number: 484



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 PLOT DATE: 10/18/2022 10:46 AM PLOTTED BY: KYLE SOLNER

Benchmark: OSBM 1 Mini Railroad spike on north face of P.P east of Suffolk Avenue on south side of Gladstone. Elevation 626.26  
 Existing Structure: SN. 016-8165 was constructed in 1930. The bridge is a single span structure with a length 40'-0" back to back of abutments and has no skew. The superstructure consists of 7-27" cast concrete T-beams at 6'-3" cts with bituminous overlay and has a total deck width of 46'-0". The deck provides two lanes of traffic with a 6'-6" wide sidewalk and a flat steel handrail type railing mounted to the top of the sidewalk.  
 Traffic: The bridge will be closed during construction and traffic detoured on local routes.  
 Salvage: None



**INDEX OF SHEETS**

S-01	General Plan and Elevation
S-02	General Notes and Details
S-03	Top Slab Elevation Location Plan
S-04	Top of Slab Elevations
S-05	Top of Approach Slab Elevations
S-06	Superstructure
S-07	Superstructure Details
S-08	Diaphragm Details
S-09	Bridge Approach Slab Details 1
S-10	Railing Details
S-11	Framing Plan
S-12	IL27N Beam Details 1
S-13	IL27N Beam Details 2
S-14	Type 1 Bearing Detail
S-15	Abutment Details
S-16	Boring Logs

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec ( $S_u$ ) = 0.086g  
 Design Spectral Acceleration at 0.2 sec ( $S_u$ ) = 0.150g  
 Soil Site Class = D

**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

**DESIGN STRESSES**

**FIELD UNITS (NEW CONSTRUCTION)**

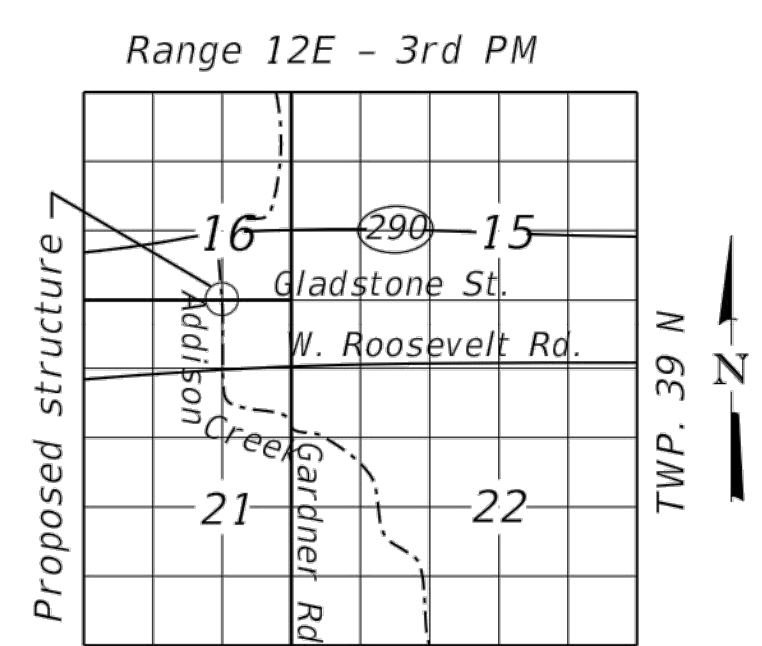
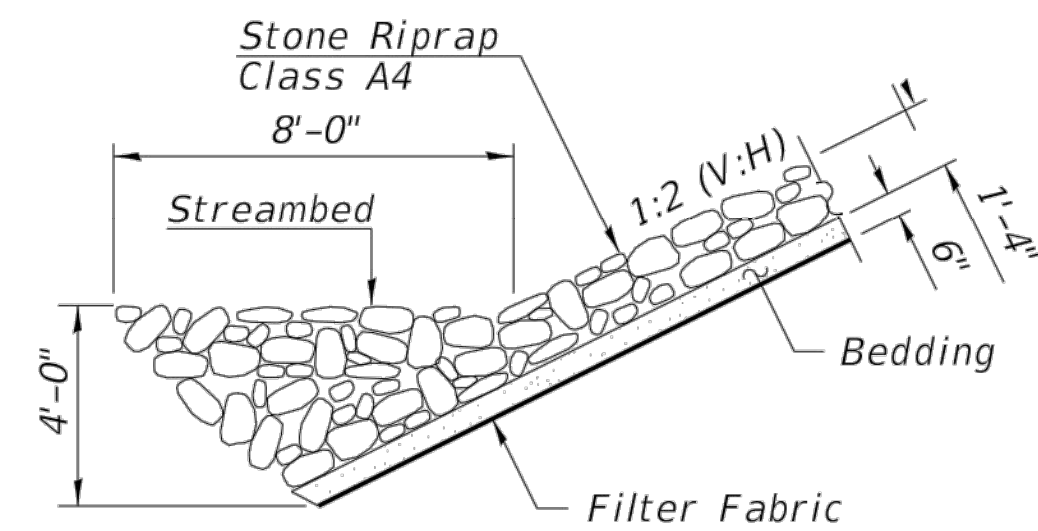
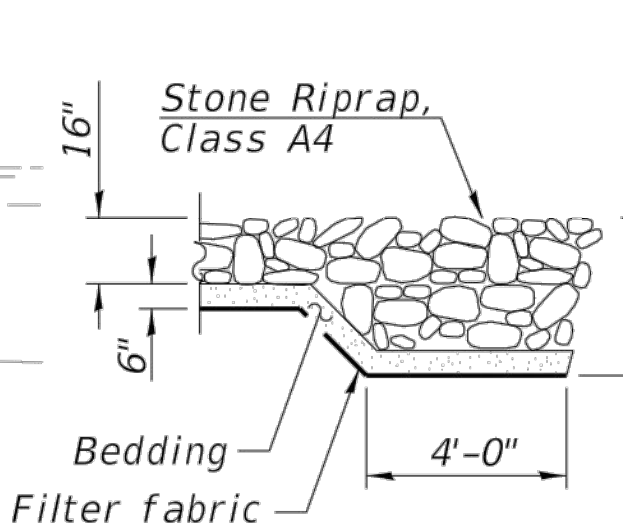
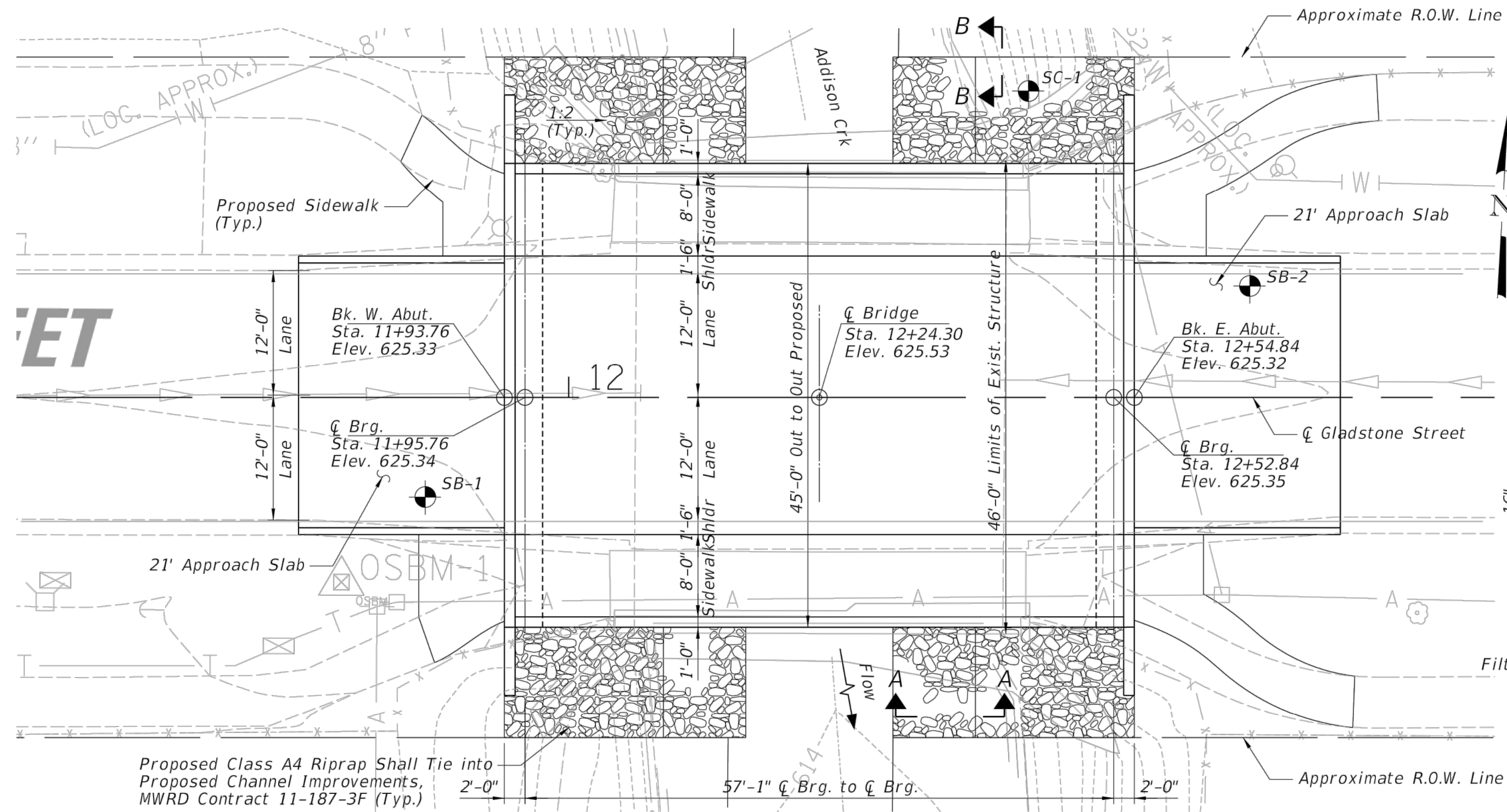
$f'_c$  = 3,500 psi (Substructure)  
 $f'_c$  = 4,000 psi (Superstructure)  
 $f_y$  = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**

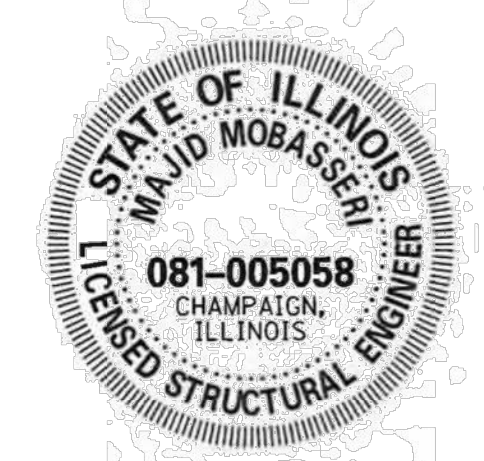
$f'_c$  = 8,500 psi  
 $f'_c$  = 6,500 psi  
 $f_{pu}$  = 270,000 psi (0.6 low relax. strands)  
 $f_{pb}$  = 201,960 psi (0.6 low relax. strands)

ADDISON CREEK  
 BUILT 2022 BY  
 COOK COUNTY  
 SEC. 15-00083-00-BR  
 STA. 12+24.30  
 STRUCTURE NO. 016-8166  
 LOADING HL-93

**NAME PLATE**  
 See Std. 515001



I Certify That To The Best Of My Knowledge, Information And Belief, This Bridge Design Is Structurally Adequate For The Design Loading Shown On The Plans. The Design Is An Economical One For The Style Of Structure And Complies With Requirements Of The Current "AASHTO Standard Specification For Highway And Bridges".



