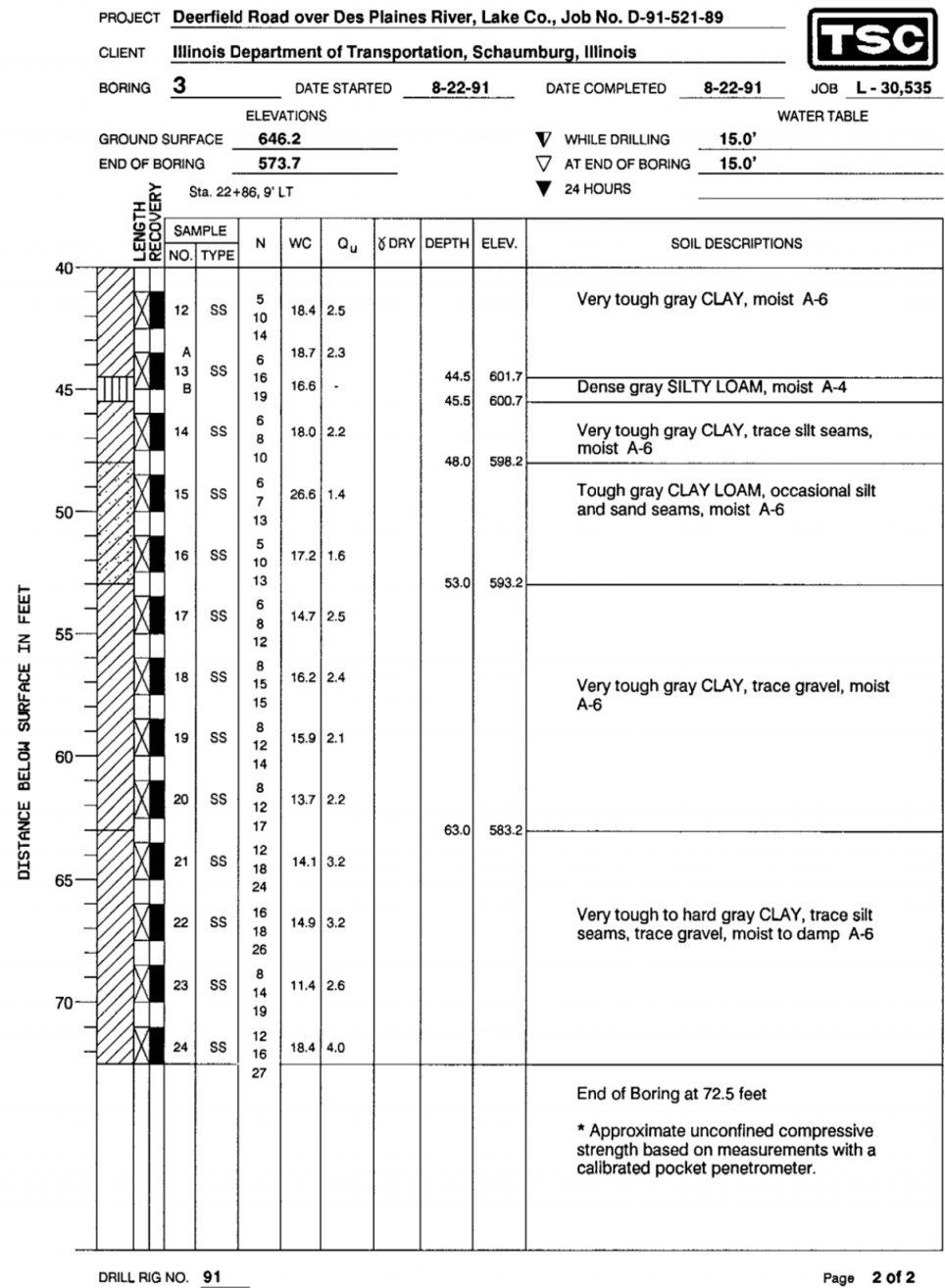
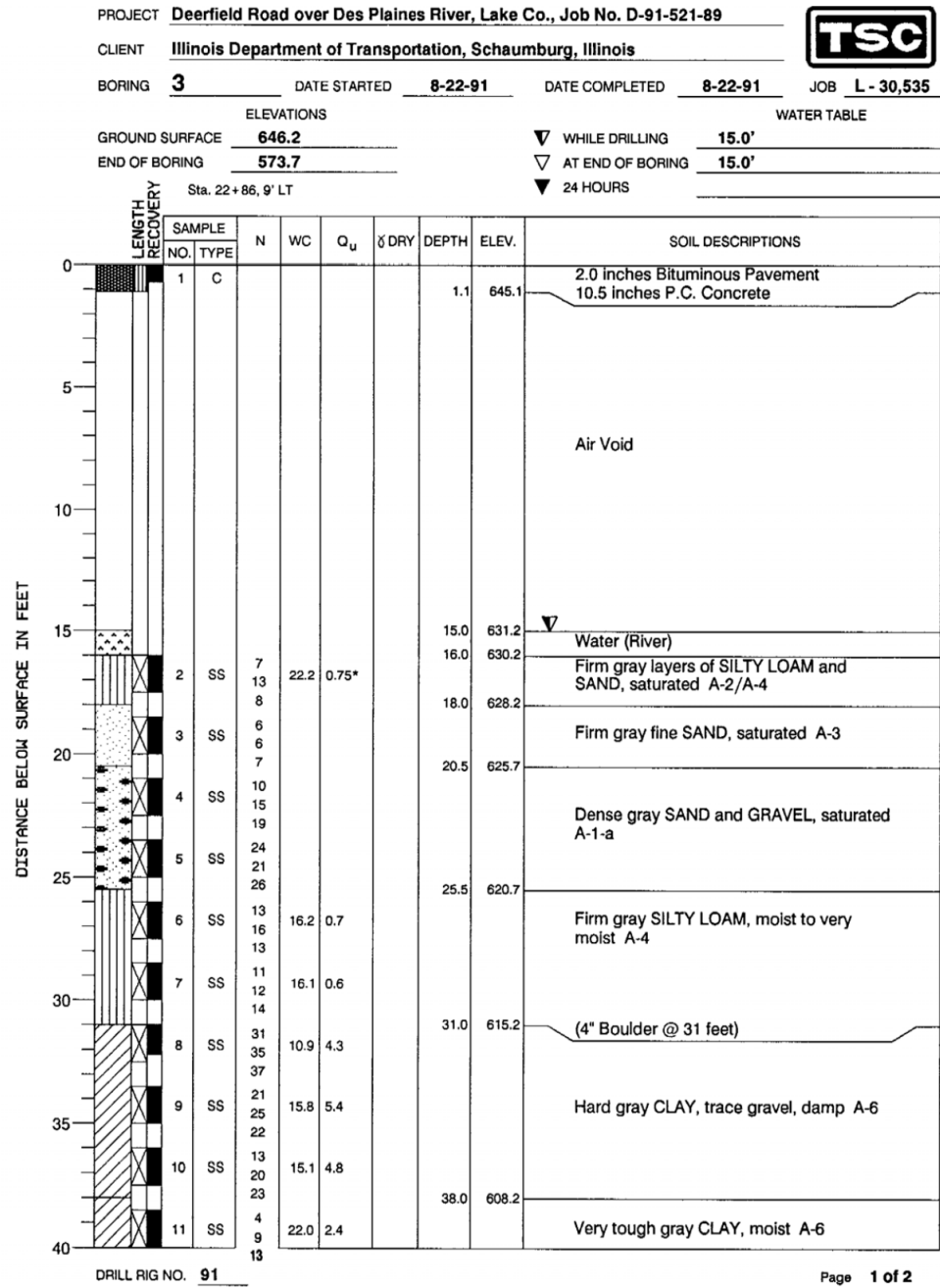
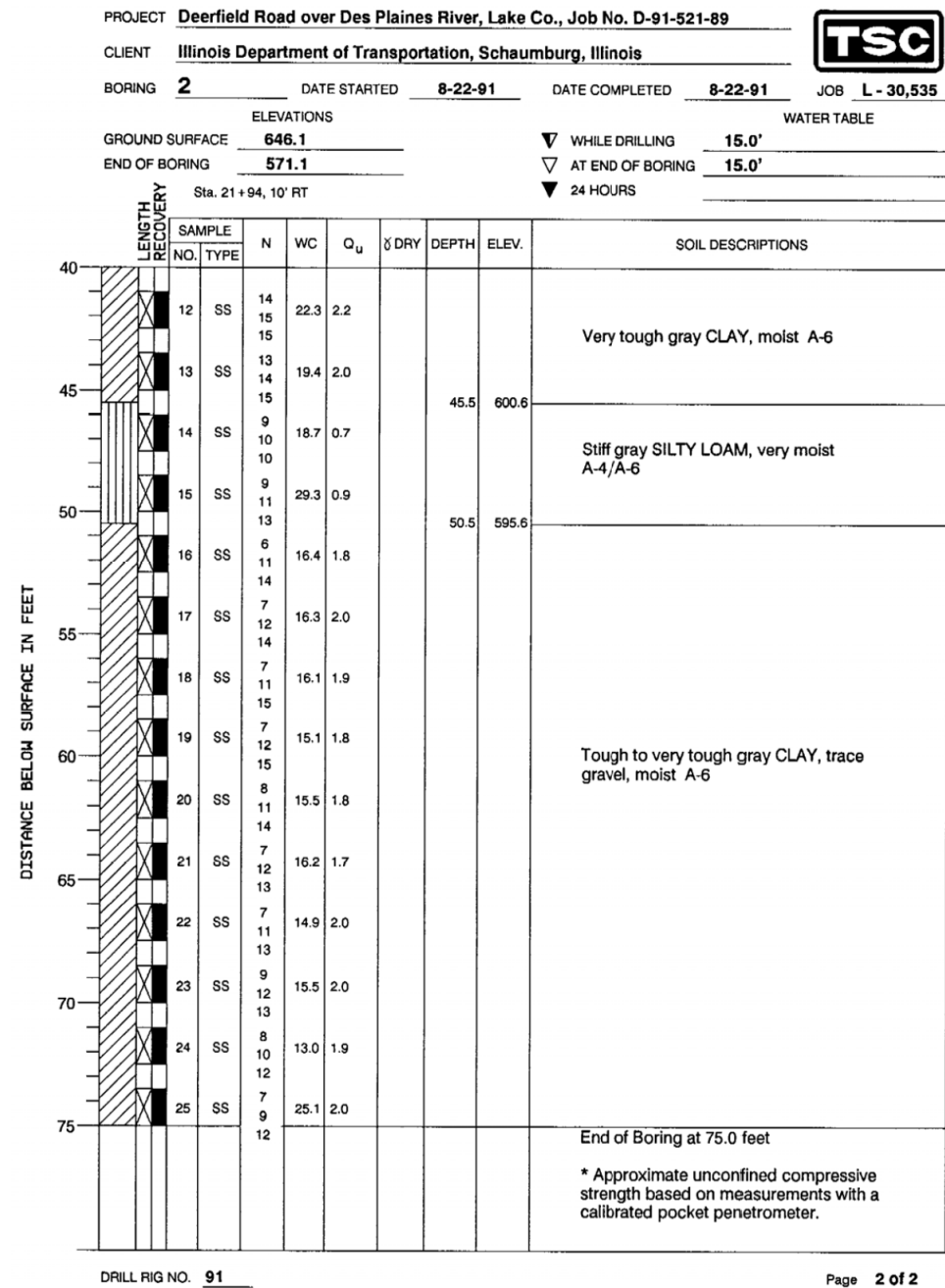
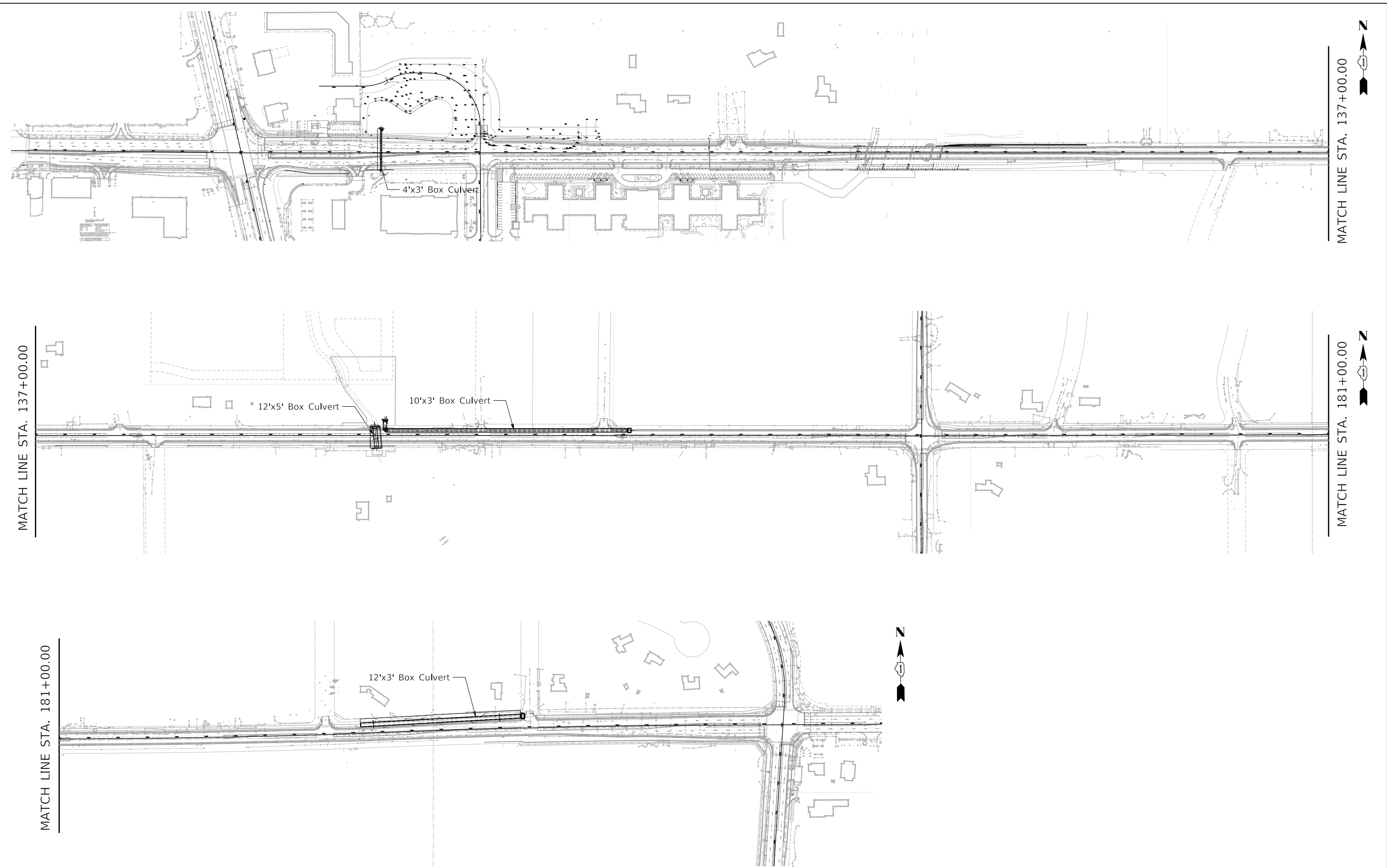




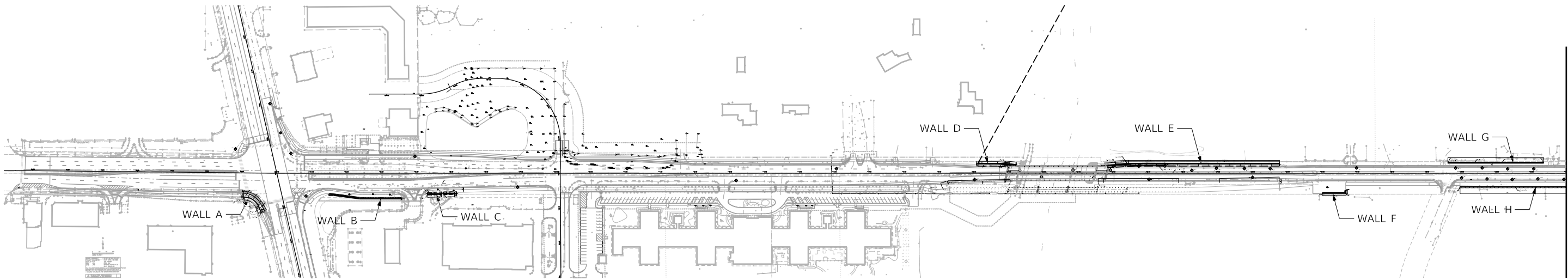


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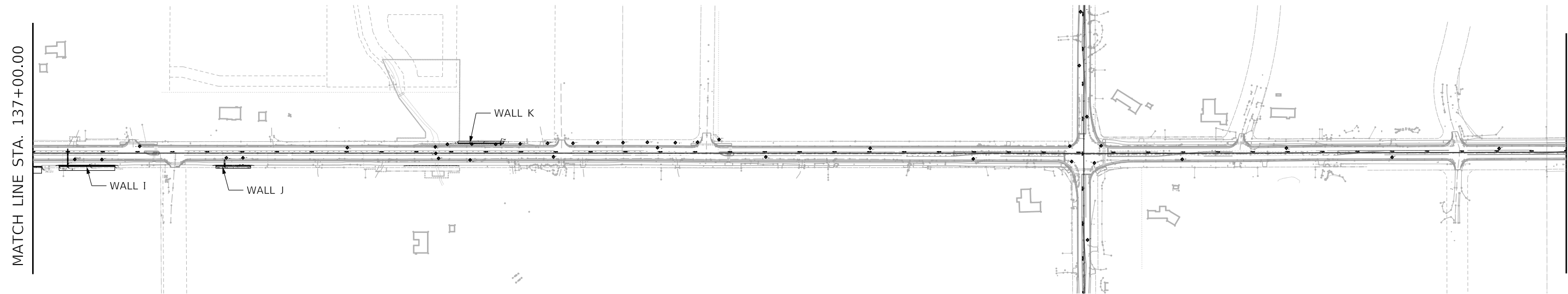
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION PROPOSED BOX CULVERT LOCATION MAPS			
SCALE:	SHEET	OF 107 SHEETS	STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	602
				CONTRACT NO. 6IK62
ILLINOIS FED. AID PROJECT				

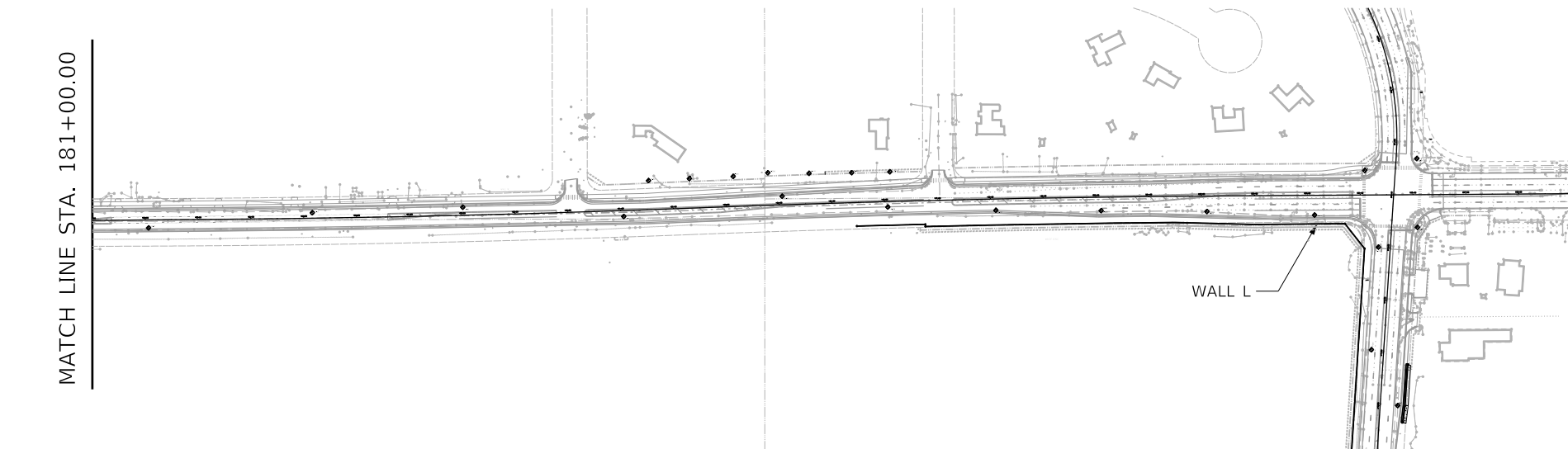


MATCH LINE STA. 137+00.00



MATCH LINE STA. 137+00.00

MATCH LINE STA. 181+00.00

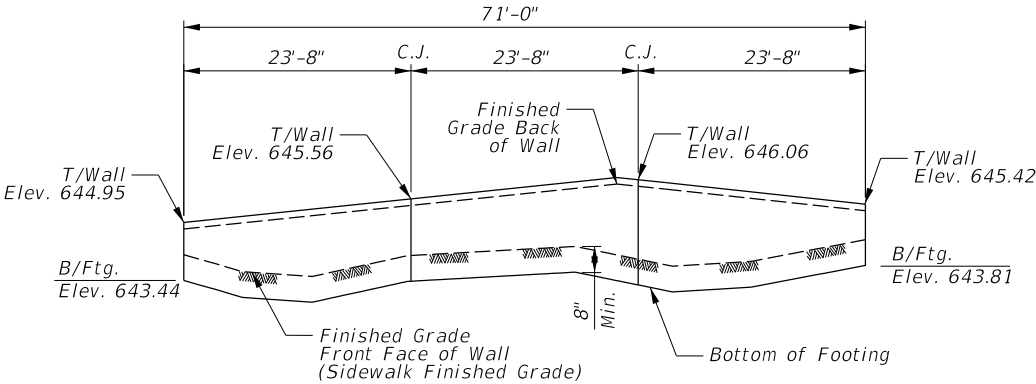


MATCH LINE STA. 181+00.00

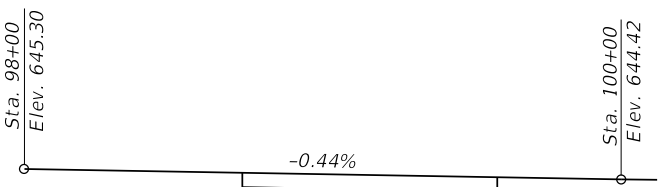


FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL LOCATION MAPS				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\C00T\190304.0003A\Struct\29-190304.0003A-Wall-Plan.sht		DRAWN - PDR	REVISED -		I257	I5-00038-07-WR	LAKE	1090	603				
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Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								
					SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.				

Bench Mark: OSBM 16-5, Square cut on southeast corner handhole on south side of Deerfield Road and approximately 320 feet west of the centerline of Milwaukee Avenue. Elev. 645.89
Existing Structure: None



ELEVATION



PROFILE GRADE
(Along Deerfield Road)

LEGEND:

- A Aerial Wires
- Storm Sewer
- W Water Main
- Sanitary Sewer
- G Gas Main
- T Telephone
- FO Fiber Optic Line

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design Specifications, 10th Edition

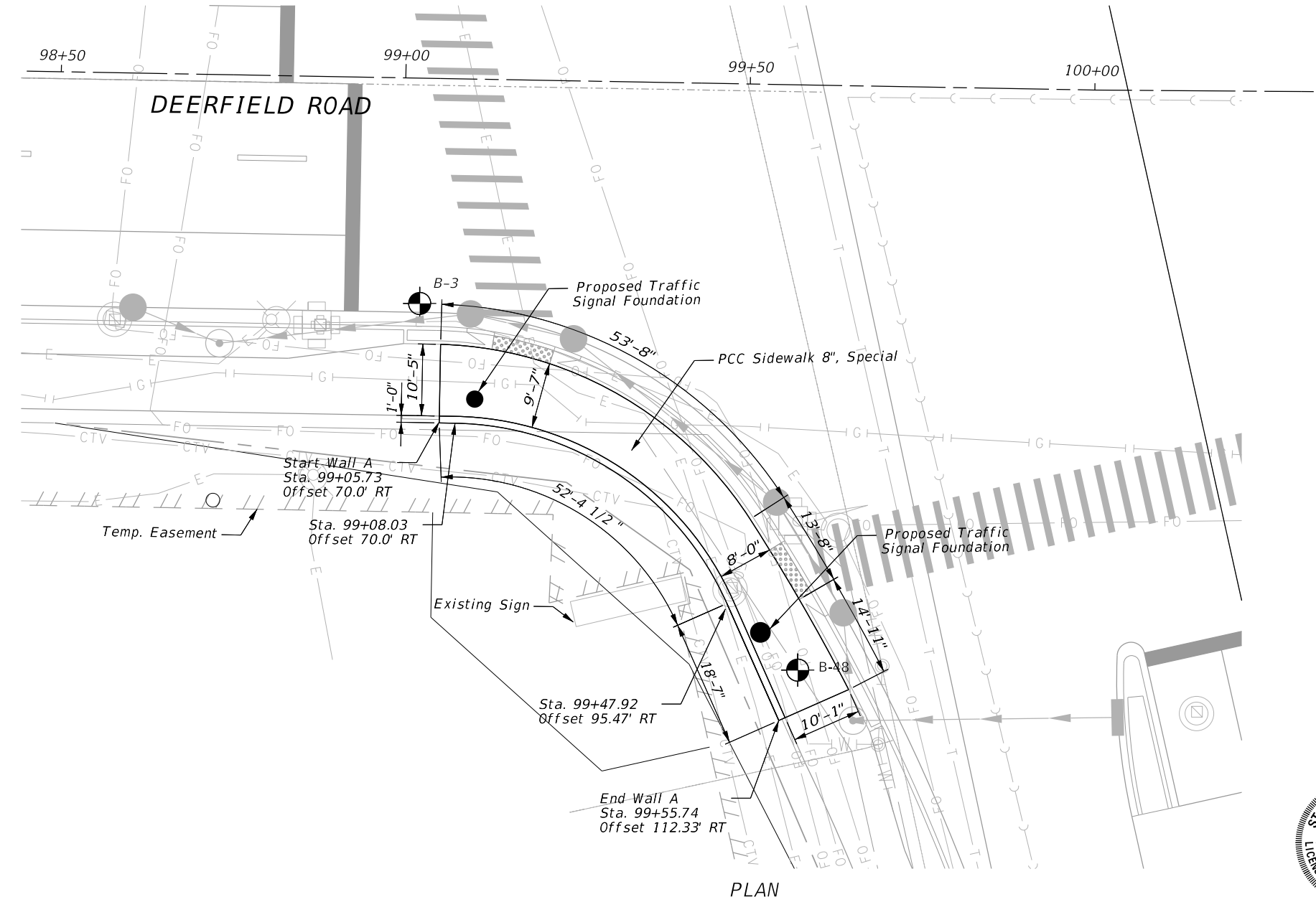
DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



PLAN

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



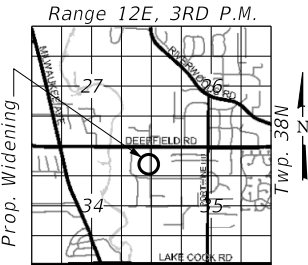
Majid Mobasseri

07/29/2026

MAJID MOBASSERI

DATE

ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

RETAINING WALL A

ALONG DEERFIELD ROAD

SECTION 15-00038-07-WR

LAKE COUNTY

STA. 98+73.03 TO 99+58.86

FILE NAME =	USER NAME = jjezerny	DESIGNED - MM	REVISED -
N:\C00T\190304\0003A\Struct\30-190304-0003A-Wall A - GPE.sht		DRAWN - PDR	REVISED -
Default	PLOT SCALE = 10'	CHECKED - CF	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL A - GENERAL PLAN AND ELEVATION

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	604
CONTRACT NO. 61K62				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. All work and material shall be done in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Speciications and Recurring Special Provisions" unless noted otherwise.

CAST-IN-PLACE CONCRETE

2. All exposed concrete edges shall have a 3/4" x 45º chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

REINFORCEMENT BARS

3. Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of AASHTO M-31 (ASTM A706), Grade 60, deformed bars.
4. Reinforcement bars designated "(E)" shall be epoxy coated.
5. Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.
6. Reinforcement bar bending dimensions are out to out.
7. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
8. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

CONSTRUCTION

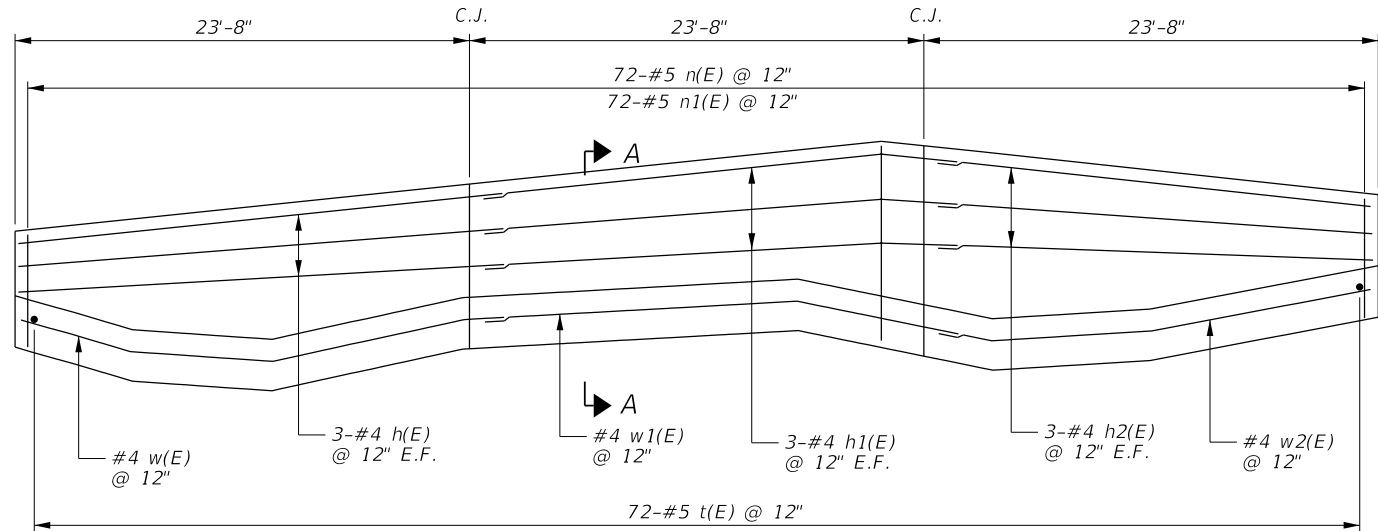
9. Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
10. Standard Specifications, Construction Plans and subsequent details are all to be considered part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered to be a part of this Contract.
11. Any information concerning the type and location of underground and other utilities is not guarenteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
12. Contractor shall not scale dimensions from the contract plans for construction purposes. Scales shown are for information only.
13. No construction joints except those shown on the plans shall be allowed unless approved by the engineer.
14. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
15. The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
16. Whenever any material is deposited into a drainage system or drainage structures, The deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.

INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
604	General Plan & Elevation
605	General Notes, Index & BOM
606	Elevation and Details
607	Boring Logs

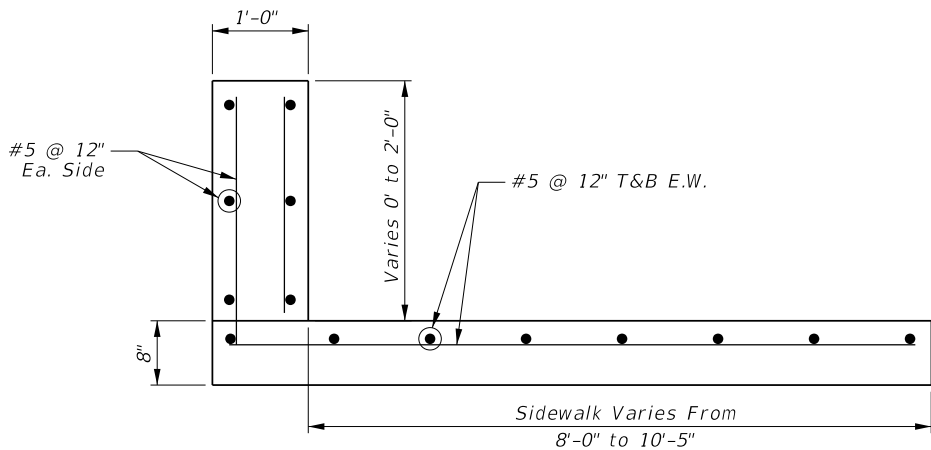
TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	20	
50200100	Structure Excavation	Cu. Yd.	80	
50300300	Protective Coat	Sq. Yd.	80	
X1700107	Curb Wall (Special)	Sq. Ft.	115	
X4240460	Portland Cement Concrete Sidewalk, 8 Inch (Special)	Sq. Ft.	770	

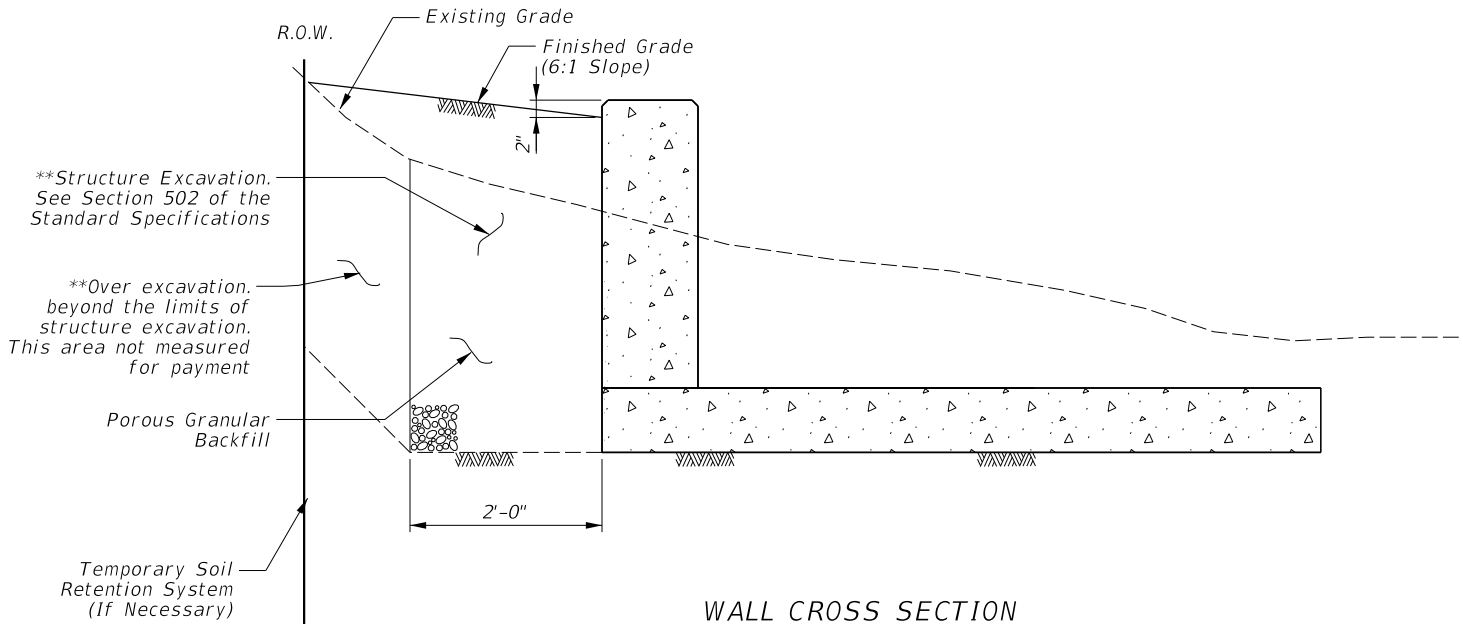


ELEVATION

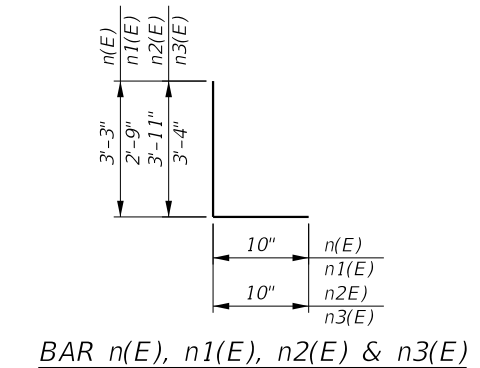
NOTE: See Civil Sheet for ADA Crossing at Intersection for Sidewalk/ Top of Footing Grades and Stations.



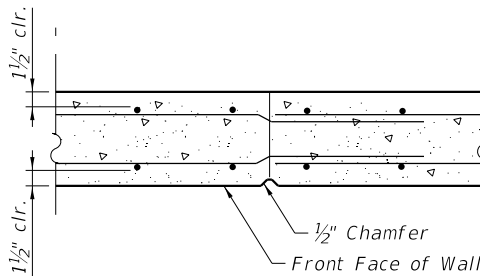
SECTION A-A



WALL CROSS SECTION



NOTE: Due to variation in elevation of the sidewalk the tops of all n(E) bars will need to be cut to fit in field. Some h(E) and w(E) bars may need to be bent in field to fit.



CONSTRUCTION JOINT DETAIL

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#4	25'-8"	
h1(E)	6	#4	26'-0"	
h2(E)	6	#4	23'-4"	
n(E)	72	#5	2'-4"	
n1(E)	72	#5	2'-4"	
t(E)	72	#5	10'-2"	
w(E)	1	#4	26'-0"	
w1(E)	1	#4	25'-10"	
w2(E)	1	#4	23'-4"	
Curb Wall (Special)			Sq. Ft.	115
Reinforcement Bars, Epoxy Coated			Pound	1950

Note: Reinforcement to be included in cost of Curb Wall, Speical or Portland Cement Concrete Sidewalk, Special

PROJECT **Deerfield Roadway Improvements, Milwaukee Ave to Saunders Rd, Riverwoods, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **3** DATE STARTED **2-21-23** DATE COMPLETED **2-21-23** JOB **L-94,046**

ELEVATIONS

GROUND SURFACE **644.0**

END OF BORING **629.0**

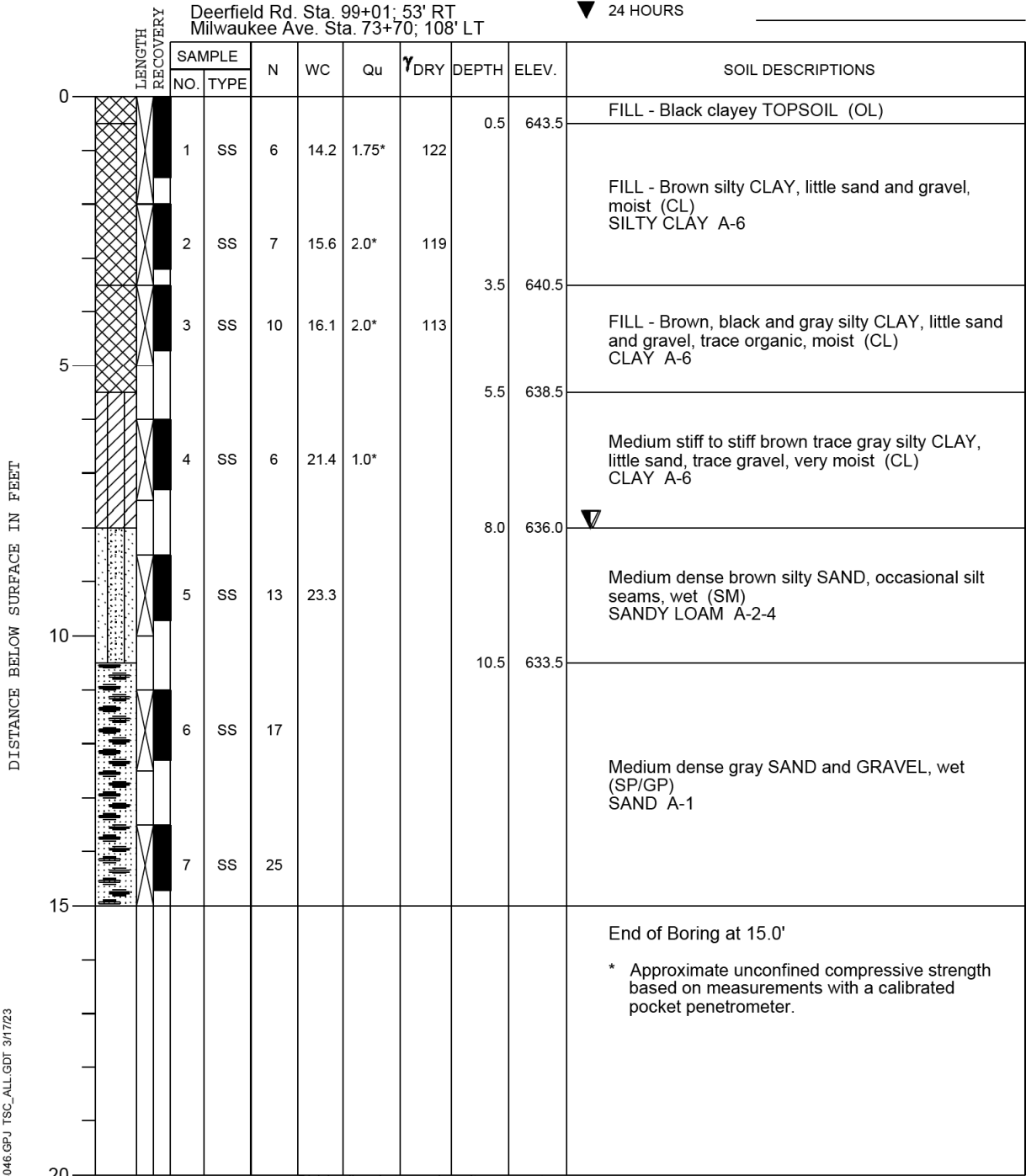
WATER LEVEL OBSERVATIONS

WHILE DRILLING **8.0'**

AT END OF BORING **8.0'**

24 HOURS

Deerfield Rd. Sta. 99+01; 53' RT
Milwaukee Ave. Sta. 73+70; 108' LT



TSC 94046.GPJ TSC_ALL.GDT 3/17/23

DRILL RIG NO. **358**

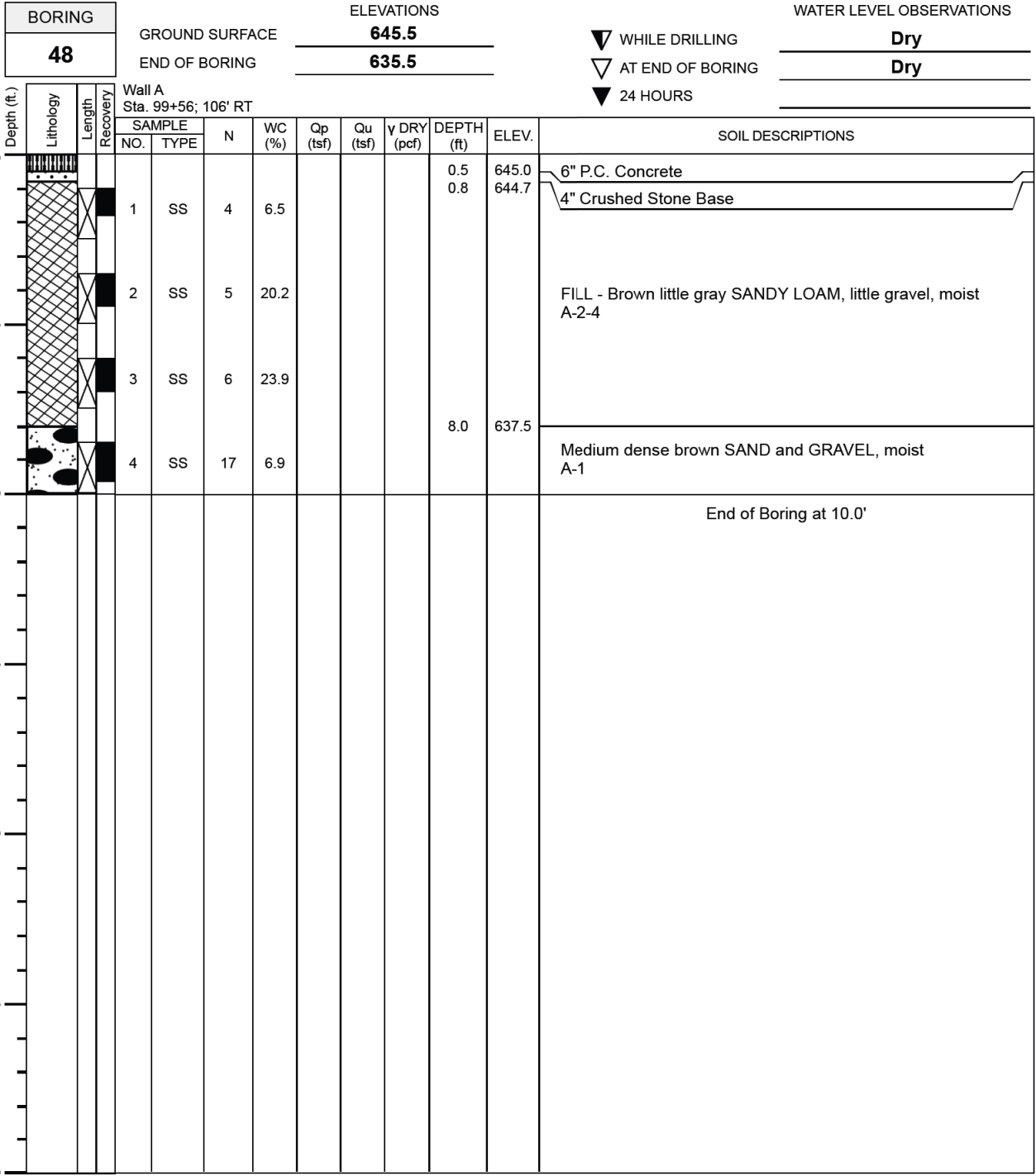
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

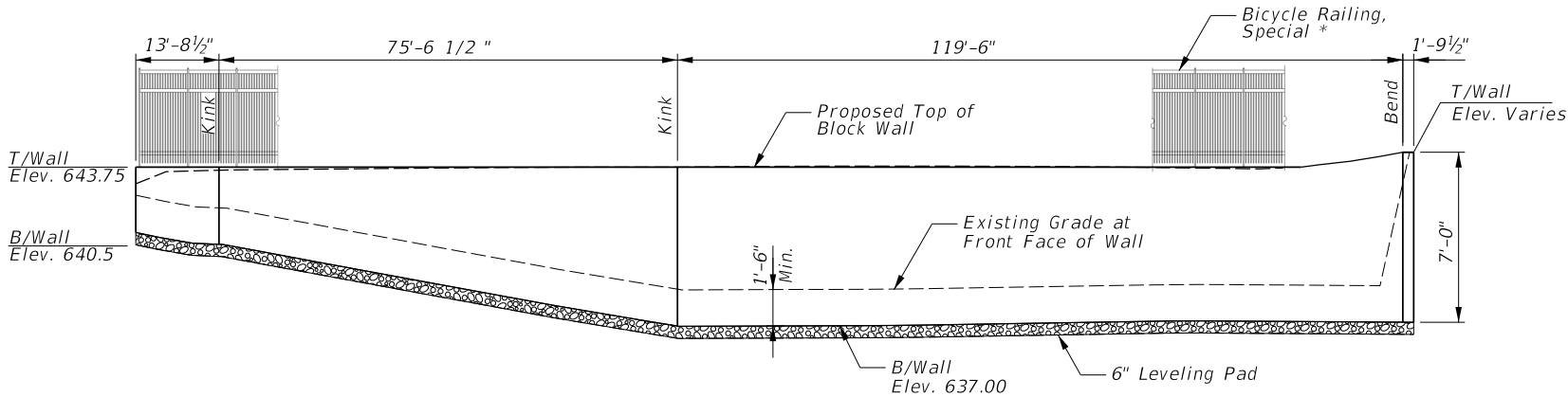
STARTED **05/07/2025** FINISHED **05/07/2025** DRILL RIG NO. **358**

JOB **L-98,273**

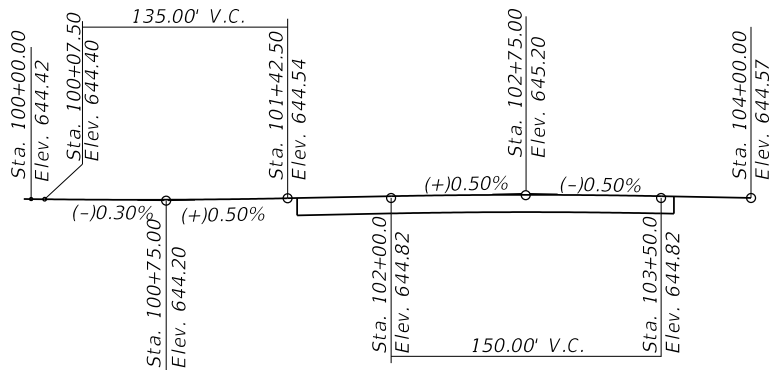


Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

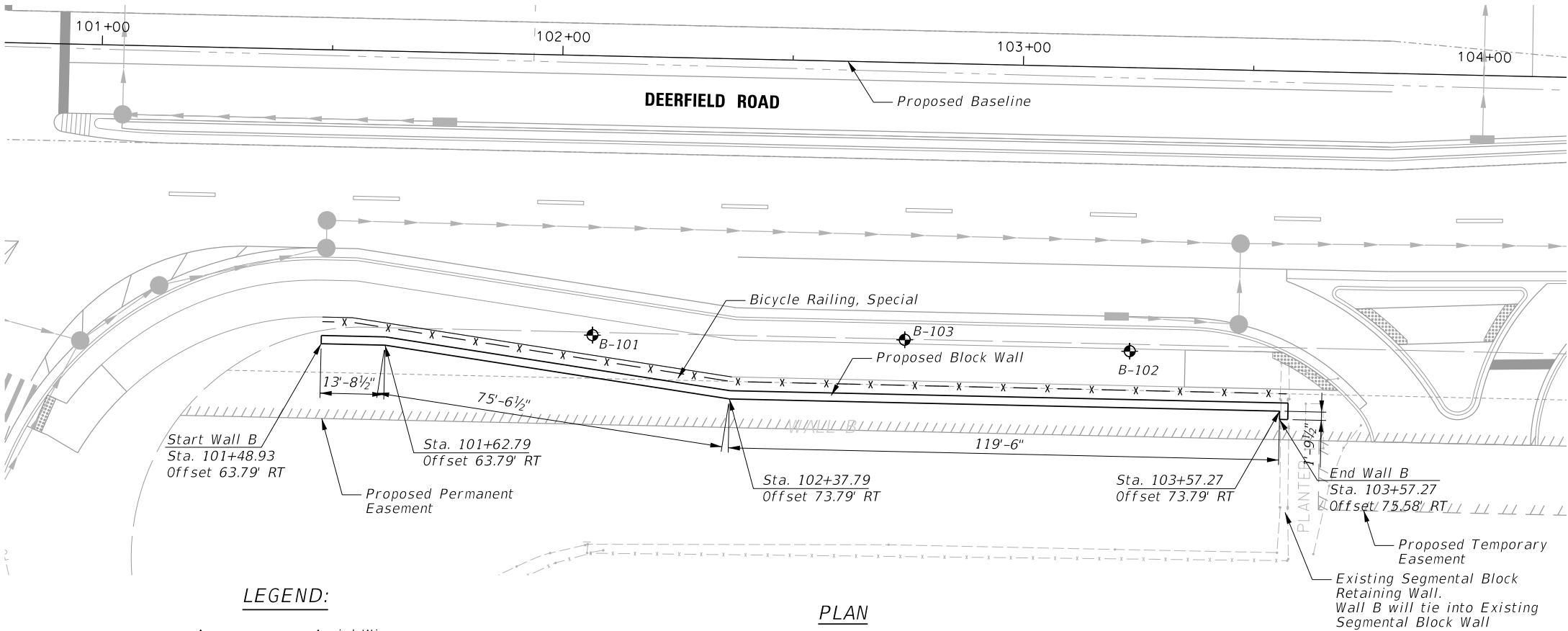
Bench Mark: OSBM 16-5, Square cut on southeast corner handhole on south side of Deerfield Road and approximately 320 feet west of the centerline of Milwaukee Avenue. Elev. 645.89
Existing Structure: None



ELEVATION



PROFILE GRADE
(Deerfield Road)



LEGEND:

- A Aerial Wires
- Storm Sewer
- W Water Main
- Sanitary Sewer
- G Gas Main
- T Telephone
- FO Fiber Optic Line

PLAN



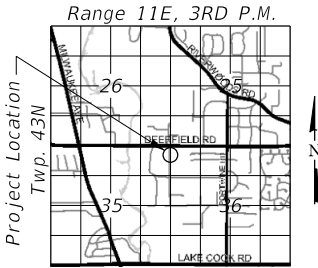
Majid Mobasseri 07/29/2026
MAJID MOBASSERI DATE
ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

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 syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".

DESIGN SPECIFICATIONS
2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL B
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
LAKE COUNTY
STA. 101+48.93 TO 103+57.27

FILE NAME =	USER NAME = jjezerny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL B - GENERAL PLAN AND ELEVATION	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	Plot Scale = 15'	DRAWN - PDR	REVISED -			1257	15-00038-07-WR	LAKE	1090	608
	PLOT DATE = 7/31/2026	CHECKED - CF	REVISED -							CONTRACT NO. 6IK62
		DATE -	REVISED -					ILLINOIS	FED. AID PROJECT	

1. All work and material shall be done in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

- 1.) Existing wall is Redi-Rock wall with Ledge-stone textured formliner. Block wall supplier shall match existing wall in style, size, and color. Block selection shall be submitted to and approved by the Engineer prior to final design.
- 2.) Modular concrete block wall supplier shall provide details required for construction of the proposed walls. All segmental block wall details shown in these plans are conceptual and are to be used for estimating purposes only. Actual details will depend on the proposed wall system supplied by the Contractor.
- 3.) Details for wall curves or corners, pipe penetrations, drainage structures or railings located behind or on top of walls, and other miscellaneous details shall be designed and provided by the wall supplier.
- 4.) Any structure excavation needed for the construction of the wall shall be included in the cost of "Precast Modular Retaining Wall".
- 5.) Railing on top of wall shall be installed in coordination with the wall supplier and shall meet the necessary AASTHO design requirements for bicycle railings.

- 1.) Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
- 2.) Standard Specifications, Construction Plans and subsequent details are all to be considered part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered to be a part of this Contract.
- 3.) Any information concerning the type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
- 4.) Contractor shall not scale dimensions from the contract plans for construction purposes. Scales shown are for information only.
- 5.) No construction joints except those shown on the plans shall be allowed unless approved by the engineer.
- 6.) It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
- 7.) The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
- 8.) Whenever any material is deposited into a drainage system or drainage structures, The deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.
- 9.) Dewatering of the area shall occur prior to wall construction. Dewatering shall follow the appropriate Special Provisions provided.
- 10.) Proposed block wall shall cleanly tie into existing wall. Connection to existing wall may require the removal of a few existing wall blocks. Wall designer shall cooredinate connection detail with Redi Rock to ensure adequate transition. Any temporary soil retention needed shall be included in the cost of Precast Modular Retaining Wall.



<u>SHEET NO</u>	<u>TITLE</u>
608	General Plan & Elevation
609	General Notes and Details
610	Boring Logs

PAY ITEM NO.	ITEM	UNIT	TOTAL
20700220	Porous Granular Embankment	Cu. Yd.	120
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	120
52200700	Precast Modular Retaining Wall	Sq. Ft.	1200
X5091725	Bicycle Railing, Special	Foot	220

FILE NAME =	USER NAME = amissick	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LCOOT\190304.0003A\Struct\35-190304.0003A-Wall B - Notes.dwg	0003A-Wall B - Notes.dwg	DRAWN - PDR	REVISED -		RETAINING WALL B - GENERAL NOTES AND DETAILS				1257	I5-00038-07-WR	LAKE	1090	609
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -						CONTRACT NO. 61K62				
	PLOT DATE = 8/17/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

PROJECT **Segmental Retaining Wall, SEC Deerfield Rd & Milwaukee Ave, Riverwoods, IL**

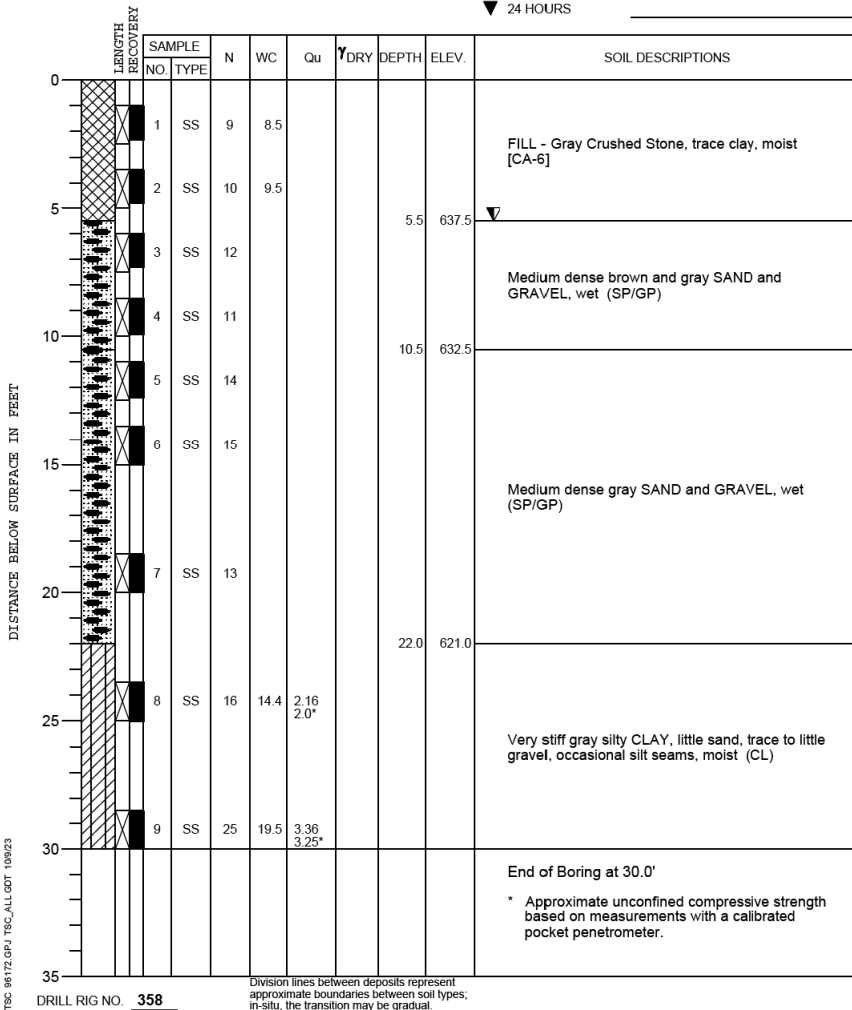


CLIENT **Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd., Rosemont, IL**

BORING **101** DATE STARTED **9-26-23** DATE COMPLETED **9-26-23** JOB **L-96,172**

ELEVATIONS
GROUND SURFACE **643.0**
END OF BORING **613.0**

WATER LEVEL OBSERVATIONS
WHILE DRILLING **5.5'**
AT END OF BORING **Cave at 4.0'**
24 HOURS



PROJECT **Segmental Retaining Wall, SEC Deerfield Rd & Milwaukee Ave, Riverwoods, IL**

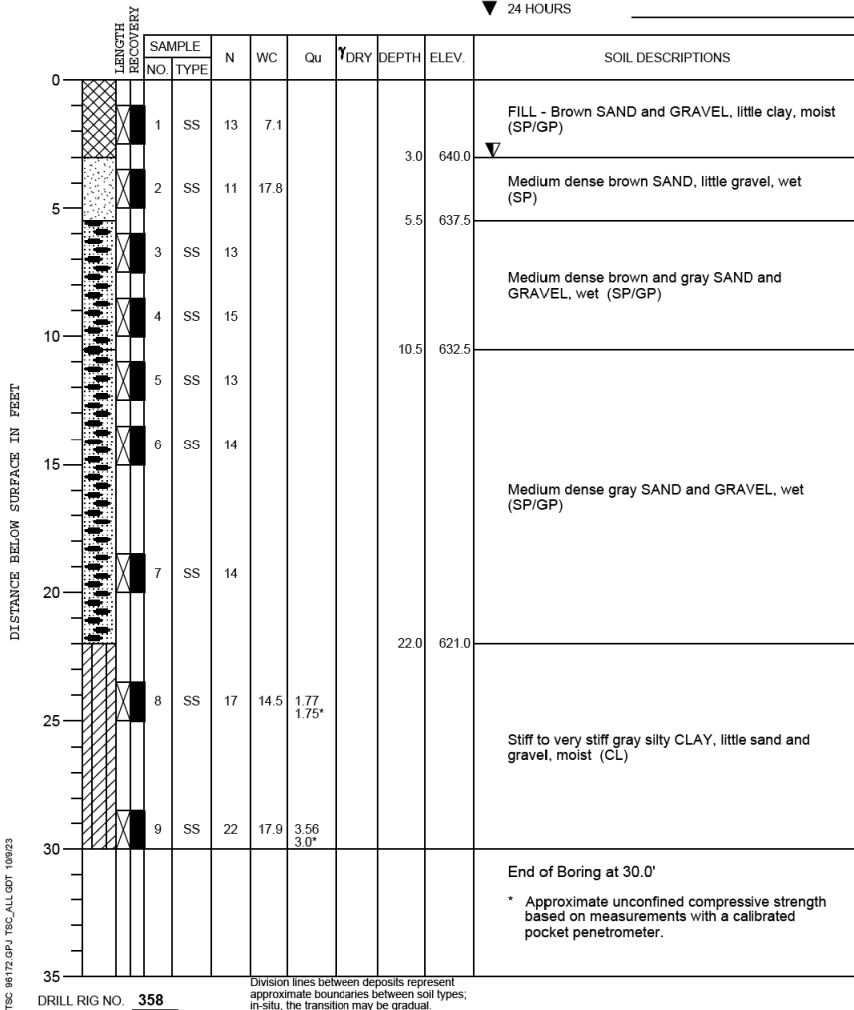


CLIENT **Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Rd., Rosemont, IL**

BORING **102** DATE STARTED **9-26-23** DATE COMPLETED **9-26-23** JOB **L-96,172**

ELEVATIONS
GROUND SURFACE **643.0**
END OF BORING **613.0**

WATER LEVEL OBSERVATIONS
WHILE DRILLING **3.0'**
AT END OF BORING **Cave at 4.0'**
24 HOURS



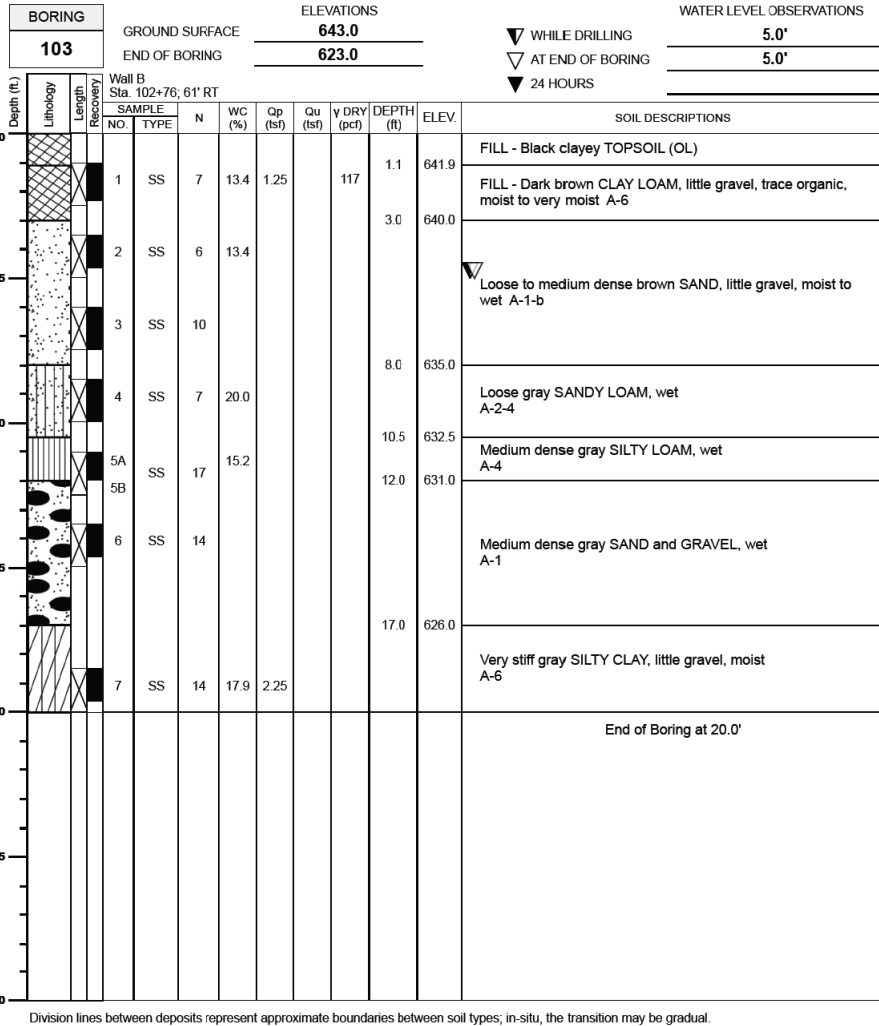
PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**



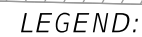
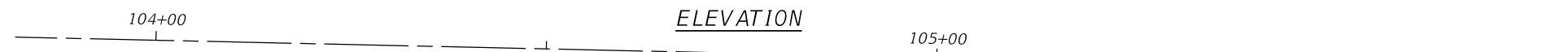
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

STARTED **04/29/2025** FINISHED **04/29/2025** DRILL RIG NO. **358**

JOB **L-98,273**



Existing Structure: None



- | | |
|---|------------------|
| ————— A ————— | Aerial Wires |
| —————  ————— | Storm Sewer |
| ————— W ————— | Water Main |
| —  —  —  —  — | Sanitary Sewer |
| —————  G ————— | Gas Main |
| ————— T ————— | Telephone |
| ————— FO ————— | Fiber Optic Line |



Majid Mollaei G

07/29/2026

MAJID MOBASSERI	<i>DATE</i>
ILLINOIS REGISTRATION No. 081-005058	
STRUCTURAL ENGINEER	
EXPIRATION DATE: 11/30/26	

I Certify that to the best of my knowledge, information and belief, this wall 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".



(Deerfield Road)

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

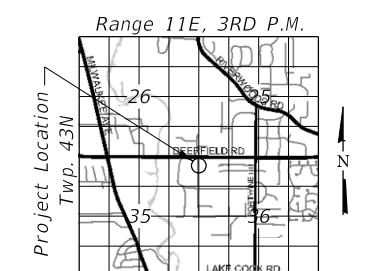
DESIGN STRESSES

FIELD UNITS

$$f'_c = 3,500 \text{ psi}$$
$$f_y = 60,000 \text{ psi (Reinforcement)}$$

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

RETAINING WALL C

ALONG DEERFIELD ROAD

SECTION 15-00038-07-WR

LAKE COUNTY

STA. 104+32.68 TO 105+09.66

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL C - GENERAL PLAN AND ELEVATION				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\L\DOT\190304.00\3A\Struct\17-190304.00\3A-C-PE.sht	DATE = 6/15/2026	DRAWN - PDR	REVISED -						1257	I5-00038-07-WR	LAKE	1090	611
Default	PLOT SCALE = 10'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62								
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

1. All work and material shall be done in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specification and Recurring Special Provisions" unless noted otherwise.

CAST-IN-PLACE CONCRETE

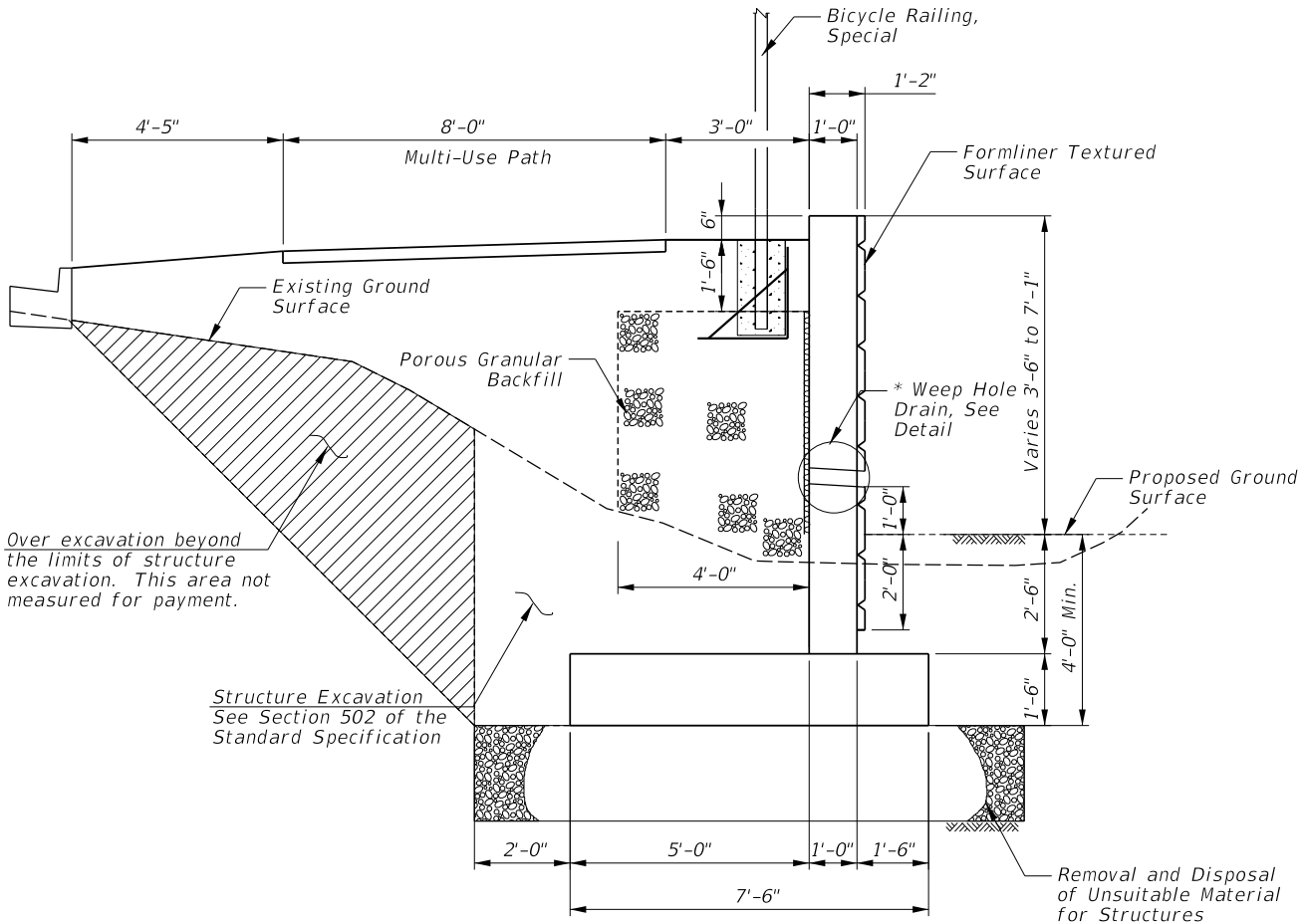
2. All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

REINFORCEMENT BARS

3. Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of AASHTO M-31 (ASTM A706), Grade 60, deformed bars.
4. Reinforcement bars designated "(E)" shall be epoxy coated.
5. Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.
6. Reinforcement bar bending dimensions are out to out.
7. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
8. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

CONSTRUCTION

9. Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
10. Standard Specifications, Construction Plans and subsequent details are all to be considered part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered to be a part of this Contract.
11. Any information concerning the type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
12. Contractor shall not scale dimensions from the contract plans for construction purposes. Scales shown are for information only.
13. No construction joints except those shown on the plans shall be allowed unless approved by the engineer.
14. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
15. The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
16. Whenever any material is deposited into a drainage system or drainage structures, The deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.



TYPICAL CROSS SECTION

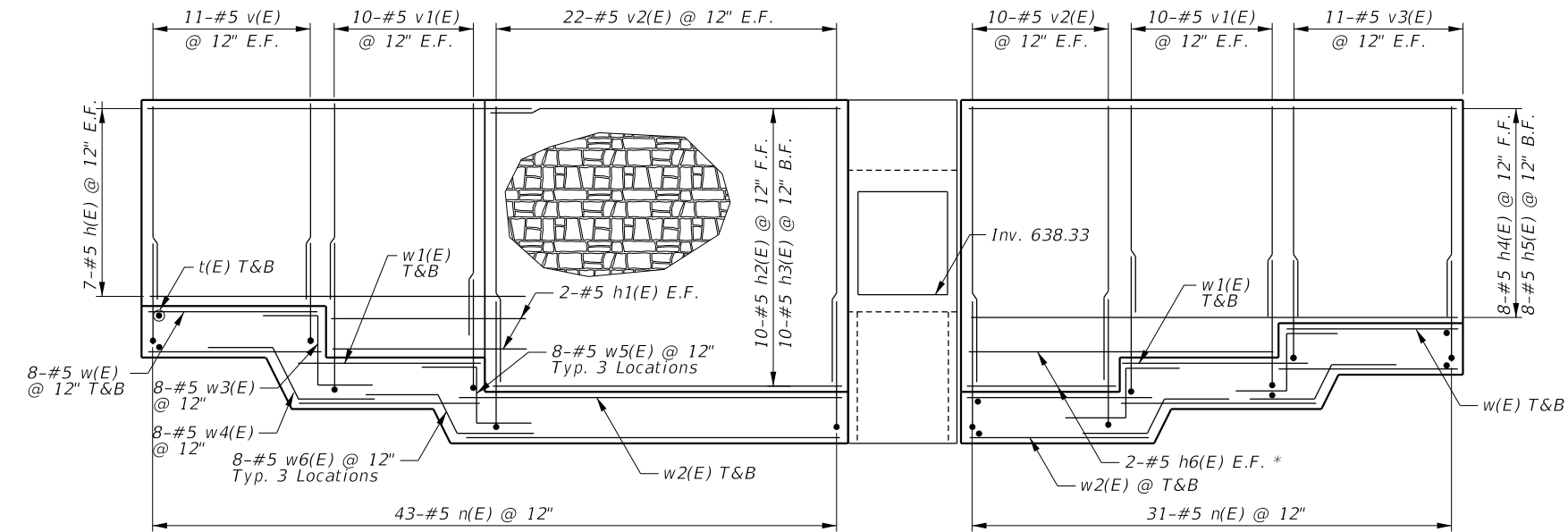
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
611	General Plan & Elevation
612	General Notes, Index & BOM
613	Elevation and Detail
614	Boring Logs

TOTAL BILL OF MATERIAL

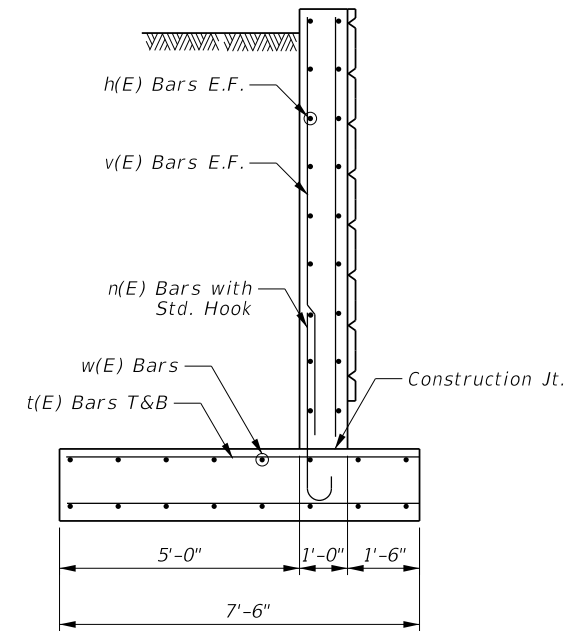
PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20700220	Porous Granular Embankment	Cu. Yd.	70	
20900110	Porous Granular Backfill	Cu. Yd.	350	
50200100	Structure Excavation	Cu. Yd.	140	
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	70	
50300285	Formliner, Textured Surface	Sq. Ft.	620	
50300300	Protective Coat	Sq. Yd.	75	
50800205	Reinforcement Bars, Epoxy Coated	Pound	5,930	
52200900	Concrete Structures (Retaining Wall)	Cu. Yd.	55.5	
59100100	Geocomposite Wall Drain	Sq. Yd.	25	
X5030290	Staining Concrete Structures	Sq. Ft.	640	
X5091725	Bicycle Railing, Special	Foot	96	

FILE NAME =	USER NAME = omissick	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL C – GENERAL NOTES, INDEX AND B.O.M.	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304.0003A\Struct\38-190304.0003A-Wall C - GNotes.sht		DRAWN - PDR	REVISED -			I257	I5-00038-07-WR	LAKE	1090	612
Default	PLOT SCALE = 1"	CHECKED - CF	REVISED -							CONTRACT NO. 61K62
	PLOT DATE = 8/17/2026	DATE -	REVISED -					ILLINOIS	FED. AID PROJECT	

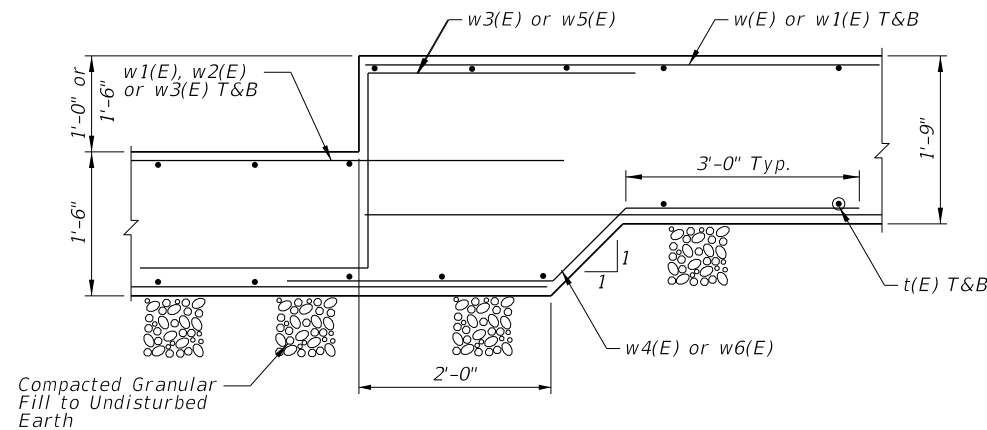


* Bars shall be ordered full length and cut to fit.
Balance of bar to be used in opposite face and layer.