*Majid Mobasser*  
**MAJID MOBASSERI**  
 ILLINOIS REGISTRATION No. 081-005058 STRUCTURAL ENGINEER  
 EXPIRATION DATE: 11/30/22

**GENERAL PLAN**  
**GLADSTONE STREET OVER**  
**ADDISON CREEK**  
**SECTION 15-00083-00-BR**  
**COOK COUNTY**  
**STA. 12+24.30**  
**STRUCTURE No. 016-8166**

**WATERWAY INFORMATION**

Drainage Area = 17.6 Sq. Miles Low Grade Elev. 624.37 @ Sta. 14+52.76

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	10	1359	268.6	361.2	625.90	0.01	0.00	625.91	625.90	
Base	30	1561	268.6	361.2	626.57	0.00	0.00	626.57	626.57	
Overtopping	100	1796	268.6	361.2	627.55	0.00	0.00	627.55	627.55	
Max. Calc.	±4	500	2210	268.6	361.2	628.66	0.02	0.02	628.68	628.68

**DESIGN SCOUR ELEVATION TABLE**

	Design Scour Elevations (ft.)			Item
	N. Abut.	S. Abut.	113	
Q100	N/A	N/A		
Q200	N/A	N/A		8
Design	618.2	618.2		
Check	618.2	618.2		

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 Rosemont, Illinois 60018  
 (847) 823-0500

USER NAME =	DESIGNED =	REVISED =
CHECKED =	CHECKED =	REVISED =
PLOT SCALE =	DRAWN =	REVISED =
PLOT DATE =	CHECKED =	REVISED =

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 016-8166**

SHEET 1 OF 16 SHEETS

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3021	15-00083-00-BR	COOK	36	16
				CONTRACT NO. 61H62
ILLINOIS FED. AID PROJECT				

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

Designed by: XXX  
 Checked by: PML  
 Drawn by: KSS  
 Correct: JAW

Scale: NTS  
 Date: 2022

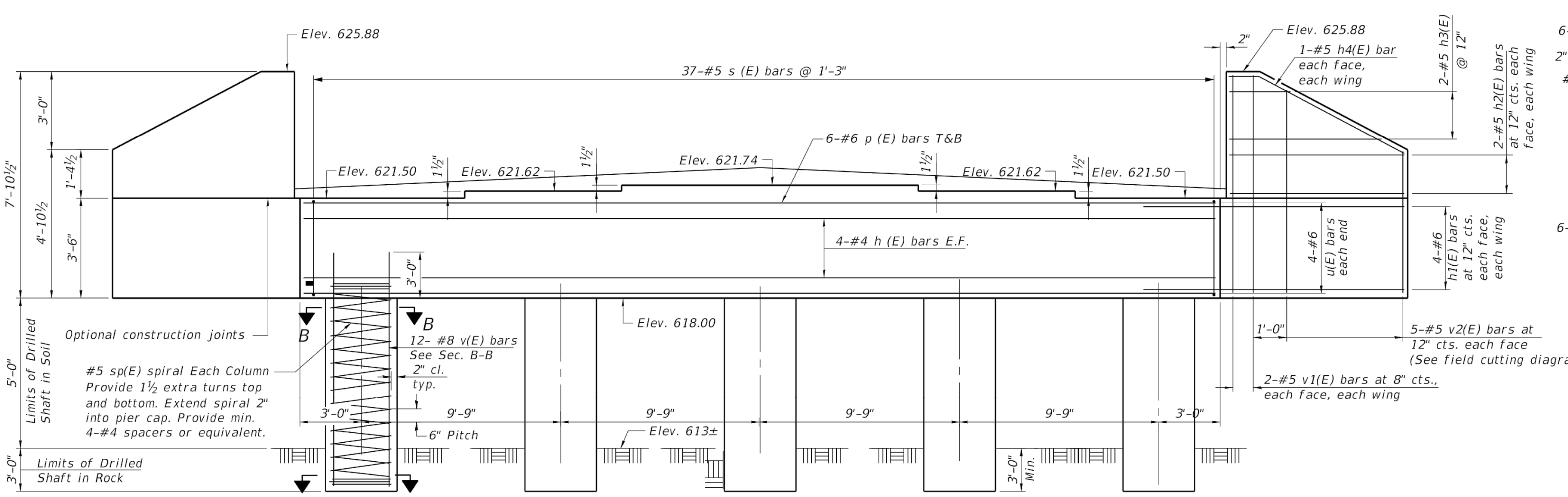
**Hey and Associates, Inc.**  
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 8755 WEST HERCULES ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE: (773) 699-9200  
 CHICAGO: (773) 699-9200  
 LICENSE NO. 18406287

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

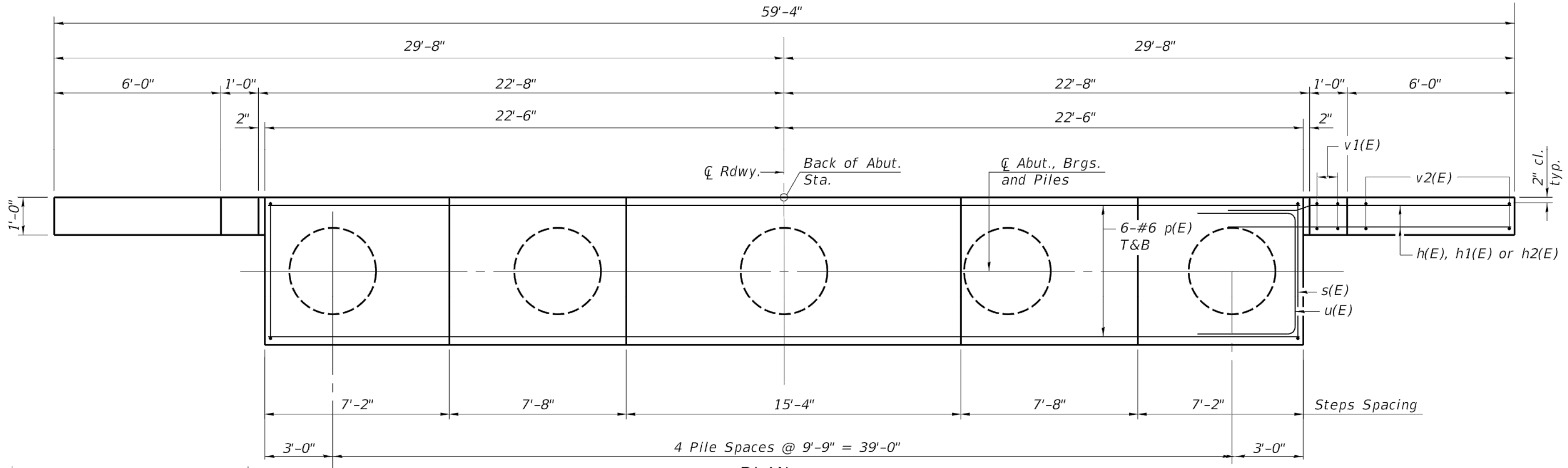
**IDOT GLADSTONE STREET OVER ADDISON CREEK PLANS DATED 11-17-2021**



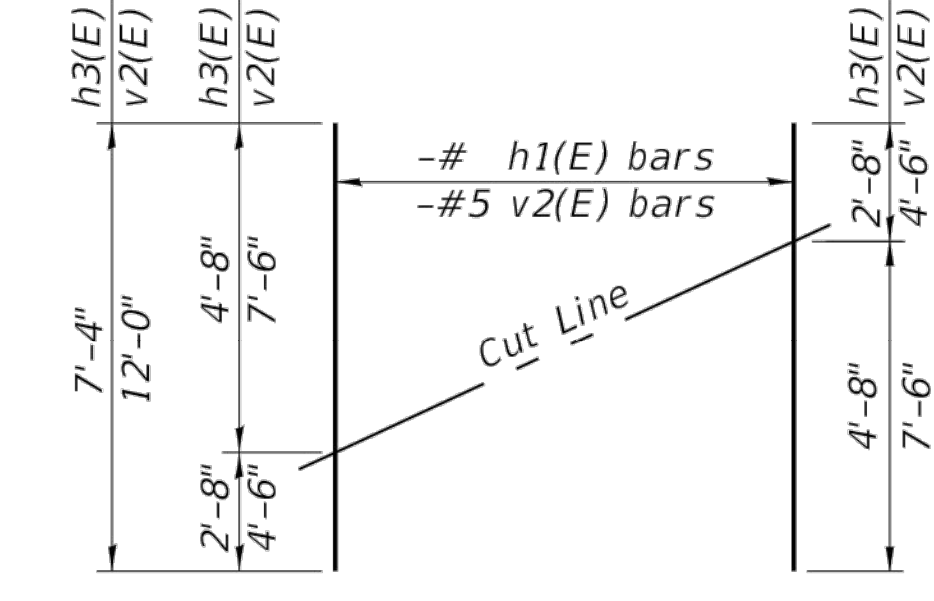
Sheet Number:  
**R-141**  
 Page Number: 485