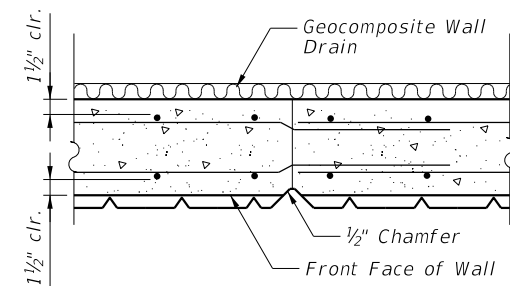
ELEVATION



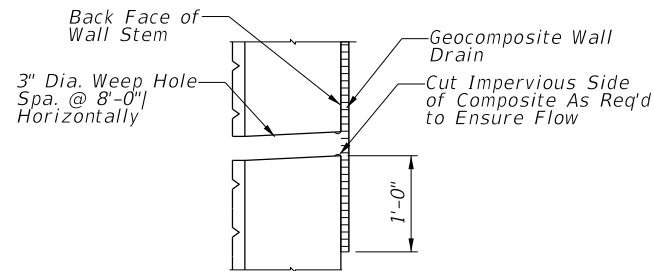
SECTION
(See Elevation for Specific Bar Call-Outs)



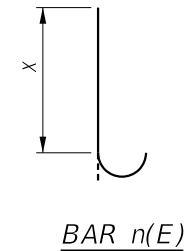
STEPPED FOOTING DETAIL



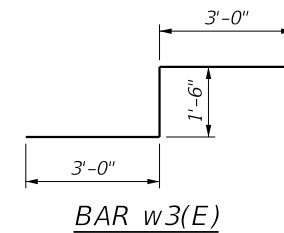
CONSTRUCTION JOINT DETAIL



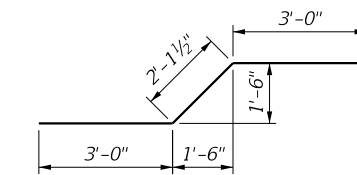
WEEP HOLE DETAIL



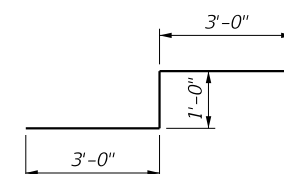
BAR n(E)



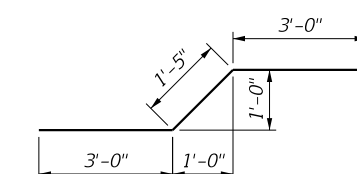
BAR w3(E)



BAR w4(E)



BAR w5(E)

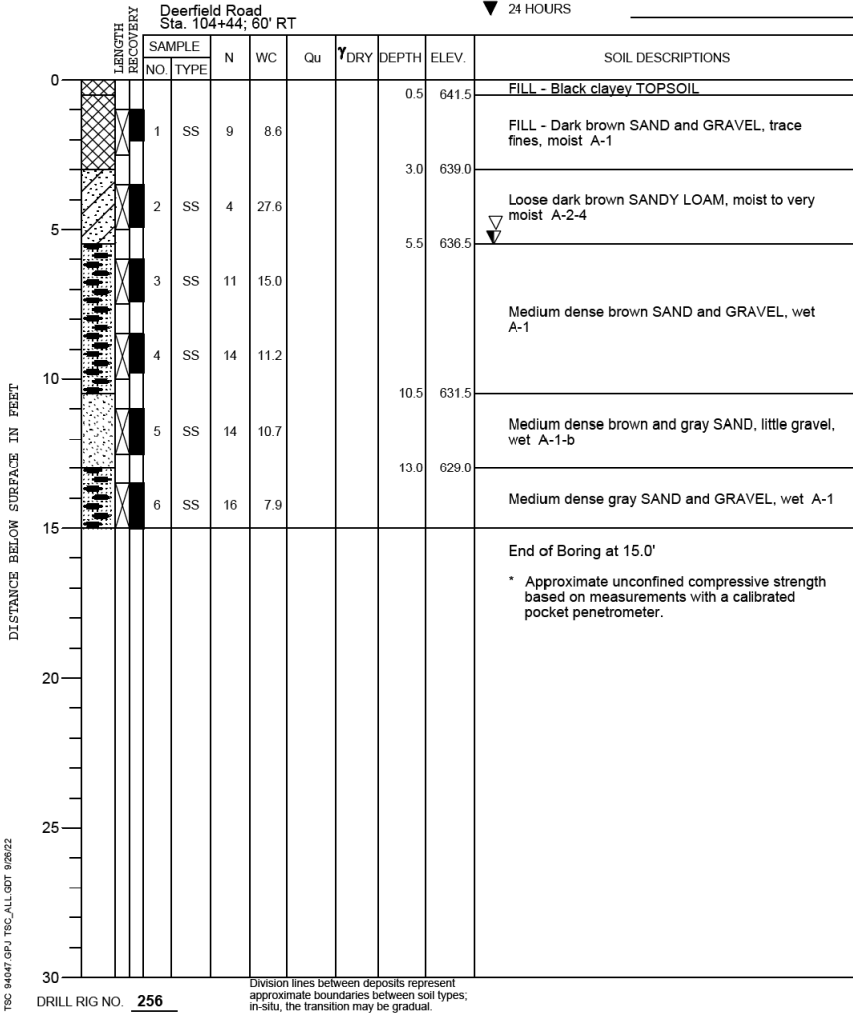


BAR w6(E)

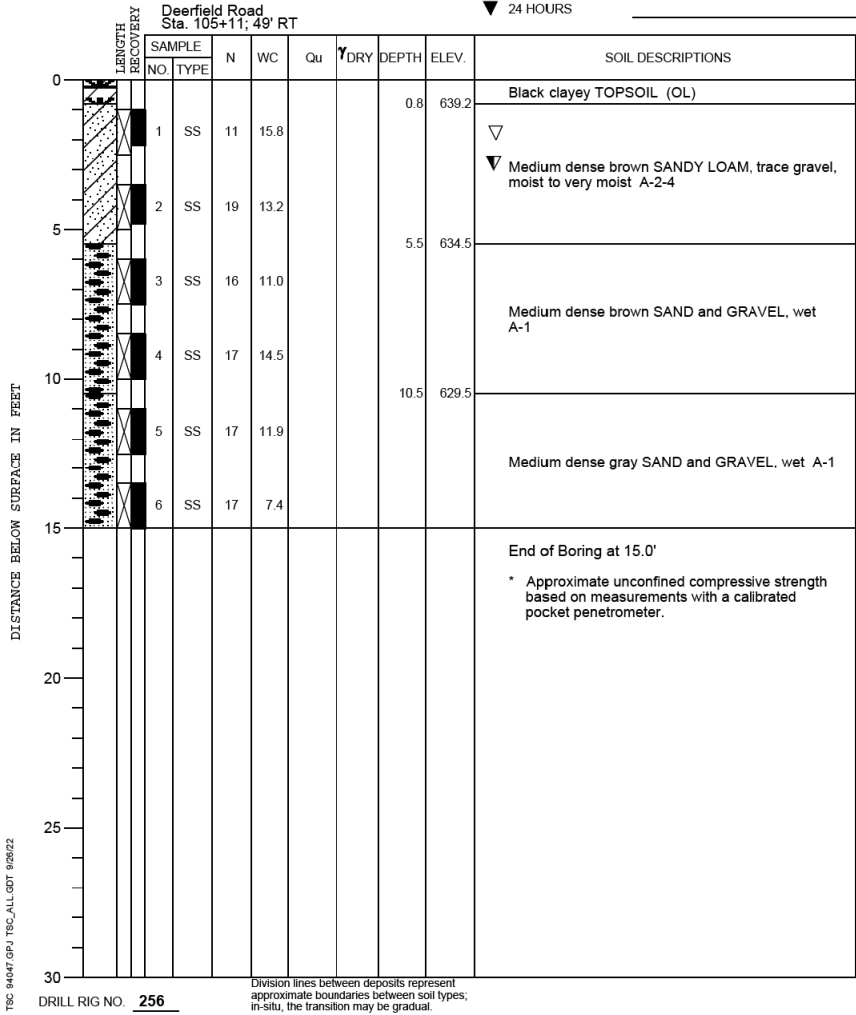
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	14	#5	23'-5"	
h1 (E)	4	#5	12'-8"	
h2 (E)	10	#5	21'-0"	
h3 (E)	10	#5	21'-10"	
h4 (E)	8	#5	28'-11"	
h5 (E)	8	#5	28'-1"	
h6 (E)	2	#5	26'-3"	
n (E)	74	#5	5'-5"	
t (E)	148	#5	7'-2"	
v (E)	22	#5	5'-10"	
v1 (E)	40	#5	7'-4"	
v2 (E)	64	#5	8'-4"	
v3 (E)	22	#5	6'-4"	
w (E)	32	#5	10'-5"	
w1 (E)	32	#5	10'-11"	
w2 (E)	16	#5	33'-9"	
w3 (E)	8	#5	7'-6"	
w4 (E)	8	#5	8'-1 1/2"	
w5 (E)	24	#5	7'-0"	
w6 (E)	24	#5	7'-5"	
Concrete Structures (Retaining Wall)			Cu. Yd.	55.5
Reinforcement Bars, Epoxy Coated			Pound	5,910
Geocomposite Wall Drain			Sq. Yd.	25

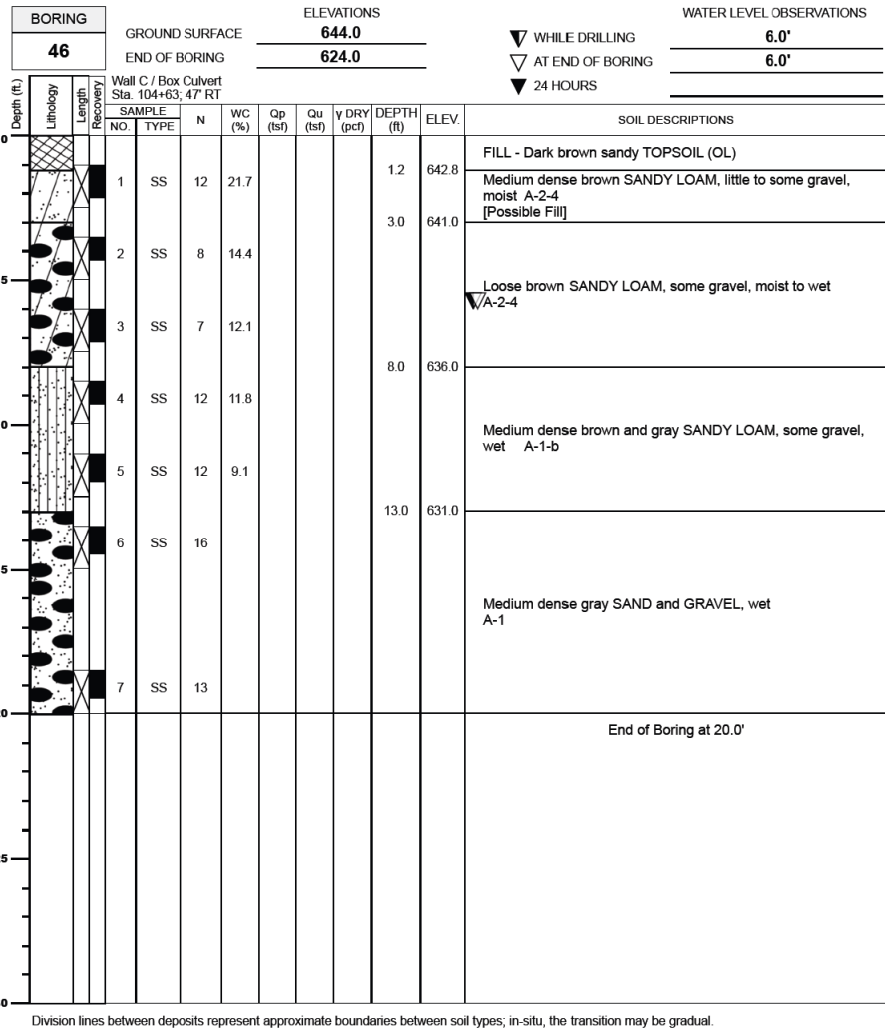
PROJECT **Proposed Retaining & Noise Walls, Deerfield & Saunders Roads, Riverwoods, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
BORING **201** DATE STARTED **7-25-22** DATE COMPLETED **7-25-22** JOB **L-94,047**
ELEVATIONS
GROUND SURFACE **642.0** WHILE DRILLING **5.5'**
END OF BORING **627.0** AT END OF BORING **5.0'**
24 HOURS



PROJECT **Proposed Retaining & Noise Walls, Deerfield & Saunders Roads, Riverwoods, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
BORING **202** DATE STARTED **7-25-22** DATE COMPLETED **7-25-22** JOB **L-94,047**
ELEVATIONS
GROUND SURFACE **640.0** WHILE DRILLING **3.0'**
END OF BORING **625.0** AT END OF BORING **2.0'**
24 HOURS

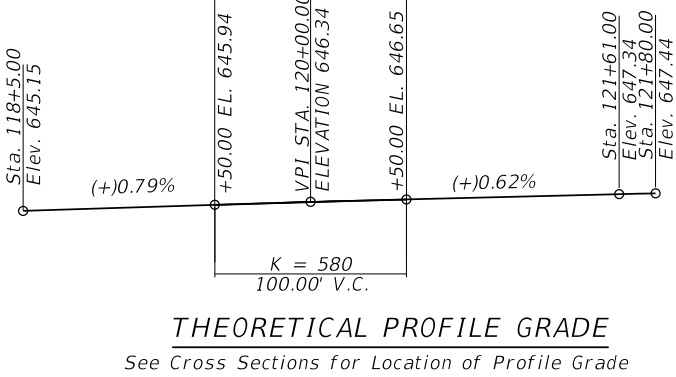
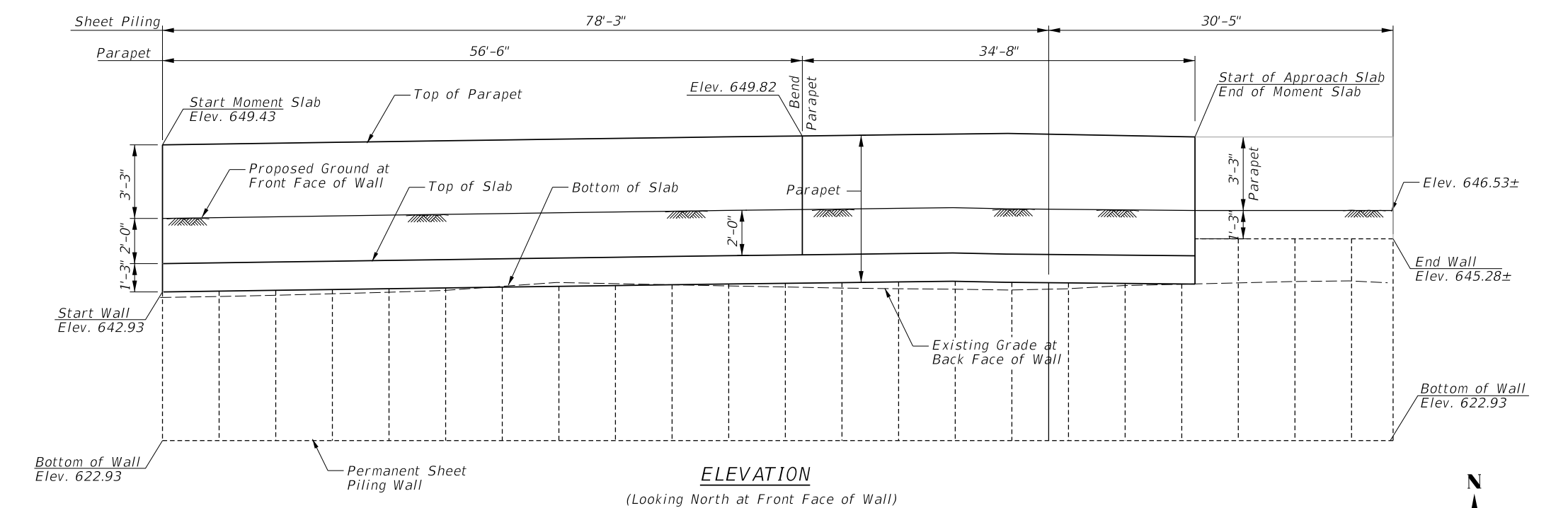


PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
STARTED **05/05/2025** FINISHED **05/05/2025** DRILL RIG NO. **358** JOB **L-98,273**



Bench Mark: LCDOT 5-45BR square cut on northwest corner wall of Deerfield Road Bridge
over Des Plaines River. Elev. 649.46

Existing structure: None
Traffic on Deerfield Road will be maintained during construction.
No salvage



DESIGN SPECIFICATIONS

2024 AASHTO LFRD Bridge Design
Specifications, 10th Edition

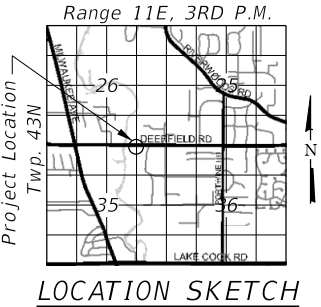
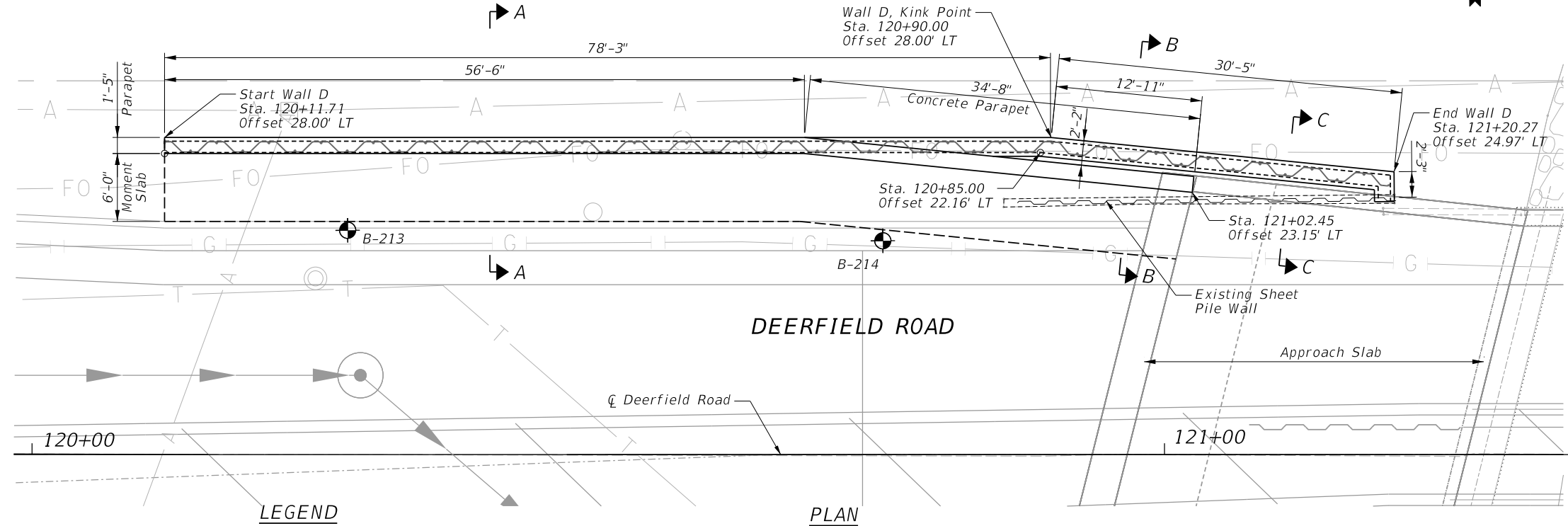
DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi (Concrete Superstructure)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Structural Steel
AASHTO M270 Grade 50)

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 2.0 sec. (SDS) = 0.135
Soil Class = D



GENERAL PLAN AND ELEVATION

RETAINING WALL D

ALONG DEERFIELD ROAD

F.A.U. 1257-SECTION 15-00038-07-WR

LAKE COUNTY

STA. 120+10.24 TO 121+31.29

- LEGEND**
- Storm Sewer
 - Water Main
 - Sanitary Sewer
 - Telephone
 - Electric Line
 - Gas Line
 - Proposed Permanent Easement
 - Proposed R.O.W.
 - Existing R.O.W.
 - Soil Boring



Majid Mobasseri

MAJID MOBASSERI

ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

07/29/2026

DATE

I Certify that to the best of my knowledge, information and belief, this wall design is structurally adequate for the Design Loading shown on the plans. The design is an economical one for the syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
N:\LCDOT\190304.0003A\Struct\41-190304.0003A-Wall D - GPE.sht		DRAWN - PDR	REVISED -
Default	PLOT SCALE = 6'	CHECKED - CF	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL D - GENERAL PLAN AND ELEVATION

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	615
CONTRACT NO. 61K62				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. All work and material shall be done in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

CAST-IN-PLACE CONCRETE

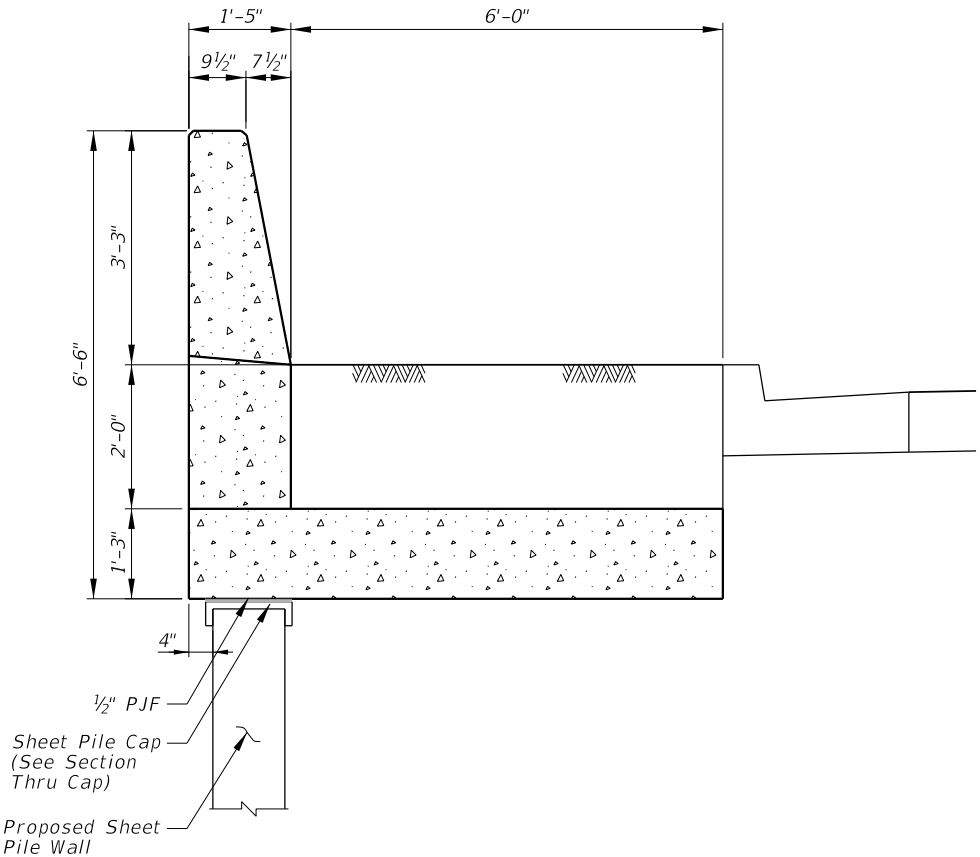
2. All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

REINFORCEMENT BARS

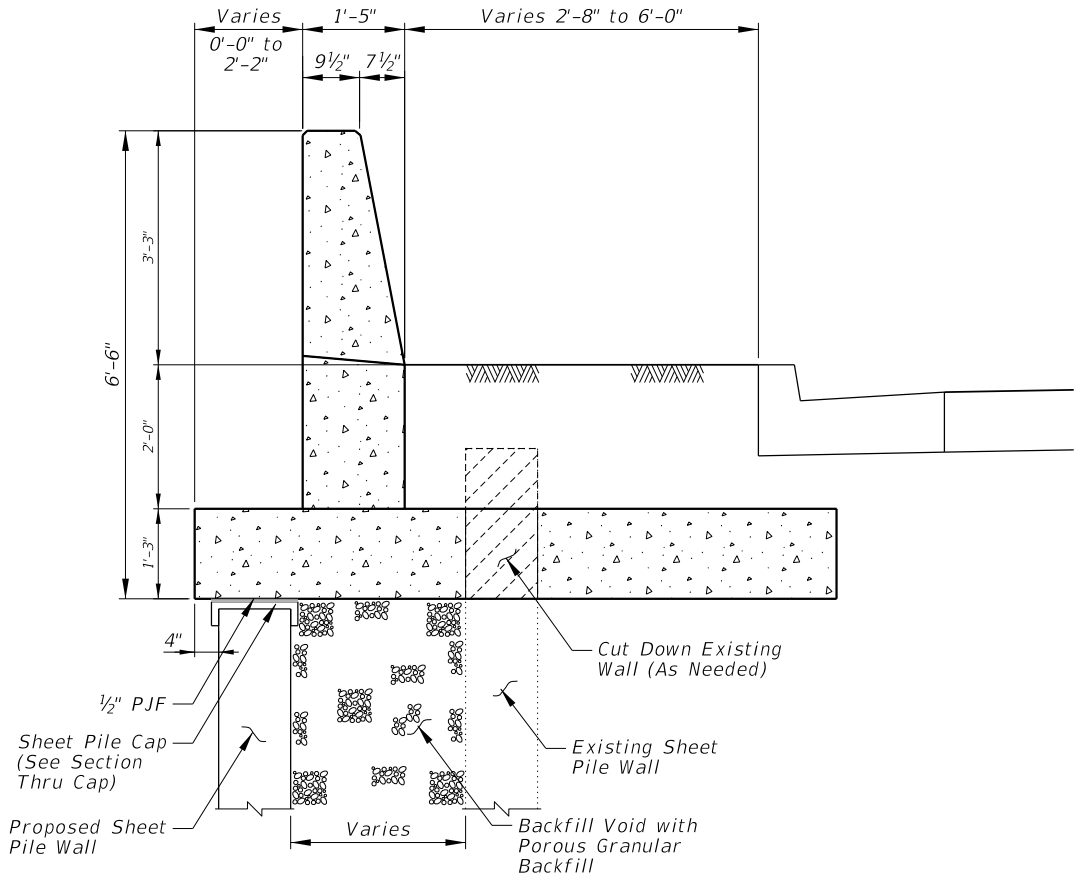
3. Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of aashto m-31 (astm a706), grade 60, deformed bars.
4. Reinforcement bars designated "(E)" shall be epoxy coated.
5. Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.
6. Reinforcement bar bending dimensions are out to out.
7. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
8. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

CONSTRUCTION

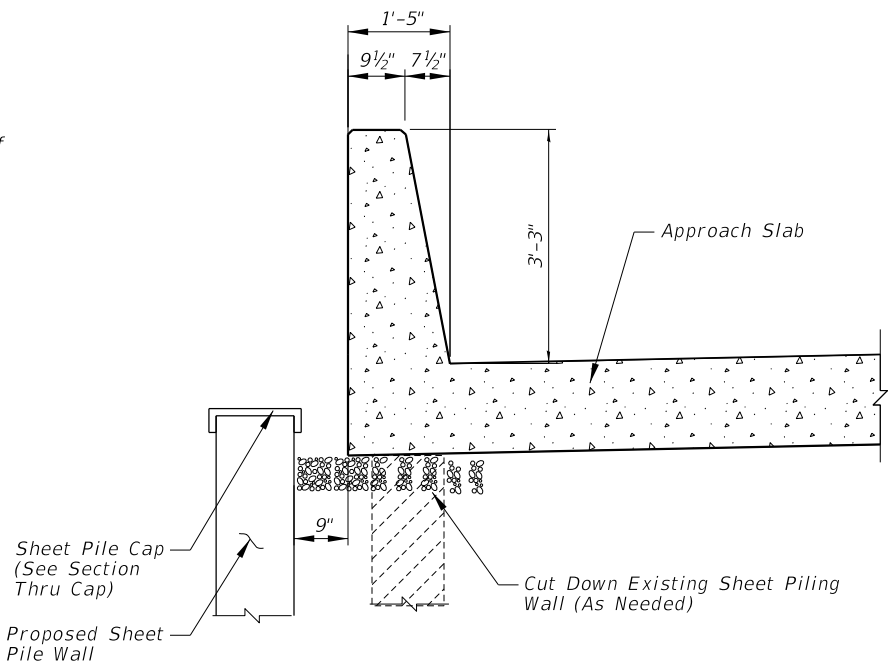
9. Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
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12. Contractor shall not scale dimensions from the contract plans for construction purposes. Scales shown are for information only.
13. No construction joints except those shown on the plans shall be allowed unless approved by the engineer.
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15. The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
16. Whenever any material is deposited into a drainage system or drainage structures, The deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.
17. The Concrete Superstructure mix shall be Class BS concrete.



SECTION A-A



SECTION B-B



SECTION C-C

INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
616	General Plan & Elevation
617	General Notes, index, & B.O.M.
618	Wall Details
619	Typical Section and Details
620	Boring Logs

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	50	
50200100	Structure Excavation	Cu. Yd.	130	
50300255	Concrete Superstructure	Cu. Yd.	56.1	
50300300	Protective Coat	Sq. Yd.	140	
50800205	Reinforcement Bars, Epoxy Coated	Pound	8,600	
52200015	Permanent Sheet Piling	Sq. Ft.	2,300	

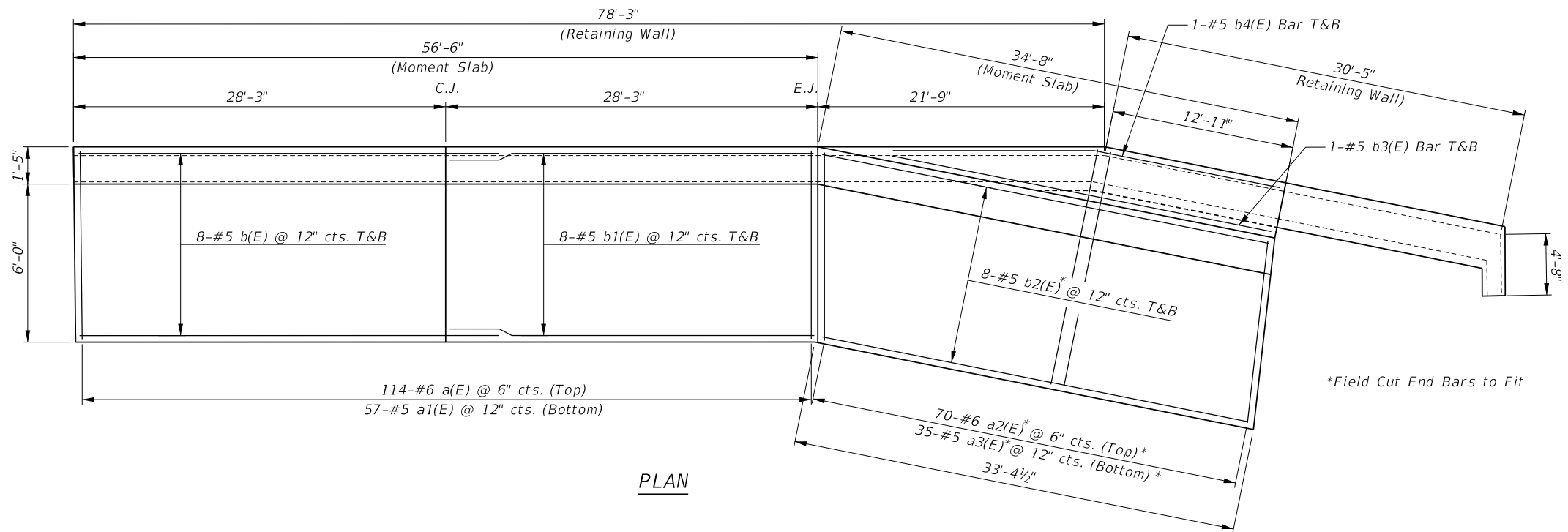
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	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

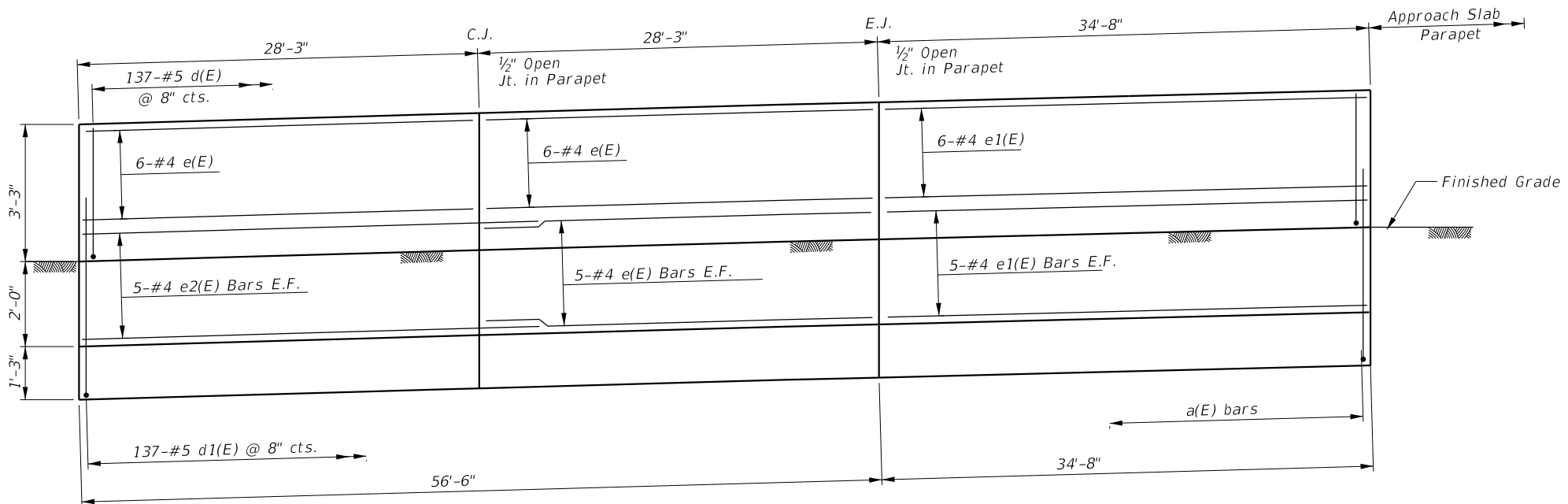
DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL D – GENERAL NOTES, INDEX AND B.O.M.

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	616
CONTRACT NO. 61K62				
ILLINOIS FED. AID PROJECT				

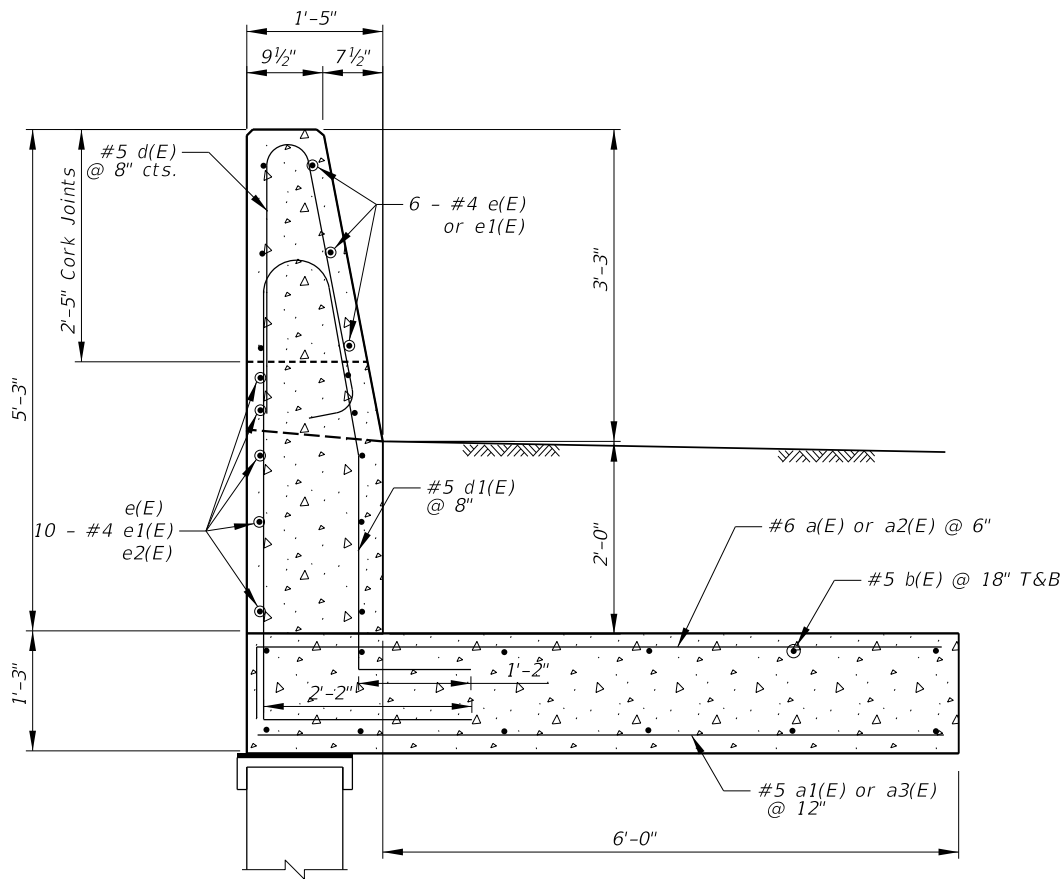


PLAN

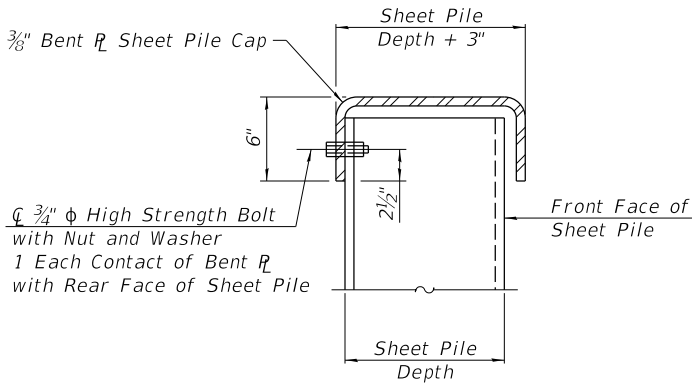


ELEVATION - PARAPET & MOMENT SLAB

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION WALL D - WALL DETAILS		F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304\0003A\Struct\43-190304.0003A-Wall D - Detail-01.sht		DRAWN - PDR	REVISED -				I257	I5-00038-07-WR	LAKE	1090	617
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -				CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
				SCALE:		SHEET	OF 107 SHEETS	STA.	TO STA.		

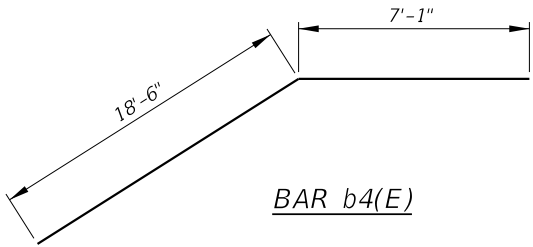


TYPICAL SECTION

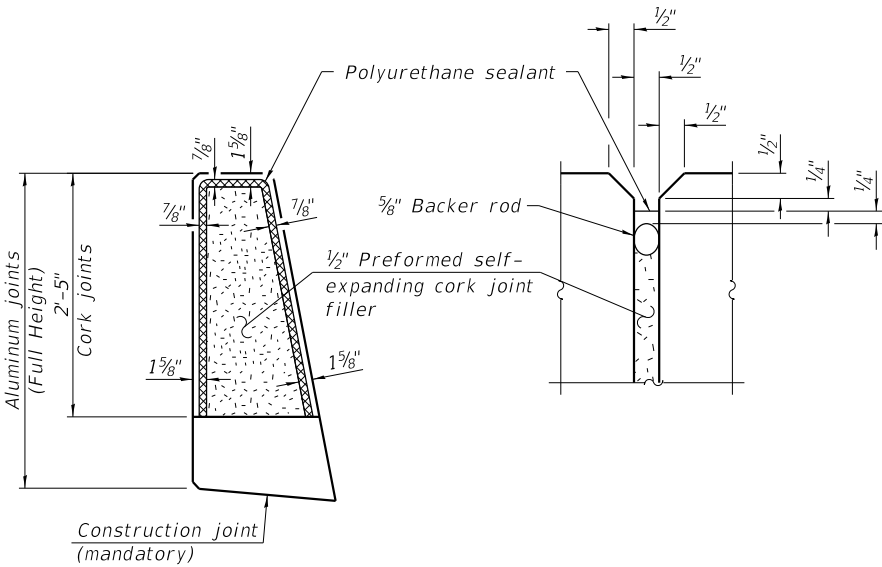


SHEETING CAP DETAIL

Note: Cost of all installation, materials and labor for sheeting cap shall be included in the cost of .
Permanet Sheet Piling.

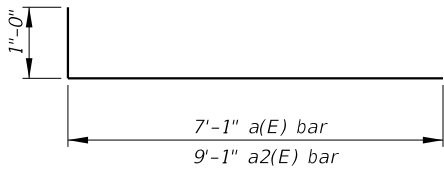


BAR b4(E)

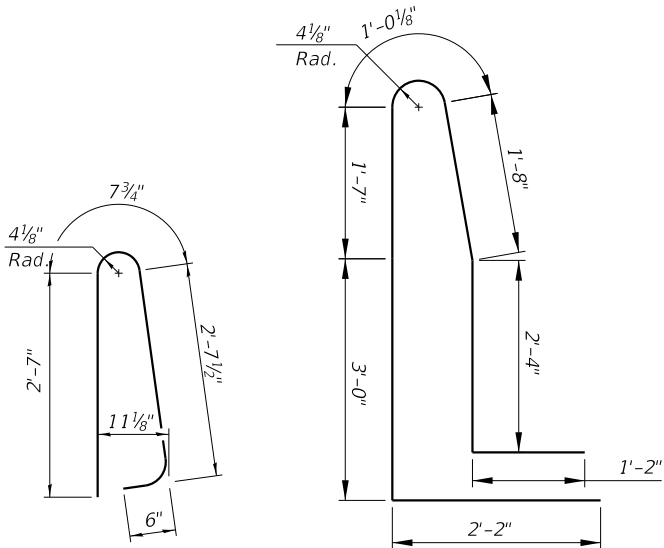


PARAPET JOINT DETAILS

Note:
The polyurethane sealant shall be according to Article 1050.04 of the Standard Specifications and the color shall be gray.



BAR a1(E) & a2(E)



BAR d(E)

BAR d1(E)

MOMENT SLAB
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	114	#6	8'-1"	
a1(E)	57	#5	7'-1"	
a2(E)	70	#6	10'-1"	
a3(E)	35	#5	9'-1"	
b(E)	16	#5	30'-7"	
b1(E)	16	#5	27'-11"	
b2(E)	16	#5	34'-4"	
b3(E)	2	#5	29'-4"	
b4(E)	2	#5	31'-3"	
d(E)	137	#5	6'-4"	
d1(E)	137	#5	12'-11"	
e(E)	22	#4	27'-11"	
e1(E)	16	#4	34'-4"	
e2(E)	10	#4	30'-1"	
Reinforcement Bars, Epoxy Coated			Lbs.	8,600
Concrete Superstructure			Cu. Yds.	56.1

PROJECT **Proposed Retaining & Noise Walls, Deerfield & Saunders Roads, Riverwoods, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **213** DATE STARTED **8-17-22** DATE COMPLETED **8-17-22** JOB **L-94,047**



ELEVATIONS

GROUND SURFACE **646.0**

END OF BORING **631.0**

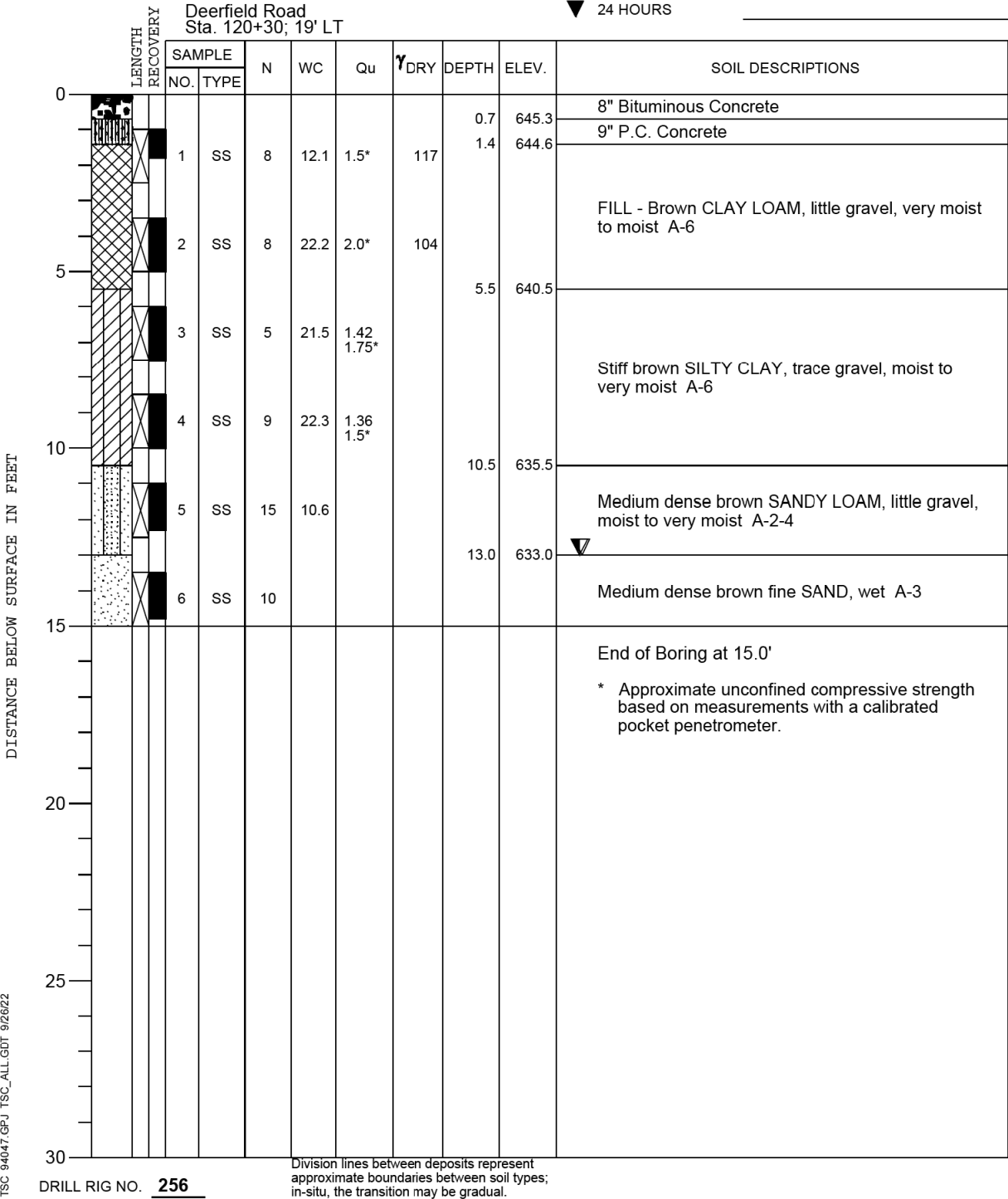
WATER LEVEL OBSERVATIONS

▽ WHILE DRILLING **13.0 '**

▽ AT END OF BORING **13.0 '**

▼ 24 HOURS

Deerfield Road
Sta. 120+30; 19' LT



PROJECT **Proposed Retaining & Noise Walls, Deerfield & Saunders Roads, Riverwoods, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **214** DATE STARTED **8-17-22** DATE COMPLETED **8-17-22** JOB **L-94,047**



ELEVATIONS

GROUND SURFACE **644.0**

END OF BORING **626.5**

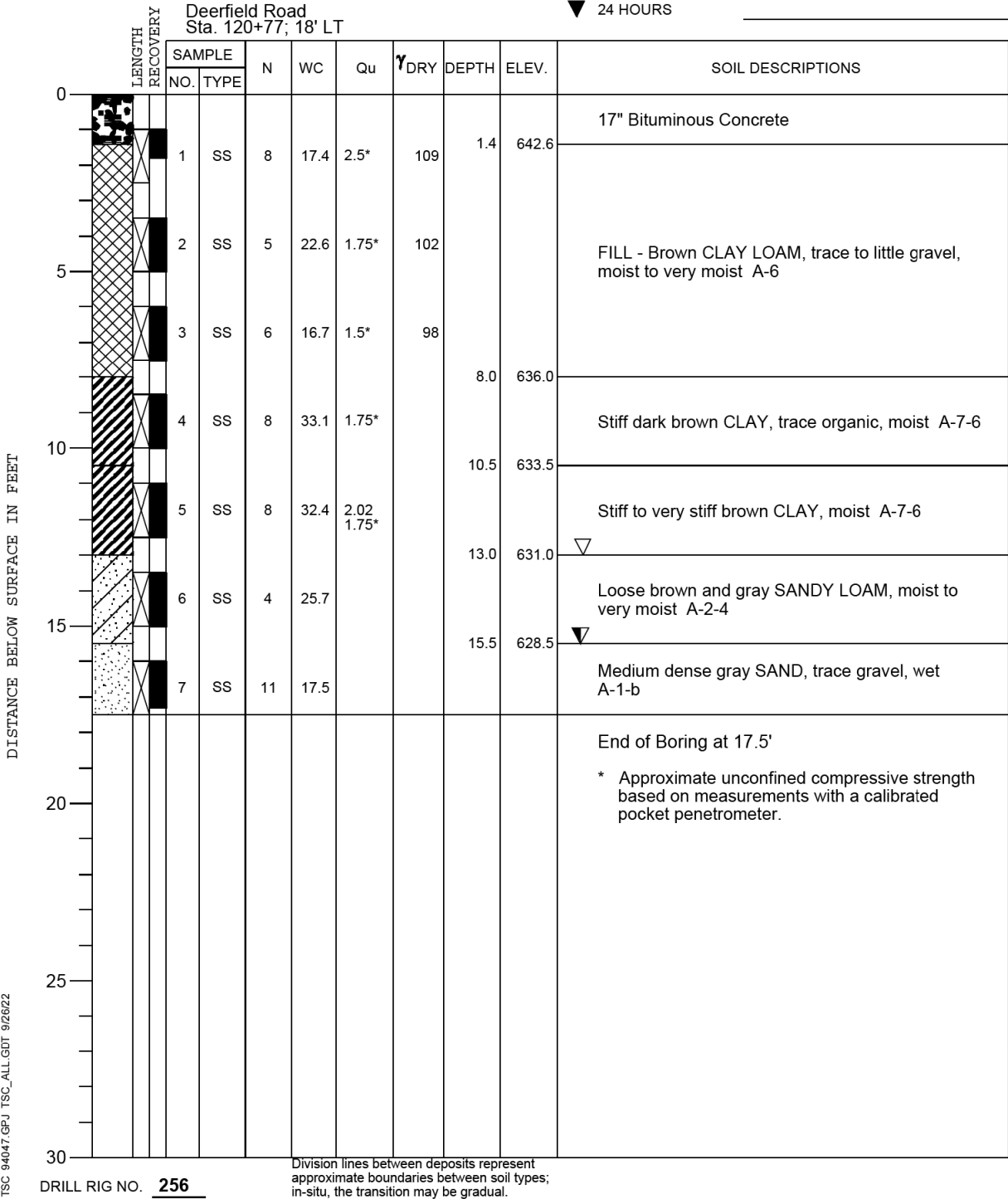
WATER LEVEL OBSERVATIONS

▽ WHILE DRILLING **15.5 '**

▽ AT END OF BORING **13.0 '**

▼ 24 HOURS

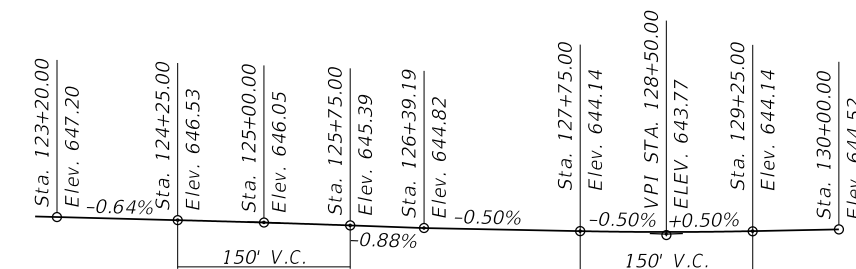
Deerfield Road
Sta. 120+77; 18' LT



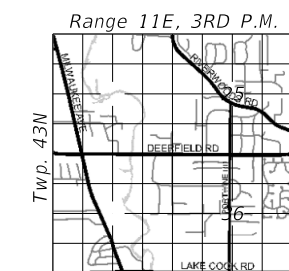
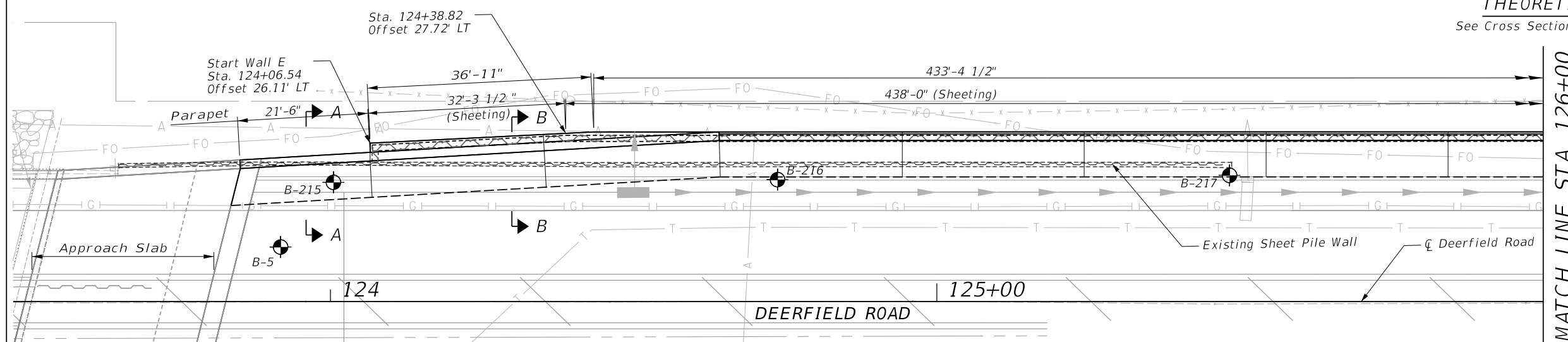
No salvage

Design Spectral Acceleration at 1.0 sec. ($SD1$) = 0.105
Design Spectral Acceleration at 2.0 sec. (SDS) = 0.135
Soil Class = D

$f'_c = 4,000 \text{ psi (Moment Slab)}$
 $f_y = 60,000 \text{ psi (Reinforcement)}$
 $f_y = 50,000 \text{ psi (Structural Steel AASHTO M270 Grade 50)}$

2024 AASHTO LFRD Bridge Design
Specifications, 10th Edition

See Cross Section for Location of Profile Grade



STA. 124+06.54 TO 128+76.82

Storm Sewer
Water Main
Sanitary Sewer
Telephone
Electric Line

Gas Line
Proposed Permanent Easement
Proposed R.O.W.
Existing R.O.W.
Soil Boring

PLAN



Najid Nohassi C

07/29/2026

MAJID MOBASSERI

ILLINOIS REGISTRATION No. 081-005058

STRUCTURAL ENGINEER

EXPIRATION DATE: 11/30/26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL E – GENERAL PLAN AND ELEVATION**

SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.
--------	-------	---------------	------	---------

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	620
		CONTRACT NO. 61K62		
		ILLINOIS FED. AID. PROJECT		

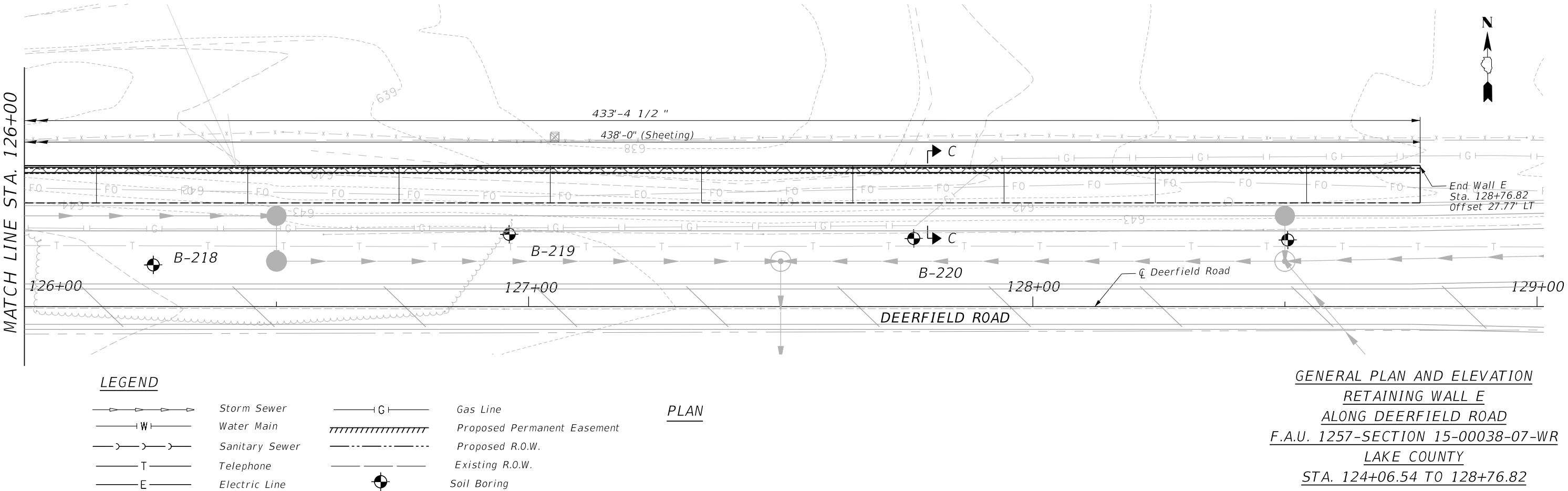
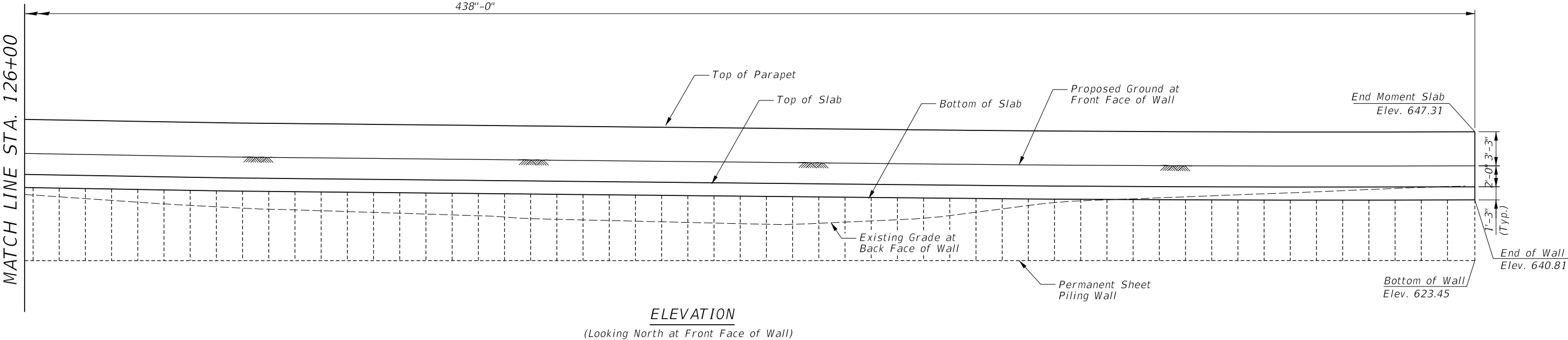
Bench Mark: LCDOT 5-45BR square cut on northwest corner wall of Deerfield Road Bridge
over Des Plaines River. Elev. 649.46

Existing structure: None

Existing Roadway: Deerfield Road

Traffic on Deerfield Road will be maintained during construction.

No salvage



FILE NAME = N:\LCDOT\190304\0003A\Struct\47-190304-0003A-Wall E - GPE-02.sht Default	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL E – GENERAL PLAN AND ELEVATION	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 10'	DRAWN - PDR	REVISED -			1257	15-00038-07-WR	LAKE	1090	621
	PLOT DATE = 7/31/2026	CHECKED - CF	REVISED -			CONTRACT NO. 61K62				
		DATE -	REVISED -			SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.

GENERAL NOTES

1. All work and material shall be done in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

CAST-IN-PLACE CONCRETE

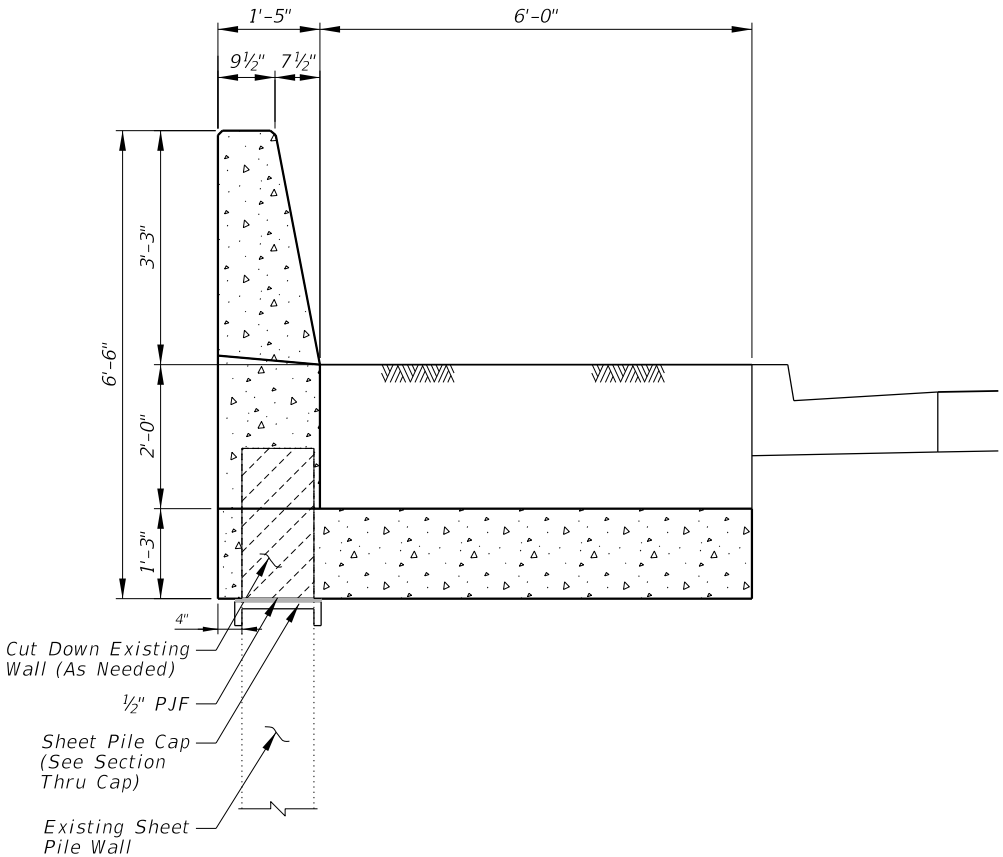
2. All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

REINFORCEMENT BARS

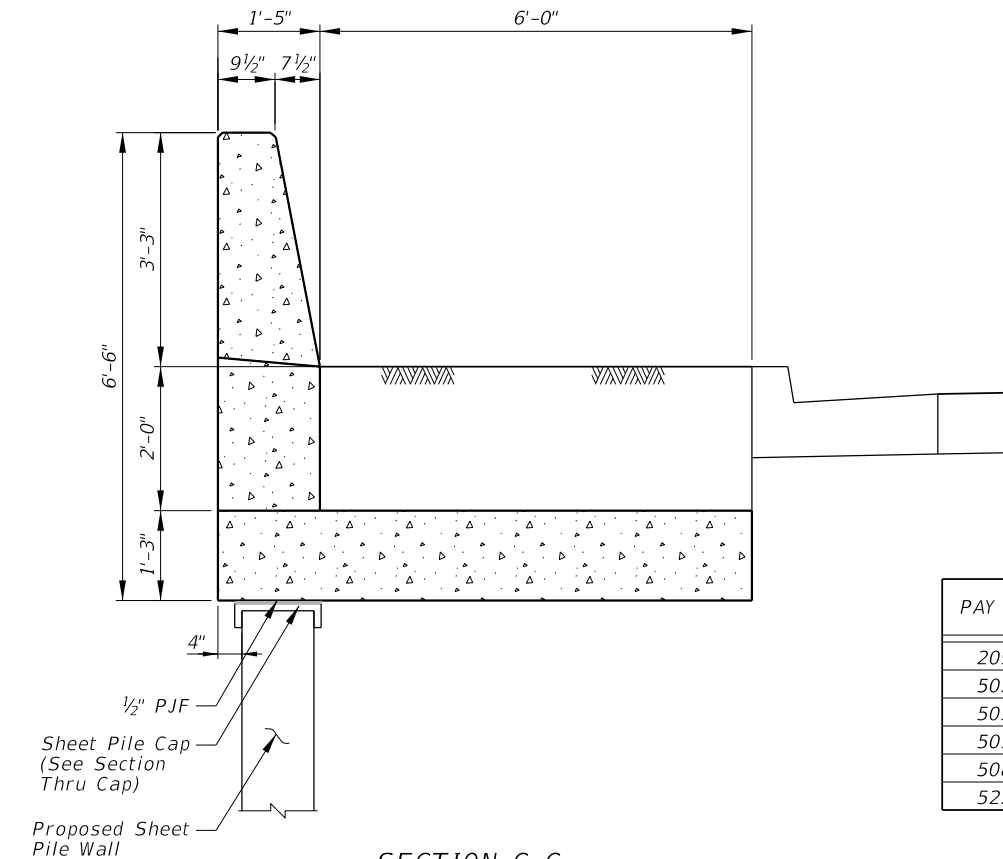
3. Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of aashto m-31 (astm a706), grade 60, deformed bars.
4. Reinforcement bars designated "(E)" shall be epoxy coated.
5. Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.
6. Reinforcement bar bending dimensions are out to out.
7. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
8. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

CONSTRUCTION

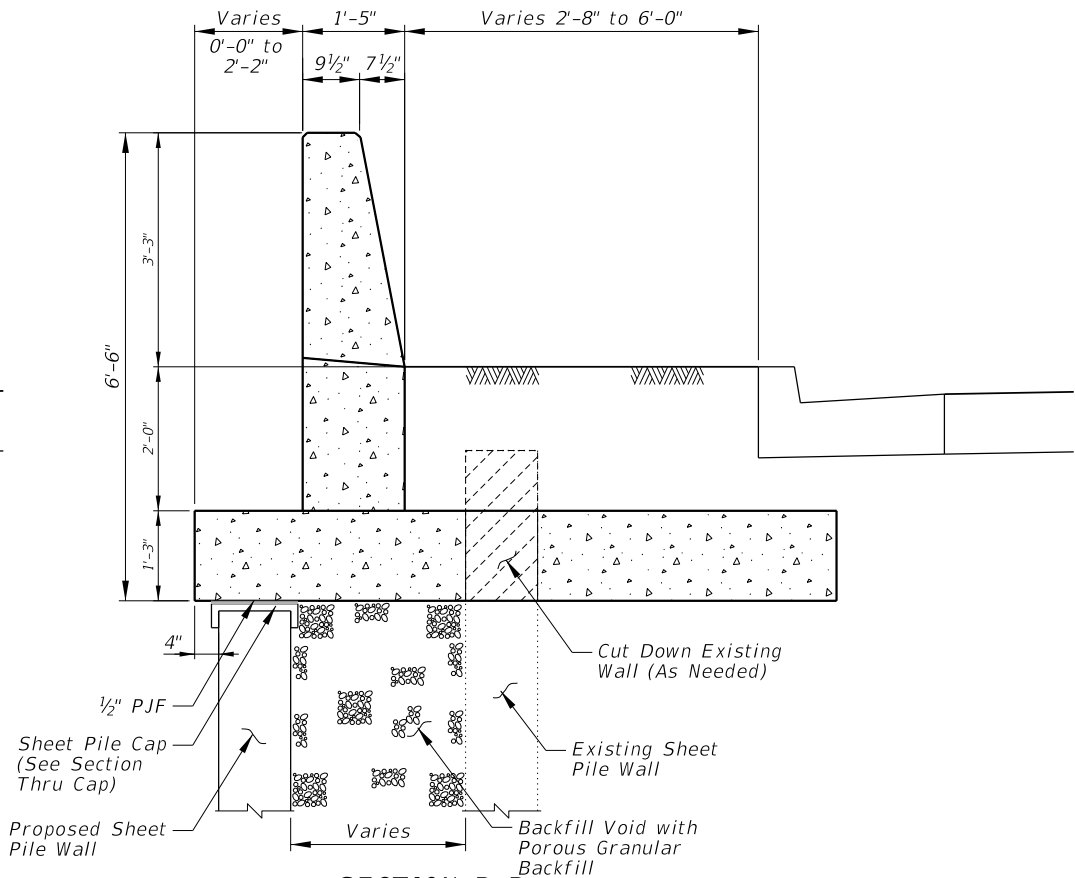
9. Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
10. Standard Specifications, Construction Plans and subsequent details are all to be considered part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered to be a part of this Contract.
11. Any information concerning the type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
12. Contractor shall not scale dimensions from the contract plans for construction purposes. Scales shown are for information only.
13. No construction joints except those shown on the plans shall be allowed unless approved by the engineer.
14. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
15. The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
16. Whenever any material is deposited into a drainage system or drainage structures, The deposited material shall be removed at the close of each working day. At the conclusion of construction operations, all drainage systems and structures shall be free from dirt and debris deposited during the various construction operations.
17. The Concrete Superstructure mix shall Be Class BS concrete.



SECTION A-A



SECTION C-C



SECTION B-B

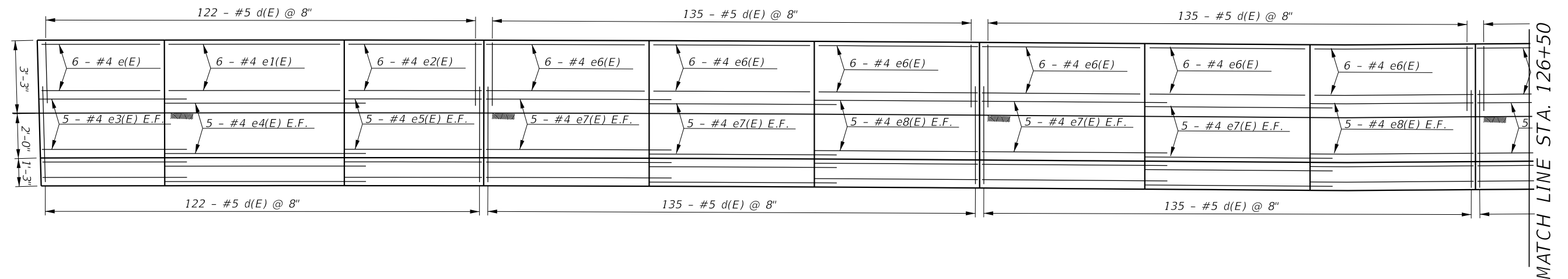
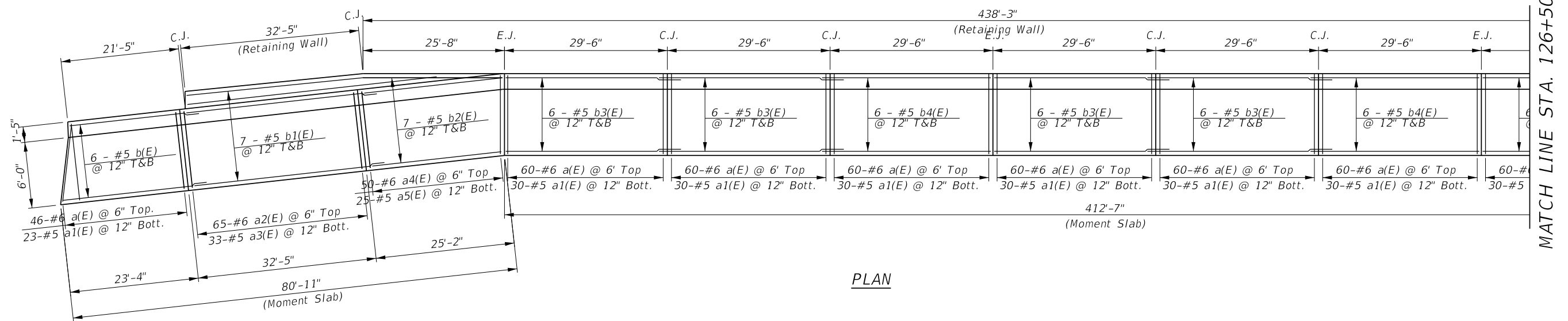
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
621	GENERAL PLAN & ELEVATION
622	GENERAL NOTES, INDEX & BOM
623	PLAN, ELEVATION, AND DETAIL
624	WALL DETAILS
625	BORING LOGS

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	210	
50200100	Structure Excavation	Cu. Yd.	650	
50300255	Concrete Superstructure	Cu. Yd.	224.2	
50300300	Protective Coat	Sq. Yd.	550	
50800205	Reinforcement Bars, Epoxy Coated	Pound	42,280	
52200015	Permanent Sheet Piling	Sq. Ft.	9,405	

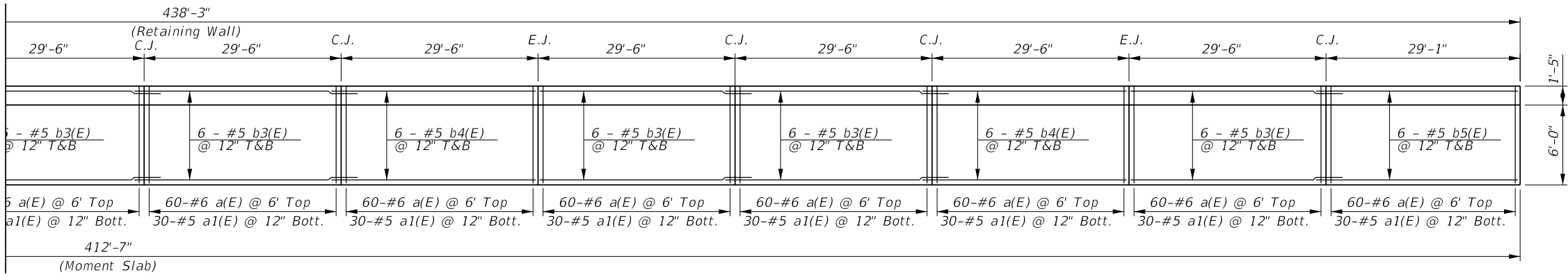
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N:\LCDOT\190304.0003A\Struct\48-190304.0003A-Wall E - GNotes.sht		DRAWN - PDR	REVISED -				I257	I5-00038-07-WR	LAKE	1090	622
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -				CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET OF 107 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT			



ELEVATION - PARAPET

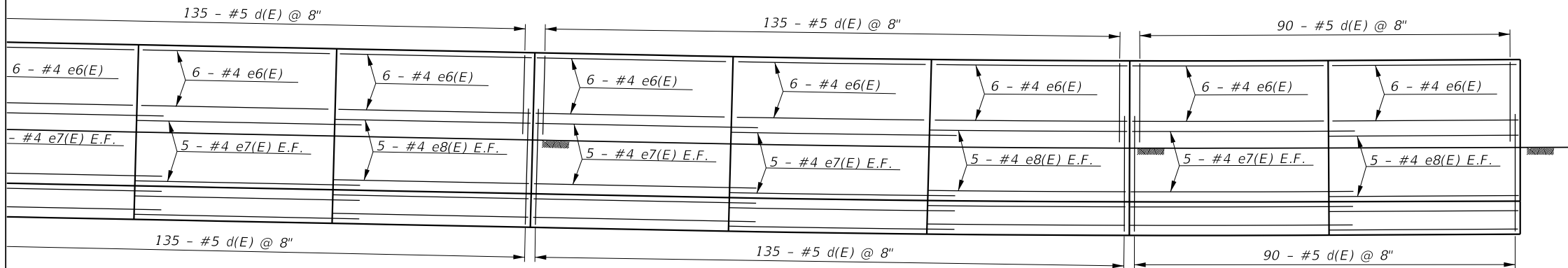
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PLOT SCALE = 10'	CHECKED - CF	REVISED -	CONTRACT NO. 61K62									
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET OF 107 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT				

MATCH LINE STA. 126+50

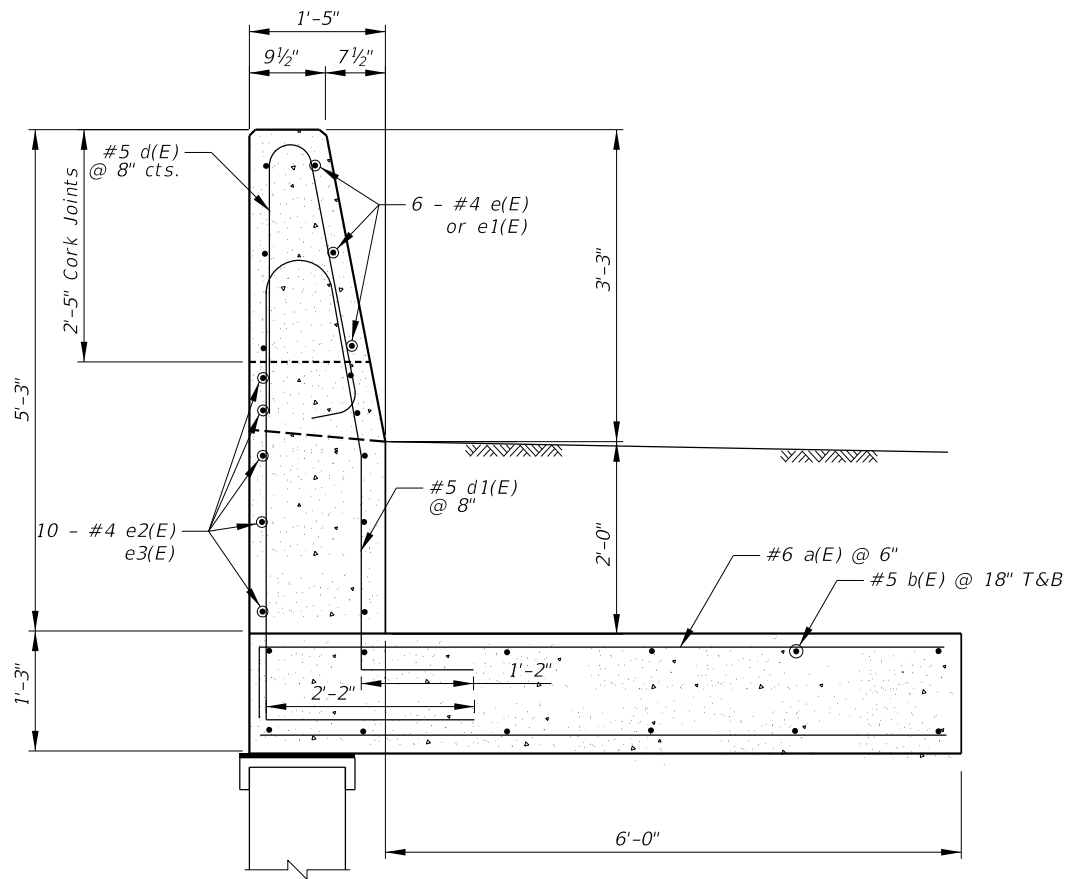


PLAN

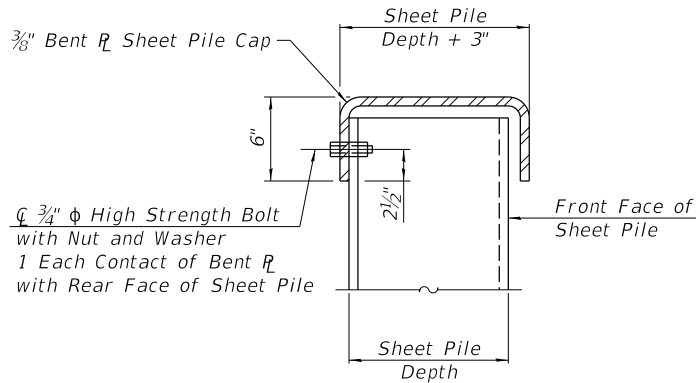
MATCH LINE STA. 126+50



ELEVATION - PARAPET

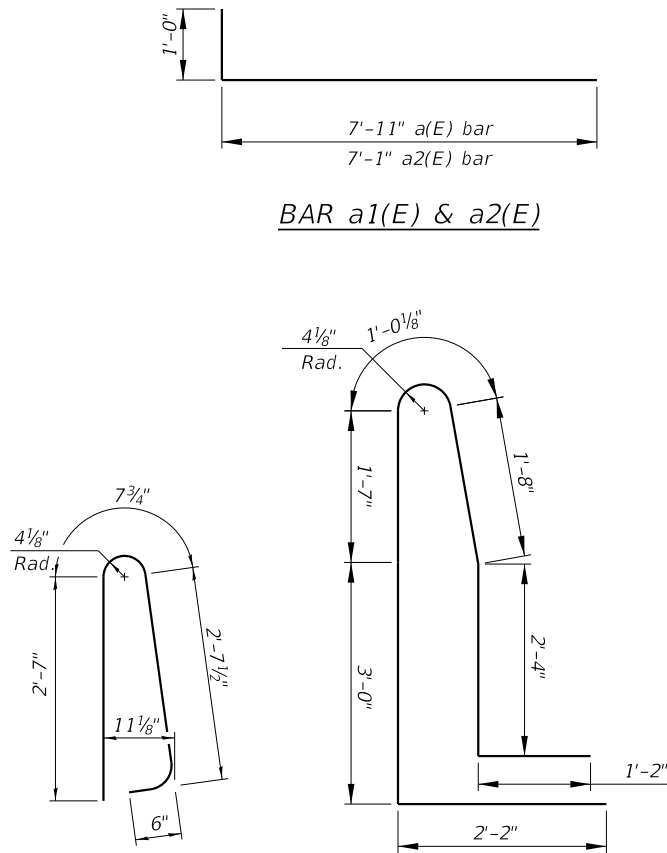


TYPICAL SECTION



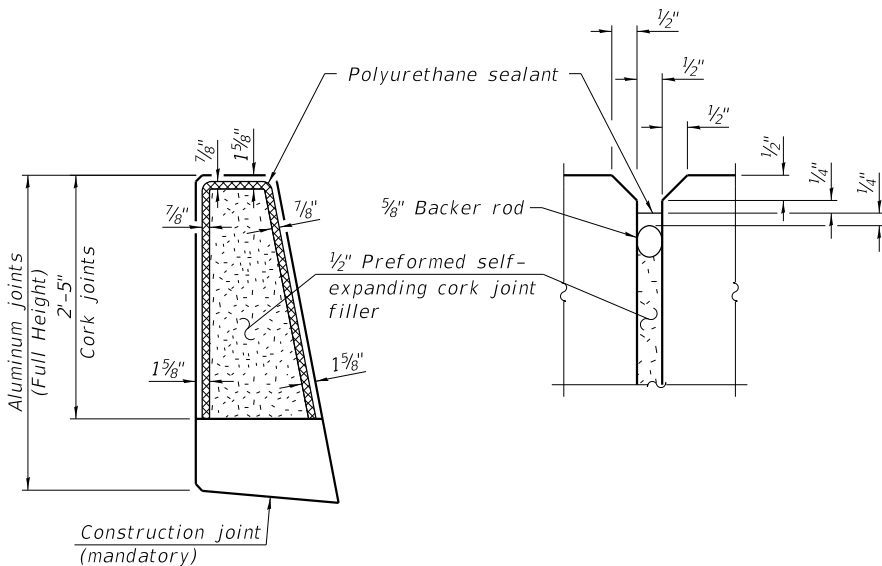
SHEETING CAP DETAIL

Note: Cost of all installation, materials and labor for sheeting cap shall be included in the cost of .
Permanet Sheet Piling.



BAR d(E)

BAR d1(E)



PARAPET JOINT DETAILS

Note:
The polyurethane sealant shall be according to Article 1050.04 of the Standard Specifications and the color shall be gray.

MOMENT SLAB
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	885	#6	8'-1"	
a1(E)	443	#5	7'-1"	
a2(E)	65	#6	9'-2"	
a3(E)	22	#5	9'-2"	
a4(E)	50	#6	9'-0"	
a5(E)	25	#5	8'-2"	
b(E)	12	#5	25'-6"	
b1(E)	14	#5	34'-7"	
b2(E)	14	#5	25'-0"	
b3(E)	108	#5	31'-8"	
b4(E)	48	#5	29'-2"	
b5(E)	12	#5	28'-9"	
d(E)	752	#5	6'-4"	
d1(E)	752	#5	12'-11"	
e(E)	6	#4	21'-2"	
e1(E)	6	#4	32'-1"	
e2(E)	6	#4	24'-10"	
e3(E)	10	#4	23'-8"	
e4(E)	10	#4	34'-4"	
e5(E)	10	#4	25'-1"	
e6(E)	84	#4	29'-2"	
e7(E)	90	#4	31'-8"	
e8(E)	50	#4	29'-2"	
Reinforcement Bars, Epoxy Coated			Lbs.	42,280
Concrete Superstructure			Cu. Yds.	224.2

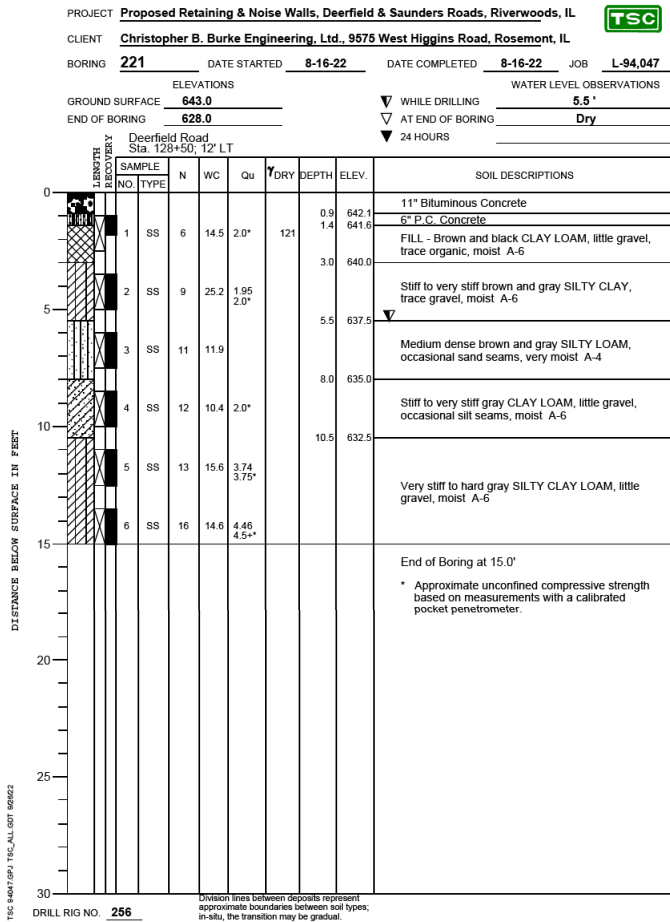
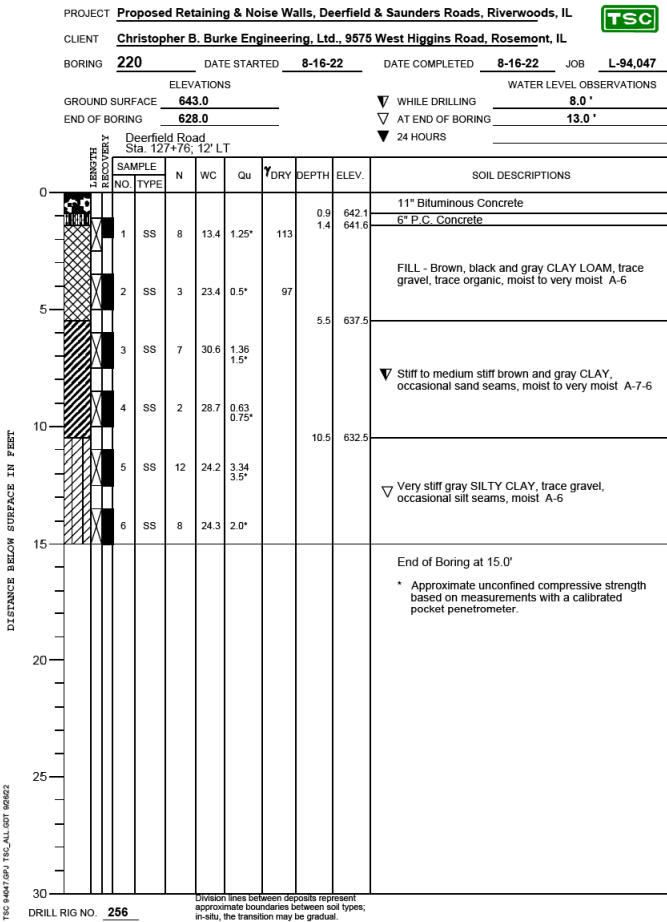
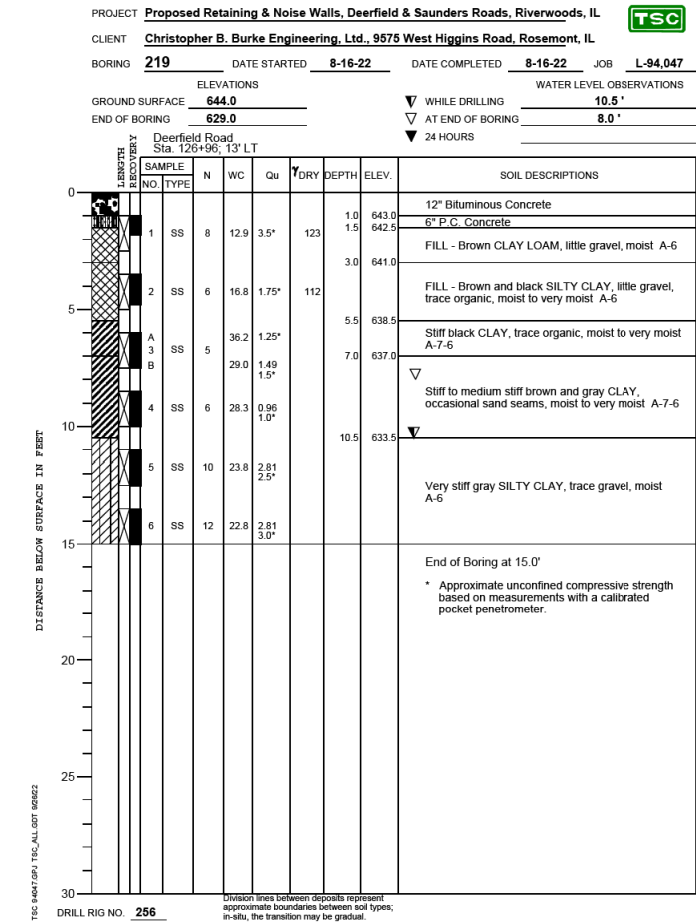
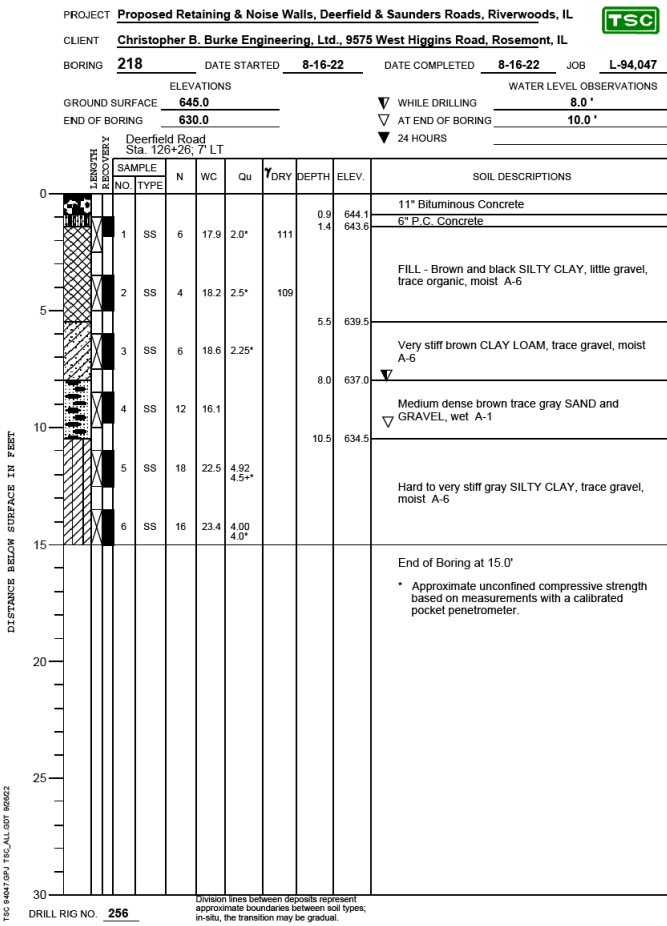
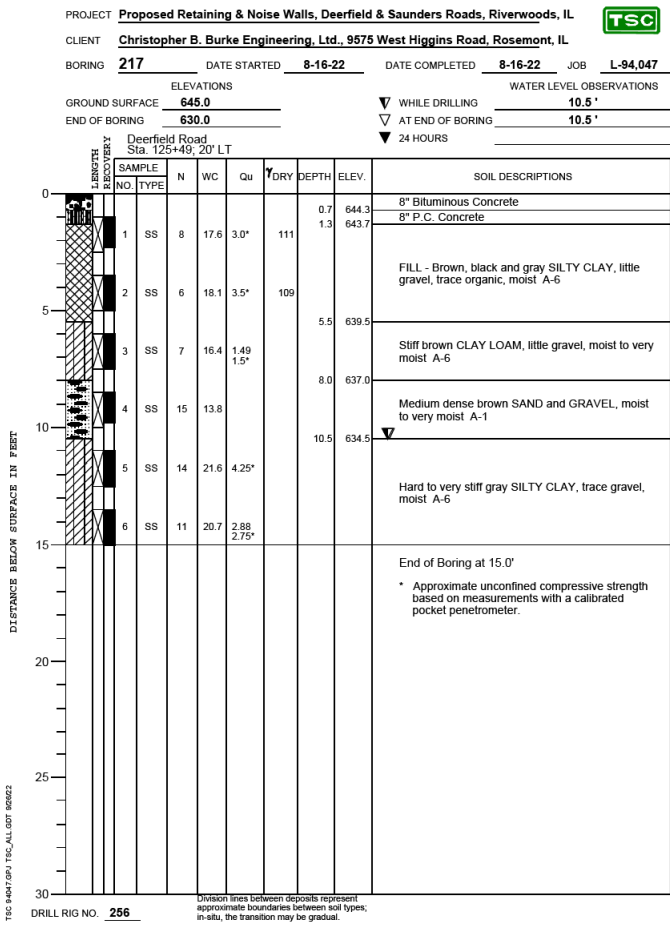
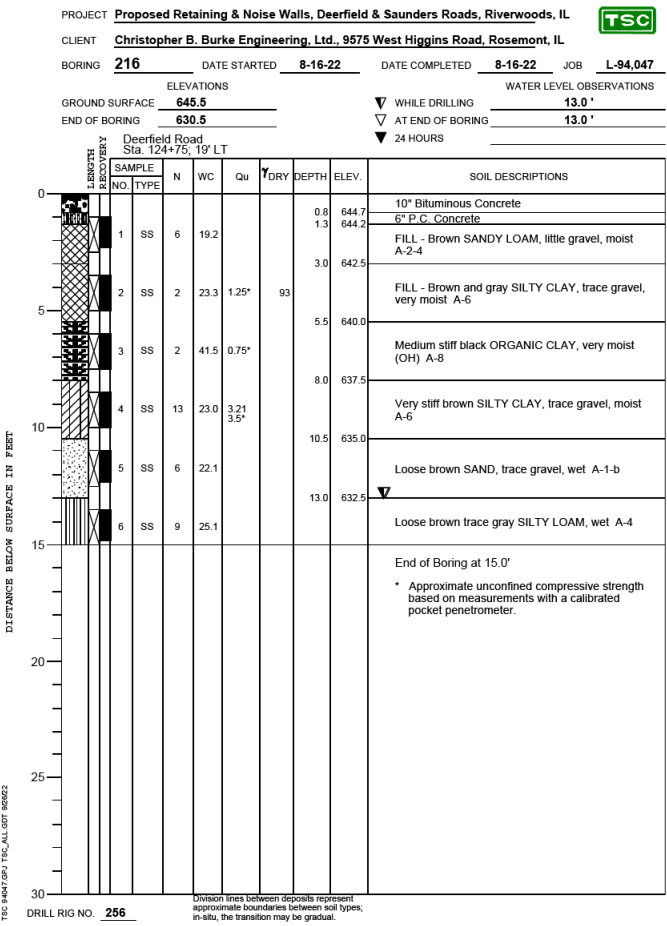
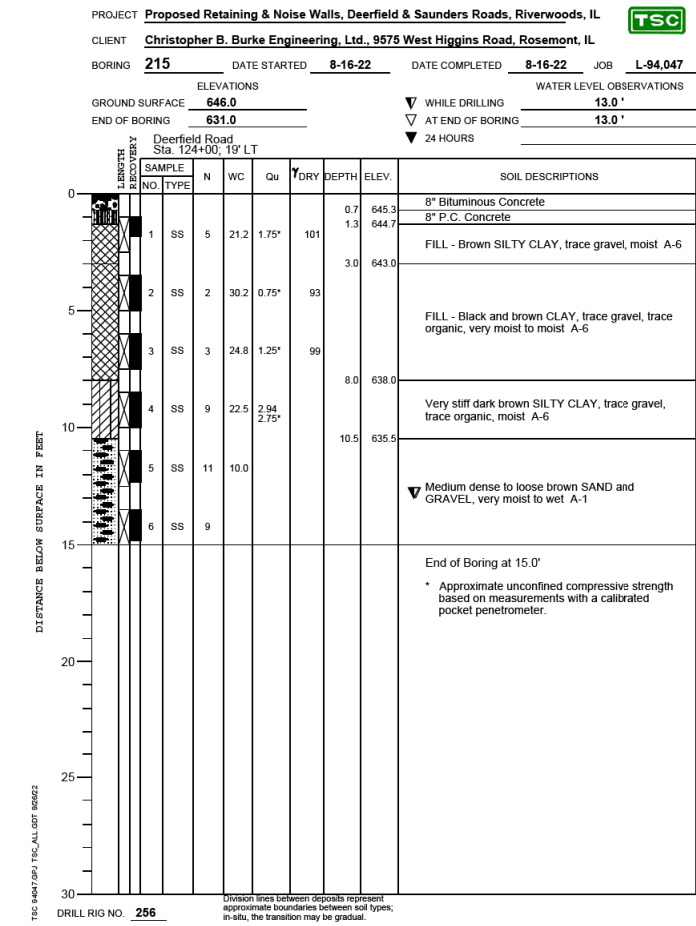
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	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL E - WALL DETAILS

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	625
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				



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		CHECKED - CF	REVISED -
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

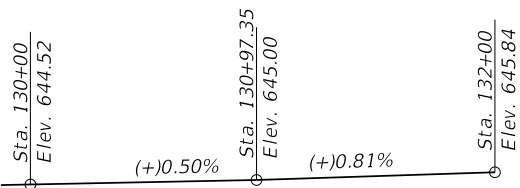
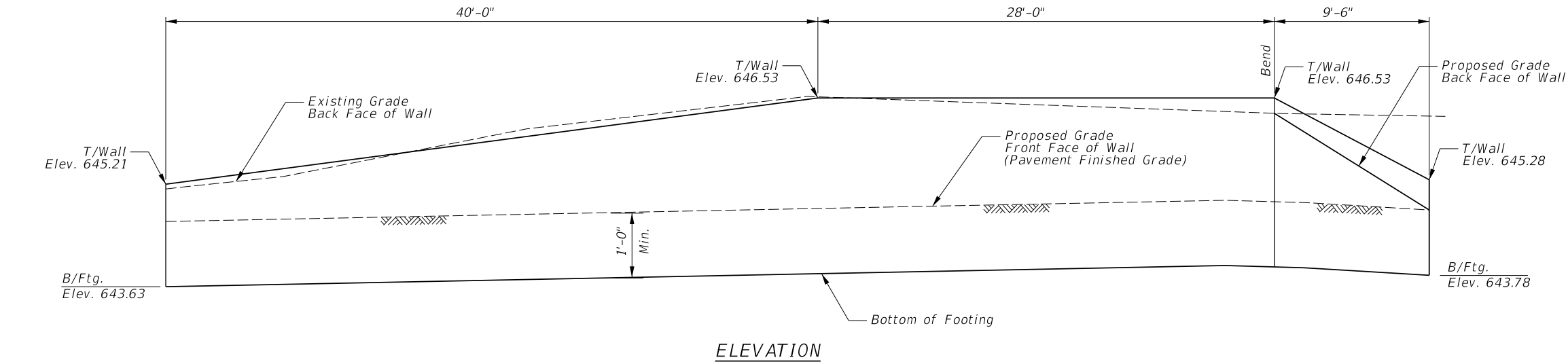
DEERFIELD ROAD RECONSTRUCTION
BORING LOGS - WALL E

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	626
			CONTRACT NO. 6IK62	
		ILLINOIS	FED. AID PROJECT	

Bench Mark: 16-11. Mini railroad spike in north face of power pole
at the south curb of Deerfield Road, first pole west of
Thornmeadow Road. Elev. 647.90

Existing Structures: None



PROFILE GRADE
(Deerfield Road)

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design
Specifications. 10th Edition

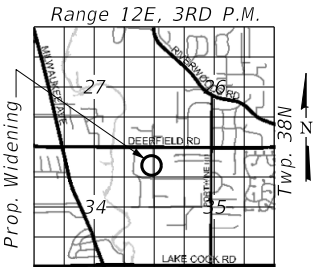
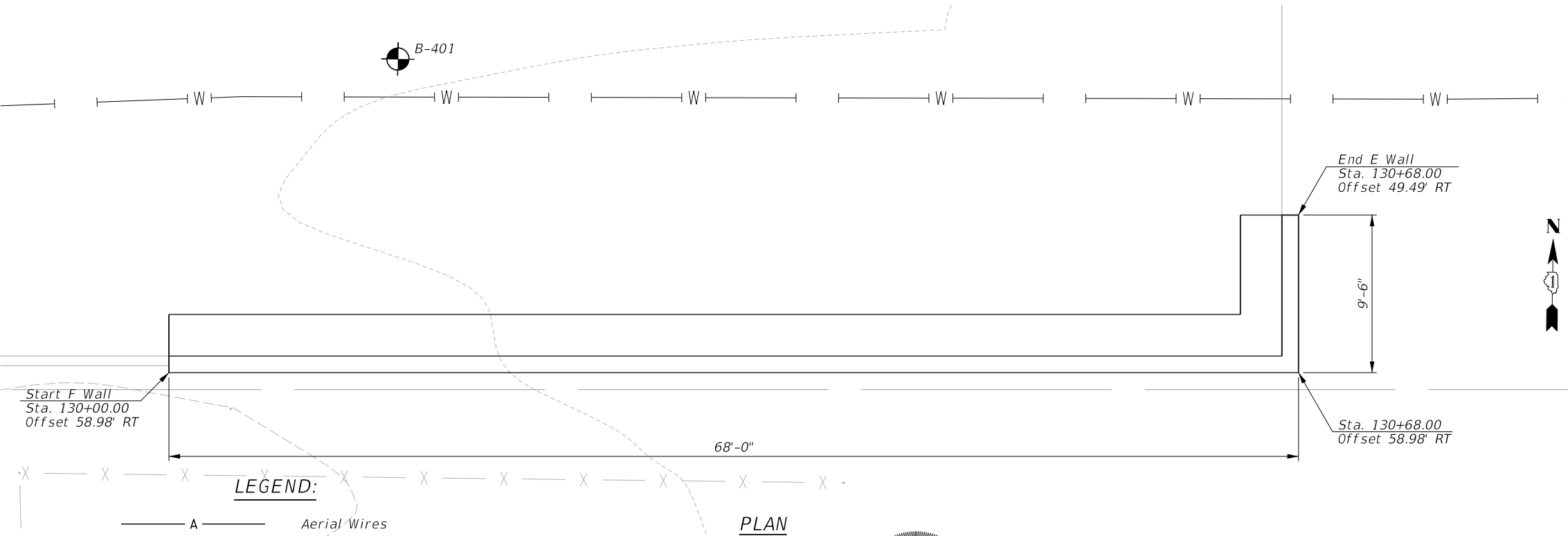
DESIGN STRESSES

FIELD UNITS

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

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

RETAINING WALL F
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
LAKE COUNTY
STA. 130+00.00 TO 130+68.00

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
N:\LC007\190304.0003A\Struct\53-190304.0003A-Wall F - GPE.sht		DRAWN - PDR	REVISED -
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	PLOT DATE = 7/31/2026	DATE -	REVISED -



Majid Mobasseri

MAJID MOBASSERI
STRUCTURAL ENGINEER
ILLINOIS REGISTRATION No. 081-005058
EXPIRATION DATE: 11/30/26

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 syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".

DEERFIELD ROAD RECONSTRUCTION RETAINING WALL F - GENERAL PLAN & ELEVATION				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SCALE:				I257	I5-00038-07-WR	LAKE	1090	627
SHEET OF 107 SHEETS				CONTRACT NO. 6IK62				
STA. TO STA.				ILLINOIS FED. AID PROJECT				

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CAST-IN-PLACE CONCRETE

2. All exposed concrete edges shall have a 3/4" x 45º chamfer, except where shown otherwise. Chamfer on vertical edges shall be continued a minimum of one foot below finished ground level.

REINFORCEMENT BARS

3. Reinforcement bars, including epoxy-coated reinforcement bars, shall conform to the requirements of AASHTO M-31 (ASTM A706), Grade 60, deformed bars.
4. Reinforcement bars designated "(E)" shall be epoxy coated.
5. Reinforcement bar bending details shall be in accordance with the latest "Manual of Standard Practice for Detailing Reinforced Concrete Structures", ACI 315.
6. Reinforcement bar bending dimensions are out to out.
7. Bars noted thus, 3x2-#5 indicates 3 lines of bars with 2 lengths of bars per line.
8. Cover from the face of concrete to face of reinforcement bars shall be 3" for surfaces formed against earth and 2" for all other surfaces unless otherwise shown.

CONSTRUCTION

9. Prior to commencement of construction, the Contractor shall verify all dimensions and conditions in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of work; however, the Contractor shall be paid for the quantity actually furnished at the unit price for the work.
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15. The soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at locations other than the exact location of the boring.
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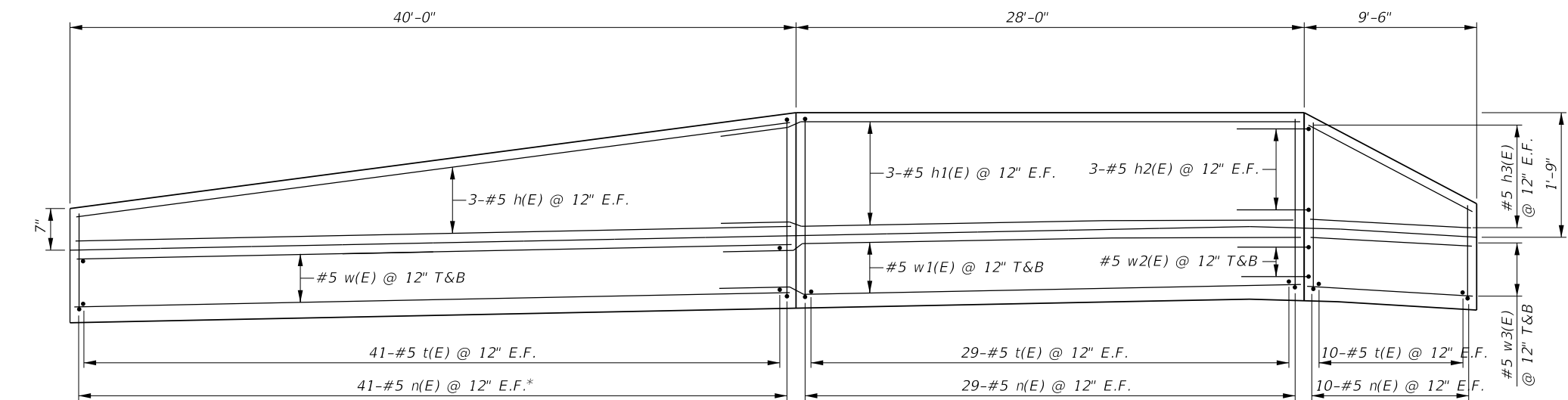
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
628	General Plan & Elevation
629	General Notes, Index & BOM
630	Elevation and Details
631	Boring Logs

TOTAL BILL OF MATERIAL

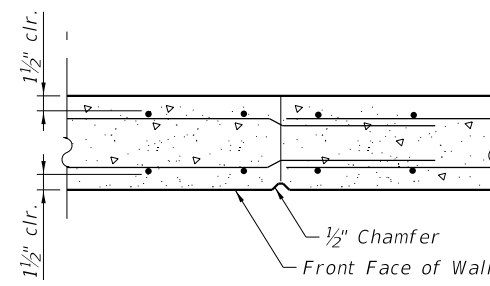
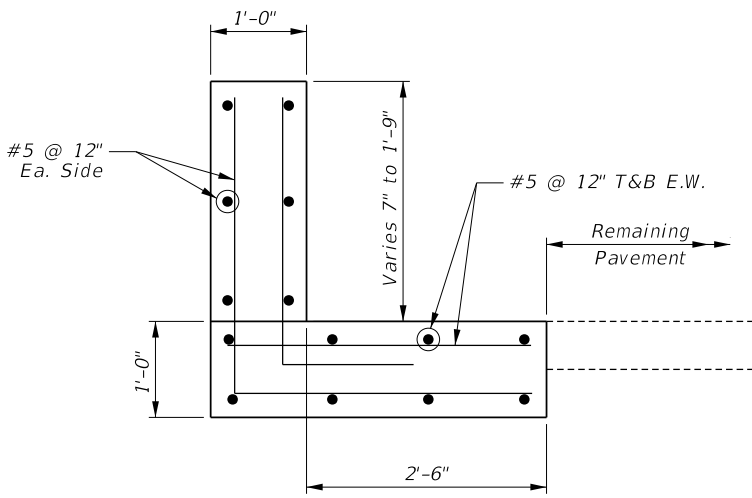
PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	10	
50200100	Structure Excavation	Cu. Yd.	60	
50300300	Protective Coat	Sq. Yd.	45	
50800205	Reinforcement Bars, Epoxy Coated	Pound	2,490	
52200900	Concrete Structures (Retaining Wall)	Cu. Yd.	13.8	

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERIAL – WALL F	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
N:\LCDOT\190304\0003A\Struct\54-190304-0003A-Wall F - GNotes.sht		DRAWN - PDR	REVISED -			I257	I5-00038-07-WR	LAKE	I090	628		
	PLOT SCALE = 1'	CHECKED - CF	REVISED -			CONTRACT NO. 6IK62						
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -			SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS	FED. AID PROJECT

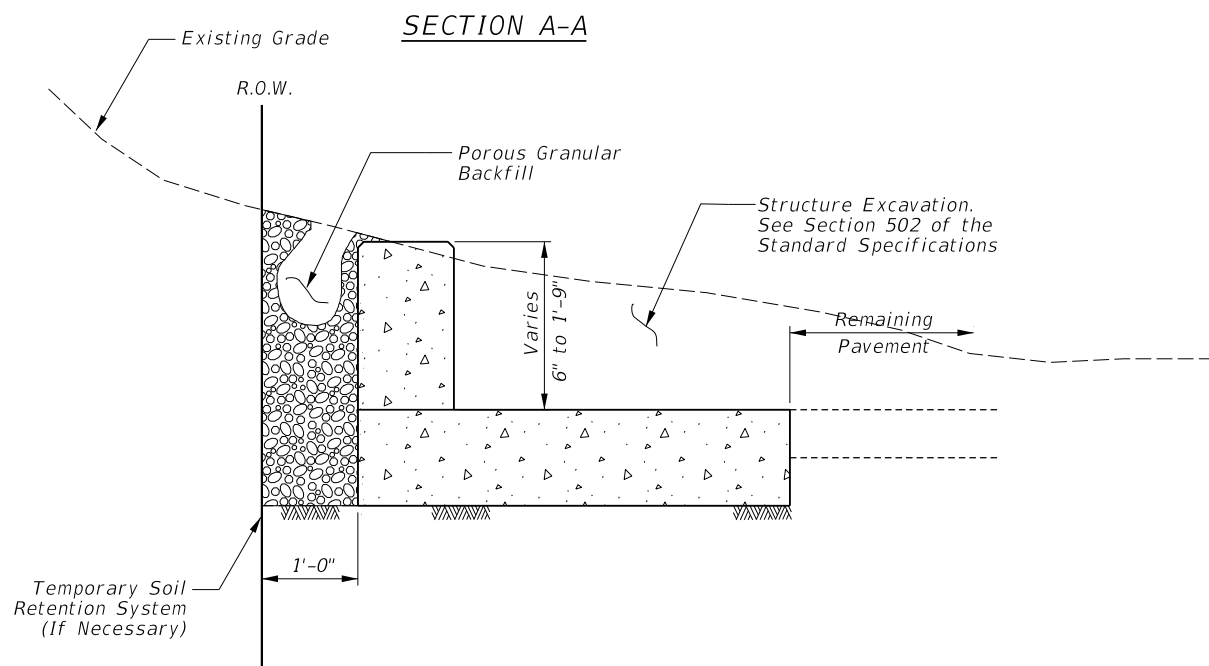


ELEVATION

* Top of bars shall be cut to fit.



CONSTRUCTION JOINT DETAIL



SECTION A-A

WALL CROSS SECTION

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#4	39'-10"	—
h1(E)	6	#4	31'-5"	—
h2(E)	6	#4	7'-0"	—
h3(E)	6	#4	9'-4"	—
n(E)	160	#5	4'-1"	—
t(E)	112	#5	3'-2"	—
w(E)	10	#4	39'-10"	—
w1(E)	10	#4	31'-5"	—
w2(E)	10	#4	7'-0"	—
w3(E)	10	#4	9'-4"	—
Concrete Structures (Retaining Wall)			Cu. Yd.	13.9
Reinforcement Bars, Epoxy Coated			Pound	2,030

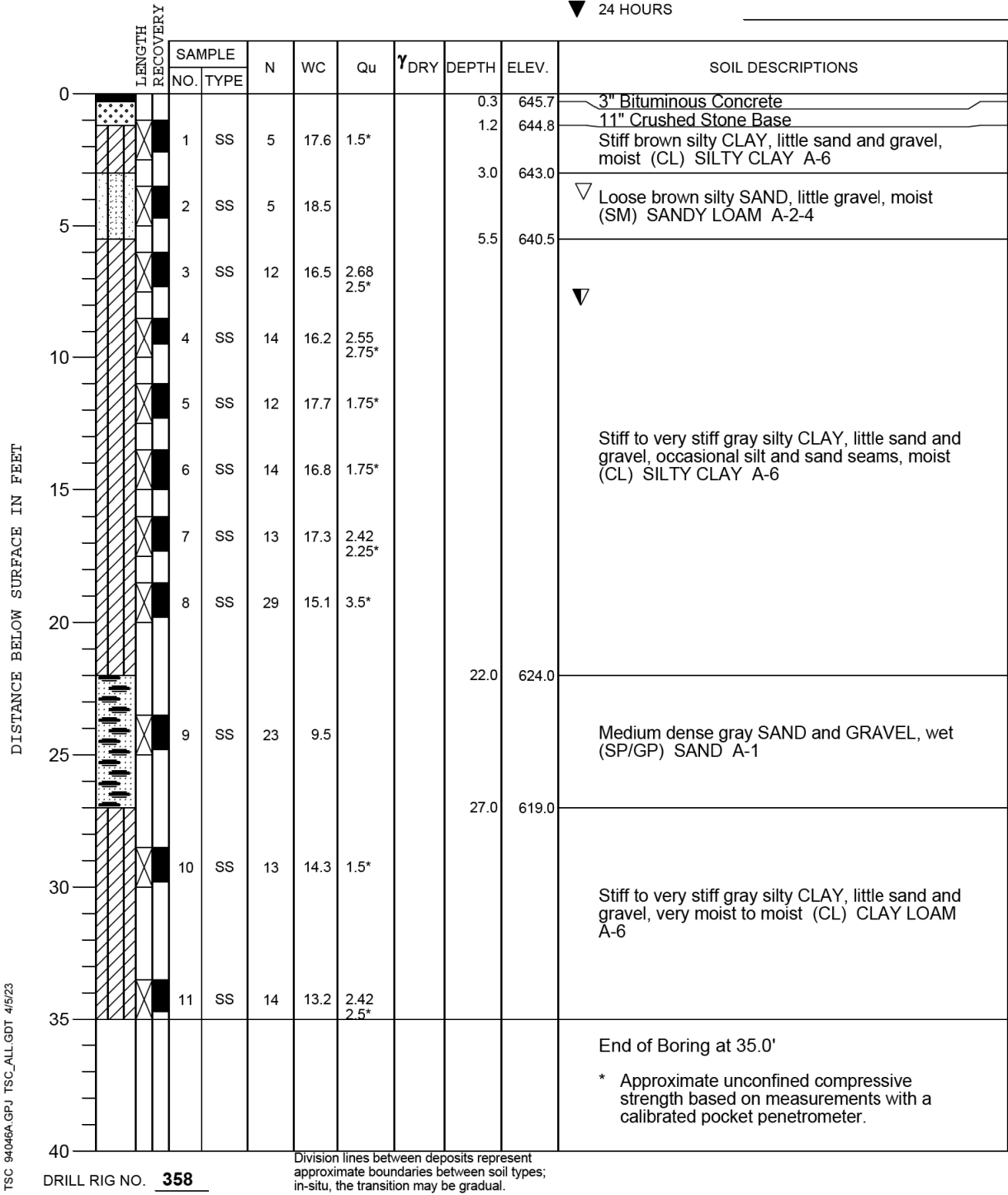
PROJECT **Lift Station, Deerfield Road Sta. 130+10, Deerfield, IL**



CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **401** DATE STARTED **2-21-23** DATE COMPLETED **2-21-23** JOB **L-94,046A**

ELEVATIONS			WATER LEVEL OBSERVATIONS		
GROUND SURFACE	646.0		▽ WHILE DRILLING	8.0 '	
END OF BORING	611.0		▽ AT END OF BORING	4.0 '	
			▽ 24 HOURS		



FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
N:\LC00T\190304\0003A\Struct\56-190304-0003A-Wall F - Boring.sht		DRAWN - PDR	REVISED -
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	PLOT DATE = 7/31/2026	DATE -	REVISED -

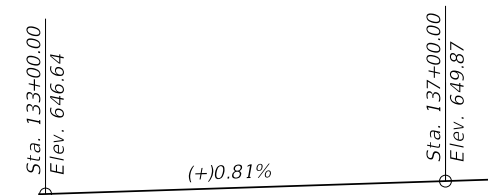
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
RETAINING WALL F - BORING LOGS

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	630
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				

Existing Structure: None



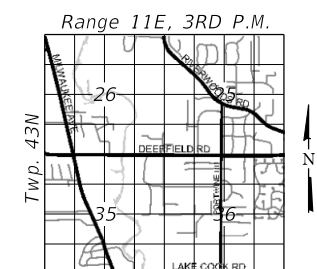
PROFILE GRADE
(Deerfield Road)

2024 AASHTO LRFD Bridge Design Specifications, 10th Edition

FIELD UNITS

$f'_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi}$ (Reinforcement)
 $f_y = 50,000 \text{ psi}$ (Structural Steel, M270 Grade 50, posts)
 $f_y = 60,000 \text{ psi}$ (Structural Steel, M270 Grade 36, all other structural steel)

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SDI) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



LOCATION SKETCH

RETAINING WALL G

ALONG DEERFIELD ROAD

SECTION 15-00038-07-WR

LAKE COUNTY

STA. 133+60.00 TO 136+35.00



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 syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".



Najid Nohani C

07/29/2026

MAJID MOBASSERI

DATE _____

ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL G – GENERAL PLAN & ELEVATION					F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\L\DOT\190304.0003A\Struct\57-190304.0003A-Wall G - GPE.sht		DRAWN - PDR	REVISED -		1257	15-00038-07-WR	LAKE	1090	631					
Default	PLOT SCALE = 12'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62									
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. No construction plans shall be used for construction unless specifically marked for construction.
2. Except where modified by the contract documents, all work proposed herein shall be in accordance with the following specifications which are hereby made a part hereof: the IDOT Standard Specifications for Road and Bridge Construction, adopted January 1, 2022; the IDOT Supplemental Specifications and Recurring Special Provisions, adopted January 1, 2026.
3. Plan dimensions and details relative to existing plans are subject to nominal construction variances. Prior to commencement of construction or ordering materials, the Contractor shall verify all dimensions and conditions affecting the work with the actual conditions. If there are discrepancies between the job site and what is shown on the construction plans, the Contractor must immediately report to Engineer before doing any work, otherwise the Contractor shall assume full responsibility. In the event of disagreement between the plans and existing conditions and/or details, the Contractor shall secure written instruction from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. In failing to secure such instruction, the Contractor will be considered to have proceeded at his own risk and expense. In the event of any doubt or questions arising with respect to the true meaning of the construction plans or specifications, the decision of the Engineer shall be final and conclusive. Such variations shall not be cause for additional compensation for a change in scope of work; however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
4. It shall be the responsibility of the Contractor to verify the location of all utilities prior to starting construction. At a minimum of 48 hours before starting any excavation, the Contractor shall call J.U.L.I.E. at 800-892-0123 for field locations of buried utilities.
5. The Contractor will not be permitted to set up a field office on State or County property without prior written permission of the Owner.
6. The Contractor shall maintain the site in a clean and orderly manner. Debris and any surplus material shall be removed and restoration shall proceed as the work proceeds. Debris and surplus material shall be disposed of by the Contractor offsite. Any damage caused by the Contractor to existing pavement, curb and gutter, driveways, sidewalk, existing retaining walls, utilities, or landscaped areas not shown to be removed or worked on during construction shall be repaired or replaced at the contractor's expense.
7. The Contractor shall confine construction operations within the construction limits of the project. Any damage caused by the Contractor outside of these construction limits shall be repaired at the Contractor's expense.
8. The Contractor is responsible for providing adequate traffic control and protection, including barricades, fencing and signage, in order to perform the work.
9. The Contractor is responsible for keeping the construction site safe and secure at all times.
10. The Contractor shall ensure driveway access adjacent to the work area is maintained at all times.
11. The project boring log is included in these plans. Please see Geotechnical Report L-XX,XXX prepared by Testing Service Corporation (dated March 16, 2023) for additional geotechnical information.

CONCRETE

1. all cast-in-place concrete work for drilled shafts, cast-in-place concrete facing and reinforcing steel work shall be in accordance with sections 522 and 508 of the IDOT Standard Specifications for Road and Bridge Construction, adopted January 1, 2022, and Supplemental Specifications and Recurring Special Provisions and as noted below.

2. Reinforcement bars designated (E) shall be epoxy coated. All reinforcement shall conform to ASTM A706, Grade 60.
3. Reinforcement bar bending details shall be in accordance with the latest manual of Standard Practice for Detailing Reinforced Concrete Structures, ACI 315. The Contractor shall submit shop drawings detailing the layout of the reinforcement bars for review by the Engineer.
4. Reinforcement bar bending dimensions are out to out.
5. Any epoxy coated reinforcement bars that are cut in the field shall have epoxy paint applied to the cut ends.
6. Lap splice lengths shall be 3'-7" for #5 bars.
7. All exposed concrete edges shall be beveled 3/4".
8. The Contractor is responsible for the design and performance of the untreated timber lagging.
9. Temporary casings, if required, shall be included in the cost of Drilling and Setting Soldier Piles in Soil (W Section).
10. The face of the concrete wall shall also be stained. See Special Provision for Formliner Textured Surface, Special.
11. Cover from the face of concrete to the edge of the reinforcement bars shall be 2" unless otherwise shown.
12. No construction joints except those shown in the plans shall be allowed without written approval of the Engineer.

STRUCTURAL STEEL

1. Fabrication and Erection of Structural Steel shall be in accordance with the latest edition of AISC "Code of Standard Practice for Building and Bridges".
2. All W section soldier piles shapes shall conform to ASTM A992 Grade 50. All other hot rolled shapes shall conform to ASTM A36.
3. Welded connection shall be in accordance with the latest edition of ANSI/AWS d1.1 Structural Welding Code, made with e70xx electrodes and performed by certified welder.
4. Any bent plates required for the installation of the untreated timber lagging shall be included in the cost of Furnishing Soldier Piles (W Section).
5. Soldier piles and bent plates shall be cleaned and given one shop coat of inorganic zinc rich primer, which shall extend a minimum of 1ft into the drilled shaft. This work shall be included in the cost of Furnishing Soldier Piles (W Section).

CONSTRUCTION

1. Do not scale dimensions for construction. scale, if shown, applies only to full size drawings.
2. No construction joints will be allowed unless directed by the Engineer.
3. Shop working or layout drawings pertaining to the construction of the work, as may be required, shall be submitted to the Engineer for approval prior to the start of construction. The Contractor shall provide complete shop drawings showing soldier pile details including reinforcing details for concrete facing.
4. All bearing surfaces must be true and level.
5. Depth of utilities are unknown and estimated from existing documentation. contractor shall coordinate with utility companies for additional information. exploration excavation to determine both horizontal and vertical locations should be performed prior to material orders and construction beginning.

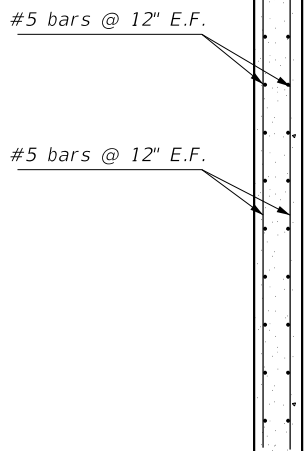
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
632	General Plan & Elevation
633	General Notes, Index, & B.O.M.
634	Elevation and Detail
635	Typical Cross Section and Detail
636	Boring Logs

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	65	
50200100	Structure Excavation	Cu. Yd.	155	
50300285	Form Liner Textured Surface	Sq. Ft.	1,355	
50300300	Protective Coat	Sq. Yd.	185	
50500505	Stud Shear Connectors	Each	86	
50800205	Reinfocement Bars, Epoxy Coated	Pound	7,790	
52200105	Furnishing Soldier Piles (W Section)	Foot	536	
52200200	Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	1,810	
52200250	Untreated Timber Lagging	Sq. Ft.	890	
52200900	Concrete Structures (Retaining Wall)	Cu. Yd.	50.1	
59100100	Geocomposite Wall Drain	Sq. Yd.	100	
60146304	Pipe Underdrains for Structures, 4"	Foot	325	
60602800	Concrete Gutter, Type B	Foot	275	
X5030290	Staining Concrete Structures	Sq. Ft.	1,355	

FILE NAME = N:\LCDOT\190304.0003A\Struct\58-190304.0003A-Wall G - GNotes.sht	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERIAL – WALL G		F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - PDR	REVISED -				I257	I5-00038-07-WR	LAKE	1090	632
		PLOT SCALE = 1"	CHECKED - CF				CONTRACT NO. 6IK62				
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -	SCALE:		SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED.AID PROJECT	



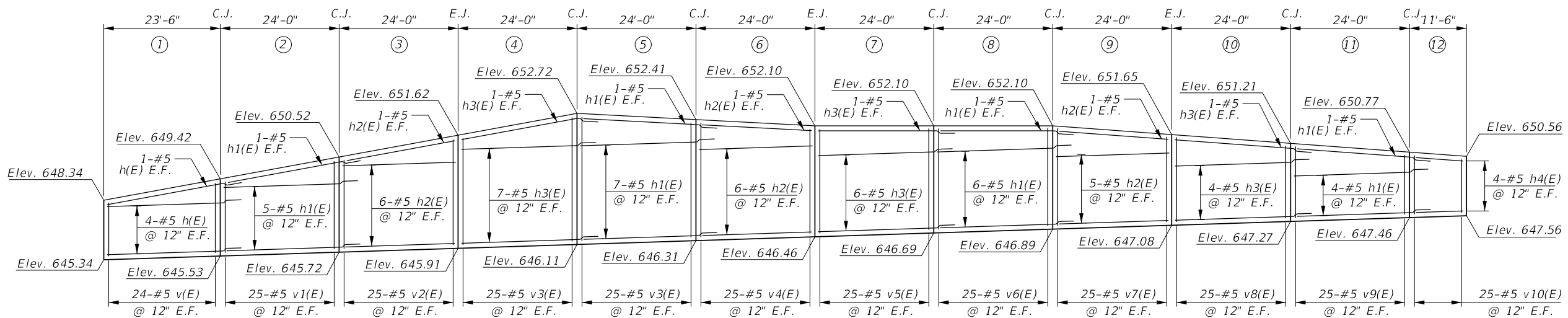
TYPICAL WALL FACING
REINFORCEMENT



*** Any over excavation done as part of the installation of the timber lagging shall be backfilled with FA4 at the Contractor's expense.*

UNDERDRAIN DETAIL
AT SOLDIER PILES
(Formliner Omitted for Clarity)

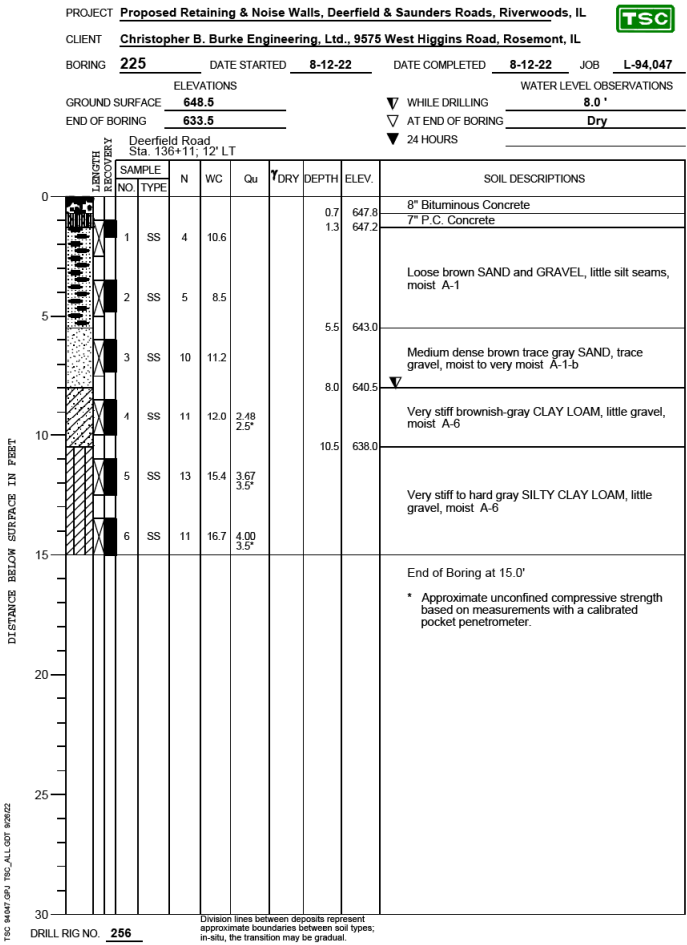
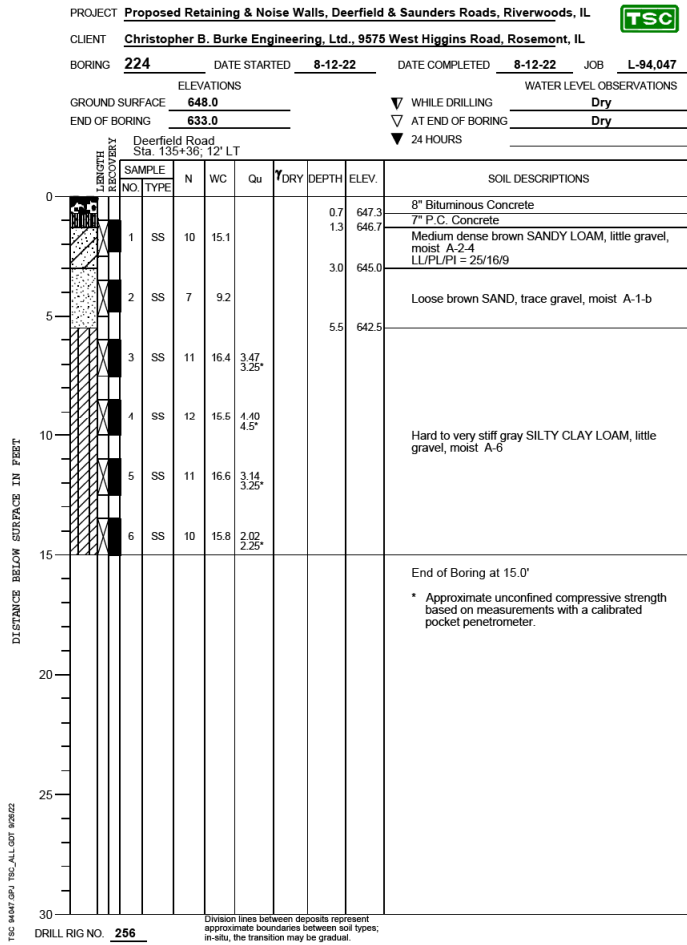
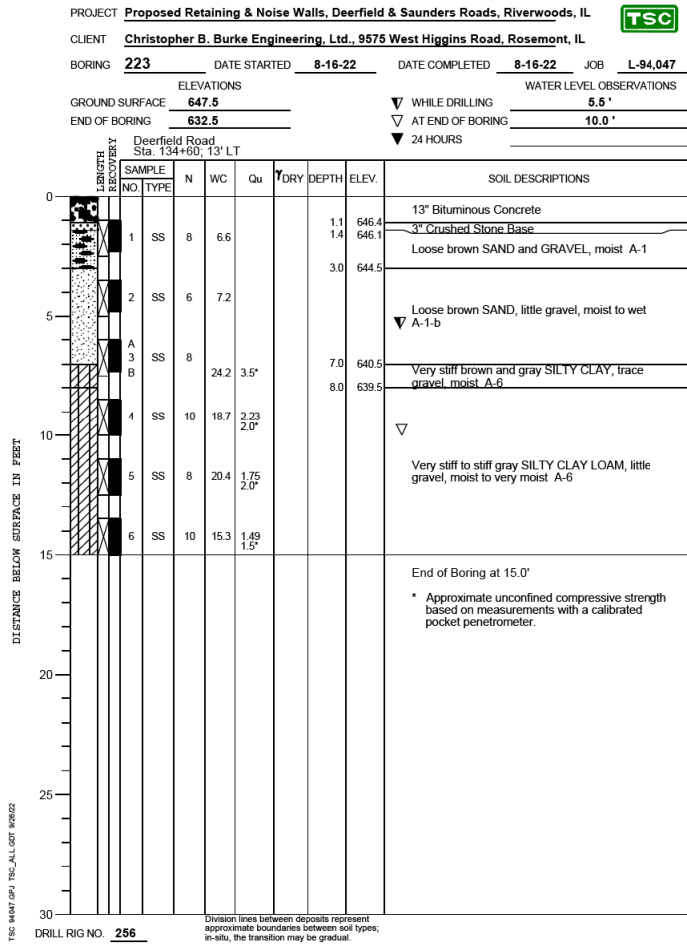
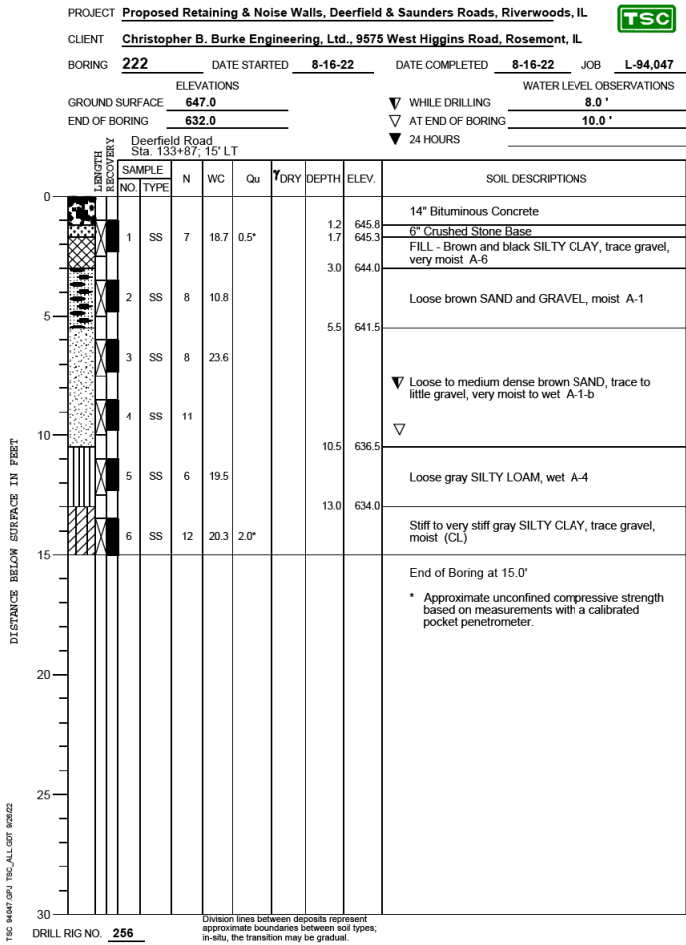
DEERFIELD ROAD RECONSTRUCTION RETAINING WALL G – SECTION AND DETAILS				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				I257	I5-00038-07-WR	LAKE	I090	633
SCALE:				CONTRACT NO. 61K62				
SHEET		OF 107 SHEETS	STA.	TO STA.				
				ILLINOIS		FED. AID PROJECT		



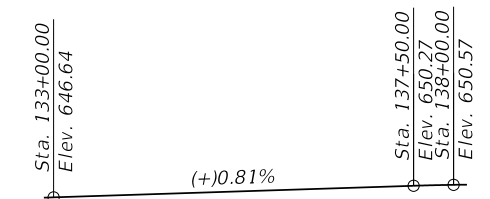
TYPICAL WALL FACING REINFORCEMENT

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	10	#5	23'-10"	————
h1 (E)	52	#5	27'-7"	————
h2 (E)	40	#5	27'-5"	————
h3 (E)	40	#5	14'-11"	————
h4 (E)	8	#5		
v (E)	48	#5	3'-6"	————
v1 (E)	50	#5	4'-5"	————
v2 (E)	50	#5	5'-4"	————
v3 (E)	100	#5	6'-3"	————
v4 (E)	50	#5	5'-9"	————
v5 (E)	50	#5	5'-3"	————
v6 (E)	50	#5	5'-1"	————
v7 (E)	50	#5	4'-10"	————
v8 (E)	50	#5	4'-3"	————
v9 (E)	50	#5	3'-7"	————
v10 (E)	24	#5	2'-11"	————
Concrete Structures (Retaining Wall)			Cu. Yd.	50.1
Reinforcement Bars, Epoxy Coated			Pound	7,790
Pipe Underdrain for Structures, 4"			Foot	325
Geocomposite Wall Drain			Sq. Yd.	100



Existing Structure: None



PROFILE GRADE
(Deerfield Road)

DESIGN SPECIFICATIONS
2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

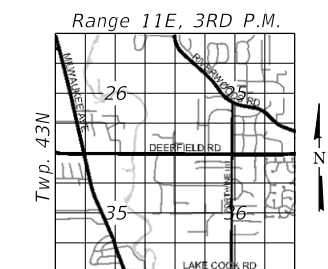
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Structural Steel, M270 Grade 50, posts)
 $f_y = 60,000$ psi (Structural Steel, M270 Grade 36, all other structural steel)

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
 Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
 Soil Class = D



LOCATION SKETCH

LEGEND:

PLAN

- | | |
|---|-------------------------|
|  | <i>Aerial Wires</i> |
|  | <i>Storm Sewer</i> |
|  | <i>Water Main</i> |
|  | <i>Sanitary Sewer</i> |
|  | <i>Gas Main</i> |
|  | <i>Telephone</i> |
|  | <i>Fiber Optic Line</i> |

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 Loading for the syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".



Najid Molani C

07/29/2026

MAJID MOBASSERI *DATE*
ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

GENERAL PLAN AND ELEVATION
RETAINING WALL H
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
LAKE COUNTY
STA. 133+95.00 TO 137+25.00

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION PROPOSED WALL H - DRILLED SOLDIER PILE				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LCOOT\190304.0003A\Struct\62-190304.0003A-Wall H - GPE.sht	DRAWN - PDR	REVISED -	REVISED -						1257	15-00038-07-WR	LAKE	1090	636
	PLOT SCALE = 15'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62								
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.				
										ILLINOIS	FED. AID	PROJECT	

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3. Reinforcement bar bending details shall be in accordance with the latest manual of Standard Practice for Detailing Reinforced Concrete Structures, ACI 315. The Contractor shall submit shop drawings detailing the layout of the reinforcement bars for review by the Engineer.
4. Reinforcement bar bending dimensions are out to out.
5. Any epoxy coated reinforcement bars that are cut in the field shall have epoxy paint applied to the cut ends.
6. Lap splice lengths shall be 3'-7" for #5 bars.
7. All exposed concrete edges shall be beveled 3/4".
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9. Temporary casings, if required, shall be included in the cost of Drilling and Setting Soldier Piles in Soil (W Section).
10. The face of the concrete wall shall also be stained. See Special Provision for Formliner Textured Surface, Special.
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3. Welded connection shall be in accordance with the latest edition of ANSI/AWS d1.1 Structural Welding Code, made with e70xx electrodes and performed by certified welder.
4. Any bent plates required for the installation of the untreated timber lagging shall be included in the cost of Furnishing Soldier Piles (W Section).
5. Soldier piles and bent plates shall be cleaned and given one shop coat of inorganic zinc rich primer, which shall extend a minimum of 1ft into the drilled shaft. This work shall be included in the cost of Furnishing Soldier Piles (W Section).

CONSTRUCTION

1. Do not scale dimensions for construction. scale, if shown, applies only to full size drawings.
2. No construction joints will be allowed unless directed by the Engineer.
3. Shop working or layout drawings pertaining to the construction of the work, as may be required, shall be submitted to the Engineer for approval prior to the start of construction. The Contractor shall provide complete shop drawings showing soldier pile details including reinforcing details for concrete facing.
4. All bearing surfaces must be true and level.
5. Depth of utilities are unknown and estimated from existing documentation. contractor shall coordinate with utility companies for additional information. exploration excavation to determine both horizontal and vertical locations should be performed prior to material orders and construction beginning.

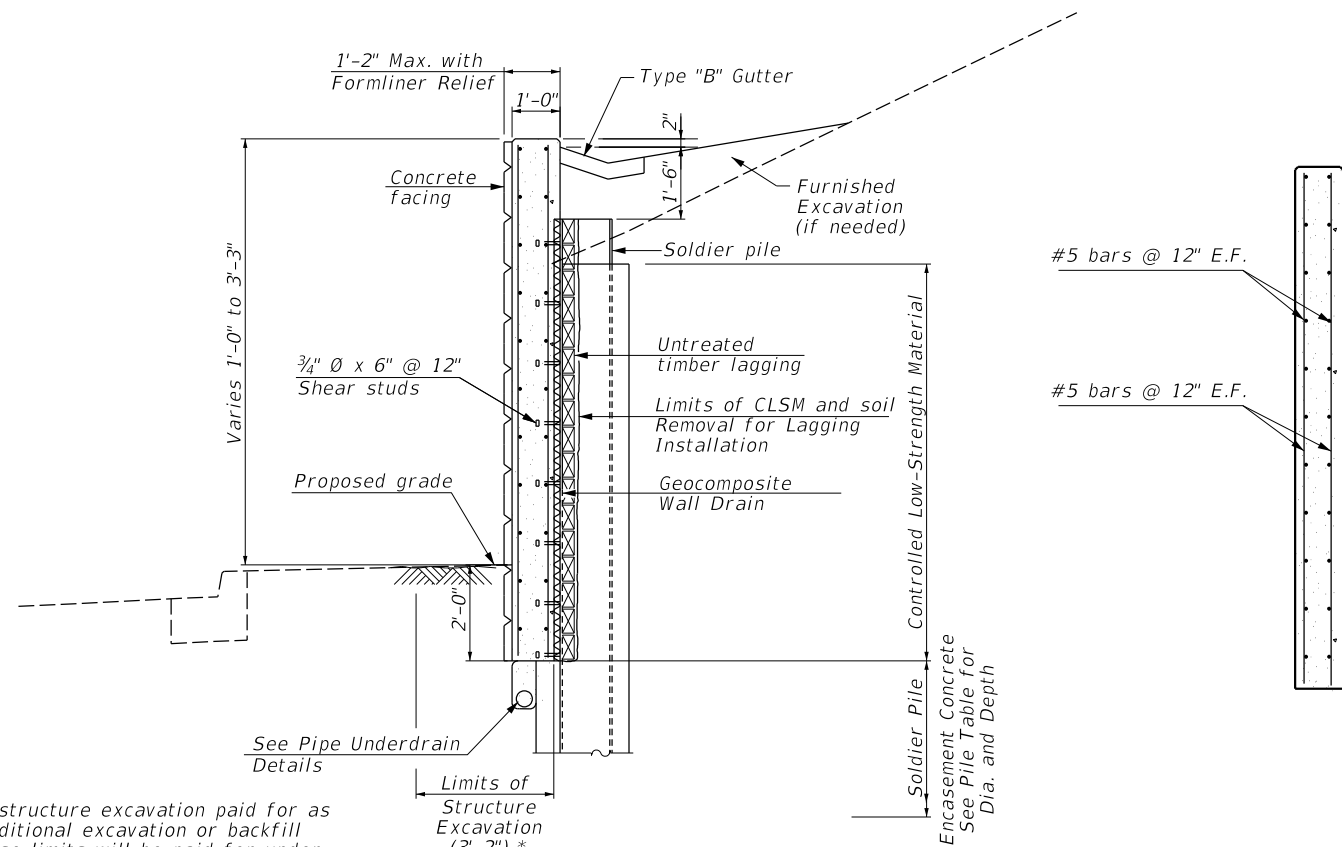
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
637	General Plan & Elevation
638	General Notes, Index, & B.O.M.
639	Elevation and Detail
640	Typical Cross Section and Detail
641	Boring Logs

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20900110	Porous Granular Backfill	Cu. Yd.	75	
50200100	Structure Excavation	Cu. Yd.	170	
50300285	Form Liner Textured Surface	Sq. Ft.	1,398	
50300300	Protective Coat	Sq. Yd.	230	
50500505	Stud Shear Connectors	Each	85	
50800205	Reinfocement Bars, Epoxy Coated	Pound	8,070	
52200105	Furnishing Soldier Piles (W Section)	Foot	632	
52200200	Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	2,165	
52200250	Untreated Timber Lagging	Sq. Ft.	830	
52200900	Concrete Structures (Retaining Wall)	Cu. Yd.	51.8	
59100100	Geocomposite Wall Drain	Sq. Yd.	90	
60146304	Pipe Underdrains for Structures, 4"	Foot	380	
60602800	Concrete Gutter, Type B	Foot	330	
X0327999	Anti-Graffiti Coating	Sq. Ft.	1,398	

FILE NAME = N:\LCDOT\190304.0003A\Struct\63-190304.0003A-Wall H - GNotes.sht	USER NAME = jjezierny			DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL H - GENERAL NOTES AND BILL OF MATERIAL				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - PDR			REVISED -	REVISED -						I257	I5-00038-07-WR	LAKE	1090	637
	PLOT SCALE = 1'			CHECKED - CF	REVISED -						CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026			DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED.AID PROJECT			



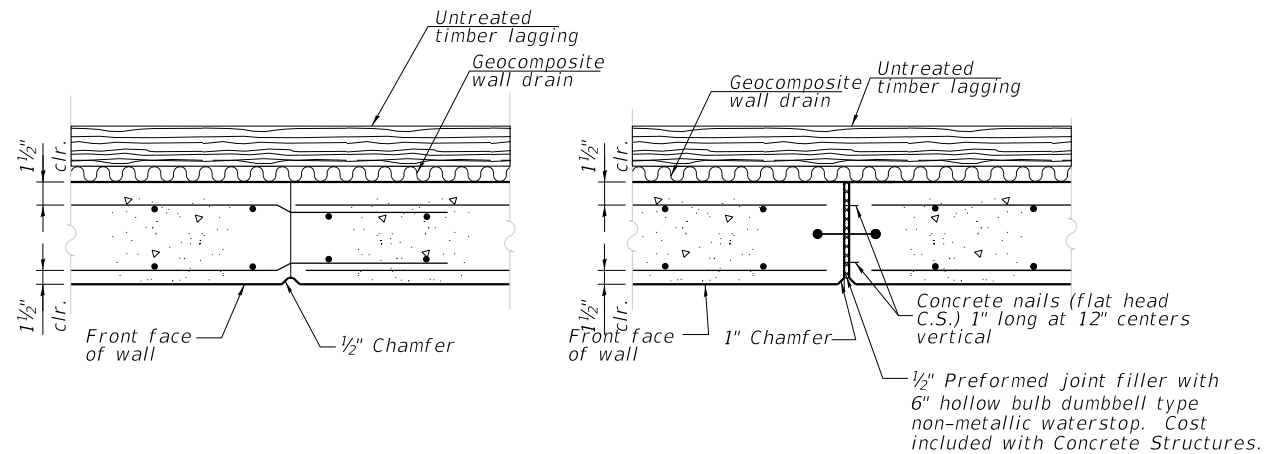
*Limits of structure excavation paid for as shown. Additional excavation or backfill beyond these limits will be paid for under Concrete Structures (Retaining Wall).