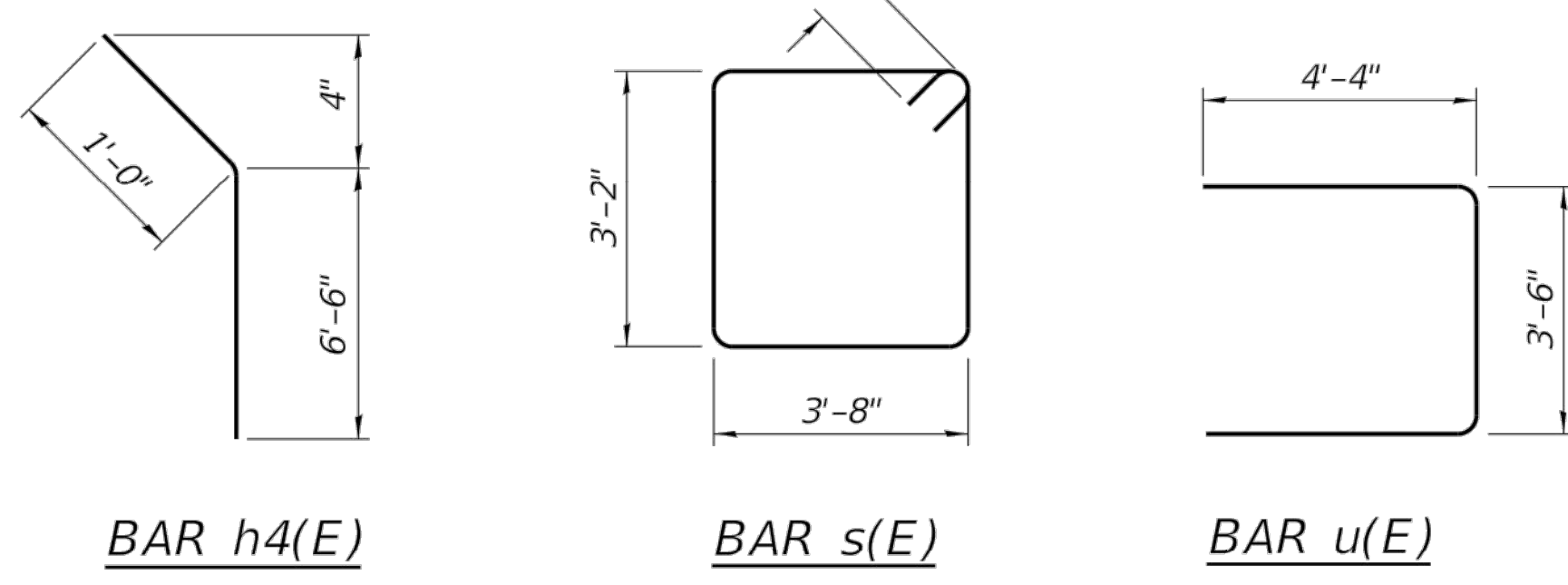
**ELEVATION**



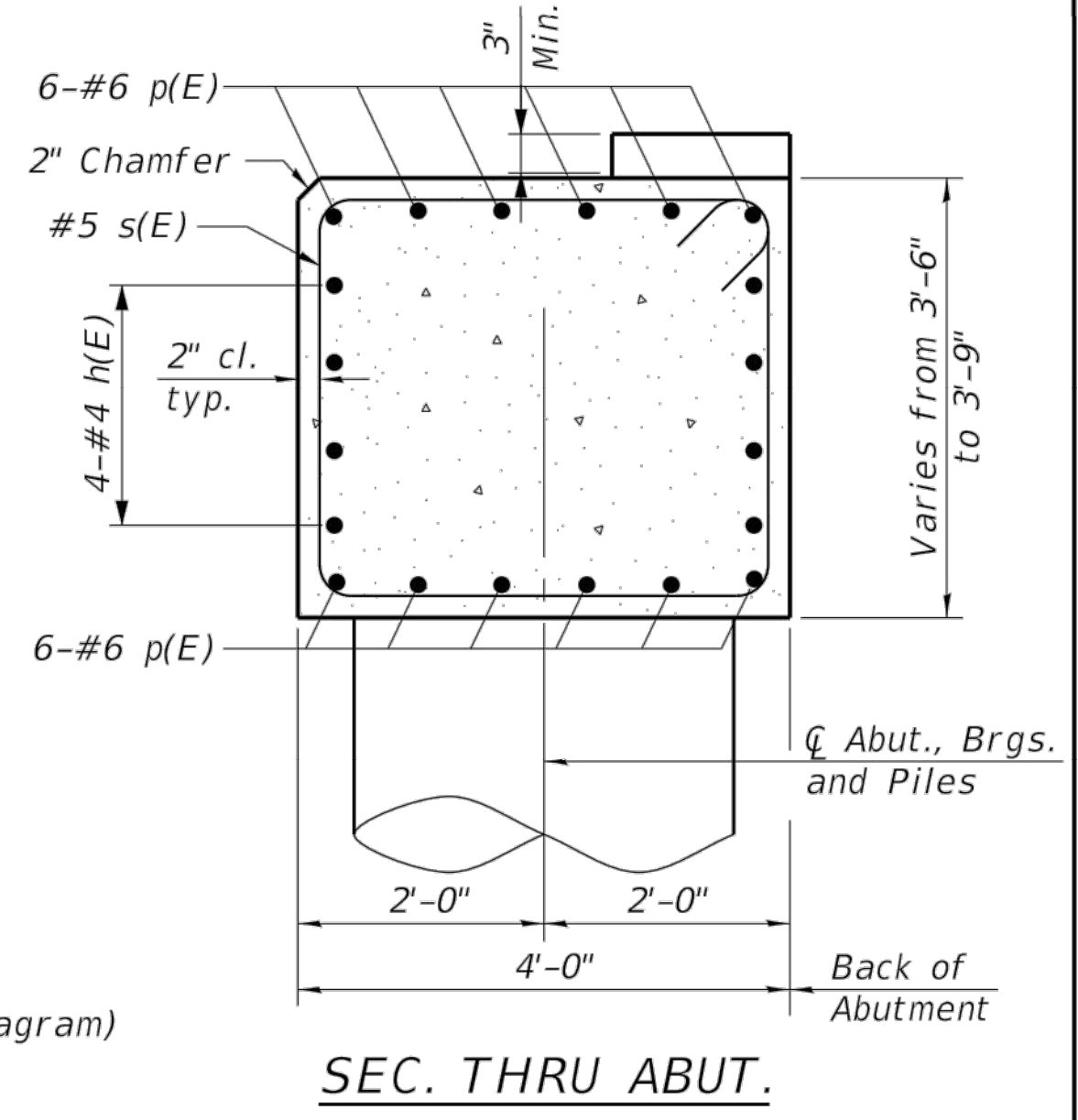
**PLAN**



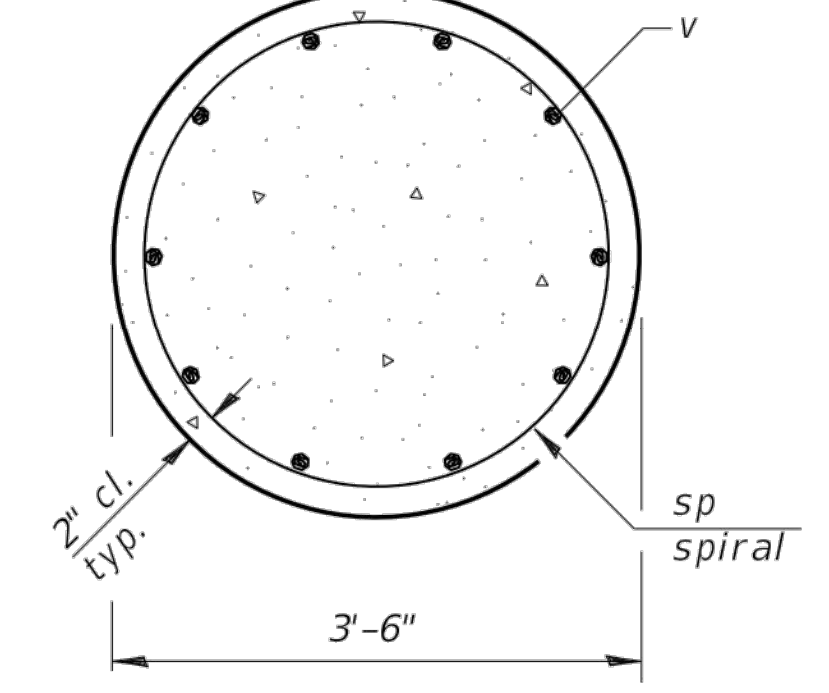
**FIELD CUTTING DIAGRAM**  
 Order h3(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



**Notes:**  
 Pour steps monolithically with cap.  
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
 \* Length is height spiral.



**SEC. THRU ABUT.**



**SECTION B-B**

**BILL OF MATERIAL FOR BOTH ABUTMENT**

Bar	No.	Size	Length	Shape
h1(E)	16	#4	44'-8"	—
h2(E)	32	#6	11'-0"	—
h3(E)	16	#5	6'-8"	—
h4(E)	8	#5	7'-4"	—
p(E)	24	#6	44'-8"	—
s(E)	74	#5	14'-7"	□
sp	10	#5	8'-6"	⋈
u(E)	16	#6	12'-2"	—
v(E)	120	#8	11'-0"	—
v1(E)	16	#5	7'-6"	—
v2(E)	24	#5	12'-0"	—
Structure Excavation		Cu. Yd.	295	
Concrete Structures		Cu. Yd.	55.2	
Reinforcement Bars, Epoxy Coated		Pound	10,480	
Drilled Shaft, in Soil		Cu. Yd.	17.8	
Drilled Shaft, in Rock		Cu. Yd.	7.9	

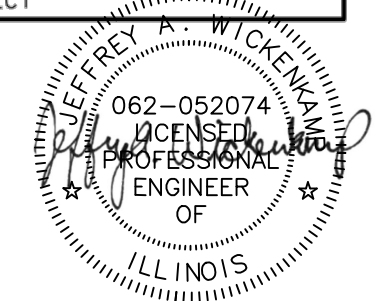
**CHRISTOPHER B. BURKE ENGINEERING, LTD.**  
 8075 W. Higgins Road, Suite 600  
 Rosemont, Illinois 60018  
 (847) 823-0500

USER NAME	DESIGNED	REVISED
CHECKED	CHECKED	REVISED
DRAWN	DRAWN	REVISED
CHECKED	CHECKED	REVISED

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**ABUTMENT DETAILS  
 STRUCTURE NO. 016-8166**  
 SHEET 15 OF 16 SHEETS

MUN. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3021	15-00083-00-BR	COOK	36	30
CONTRACT NO. 61H62			ILLINOIS FED. AID PROJECT	



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
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 CHICAGO@HEYASAC.COM  
 PROFESSIONAL DESIGNER, P.E.  
 LICENSE NO. 18406287

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 Checked by: PML  
 Drawn by: KSS  
 Correct: JAW

Scale: NTS  
 Date: 2022

**CONTRACT 11-187-3F**  
 ADDISON CREEK CHANNEL IMPROVEMENTS

**IDOT GLADSTONE STREET OVER ADDISON  
 CREEK PLANS DATED 11-17-2021**

Sheet Number:  
**R-142**  
 Page Number: 486

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PLOT DATE: 10/18/2022 10:46 AM PLOTTED BY: KYLE SOLNER

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Testing Service Corporation

STRUCTURE BORING LOG

Page 1 of 1

Date Started 1/24/18

Date Completed 1/24/18

ROUTE \_\_\_\_\_ DESCRIPTION Gladstone Street Bridge over Addison Creek  
SECT. 15-00083-00-BR STRUCT. NO. 016-8165 DRILLED BY TSC/L-87.852  
COUNTY Cook LOCATION West Abutment S. SE16, TWP. 39N, RNG. 12E

Table with columns: Boring No., Station, Offset, Surface Elev., Depth, Value, Qu, W, Description, and additional columns for blow counts and values.

SPT. (N) = Sum of last two blow values in sample. (Qu) S=Shear, B=Bulge at 15% Strain, P=Penetration Test. Stations, Depths, Offset, and Elevations are in Feet

Testing Service Corporation

STRUCTURE BORING LOG

Page 1 of 1

Date Started 1/24/18

Date Completed 1/24/18

ROUTE \_\_\_\_\_ DESCRIPTION Gladstone Street Bridge over Addison Creek  
SECT. 15-00083-00-BR STRUCT. NO. 016-8165 DRILLED BY TSC/L-87.852  
COUNTY Cook LOCATION East Abutment S. SE16, TWP. 39N, RNG. 12E

Table with columns: Boring No., Station, Offset, Surface Elev., Depth, Value, Qu, W, Description, and additional columns for blow counts and values.

SPT. (N) = Sum of last two blow values in sample. (Qu) S=Shear, B=Bulge at 15% Strain, P=Penetration Test. Stations, Depths, Offset, and Elevations are in Feet

Testing Service Corporation

STRUCTURE BORING LOG

Page 1 of 1

Date Started 2/14/18

Date Completed 2/14/18

ROUTE \_\_\_\_\_ DESCRIPTION Gladstone Street Bridge over Addison Creek  
SECT. 15-00083-00-BR STRUCT. NO. 016-8165 DRILLED BY TSC/L-87.852  
COUNTY Cook LOCATION Northeast Abutment S. SE16, TWP. 39N, RNG. 12E

Table with columns: Boring No., Station, Offset, Surface Elev., Depth, Value, Qu, W, Description, and additional columns for blow counts and values.

SPT. (N) = Sum of last two blow values in sample. (Qu) S=Shear, B=Bulge at 15% Strain, P=Penetration Test. Stations, Depths, Offset, and Elevations are in Feet

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Table with columns: USER NAME, DESIGNED, CHECKED, PLOT SCALE, PLOT DATE, REVISED, CHECKED, REVISED.

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BORING LOGS STRUCTURE NO. 016-8166 SHEET 16 OF 16 SHEETS

Table with columns: MUN. RTE., SECTION, COUNTY, TOTAL SHEETS, SHEET NO., CONTRACT NO.



METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO. Hey and Associates, Inc. Engineering, Ecology and Landscape Architecture. 8755 WEST HERGANS ROAD, SUITE 835 CHICAGO, ILLINOIS 60631

CONTRACT 11-187-3F ADDISON CREEK CHANNEL IMPROVEMENTS IDOT GLADSTONE STREET OVER ADDISON CREEK PLANS DATED 11-17-2021

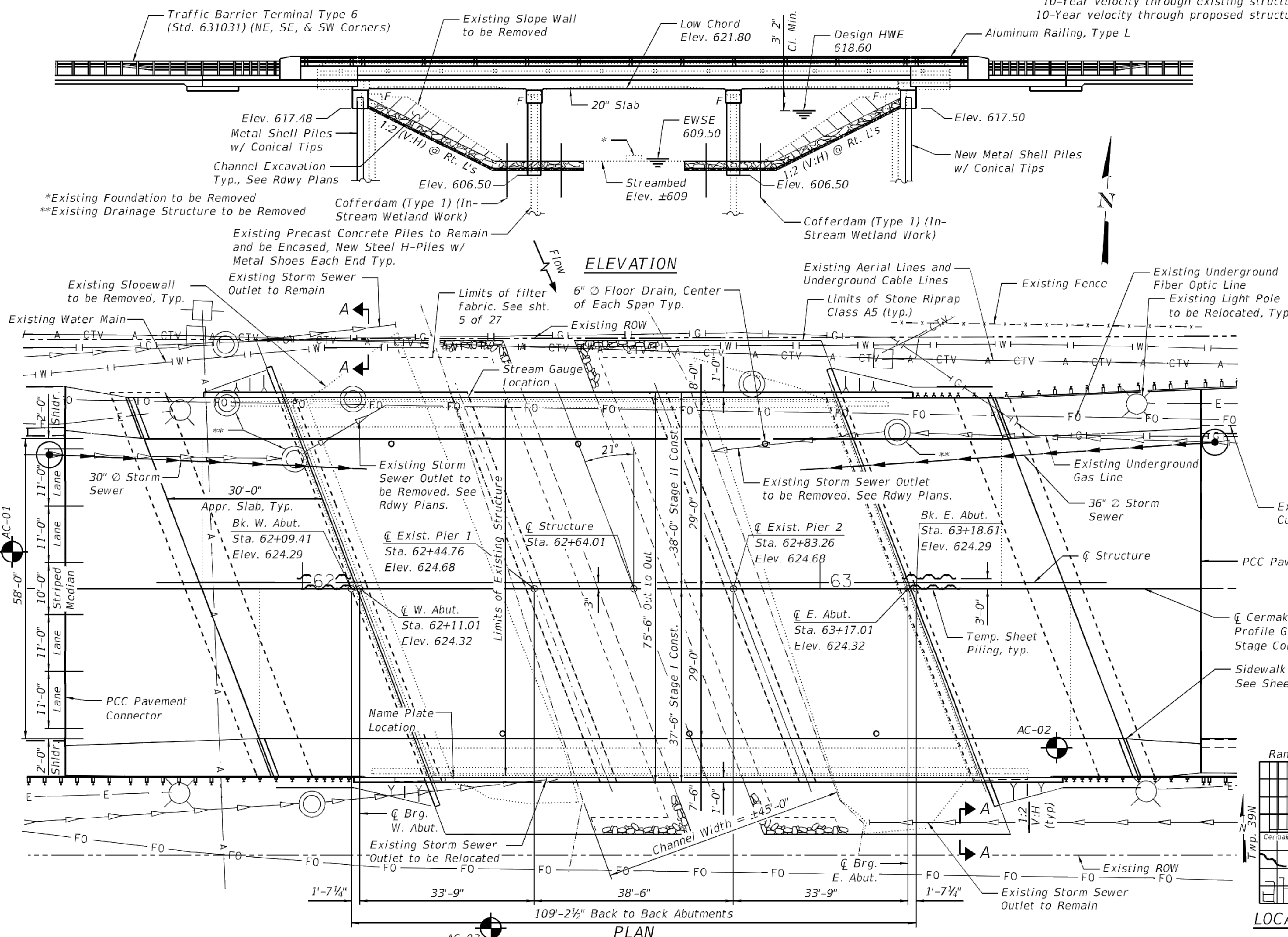
Sheet Number: R-143 Page Number: 487



Benchmark: BM 2 - A square cut in concrete light pole base ±100' W. of 19th Ave on the north side of Cermak Rd.  
 Elevation = 623.849 (NAVD88)

Existing Structure: Structure No. 016-0633 was originally built in 1957, F.A. Route 131 (Cermak Rd.), Section 551-Y. The superstructure consists of a three-span reinforced concrete slab bridge on pile bent abutments and multiple column piers. The structure underwent widening and various repairs in 1992, F.A.U. 1453, Section 56B-1. The back-to-back of abutment dimension measures 105'-8 3/4" and the out-to-out of deck dimension measures 72'-8". Traffic shall be maintained utilizing staged construction.

Salvage: Existing steel railing and posts. See General Notes sheet 2 of 27.



**WATERWAY INFORMATION**

Drainage Area = 21 sq. mi.		Existing Overtopping Elev. = 624.3 at Sta. 63+27.4		Proposed Overtopping Elev. = 624.4 at Sta. 62+94.6		
Flood Event	Freq. Yr.	Discharge Ft./s	Waterway Opening-ft. Exist. Prop.	Natural H.W.E. ft. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater Elev. ft. Exist. Prop.
Design	2	1160.67	343 478	616.10 617.72	0.03 0.01	616.13 616.11
Base	10	1438.05	468 489	617.72 617.72	0.17 0.10	617.89 617.82
Scour Check	50	1836.33	529 557	618.60 618.60	0.19 0.12	618.79 618.72
Max. Calc.	100	1931.96	568 591	619.04 619.04	0.19 0.12	619.23 619.16
	200	2068.58	610 647	619.72 619.72	0.18 0.10	619.90 619.82
	500	2200	677 722	620.60 620.60	0.17 0.10	620.77 620.70

10-Year velocity through existing structure = 3.05 ft/s  
 10-Year velocity through proposed structure = 3.01 ft/s

**DESIGN SCOUR ELEVATION TABLE**

Event/Limit State	Design Scour Elevations (ft.)				Item 113
	W. Abut.	Pier 1	Pier 2	E. Abut.	
Q100	617.48	606.29	606.29	617.50	8
Q200	617.48	606.29	606.29	617.50	
Design Check	617.48	606.29	606.29	617.50	

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.062  
 Design Spectral Acceleration at 0.2 sec. (SD5) = 0.114  
 Soil Site Class = C

**DESIGN SPECIFICATIONS**

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

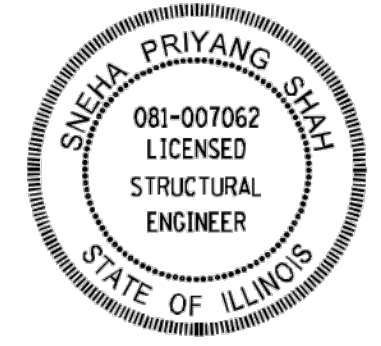
**DESIGN STRESSES**

**FIELD UNITS**

f<sub>c</sub> = 5,000 psi (Superstructure)  
 f<sub>c</sub> = 4,000 psi (Approach Slabs)  
 f<sub>c</sub> = 3,500 psi  
 f<sub>y</sub> = 60,000 psi (Reinforcement)

**LOADING HL-93**

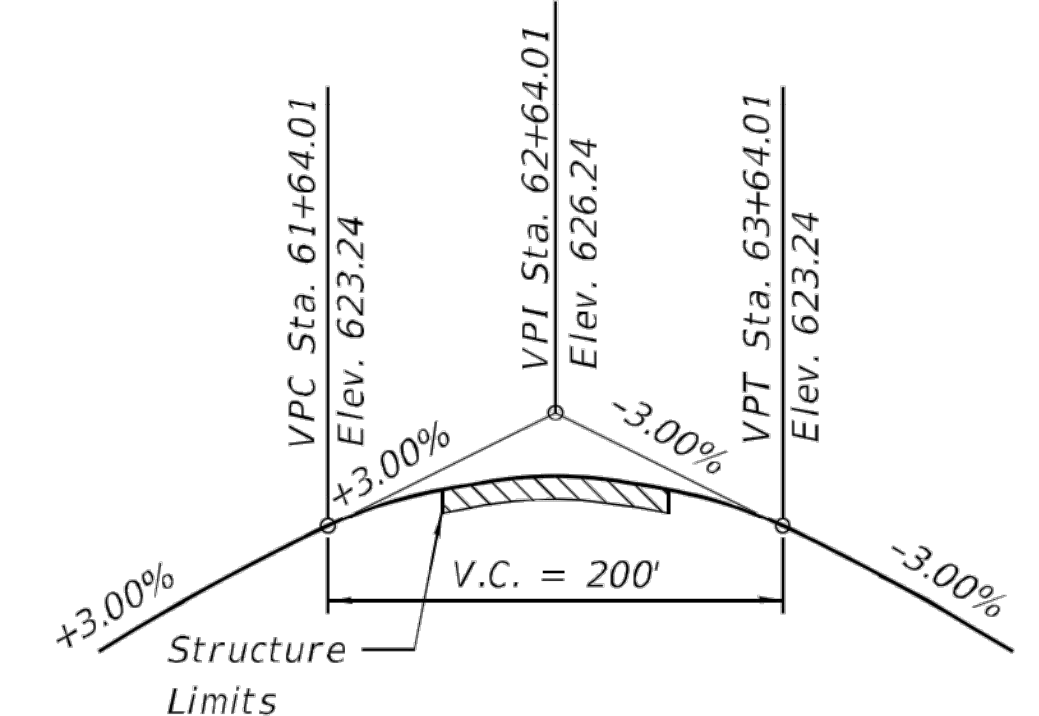
Allow 50#/sq. ft. for future wearing surface.