TYPICAL SECTION THRU
SOLDIER PILE WALL

TYPICAL WALL FACING
REINFORCEMENT

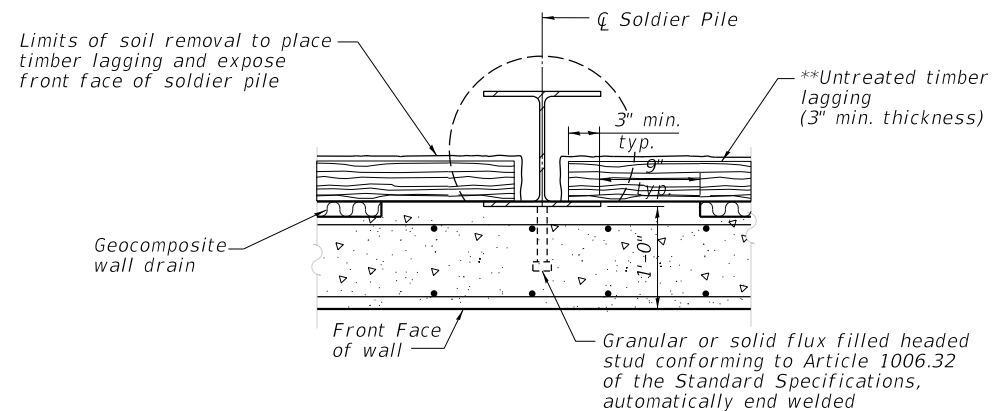
SOLDIER PILE WALL DATA

Mark	Station	Offset	Pile Designation	Drilled Shaft Diamater	T/Pile Elevation	B/Pile Elevation	Existing Ground Elevation At Center of Pile	Top of Shaft	Bottom of Shaft	Concrete Encasement (CU FT)	CLSM (CU FT)	# Shear Studs
P1	133+98.00	39.76' RT	W18 x 65	2	647.13	625.76	649.58	645.76	625.76	62.8	12.0	2
P2	134+10.00	39.76' RT	W18 x 65	2	647.40	625.85	649.91	645.85	625.85	62.8	12.7	2
P3	134+22.00	39.76' RT	W18 x 65	2	647.66	625.95	650.22	645.95	625.95	62.8	13.4	2
P4	134+34.00	39.76' RT	W18 x 65	2	647.93	626.05	650.22	646.05	626.05	62.8	13.1	2
P5	134+46.00	39.76' RT	W18 x 65	2	648.20	626.14	650.06	646.14	626.14	62.8	12.3	3
P6	134+58.00	39.76' RT	W18 x 65	2	648.47	626.24	650.50	646.24	626.24	62.8	13.4	3
P7	134+70.00	39.76' RT	W18 x 65	2	648.73	626.34	650.62	646.34	626.34	62.8	13.4	3
P8	134+82.00	39.76' RT	W18 x 65	2	649.00	626.43	650.61	646.43	626.43	62.8	13.1	3
P9	134+94.00	39.76' RT	W18 x 65	2	649.27	626.53	650.49	646.53	626.53	62.8	12.4	3
P10	135+06.00	39.76' RT	W18 x 65	2	649.53	626.63	650.77	646.63	626.63	62.8	13.0	3
P11	135+18.00	39.76' RT	W18 x 65	2	649.80	626.73	651.26	646.73	626.73	62.8	14.2	4
P12	135+30.00	39.76' RT	W18 x 65	2	650.06	626.82	651.98	646.82	626.82	62.8	16.2	4
P13	135+42.00	39.76' RT	W18 x 65	2	650.33	626.92	652.67	646.92	626.92	62.8	18.1	4
P14	135+54.00	39.76' RT	W18 x 65	2	650.60	627.02	652.97	647.02	627.02	62.8	18.7	4
P15	135+66.00	39.76' RT	W18 x 65	2	650.73	627.11	653.08	647.11	627.11	62.8	18.7	4
P16	135+78.00	39.76' RT	W18 x 65	2	650.73	627.21	653.18	647.21	627.21	62.8	18.8	4
P17	135+90.00	39.76' RT	W18 x 65	2	650.73	627.31	653.29	647.31	627.31	62.8	18.8	4
P18	136+02.00	39.76' RT	W18 x 65	2	650.73	627.40	653.16	647.40	627.40	62.8	18.1	4
P19	136+14.00	39.76' RT	W18 x 65	2	650.68	627.50	652.90	647.50	627.50	62.8	17.0	4
P20	136+26.00	39.76' RT	W18 x 65	2	650.57	627.60	652.67	647.60	627.60	62.8	15.9	3
P21	136+38.00	39.76' RT	W18 x 65	2	650.47	627.69	652.26	647.69	627.69	62.8	14.4	3
P22	136+50.00	39.76' RT	W18 x 65	2	650.36	627.79	651.98	647.79	627.79	62.8	13.2	3
P23	136+62.00	39.76' RT	W18 x 65	2	650.26	627.89	652.02	647.89	627.89	62.8	13.0	3
P24	136+74.00	39.76' RT	W18 x 65	2	650.16	627.98	652.03	647.98	627.98	62.8	12.7	3
P25	136+86.00	39.76' RT	W18 x 65	2	650.05	628.08	652.04	648.08	628.08	62.8	12.4	2
P26	136+98.00	39.76' RT	W18 x 65	2	649.94	628.18	652.25	648.18	628.18	62.8	12.8	2
P27	137+10.00	39.76' RT	W18 x 65	2	649.84	628.25	652.04	648.25	628.25	62.8	11.9	2
P28	137+22.00	39.76' RT	W18 x 65	2	649.73	628.35	652.01	648.35	628.35	62.8	11.5	2



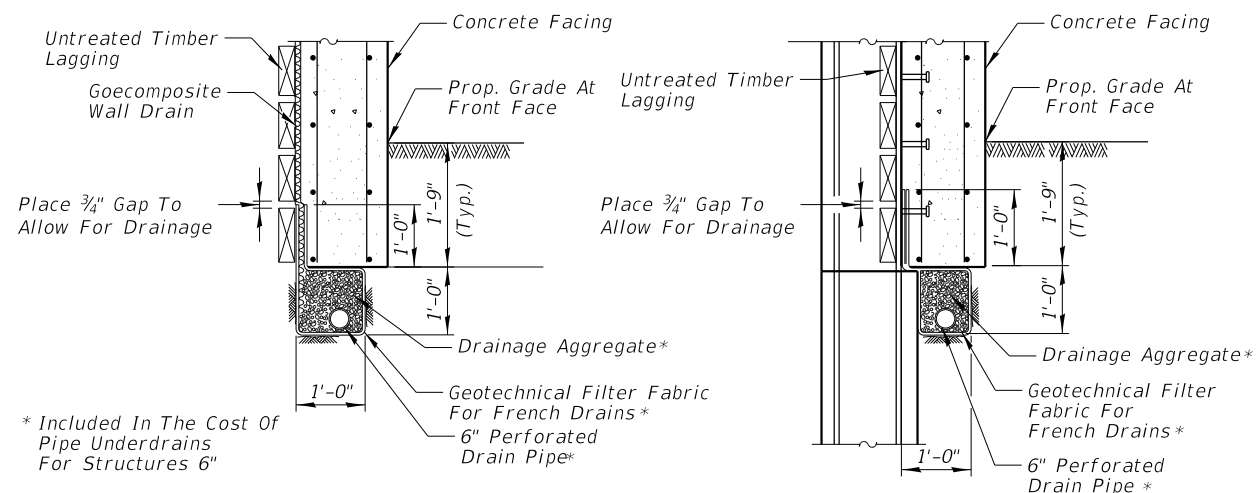
CONSTRUCTION JOINT DETAIL

EXPANSION JOINT DETAIL



SECTION THRU SOLDIER PILE

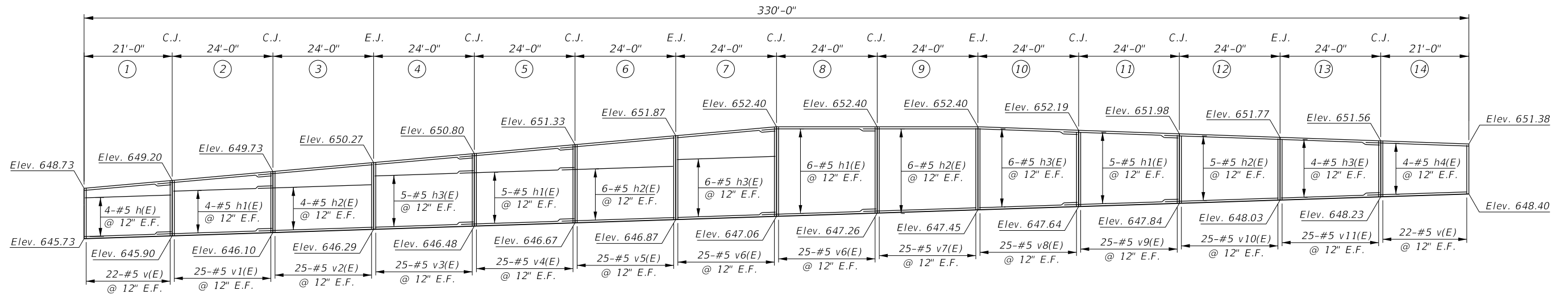
** Any over excavation done as part of the installation of the timber lagging shall be backfilled with FA4 at the Contractor's expense.



UNDERDRAIN DETAIL
BETWEEN SOLDIER PILES
(Formliner Omitted for Clarity)

UNDERDRAIN DETAIL
AT SOLDIER PILES
(Formliner Omitted for Clarity)

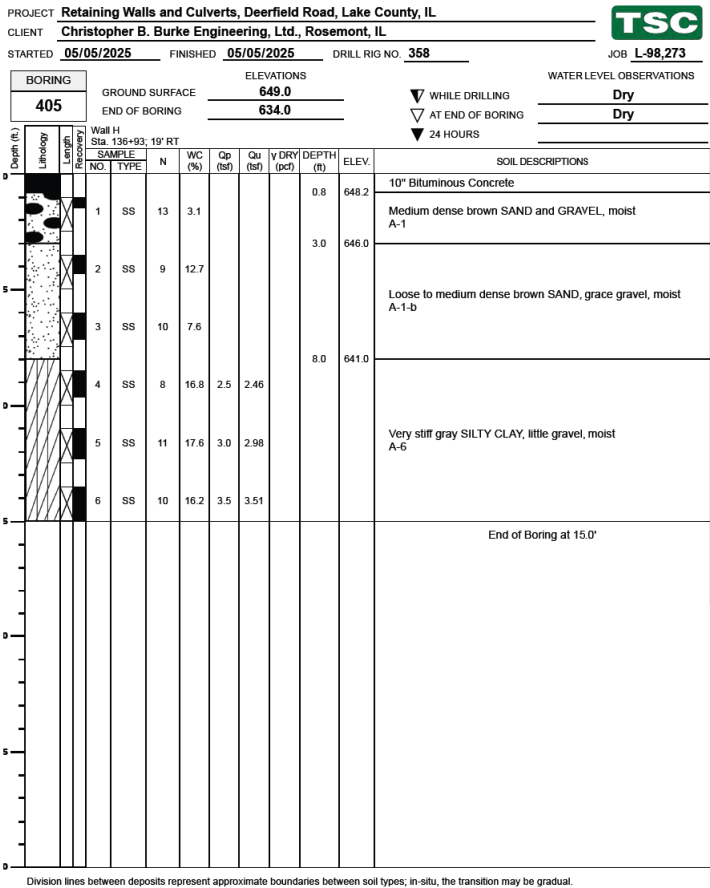
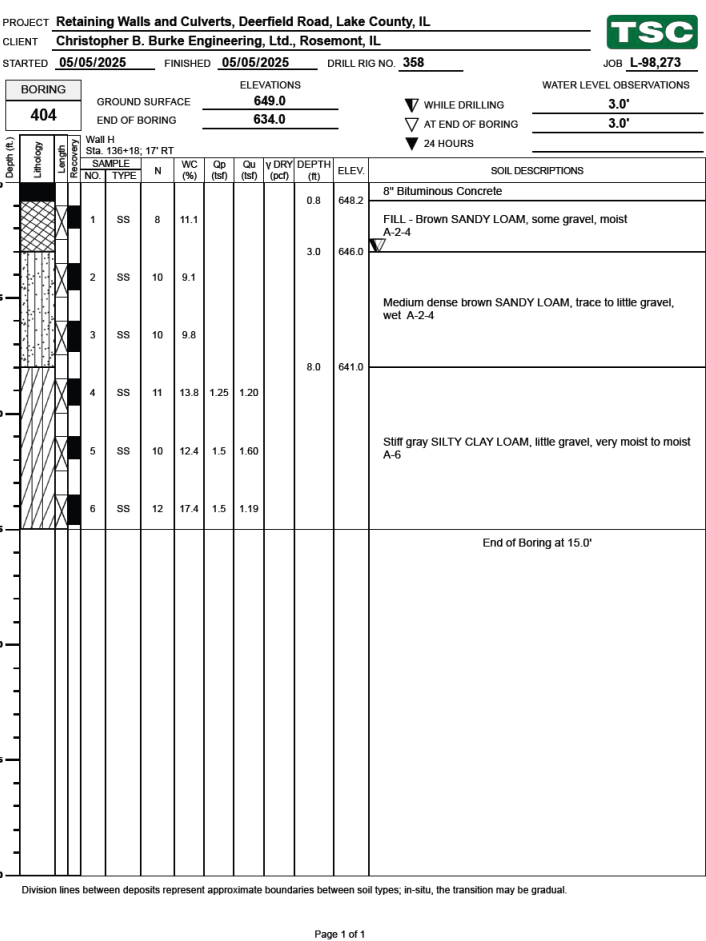
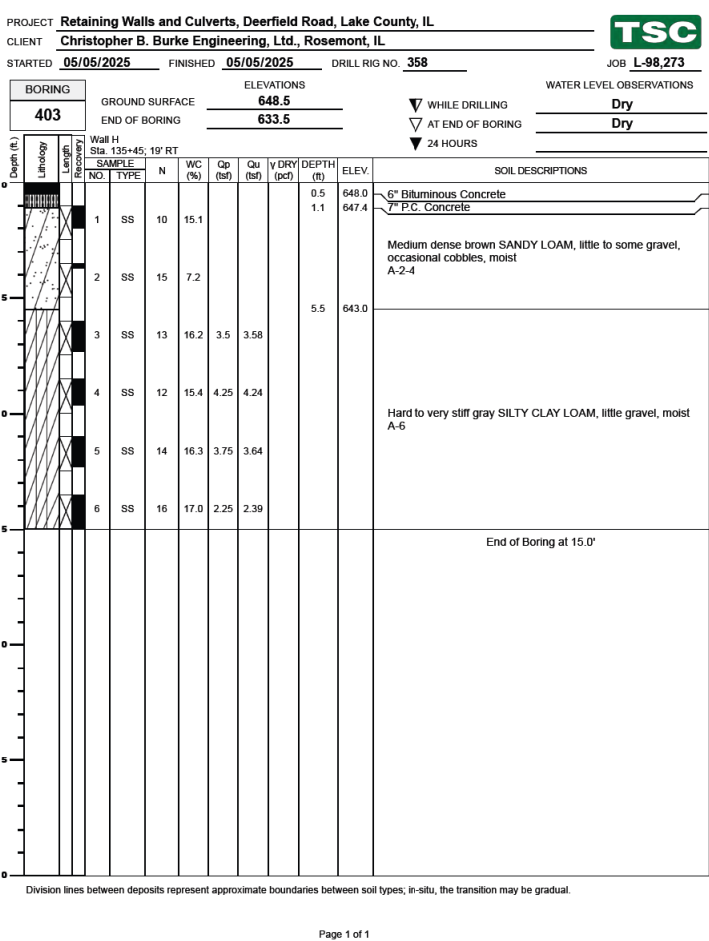
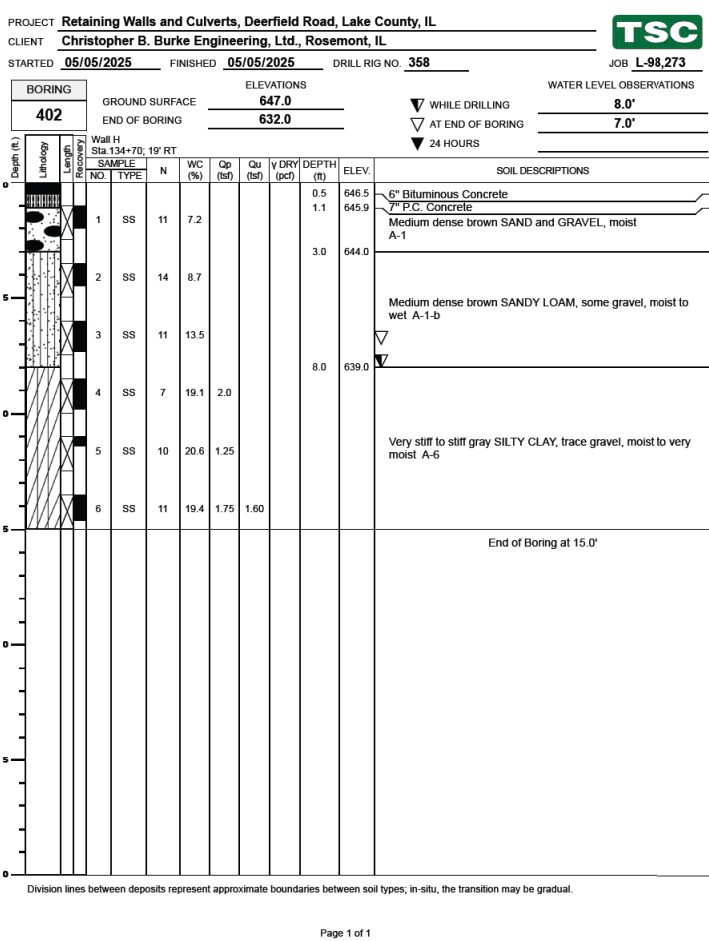
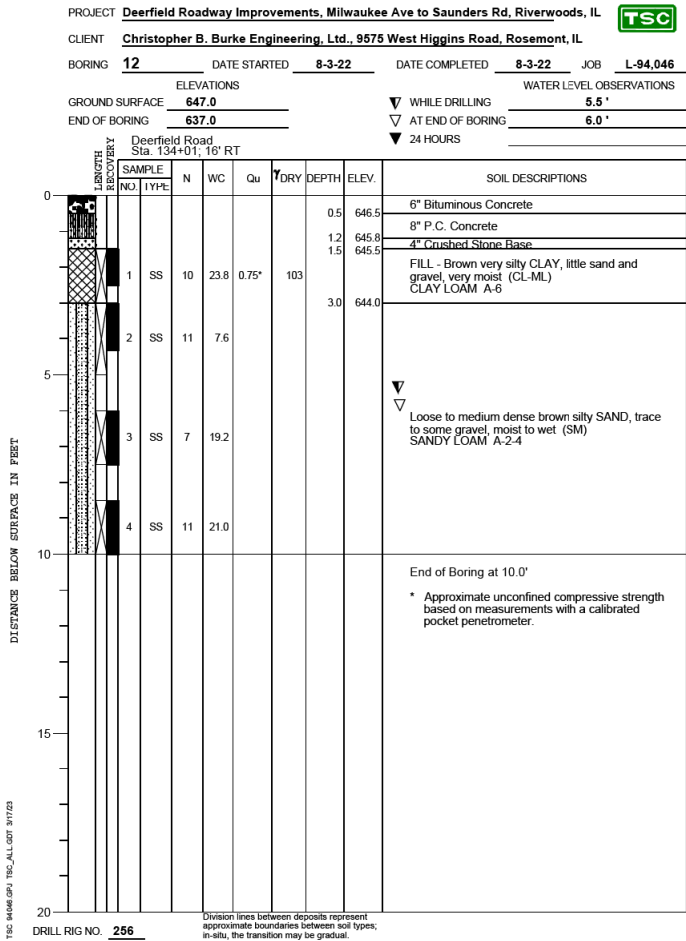
Note: Underdrain shall be tied into the proposed or existing sewer system. This tie in shall be included in the cost of Pipe Underdrain, 6".

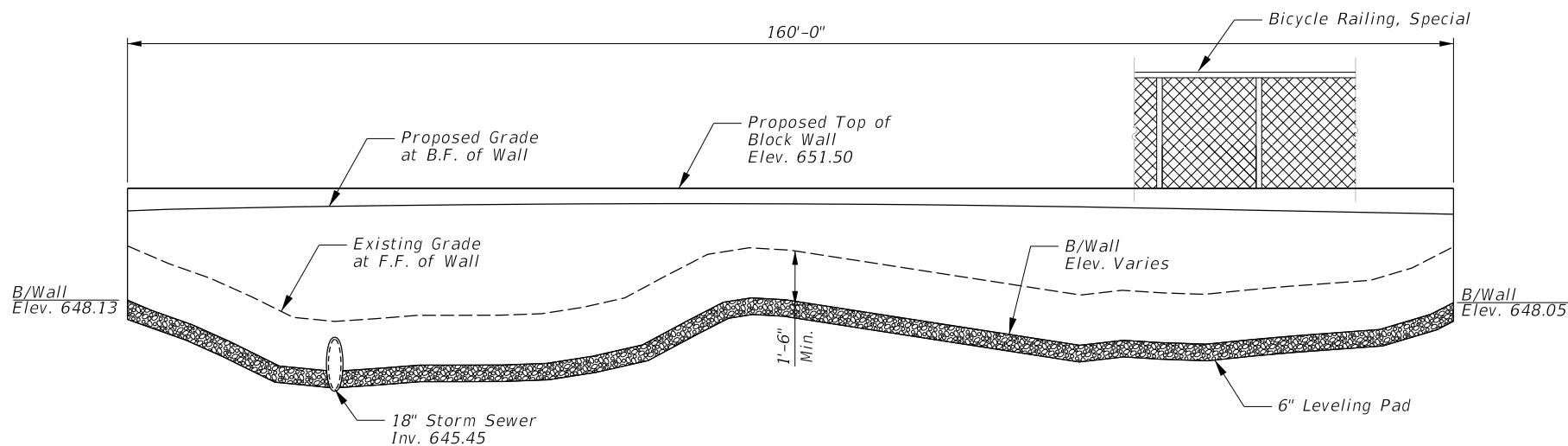


TYPICAL WALL FACING
REINFORCEMENT

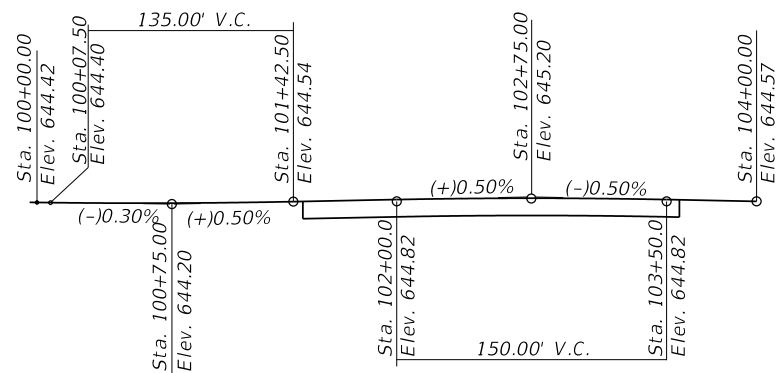
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h (E)	10	#5	20'-10"	U
h1 (E)	52	#5	27'-7"	—
h2 (E)	52	#5	27'-5"	—
h3 (E)	52	#5	23'-10"	—
h4 (E)	10	#5	24'-5"	—
v (E)	44	#5	3'-0"	—
v1 (E)	50	#5	3'-4"	—
v2 (E)	50	#5	3'-8"	—
v3 (E)	50	#5	4'-0"	—
v4 (E)	50	#5	4'-4"	—
v5 (E)	50	#5	5'-0"	—
v6 (E)	50	#5	5'-1"	—
v7 (E)	50	#5	4'-10"	—
v8 (E)	50	#5	4'-8"	—
v9 (E)	50	#5	4'-3"	—
v10 (E)	50	#5	3'-10"	—
v11 (E)	50	#5	3'-5"	—
Concrete Structures (Retaining Wall)			Cu. Yd.	64.2
Reinforcement Bars, Epoxy Coated			Pound	6,180
Pipe Underdrain for Structures, 4"			Foot	380
Geocomposite Wall Drain			Sq. Yd.	130

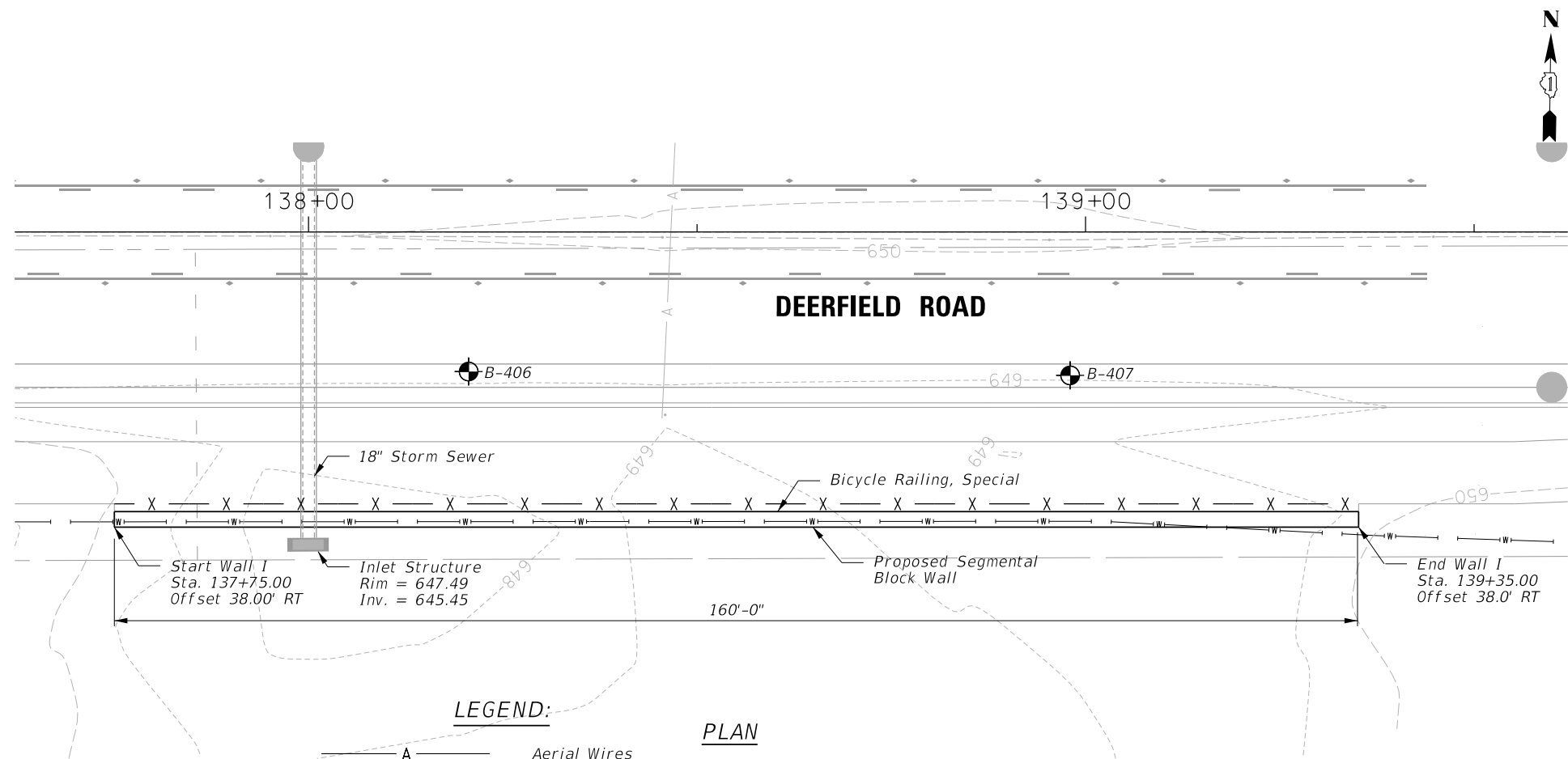




ELEVATION



PROFILE GRADE
(Along Deerfield Road)



LEGEND:

PLAN

- A ——— Aerial Wires
- >— Storm Sewer
- W— Water Main
- >— Sanitary Sewer
- G— Gas Main
- T— Telephone
- FO— Fiber Optic Line

I Certify that to the best of my knowledge, information and belief, this design is structurally adequate for the Design Loading shown on the plans. The design is an economical one for the syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".



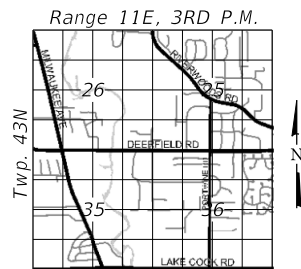
Majid Mobasseri

07/29/2026

MAJID MOBASSERI

DATE

ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RETAINING WALL I
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
LAKE COUNTY
STA. 137+75.00 TO 139+30.67

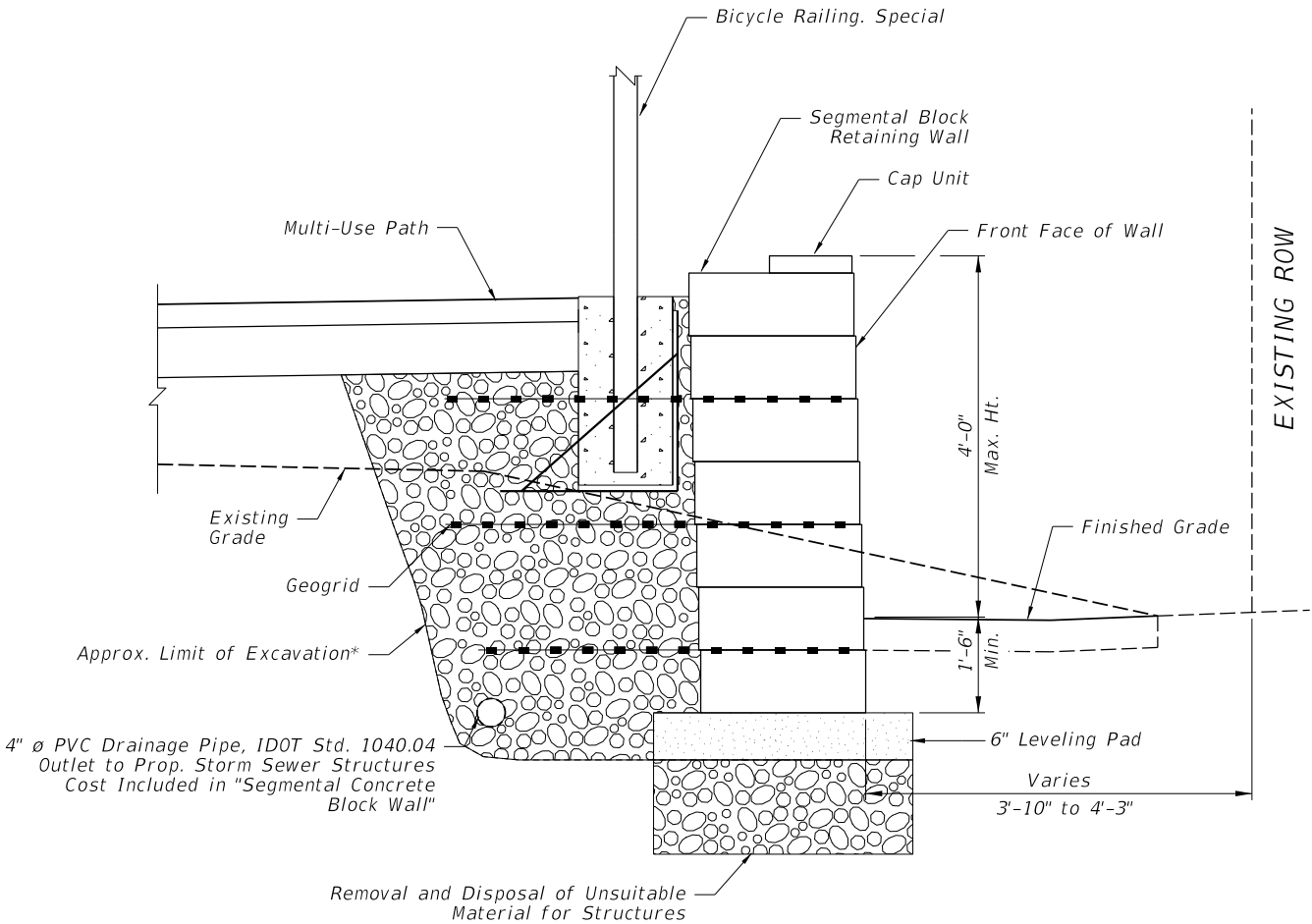
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N:\C00T\190304\0003A\Struct\67-190304-0003A-Wall I - GPE.sht		DRAWN - PDR	REVISED -		I257	I5-00038-07-WR	LAKE	1090	641				
Default	PLOT SCALE = 10'	CHECKED - CF	REVISED -		CONTRACT NO. 6IK62								
	PLOT DATE = 7/31/2026	DATE -	REVISED -		ILLINOIS FED. AID PROJECT								
					SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.				

GENERAL NOTES

1. The Segmental Concrete Block Retaining Wall shall be designed and constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

CONSTRUCTION

1. Prior to commencement of construction the Contractor shall verify all dimensions and conditions affecting the work with the actual conditions at the job site. If there are discrepancies with what is shown on the Construction Plans, he must immediately report the same to the Engineer before doing any work, otherwise the Contractor shall assume full responsibility. In the event of disagreement in plans or special details, the Contractor shall secure written instruction from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. Failing to secure such instruction, the Contractor will be considered to have proceeded at his own risk and expense. In the event of any doubt or questions arising with respect to the true meaning of the Construction Plans or Specifications, the decision of the Engineer shall be final and conclusive.
2. Standard Specifications, Construction Plans and subsequent details are all to be considered as part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered a part of this Contract.
3. Any information concerning the type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
4. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
5. The excavation and work area shall be properly drained at all times during construction. All wet, loose, frozen or other unsuitable material shall be removed prior to placement of concrete or compacted backfill.
6. Water pumped or otherwise discharged from the site during construction dewatering shall be filtered.
7. Upon completion, the Contractor shall collect and remove all construction debris and excess material from the site. Damaged trees, shrubs and other landscape features resulting from construction activities shall be replaced or repaired.
8. Do not scale dimensions for construction. Scale, if shown, applies only to full size drawings.
9. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 10.The Soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at the locations other than the exact location of the boring.
- 11.Railing behind wall shall be installed in coordination with traffic signal/lighting foundations.



TYPICAL REINFORCED WALL SECTION
(SEGMENTAL BLOCK RETAINING WALL)

* Any structure excavation shall meet the requirements of Article 522 of the IDOT Standard Specifications for Segmental Concrete Block Retaining Walls. Any cost for excavation outside the limits defined in the Standard Specifications shall be included in the cost of Segmental Concrete Block Wall.

NOTE:
Segmental Concrete Block Wall Supplier Shall Provide Details Required for Construction of the Proposed Walls. All Segmental Concrete Block Wall Details Shown in these Plans are Conceptual and are to be Used for Estimating Purposes Only. Actual Details Will Depend on the Proposed Wall System Submitted by The Contractor. Details for Wall Curves, Pipe Penetrations, Drainage Structures or Trees Behind Walls, and other Miscellaneous Details Shall be Provided by the Wall Supplier.

INDEX OF STRUCTURAL SHEETS

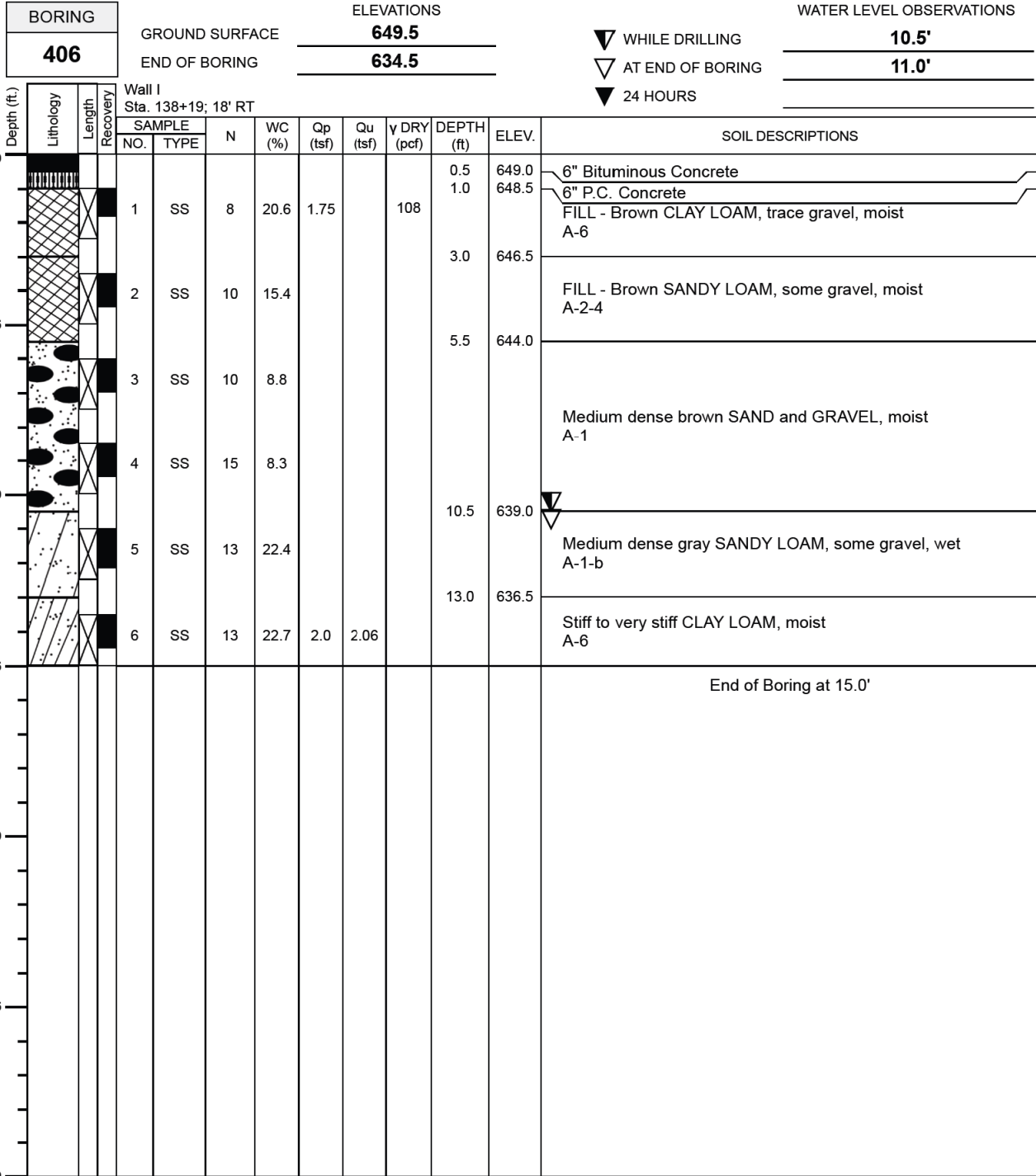
SHEET NO	TITLE
642	GENERAL PLAN & ELEVATION
643	GENERAL NOTES AND DETAILS
644	BORING LOGS

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL
20700220	Porous Granular Embankment	Cu. Yd.	40
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	40
52200800	Segmental Block Retaining Wall	Sq. Ft.	720
X5091725	Bicycle Railing, Special	Foot	180

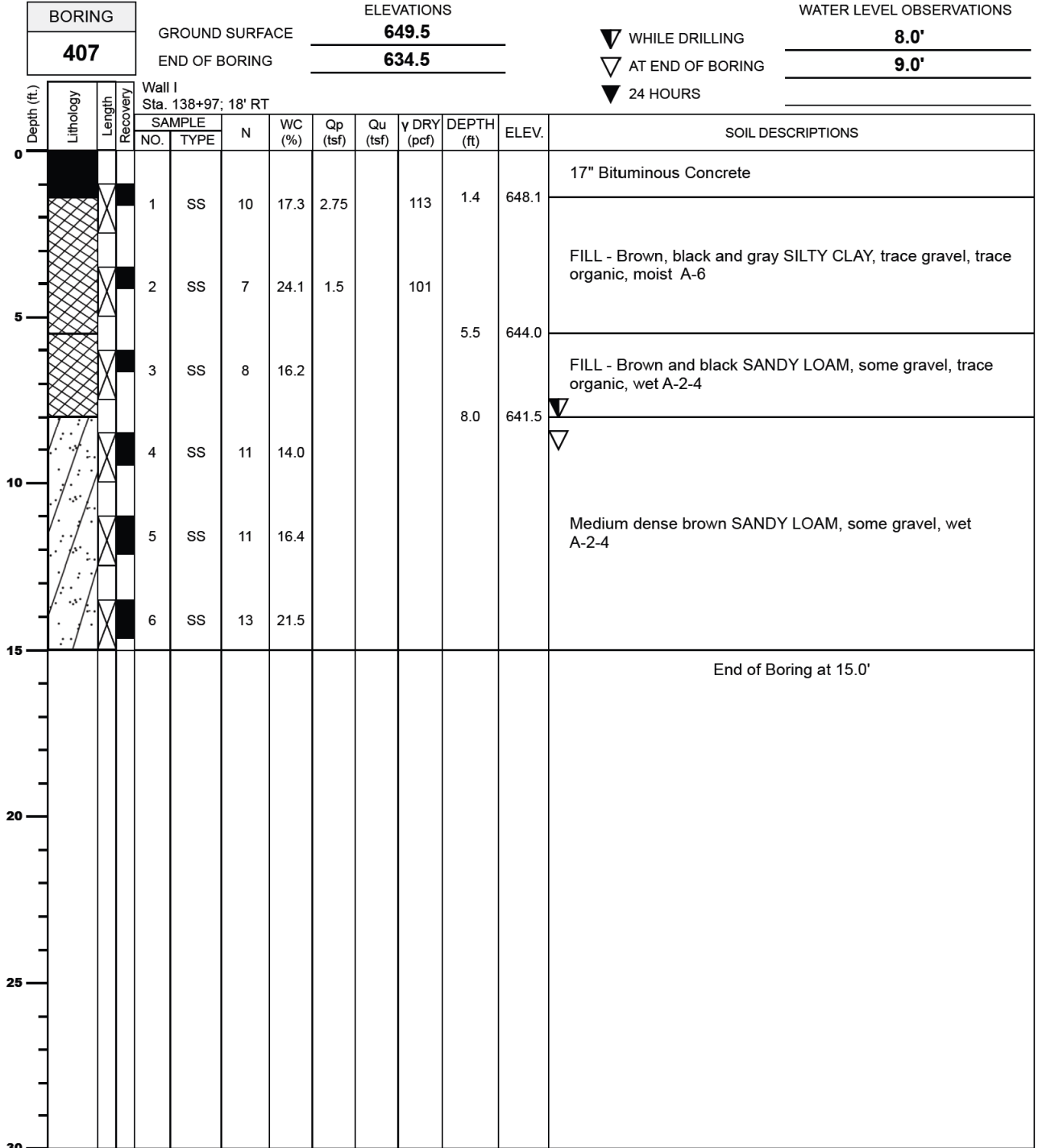
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N:\LC00T\190304.0003A\Struct\68-190304.0003A-Wall 1 - GNotes.sht		DRAWN - PDR	REVISED -			I257	I5-00038-07-WR	LAKE	I090	642					
	PLOT SCALE = 1'	CHECKED - CF	REVISED -			CONTRACT NO. 6IK62									
Default	PLOT DATE = 8/17/2026	DATE -	REVISED -								ILLINOIS	FED. AID PROJECT			
				SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.							

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
STARTED **05/02/2025** FINISHED **05/02/2025** DRILL RIG NO. **358** JOB **L-98,273**



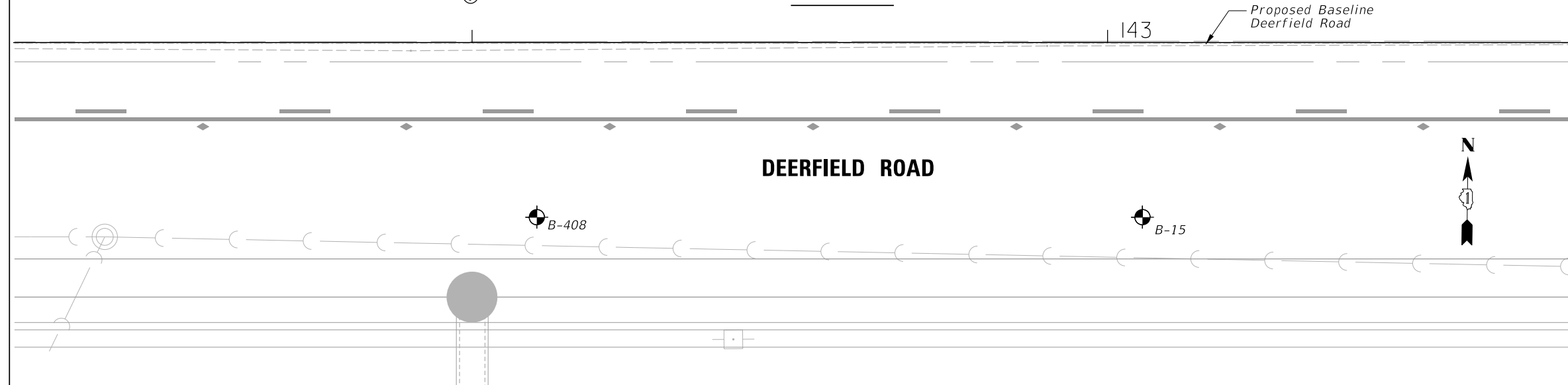
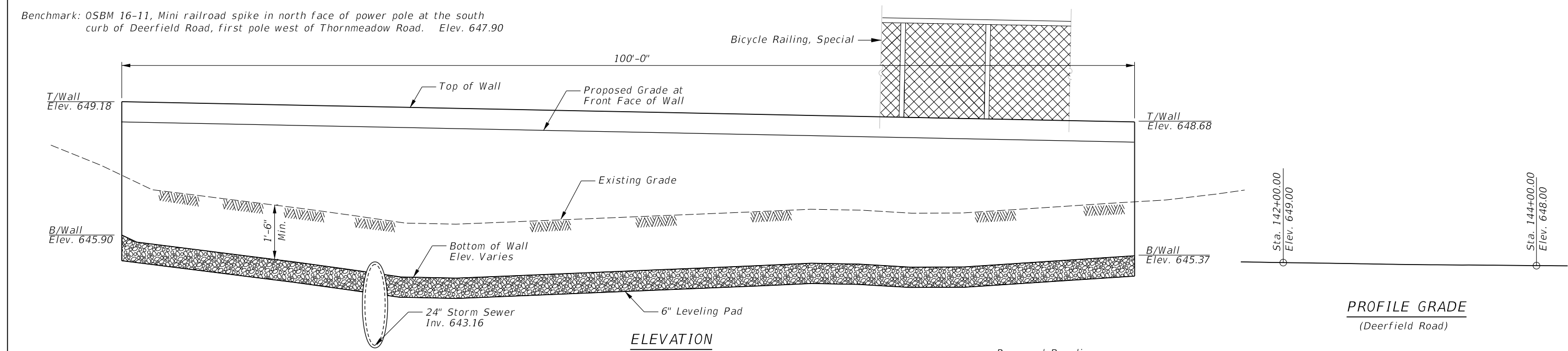
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
STARTED **05/02/2025** FINISHED **05/02/2025** DRILL RIG NO. **358** JOB **L-98,273**



Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Benchmark: OSBM 16-11, Mini railroad spike in north face of power pole at the south curb of Deerfield Road, first pole west of Thornmeadow Road. Elev. 647.90



LEGEND:

— A —	Aerial Wires
— > > —	Storm Sewer
— W —	Water Main
— S — S —	Sanitary Sewer
— G —	Gas Main
— T —	Telephone
— FO —	Fiber Optic Line

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 syle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".

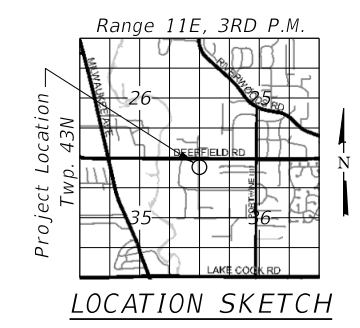


Majid Mobasseri
07/29/2026
MAJID MOBASSERI
ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

PROFILE GRADE
(Deerfield Road)

DESIGN SPECIFICATIONS
2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

SEISMIC DATA
Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SDI) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



GENERAL PLAN AND ELEVATION
RETAINING WALL J
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
LAKE COUNTY
STA. 142+25.00 TO 143+25.00

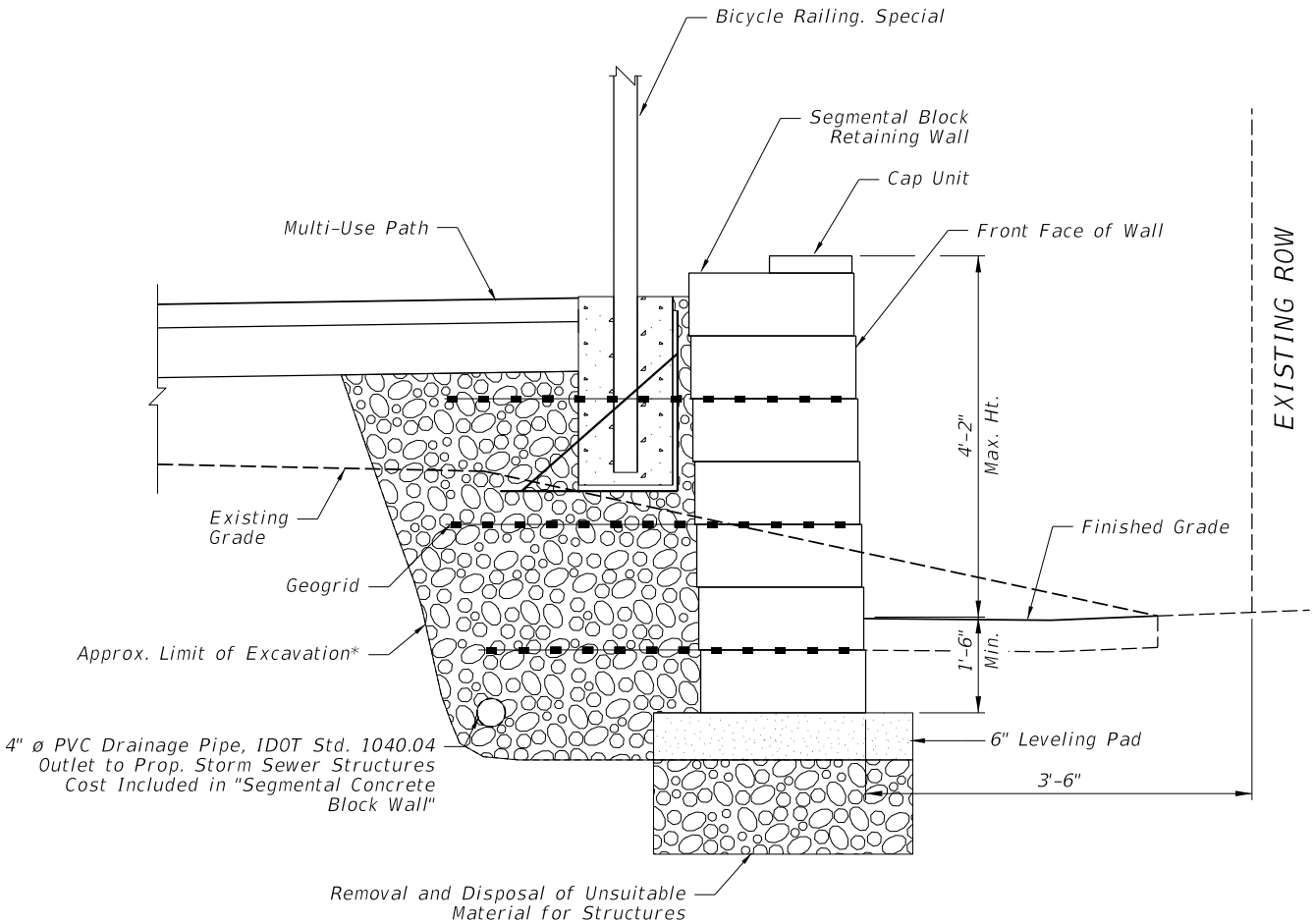
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N:\LCDOT\190304.0003A\Struct\70-190304.0003A-Wall J - GPE.sht	DRAWN - PDR	REVISED -	I257					I5-00038-07-WR	LAKE	1090	644	
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Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

GENERAL NOTES

1. The Segmental Concrete Block Retaining Wall shall be designed and constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

CONSTRUCTION

1. Prior to commencement of construction the Contractor shall verify all dimensions and conditions affecting the work with the actual conditions at the job site. If there are discrepancies with what is shown on the Construction Plans, he must immediately report the same to the Engineer before doing any work, otherwise the Contractor shall assume full responsibility. In the event of disagreement in plans or special details, the Contractor shall secure written instruction from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. Failing to secure such instruction, the Contractor will be considered to have proceeded at his own risk and expense. In the event of any doubt or questions arising with respect to the true meaning of the Construction Plans or Specifications, the decision of the Engineer shall be final and conclusive.
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4. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
5. The excavation and work area shall be properly drained at all times during construction. All wet, loose, frozen or other unsuitable material shall be removed prior to placement of concrete or compacted backfill.
6. Water pumped or otherwise discharged from the site during construction dewatering shall be filtered.
7. Upon completion, the Contractor shall collect and remove all construction debris and excess material from the site. Damaged trees, shrubs and other landscape features resulting from construction activities shall be replaced or repaired.
8. Do not scale dimensions for construction. Scale, if shown, applies only to full size drawings.
9. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 10.The Soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at the locations other than the exact location of the boring.
- 11.Railing behind wall shall be installed in coordination with traffic signal/lighting foundations.



TYPICAL REINFORCED WALL SECTION
(SEGMENTAL BLOCK RETAINING WALL)

* Any structure excavation shall meet the requirements of Article 522 of the IDOT Standard Specifications for Segmental Concrete Block Retaining Walls. Any cost for excavation outside the limits defined in the Standard Specifications shall be included in the cost of Segmental Concrete Block Wall.

NOTE:
Segmental Concrete Block Wall Supplier Shall Provide Details Required for Construction of the Proposed Walls. All Segmental Concrete Block Wall Details Shown in these Plans are Conceptual and are to be Used for Estimating Purposes Only. Actual Details Will Depend on the Proposed Wall System Submitted by The Contractor. Details for Wall Curves, Pipe Penetrations, Drainage Structures or Trees Behind Walls, and other Miscellaneous Details Shall be Provided by the Wall Supplier.

INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
644	GENERAL PLAN & ELEVATION
645	GENERAL NOTES AND DETAILS
646	BORING LOGS

TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL
20700220	Porous Granular Embankment	Cu. Yd.	25
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	25
52200800	Segmental Block Retaining Wall	Sq. Ft.	380
X5091725	Bicycle Railing, Special	Foot	120

FILE NAME =	USER NAME = amssick	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERIAL – WALL J	F.A.U RTE.		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304.0003A\Struct\71-190304.0003A-Wall J - GNotes.sht		DRAWN - PDR	REVISED -			I257	I5-00038-07-WR	LAKE	I090	645	
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	PLOT DATE = 8/17/2026	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
		SCALE:		SHEET		OF 107 SHEETS		STA.		TO STA.	

PROJECT **Deerfield Roadway Improvements, Milwaukee Ave to Saunders Rd, Riverwoods, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **15** DATE STARTED **8-3-22** DATE COMPLETED **8-3-22** JOB **L-94,046**

ELEVATIONS

GROUND SURFACE **648.0**

END OF BORING **638.0**

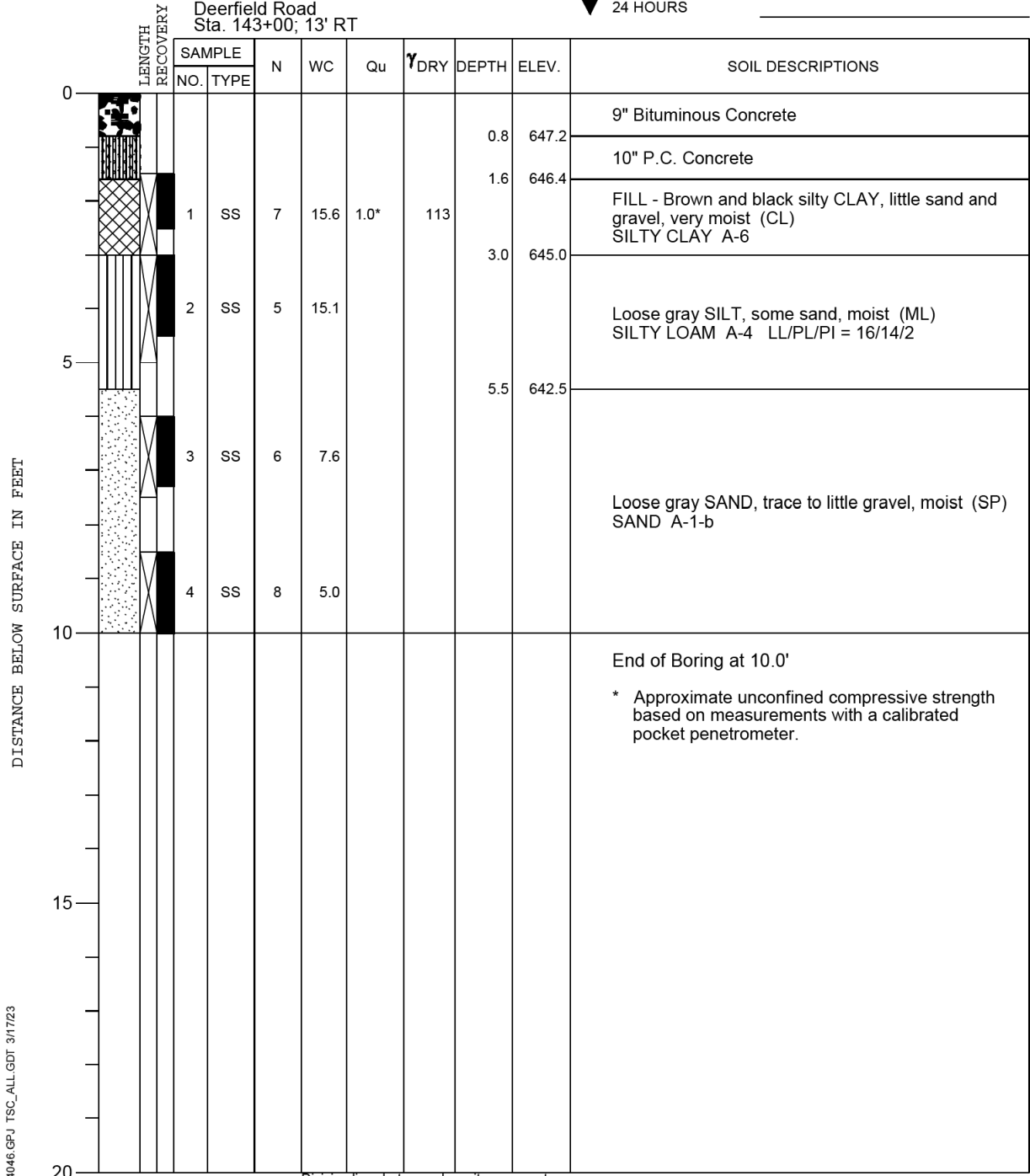
WATER LEVEL OBSERVATIONS

▼ WHILE DRILLING **Dry**

▽ AT END OF BORING **Dry**

▼ 24 HOURS

Deerfield Road
Sta. 143+00; 13' RT



DRILL RIG NO. **256**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

STARTED **05/05/2025** FINISHED **05/05/2025** DRILL RIG NO. **358** JOB **L-98,273**

ELEVATIONS

GROUND SURFACE **648.5**

END OF BORING **638.5**

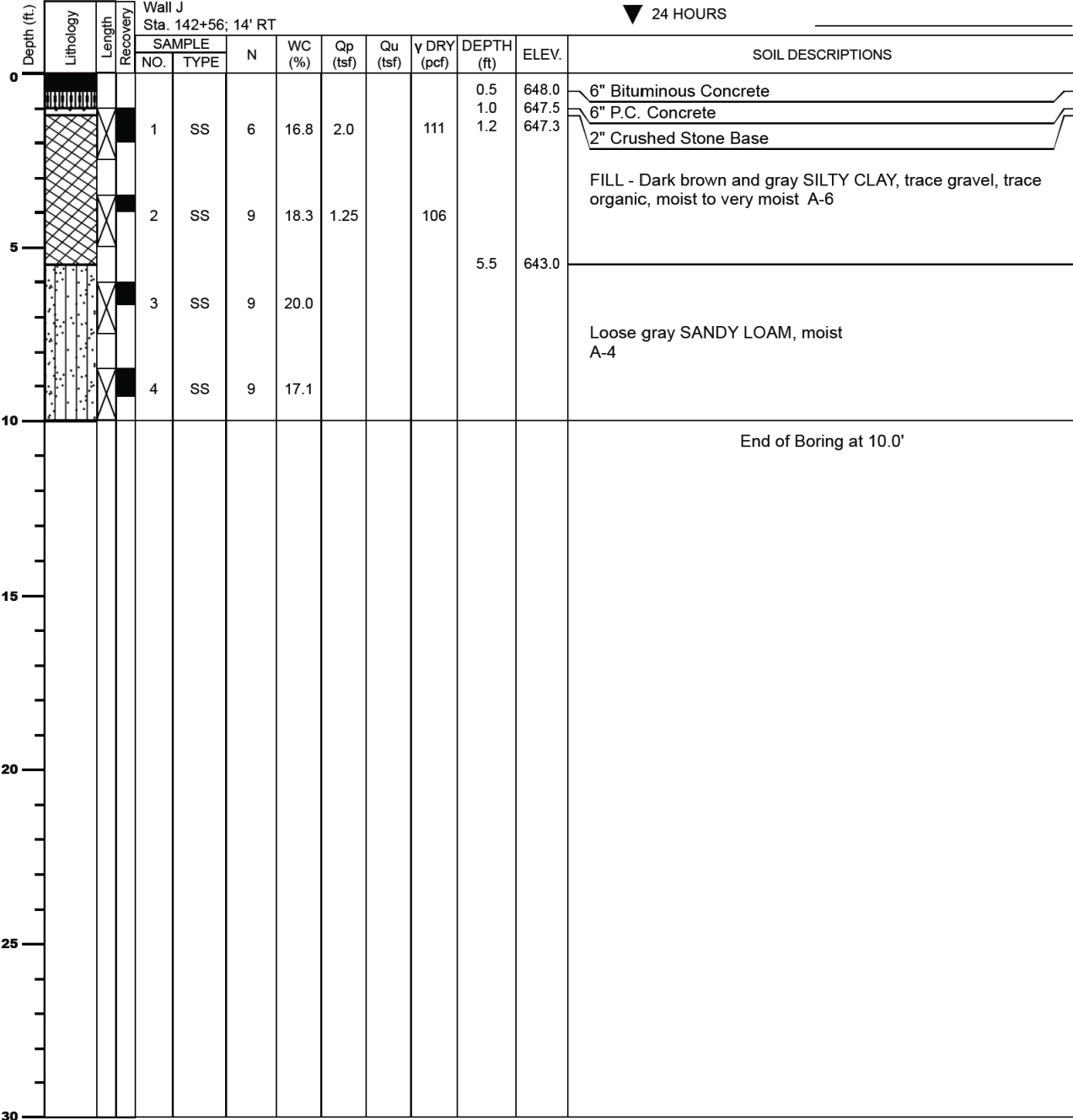
WATER LEVEL OBSERVATIONS

▼ WHILE DRILLING **Dry**

▽ AT END OF BORING **Dry**

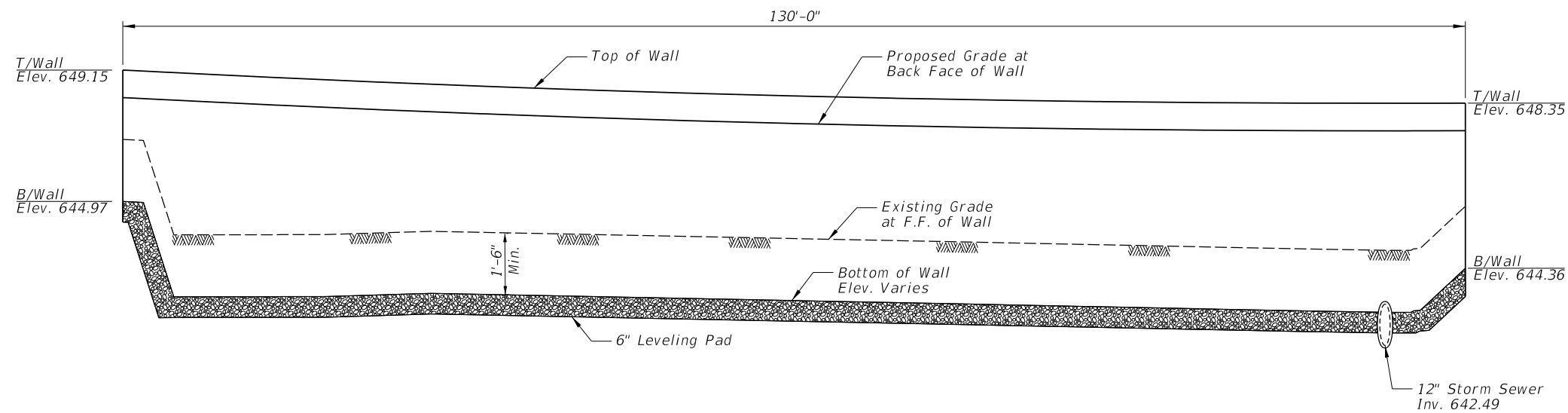
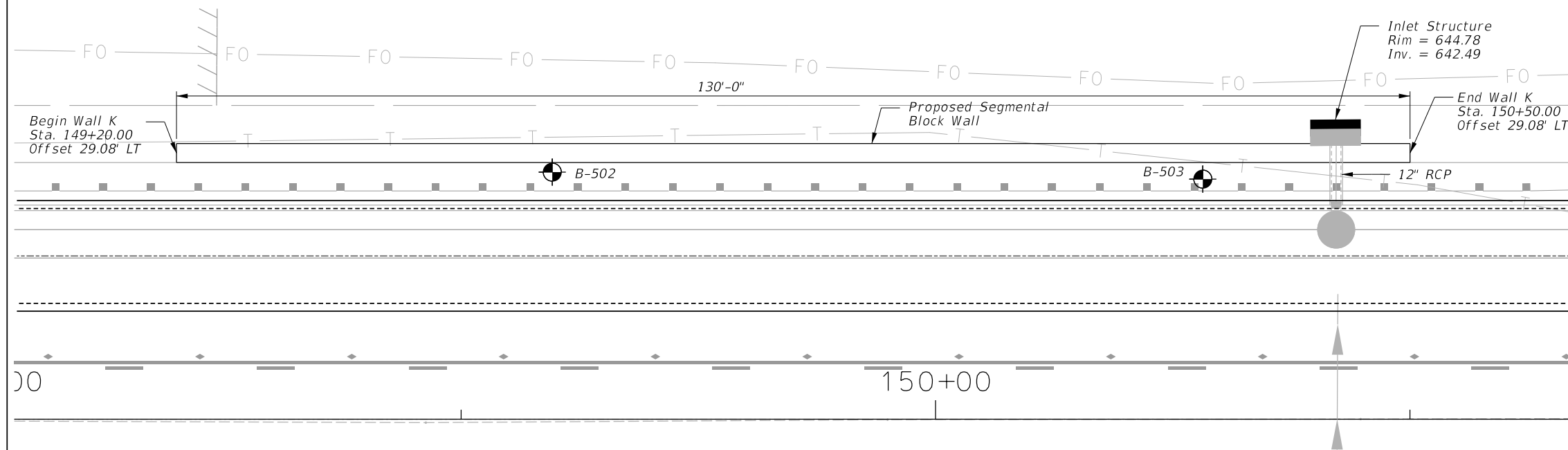
▼ 24 HOURS

Wall J
Sta. 142+56; 14' RT



Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Benchmark: OSBM 16-11, Mini railroad spike in north face of power pole at the south curb of Deerfield Road, first pole west of Thornmeadow Road. Elev. 647.90

ELEVATION

PLAN

LEGEND:

	Aerial Wires
	Storm Sewer
	Water Main
	Sanitary Sewer
	Gas Main
	Telephone
	Fiber Optic Line

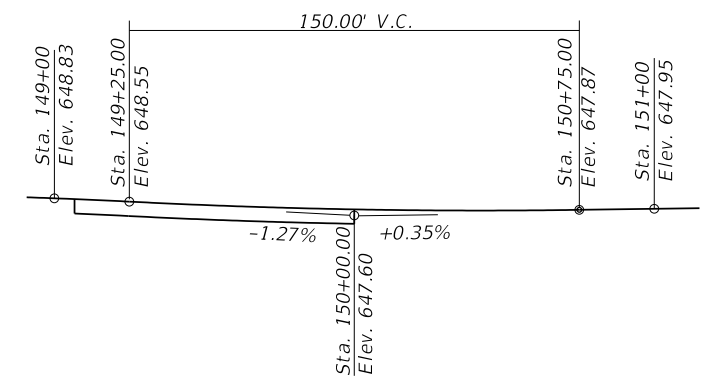
I Certify that to the best of my knowledge, information and belief, this Bridge Design Is structurally adequate for the Design Loading shown on the plans. The design is an economical Loading for the sytle of structure and complies with requirements of the current "AASHTO Standard Specification for Highway and Bridges".



Najid Nohani C

07/29/2026

MAJID MOBASSERI	<i>DATE</i>
<i>ILLINOIS REGISTRATION No. 081-005058</i>	
<i>STRUCTURAL ENGINEER</i>	
<i>EXPIRATION DATE: 11/30/26</i>	



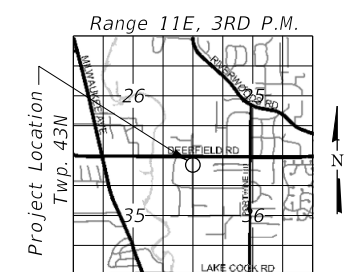
PROFILE GRADE
(Deerfield Road)

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

SEISMIC DATA

Seismic Design Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.105
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.135
Soil Class = D



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

RETAINING WALL K

ALONG DEERFIELD ROAD

SECTION 15-00038-07-WR

LAKE COUNTY

STA. 149+10.00 TO 150+00.00

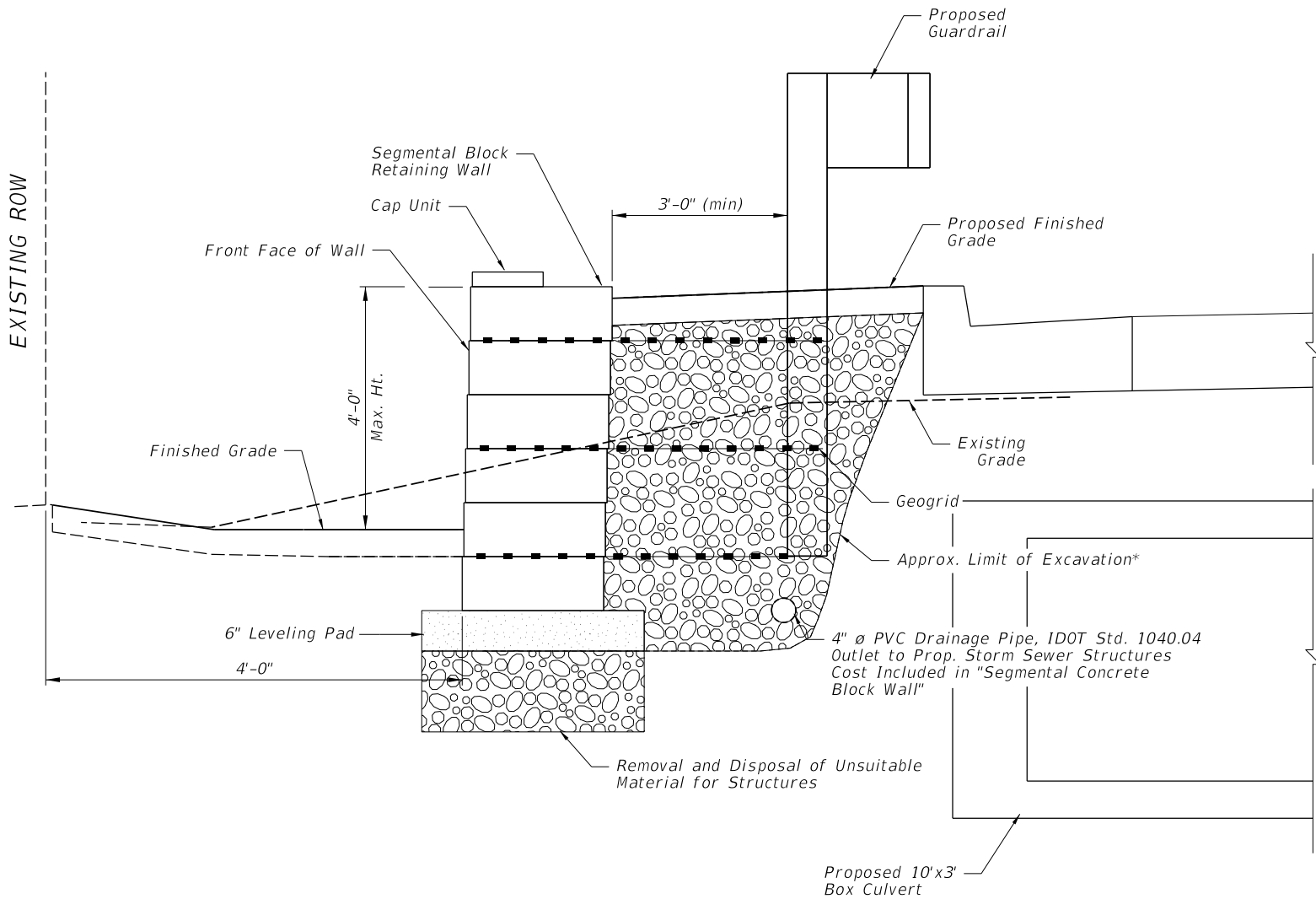
FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION RETAINING WALL K - GENERAL PLAN AND ELEVATION					F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LCDOT\190304.000304\Struct\73-190304.000304-Wall K - GPE.sht		DRAWN - PDR	REVISED -		1257	15-00038-07-WR	LAKE	1090	647					
Default	PLOT SCALE = 7'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62									
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF	107	SHEETS	STA.	TO	STA.		

GENERAL NOTES

1. The Segmental Concrete Block Retaining Wall shall be designed and constructed in accordance with the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction, Section 522", adopted January 1, 2022 and "Supplemental Specifications and Recurring Special Provisions" unless noted otherwise.

CONSTRUCTION

1. Prior to commencement of construction the Contractor shall verify all dimensions and conditions affecting the work with the actual conditions at the job site. If there are discrepancies with what is shown on the Construction Plans, he must immediately report the same to the Engineer before doing any work, otherwise the Contractor shall assume full responsibility. In the event of disagreement in plans or special details, the Contractor shall secure written instruction from the Engineer prior to proceeding with any part of the work affected by omissions or discrepancies. Failing to secure such instruction, the Contractor will be considered to have proceeded at his own risk and expense. In the event of any doubt or questions arising with respect to the true meaning of the Construction Plans or Specifications, the decision of the Engineer shall be final and conclusive.
2. Standard Specifications, Construction Plans and subsequent details are all to be considered as part of this Contract. Incidental items or accessories necessary to complete this work may not be specifically noted but are considered a part of this Contract.
3. Any information concerning the type and location of underground and other utilities is not guaranteed to be accurate or all inclusive. The Contractor is responsible for making his own determinations as to the type and location of the utilities as may be necessary to avoid damage thereto.
4. It shall be the Contractor's responsibility to verify the location of all utilities prior to starting construction. Contact J.U.L.I.E., 800-892-0123.
5. The excavation and work area shall be properly drained at all times during construction. All wet, loose, frozen or other unsuitable material shall be removed prior to placement of concrete or compacted backfill.
6. Water pumped or otherwise discharged from the site during construction dewatering shall be filtered.
7. Upon completion, the Contractor shall collect and remove all construction debris and excess material from the site. Damaged trees, shrubs and other landscape features resulting from construction activities shall be replaced or repaired.
8. Do not scale dimensions for construction. Scale, if shown, applies only to full size drawings.
9. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- 10.The Soil boring logs represent point information. Presentation of this information in no way implies that subsurface conditions are the same at the locations other than the exact location of the boring.
- 11.Railing behind wall shall be installed in coordination with traffic signal/lighting foundations.



TYPICAL REINFORCED WALL SECTION
(SEGMENTAL BLOCK RETAINING WALL)

* Any structure excavation shall meet the requirements of Article 522 of the IDOT Standard Specifications for Segmental Concrete Block Retaining Walls. Any cost for excavation outside the limits defined in the Standard Specifications shall be included in the cost of Segmental Concrete Block Wall.

NOTE:
Segmental Concrete Block Wall Supplier Shall Provide Details Required for Construction of the Proposed Walls. All Segmental Concrete Block Wall Details Shown in these Plans are Conceptual and are to be Used for Estimating Purposes Only. Actual Details Will Depend on the Proposed Wall System Submitted by The Contractor. Details for Wall Curves, Pipe Penetrations, Drainage Structures or Trees Behind Walls, and other Miscellaneous Details Shall be Provided by the Wall Supplier.