DATE SIGNED: 09-10-2020  
 EXP. DATE: 11-30-2022  
 Shts. 14-16 of 27



DATE SIGNED: 09-10-2020  
 EXP. DATE: 11-30-2022  
 Shts. 1-13, 17-27 of 27



**GENERAL PLAN & ELEVATION CERMAK ROAD OVER ADDISON CREEK**  
 F.A.U. RTE 1453 - SECTION 2018-126-BR  
 COOK COUNTY  
 STATION 62+64.01  
 STRUCTURE NO. 016-0633



USER NAME = Wilson	DESIGNED - HB	REVISED -
PLOT SCALE =	CHECKED - JJI	REVISED -
PLOT DATE = 11/5/2020	DRAWN - HB	REVISED -
	CHECKED - JJI	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

F.A.U. RTE. 1453	SECTION 2018-126-BR	COUNTY COOK	TOTAL SHEETS 194	SHEET NO. 147
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62H51	

CONTRACT NO. 62H51	SHEET NO. 1 OF 27 SHEETS
--------------------	--------------------------

Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

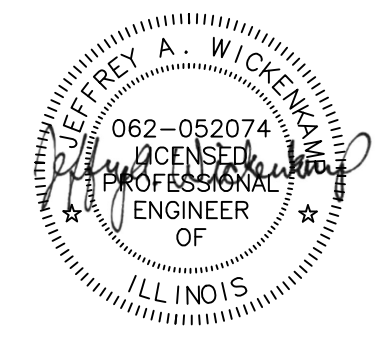
**Hey and Associates, Inc.**  
 Engineering, Ecology and Landscape Architecture  
 8755 WEST HERGANS ROAD, SUITE 835  
 CHICAGO, ILLINOIS 60631  
 OFFICE (773) 699-9200  
 CHICAGO@HEYASAC.COM

Designed by: XXX	Checked by: PML	Scale: NTS
Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

**CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS**

**IDOT CERMAK ROAD OVER ADDISON CREEK  
 PLANS DATED 11-05-2020**

Sheet Number:  
**R-144**  
 Page Number: 488

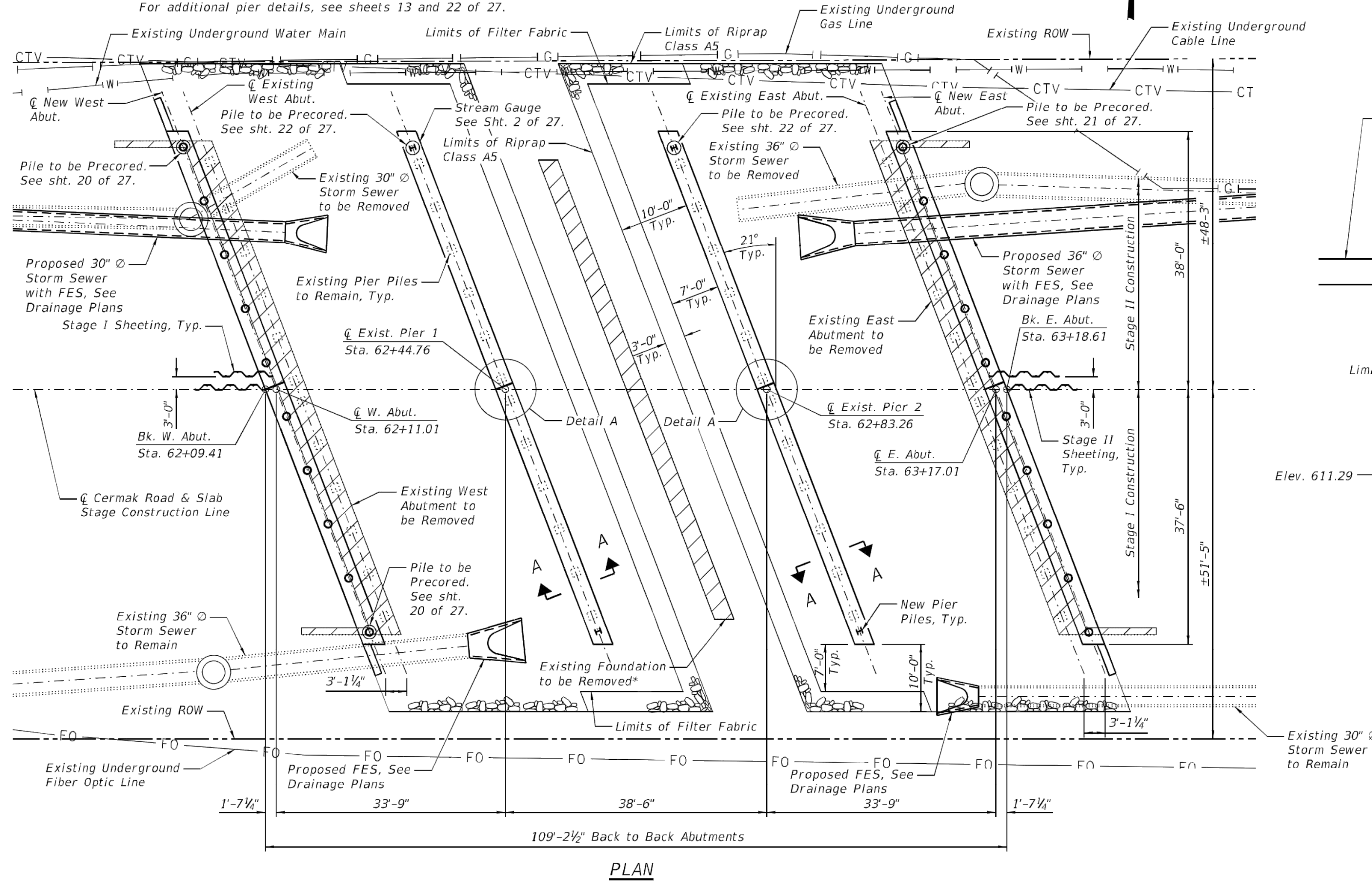


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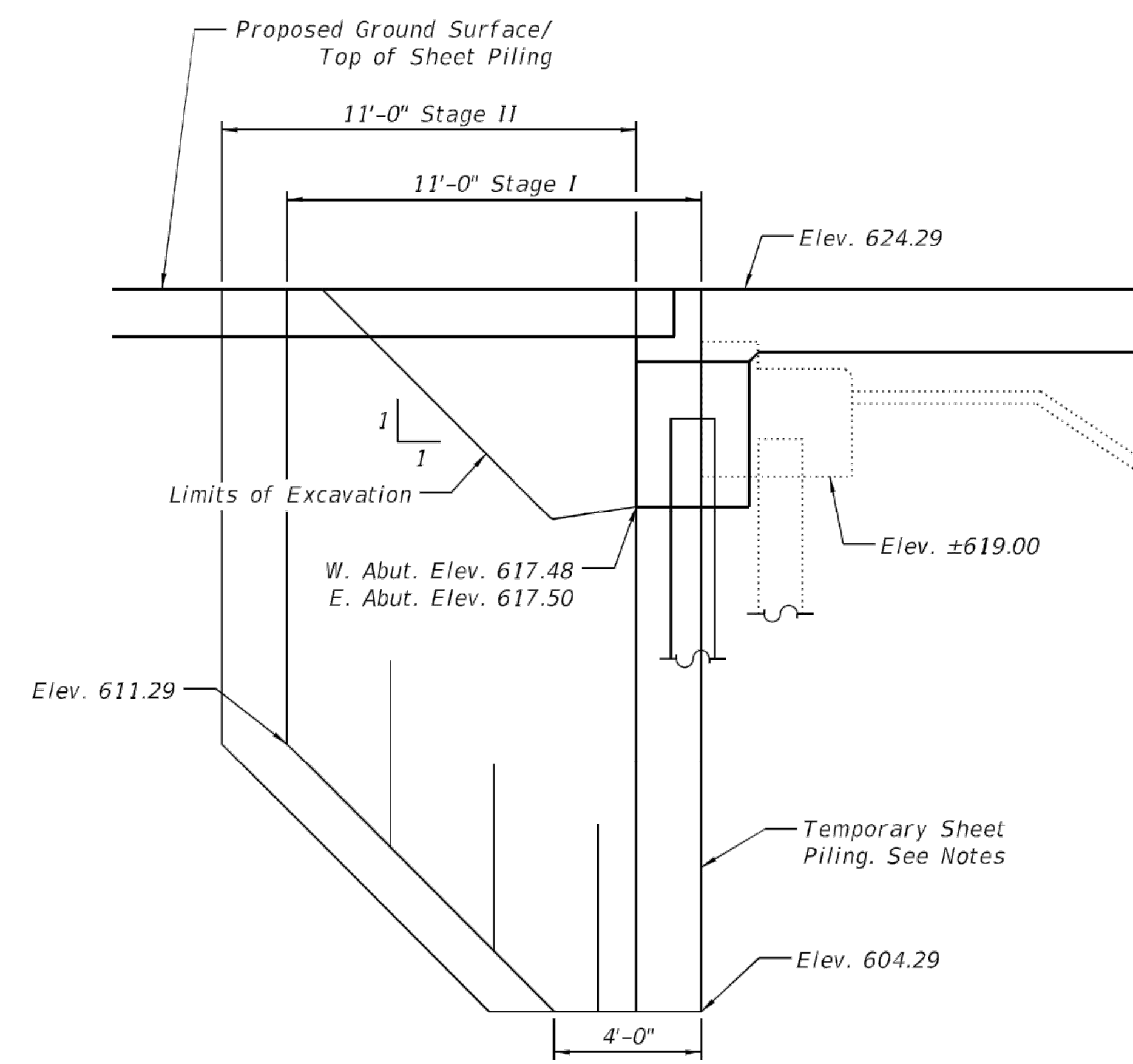
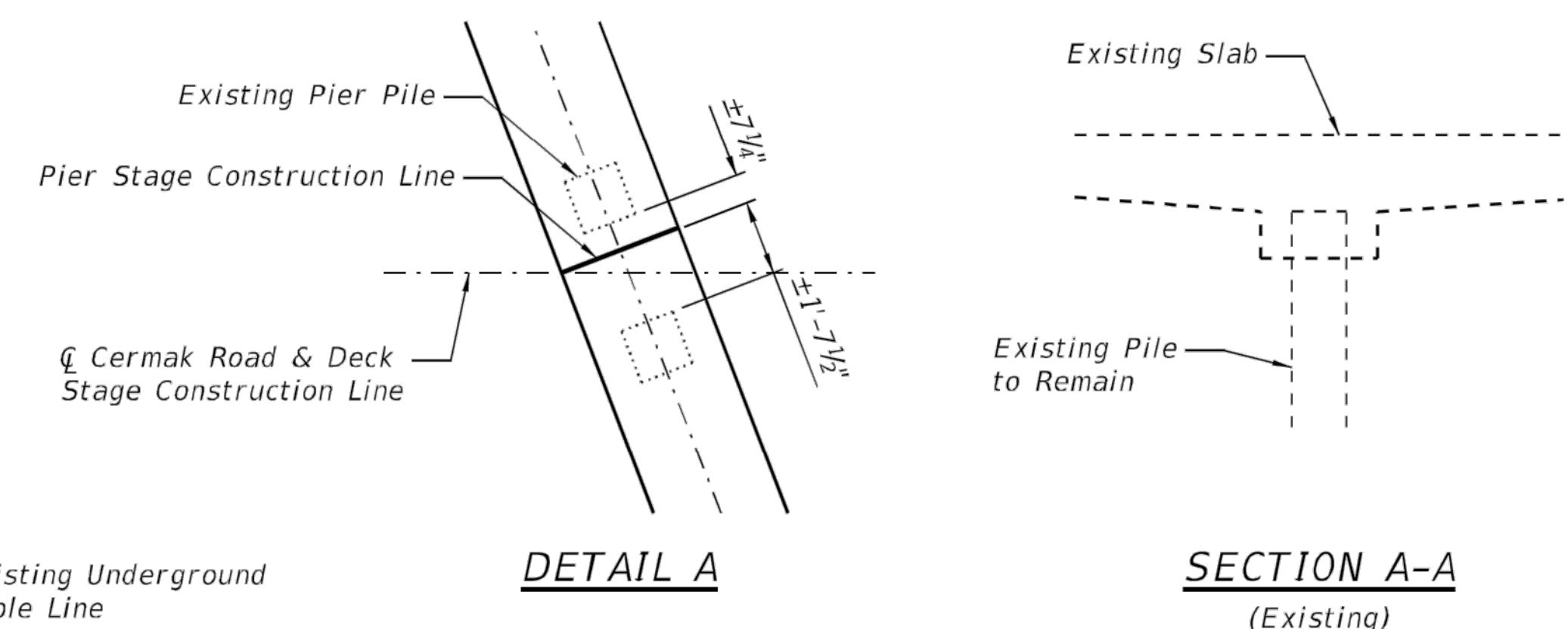
**LEGEND**



**Notes:**  
 Abutment piles are to be driven after removal of existing storm sewers and before installation of proposed storm sewers. See roadway plans for removal and storm sewer details.  
 Substructure stage construction lines differ from superstructure stage construction line. See sheets 20 thru 22 for details.  
 Temporary sheet piling shall be Grade 50 with a minimum effective section modulus of 14.0 in.<sup>3</sup>/ft.  
 If the Contractor chooses to alter the temporary sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.  
 Existing slope wall removal shall not damage existing storm sewers that are to remain.  
 For additional riprap details, see sheet 2 of 27.  
 For additional abutment details, see sheets 2, 13, 20 and 21 of 27.  
 For additional pier details, see sheets 13 and 22 of 27.



\*Cost included with Removal of Existing Structures.



**BILL OF MATERIAL**

Item	Unit	Total
Temporary Sheet Piling	Sq. Ft.	782

<b>BLA, Inc.</b>	USER NAME = Wilson	DESIGNED - HB	REVISED -
	PLOT SCALE =	CHECKED - JJI	REVISED -
	PLOT DATE = 11/5/2020	DRAWN - HB	REVISED -
		CHECKED - JJI	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**FOUNDATION LAYOUT  
 STRUCTURE NO. 016-0633**

SHEET NO. 5 OF 27 SHEETS

F.A.U. RTE. 1453	SECTION 2018-126-BR	COUNTY COOK	TOTAL SHEETS 194	SHEET NO. 151
ILLINOIS				FED. AID PROJECT

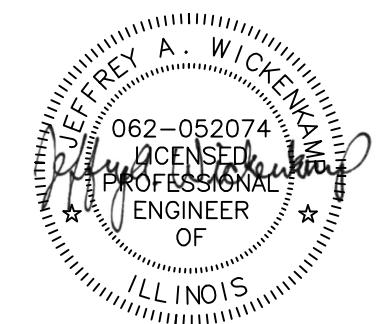
**METROPOLITAN WATER RECLAMATION DISTRICT  
 OF GREATER CHICAGO**

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Drawn by: KSS	Reviewed by: JAW	Date: 2022
Correct:		

**CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS**

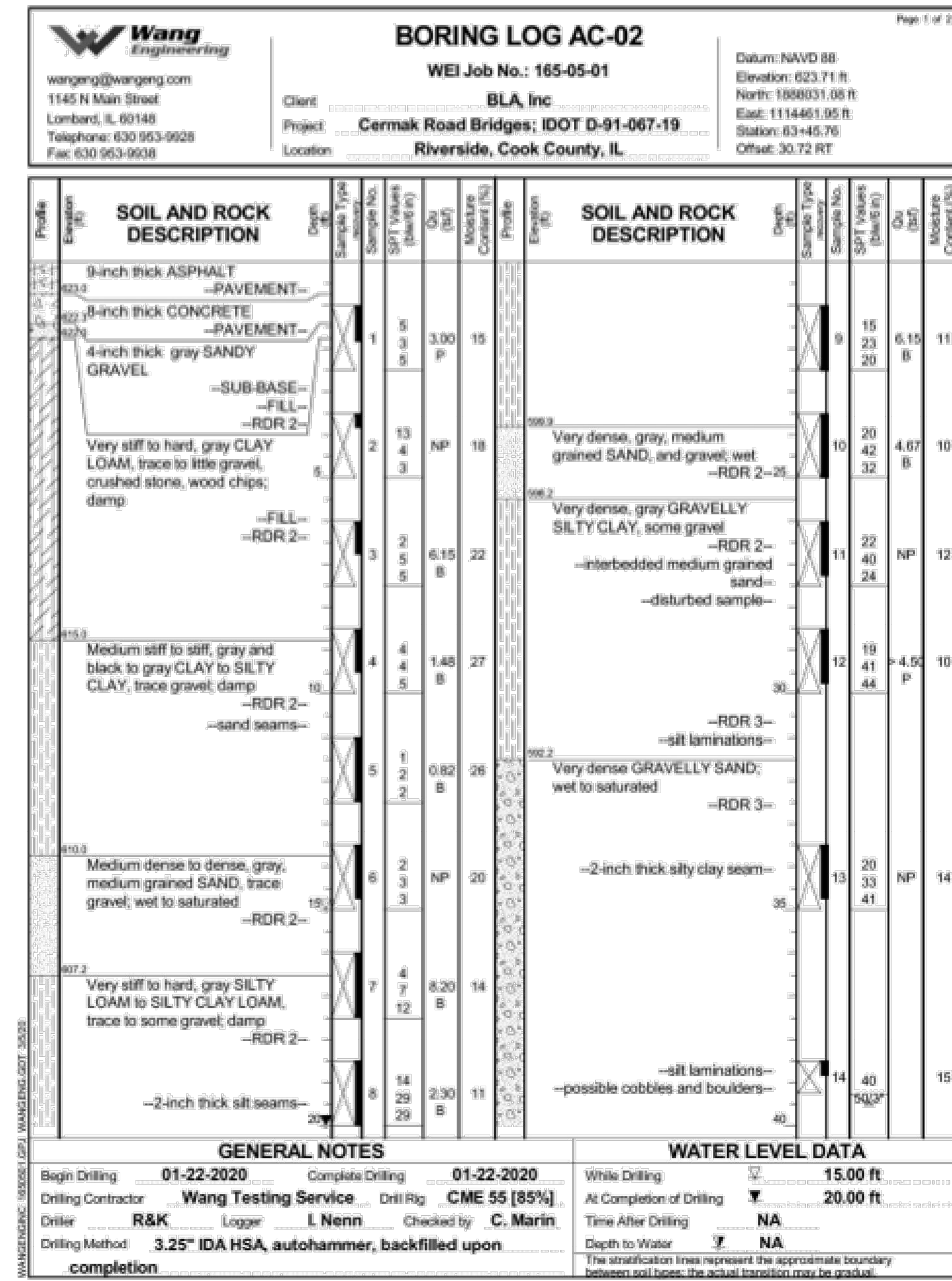
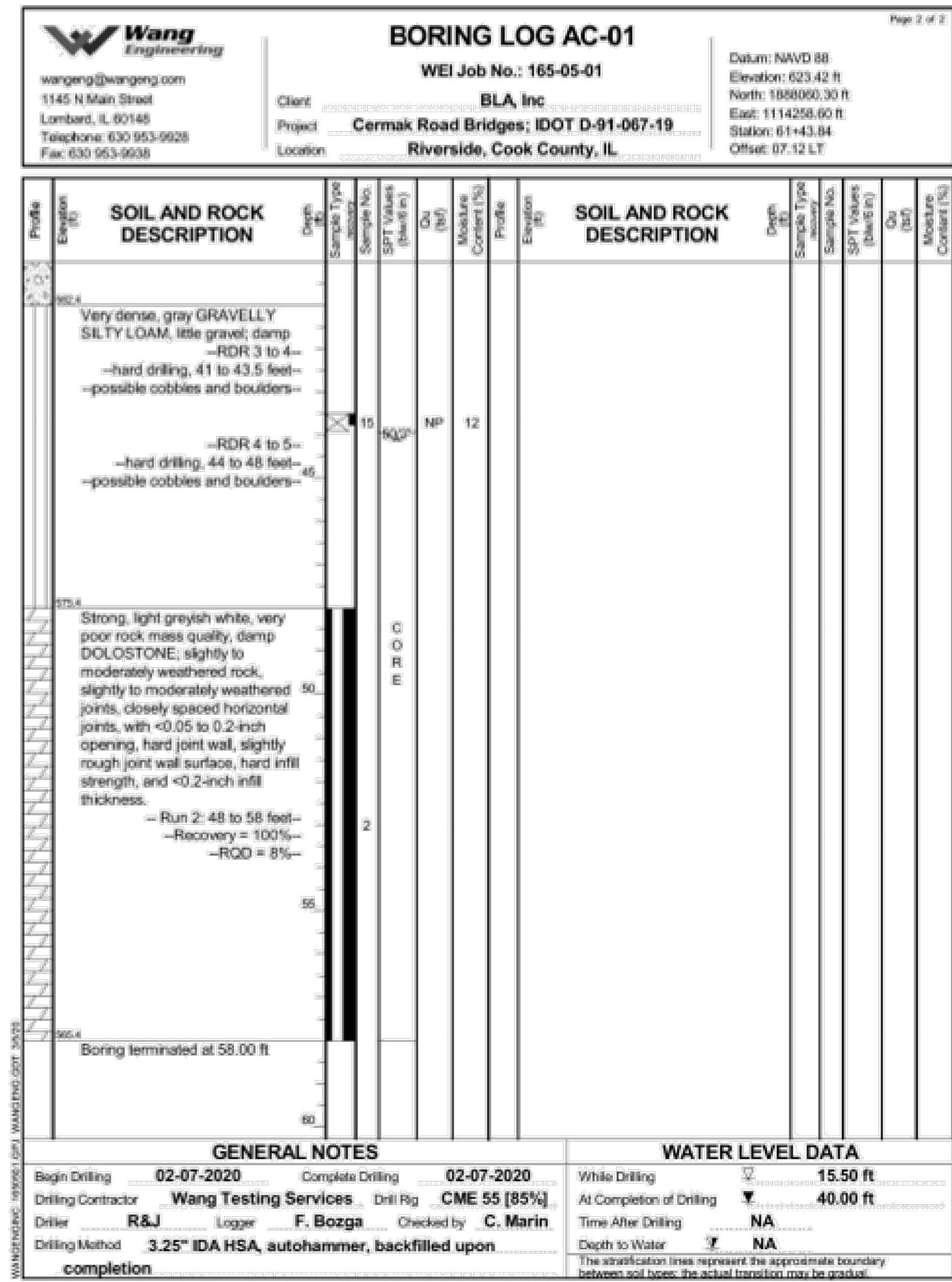
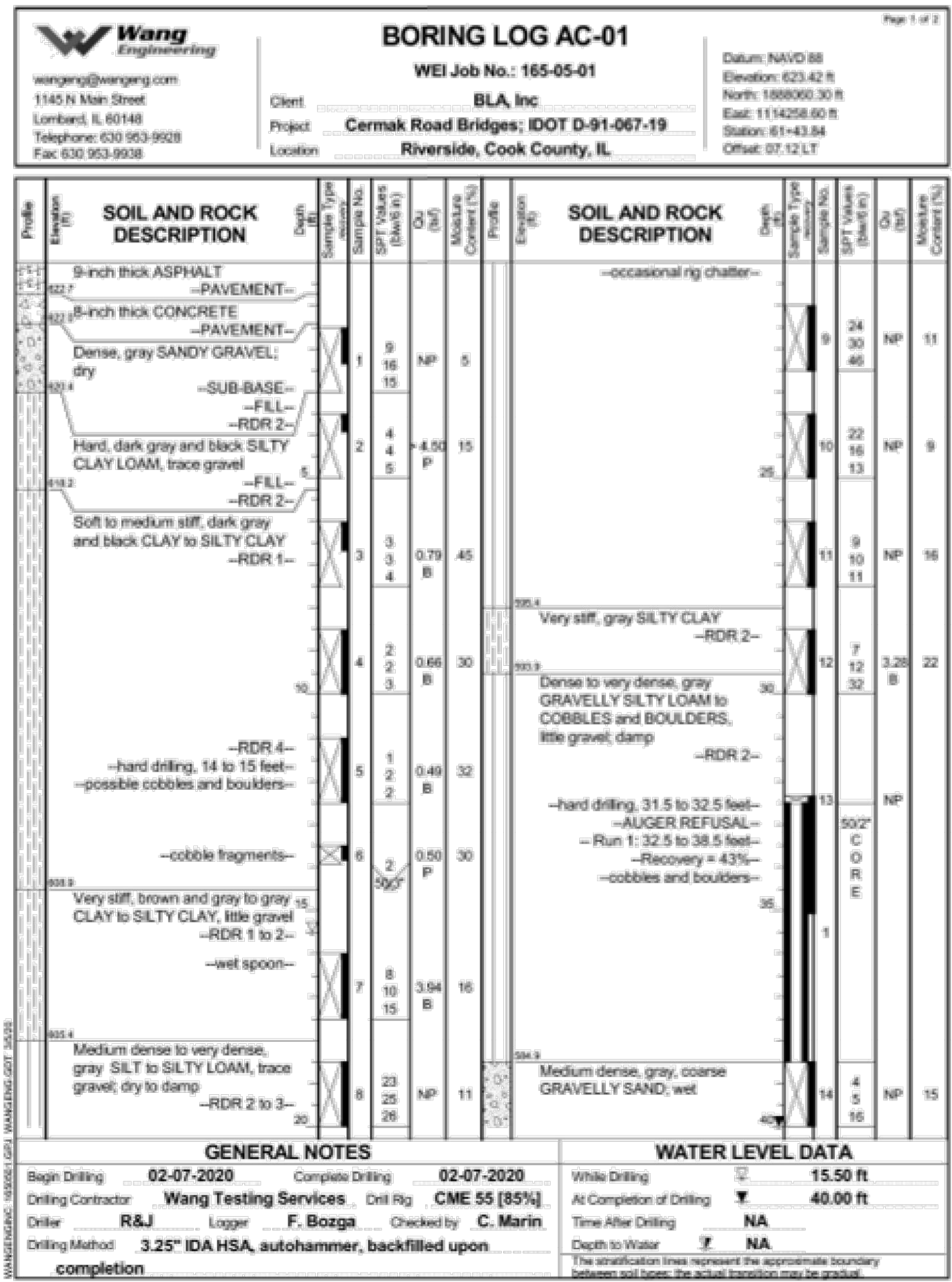
**IDOT CERMAK ROAD OVER ADDISON CREEK  
 PLANS DATED 11-05-2020**