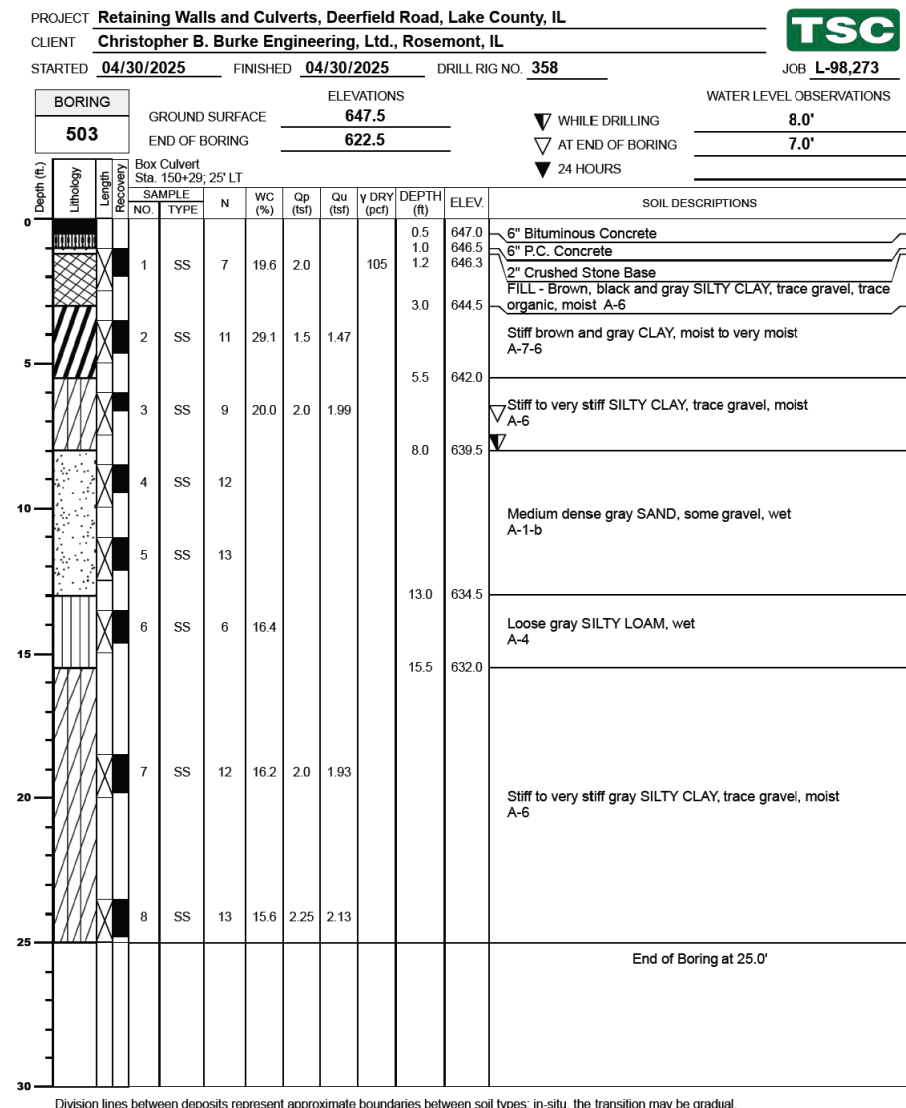
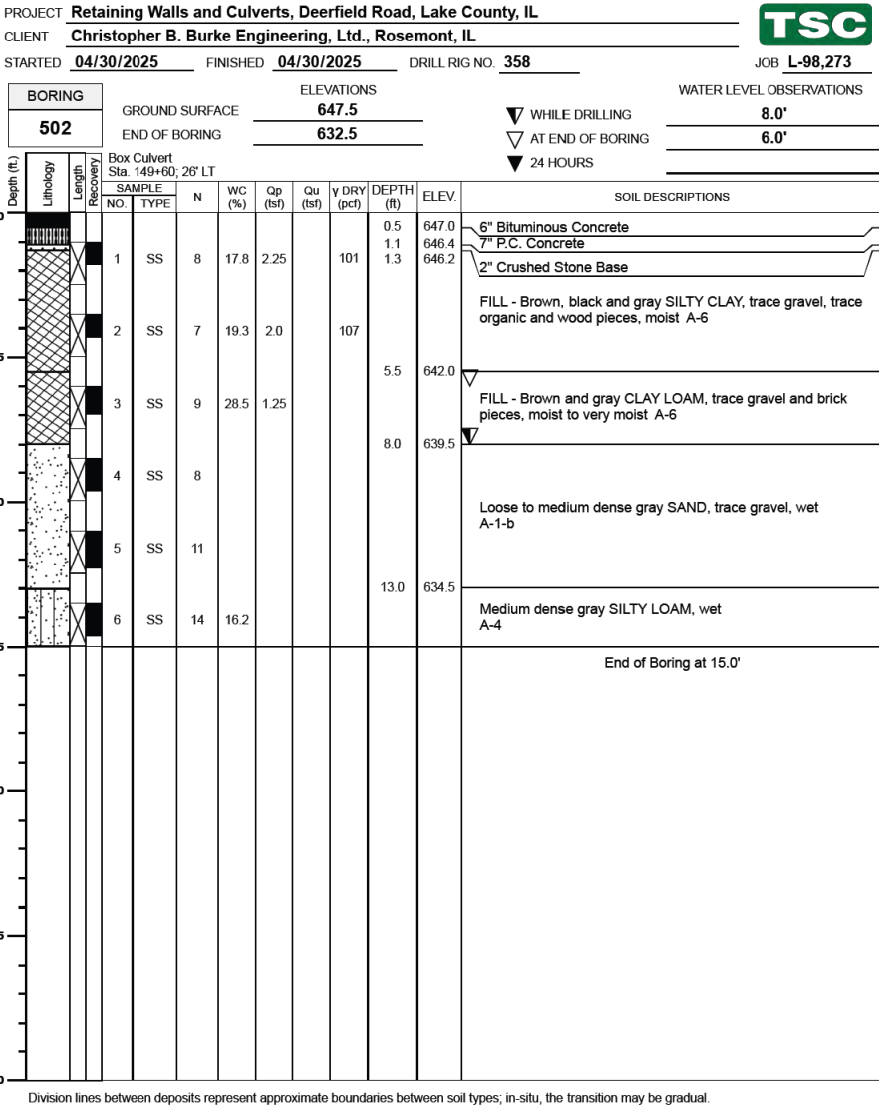
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
647	GENERAL PLAN & ELEVATION
648	GENERAL NOTES AND DETAILS
649	BORING LOGS

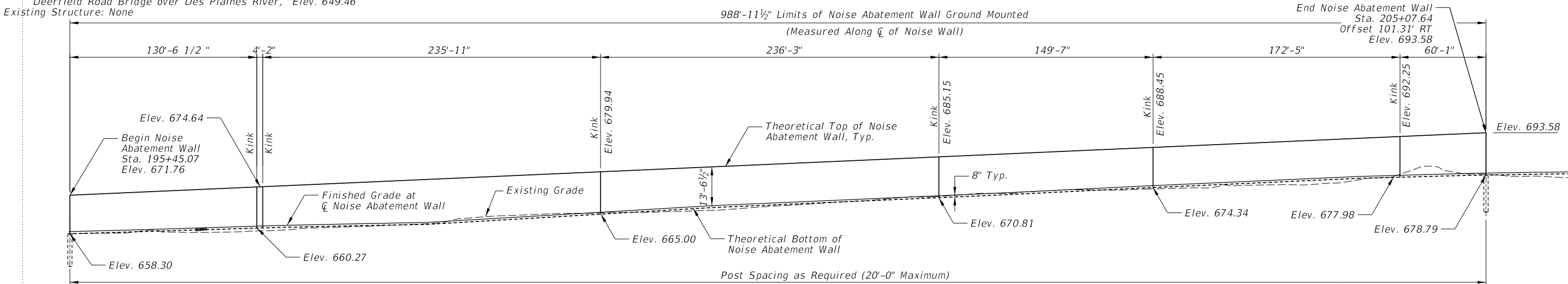
TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL
20700220	Porous Granular Embankment	Cu. Yd.	40
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	40
52200800	Segmental Block Retaining Wall	Sq. Ft.	650

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERAIL – WALL K	SCALE:		SHEET	OF 107 SHEETS	STA.	TO STA.	F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -			CONTRACT NO. 6IK62										
	PLOT DATE = 7/31/2026	DATE -	REVISED -			ILLINOIS FED. AID PROJECT										



Benchmark: LCDOT 5-45BR, Square cut on Northwest corner wall for
Deerfield Road Bridge over Des Plaines River, Elev. 649.46
Existing Structure: None

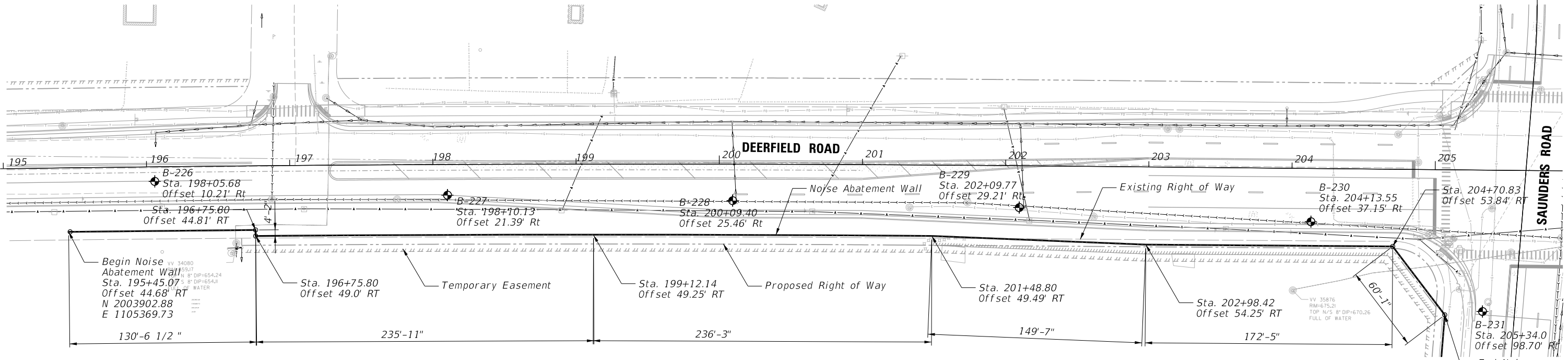


Notes:
Offsets are measured from $\bar{B}$ of Deerfield. to $\bar{C}$ Noise Abatement Wall or Boring Location.
See Data Table on Sheet 605 of 986 for Offsets and Theoretical Elevations along the Noise Abatement Wall.
Theoretical Top of NAW Elev., Theoretical Bottom of NAW Elev., and Finished Grade Elev. along the Noise Abatement Wall shall be taken as straight lines in the segments between each pair of stations shown in the Data Table on Sheet 605 of 986.

ELEVATION

INDEX OF SHEETS

- 603 General Plan and Elevation (1 of 2)
- 604 General Plan and Elevation (2 of 2)
- 605 General Notes and Details
- 606 Wall Details
- 607 Boring Logs



PLAN

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design
Specifications, 10th Edition

DESIGN LOADS

Strength III or V Wind: 35 PSF
Service I Wind: 15 psf
Unfactored Design Active Earth Pressure: 55 pcF
Equivalent Fluid Pressure
Minimum Live Load Surcharge Pressure: 2 ft
Additional Earth Pressure

DESIGN STRESSES

FIELD UNITS

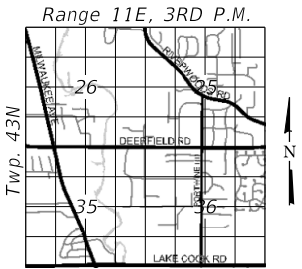
f'_c = 4,000 psi (Drilled Shaft Concrete Foundations)
 f_y = 60,000 psi (Reinforcement)
 f_y = 50,000 psi (Structural Steel, M270 Grade 50, posts)
 f_y = 36,000 psi (Structural Steel, M270 Grade 36, all other structural steel)

PRECAST UNITS

f'_c = 4,500 psi (Precast Panels)
 f_y = 60,000 psi (Reinforcement)
 f_y = 65,000 psi (Welded Wire Fabric)

LEGEND

- Storm Sewer
- Water Main
- Sanitary Sewer
- Telephone
- Electric Line
- Gas Line
- Proposed Permanent Easement
- Proposed R.O.W.
- Existing R.O.W.



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

NOISE ABATEMENT WALL

F.A.U. 1257 SECTION 15-00038-07-WR

LAKE COUNTY

STA. 195+45.0 TO 205+07.64

SN 049-N4001

FILE NAME =	USER NAME = jjezerny	DESIGNED - MM	REVISED -
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		CHECKED - CF	REVISED -
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -

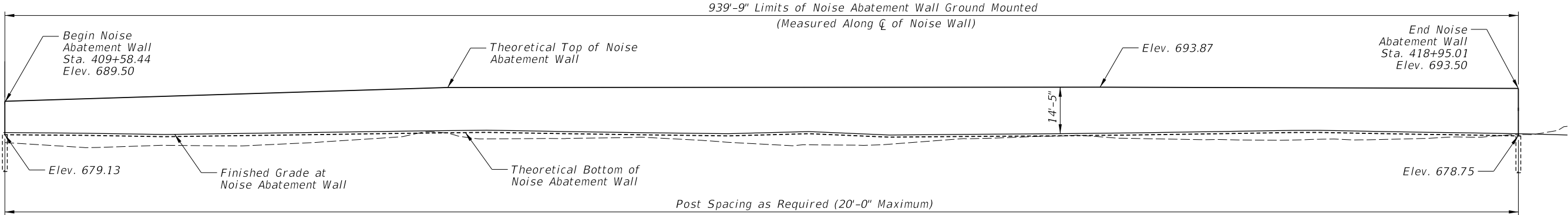
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
NOISE ABATEMENT WALL L - GENERAL PLAN & ELEVATION

SCALE: SHEET OF 107 SHEETS STA. TO STA.

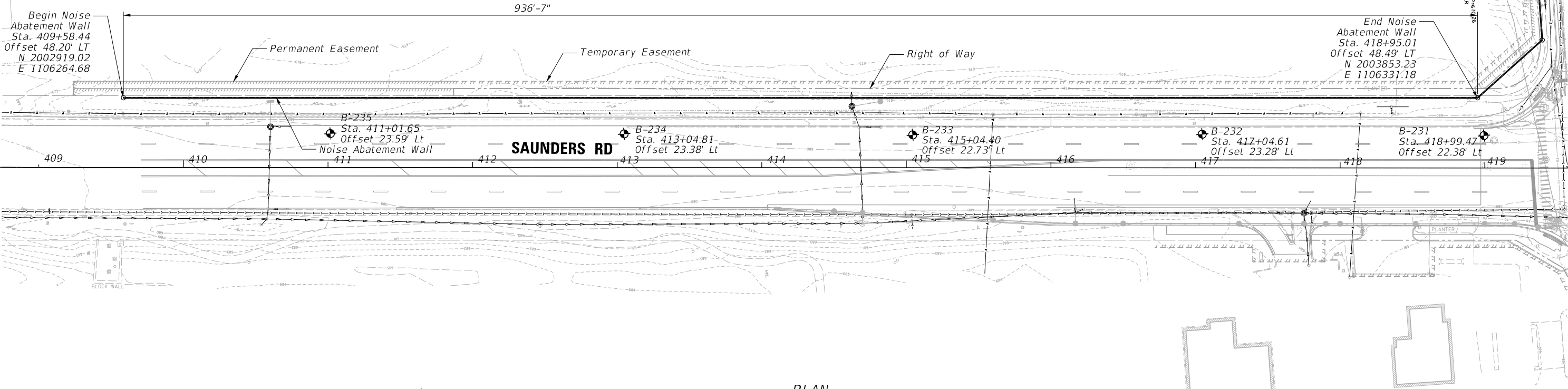
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	650
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				

Benchmark: LCDOT 5-45BR, Square cut on Northwest corner wall for Deerfield Road Bridge over Des Plaines River, Elev. 649.46
Existing Structure: None

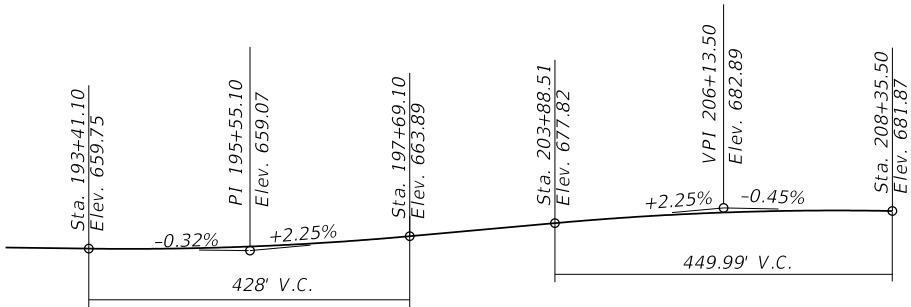


ELEVATION

Notes:
Offsets are measured from $\bar{C}$ of Saunders Road to $\bar{C}$ Noise Abatement Wall or Boring Location.
See Data Table on Sheet 605 of 986 for Offsets and Theoretical Elevations along the Noise Abatement Wall.
Theoretical Top of NAW Elev., Theoretical Bottom of NAW Elev., and Finished Grade Elev. along the Noise Abatement Wall shall be taken as straight lines in the segments between each pair of stations shown in the Data Table on Sheet 685 of 986.

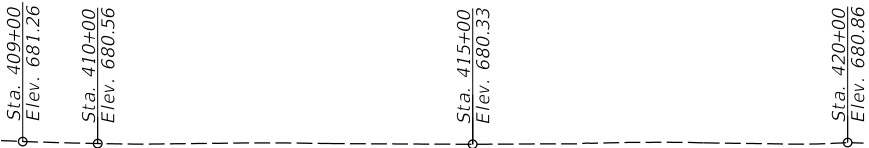


PLAN



PROFILE GRADE

(Along $\bar{C}$ of Deerfield Road)



PROFILE GRADE

(Along $\bar{C}$ of Saunders Road)

GENERAL PLAN AND ELEVATION
NOISE ABATEMENT WALL
F.A.U. 1257 SECTION 15-00038-07-WR
LAKE COUNTY
STA. 409+58.44 TO 418+95.01
SN 049-N4002

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
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Default	PLOT SCALE = 35'	CHECKED - CF	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
WALL L - PROPOSED NOISE ABATEMENT WALL PLAN AND ELEVATION
ALONG SAUNDERS ROAD

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	651
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1.

All excavation and grading below the finished grade elevation required for installation of the Noise Abatement Wall elements shall be included in the cost of Noise Abatement Wall, Ground Mounted.
2.

Contractor shall follow requirements of Guide Bridge Special Provision "Noise Abatement Wall, Ground Mounted" for material, design, fabrication, construction, and erection requirements of the proposed Noise Abatement Wall.
3.

The Contractor shall field verify location of existing utilities prior to construction. The Contractor shall take precautions not to damage existing utilities. Any such damage shall be repaired by the Contractor at no additional cost. All adjacent utilities shall be shown in the shop drawings.
4.

Noise Abatement Wall drilled shaft foundation diameter, depth, and spacing to be determined by the Contractor.
5.

Precast panels for the Ground Mounted Noise Abatement Walls shall be cast using form liners with a simulated limestone surface. Form liners shall be used on both faces of the panels. The form liner shall match the exact size of each panel such that there are no joints crossing the stone modules. The relief shall be an average of 1½" deep and no greater than 2½" deep at any point.
6.

Form liners shall be made from high-strength elastomeric urethane and be removable without causing concrete surface damage or weakness in the substrate. Form release agents shall be non-staining, non-residual, non-reactive, and shall not contribute to the degradation of the form liner material.
7.

The following form liner manufacturers have been pre-approved to provide the listed pattern for the simulated limestone surface:

a.

Custom Rock interntational, St. Paul, MN
#1104-R2 14-¾" Random Cut Stone or #11016 16" Random Cut Stone

b.

Milestones Incorporated, Hudson, WI
#MS-1018 16" Weathered Limestone

c.

Architectual Polymers, New Ringgold, PA
#893 14" Quarry Stone or #894 16" Quarry Stone
8.

Form liners shall be used in accordance with the manufacturer's recommendations, including, but not limited to, installation and removal methods, form release agents, cleaning procedures, inspection procedures, repair procedures, curing methods, concrete slump requirements, and consolodation methods to achieve the highest quality concrete appearance possible. Manufacturer recommendations shall not supplant requirements listed elsewhere in the Contract Documents without prior approval of the Engineer.
9.

The finished exposed formed concrete surfaces shall be free of visible vertical seams, horizontal seams, and butt joint marks after removing the form liners. Grinding and chipping of finished formed surfaces shall be avoided.
10.

The Contractor shall provide a full-size precast panel mockup containing the form liner surface. Upon reciept of comments from inspection of the mockup, adjustments or corrections shall me made where imperfections are found. If required, additional mockups shall be prepared when the initial mockup is found to be unsatisfactory.
11.

All work and materials associated with form liners and mockups, including adjustments or corrections needed to address mockup comments and additional mockups, if required, will not be paid for separately but shall be included in the cost of Noise Abatement Wall, Ground Mounted.

TOTAL BILL OF MATERIAL

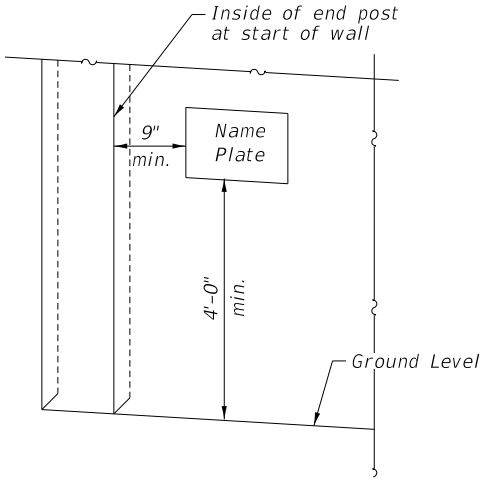
ITEM	UNIT	TOTAL
Name Plates	Each	2
Noise Abatement Wall, Ground Mounted	Sq. Ft.	27,420
Staining Concrete Structures	Sq. Ft.	54,840

NOISE ABATEMENT WALL
BUILT BY
STATE OF ILLINOIS
ALONG DEERFIELD ROAD
SECTION 15-00038-07-WR
FROM STA. 195+45.07 TO STA. 205+07.64
STRUCTURE NO. 049-N4001

NAME PLATE 1
(See Std. 515001)

NOISE ABATEMENT WALL
BUILT BY
STATE OF ILLINOIS
ALONG SAUNDERS ROAD
SECTION 15-00038-07-WR
FROM STA. 409+58.44 TO STA. 418+95.01
STRUCTURE NO. 049-N4002

NAME PLATE 2
(See Std. 515001)



NAME PLATE LOCATION

DATA TABLE

(SN 049-N4001 - Noise Abatement Wall along Deerfield Road)

Station	Offset to C/L Wall (ft.)	Theor. Top of NAW Elev.	Finished Grade Elev. at Front Face of NAW	Finished Grade Elev. at Back Face of NAW	Theor. Bottom of NAW Elev.	Theoretical Wall Height (ft.)
195+45.07	44.68	671.76	658.90	658.33	657.66	14.10
195+50.00	44.69	671.87	658.95	658.38	657.71	14.16
196+00.00	44.80	672.97	659.63	659.46	658.79	14.18
196+50.00	44.83	674.08	660.19	658.82	658.15	15.93
196+75.80	44.81	674.64	660.41	659.40	658.73	15.91
196+75.80	48.99	674.73	660.96	659.37	658.70	16.03
197+00.00	49.02	675.26	661.19	659.75	659.08	16.18
197+50.00	49.08	676.36	661.68	660.84	660.17	16.19
198+00.00	49.13	677.47	662.25	662.00	661.33	16.14
198+50.00	49.18	678.57	663.66	664.57	663.90	14.67
199+00.00	49.24	679.67	665.13	665.41	664.74	14.93
199+12.14	49.25	679.94	665.49	665.49	664.82	15.12
199+50.00	49.29	680.78	666.61	665.78	665.11	15.67
200+00.00	49.34	681.88	668.09	666.68	666.01	15.87
200+50.00	49.39	682.98	669.17	668.25	667.58	15.40
201+00.00	49.44	684.09	670.24	669.83	669.16	14.93
201+48.80	49.49	685.15	671.15	671.40	670.73	14.42
202+00.00	51.18	686.28	672.40	672.38	671.71	14.57
202+50.00	52.75	687.38	673.61	673.67	673.00	14.38
202+98.42	54.25	688.45	674.91	673.93	673.26	15.19
203+50.00	54.13	689.59	676.00	674.87	674.20	15.39
204+00.00	54.01	690.69	677.09	675.44	674.77	15.92
204+50.00	53.89	691.79	678.28	677.36	676.69	15.10
204+70.83	53.84	692.25	678.74			
205+07.64	101.31	693.58				

DATA TABLE

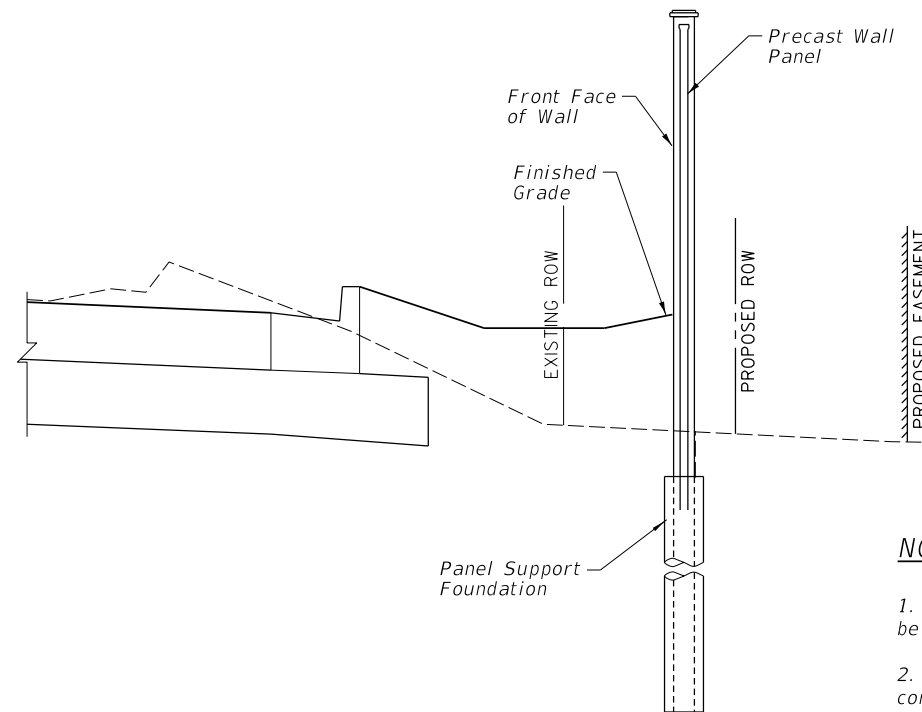
(SN 049-N4002 - Noise Abatement Wall along Saunders Road)

Station	Offset to C/L Wall (ft.)	Theor. Top of NAW Elev.	Finished Grade Elev. at Front Face of NAW	Finished Grade Elev. at Back Face of NAW	Theor. Bottom of NAW Elev.	Theoretical Wall Height (ft.)
409+58.44	48.20	689.50	678.90	675.10	674.43	15.07
410+00.00	48.50	690.14	679.35	675.10	674.43	15.71
410+50.00	48.50	690.92	678.88	675.45	674.78	16.14
411+00.00	48.50	691.71	679.39	675.40	674.73	16.98
411+50.00	48.50	692.48	679.54	676.42	675.75	16.73
412+00.00	48.50	693.27	679.96	678.10	677.43	15.84
412+50.00	48.50	693.79	680.32	677.75	677.08	16.71
413+00.00	48.50	693.80	679.84	677.74	677.07	16.73
413+50.00	48.50	693.81	679.45	678.12	677.45	16.36
414+00.00	48.50	693.82	679.15	676.92	676.25	17.57
414+50.00	48.50	693.83	678.96	675.64	674.97	18.86
415+00.00	48.50	693.84	678.91	675.82	675.15	18.69
415+50.00	48.50	693.85	679.11	677.66	676.99	16.86
416+00.00	48.50	693.86	679.32	678.48	677.81	16.05
416+50.00	48.50	693.85	679.56	677.94	677.27	16.58
417+00.00	48.50	693.78	679.87	677.52	676.85	16.93
417+50.00	48.50	693.71	680.39	677.34	676.67	17.04
418+00.00	48.50	693.63	680.01	677.49	676.82	16.81
418+50.00	48.50	693.56	679.63	678.22	677.55	16.01
418+95.01	48.49	693.50	679.41	679.17	678.50	15

NOISE REDUCTION DATA TABLE

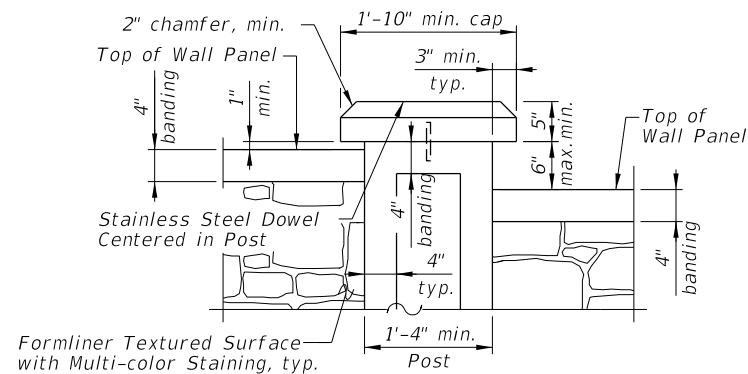
Noise Wall Structure Number	Face	From Sta.	To Sta.	Noise Reduction Coefficient	Comments
049-N4001	Deerfield Rd. Face	195+45.07	205+07.64	Reflective	-
	Residential Face	195+45.07	205+07.64	Reflective	-
049-N4002	Saunders Rd. Face	408+58.44	418+95.01	Reflective	-
	Residential Face	408+58.44	418+95.01	Reflective	-

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PLOT DATE = 7/31/2026		DATE -	REVISED -	SCALE:		SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED.AID PROJECT	

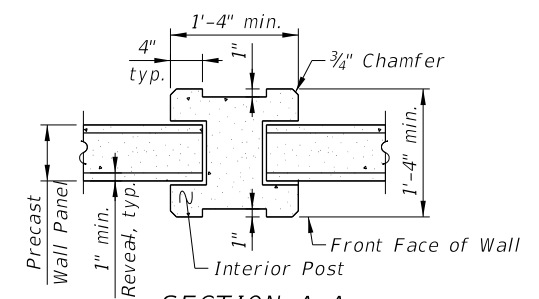


TYPICAL SECTION
FILL RETAINING WITH NOISE WALL

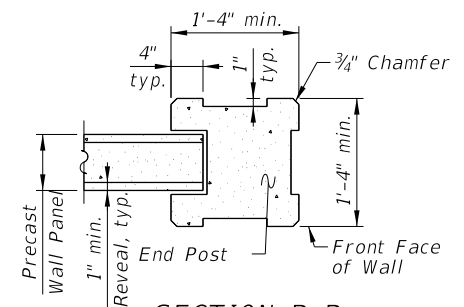
1. The foundation is to be designed by the Contractor. The foundation is not to be placed within 1'-0" of any pipes or utilities.
2. The Contractor shall verify any obstruction to pipes or utilities prior to construction of the foundation.
3. Type, size, & spacing of posts, noise wall panels, drilled shaft size, embedment depth, reinforcement details, and wall limits to be determined by the Noise Wall supplier during construction.



POST CAP DETAIL

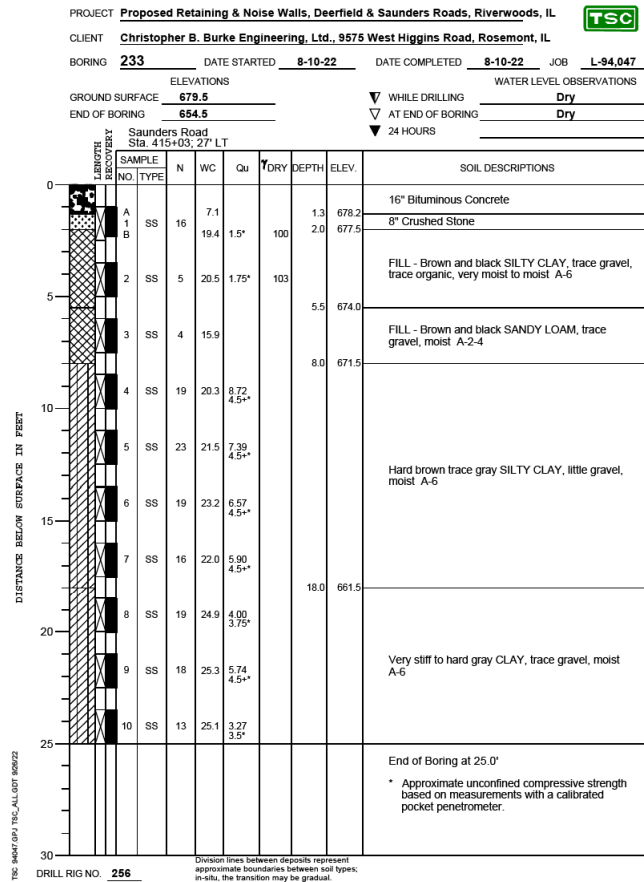
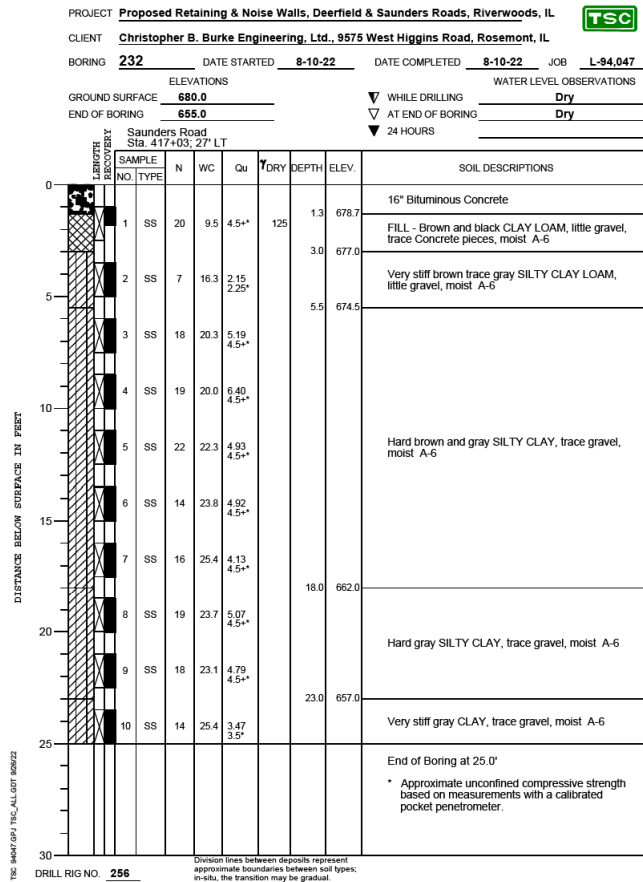
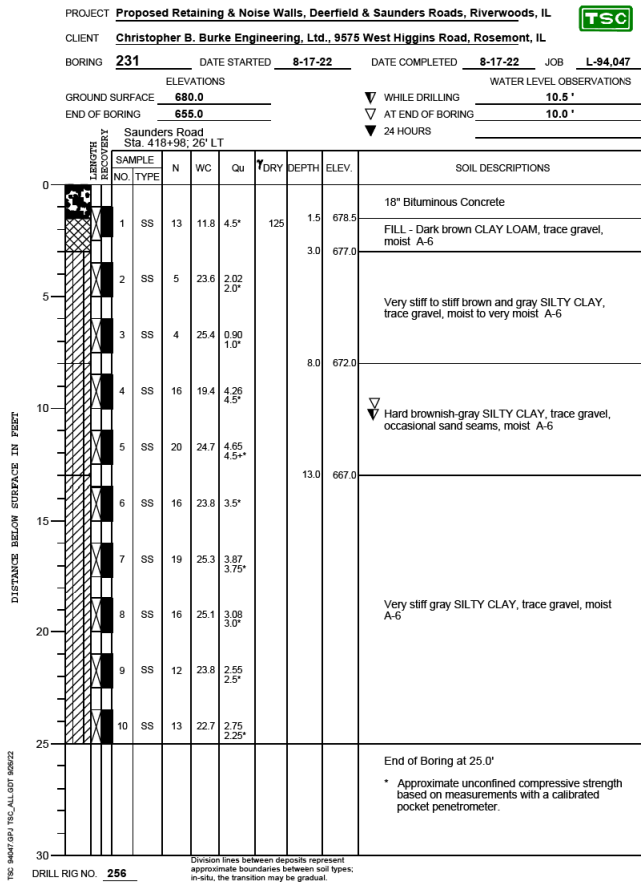
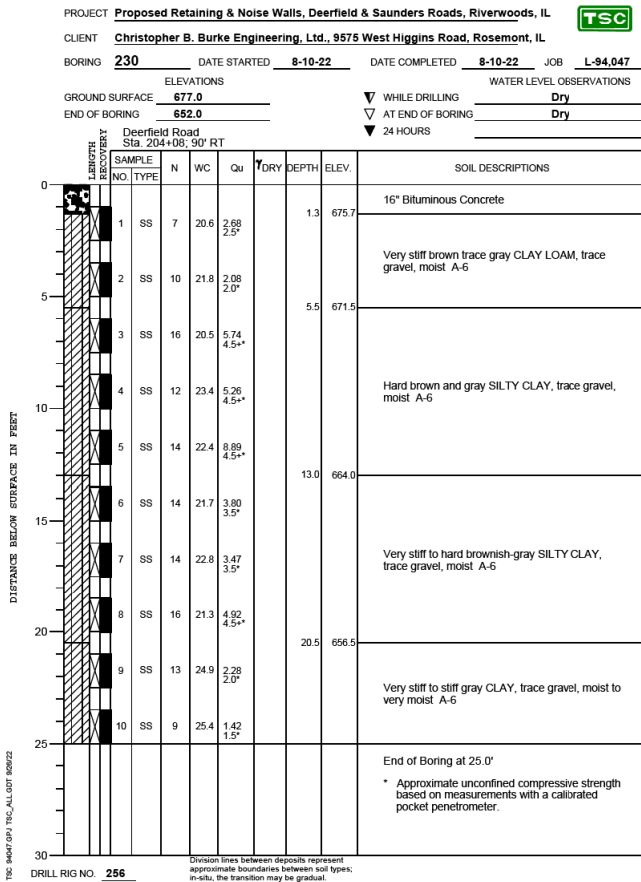
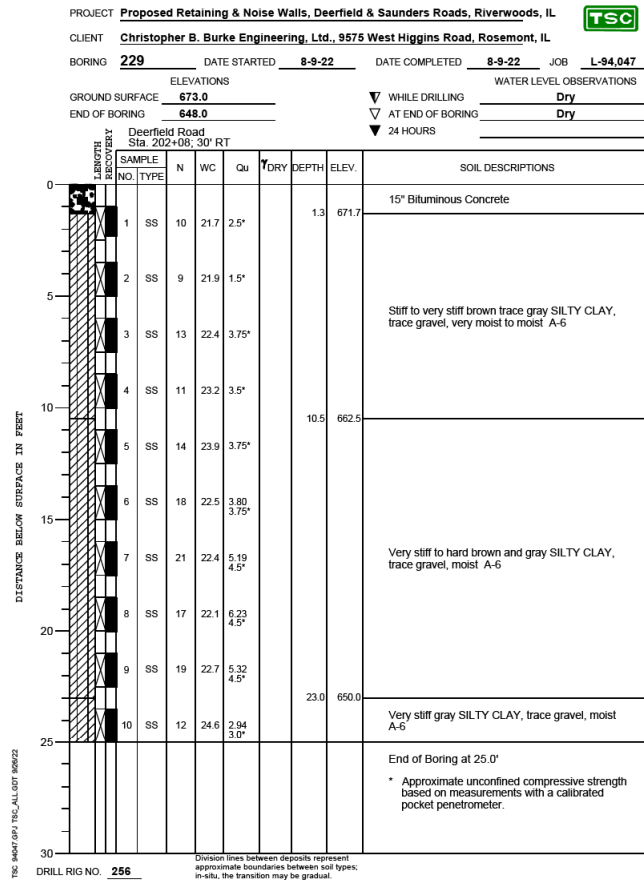
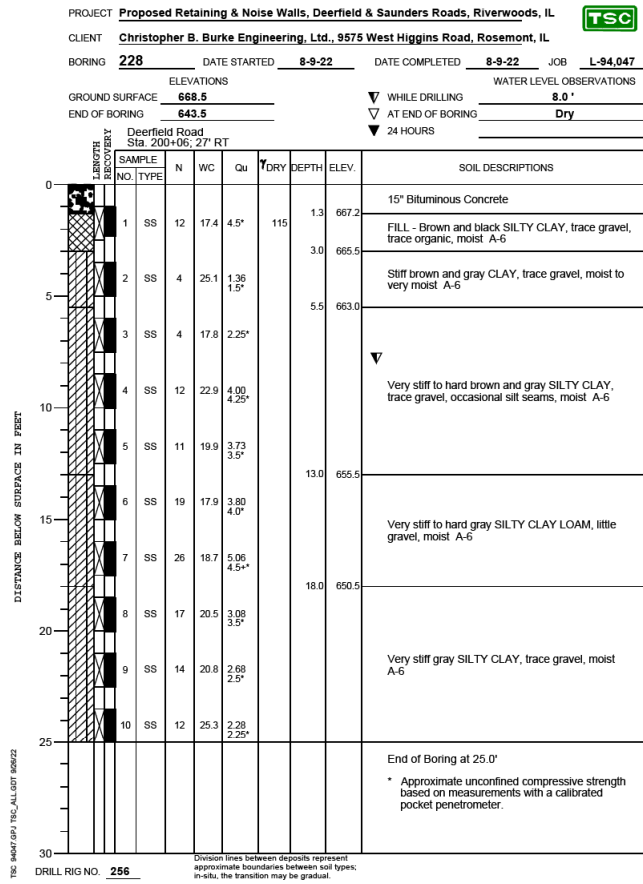
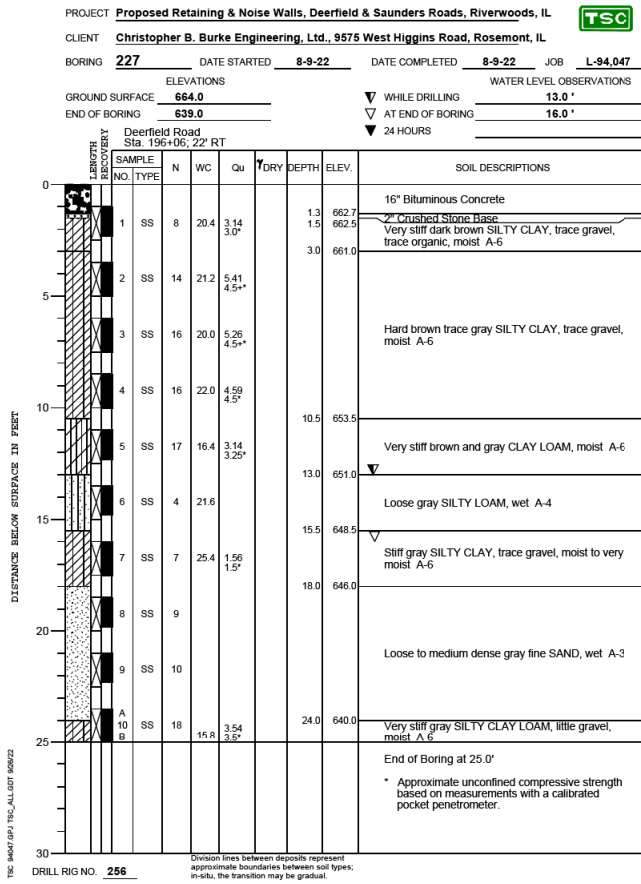
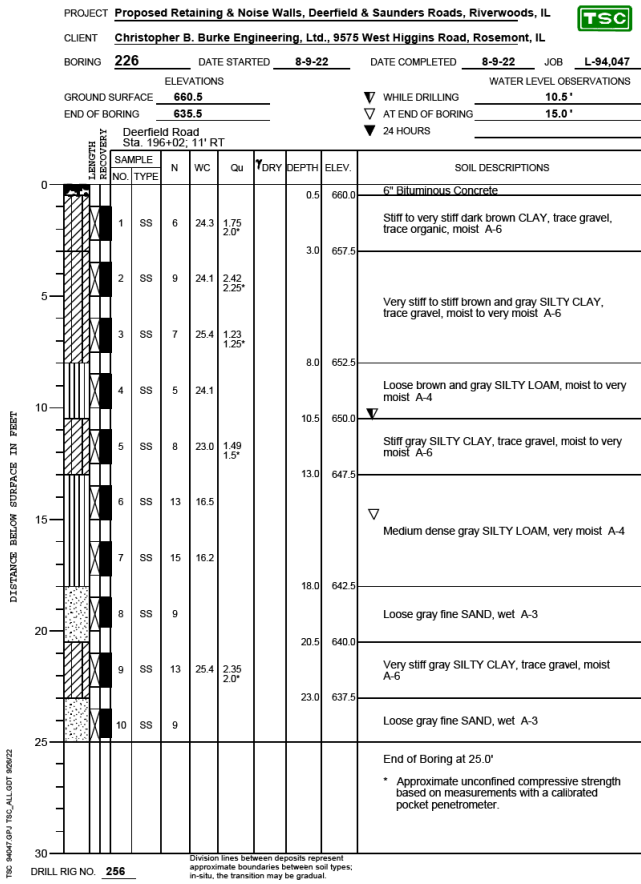


SECTION A-A



SECTION B-B

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION NOISE WALL DETAILS			F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304.0003A\Struct\79-190304.0003A-Wall L - Detail.sht	DRAWN - PDR	REVISED -	1257					15-00038-07-WR	LAKE	1090	653	
	PLOT SCALE = 20'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62							
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

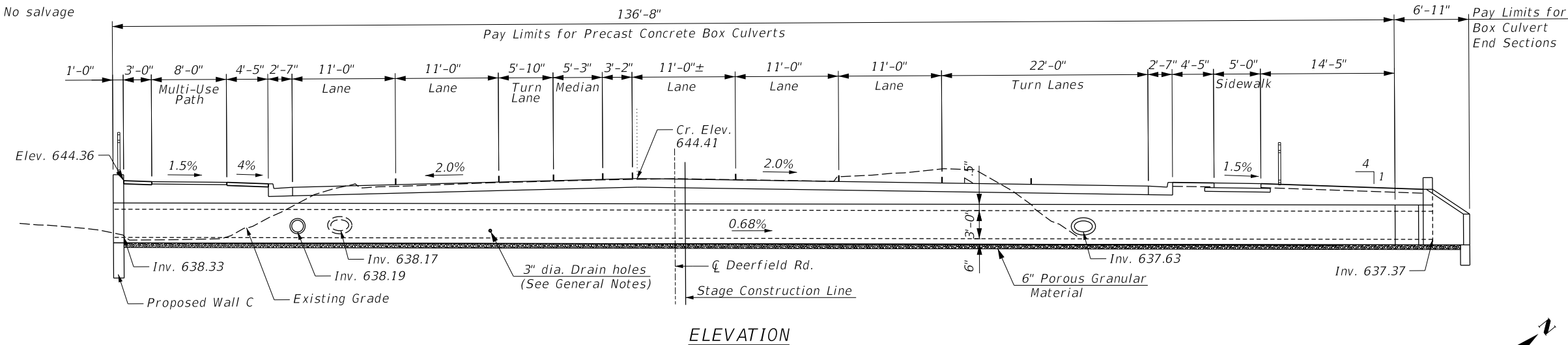


Benchmark: LCDOT 5-45BR square cut on northwest corner wall of Deerfield Road Bridge over Des Plaines River. Elev. 649.46

Existing structure: Existing culvert is a 48" RCP pipe. Pipe is 56'-6" in length with

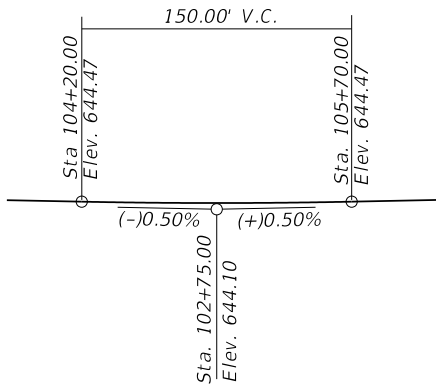
Traffic shall be maintained utilizing stage construction.

No salvage



STATION 104+75.00
BUILT IN 2026 BY
STATE OF ILLINOIS
F.A.U. RT. 1257
SEC. 15-00038-07-WR
LOADING HL-93
STR. NO.

NAME PLATE
See Std. 515001



PROFILE GRADE

(along Proposed B/L Deerfield Rd.)

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design Specifications
Customary U.S. Units, 10th Edition

LOADING HL-93

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

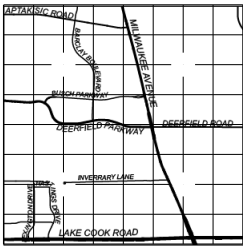
DESIGN STRESSES

PRECAST UNITS

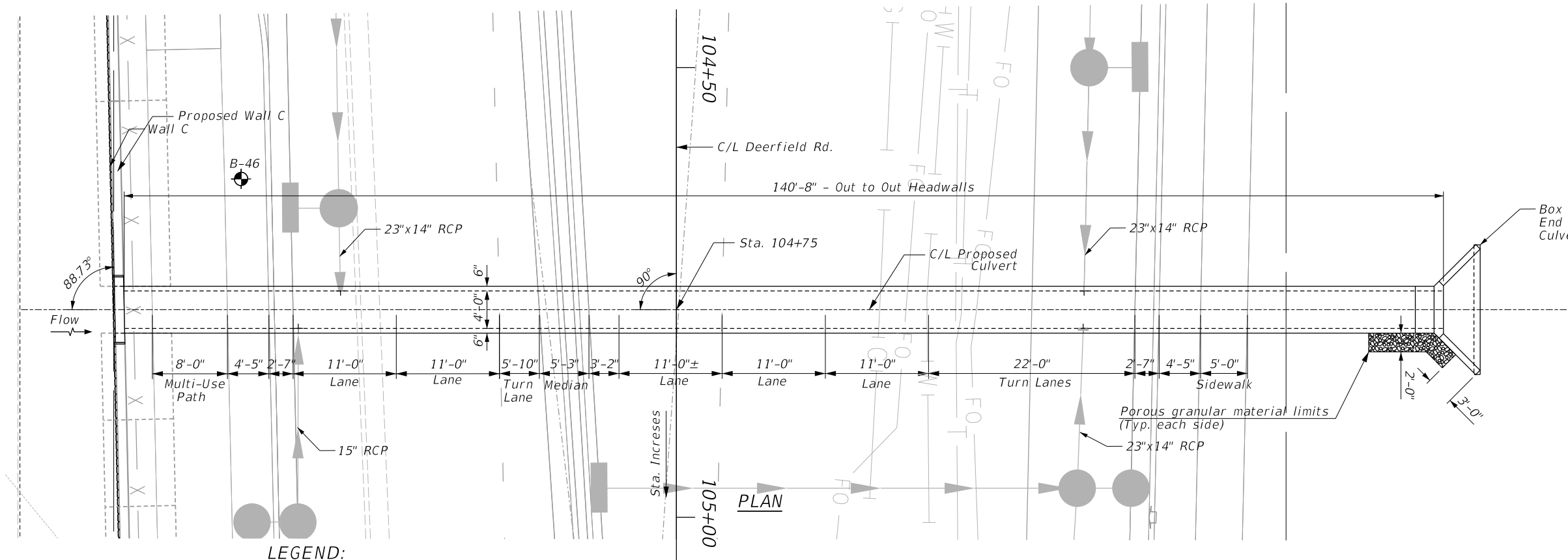
f'_c = 5,000 psi
 f_y = 60,000 psi (Reinforcement)
 f_y = 65,000 psi (Welded Wire Reinforcement)

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)



LOCATION SKETCH



LEGEND:



- A ——— AERIAL WIRES
- W ——— WATER MAIN
- S ——— SANITARY SEWER
- G ——— GAS MAIN
- T ——— TELEPHONE
- F ——— FIBER OPTIC LINE

WATERWAY INFORMATION

Drainage Area = 0.71 sq. mi. Low Grade Elev. = 649.11 @ Sta. 148+61.60									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	39.73	12.20	26.04	645.1	0.3	0.0	645.4	
Base	50	60.00	12.57	29.04	645.6	0.5	0.0	646.1	
Overtopping	100	126.01	12.57	32.64	646.1	1.4	0.3	647.5	646.4
Max. Calc.	200	189.87	12.57	39.00	646.5	1.3	1.2	647.7	647.7
	500	264.8	12.57	39.00	647.0	1.0	1.0	648.8	648.0



Majid Mobasseri

07/29/2026

MAJID MOBASSERI

DATE

ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26

GENERAL PLAN AND ELEVATION

DEERFIELD ROAD OVER

UNNAMED TRIBUTARY TO DESPLAINES

F.A.U. 1257-SECTION 15-00038-07-WR

LAKE COUNTY

STATION 104+75.00

FILE NAME = N:\LCDOT\190304\0003A\Struct\81-190304-0003A-Pro-Box-4x3-GPE.sht	USER NAME = jjezerny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL PLAN AND ELEVATION - 4x3 BOX CULVERT	SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - PDR	REVISED -								1257	15-00038-07-WR	LAKE	1090	655
Default	PLOT SCALE = 7'	CHECKED - CF	REVISED -								CONTRACT NO. 61K62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -								ILLINOIS FED. AID PROJECT				

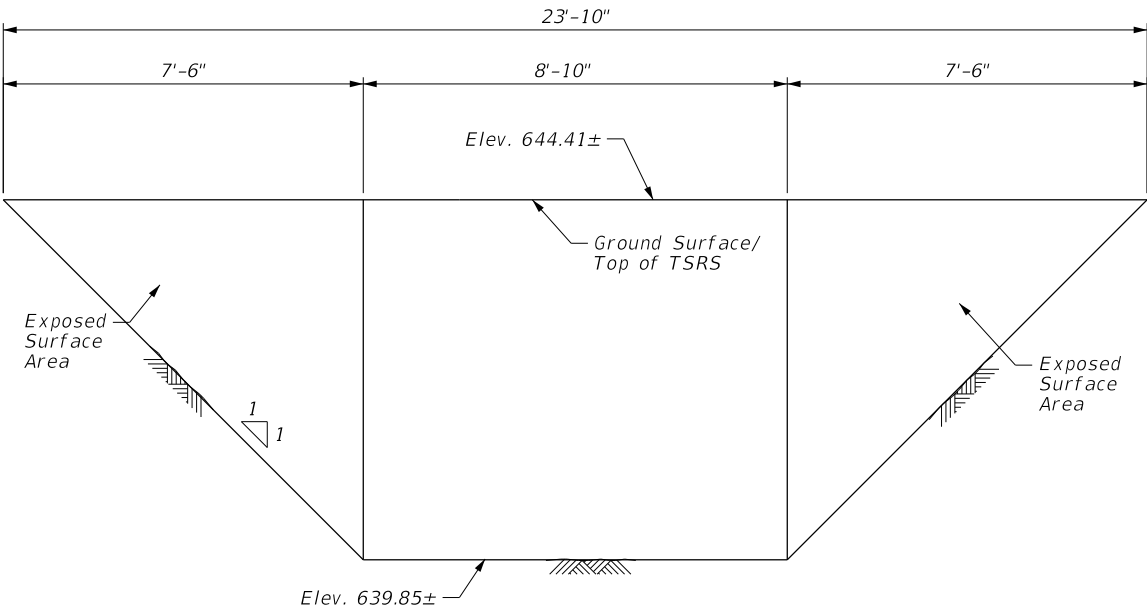
GENERAL NOTES

The design fill height for this box is 1.42 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

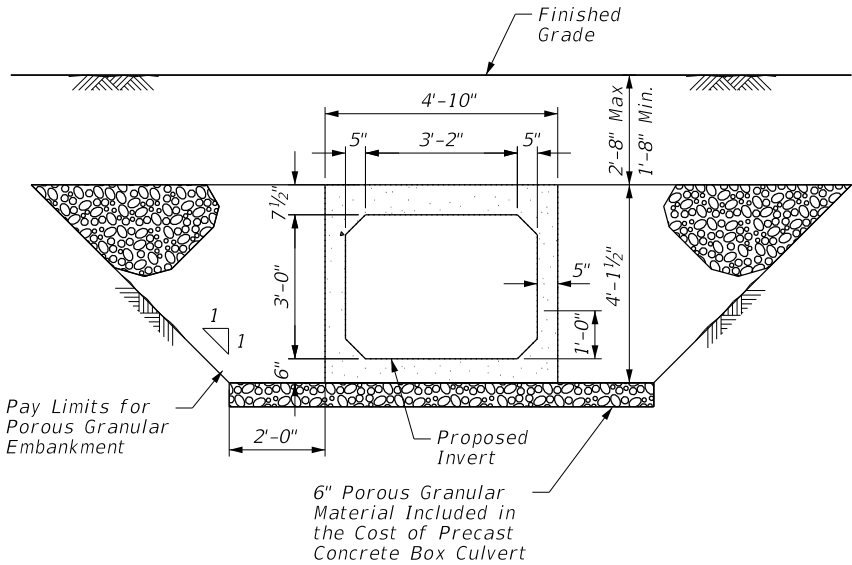
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

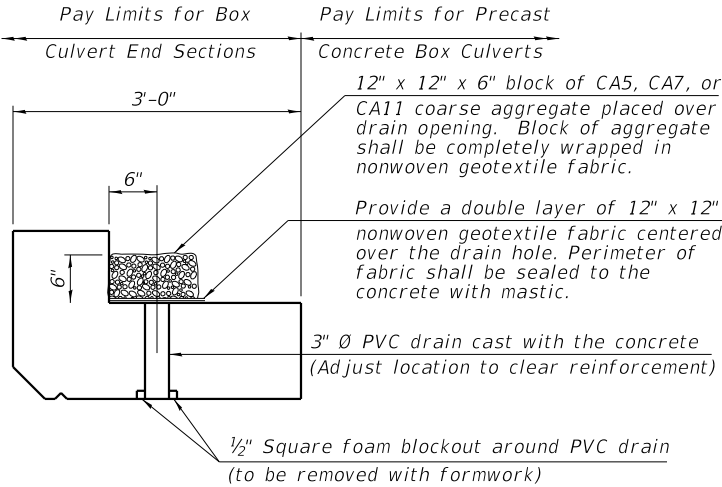
Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.



TEMPORARY SOIL RETENTION ELEVATION



EXCAVATION DETAIL



DRAIN DETAIL

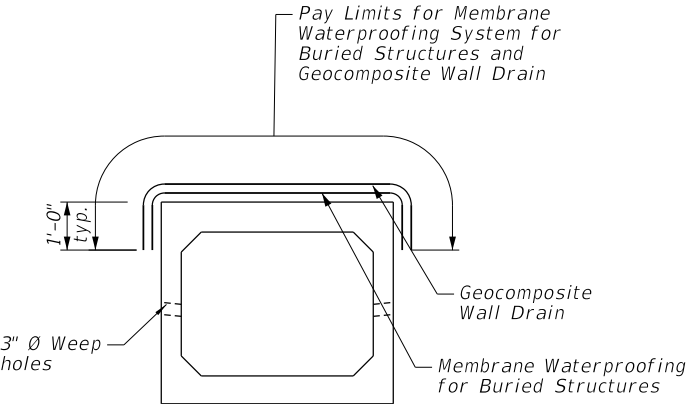
(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
655	General Plan and Elevation
656	General Notes, Index & B.O.M.
657	Construction Staging
658	Culvert Details
659	End Section Details 1 OF 2
660	End Section Details 2 OF 2
661	Boring Logs

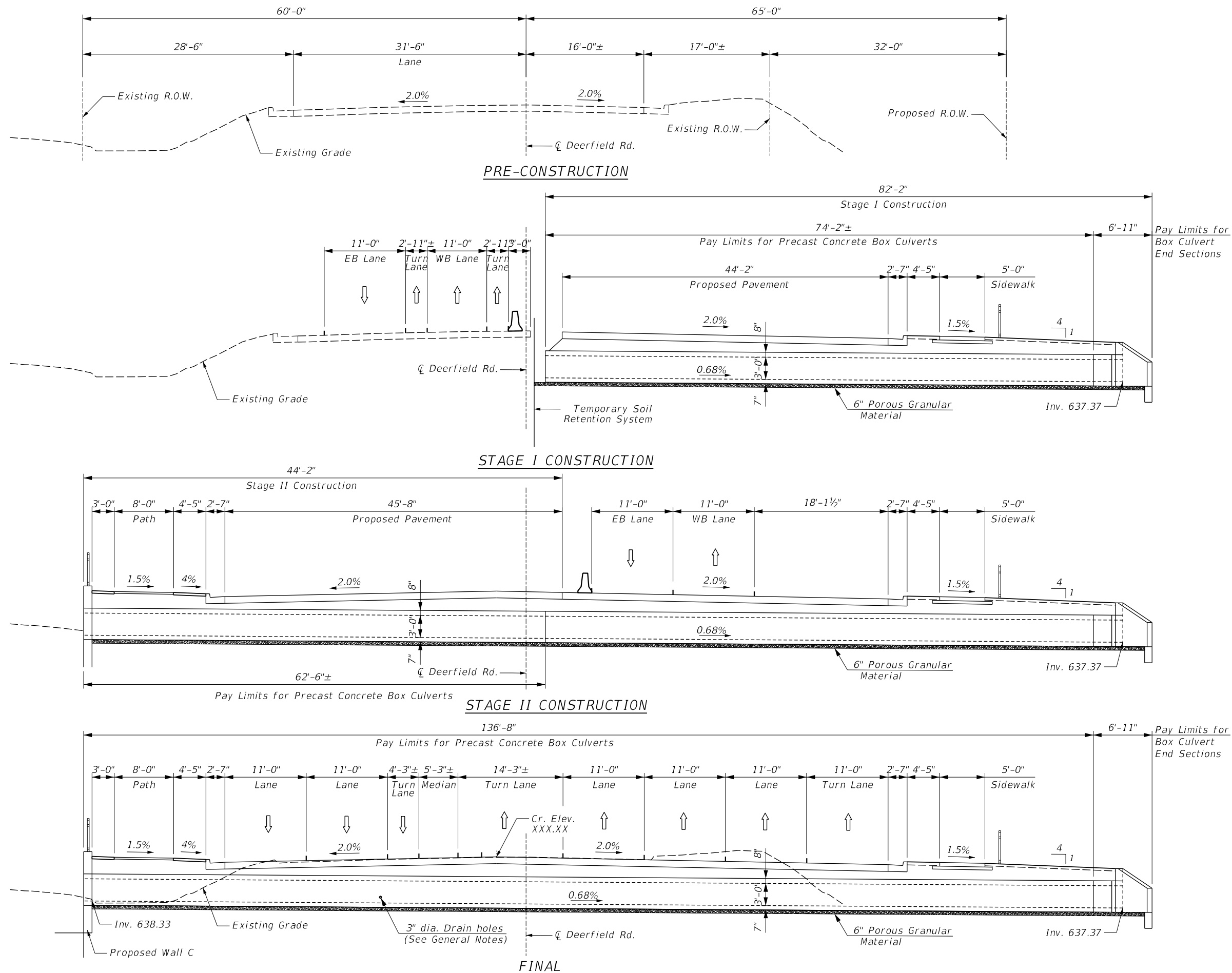
TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20700220	Porous Granular Embankment	Cu Yd	270	
50200100	Structure Excavation	Cu Yd	595	
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu Yd	75	
50300285	Form Liner Textured Surface	Sq Ft	25	
50800205	Reinforcement Bars, Epoxy Coated	Pound	280	
52200020	Temporary Soil Retention System	Sq Ft	75	
52200900	Concrete Structures (Retaining Wall)	Cu Yd	1.5	
54001001	Box Culvert End Sections, Culvert No. 1	Each	1	
54010403	Precast Concrete Box Culverts 4' X 3'	Foot	137	
59100100	Geocomposite Wall Drain	Sq Yd	105	
X5030290	Staining Concrete Structures	Sq Ft	25	
X5810103	Waterproofing Membrane System for Buried Structures	Sq Yd	105	



CROSS SECTION

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERIAL - CULVERT	F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304\0003A\Struct\82-190304.0003A-Pro-Box-4x3-GNotes.sht		DRAWN - PDR	REVISED -			I257	I5-00038-07-WR	LAKE	1090	656
Default	PLOT SCALE = 1"	CHECKED - CF	REVISED -			CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -			ILLINOIS FED. AID PROJECT				



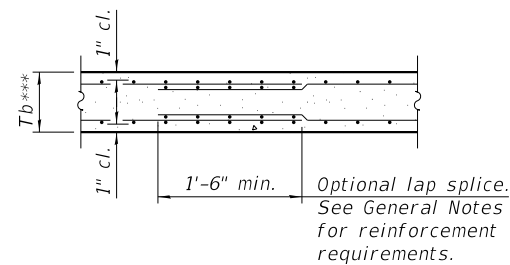
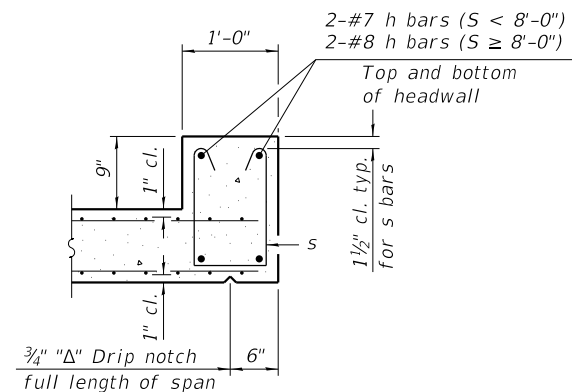
FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION STAGE CONSTRUCTION				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\C00T\190304.0003A\Struct\83-190304.0003A-Pro-Box.4x3-Stage-01.sht		DRAWN - PDR	REVISED -		I257	I5-00038-07-WR	LAKE	1090	657				
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -		SCALE:				CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				



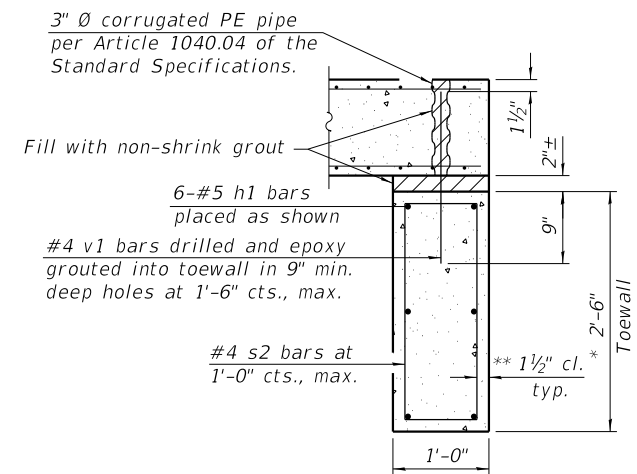
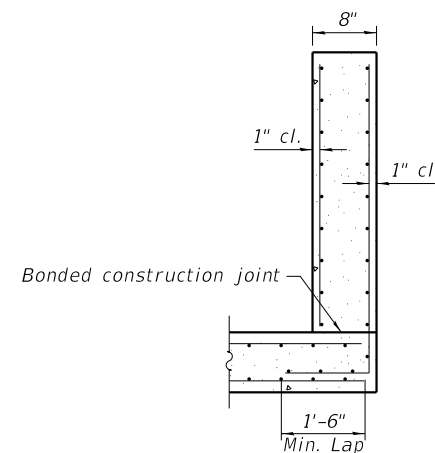
One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.
(Sheet 1 of 2)

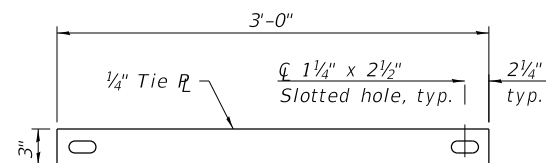
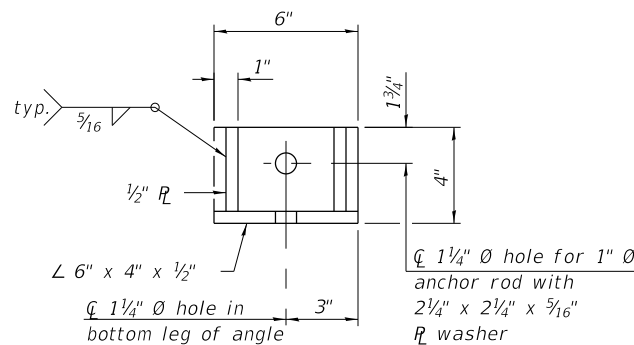
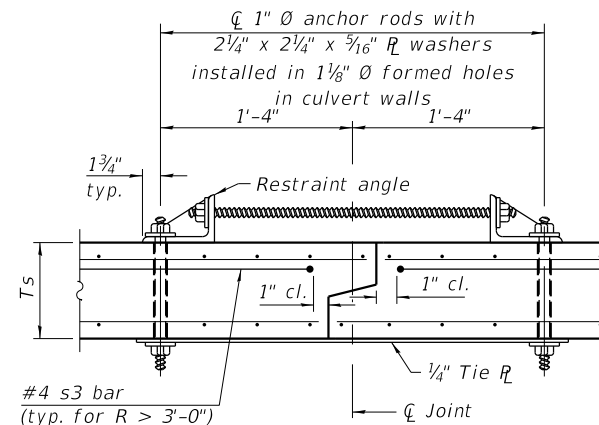
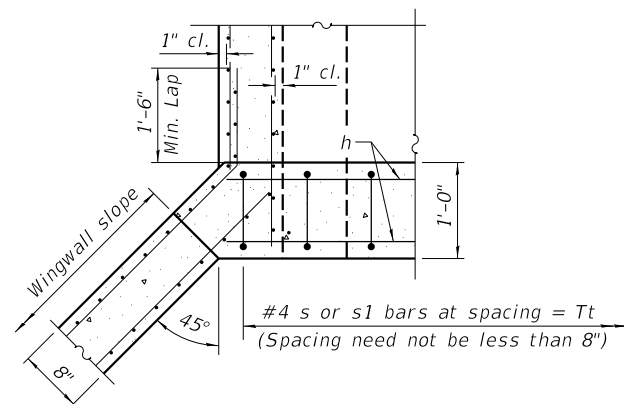
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 61K62		
ILLINOIS		FED. AID PROJECT		



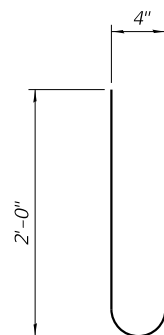
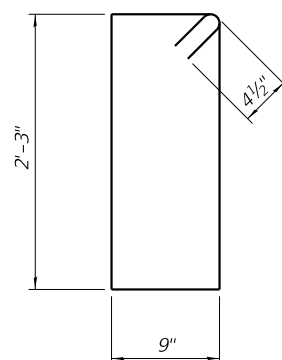
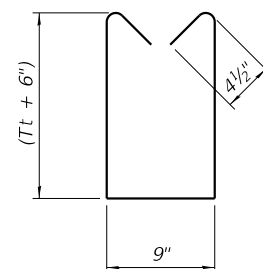
*** This dimension shall be increased by 2" for CIP construction.



- ### TOEWALL CONSTRUCTION SEQUENCE



Notes:



Notes:

1" Ø anchor rods for the culvert ties shall conform to the requirements of ASTM F1554, Grade 105. Structural steel for the tie plate and restraint angle shall conform to the requirements of Article 1006.04 of the Standard Specifications. All components of the culvert tie detail shall be galvanized according to the requirements of AASHTO M 111 or M 232 as applicable. 2¼"x2¼"x⅜" plate washers shall be provided under each nut required for the anchor rods. Anchor rods connecting precast sections shall be brought to a snug tight condition followed by an additional ½ turn on one of the nuts for anchor rods installed in the walls. Match marks shall be provided on the bolt and nut to verify relative rotation between the bolt and the nut. Holes in the walls for the culvert tie assembly may be drilled using core bits in lieu of using formed holes.