Sheet Number:  
**R-145**  
 Page Number: 489



**Hey and Associates, Inc.**  
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 CHICAGO@HEYASNC.COM  
 PROFESSIONAL DESIGN FIRM  
 LICENSE NO. 18406287

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**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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Scale: NTS  
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 Chicago, Illinois 60631  
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PROFESSIONAL DESIGN, PLAN  
 LICENSE NO. 18406287

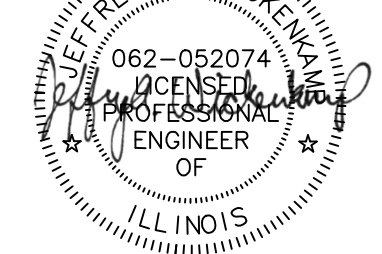


USER NAME: Winson	DESIGNED: HB	REVISED: -
CHECKED: JH	REVISIONS: -	
PLOT SCALE: -	DRAWN: HB	REVISED: -
PLOT DATE: 11/5/2020	CHECKED: JH	REVISED: -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS  
 STRUCTURE NO. 016-0633  
 SHEET NO. 26 OF 27 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1453	2018-126-BR	COOK	194	172
CONTRACT NO. 621H51				
ILLINOIS FED. AID PROJECT				



CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT CERMAK ROAD OVER ADDISON CREEK  
 PLANS DATED 11-05-2020

Sheet Number:  
**R-146**  
 Page Number: 490

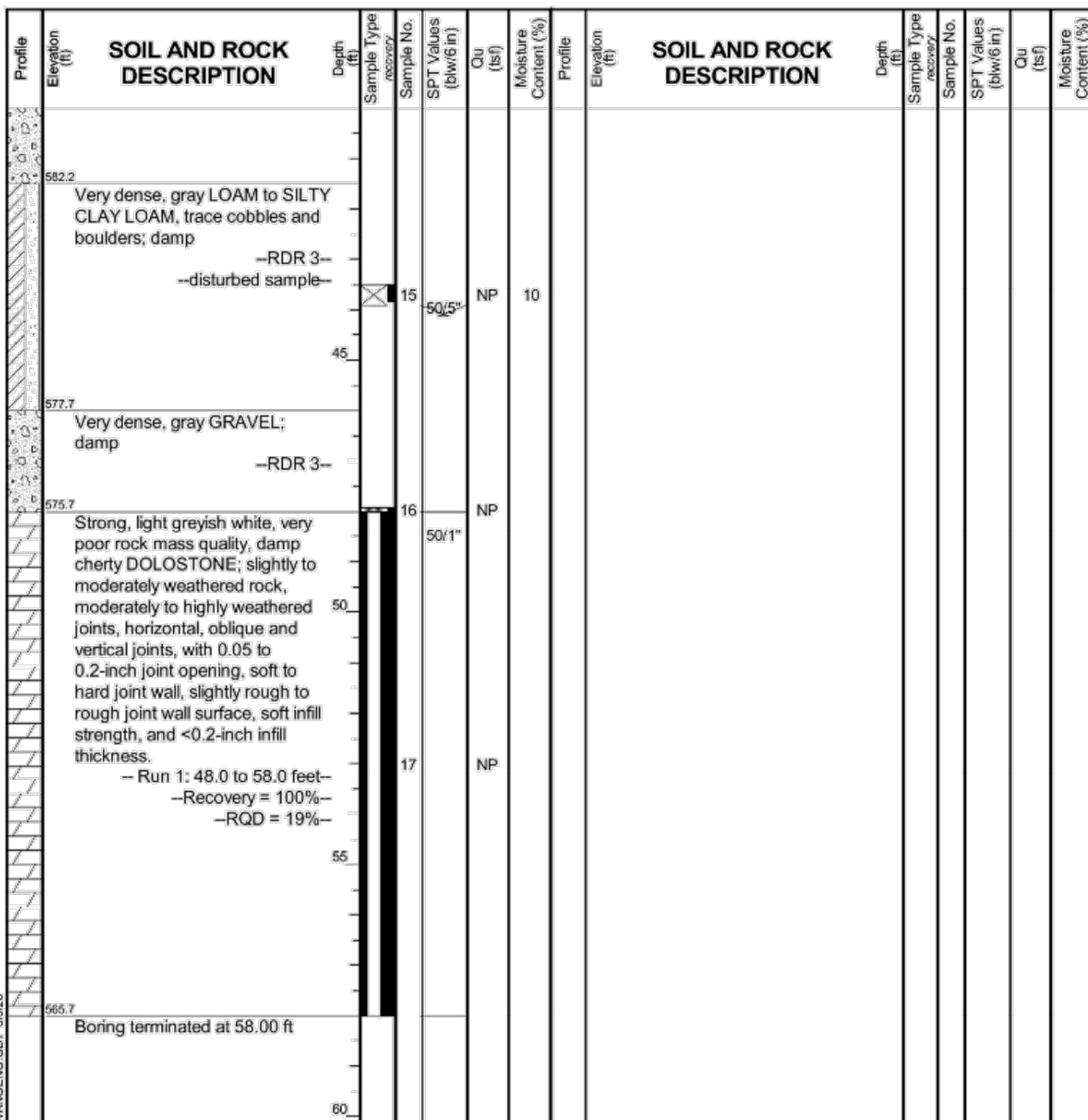
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 PLOT DATE: 10/18/2022 10:46 AM PLOTTED BY: KYLE SOLNER

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG AC-02**  
 WEI Job No.: 165-05-01  
 Client: **BLA, Inc.**  
 Project: **Cermak Road Bridges; IDOT D-91-067-19**  
 Location: **Riverside, Cook County, IL**

Datum: NAVD 88  
 Elevation: 623.71 ft  
 North: 1888031.08 ft  
 East: 1114481.95 ft  
 Station: 63+45.76  
 Offset: 30.72 RT

Page 2 of 2



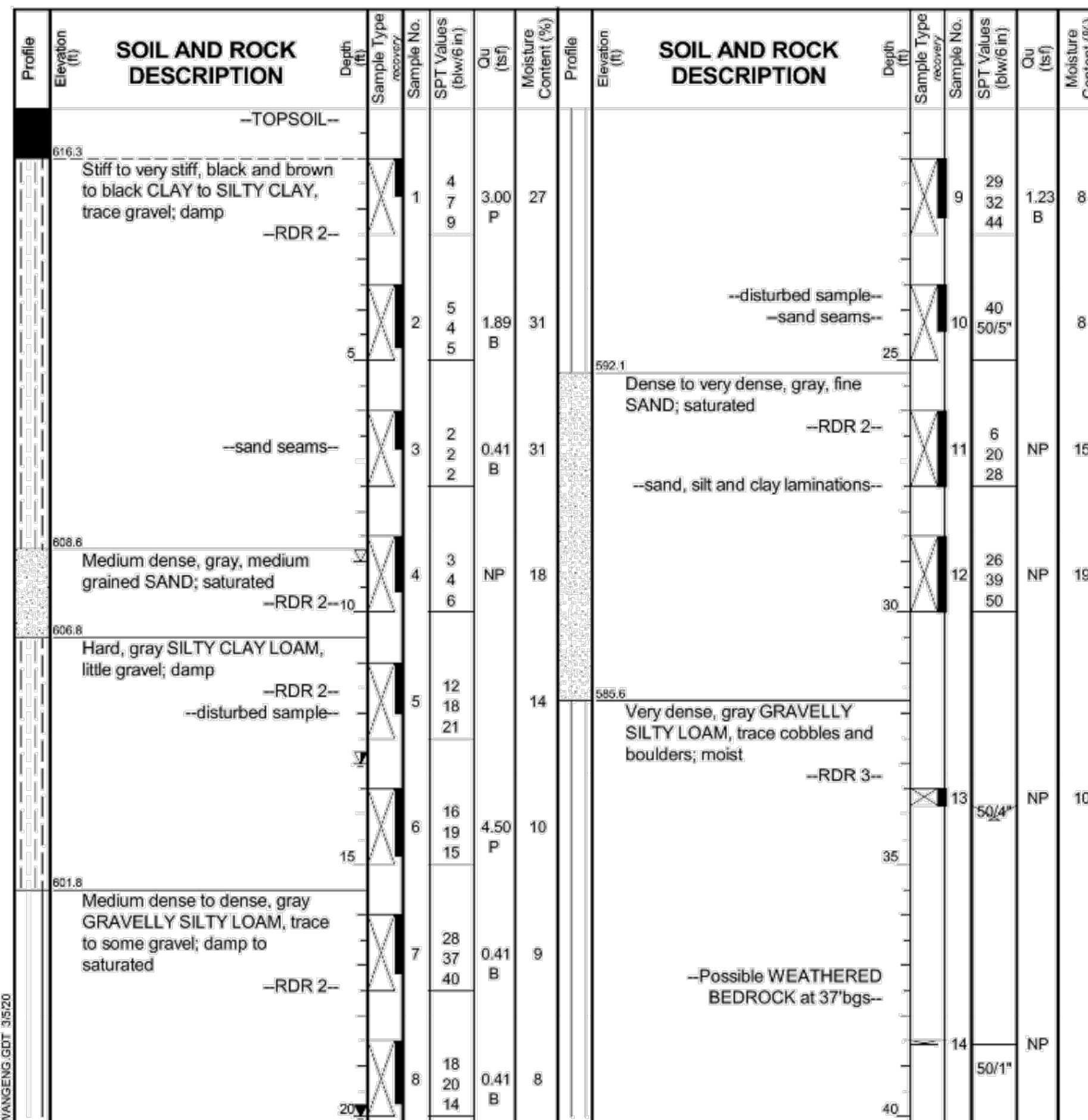
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Begin Drilling	01-22-2020	Complete Drilling	01-22-2020
Drilling Contractor	Wang Testing Service	Drill Rig	CME 55 [85%]
Driller	R&K	Logger	I. Nenn
Checked by	C. Marin	Time After Drilling	NA
Drilling Method	3.25" IDA HSA, autohammer, backfilled upon completion	Depth to Water	NA
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

**Wang Engineering**  
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 1145 N Main Street  
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 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG AC-03**  
 WEI Job No.: 165-05-01  
 Client: **BLA, Inc.**  
 Project: **Cermak Road Bridges; IDOT D-91-067-19**  
 Location: **Riverside, Cook County, IL**

Datum: NAVD 88  
 Elevation: 617.34 ft  
 North: 1887991.59 ft  
 East: 1114354.13 ft  
 Station: 62+36.36  
 Offset: 65.60 RT

Page 1 of 2



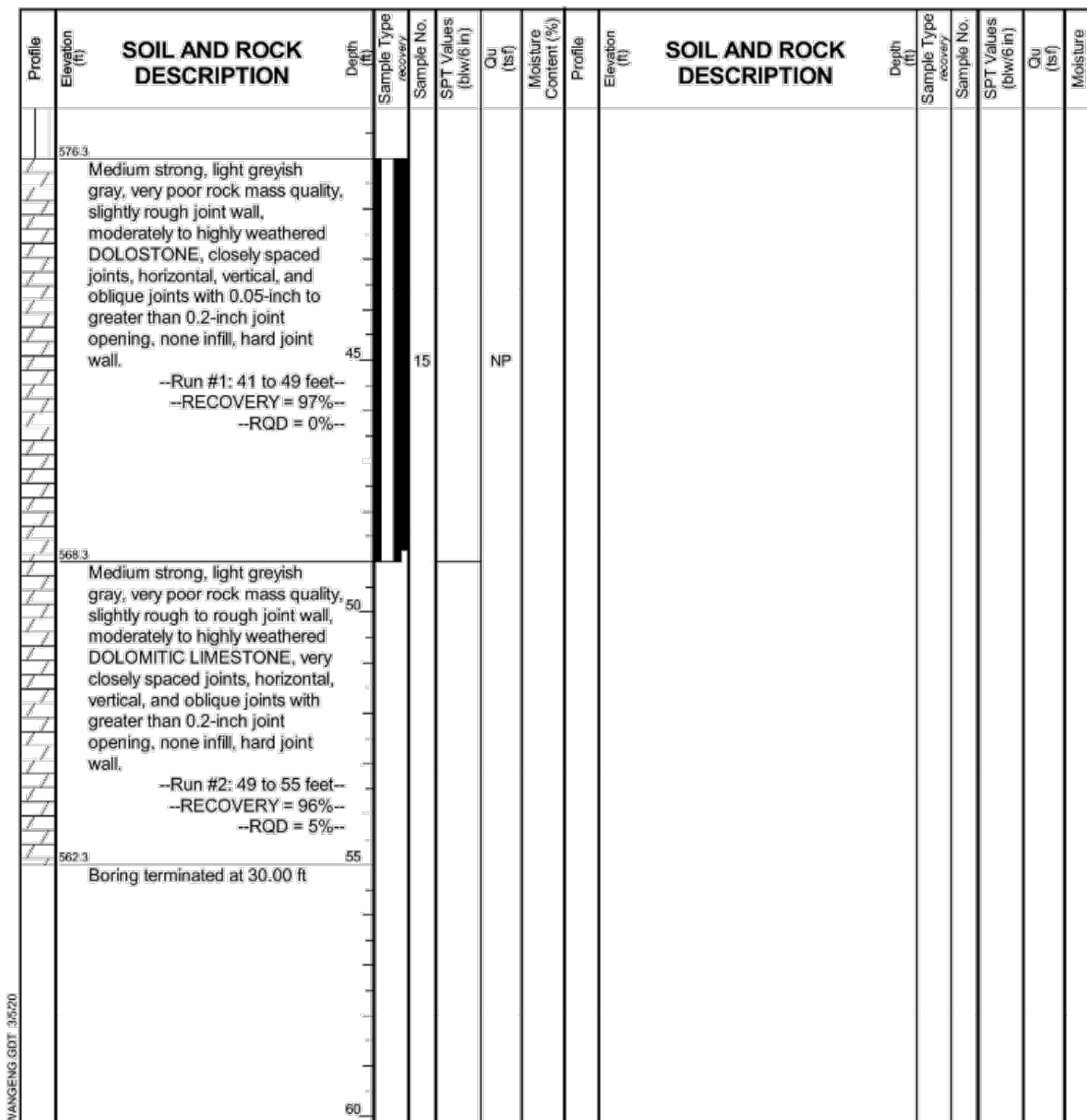
GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	01-22-2020	Complete Drilling	01-22-2020
Drilling Contractor	Wang Testing Service	Drill Rig	CME 55 [85%]
Driller	R&K	Logger	I. Nenn
Checked by	C. Marin	Time After Drilling	24 hours
Drilling Method	3.25" IDA HSA, autohammer, backfilled upon completion	Depth to Water	13.00 ft
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG AC-03**  
 WEI Job No.: 165-05-01  
 Client: **BLA, Inc.**  
 Project: **Cermak Road Bridges; IDOT D-91-067-19**  
 Location: **Riverside, Cook County, IL**

Datum: NAVD 88  
 Elevation: 617.34 ft  
 North: 1887991.59 ft  
 East: 1114354.13 ft  
 Station: 62+36.36  
 Offset: 65.60 RT

Page 2 of 2



GENERAL NOTES		WATER LEVEL DATA	
Begin Drilling	01-22-2020	Complete Drilling	01-22-2020
Drilling Contractor	Wang Testing Service	Drill Rig	CME 55 [85%]
Driller	R&K	Logger	I. Nenn
Checked by	C. Marin	Time After Drilling	24 hours
Drilling Method	3.25" IDA HSA, autohammer, backfilled upon completion	Depth to Water	13.00 ft
		The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.	

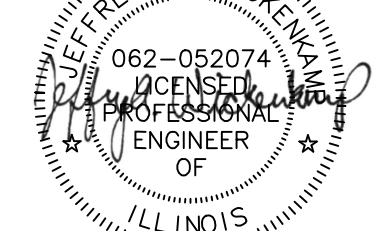


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PLOT SCALE =	CHECKED - JJI	REVISED -
PLOT DATE = 11/5/2020	DRAWN - HB	REVISED -
	CHECKED - JJI	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BORING LOGS  
 STRUCTURE NO. 016-0633  
 SHEET NO. 27 OF 27 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1453	2018-126-BR	COOK	194	173
CONTRACT NO. 62H51				
ILLINOIS FED. AID PROJECT				



Rev.	Description	Appr.	Date

**METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO**

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Scale: NTS  
 Date: 2022

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 CHICAGO: (773) 699-9200  
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CONTRACT 11-187-3F  
 ADDISON CREEK CHANNEL IMPROVEMENTS

IDOT CERMAK ROAD OVER ADDISON CREEK  
 PLANS DATED 11-05-2020

Sheet Number:  
**R-147**  
 Page Number: 491