**DEERFIELD ROAD RECONSTRUCTION
BOX CULVERT APRON END DETAILS**

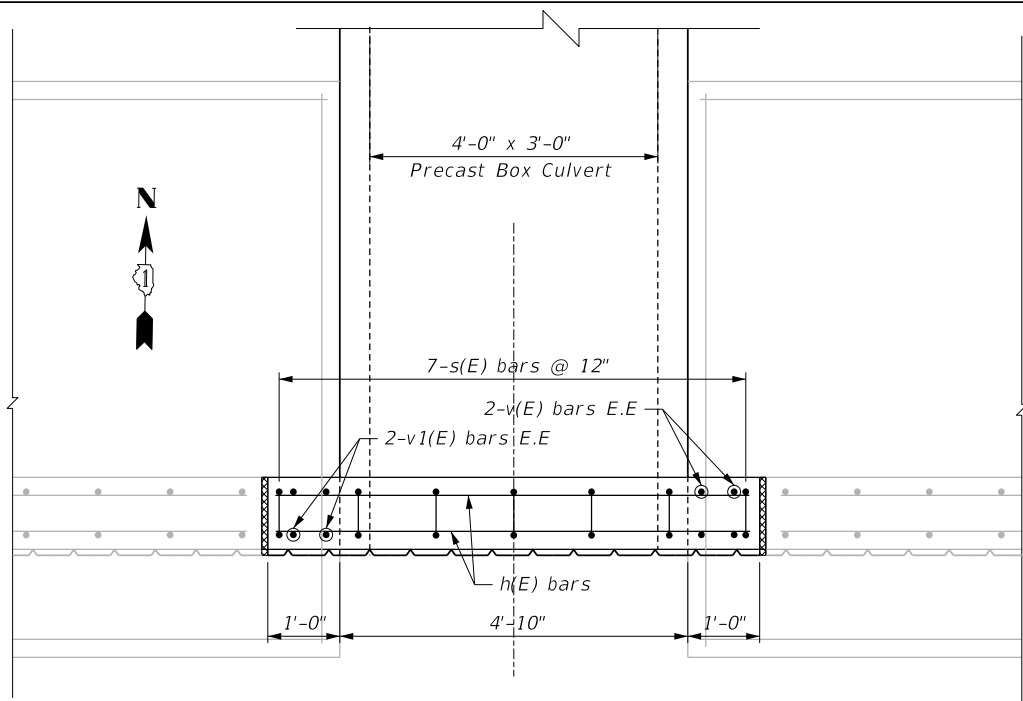
SHEET	OF 107 SHEETS	STA.	TO STA.
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

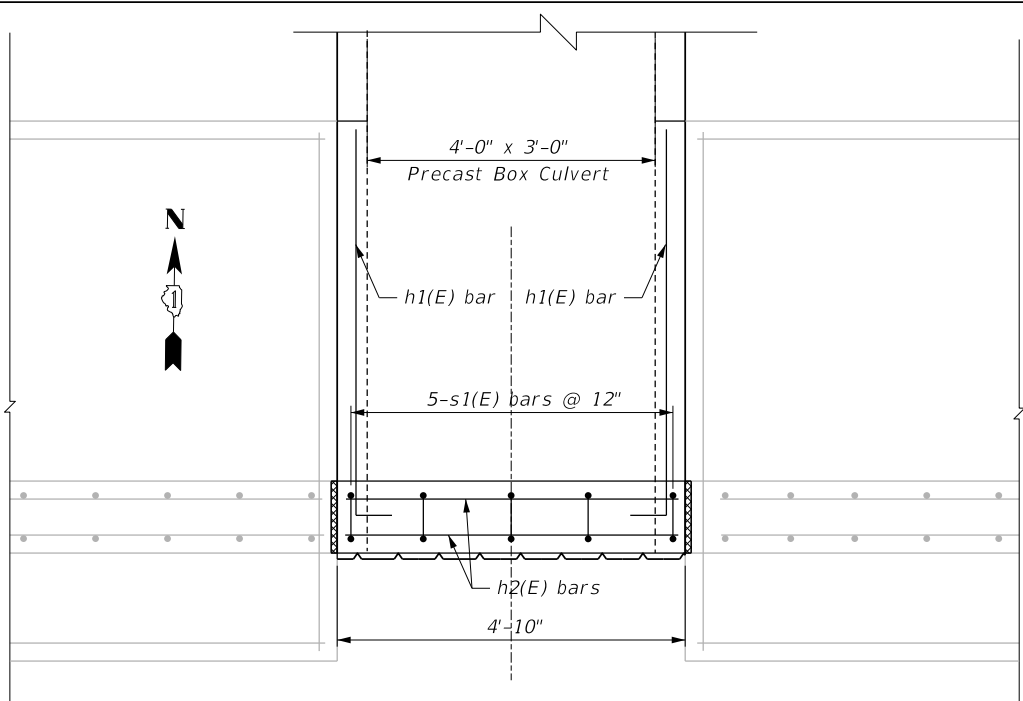
**DEERFIELD ROAD RECONSTRUCTION
BOX CULVERT APRON END DETAILS**

SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.
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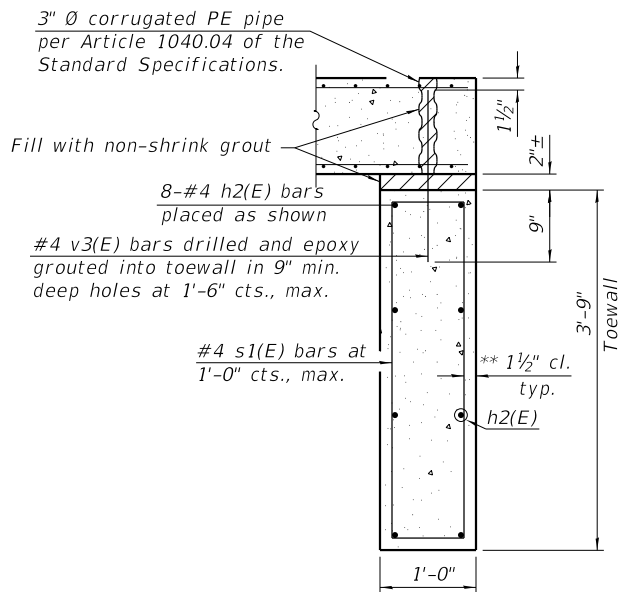
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 61K62		
ILLINOIS		FED. AID	PROJECT	



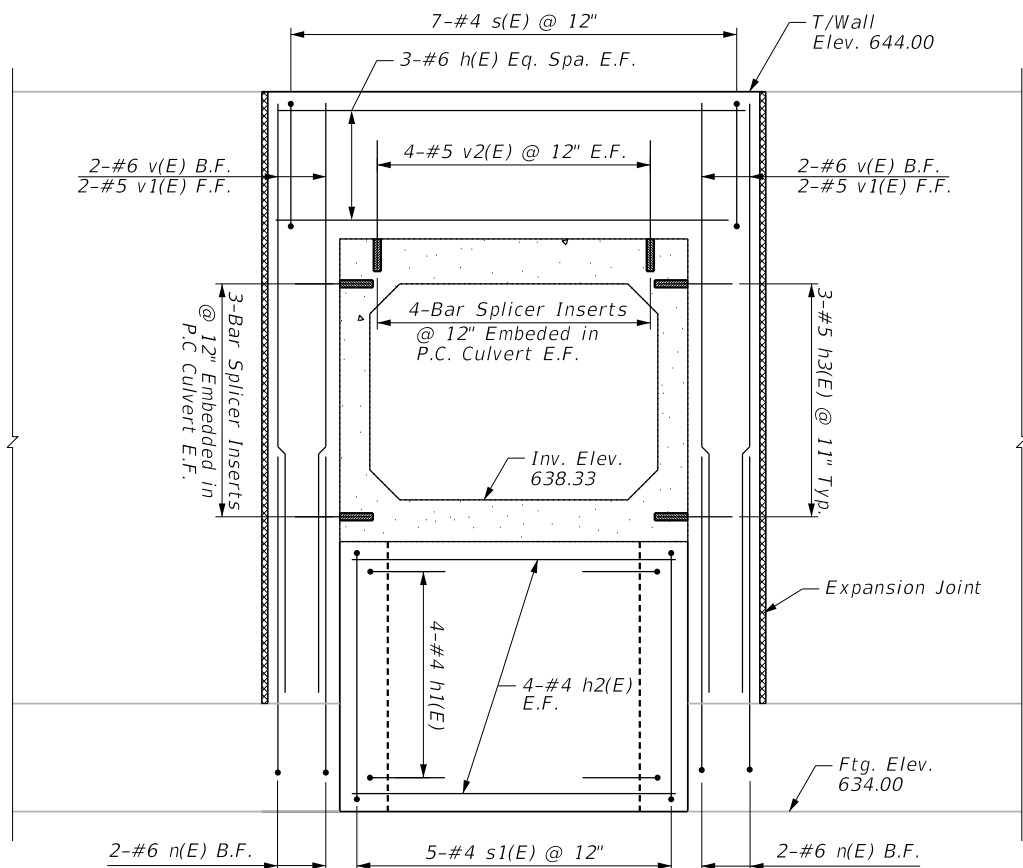
PLAN - HEADWALL REINFORCEMENT



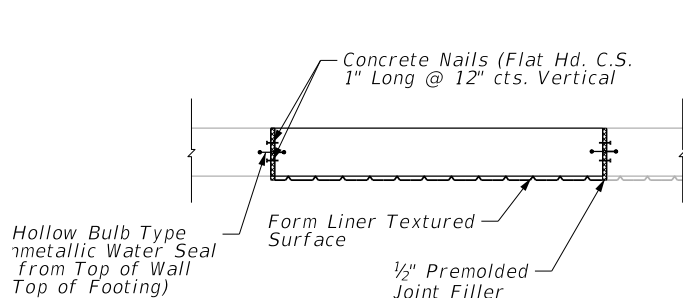
PLAN - TOEWALL REINFORCEMENT



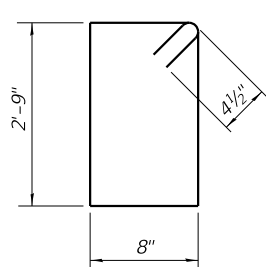
SECTION THRU TOEWALL



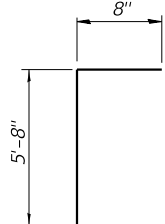
ELEVATION - PROPOSED BOX CULVERT



WALL JOINT DETAIL



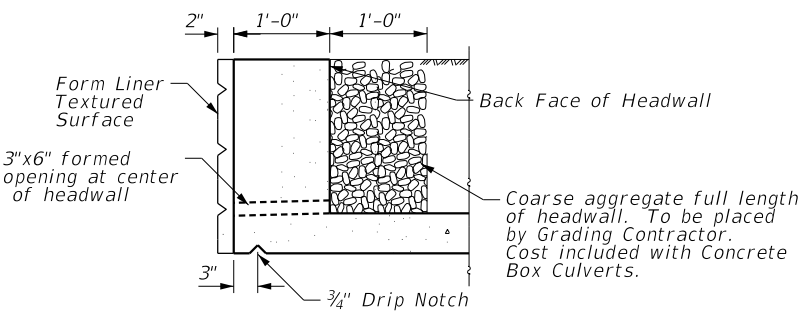
BAR s(E)



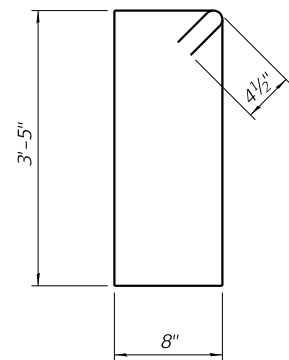
BAR h1(E)



BAR n(E)



SECTION THRU HEADWALL



BAR s1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	6	#6	6'-6"	—
h1(E)	8	#4	6'-2"	—
h2(E)	8	#4	4'-6"	—
h3(E)	6	#5	10"	—
n(E)	4	#6	5'-6"	—
s(E)	7	#4	5'-5"	□
s1(E)	5	#4	8'-11"	□
v(E)	4	#6	8'-4"	—
v1(E)	4	#5	8'-4"	—
v2(E)	8	#5	2'-9"	—
v3(E)	3	#4	1'-6"	—
Concrete Structures (Retaining Wall)			1.5	Cu. Yd.
Reinforcement Bars, Epoxy Coated			280	Pound

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
N:\C00T\190304.0003A\Struct\86-190304.0003A-Pro-Box.4x3-Detail-03.sht		DRAWN - PDR	REVISED -
Default	PLOT SCALE = 2"	CHECKED - CF	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
CULVERT DETAILS

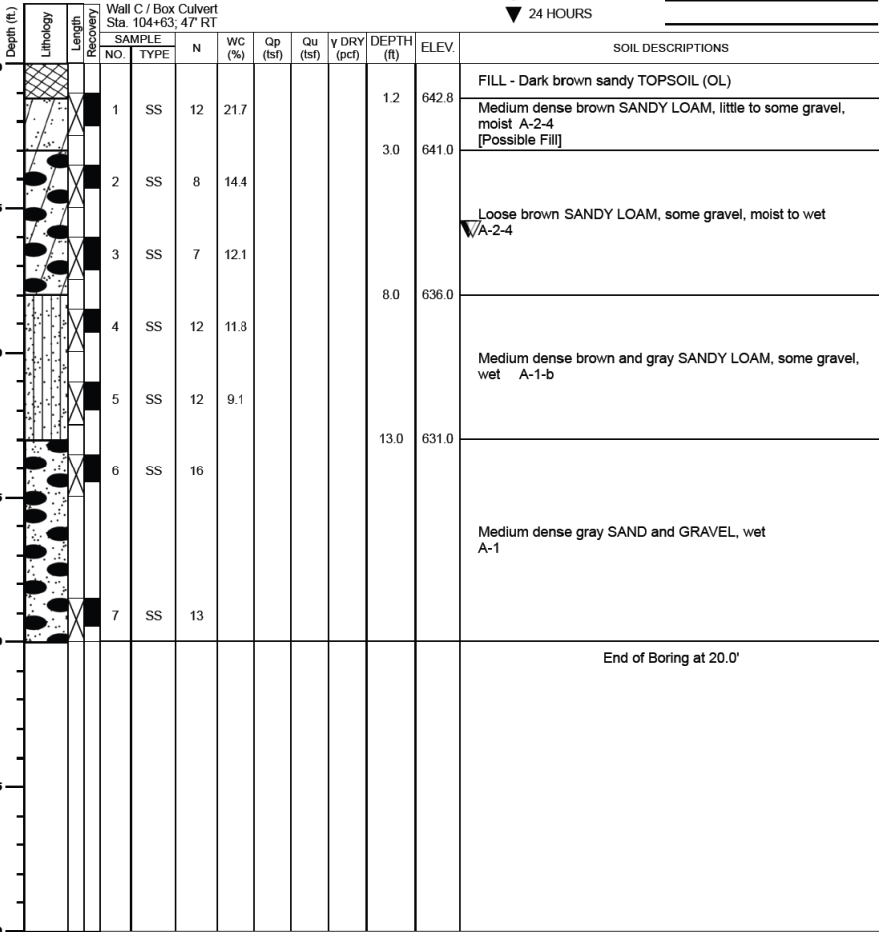
SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	660
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
STARTED **05/05/2025** FINISHED **05/05/2025** DRILL RIG NO. **358** JOB **L-98,273**



BORING 46	ELEVATIONS		WATER LEVEL OBSERVATIONS	
	GROUND SURFACE	644.0	▽ WHILE DRILLING	6.0'
	END OF BORING	624.0	▽ AT END OF BORING	6.0'



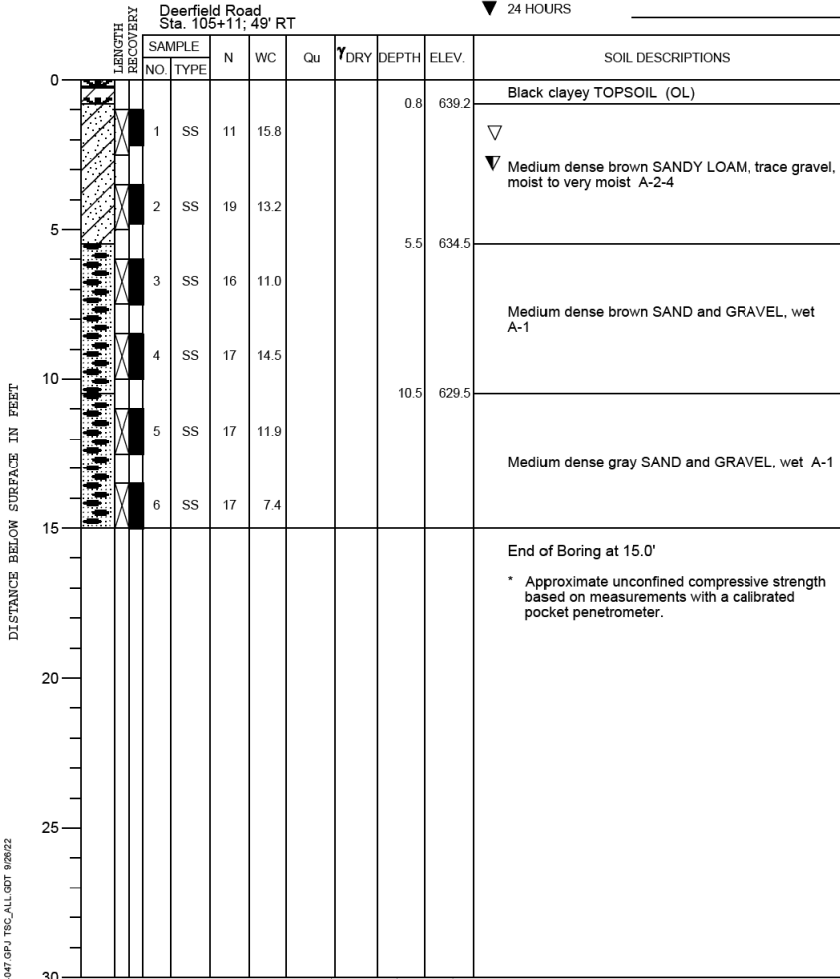
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Proposed Retaining & Noise Walls, Deerfield & Saunders Roads, Riverwoods, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**



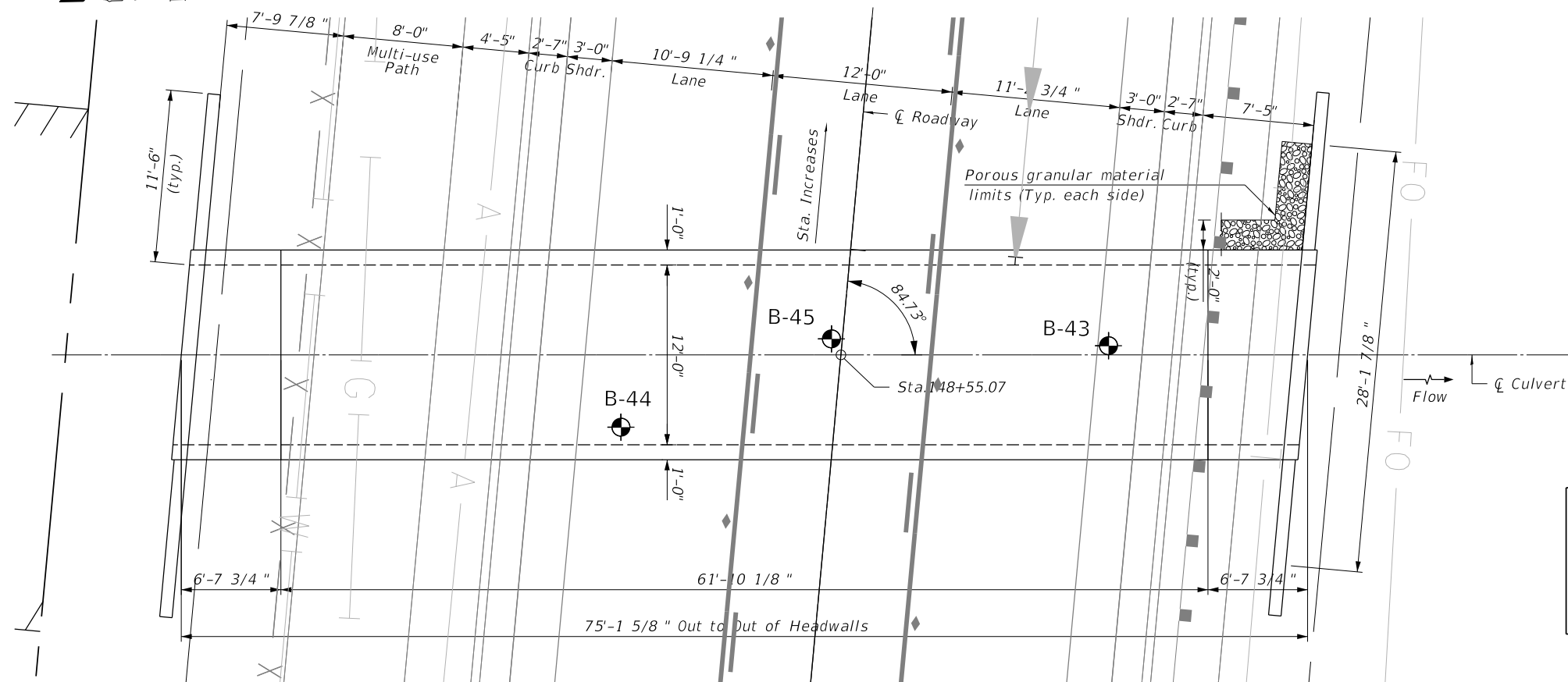
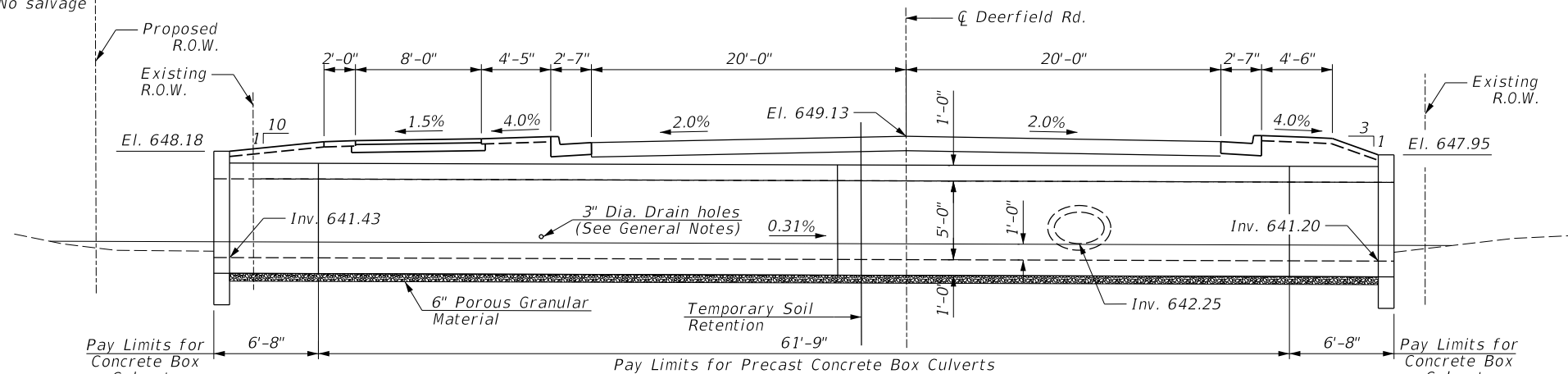
BORING **202** DATE STARTED **7-25-22** DATE COMPLETED **7-25-22** JOB **L-94,047**

BORING 202	ELEVATIONS		WATER LEVEL OBSERVATIONS	
	GROUND SURFACE	640.0	▽ WHILE DRILLING	3.0'
	END OF BORING	625.0	▽ AT END OF BORING	2.0'



Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

No salvage



	<i>AERIAL WIRES</i>
	<i>STORM SEWER</i>
	<i>WATER MAIN</i>
	<i>SANITARY SEWER</i>
	<i>GAS MAIN</i>
	<i>TELEPHONE</i>
	<i>FIBER OPTIC LINE</i>

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".



Najid Nalassi C

07/29/2026

MAJID MOBASSERI

DATE _____

ILLINOIS REGISTRATION No. 081-005058

STRUCTURAL ENGINEER

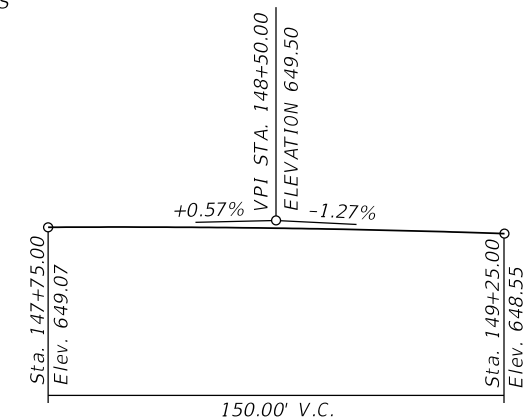
EXPIRATION DATE: 11/30/26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**DEERFIELD ROAD RECONSTRUCTION
GENERAL PLAN AND ELEVATION - 12X5 CULVERT**

Drainage Area = 0.71 sq. mi. Low Grade Elev. = 649.11 @ Sta. 148+61.60									
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	39.73	12.20	26.04	645.1	0.3	0.0	645.4	
Design	50	60.00	12.57	29.04	645.6	0.5	0.0	646.1	
Base	100	126.01	12.57	32.64	646.1	1.4	0.3	647.5	646.4
Overtopping	200	189.87	12.57	39.00	646.5	1.3	1.2	647.7	647.7
Max. Calc.	500	264.8	12.57	39.00	647.0	1.0	1.0	648.8	648.0

2-YEAR FLOW = 28.2 CFS



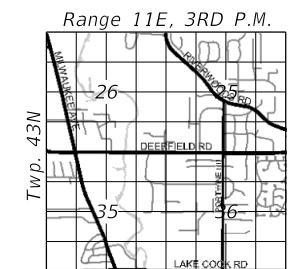
(along Proposed B/L Deerfield Rd.)

2024 AASHTO LRFD Bridge Design Specifications
Customary U.S. Units, 9th Edition

PRECAST UNITS

$$\begin{aligned} f'_c &= 5,000 \text{ psi} \\ f_y &= 60,000 \text{ psi} \text{ (Reinforcement)} \\ f_y &= 65,000 \text{ psi} \text{ (Welded Wire Reinforcement)} \end{aligned}$$

FIELD UNITS

$$\begin{aligned} f'_c &= 3,500 \text{ psi} \\ f_y &= 60,000 \text{ psi (Reinforcement)} \end{aligned}$$


LOCATION SKETCH

THORNGATE CREEK

F.A.U. 1257-SECTION 15-00038-07-WR

LAKE COUNTY

STATION 148+55.07

FILE NAME =	USER NAME = jjezierny	DESIGNED -	REVISED -
N:\LCDOT\190304.0003A\Struct\88-190304.0003A-Pro-Box.12x5 -GPE.sht		DRAWN -	REVISED -
Default	PLOT SCALE = 5'	CHECKED -	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

DEERFIELD ROAD RECONSTRUCTION GENERAL PLAN AND ELEVATION - 12X5 CULVERT					F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
					1257	15-00038-07-WR	LAKE	1090	662
					CONTRACT NO. 61K62				
SCALE:	SHEET	OF	SHEETS	STA.	TO STA.				

GENERAL NOTES

The design fill height for this box is 1.33 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

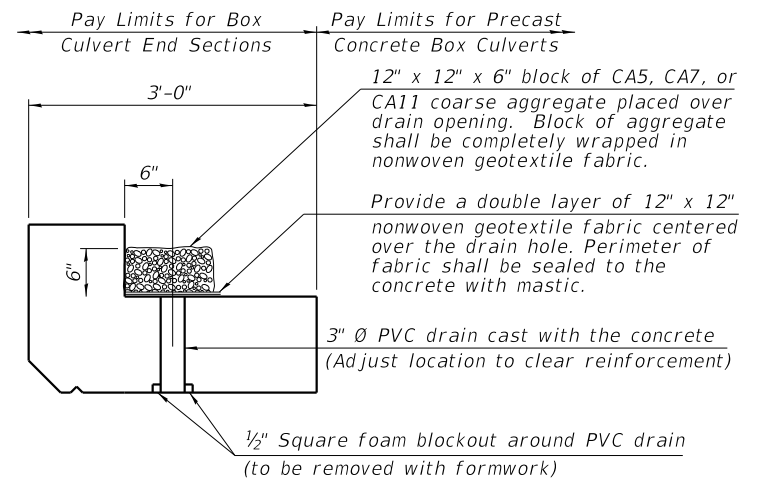
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

INDEX OF STRUCTURAL SHEETS

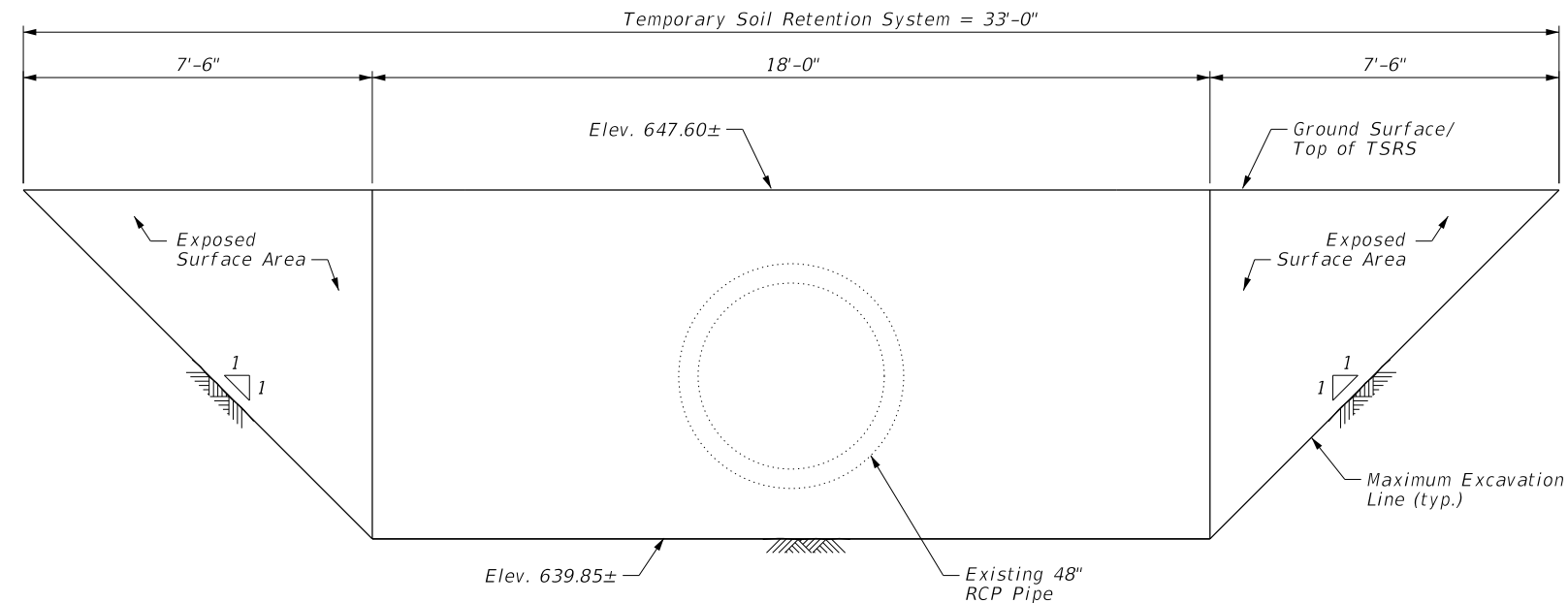
<u>SHEET NO</u>	<u>TITLE</u>
662	GENERAL PLAN & ELEVATION
663	GENERAL NOTES, INDEX & BOM
664	STAGE CONSTRUCTION (1 OF 2)
665	STAGE CONSTRUCTION (2 OF 2)
666	ELEVATION, AND DETAILS
667	BORING LOGS



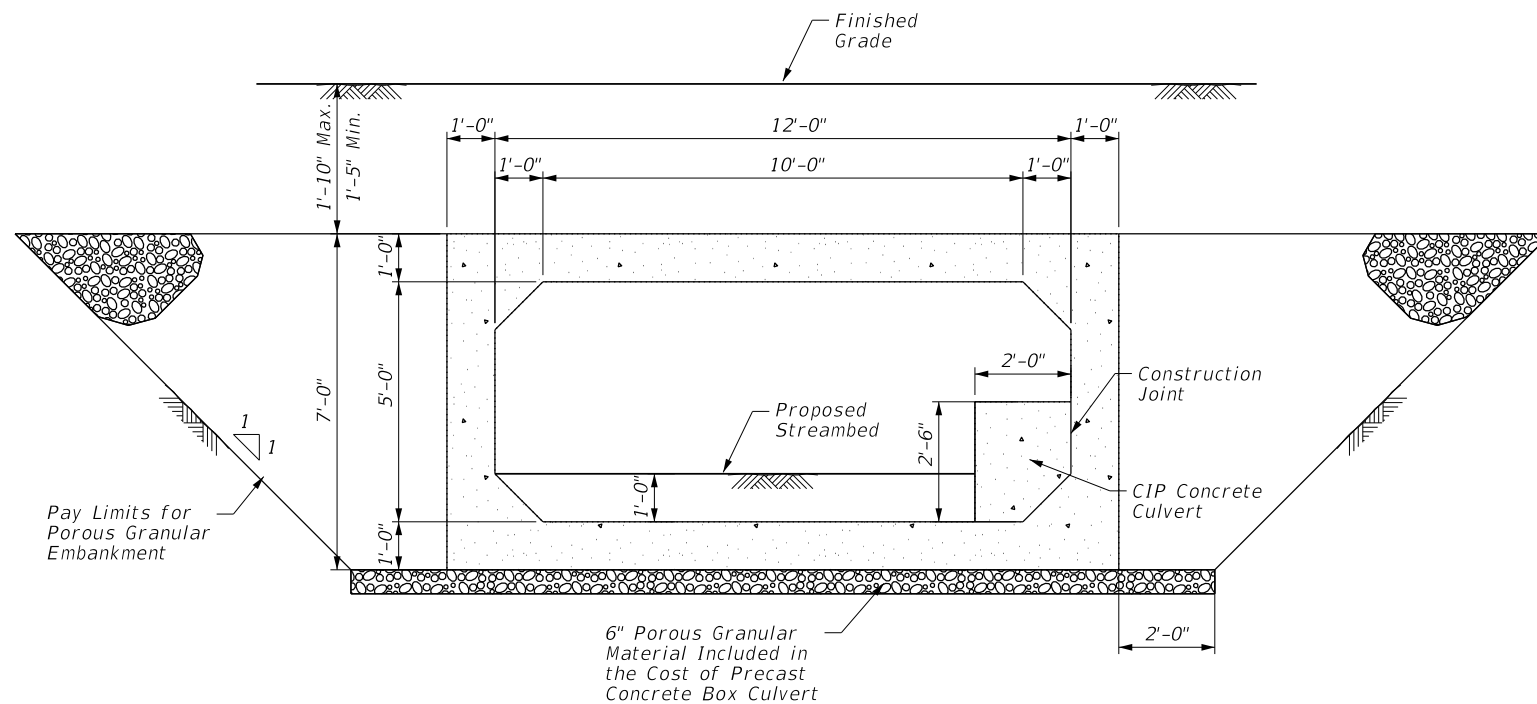
DRAIN DETAIL

(All costs associated with furnishing and constructing the above drain detail will not be measured for payment but shall be included in the contract unit price for the associated work.)

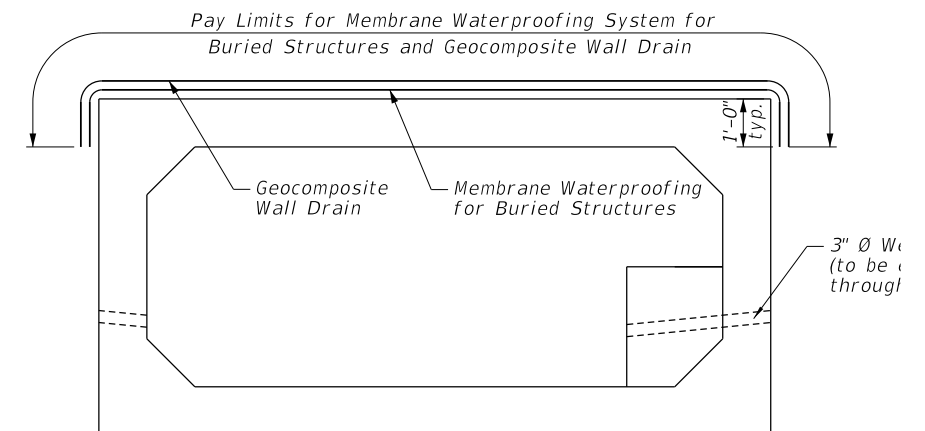
TOTAL BILL OF MATERIAL



TEMPORARY SOIL RETENTION ELEVATION

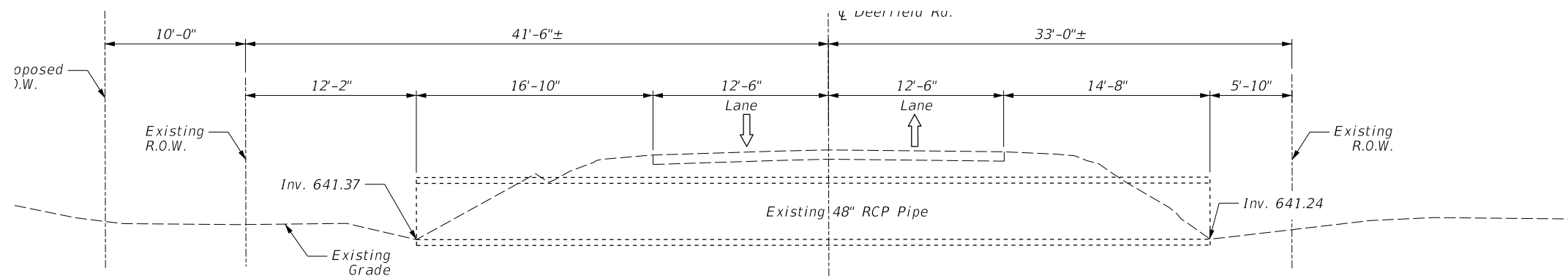


EXCAVATION DETAIL

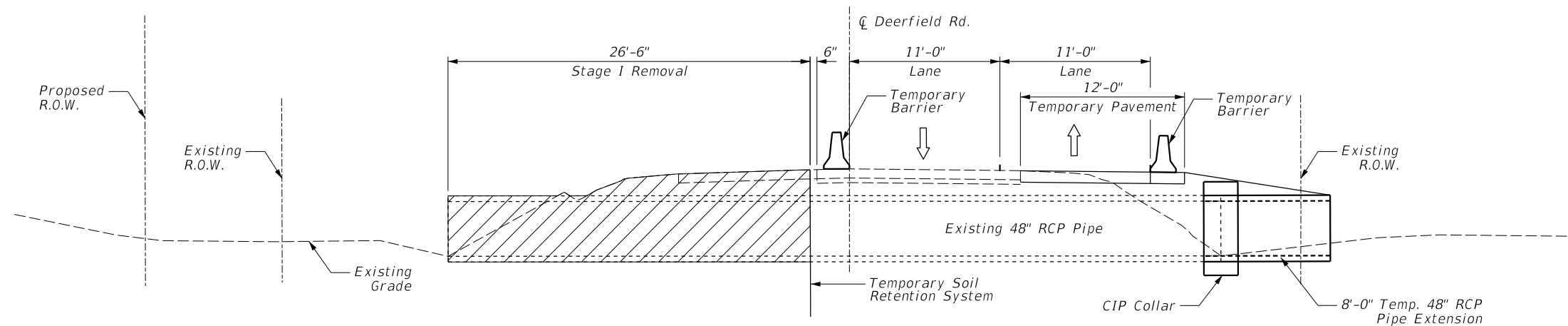


CROSS SECTION

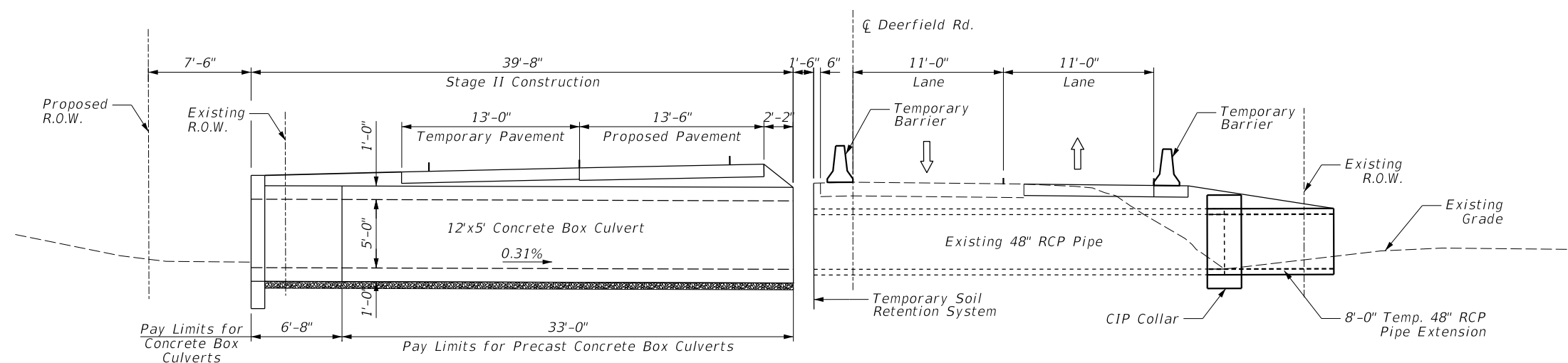
FILE NAME =	USER NAME = omissick	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL NOTES AND BILL OF MATERIAL - CULVERT					F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\L\CDOT\190304.00\3A\Struct\89-190304.00\3A-Pro-Box.12x5 - GNotes.sht		DRAWN - PDR	REVISED -							1257	I5-00038-07-WR	LAKE	1090	663
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62									
	PLOT DATE = 8/17/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				



EXISTING CONDITION

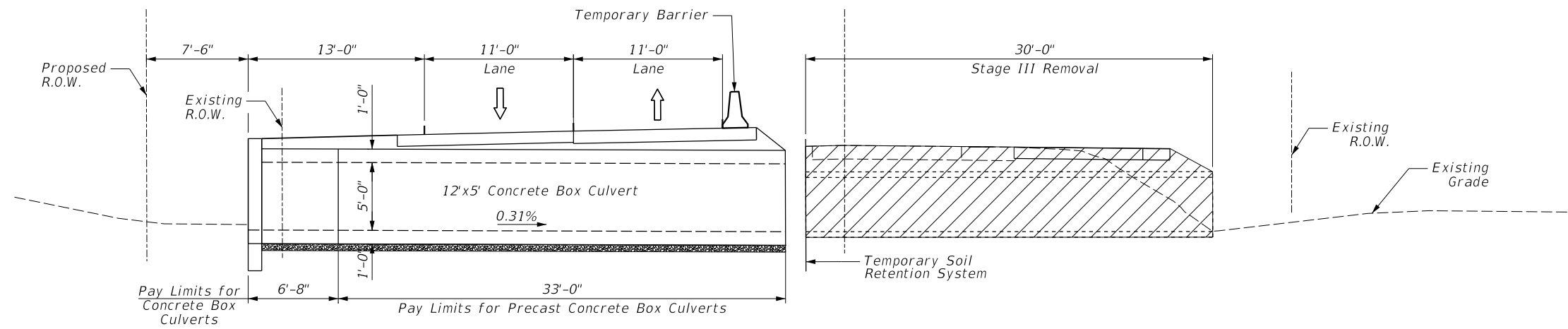


STAGE 1 CONSTRUCTION

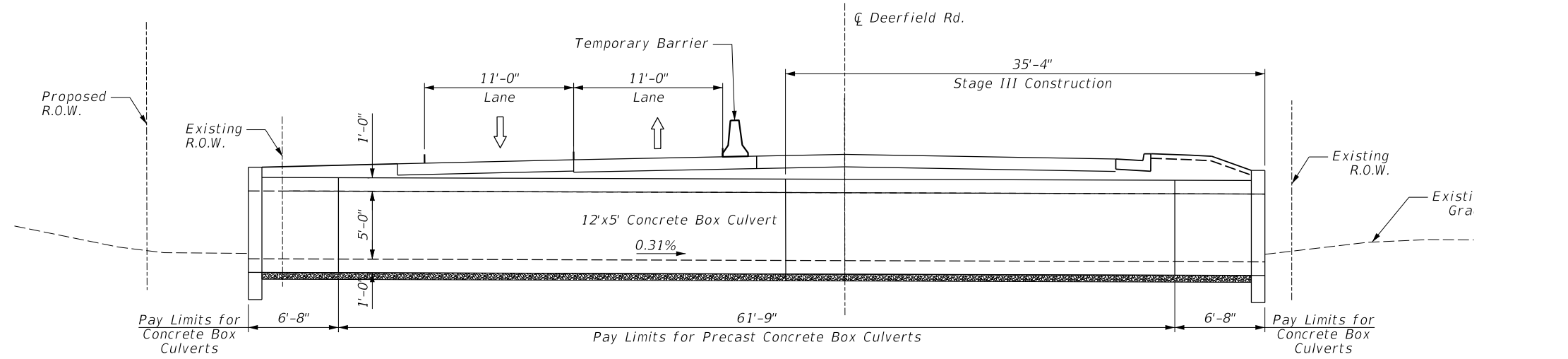


STAGE 2 CONSTRUCTION

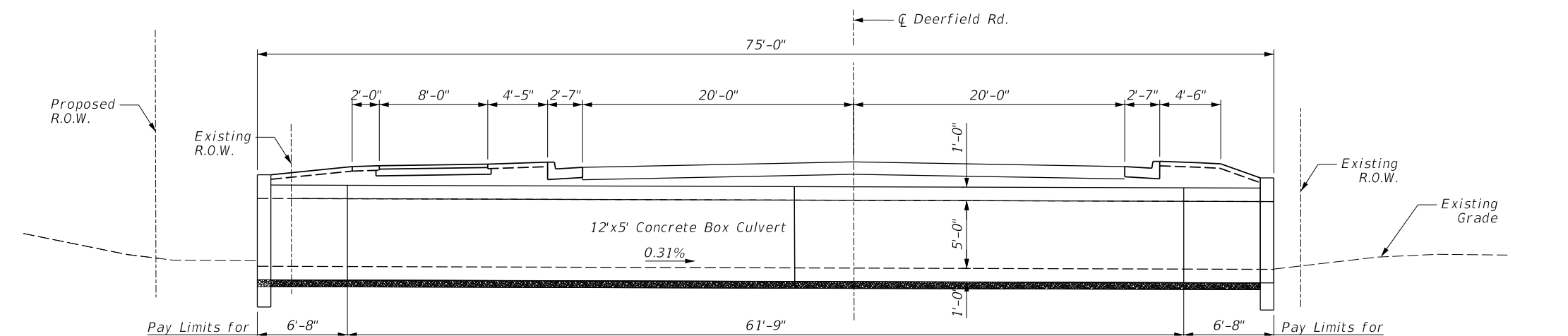
FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION STAGE CONSTRUCTION		F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304\0003A\Struct\90-190304.0003A-Pro-Box-12x5 - Stage-01.sht		DRAWN - PDR	REVISED -				1257	15-00038-07-WR	LAKE	1090	664
Default		CHECKED - CF	REVISED -		CONTRACT NO. 6IK62						
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	



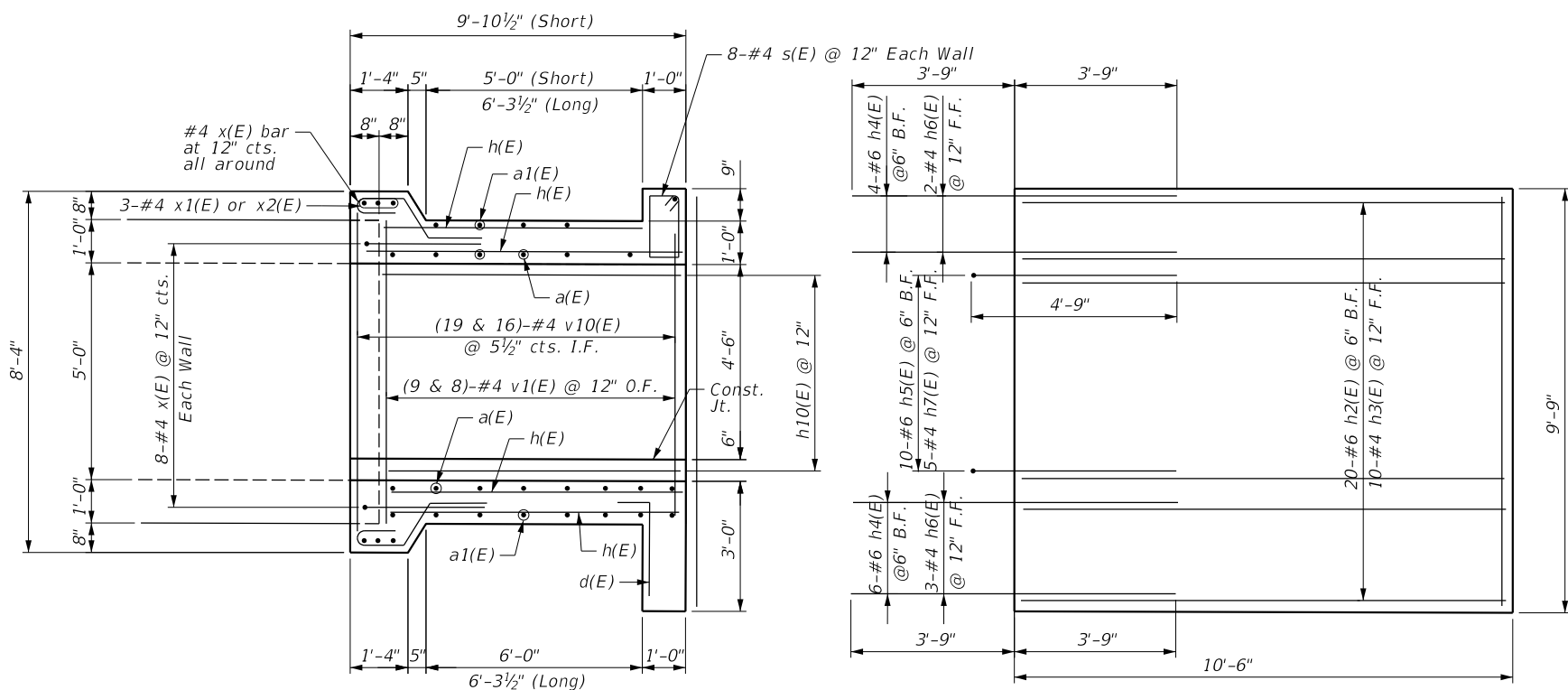
STAGE 3 REMOVAL



STAGE 3 CONSTRUCTION



FINAL



LONGITUDINAL SECTION

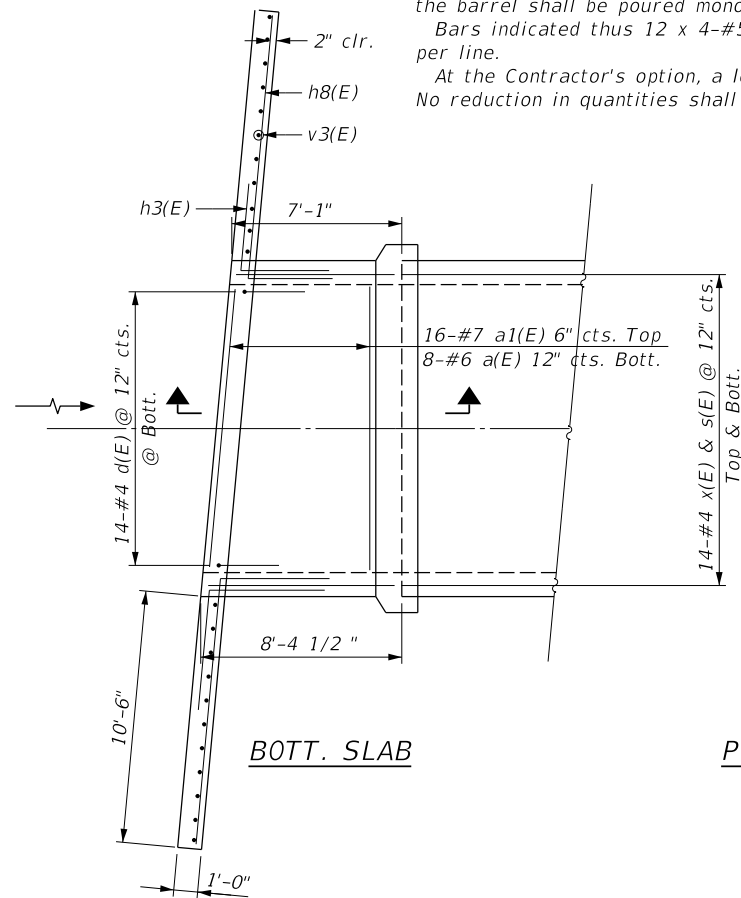
*h4(E) & h5(E) bars shall lap h2(E) bars

Notes:

A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.

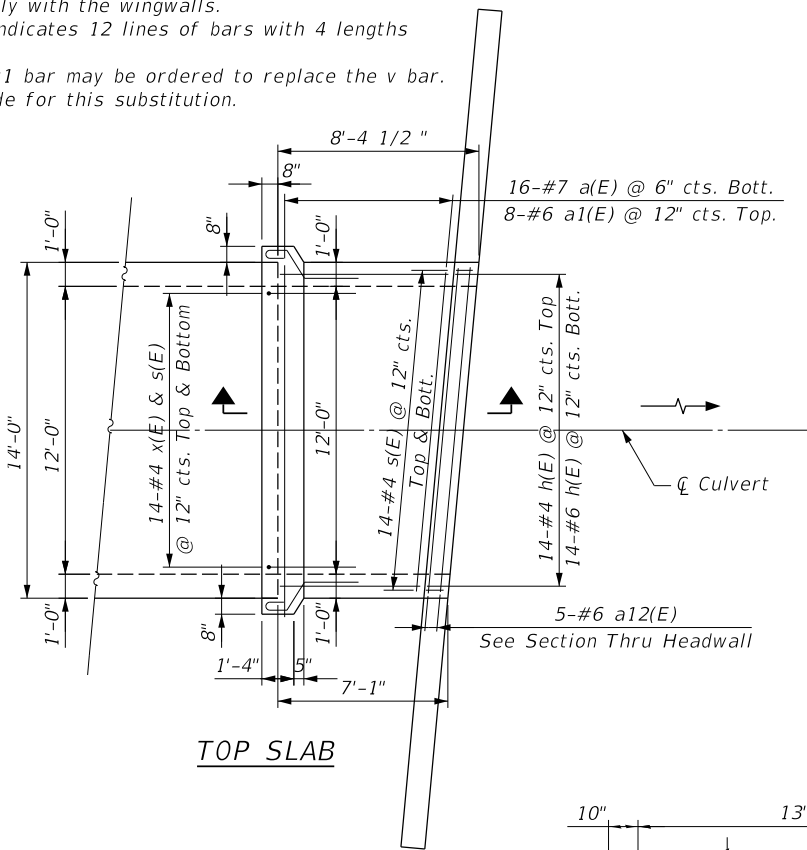
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.

At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.



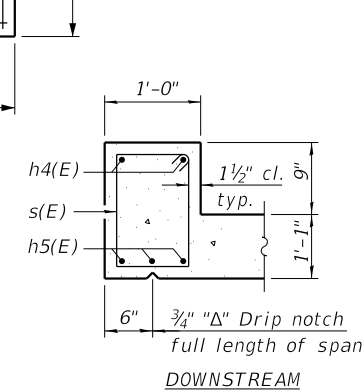
BOTT. SLAB

SHOWING TOEWALL

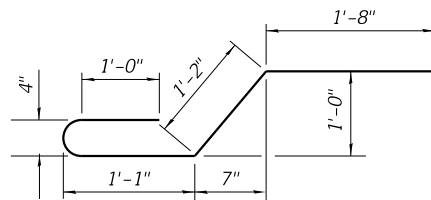


TOP SLAB

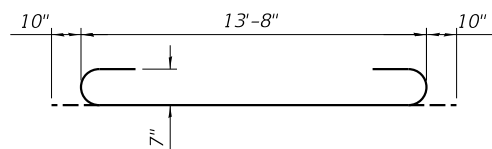
SHOWING HEADWALL



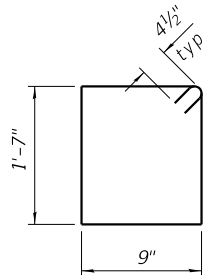
SECTION THRU HEADWALL



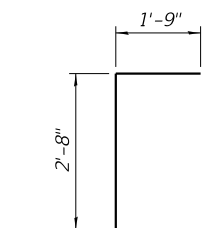
BAR x(E)



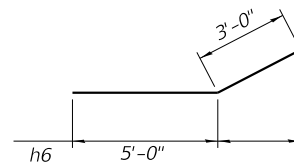
BAR a(E)



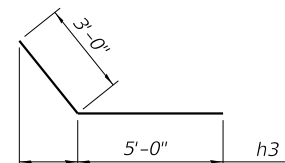
BAR s(E)



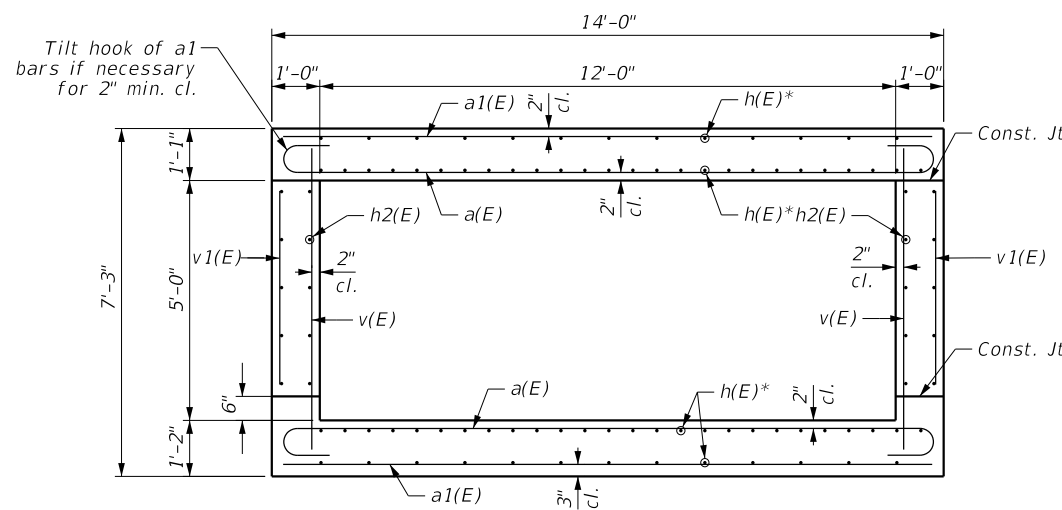
BAR d(E)



BAR h6(E)

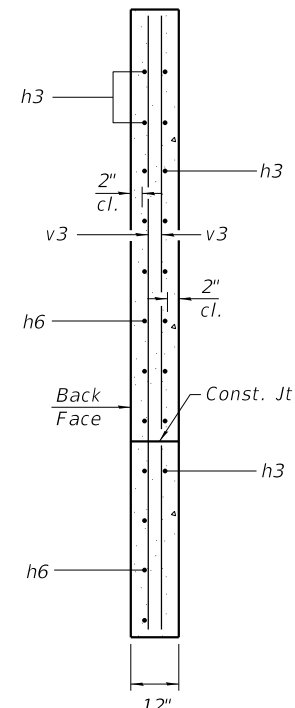


BAR h3(E)



SECTION THRU BARREL

*Field Cut h(E) bars to fit



SECTION A-A

BILL OF MATERIAL

Both Headwalls

Bar	No.	Size	Length	Shape
a(E)	64	#7	15'-4"	
a1(E)	32	#6	13'-8"	
d(E)	28	#4	4'-5"	
h(E)	112	#6	8'-0"	
h1(E)	56	#6	8'-0"	
h2(E)	40	#4	9'-0"	
h3(E)	24	#4	8'-0"	
h4(E)	4	#6	13'-8"	
h5(E)	6	#7	13'-8"	
h6(E)	40	#4	14'-2"	
s(E)	176	#4	5'-5"	
v(E)	70	#4	6'-8"	
v1(E)	34	#4	4'-8"	
v2(E)	48	#4	9'-5"	
x(E)	92	#4	5'-3"	
x1(E)	12	#4	13'-8"	
x2(E)	12	#4	8'-0"	
Concrete Box Culverts			Cu. Yd.	38.4
Reinforcement Bars, Epoxy Coated			Pound	6,340

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
N:\LC00T\190304.0003A\Struct\92-190304.0003A-Pro-Box.12x5 - Detail-01.sht		DRAWN - PDR	REVISED -
Default	PLOT SCALE = 1'	CHECKED - CF	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

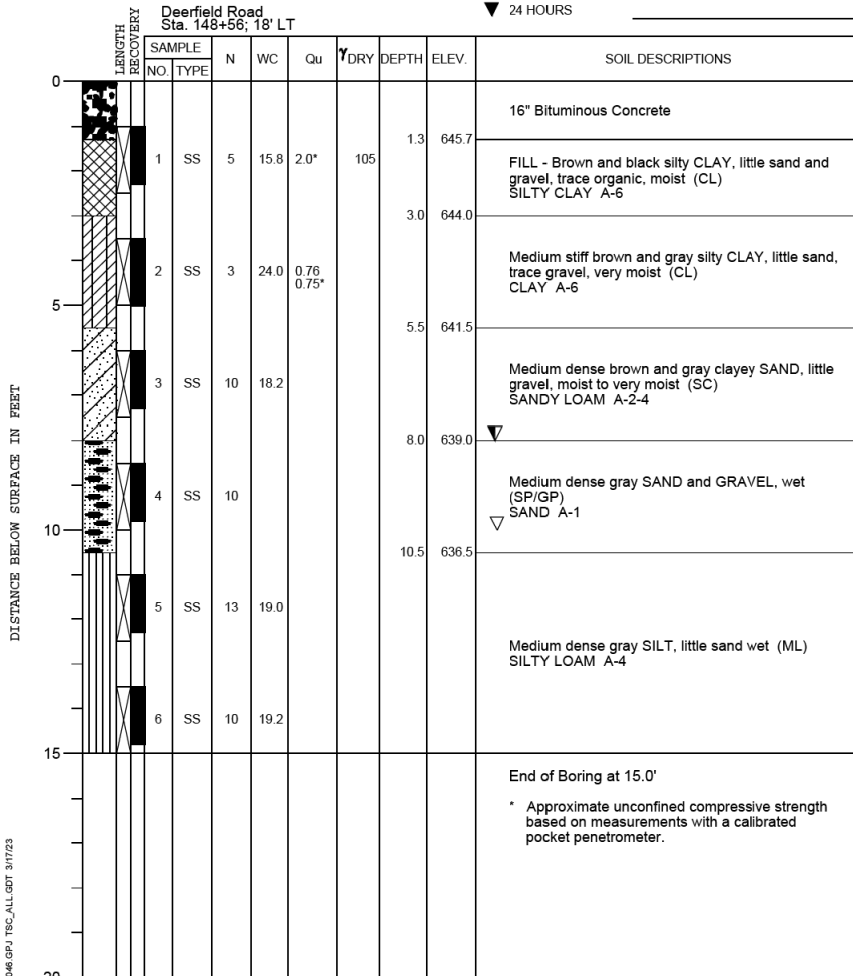
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
BOX CULVERT DETAILS

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	666
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				

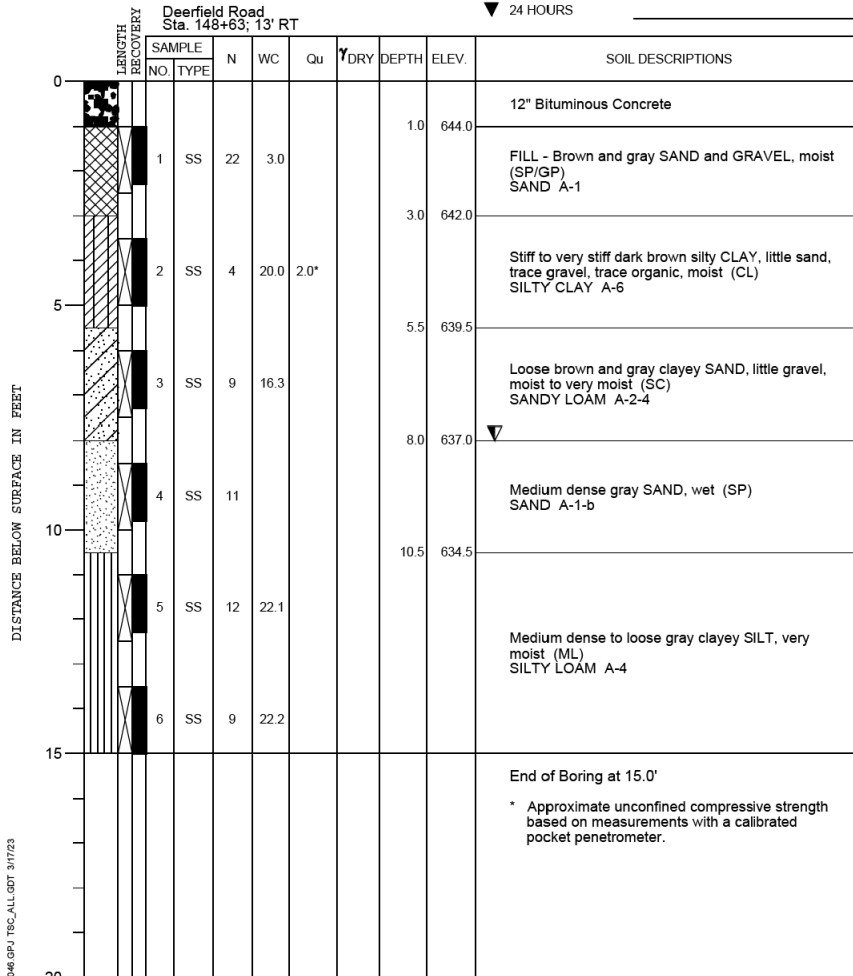
PROJECT **Deerfield Roadway Improvements, Milwaukee Ave to Saunders Rd, Riverwoods, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
BORING **43** DATE STARTED **8-12-22** DATE COMPLETED **8-12-22** JOB **L-94,046**
ELEVATIONS
GROUND SURFACE **647.0** WHILE DRILLING **8.0'**
END OF BORING **632.0** AT END OF BORING **10.0'**
24 HOURS



DRILL RIG NO. **256**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

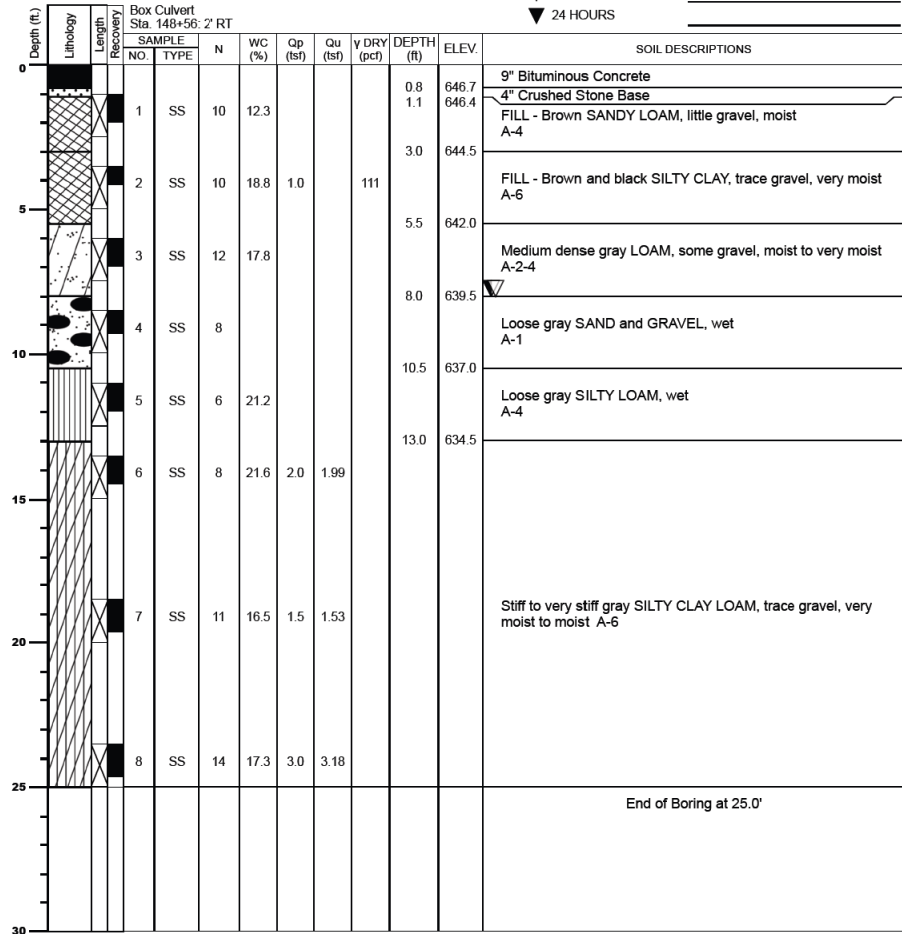
PROJECT **Deerfield Roadway Improvements, Milwaukee Ave to Saunders Rd, Riverwoods, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
BORING **44** DATE STARTED **8-4-22** DATE COMPLETED **8-4-22** JOB **L-94,046**
ELEVATIONS
GROUND SURFACE **645.0** WHILE DRILLING **8.0'**
END OF BORING **630.0** AT END OF BORING **Dry**
24 HOURS



DRILL RIG NO. **256**

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

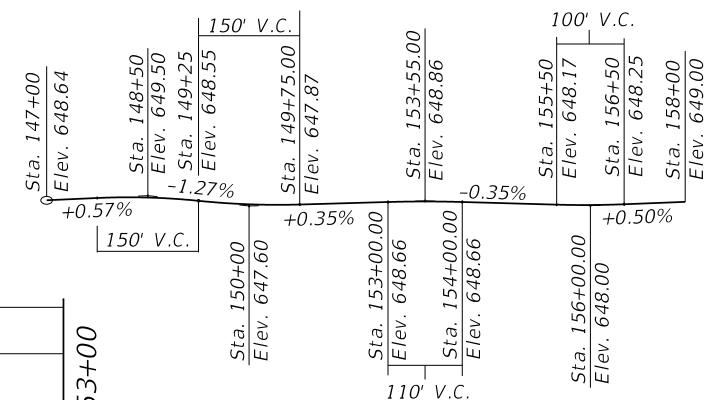
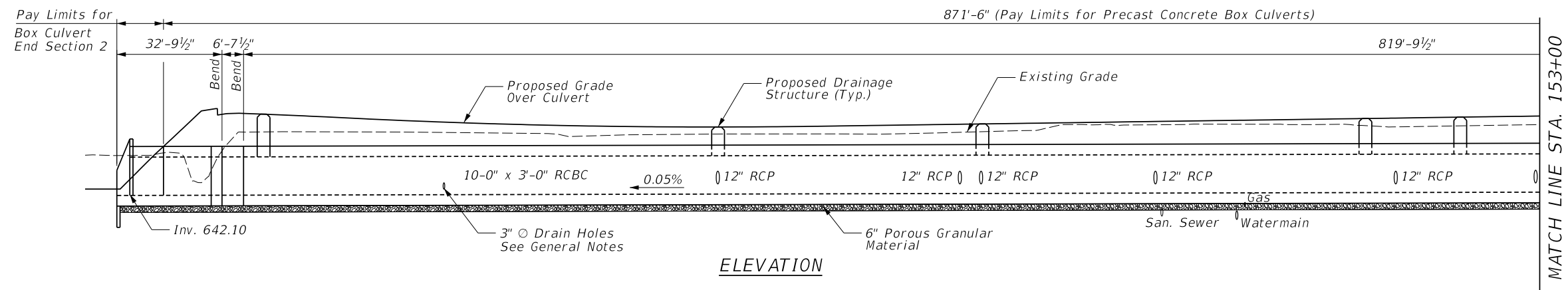
PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
STARTED **05/05/2025** FINISHED **05/05/2025** DRILL RIG NO. **358** JOB **L-98,273**
ELEVATIONS
GROUND SURFACE **647.5** WHILE DRILLING **8.0'**
END OF BORING **622.5** AT END OF BORING **8.0'**
24 HOURS



Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

Page 1 of 1

No salvage



PROFILE GRADE

(along Proposed B/L Deerfield Rd.)

DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design Specifications
Customary U.S. Units, 10th Edition

LOADING HL-93

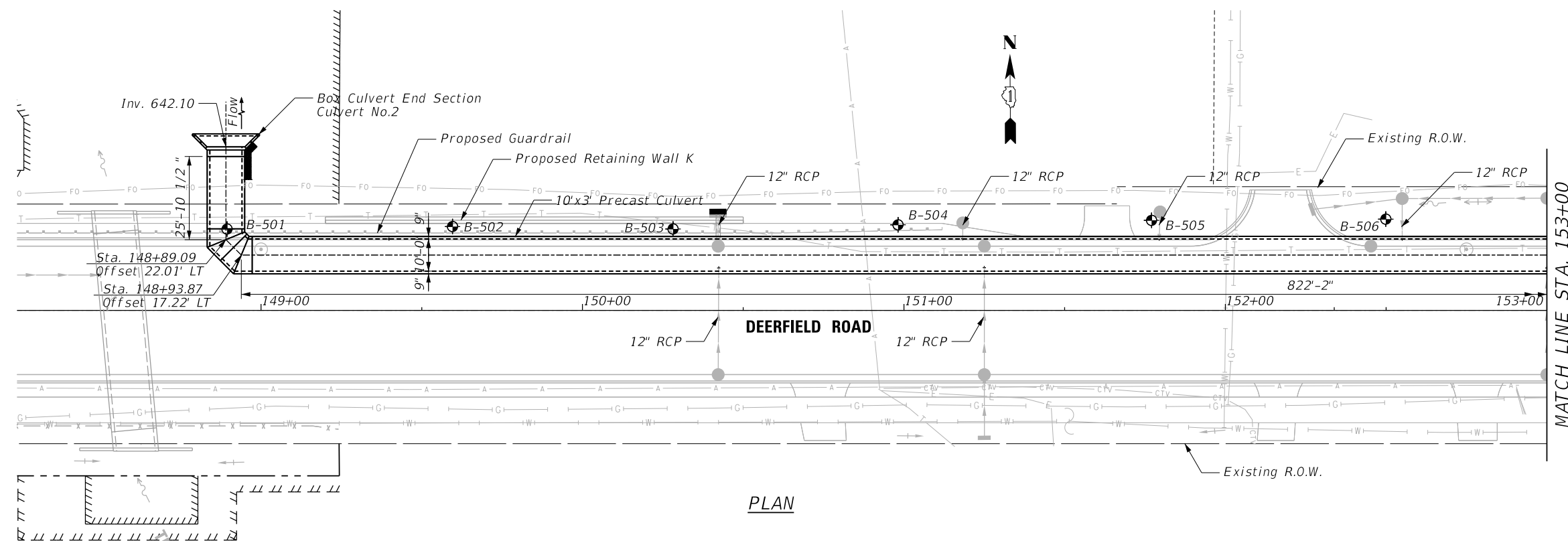
Allow 50#/sq. ft. for future wearing surface

DESIGN STRESSES

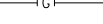
PRECAST UNITS

$$\begin{aligned} f'_c &= 5,000 \text{ psi} \\ f_y &= 60,000 \text{ psi} \text{ (Reinforcement)} \\ f_y &= 65,000 \text{ psi} \text{ (Welded Wire Reinforcement)} \end{aligned}$$

FIELD UNITS

$$\begin{aligned} f'_c &= 3,500 \text{ psi} \\ f_y &= 60,000 \text{ psi (Reinforcement)} \end{aligned}$$


LEGEND


 Gas Line
 Water Main
 Aerial Wires
 Electric Line
 Cable TV
 Fiber Optic Line
 Proposed Storm Sewer



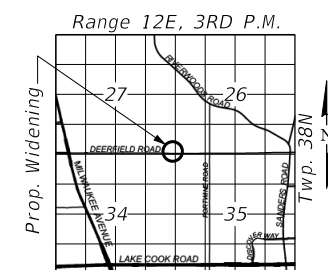
Najid Nohani C

07/29/2026

MAJID MOBASSERI

DATE _____

ILLINOIS REGISTRATION No. 081-005058 STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/26



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

DEERFIELD ROAD OVER DITCH

F.A.U. 1257-SECTION 15-00038-07-WR

LAKE COUNTY

STATION 152+00.00

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION GENERAL PLAN AND ELEVATION				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LCOOT\190304.0003A\Struct\94-190304.0003A-Pro-Box.10x3 - GPE-01.sht		DRAWN - PDR	REVISED -						1257	15-00038-07-WR	LAKE	1090	668
Default	PLOT SCALE = 20'	CHECKED - CF	REVISED -		CONTRACT NO. 61K62								
	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	PROJECT TO STA.				

GENERAL NOTES

The design fill height for this box is 2.17 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

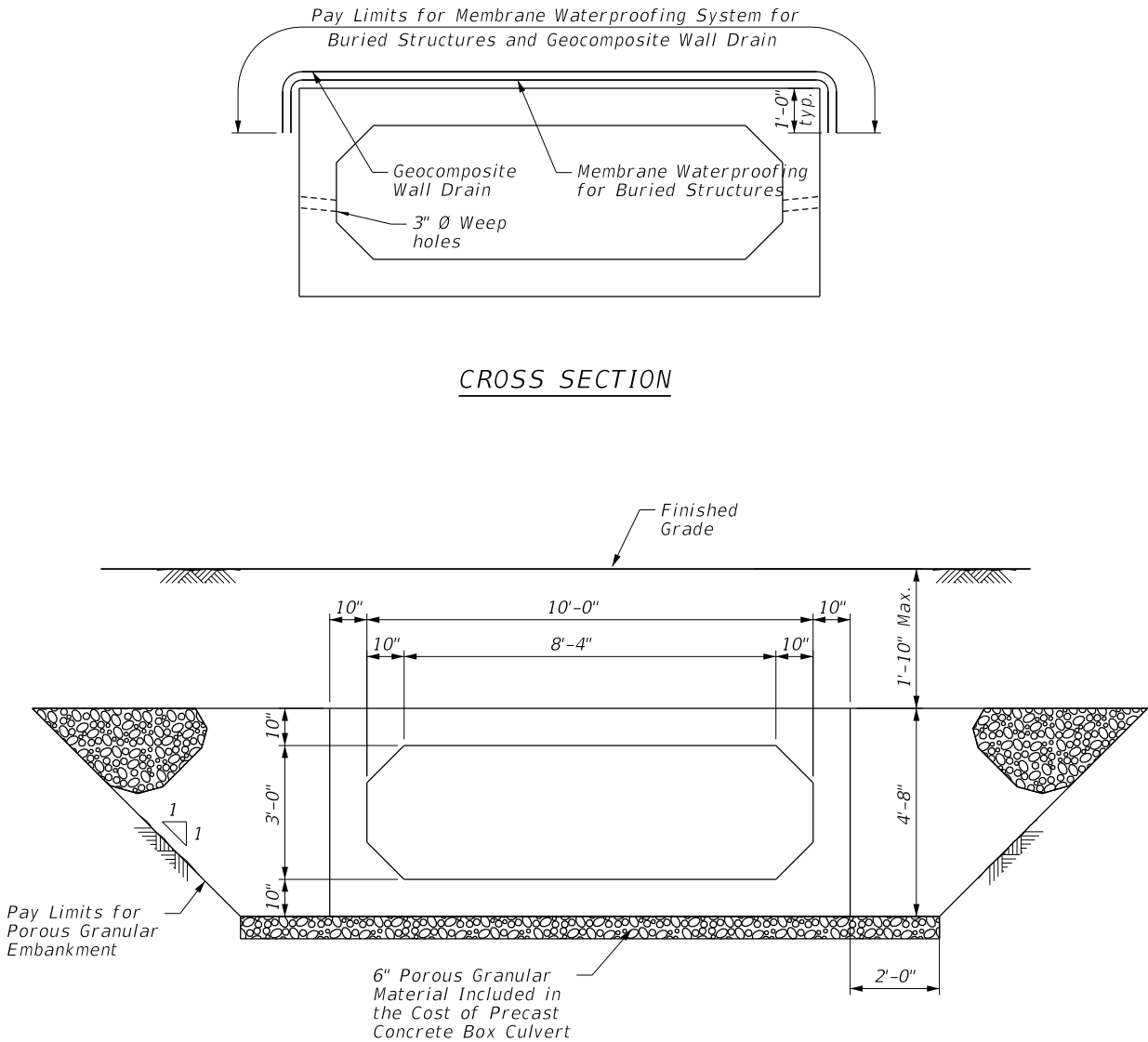
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
667	GENERAL PLAN & ELEVATION (1 OF 2)
668	GENERAL PLAN & ELEVATION (2 OF 2)
669	GENERAL NOTES, INDEX & BOM
670	JUNCTION CHAMBER #1 DETAILS
671	PRECAST END SECTION DETAILS
672	BORING LOGS



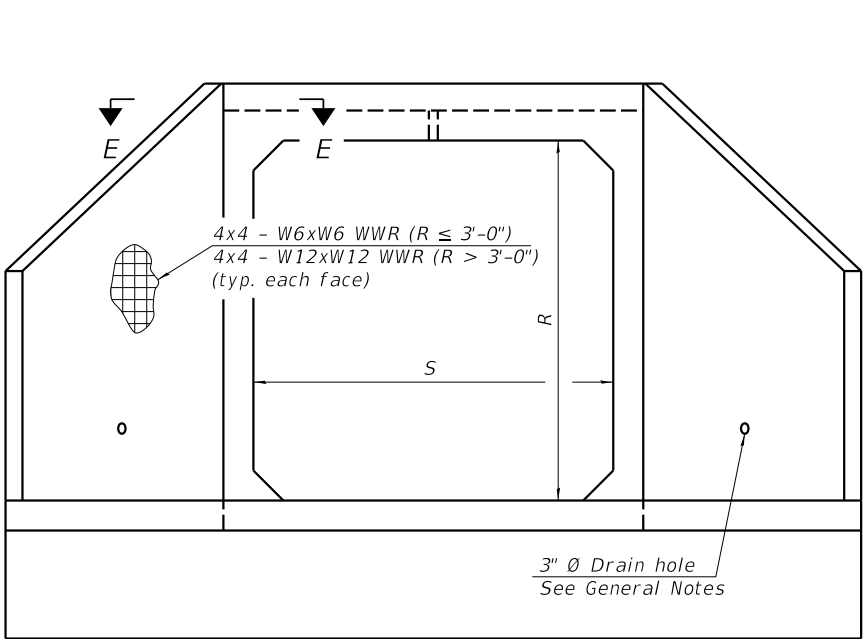
TOTAL BILL OF MATERIAL

PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20700220	Porous Granular Embankment	Cu. Yd.	3590	
50200100	Structrure Excavation	Cu. Yd.	3320	
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	770	
50800205	Reinforcement Bars, Epoxy Coated	Pound	2860	
54001002	Box Culvert End Sections, Culvert No. 2	Each	1	
54003000	Concrete Box Culverts	Cu. Yd.	18.4	
54011003	Precast Concrete Box Culverts 10' X 3'	Foot	853	
59100100	Geocomposite Wall Drain	Sq. Yd.	1330	
X5810103	Waterproofing Membrane System for Buried Structures	Sq. Yd.	1330	

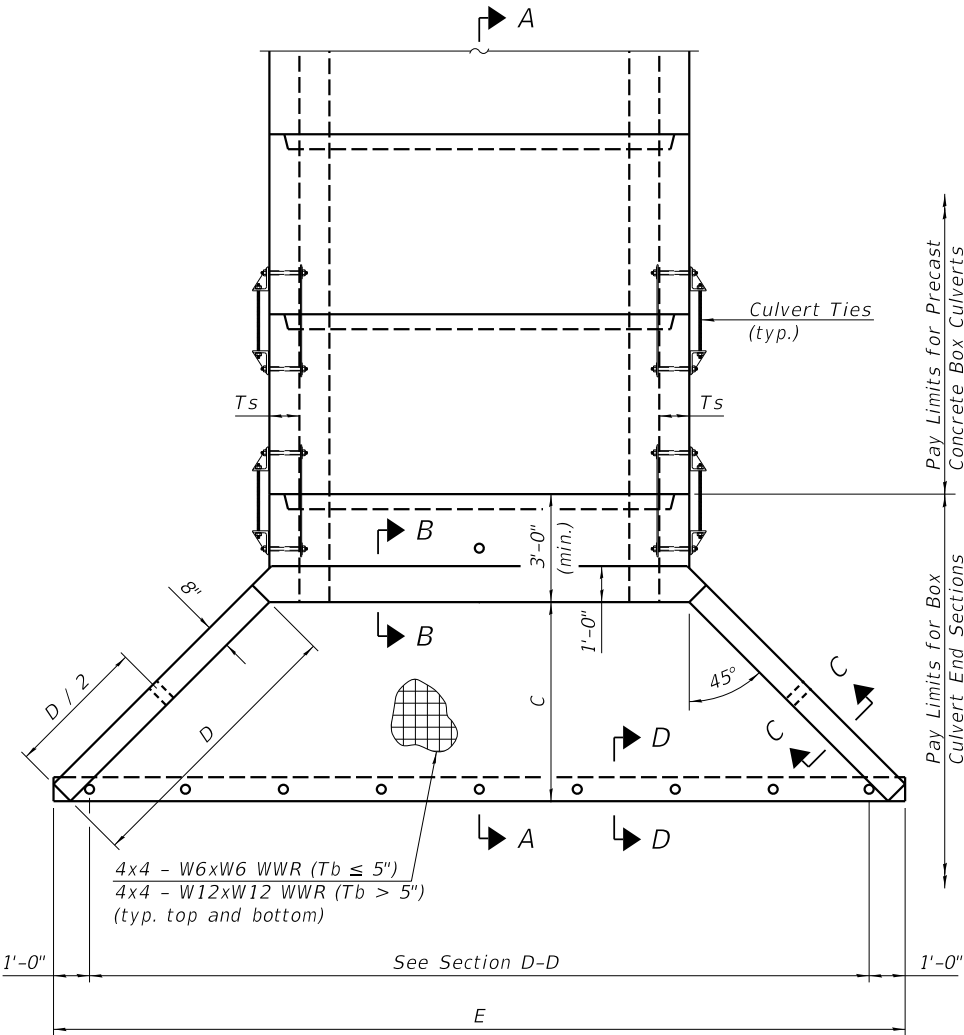


Bar	No.	Size	Length	Shape
a(E)	62	#5	12'-4"	
a1(E)	32	#5	11'-2"	
h(E)	58	#5	15'-2"	
h1(E)	12	#5	11'-4"	
v(E)	42	#4	5'-6 $\frac{1}{2}$ "	
x(E)	22	#4	2'-3"	
x1(E)	14	#4	13'-8"	
x2(E)	6	#4	12'-8"	
x3(E)	6	#4	5'-8"	
Concrete Box Culverts			Cu. Yd.	18.4
Reinforcement Bars, Epoxy Coated			Pound	2,600

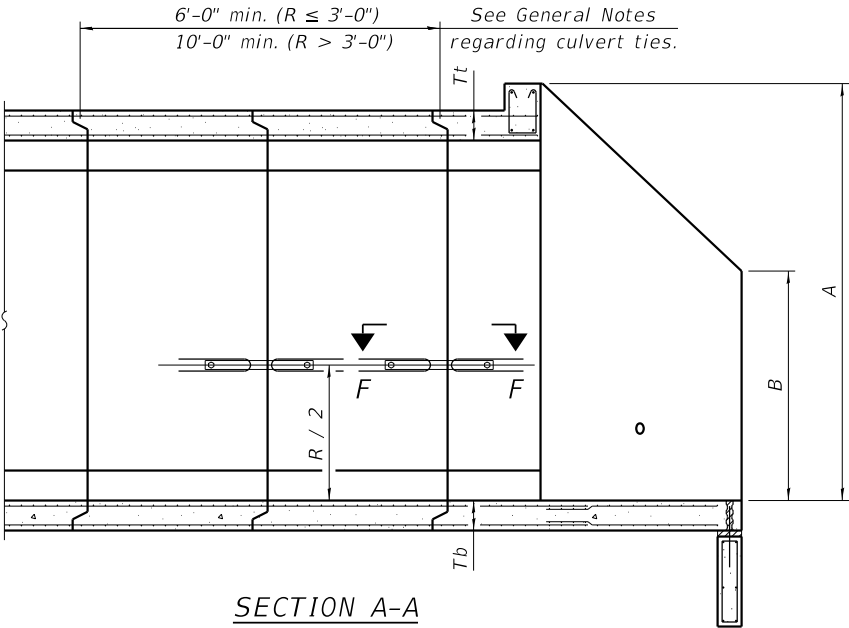
F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	671
		CONTRACT NO. 61K62		
ILLINOIS		FED. AID PROJECT		



END VIEW



PLAN



SECTION A-A

GENERAL NOTES

Box Culvert End Sections shall be constructed according to the requirements of Section 540 of the Standard Specifications except as modified herein. End sections will be paid for at the contract unit price per each for Box Culvert End Sections.

The Contractor may furnish the end section as a single precast concrete piece or construct the end section in the field using cast-in-place (CIP) construction. For CIP construction, the bottom slab thickness shall be increased by 2" and the clear cover to the bottom mat of reinforcement shall be increased to 3".

Box section dimensions, materials, and reinforcement details for Box Culvert End Sections shall be according to the requirements for ASTM C 1577 as required for the design of the portion of the culvert within the limits of Precast Concrete Box Culverts except as modified herein.

The number of culvert ties shall be sufficient to engage the minimum length of culvert barrel shown within the pay limits for Precast Concrete Box Culverts and will be dependent upon the length of box culvert segments furnished by the Contractor. Culvert ties are not required for box culverts having a rise (R) less than or equal to 3 ft and a span (S) greater than or equal to 10 ft.

All costs associated with furnishing and installing or constructing the toewall and culvert ties will not be measured for payment but shall be included in the unit price for Box Culvert End Sections of the culvert number specified.

Shop drawings that detail slab thickness and reinforcement layout for the Box Culvert End Sections shall be provided to the Engineer for review and approval. Reinforcement bars not detailed herein shall be detailed with a clear distance at the end of the reinforcement not less than 1/2" nor more than 2". For the precast option, it shall be the Contractor's responsibility for determining a method of handling and a construction procedure shall be included on the shop drawings. The Contractor shall determine and detail in the shop drawings any necessary strengthening or stiffening provisions necessary to handle the precast segment. Any required modifications shall be at no extra charge.

The Contractor may use reinforcement bars in lieu of welded wire reinforcement (WWR). Reinforcement bars shall be limited to the sizes of #3 through #5 bars, a maximum spacing of the lesser of 8" or the member thickness, and shall result in an area of reinforcement equal to or greater than that provided by the WWR. Minimum lap lengths detailed herein are applicable to WWR and reinforcement bars.

Reinforcement (circumferential and longitudinal) in the culvert barrel portion of the end section being lapped with reinforcement from the wingwalls or bottom slab of the end section shall not be less than that required by ASTM C 1577 for the design fill height or the reinforcement detailed for the end section, whichever is greater.

One drain hole shall be provided in each wingwall for end sections of box culverts having an opening with a clear rise greater than 3 ft. The drain hole shall be located within the lower 1/3 of the clear rise of the box culvert and shall conform to the requirements of Article 503.11 of the Standard Specifications.

APRON END SECTION DIMENSIONS

Span (S)	Rise (R)	Tt	Tb	Ts	A	B	C	D	E	Concrete Cu. Yd.	Culvert Ties Required
3'-0"	2'-0"	7"	6"	4"	3'-4"	2'-2"	2'-10 ⁵ / ₈ "	4'-1"	10'-4 ⁵ / ₈ "	2.8	Yes
3'-0"	2'-0"	4"	4"	4"	3'-1"	2'-1"	2'-7 ¹ / ₈ "	3'-9"	9'-11"	2.3	Yes
3'-0"	3'-0"	7"	6"	4"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	12'-4 ⁵ / ₈ "	3.7	Yes
3'-0"	3'-0"	4"	4"	4"	4'-1"	2'-7"	3'-7 ⁷ / ₈ "	5'-2"	11'-11"	3.1	Yes
4'-0"	2'-0"	7.5"	6"	5"	3'-4 ¹ / ₂ "	2'-2 ¹ / ₂ "	2'-11 ³ / ₈ "	4'-2"	11'-8"	3.3	Yes
4'-0"	2'-0"	5"	5"	5"	3'-2"	2'-1"	2'-8 ¹ / ₂ "	3'-10"	11'-2 ³ / ₈ "	2.8	Yes
4'-0"	3'-0"	7.5"	6"	5"	4'-4 ¹ / ₂ "	2'-8 ¹ / ₂ "	3'-11 ³ / ₈ "	5'-7"	13'-8 ³ / ₈ "	4.2	Yes
4'-0"	3'-0"	5"	5"	5"	4'-2"	2'-7"	3'-8 ¹ / ₂ "	5'-3"	13'-2 ³ / ₈ "	3.7	Yes
4'-0"	4'-0"	7.5"	6"	5"	5'-4 ¹ / ₂ "	3'-2 ¹ / ₂ "	4'-11 ³ / ₈ "	7'-0"	15'-8 ¹ / ₈ "	5.3	Yes
4'-0"	4'-0"	5"	5"	5"	5'-2"	3'-1"	4'-8 ³ / ₈ "	6'-8"	15'-2 ¹ / ₂ "	4.7	Yes
5'-0"	2'-0"	8"	7"	6"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	12'-10"	3.9	Yes
5'-0"	2'-0"	6"	6"	6"	3'-3"	2'-2"	2'-10"	4'-0"	12'-7 ¹ / ₄ "	3.5	Yes
5'-0"	3'-0"	8"	7"	6"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	14'-10 ¹ / ₈ "	4.9	Yes
5'-0"	3'-0"	6"	6"	6"	4'-3"	2'-8"	3'-10"	5'-5"	14'-7 ¹ / ₄ "	4.5	Yes
5'-0"	4'-0"	8"	7"	6"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	16'-10 ¹ / ₈ "	6.1	Yes
5'-0"	4'-0"	6"	6"	6"	5'-3"	3'-2"	4'-9 ¹ / ₄ "	6'-9"	16'-5 ⁷ / ₈ "	5.5	Yes
5'-0"	5'-0"	8"	7"	6"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	18'-10 ¹ / ₈ "	7.4	Yes
5'-0"	5'-0"	6"	6"	6"	6'-3"	3'-8"	5'-9 ¹ / ₄ "	8'-2"	18'-5 ⁷ / ₈ "	6.8	Yes
6'-0"	2'-0"	8"	7"	7"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	14'-0"	4.3	Yes
6'-0"	2'-0"	7"	7"	7"	3'-4"	2'-2"	2'-10 ³ / ₈ "	4'-1"	13'-10 ³ / ₈ "	4.2	Yes
6'-0"	3'-0"	8"	7"	7"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	16'-0 ¹ / ₈ "	5.4	Yes
6'-0"	3'-0"	7"	7"	7"	4'-4"	2'-8"	3'-10 ⁵ / ₈ "	5'-6"	15'-10 ⁵ / ₈ "	5.2	Yes
6'-0"	4'-0"	8"	7"	7"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	18'-0 ¹ / ₈ "	6.5	Yes
6'-0"	4'-0"	7"	7"	7"	5'-4"	3'-2"	4'-10 ³ / ₄ "	6'-11"	17'-10 ³ / ₄ "	6.5	Yes
6'-0"	5'-0"	8"	7"	7"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	20'-0 ¹ / ₈ "	8.0	Yes
6'-0"	5'-0"	7"	7"	7"	6'-4"	3'-8"	5'-10 ³ / ₄ "	8'-4"	19'-10 ³ / ₄ "	7.8	Yes
6'-0"	6'-0"	8"	7"	7"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	22'-0 ¹ / ₂ "	9.5	Yes
6'-0"	6'-0"	7"	7"	7"	7'-4"	4'-2"	6'-10 ³ / ₄ "	9'-9"	21'-10 ³ / ₄ "	9.3	Yes
7'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	15'-2"	4.9	Yes
7'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	17'-2 ¹ / ₈ "	6.1	Yes
7'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	19'-2 ¹ / ₈ "	7.4	Yes
7'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	21'-2 ¹ / ₈ "	8.9	Yes
7'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	23'-2 ¹ / ₄ "	10.6	Yes
8'-0"	2'-0"	8"	8"	8"	3'-5"	2'-3"	2'-11 ³ / ₈ "	4'-2"	16'-2"	5.3	Yes
8'-0"	3'-0"	8"	8"	8"	4'-5"	2'-9"	3'-11 ³ / ₈ "	5'-7"	18'-2 ¹ / ₈ "	6.5	Yes
8'-0"	4'-0"	8"	8"	8"	5'-5"	3'-3"	4'-11 ³ / ₈ "	7'-0"	20'-2 ¹ / ₈ "	7.8	Yes
8'-0"	5'-0"	8"	8"	8"	6'-5"	3'-9"	5'-11 ³ / ₈ "	8'-5"	22'-2 ¹ / ₈ "	9.3	Yes
8'-0"	6'-0"	8"	8"	8"	7'-5"	4'-3"	6'-11 ¹ / ₂ "	9'-10"	24'-2 ¹ / ₄ "	11.0	Yes
9'-0"	2'-0"	9"	9"	9"	3'-6"	2'-3"	3'-0 ³ / ₄ "	4'-4"	17'-6 ⁷ / ₈ "	6.2	Yes
9'-0"	3'-0"	9"	9"	9"	4'-6"	2'-9"	4'-0 ³ / ₄ "	5'-9"	19'-6 ⁷ / ₈ "	7.5	Yes
9'-0"	4'-0"	9"	9"	9"	5'-6"	3'-3"	5'-0 ³ / ₄ "	7'-2"	21'-6 ⁷ / ₈ "	9.0	Yes
9'-0"	5'-0"	9"	9"	9"	6'-6"	3'-9"	6'-0 ⁷ / ₈ "	8'-7"	23'-7"	10.6	Yes
9'-0"	6'-0"	9"	9"	9"	7'-6"	4'-3"	7'-0 ¹ / ₈ "	9'-11"	25'-5 ⁵ / ₈ "	12.4	Yes
10'-0"	2'-0"	10"	10"	10"	3'-7"	2'-4"	3'-1 ¹ / ₂ "	4'-5"	18'-10 ¹ / ₄ "	7.1	No
10'-0"	3'-0"	10"	10"	10"	4'-7"	2'-10"	4'-1 ¹ / ₂ "	5'-10"	20'-10 ¹ / ₄ "	8.6	No
10'-0"	4'-0"	10"	10"	10"	5'-7"	3'-4"	5'-1 ¹ / ₂ "	7'-3"	22'-10 ³ / ₈ "	10.2	Yes
10'-0"	5'-0"	10"	10"	10"	6'-7"	3'-10"	6'-1 ¹ / ₂ "	8'-8"	24'-10 ³ / ₈ "	12.0	Yes
10'-0"	6'-0"	10"	10"	10"	7'-7"	4'-4"	7'-1 ¹ / ₂ "	10'-1"	26'-10 ³ / ₈ "	13.9	Yes
11'-0"	2'-0"	11"	11"	11"	3'-8"	2'-4"	3'-2 ⁷ / ₈ "	4'-7"	20'-3 ¹ / ₈ "	8.2	No
11'-0"	3'-0"	11"	11"	11"	4'-8"	2'-10"	4'-2 ⁷ / ₈ "	6'-0"	22'-3 ¹ / ₈ "	9.8	No
11'-0"	4'-0"	11"	11"	11"	5'-8"	3'-4"	5'-2 ¹ / ₄ "	7'-4"	24'-1 ³ / ₄ "	11.5	Yes
11'-0"	5'-0"	11"	11"	11"	6'-8"	3'-10"	6'-2 ¹ / ₄ "	8'-9"	26'-1 ³ / ₄ "	13.3	Yes
11'-0"	6'-0"	11"	11"	11"	7'-8"	4'-4"	7'-2 ¹ / ₄ "	10'-2"	28'-1 ⁷ / ₈ "	15.5	Yes
12'-0"	2'-0"	12"	12"	12"	3'-9"	2'-5"	3'-3 ³ / ₈ "	4'-8"	21'-6 ¹ / ₂ "	9.3	No
12'-0"	3'-0"	12"	12"	12"	4'-9"	2'-11"	4'-3 ⁵ / ₈ "	6'-1"	23'-6 ¹ / ₂ "	11.1	No
12'-0"	4'-0"	12"	12"	12"	5'-9"	3'-5"	5'-3 ⁵ / ₈ "	7'-6"	25'-6 ⁵ / ₈ "	13.0	Yes
12'-0"	5'-0"	12"	12"	12"	6'-9"	3'-11"	6'-3 ⁵ / ₈ "	8'-11"	27'-6 ⁵ / ₈ "	14.1	Yes
12'-0"	6'-0"	12"	12"	12"	7'-9"	4'-5"	7'-3 ⁵ / ₈ "	10'-4"	29'-6 ⁵ / ₈ "	17.4	Yes

Note:

Two sets of apron end section dimensions are shown above for some box culvert sizes due to the top and bottom slabs having different thicknesses per ASTM C 1577 for design fill heights less than 2 ft.

(Sheet 1 of 2)

FILE NAME =	USER NAME = jjezerny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION BOX CULVERT APRON WEST END DETAILS				F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304.0003A\Struct\98-190304.0003A-Pro-Box-10X3 - Detail-02.sht		DRAWN - PDR	REVISED -						I257	I5-00038-07-WR	LAKE	1090	672
	PLOT SCALE = 1"	CHECKED - CF	REVISED -						CONTRACT NO. 6IK62				
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

STARTED **04/30/2025** FINISHED **04/30/2025** DRILL RIG NO. **358**

JOB **L-98,273**

BORING

501

ELEVATIONS

GROUND SURFACE **647.5**

END OF BORING **622.5**

WATER LEVEL OBSERVATIONS

▽ WHILE DRILLING **8.0'**

▽ AT END OF BORING **6.0'**

▽ 24 HOURS

Depth (ft.)

0

5

10

15

20

25

30

Soil Library

Soil Labels

Soil Notes

Box Culvert Sta. 148+90.25' LT

SAMPLE NO.	TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	v DRY (pcf)	DEPTH (ft.)	ELEV.
1	SS	5	30.0	1.0			0.5 0.8 1.0	647.0 646.5 646.5
2	SS	8	17.5	1.0			3.0	644.5
3A	SS	10	27.4	1.5	1.47			
3B	SS	10	18.5				7.5	640.0
4A	SS	10	19.5					
4B	SS	10	19.3	1.5			9.5	638.0
5	SS	11	19.4	1.5				
6	SS	6	20.3	1.25				
7	SS	6	17.8	1.75	1.60		22.0	625.5
8	SS	11	10.5					

SOIL DESCRIPTIONS

6" Bituminous Concrete

4" P.C. Concrete

Crushed Stone Base

FILL - Dark gray, brown and black CLAY, trace organic, very moist A-7-6 LOI = 5.2% Wet Combustion = 4.9%

Medium stiff to stiff brown and gray CLAY LOAM, very moist A-6

Medium dense SANDY LOAM, trace to little gravel, wet A-2-4

Stiff gray CLAY LOAM, trace gravel, very moist to moist A-6

Medium dense gray SANDY LOAM, little gravel, wet A-2-4

End of Boring at 25.0'

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT Retaining Walls and Culverts, Deerfield Road, Lake County, IL		CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, IL		TSC						
STARTED 04/30/2025		FINISHED 04/30/2025		JOB L-98,273						
BORING 502		ELEVATIONS GROUND SURFACE 647.5 END OF BORING 632.5		DRILL RIG NO. 358 WATER LEVEL OBSERVATIONS ▽ WHILE DRILLING 8.0' ▽ AT END OF BORING 6.0' ▽ 24 HOURS						
Soil Log Lithology Remarks		Box Culvert Sta. 140+60.0, 26' LT								
Depth (ft.)	NO.	TYPE	N	WC (%)	Qp (blf)	Qu (blf)	γ DRV (pcf)	DEPTH (ft.)	ELEV.	SOIL DESCRIPTIONS
0	1	SS	8	17.8	2.25			101	647.0 646.4 646.2	6" Bituminous Concrete 7" P.C. Concrete 2" Crushed Stone Base
5	2	SS	7	19.3	2.0			107		FILL - Brown, black and gray SILTY CLAY, trace gravel, trace organic and wood pieces, moist A-6
	3	SS	9	28.5	1.25				5.5 642.0	▽ FILL - Brown and gray CLAY LOAM, trace gravel and brick pieces, moist to very moist A-6
	4	SS	8						8.0 639.5	▽
10	5	SS	11							Loose to medium dense gray SAND, trace gravel, wet A-1-b
	6	SS	14	16.2					13.0 634.5	Medium dense gray SILTY LOAM, wet A-4
15										End of Boring at 15.0'
20										
25										
30										

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT	Retaining Walls and Culverts, Deerfield Road, Lake County, IL				TSC
CLIENT	Christopher B. Burke Engineering, Ltd., Rosemont, IL				
STARTED	04/30/2025	FINISHED	04/30/2025	DRILL RIG NO.	358
					JOB L-98273
BORING		ELEVATIONS		WATER LEVEL OBSERVATIONS	
GROUND SURFACE		647.5		▼ WHILE DRILLING 8.0'	
END OF BORING		622.5		▼ AT END OF BORING 7.0'	
				▼ 24 HOURS	

Depth (ft.)	Boring Library	Soil Log	Soil Recovery	SAMPLE NO. TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	γ DRY (pcf)	DEPTH (ft.)	ELEV	SOIL DESCRIPTIONS
0				1 SS 7	19.6	2.0		105	0.5 1.0 1.2	647.0 646.5 646.3		6" Bituminous Concrete 6" P.C. Concrete 2" Crushed Stone Base
5				2 SS 11	29.1	1.5	1.47			3.0	644.5	FILL - Brown, black and gray SILTY CLAY, trace gravel, trace organic, moist A-6 Stiff brown and gray CLAY, moist to very moist A-7-6
				3 SS 9	20.0	2.0	1.99			5.5	642.0	
				4 SS 12								
10				5 SS 13						8.0	639.5	▼ Stiff to very stiff SILTY CLAY, trace gravel, moist A-6 Medium dense gray SAND, some gravel, wet A-1-b
				6 SS 6	16.4					13.0	634.5	Loose gray SILTY LOAM, wet A-4
15				7 SS 12	16.2	2.0	1.93			15.5	632.0	
20				8 SS 13	15.6	2.25	2.13					Stiff to very stiff gray SILTY CLAY, trace gravel, moist A-6
25												End of Boring at 25.0'
30												

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
 JOB **L-98,273**

STARTED **04/30/2025** FINISHED **04/30/2025** DRILL RIG NO. **358**

BORING		ELEVATIONS		WATER LEVEL OBSERVATIONS	
504		GROUND SURFACE END OF BORING	647.0 632.0	▽ WHILE DRILLING ▽ AT END OF BORING ▽ 24 HOURS	8.0' 9.0'

Box Culvert Sta. 150+99.27 LT

Depth (ft)	Lithology Lenses Recovery	SAMPLE		N	WC (%)	Qp (ksf)	Q _u (ksf)	v DRY (pcf)	DEPTH (ft)	ELEV	SOIL DESCRIPTIONS	
		NO.	TYPE									
0		1	SS	6	19.9	1.25		102		646.5	6" Bituminous Concrete	
										646.1	5" P.C. Concrete	
										645.8	3" Crushed Stone Base	
									3.0	644.0	FILL - Brown, black and gray SILTY CLAY, trace gravel, trace organic, moist to very moist A-6	
		2	SS	5	20.6	0.75	0.65				644.0	Medium stiff brown and gray CLAY, very moist A-6
5		3	SS	9	13.8					5.5	641.5	Loose brown SANDY LOAM, moist to very moist A-4
		4	SS	13	21.9				8.0	639.0	▽ Medium dense gray SANDY LOAM, wet A-4	
10		5	SS	12	19.7							
		6	SS	13					13.0	634.0	Medium dense gray SAND, little gravel, wet A-1-b	
15											End of Boring at 15.0'	
20												
25												
30												

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**

CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

STARTED **04/30/2025** FINISHED **04/30/2025** DRILL RIG NO. **358** JOB **L-98,273**

BORING
505

ELEVATIONS
 GROUND SURFACE **647.5**
 END OF BORING **632.5**

WATER LEVEL OBSERVATIONS
 WHILE DRILLING **8.0'**
 AT END OF BORING **8.0'**
 24 HOURS

Depth (ft.)

Log
 Lithology
 Location
 Recovery

Box Culvert
 15'x7'-20' LT

NO.	SAMPLE TYPE	N	WC (%)	Qp (blf)	Qu (tsf)	v DRY (pcf)	DEPTH (ft.)	ELEV.	SOIL DESCRIPTIONS
1	SS	8	21.9	3.25	3.25		0.5	647.0	6" Bituminous Concrete
							1.1	646.4	7" P.C. Concrete
							1.3	646.2	2" Crushed Stone Base
2	SS	12	18.5	4.25	4.30				Very stiff to hard brown trace gray SILTY CLAY, trace gravel, moist. A-6
3	SS	9	20.7	3.5	3.51				
4	SS	6					8.0	639.5	
5	SS	11							Loose to medium dense gray SAND, wet A-1-b
6	SS	9							
End of Boring at 15.0'									

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT		Retaining Walls and Culverts, Deerfield Road, Lake County, IL				TSC	
CLIENT		Christopher B. Burke Engineering, Ltd., Rosemont, IL					
STARTED		04/30/2025		FINISHED		04/30/2025	
				DRILL RIG NO.		358	
BORING		GROUND SURFACE		ELEVATIONS		WATER LEVEL OBSERVATIONS	
506		END OF BORING		647.5		8.0'	
				632.5		9.0'	
				▽ WHILE DRILLING			
				▽ AT END OF BORING			
				▽ 24 HOURS			

Depth (ft.)	Soil Log	Sample No.	Type	N	WC (%)	Qp (blf)	Qu (blf)	v DRY (pcf)	DEPTH (ft.)	ELEV.	Soil Descriptions
0										647.2	4" Bituminous Concrete
										646.7	5" P.C. Concrete
										646.4	4" Crushed Stone Base
5		1	SS	6	21.8	2.5	2.59				
		2	SS	10	21.4	2.75	3.12				
		3	SS	13	18.5	4.0	4.04				
10		4	SS	11	23.7				8.0	639.5	Very stiff to hard brown trace gray SILTY CLAY, trace gravel, moist A-6
		5	SS	10	24.4						
		6	SS	7					13.0	634.5	Medium dense gray SANDY LOAM, wet A-4
15											Loose gray SAND, trace gravel, wet A-1-b
20											End of Boring at 15.0'
25											
30											

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT		Retaining Walls and Culverts, Deerfield Road, Lake County, IL																			
CLIENT		Christopher B. Burke Engineering, Ltd., Rosemont, IL																			
STARTED		05/01/2025		FINISHED		05/01/2025		DRILL RIG NO.		358		JOB		L-98,273							
BORING 507		GROUND SURFACE		ELEVATIONS		647.5 632.5		▽ WHILE DRILLING ▽ AT END OF BORING ▽ 24 HOURS		WATER LEVEL OBSERVATIONS											
														8.0' 8.0'							
Depth (ft.) 0 5 10 15 20 25 30 Lithology Laboratory Recovery		Box Culvert Sta. 153+24, 30' LT		SAMPLE		N		WC (%)		Qp (blf)		Qu (blf)				v DRY (pcf)		DEPTH (ft)		ELEV.	
		NO.		TYPE		Qp (blf)		Qu (blf)		v DRY (pcf)		DEPTH (ft)		ELEV.							
		1		SS		8		21.0		3.0		104		0.8 1.3 1.4		646.7 646.2 646.1		10" Bituminous Concrete 5" P.C. Concrete ∇ Crushed Stone Base FILL - Dark brown and gray CLAY, trace organic, moist A-6 Loose dark brown SANDY LOAM, trace organic, moist A-4 LL/PI = 28/18/10 Loose gray SANDY LOAM, occasional silt seams, wet A-4			
		2		SS		9		25.9		2.0		99		5.5		642.0					
		3		SS		7		24.4		8.0		639.5		▽							
		4		SS		6		23.3		8.0		639.5		▽							
		5		SS		7		19.2		8.0		639.5		▽							
		6		SS		8		21.8		8.0		639.5		▽							
End of Boring at 15.0'		15		SS		8		21.8		8.0		639.5		▽		End of Boring at 15.0'					
		20		SS		8		21.8		8.0		639.5		▽		End of Boring at 15.0'					
End of Boring at 15.0'		25		SS		8		21.8		8.0		639.5		▽		End of Boring at 15.0'					
		30		SS		8		21.8		8.0		639.5		▽		End of Boring at 15.0'					

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**
 JOB **L-98,273**

STARTED **05/01/2025** FINISHED **05/01/2025** DRILL RIG NO. **358**

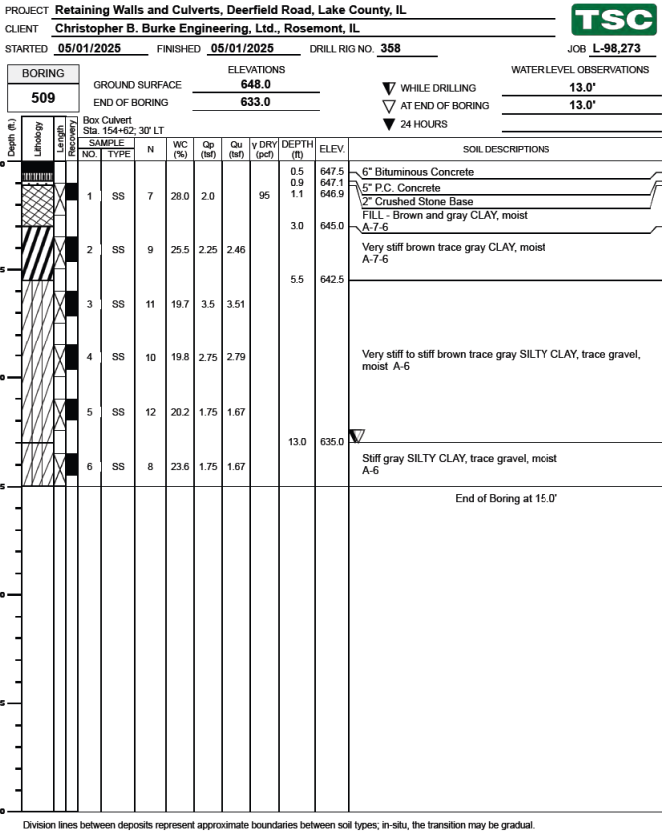
BORING
508

ELEVATIONS
 GROUND SURFACE **648.0**
 END OF BORING **633.0**

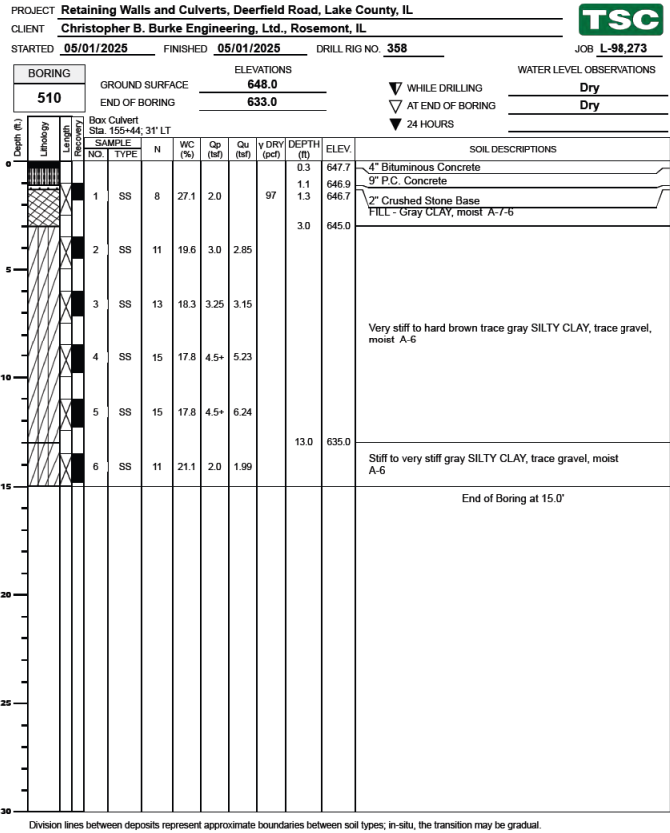
WATER LEVEL OBSERVATIONS
 WHILE DRILLING **8.0'**
 AT END OF BORING **8.0'**
 24 HOURS

Depth (ft)	Lithology	LWD Recovery	Box Culvert Sta. 153+02.30' LT		N	WC (%)	Qp (tsf)	Qu (tsf)	v DRY (pcf)	DEPTH (ft)	ELEV (ft)	SOIL DESCRIPTIONS
			NO.	TYPE								
0			1	SS	7	18.9	3.5		109	0.3 1.0 1.2	647.7 647.0 646.8	4" Bituminous Concrete 8" P.C. Concrete 2" Crushed Stone Base
										3.0	645.0	FILL - Dark brown and gray SILTY CLAY, trace gravel, trace organic, moist A-6
5			2	SS	10	19.8	3.25	3.38				Very stiff brown and gray SILTY CLAY, trace gravel, moist A-6
			3	SS	11	23.5	3.0	2.98				
10			4	SS	10	21.9				8.0	640.0	
			5	SS	11	21.8						Medium dense SANDY LOAM, wet A-4
15			6	SS	11	24.4						
20												End of Boring at 15.0'
25												
30												

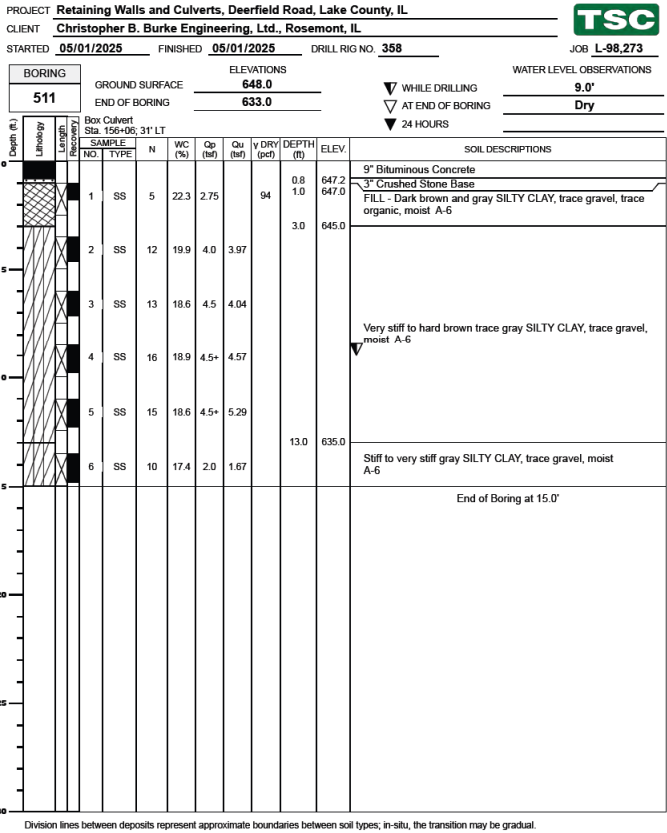
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.



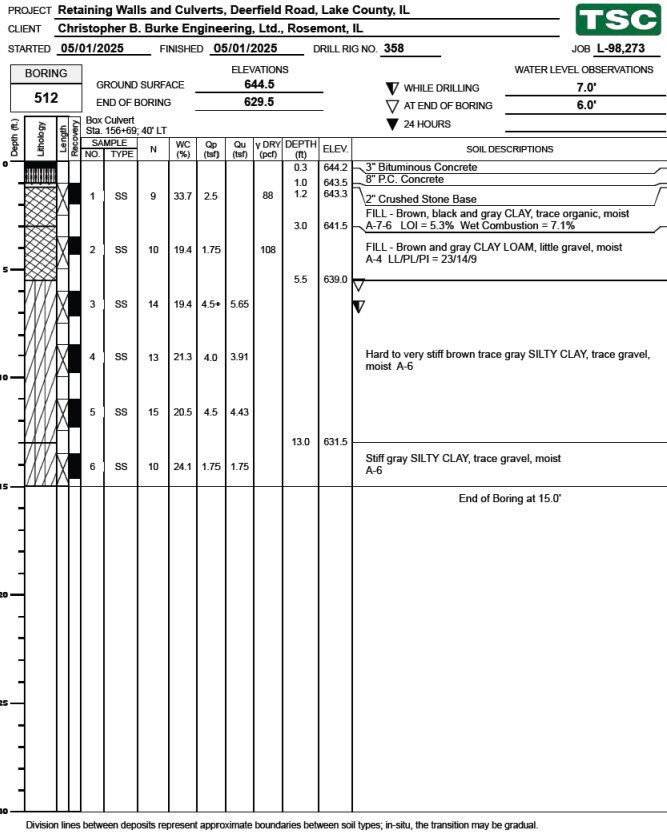
Page 1 of 1



Page 1 of 1

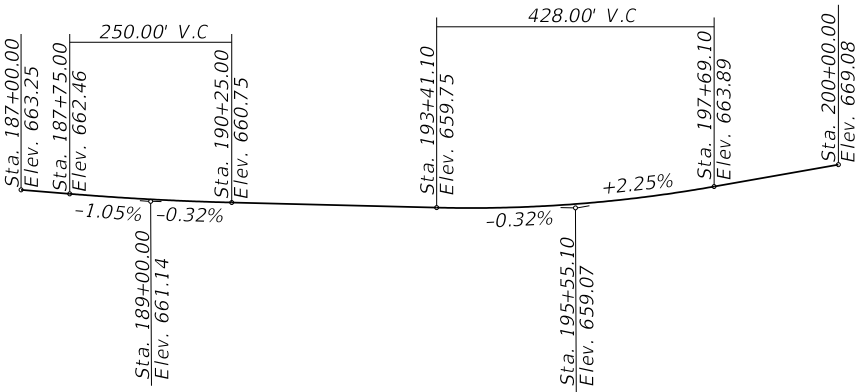
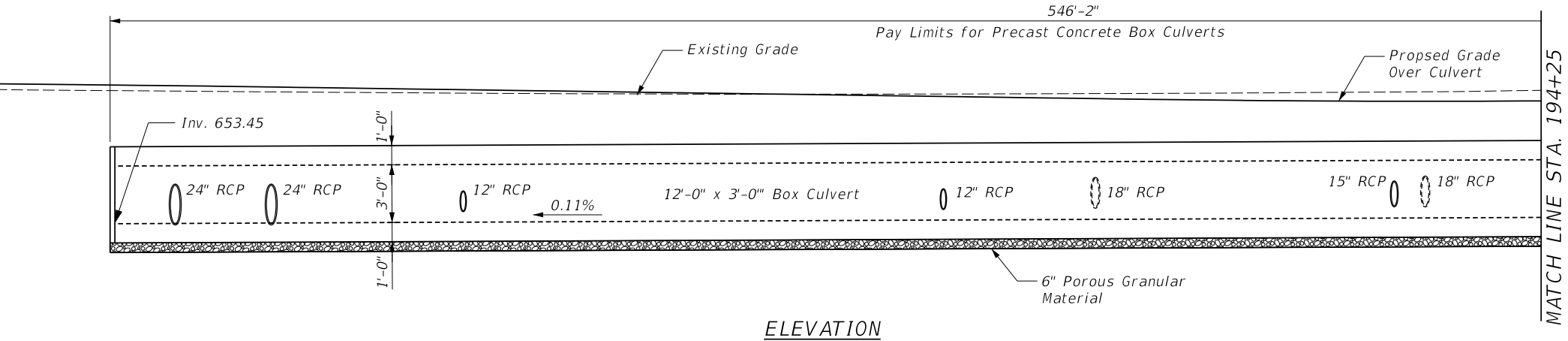


Page 1 of 1

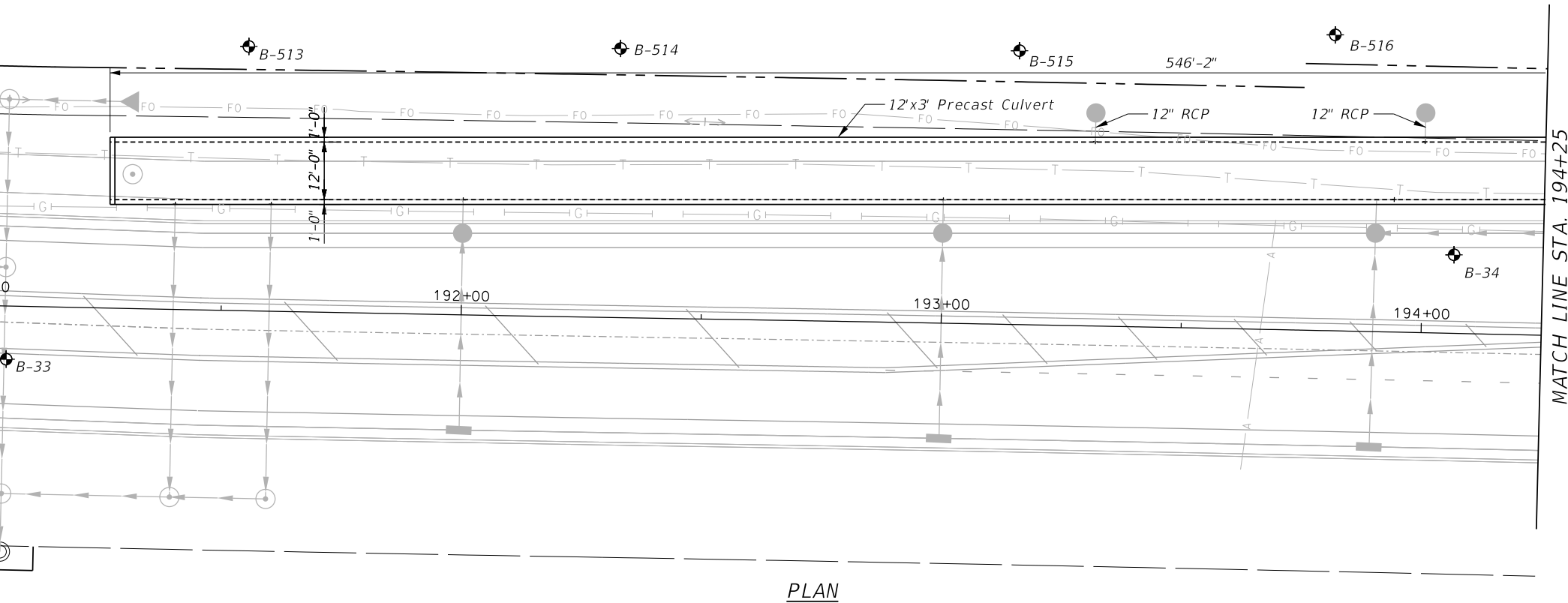


Page 1 of 1

Bench Mark: LCDOT 5-45R, Square Cut on Southwest Corner of Handhole on the Northeast Corner of Deerfield Road and Portwine Road. Elev. 656.26



PROFILE GRADE



DESIGN SPECIFICATIONS

2024 AASHTO LRFD Bridge Design Specifications
Customary U.S. Units, 10th Edition

LOADING HL-93

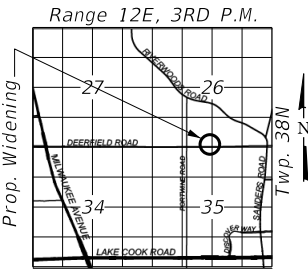
DESIGN STRESSES

PRECAST UNITS

f'_c = 5,000 psi
 f_y = 60,000 psi (Reinforcement)
 f_y = 65,000 psi (Welded Wire Reinforcement)

FIELD UNITS

f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

DEERFIELD ROAD OVER DITCH

F.A.U. 1257-SECTION 15-00038-07-WR

LAKE COUNTY

STATION 194+00

- Gas Line
- Water Main
- Aerial Wires
- Electric Line
- Cable TV
- Fiber Optic Line
- Proposed Storm Sewer



Majid Mobasser

07/29/2026

MAJID MOBASSERI

DATE

ILLINOIS REGISTRATION No. 081-005058

STRUCTURAL ENGINEER

EXPIRATION DATE: 11/30/26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

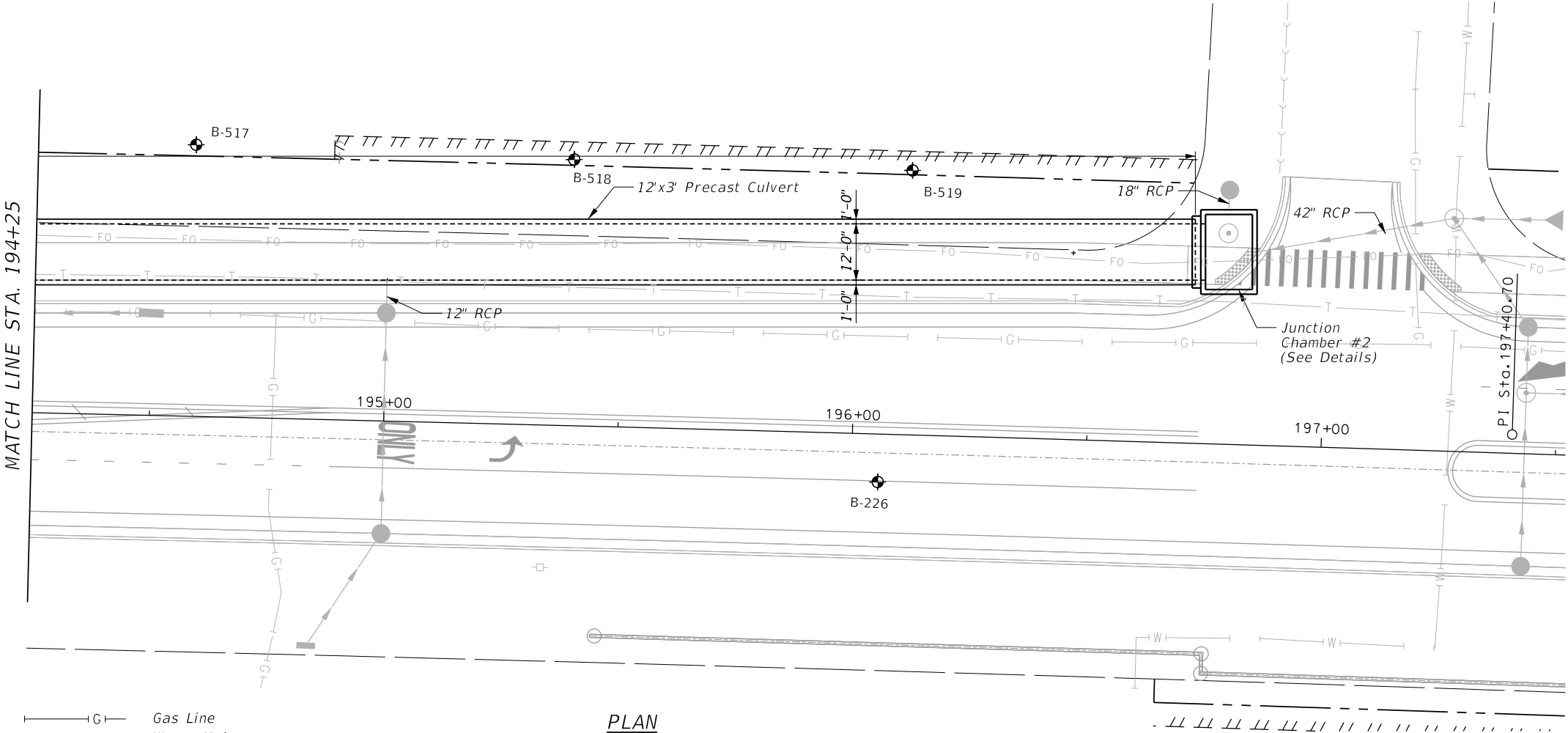
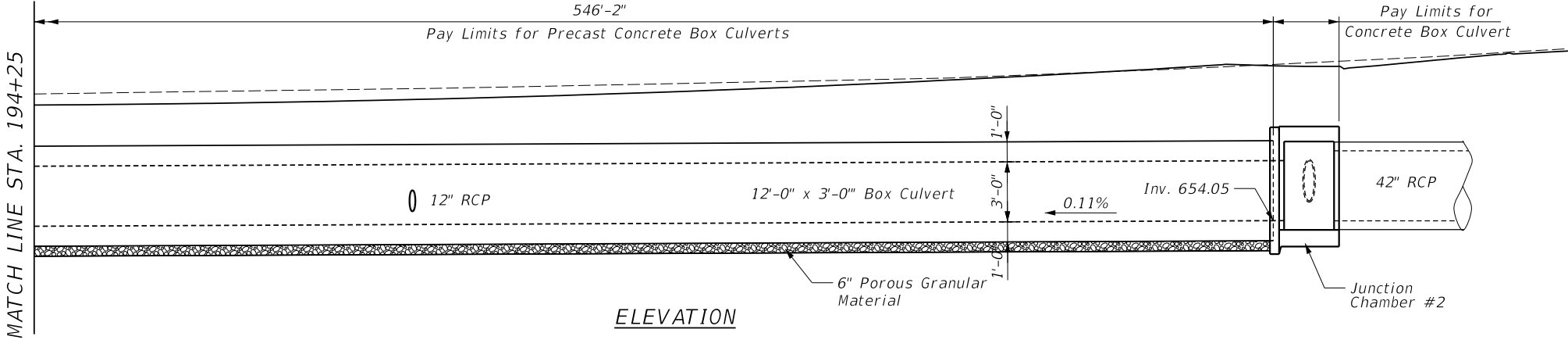
DEERFIELD ROAD RECONSTRUCTION
GENERAL PLAN AND ELEVATION

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	675
CONTRACT NO. 61K62				
ILLINOIS FED. AID PROJECT				

FILE NAME =	USER NAME = jjezerny	DESIGNED - MM	REVISED -
N:\LCDOT\190304\0003A\Struct\101-190304-0003A-Pro-Box-12x3 - GPE-01.sht		DRAWN - PDR	REVISED -
	PLOT SCALE = 15'	CHECKED - CF	REVISED -
Default	PLOT DATE = 7/31/2026	DATE -	REVISED -

Bench Mark: LCDOT 5-45R, Square Cut on Southwest Corner of Handhole on the Northeast Corner of Deerfield Road and Portwine Road. Elev. 656.26



- Gas Line
- Water Main
- Aerial Wires
- Electric Line
- Cable TV
- Fiber Optic Line
- Proposed Storm Sewer



Majid Mobasseri

07/29/2026

MAJID MOBASSERI

DATE

ILLINOIS REGISTRATION No. 081-005058
EXPIRATION DATE: 11/30/26

STRUCTURAL ENGINEER

GENERAL PLAN AND ELEVATION
DEERFIELD ROAD OVER DITCH
F.A.U. 1257-SECTION 15-00038-07-WR
LAKE COUNTY
STATION 194+00

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -
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	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
GENERAL PLAN AND ELEVATION

SCALE: SHEET OF 107 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	15-00038-07-WR	LAKE	1090	676
CONTRACT NO. 61K62				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

The design fill height for this box is 1.5 ft. The precast box culvert sections shall conform to the requirements of ASTM C 1577.

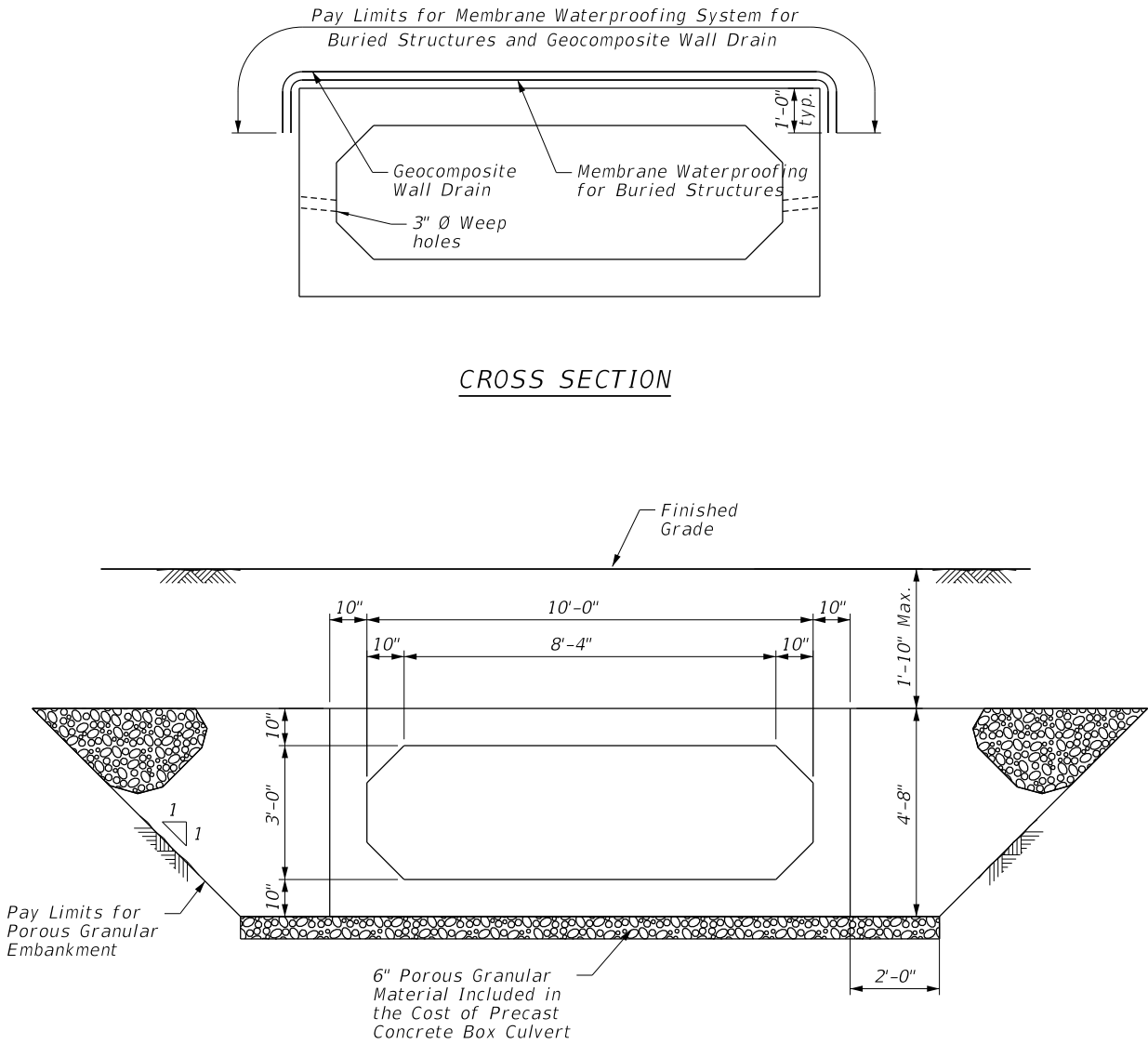
Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.

Nonwoven geotextile fabric shall conform to the requirements of Art. 1080.01 of the Standard Specifications. The minimum weight of the fabric shall be 6 ounces per square yard.

Precast concrete box culverts and box culvert end sections shall be backfilled with Porous Granular Embankment in the required excavation areas on the sides of the box culvert from the top of the box culvert to the bottom of the box culvert. This area of PGE is included in the Porous Granular Embankment pay item. The 6-inch thick layer of porous granular material required under the precast concrete box culvert, according to Section 540.06 of the standard specifications, shall also apply to the end sections. Cost of this porous granular material will not be paid for separately but shall be included in the unit price of the work for which it is required.

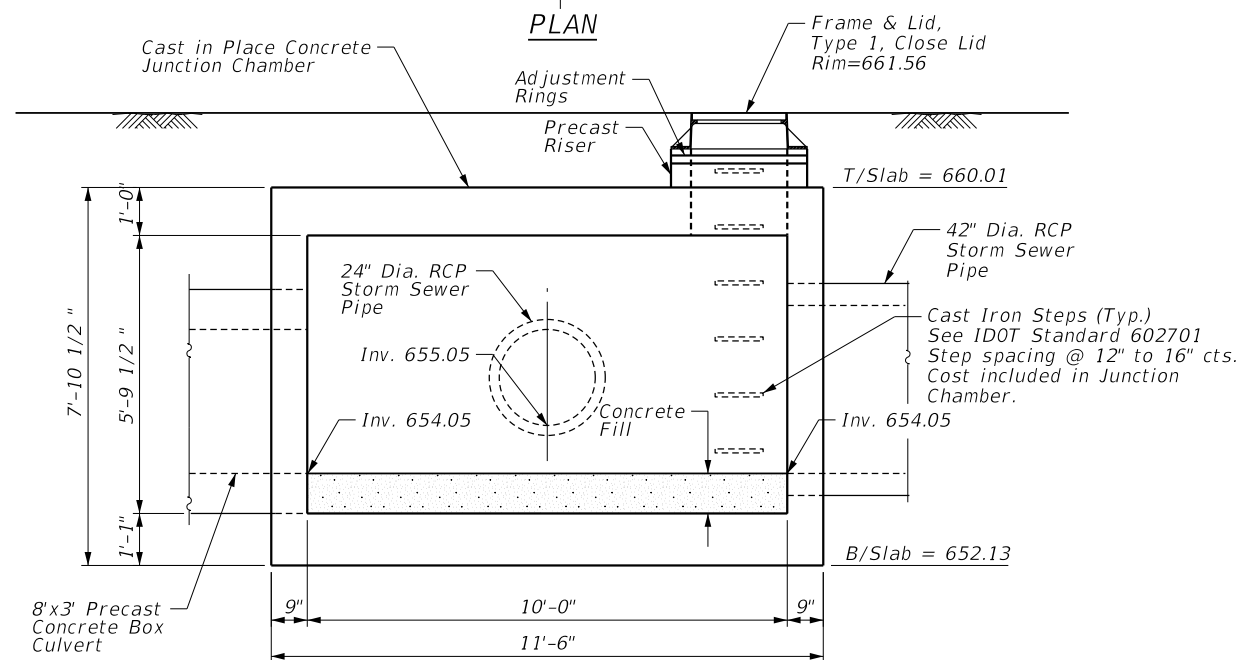
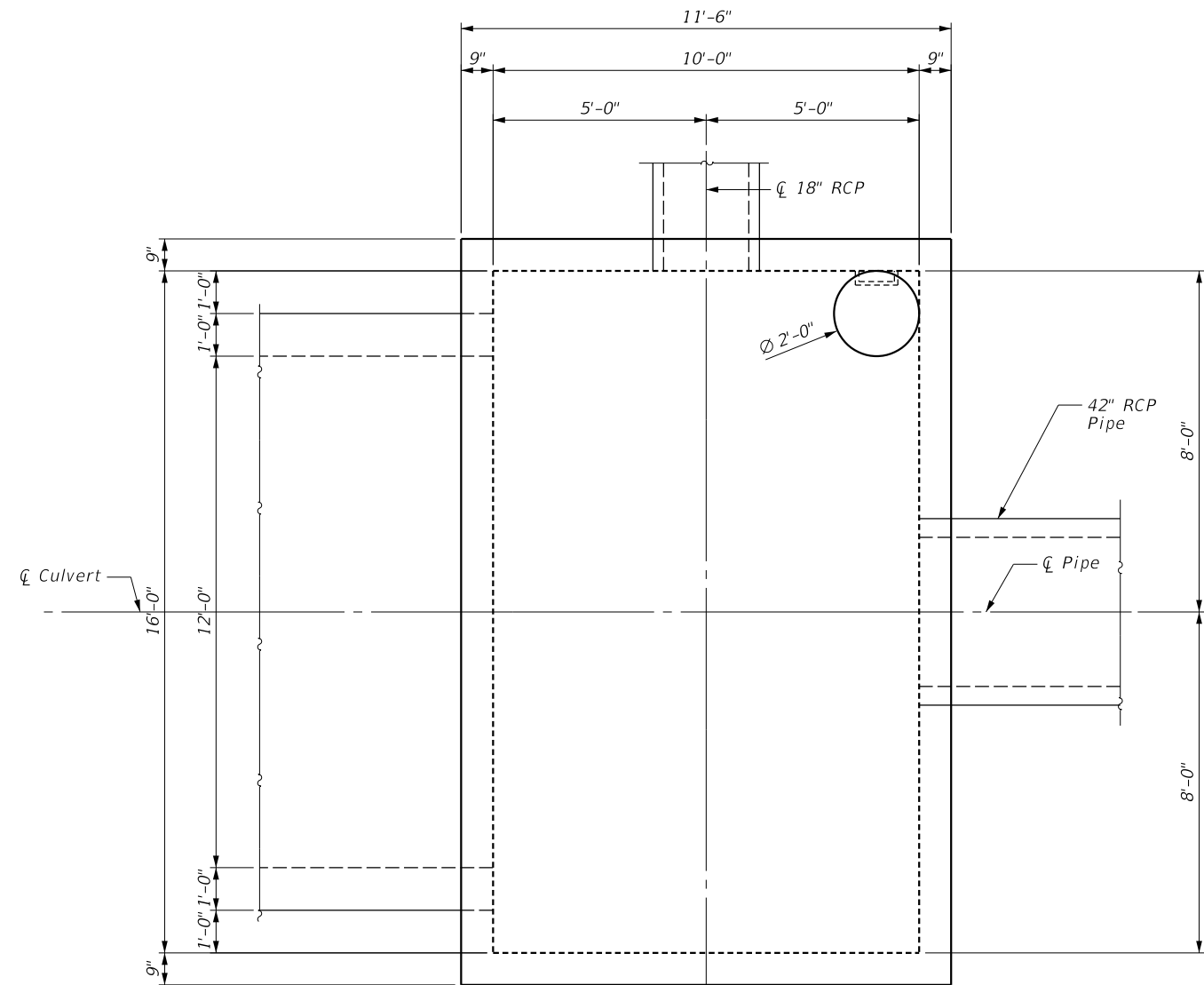
INDEX OF STRUCTURAL SHEETS

SHEET NO	TITLE
S-67	GENERAL PLAN & ELEVATION
S-68	GENERAL NOTES, INDEX & BOM
S-69	ELEVATION, AND DETAIL
S-70	TYPICAL CROSS SECTION AND DETAILS
S-71	BORING LOGS

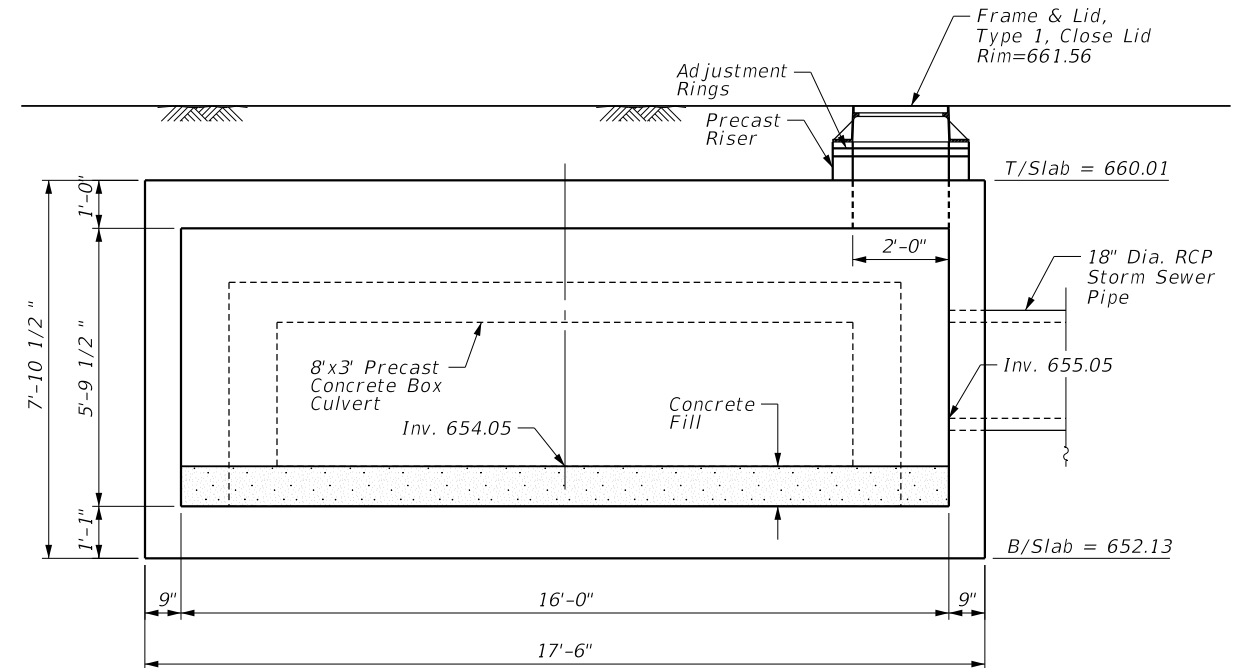


TOTAL BILL OF MATERIAL

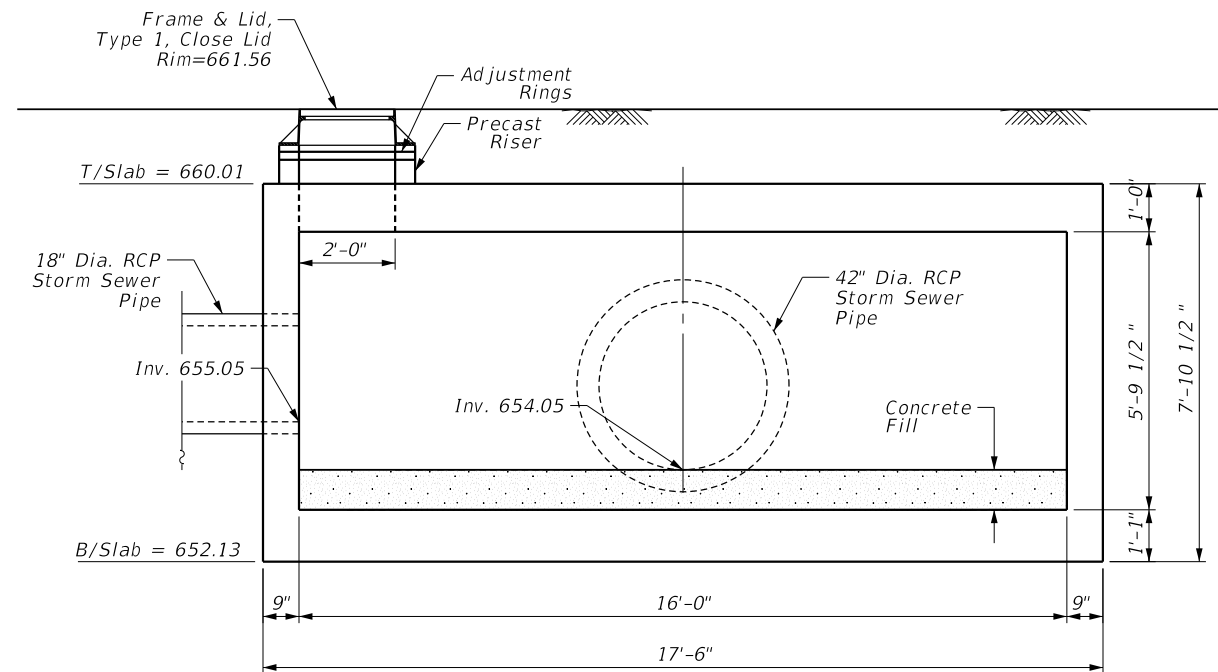
PAY ITEM NO.	ITEM	UNIT	TOTAL	RECORD QUANTITY
20700220	Porous Granular Embankment	Cu. Yd.	2600	
50200100	Structure Excavation	Cu. Yd.	2520	
50200450	Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	540	
50800205	Reinforcement Bars, Epoxy Coated	Pound	3170	
54003000	Concrete Box Culvert	Cu. Yd.	20.5	
54011203	Precast Concrete Box Culverts 12' X 3'	Foot	521	
59100100	Geocomposite Wall Drain	Sq. Yd.	925	
X5810103	Waterproofing Membrane System for Buried Structures	Sq. Yd.	925	



SECTION A-A



SECTION B-B



SECTION C-C

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION DETAILS - JUNCTION BOX 2		F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304\0003A\Struct\104-190304-0003A-Pro-Box-12x3 - Detail-01.sht		DRAWN - PDR	REVISED -				I257	I5-00038-07-WR	LAKE	1090	678
Default	PLOT SCALE = 1"	CHECKED - CF	REVISED -				CONTRACT NO. 6IK62				
	PLOT DATE = 7/31/2026	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				

PROJECT Retaining Walls and Culverts, Deerfield Road, Lake County, IL										TSC			
CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, IL										JOB L-98,273			
STARTED 05/02/2025		FINISHED 05/02/2025		DRILL RIG NO. 358									
BORING		ELEVATIONS		WATER LEVEL OBSERVATIONS									
513		GROUND SURFACE END OF BORING		▽ WHILE DRILLING 11.0' ▽ AT END OF BORING 10.0' ▽ 24 HOURS									
Box Culvert Sta. 191+54.55' LT		644.5											
Depth (ft.)	Soil Log	LABORATORY	REMARKS	SAMPLE NO.	TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	v DRY (pcf)	DEPTH (ft.)	ELEV.	SOIL DESCRIPTIONS
0				1	SS	8	22.4	2.5	105		859.0 0.5 1.0 1.2 658.3		6" Bituminous Concrete 6" P.C. Concrete 2" Crushed Stone Base
5				2	SS	14	18.9	4.5	4.50		3.0	656.5	FILL - Brown, black and gray SILTY CLAY, trace gravel, trace organic, moist A-6
				3	SS	13	19.8	4.25	4.30				Hard brown trace gray SILTY CLAY, trace gravel, moist A-6
10				4	SS	9	17.0				8.0	651.5	Loose gray SILTY LOAM, moist ▽ A-4
				5	SS	13	20.1				10.5	649.0	Medium dense gray SANDY LOAM, wet A-2-4 ▽
15				6	SS	11	23.4						End of Boring at 15.0'
20													
25													
30													

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT	Retaining Walls and Culverts, Deerfield Road, Lake County, IL										TSC	
CLIENT	Christopher B. Burke Engineering, Ltd., Rosemont, IL											
STARTED	05/02/2025	FINISHED	05/02/2025	DRILL RIG NO.	358						JOB	L-98,273
BORING						ELEVATIONS				WATER LEVEL OBSERVATIONS		
514		GROUND SURFACE				659.5				▼ WHILE DRILLING		13.0'
		END OF BORING				644.5				▼ AT END OF BORING		14.0'
										▼ 24 HOURS		

Depth (ft.)	Soil Log	Soil Description	Box Culvert Sta. 192+31; 56' LT										ELEV.
			NO.	TYPE	N	WC (%)	Qp (ksf)	Qu (ksf)	v DRY (pcf)	DEPTH (ft)			
0												659.0	
												658.2	
												658.1	
5			1	SS	9	25.4	2.5		97			658.0	
			2	SS	12	36.0	1.25		85			658.1	
			3	SS	11	24.7	2.25	2.19				654.0	
			4	SS	9	18.7	2.25	2.06				654.0	
10			5	SS	9	18.5						649.0	
			6	SS	9	24.4						646.5	
15													
20													
25													
30													

SOIL DESCRIPTIONS	
	6" Bituminous Concrete
	11" P.C. Concrete
	2" Crushed Stone Base
	FILL - Brown, black and gray CLAY, trace organic, moist to very moist A-7-6 Sample 7' T.O.I = 5.3% Wet Combustion = 7.1%
	Very stiff brown and gray SILTY CLAY, trace to little gravel, moist A-6
	Loose gray SILTY LOAM, moist A-4
	Loose gray SANDY LOAM, wet A-2-4
	End of Boring at 15.0'

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

TSC

PROJECT Retaining Walls and Culverts, Deerfield Road, Lake County, IL
CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, IL

STARTED 05/02/2025 FINISHED 05/02/2025 DRILL RIG NO. 358

JOB L-98,273

BORING				ELEVATIONS				WATER LEVEL OBSERVATIONS				
515				GROUND SURFACE				▼ WHILE DRILLING				
				END OF BORING				▼ AT END OF BORING				
				644.5				▼ 24 HOURS				
Box Culvert Sta. 193+15; 56' LT												
Depth (ft.)	Borehole ID	Length (ft.)	Soil Type	SAMPLE				SOIL DESCRIPTIONS				
				NO.	TYPE	N	WC (%)	Op (lb)	Q _u (lb)	V DRY (pcf)	DEPTH (ft)	ELEV.
0	BH01	0.4	SS	1	SS	8	26.7	2.5	95		0.4	659.1
											1.0	658.5
											1.2	658.3
5	BH02	2.0	SS	2	SS	11	24.5	2.5	2.59			
				3	SS	9	24.6	2.5	2.52			
				4	SS	12	20.1	4.5	4.43			
10	BH03	2.0	SS	5	SS	8	20.5	1.25	1.20			
				6A	SS	13	18.2					
				6B	SS	13	25.2	2.75	2.65			
15	BH04	2.0	SS									
20	BH05	2.0	SS									
25	BH06	2.0	SS									
30	BH07	2.0	SS									

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT										Retaining Walls and Culverts, Deerfield Road, Lake County, IL																																							
CLIENT										Christopher B. Burke Engineering, Ltd., Rosemont, IL																																							
STARTED										05/02/2025	FINISHED										05/02/2025	DRILL RIG NO.										358	JOB										L-98-273						
BORING																				ELEVATIONS																				WATER LEVEL OBSERVATIONS									
516										GROUND SURFACE:										659.5										▽ WHILE DRILLING										8.0'									
										END OF BORING										644.5										▽ AT END OF BORING										9.0'									
																														▽ 24 HOURS																			
Boring Log Depth (ft) Logging Length Recovery										Box Culvert Sta. 193+04.55' LT										SAMPLE										SOIL DESCRIPTIONS																			
NX#	TYPE	N	WC (%)	Qp (tsf)	Qu (tsf)	v DRY (pcf)	DEPTH (ft)	ELEV																																									
1	SS	10	18.5	2.0		109	0.5 1.0 1.3	659.0 658.5 658.2	6"- Bituminous Concrete																																								
									6" P.C. Concrete																																								
									3" Crushed Stone Base																																								
							3.0	656.5	FILL - Brown and gray SILTY CLAY, trace gravel, moist A-6																																								
2	SS	14	21.1	4.5+	5.94				Hard brown trace gray SILTY CLAY, trace gravel, moist A-6																																								
3	SS	15	19.3	4.5+	6.53																																												
4	SS	11	19.2				8.0	651.5	Medium dense gray SILTY LOAM, wet A-4																																								
5	SS	13	15.3	1.25			10.5	649.0	Stiff gray SILTY CLAY LOAM, very moist to moist A-6																																								
6	SS	10	16.0	1.75					End of Boring at 15.0'																																								

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Retaining Walls and Culverts, Deerfield Road, Lake County, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., Rosemont, IL**

STARTED **05/02/2025** FINISHED **05/02/2025** DRILL RIG NO. **358** JOB **L-98,273**

BORING
517

ELEVATIONS
 GROUND SURFACE **660.0**
 END OF BORING **640.0**

WATER LEVEL OBSERVATIONS
 WHILE DRILLING **13.0'**
 AT END OF BORING **13.0'**
 24 HOURS

Box Culvert
 Sta. 194+50.56' LT

Depth (ft.)	Lithology	Recovery	SAMPLE		N	WC (%)	Qp (bl)	Qu (tsf)	v DRY (pcf)	DEPTH (ft.)	ELEV.	SOIL DESCRIPTIONS
			NO.	TYPE								
0			1	SS	8	17.8	1.75		110	0.5	659.5	6" Bituminous Concrete
										1.1	659.9	7" P.C. Concrete
										1.3	658.7	2" Crushed Stone Base
										3.0	657.0	FILL - Dark gray and brown SILTY CLAY, trace gravel, trace organic, moist A-6
5			2	SS	10	21.0	2.0	1.67				
			3	SS	11	22.0	3.0	2.46				
										8.0	652.0	Stiff to very stiff brown and gray SILTY CLAY, trace gravel, moist A-6
10			4	SS	12	20.1						
			5	SS	8	19.1						
										13.0	647.0	Medium dense to loose gray SILTY LOAM, moist A-4 LL/PL/PI = 23/15/7
			6	SS	7	18.5	1.25					
15										17.0	643.0	Stiff gray SILTY CLAY LOAM, moist to very moist A-6
			7	SS	10	18.6						
20												End of Boring at 20.0'
25												
30												

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT	Retaining Walls and Culverts, Deerfield Road, Lake County, IL				TSC
CLIENT	Christopher B. Burke Engineering, Ltd., Rosemont, IL				
STARTED	05/02/2025	FINISHED	05/02/2025	DRILL RIG NO.	358
					JOB L-98,273

BORING 518	GROUND SURFACE _____ END OF BORING _____ ELEVATIONS 660.5 645.5	WATER LEVEL OBSERVATIONS ▽ WHILE DRILLING 13.0' ▽ AT END OF BORING 13.0' ▽ 24 HOURS _____
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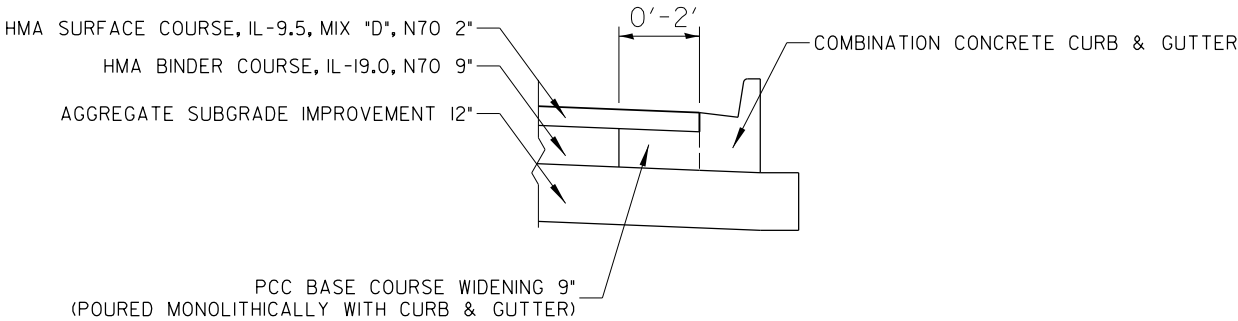
Depth (ft.)	Lithology	Sample No.	TYPE	N	WC (%)	Qp (blf)	Qu (blf)	V DRY (pcf)	DEPTH (ft)	ELEV	SOIL DESCRIPTIONS	
0		1	SS	10	18.4	3.5	103		0.5 1.0 1.2 3.0 6.575	660.0 659.5 659.3 657.5	6" Bituminous Concrete 6" P.C. Concrete 2" Crushed Stone Base FILL - Dark gray and brown SILTY CLAY, trace gravel, trace organic, moist A-6	
5		2	SS	10	20.2	4.5	4.57					Hard to very stiff brown and gray SILTY CLAY, trace gravel, moist A-6
		3	SS	13	22.7	4.0	4.17					
10		4	SS	9	20.5	3.0	2.85					Very stiff gray SILTY CLAY, trace gravel, moist A-6 ▽
		5	SS	7	21.4	2.5	2.46					
		6	SS	10	18.1	2.0	2.06					
15											End of Boring at 15.0'	
20												
25												
30												

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

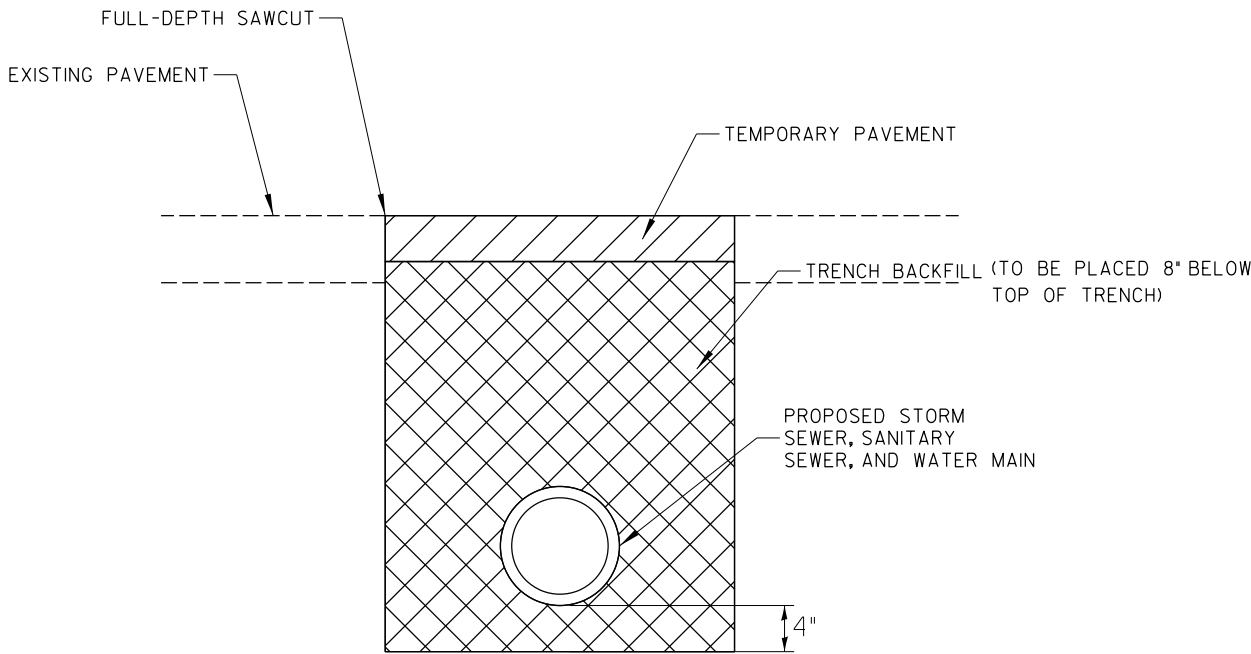
PROJECT		Retaining Walls and Culverts, Deerfield Road, Lake County, IL				TSC					
CLIENT		Christopher B. Burke Engineering, Ltd., Rosemont, IL				JOB L-98,273					
STARTED 05/02/2025		FINISHED 05/02/2025		DRILL RIG NO. 358		WATER LEVEL OBSERVATIONS					
BORING 519		GROUND SURFACE END OF BORING		ELEVATIONS 661.0 646.0		▼ WHILE DRILLING ▼ AT END OF BORING ▼ 24 HOURS 13.0' 14.0'					
Depth (ft.)	Length Interval	Box Culvert Sta. 156+28.55' LT									
		SAMPLE NO.	TYPE	N	WC (%)	Qp (tsf)	Q _u (tsf)	V DRY DEPTH (pct)	ELEV (ft)	SOIL DESCRIPTIONS	
0		1	SS	8	26.5	4.0	97	660.5 660.0 659.8	6" Bituminous Concrete 6" P.C. Concrete 2" Crushed Stone Base		
5		2	SS	10	24.7	2.0	1.99	3.0	658.0	FILL - Black and gray CLAY, trace organic, moist A-7-6	
		3	SS	11	25.4	1.5	1.07				Stiff to very stiff brown and gray SILTY CLAY, trace gravel, moist A-6
10		4	SS	7	23.1	2.25	2.32		10.5	650.5	
		5	SS	7	20.5	1.5	1.20		13.0	648.0	▼ Stiff gray SILTY CLAY, trace gravel, moist to very moist A-6 ▼ Medium dense gray SILTY LOAM, wet A-2-4
15		6	SS	10	14.9						End of Boring at 15.0'
20											
25											
30											

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

FILE NAME =	USER NAME = jjezierny	DESIGNED - MM	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION BORING LOGS – PROPOSED 12X3 BOX CULVERT					F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LCDOT\190304.0003A\Struct\105-190304.0003A-Pro-Box-12x3 - BLogs.sht		DRAWN - PDR	REVISED -							1257	15-00038-07-WR	LAKE	1090	679
PLOT SCALE = 1'		CHECKED - CF	REVISED -		CONTRACT NO. 61K62									
PLOT DATE = 7/31/2026		DATE -	REVISED -		SCALE:	SHEET	OF 107 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT				



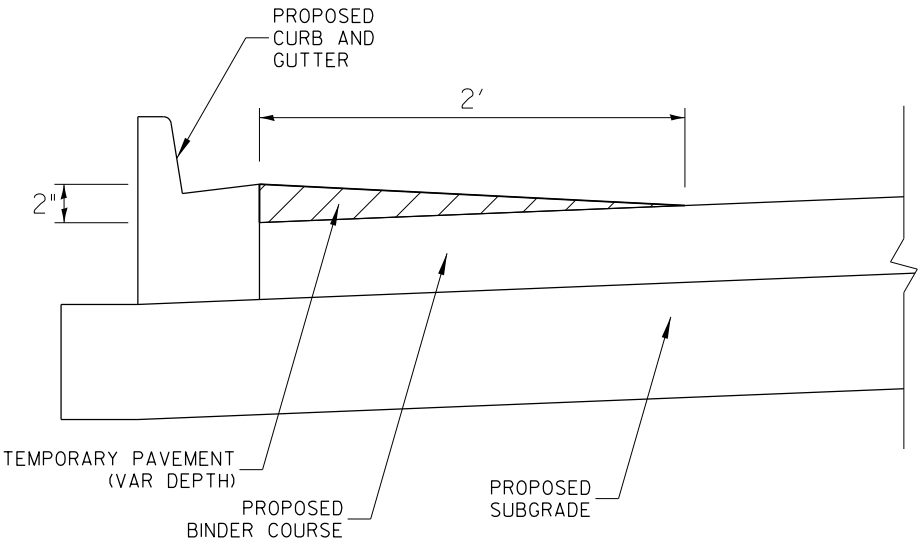
PCC BASE COURSE WIDENING 9" DETAIL
(WIDENING < 2')



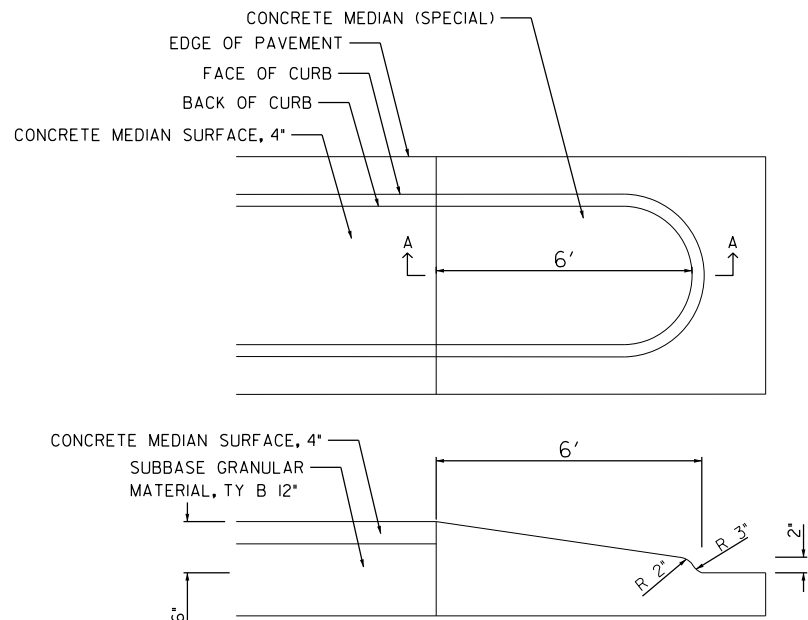
UTILITY PATCHING DETAIL

NOTES:

1. THIS DETAIL SHALL BE USED AT LOCATIONS WHERE THE PAVEMENT WILL BE RECONSTRUCTED IN SUBSEQUENT CONSTRUCTION STAGES
2. SEE TRENCH BACKFILL DETAILS FOR TRENCH WIDTH, BEDDING MATERIAL REQUIREMENTS, AND TRENCH BACKFILL REQUIREMENTS
3. SAWCUTTING AND REMOVAL OF EXISTING PAVEMENT TO CONSTRUCT UTILITY TRENCH PAID AS PAVEMENT REMOVAL
4. REMOVAL OF TEMPORARY PAVEMENT TO CONSTRUCT PERMANENT PAVEMENT PAID AS PAVEMENT REMOVAL

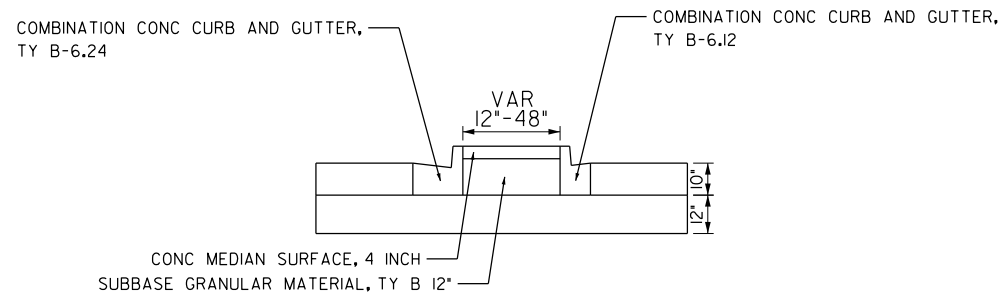


TEMPORARY PAVEMENT (VARIABLE DEPTH)



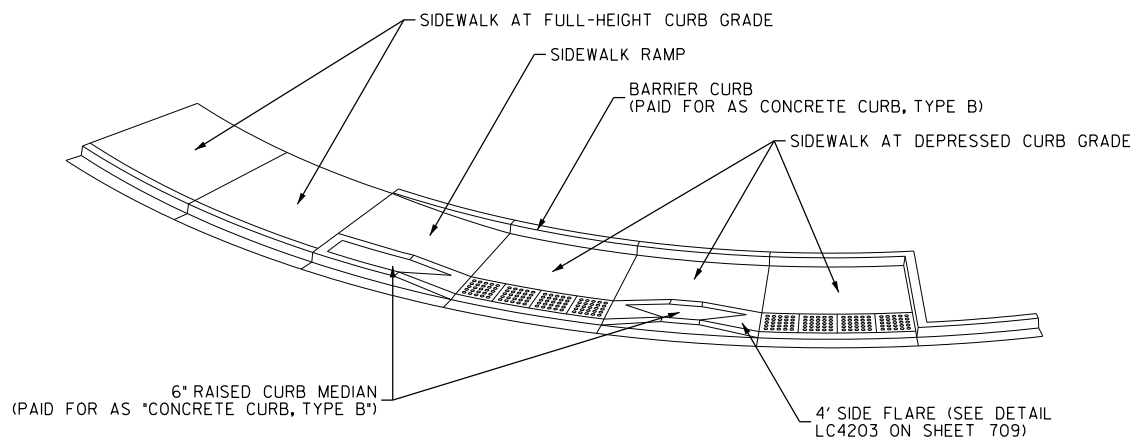
SECTION A-A

CONCRETE MEDIAN NOSE DETAIL

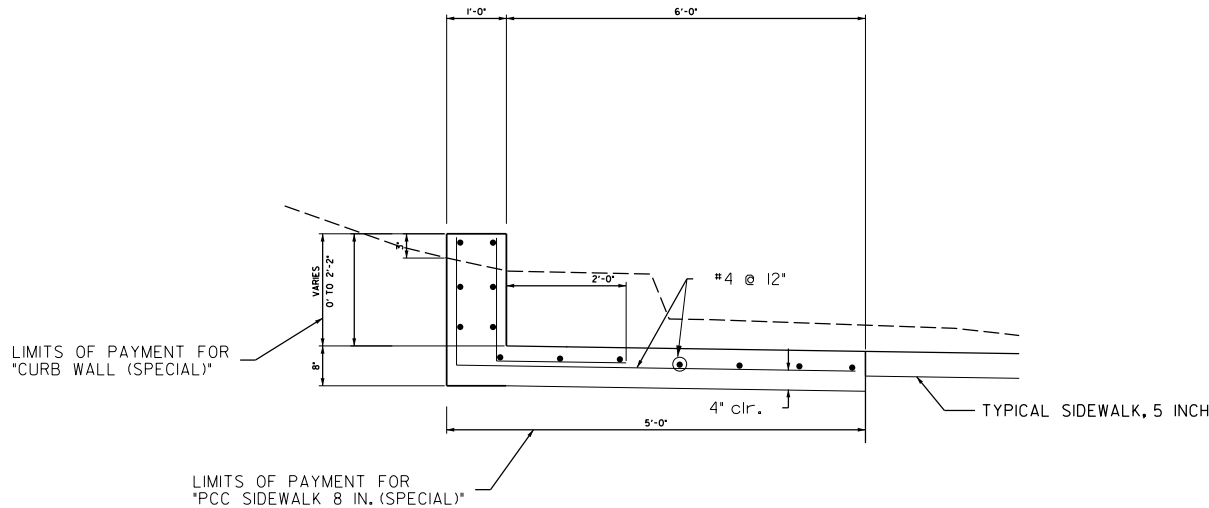


DEERFIELD MEDIAN DETAIL

STA 86+78.97 TO 91+07.99
STA 92+75.11 TO 98+85.43
STA 100+89.92 TO 104+63.83



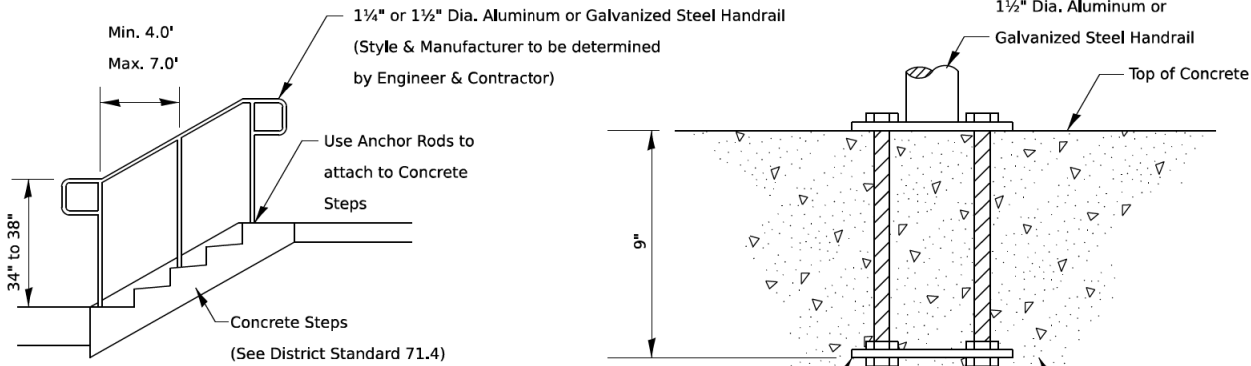
ADA RAMP
WITH RAISED CURB MEDIAN DETAIL



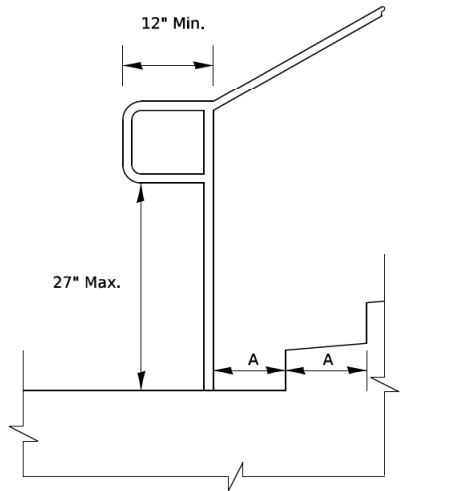
PCC SIDEWALK 8 IN. (SPECIAL)
CURB WALL (SPECIAL)

STA. 99+05.73 TO STA. 99+56.65

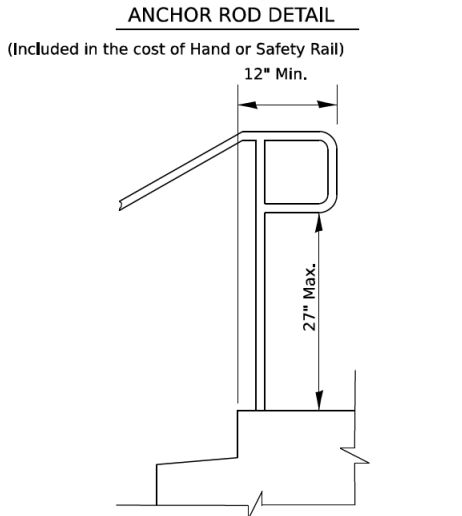
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	PLOT DATE = 7/31/2026	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
SCALE:		SHEET OF SHEETS		STA.		TO STA.					



HANDRAIL FOR CONCRETE STEPS



Extension at Bottom of Run Detail



Extension at Top of Run Detail

Notes:

Stairways shall have continuous handrails both sides of all stairs.

The inside handrail on switchback or dogleg stairs shall always be continuous.

Gripping surfaces shall be uninterrupted by newel posts, other construction elements, or obstructions.

Ends of handrail shall be either rounded or returned smoothly to floor, wall, or post.

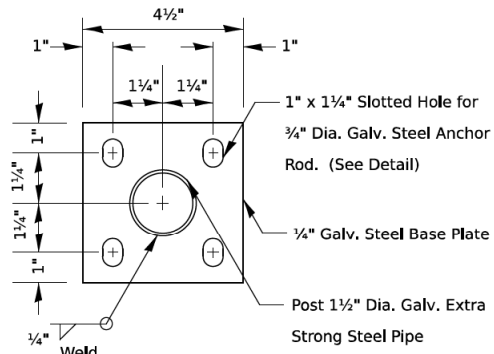
Hand & safety rails shall not rotate within their fittings.

The clear space between hanrails and any wall shall be 1 1/2"

Handrail shall conform to Section 509 with the exception that all pipe and connections shall be welded galvanized or aluminum according to Article 1006.30, or 1006.34.

The diameter of the gripping surface of the handrail shall be 1-1/4" to 1-1/2"

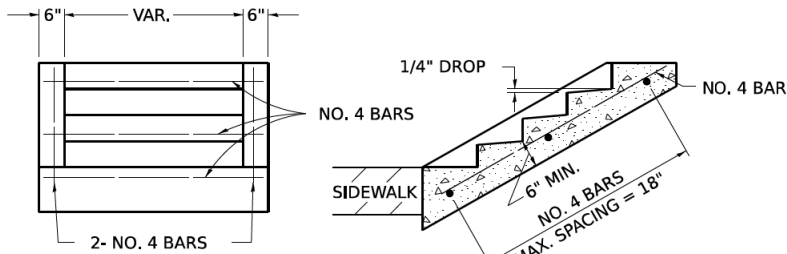
This work shall be paid for at the contract unit price per FOOT for PIPE HANDRAIL.



POST BASE PLATE DETAIL

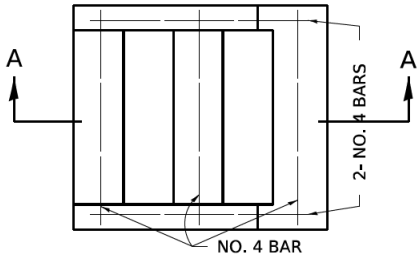
(Included in the cost of Hand or Safety Rail)

PIPE HANDRAIL (SPECIAL) DETAIL



END ELEVATION

SECTION A-A



PLAN

TABLE OF TREADS & RISERS

SLOPE TREAD RISER

1:2	12"	6"
1:3	15"	5"
1:4	17"	4 1/4"

WHERE SLOPES FALL BETWEEN THOSE SHOWN IN THE TABLE ABOVE, THE STAIR RAIL SHOULD FIT THE SLOPE AND THE TREAD IN INCHES x THE RISER IN INCHES SHOULD BE BETWEEN 72 AND 78.

EXAMPLE:

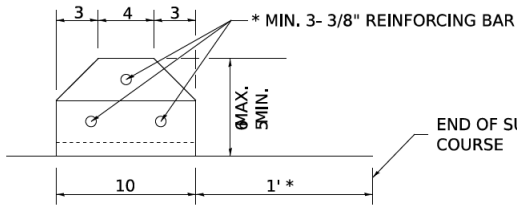
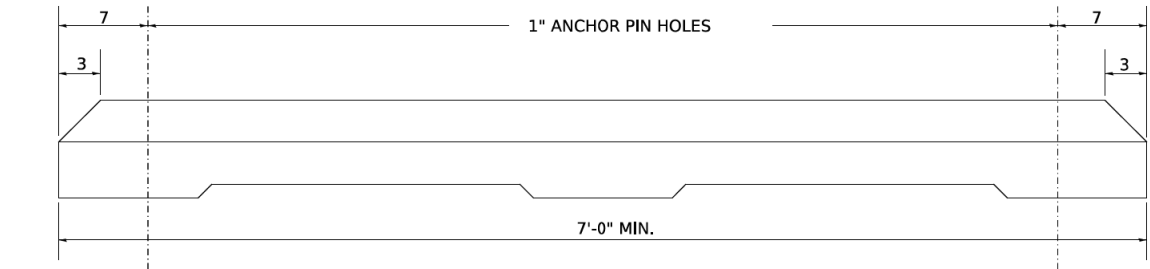
FOR A 1:4 SLOPE USE $y = \text{RISER HEIGHT}$ $4y = 75"$.
SOLVING $y \leq \frac{75}{4}$, $y = 4.3"$ (USE 4 1/4" FOR CONVENIENCE.)

TREAD WOULD THEN BE $4 \frac{1}{4}" \times 4 = 17"$

REINFORCEMENT BARS SHALL BE INCLUDED IN THE COST OF CONCRETE STEPS

CLASS SI CONCRETE SHALL BE USED

CONCRETE STEPS DETAIL



* OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

ANCHOR PINS SHALL BE 3/4 DIAMETER, 36 LONG.

THE COST OF THE MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL THE PARKING BLOCKS WITH ANCHOR PINS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER EACH FOR PARKING BLOCKS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

PARKING BLOCK DETAIL

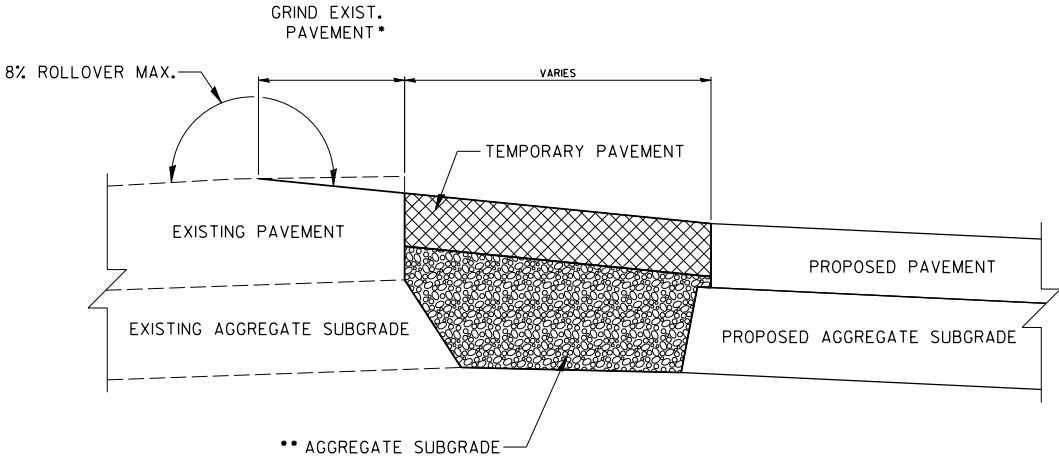
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Default	PLOT SCALE = 5'	CHECKED -	REVISED -
	PLOT DATE = 7/31/2026	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DEERFIELD ROAD RECONSTRUCTION
CONSTRUCTION DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

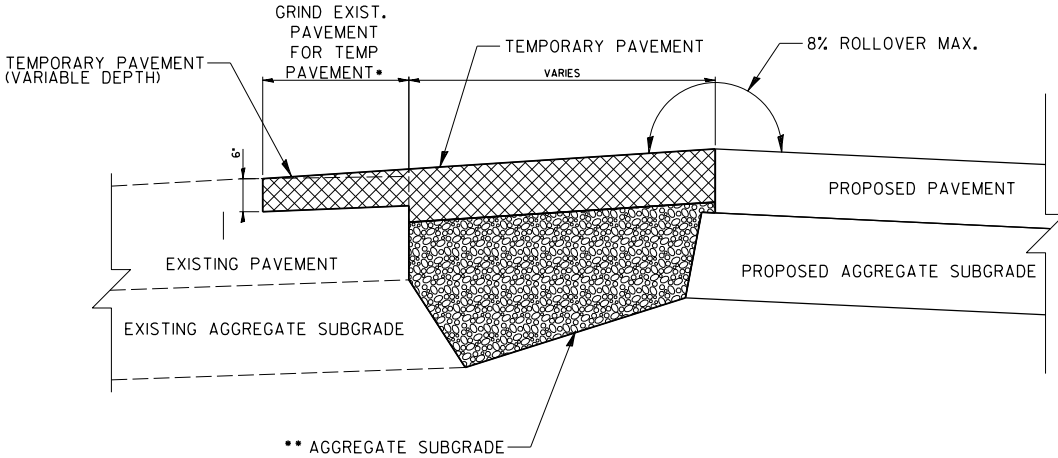
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I257	I5-00038-07-WR	LAKE	1090	682
CONTRACT NO. 6IK62				
ILLINOIS FED. AID PROJECT				



TEMPORARY PAVEMENT – EXISTING PAVEMENT HIGHER THAN PROPOSED PAVEMENT

TEMPORARY PAVEMENT SHALL BE PLACED AT THE LOCATIONS SHOWN IN THE MOT PLAN SHEETS TO CONNECT THE EXISTING PAVEMENT TO THE PROPOSED PAVEMENT. SEE HMA TABLE ON THE TYPICAL SECTIONS FOR TEMPORARY PAVEMENT DETAILS. REMOVAL OF TEMPORARY PAVEMENT SHALL BE PAID FOR AS PAVEMENT REMOVAL.

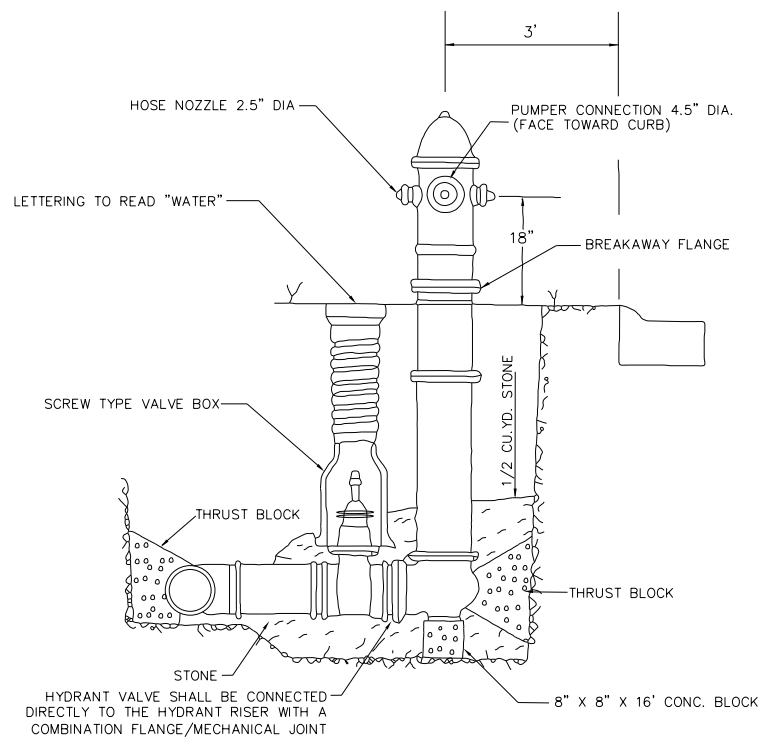
- GRINDING OF THE EXISTING PAVEMENT WILL BE REQUIRED IN CERTAIN LOCATIONS TO ACHIEVE A MAXIMUM OF 8% ROLLOVER BETWEEN THE TEMPORARY PAVEMENT AND THE EXISTING PAVEMENT. IF THE GRINDING OPERATIONS ENCROACH INTO A LIVE LANE, THE CONTRACTOR SHALL IMPLEMENT IDOT STANDARD 701501. GRINDING OF THE EXISTING PAVEMENT SHALL BE PAID FOR AS HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH. IMPLEMENTING IDOT STANDARD 701501 SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION, (SPECIAL).
- THE AGGREGATE SUBGRADE PLACED BELOW THE TEMPORARY PAVEMENT SHALL ULTIMATELY BECOME AGGREGATE SUBGRADE BELOW THE PROPOSED PAVEMENT. THIS MATERIAL SHALL BE PAID FOR AS AGGREGATE SUBGRADE IMPROVEMENT (CU YD).



TEMPORARY PAVEMENT – EXISTING PAVEMENT LOWER THAN PROPOSED PAVEMENT

TEMPORARY PAVEMENT SHALL BE PLACED AT THE LOCATIONS SHOWN IN THE MOT PLAN SHEETS TO CONNECT THE EXISTING PAVEMENT TO THE PROPOSED PAVEMENT. SEE HMA TABLE ON THE TYPICAL SECTIONS FOR TEMPORARY PAVEMENT DETAILS. REMOVAL OF TEMPORARY PAVEMENT SHALL BE PAID FOR AS PAVEMENT REMOVAL.

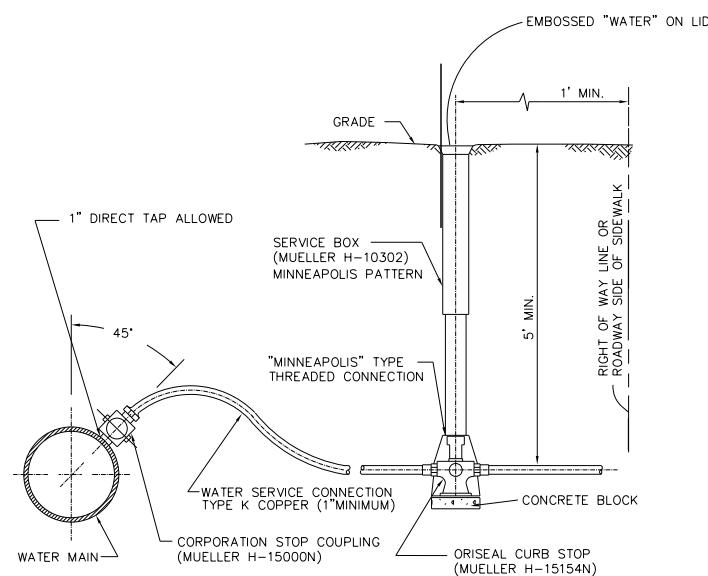
- GRINDING OF THE EXISTING PAVEMENT WILL BE REQUIRED IN CERTAIN LOCATIONS TO ACHIEVE A MAXIMUM OF 8% ROLLOVER BETWEEN THE TEMPORARY PAVEMENT AND THE EXISTING PAVEMENT. IF THE GRINDING OPERATIONS ENCROACH INTO A LIVE LANE, THE CONTRACTOR SHALL IMPLEMENT IDOT STANDARD 701501. GRINDING OF THE EXISTING PAVEMENT SHALL BE PAID FOR AS HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH. IMPLEMENTING IDOT STANDARD 701501 SHALL BE PAID FOR AS TRAFFIC CONTROL AND PROTECTION, (SPECIAL). THE TEMPORARY PAVEMENT WEDGE SHALL BE PAID FOR AS TEMPORARY PAVEMENT (VARIABLE DEPTH).
- THE AGGREGATE SUBGRADE PLACED BELOW THE TEMPORARY PAVEMENT SHALL ULTIMATELY BECOME AGGREGATE SUBGRADE BELOW THE PROPOSED PAVEMENT. THIS MATERIAL SHALL BE PAID FOR AS AGGREGATE SUBGRADE IMPROVEMENT (CU YD).



NOTE: HYDRANT DRAIN HOLE SHALL BE FREE OF CONCRETE.

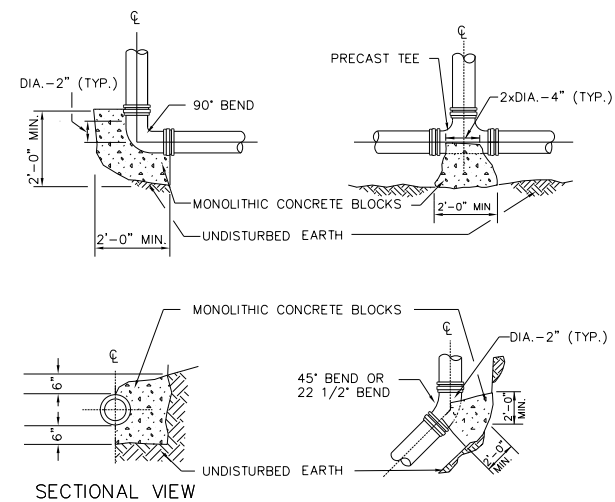
WATEROUS PACER
MODEL WB67-250

FIRE HYDRANT



NOTE: NO B-BOXES ARE ALLOWED IN SIDEWALKS.

TYPICAL SERVICE TAP
AND CONNECTION



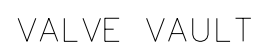
NOTES:

- BLOCKING SHALL BE APPLIED FOR ALL TEES, PLUGS, CAPS, & 22 1/2° OR MORE BENDS.
- THRUST BLOCKS TO BE CLASS "X" CONCRETE.
- MECHANICAL JOINT RETAINER GLANDS MAY BE USED AS AN ALTERNATIVE TO CONCRETE THRUST BLOCK INSTALLATION WHEN APPROVED BY THE VILLAGE ENGINEER

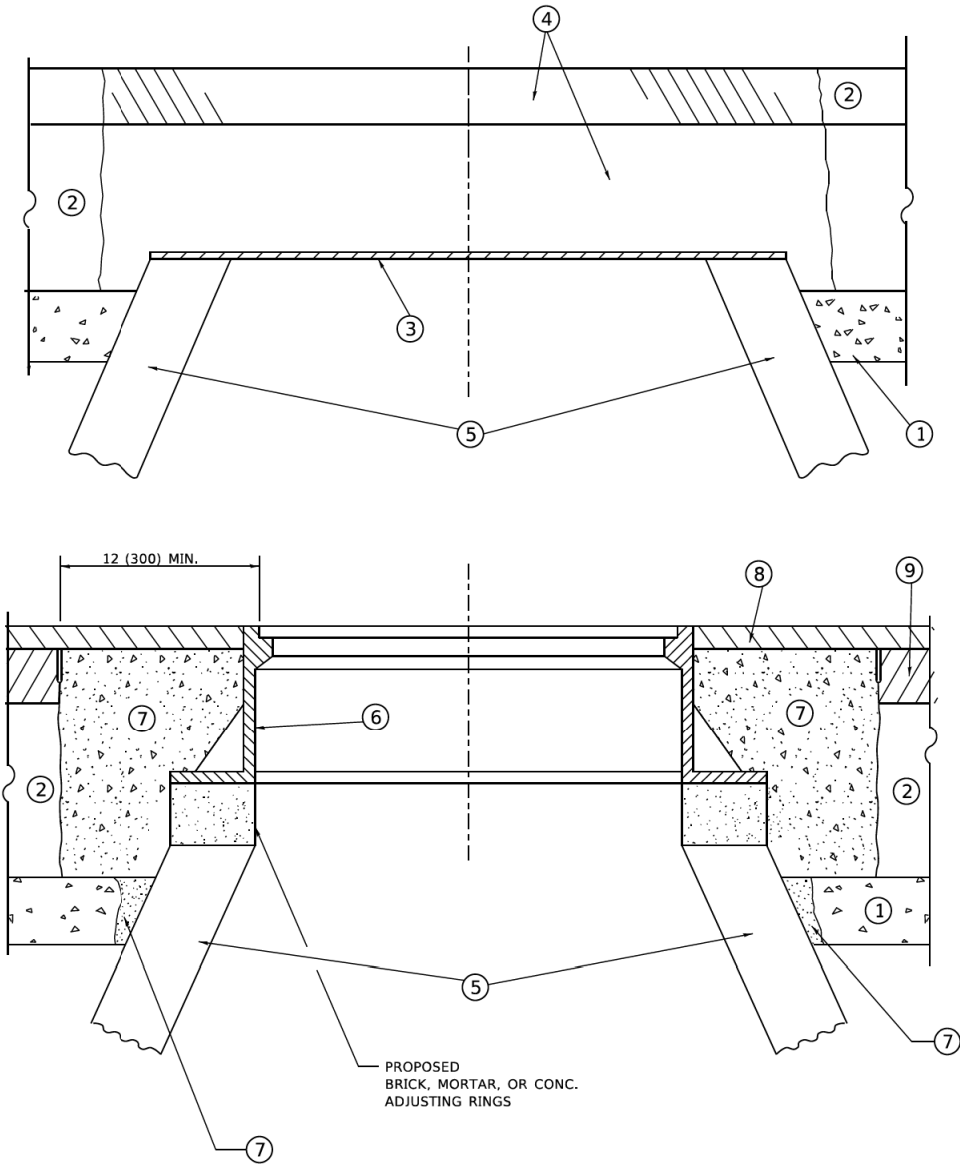
SECTIONAL VIEW

THRUST BLOCK DETAILS

FILE NAME =	USER NAME = jjezierny	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DEERFIELD ROAD RECONSTRUCTION CONSTRUCTION DETAILS		F.A.U RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
N:\LC00T\190304.0003A\Civil\DET.07.190304.0003A.SHT		DRAWN -	REVISED -				I257	I5-00038-07-WR	LAKE	1090	684
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	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE:	SHEET OF SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		



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Default	PLOT DATE = 7/31/2026	DATE -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.				ILLINOIS FED. AID PROJECT				



**DETAILS FOR FRAMES AND LIDS ADJUSTMENT
WITH MILLING**

NOTES

- EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.
- IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.
- CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.
- THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES BY THE END OF EACH WORK SHIFT.

CONSTRUCTION PROCEDURES

STAGE 1 (BEFORE PAVEMENT MILLING)

- REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM AROUND THE STRUCTURE.
- REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE.
- BACKFILL WITH CRUSHED STONE AND HMA SURFACE MIX APPROVED BY THE ENGINEER. (MIN. 3 (80) HMA TO REMAIN AFTER MILLING).

STAGE 2 (AFTER PAVEMENT MILLING)

- REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-2* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.

* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE ENGINEER."

LEGEND

- | | |
|--|-------------------------------|
| ① SUB-BASE GRANULAR MATERIAL | ⑥ FRAME AND LID (SEE NOTES) |
| ② EXISTING PAVEMENT | ⑦ CLASS PP-2* CONCRETE |
| ③ 36 (900) DIAMETER METAL PLATE | ⑧ PROPOSED HMA SURFACE COURSE |
| ④ PROPOSED CRUSHED STONE AND HMA SURFACE MIX | ⑨ PROPOSED HMA BINDER COURSE |
| ⑤ EXISTING STRUCTURE | |

LOCATION OF STRUCTURES

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK, THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

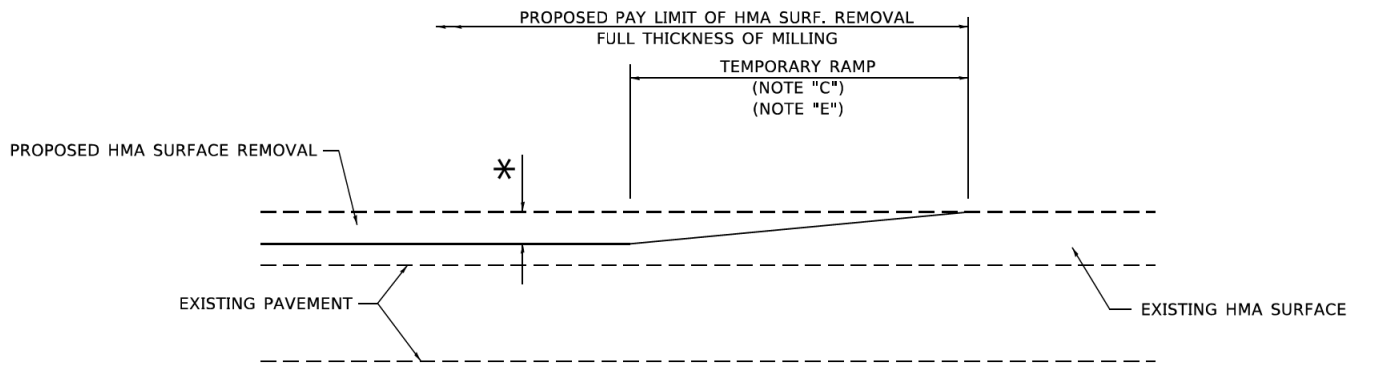
BASIS OF PAYMENT

- REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED (SPECIAL)."
- THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.
- NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.
- WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

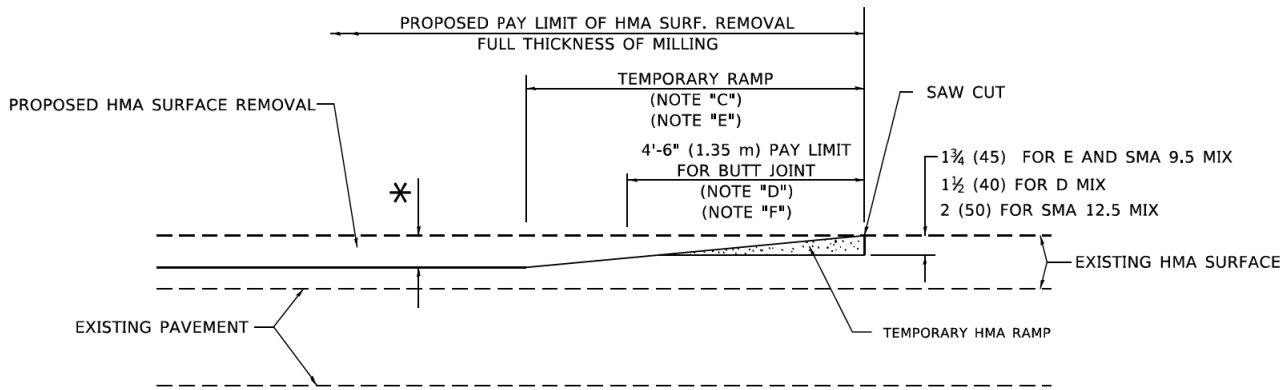
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		DRAWN -	REVISED - R. BORO 12-06-11						15-00038-07-WR	LAKE	1090	687
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - K. SMITH 11-18-22					BD600-03 (BD-08)		CONTRACT NO. 6IK62		
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MILLED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

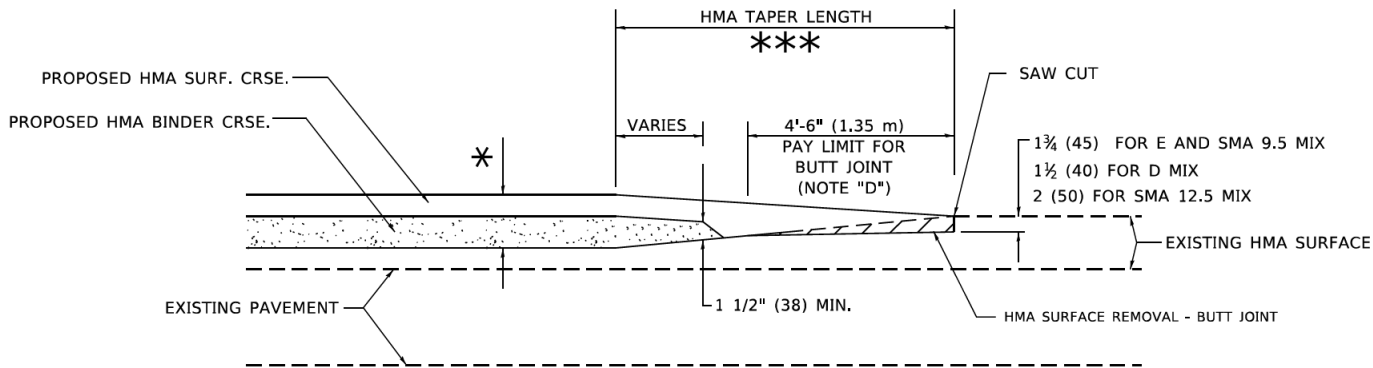
OPTION 1



HMA CONSTRUCTED TEMPORARY RAMP
(FOR BUTT JOINT AND HMA TAPER SEE DETAIL BELOW)

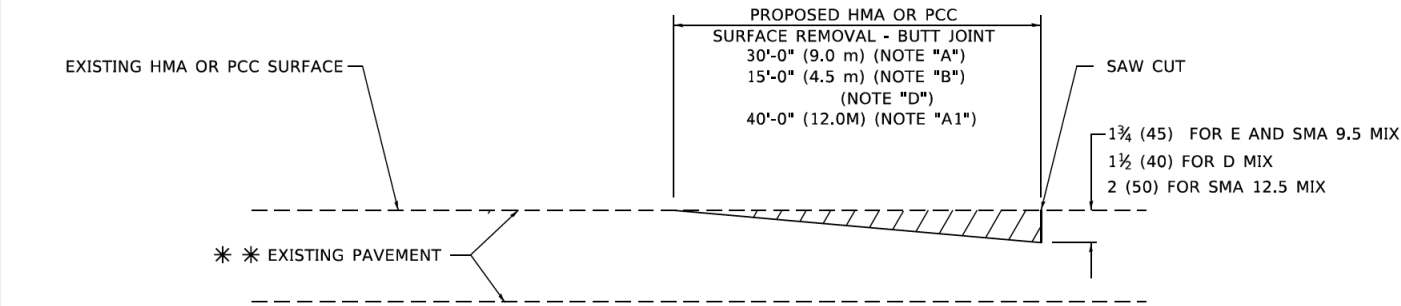
OPTION 2

TYPICAL TEMPORARY RAMP

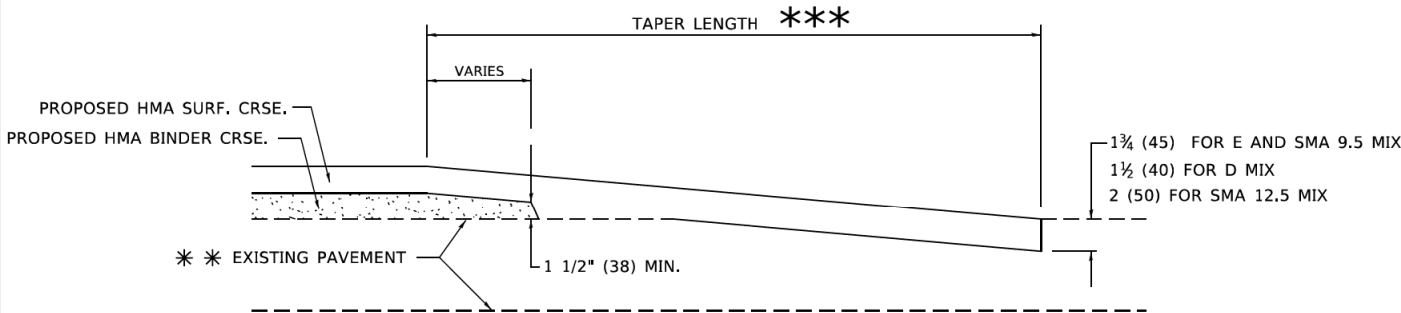


BUTT JOINT AND
HMA TAPER

TYPICAL BUTT JOINT AND HMA TAPER
FOR MILLING AND RESURFACING



BUTT JOINT DETAIL



HMA TAPER DETAIL

TYPICAL BUTT JOINT AND HMA TAPER
FOR RESURFACING ONLY

** PC CONCRETE, HMA OR HMA RESURFACED PAVEMENT.

GENERAL NOTES

- A. MAINLINE ARTERIAL ROADWAYS AND MAJOR SIDE ROADS.
- A1. INTERSTATES
- B. MINOR SIDE ROADS.
- C. THE TEMP. RAMP SHALL BE CONSTRUCTED IMMEDIATELY UPON REMOVAL OF THE EXISTING HMA SURFACE.
- D. THE BUTT JOINT SHALL BE CONSTRUCTED IMMEDIATELY PRIOR TO PLACING THE PROPOSED HMA COURSES.
- E. TAPER THE TEMP. RAMP AT A RATE OF 3' - 4" (1.02m) PER 1 INCH (25 mm) OF MILLING THICKNESS.
* SEE TYPICAL SECTIONS FOR MILLING THICKNESS.
- F. SEE ARTICLE 406.08 AND 406.14 OF THE STANDARD SPECIFICATIONS FOR "HMA AND/OR PCC SURFACE REMOVAL, BUTT JOINT".
*** 20'-0" (6.1 m) PER 1 (25) RESURFACING (NOTE "A")
10'-0" (3.0 m) PER 1 (25) RESURFACING (NOTE "B")

BASIS OF PAYMENT

- 1. THE BUTT JOINT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD (SQUARE METER) FOR "HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT" OR FOR "PORTLAND CEMENT CONCRETE SURFACE REMOVAL- BUTT JOINT".
- 2. THE TEMPORARY RAMP AND SAW CUT SHALL BE INCLUDED IN THE UNIT COST FOR HMA OR PCC SURFACE REMOVAL-BUTT JOINT.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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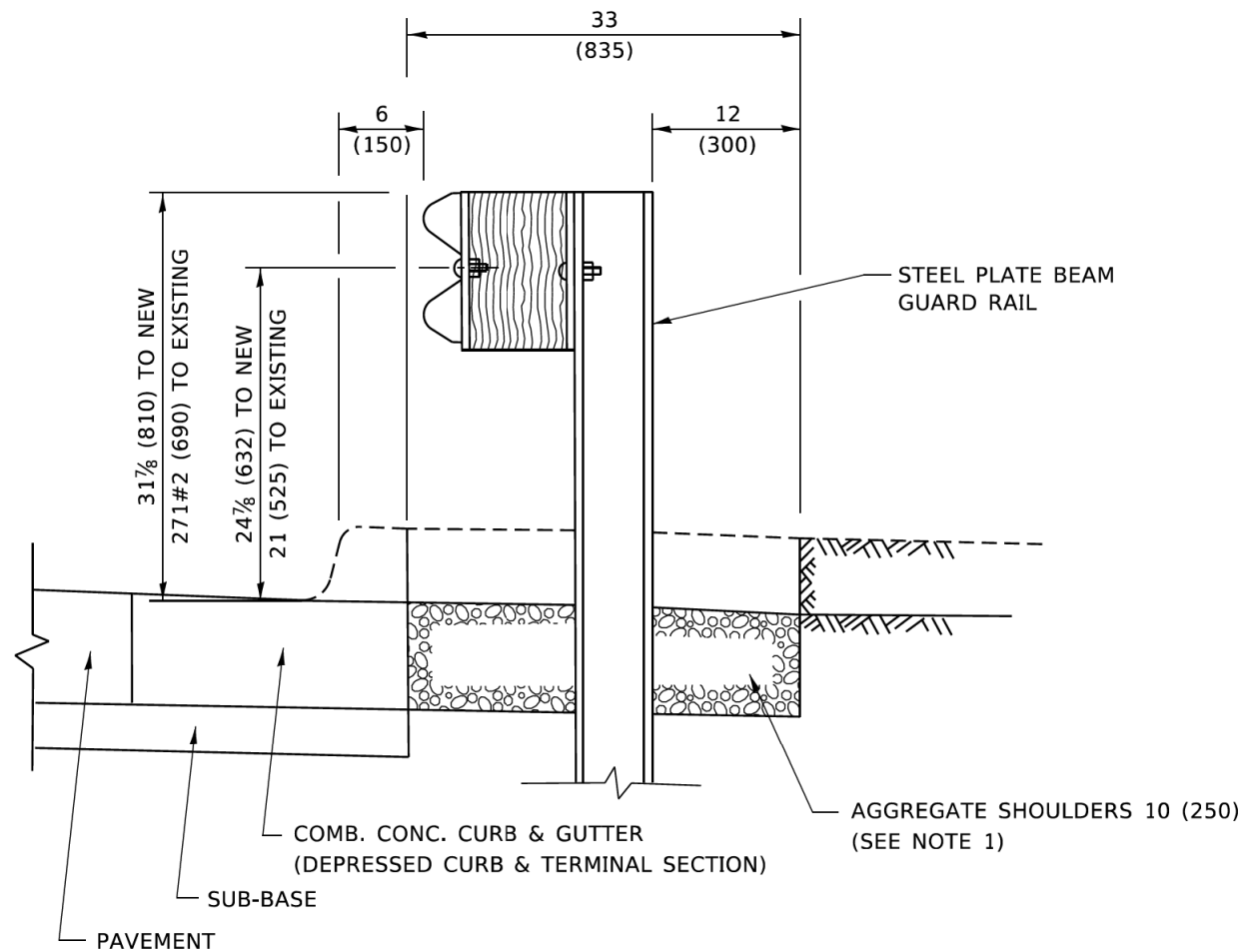
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PLOT SCALE	= 100.0000 ' / in.	CHECKED -		REVISED -	R. BORO 01-01-07
PLOT DATE	= 11/18/2022	DATE -	06-13-90	REVISED -	K. SMITH 11-18-22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BUTT JOINT AND
HMA TAPER DETAILS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	BD400-05 BD-32		CONTRACT NO.	61K62
		ILLINOIS	FED. AID PROJECT	



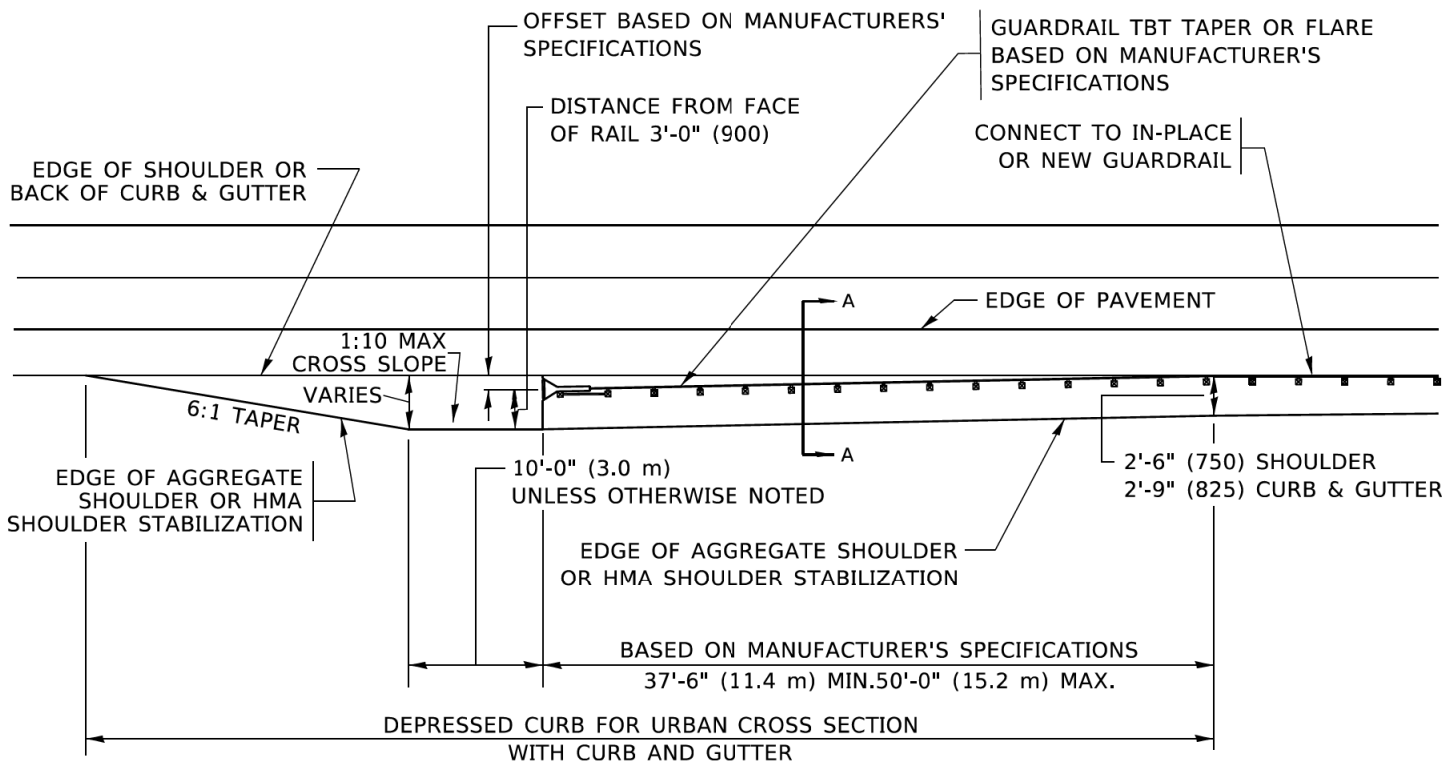
SECTION A-A

NOTES:

1. THE AGGREGATE SHOULDER, 10 (250) OR HMA SHOULDER, 6 (150) (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE EXISTING GUARDRAIL HEIGHT SHALL TRANSITION TO MATCH THE NEW TERMINAL END SECTION AND SHALL BE PAID FOR AS VERTICAL ADJUSTMENT OF EXISTING GUADRAIL.

**DETAILS FOR STEEL PLATE BEAM
GUARD RAIL ADJACENT TO CURB AND GUTTER**

[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]



**DEPRESSED CURB AND GUTTER AND
SHOULDER TREATMENT AT TBT TY.1 SPL.**

AGGREGATE SHOULDER, 10 (250) WILL BE PAID
ACCORDING TO SECTION 481.

HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE
PAID ACCORDING TO SECTION 482.

COMB. CONC. C&G, STEEL PLATE BEAM GUARD RAIL
AND TRAFFIC BARRIER TERMINAL, OF THE TYPE
SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN.

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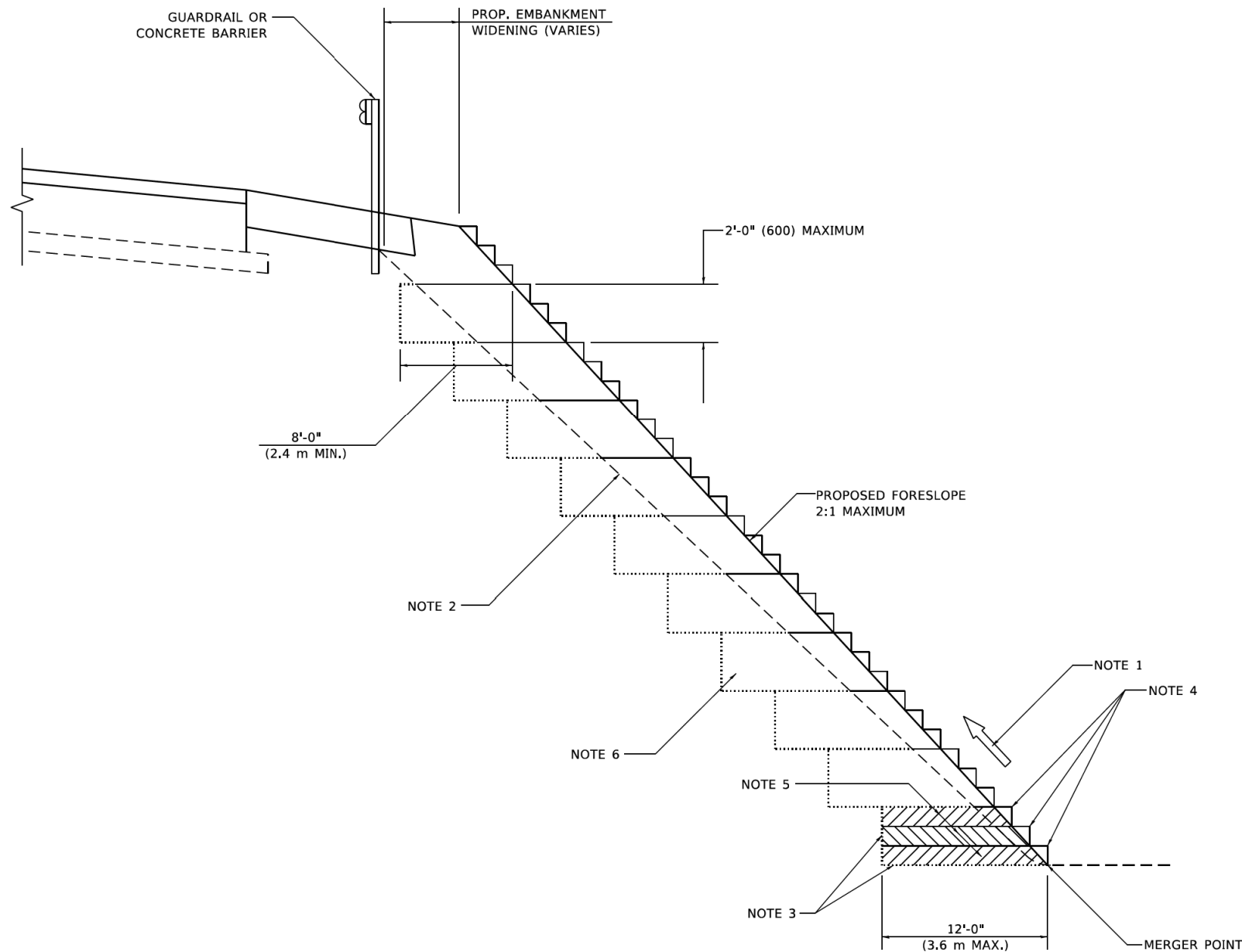
USER NAME = Lawrence,DeManche	DESIGNED - M. DE YONG	REVISED - R. BORO 09-14-2009
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PLOT DATE = 11/18/2022	DATE - 09-22-90	REVISED - K. SMITH 11-18-22

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**DETAILS FOR DEPRESSED CURB & GUTTER AND
SHOULDER TREATMENT AT TBT TY.1 SPL.**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	15-00038-07-WR	LAKE	1090	689
	BD600-10 (BD-34)		CONTRACT NO.	6IK62
		ILLINOIS	FED. AID PROJECT	



**TYPICAL BENCHING DETAIL
FOR EMBANKMENT**

GENERAL NOTES

1. CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.
2. EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.
3. BENCH CUT EXISTING SLOPE TYPICAL FOR EACH STEP.
4. TRIM TO FINAL SLOPE.
5. EQUAL 8-INCH (200) LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.

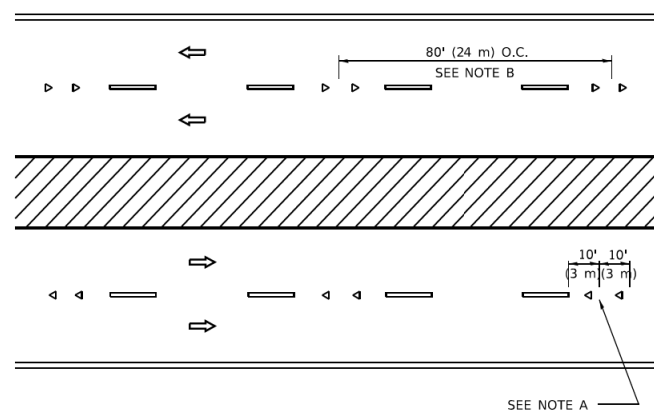
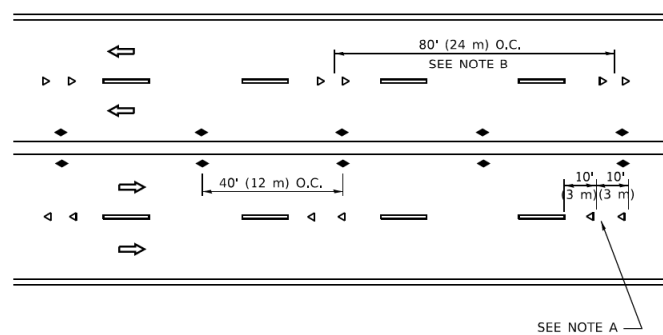
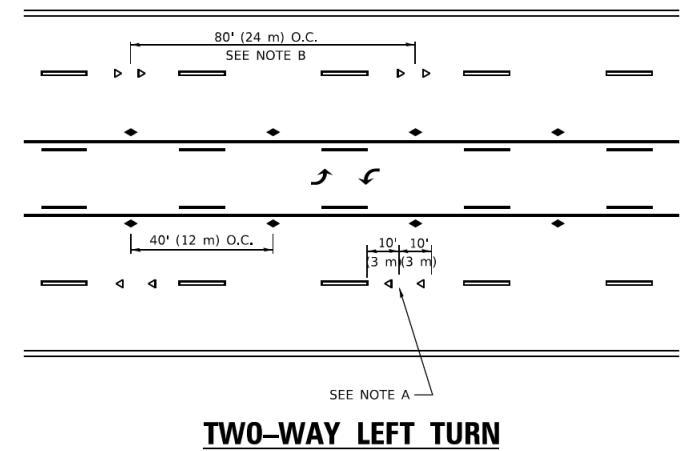
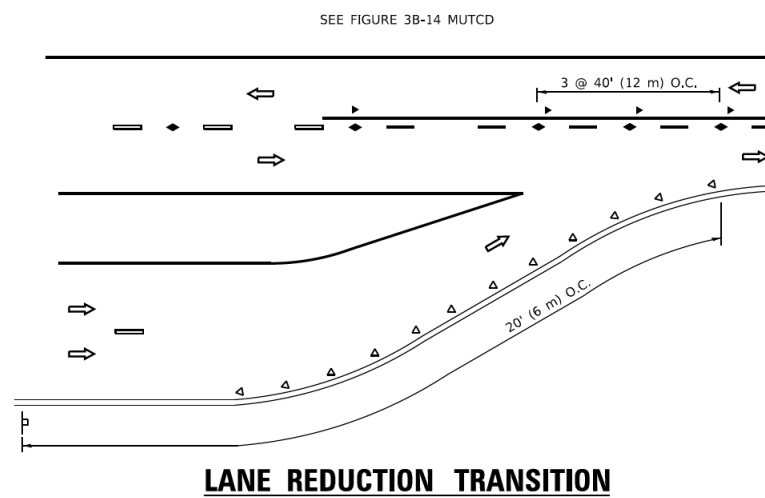
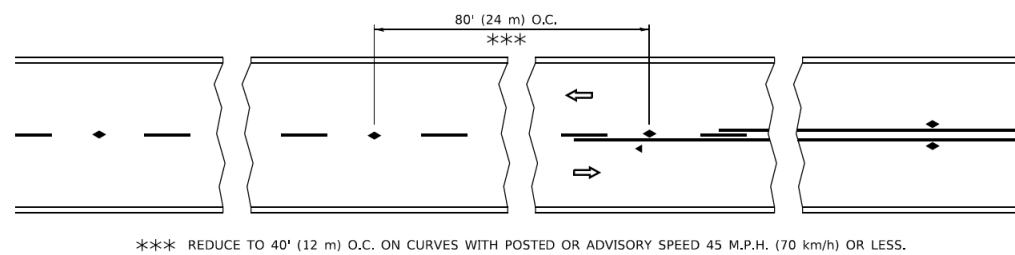
BASIS OF PAYMENT

1. EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC METER OR CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN.

MODEL: Default
FILE NAME: \\p01d0c0w.bentley.com\FWIDOT\Documents\DOT Office\Bjorker_1\Projects\BIS-5422\3\ACADData\CAD\Sheets\BIS1.dgn

	USER NAME = Lawrence,DeManche	DESIGNED -	REVISED - K. SMITH 11-18-22	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BENCHING DETAIL FOR EMBANKMENT WIDENING			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CADD	REVISED -						15-00038-07-WR	LAKE	1090	690
	PLOT SCALE = 100.0000' / in.	CHECKED - S.E.B.	REVISED -					BD-51		CONTRACT NO. 6IK62		
	PLOT DATE = 11/18/2022	DATE - 06-16-04	REVISED -		SCALE: NONE	SHEET 1	OF 1 SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT	

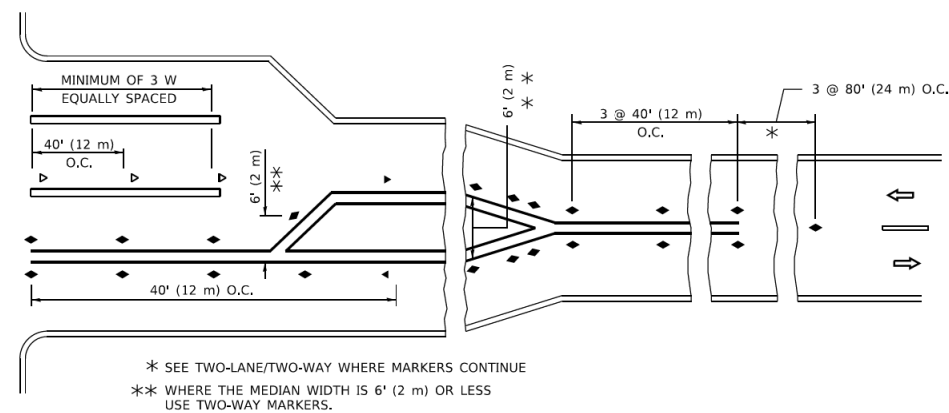
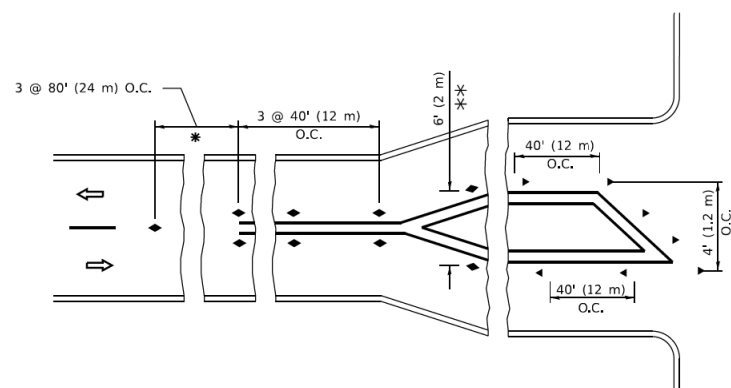


- ## GENERAL NOTES

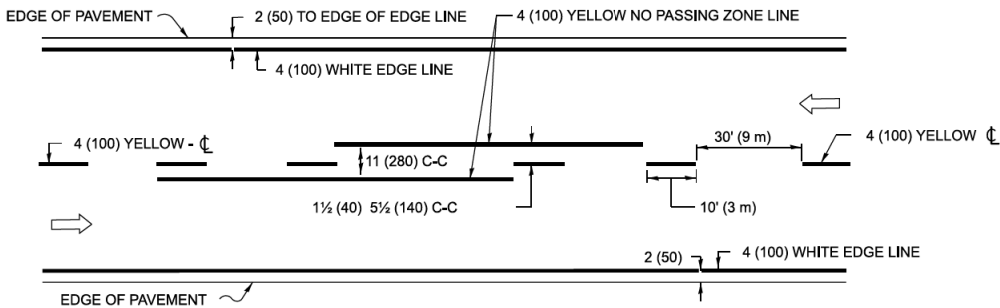
1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

- ### LANE MARKER NOTES

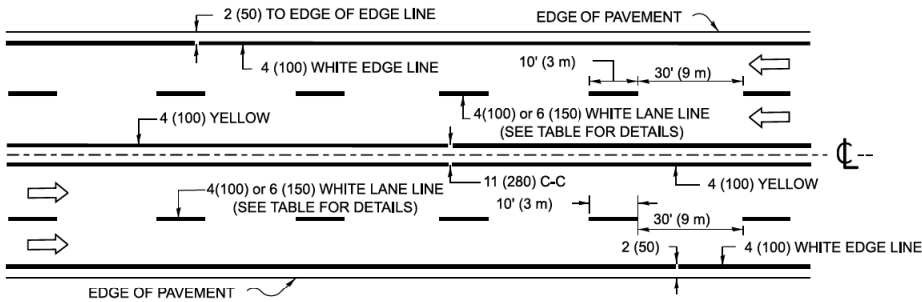
- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.



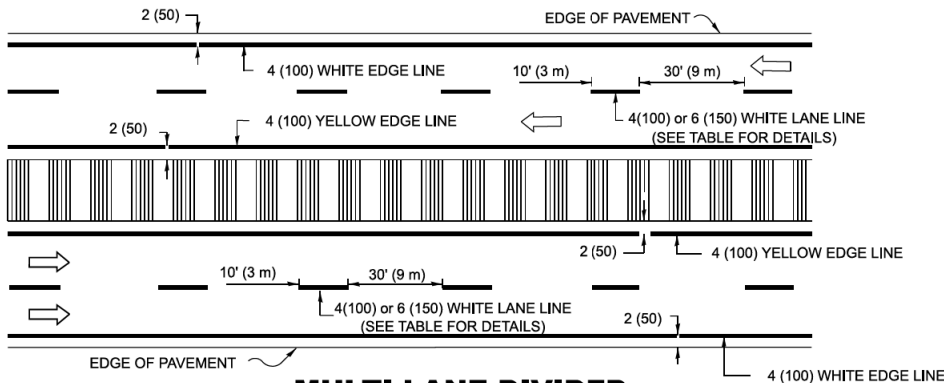
FILE NAME: D:\PROJECTS\2010\10-0038-07-WR\10-0038-07-WR.DWG	USER NAME = footemj	DESIGNED -	REVISED - T. RAMMACHER 03-12-99	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED - T. RAMMACHER 01-06-00							I5-00038-07-WR	LAKE	1090	692
	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED - C. JUCIUS 09-09-09		TC-11					CONTRACT NO. 61K62			
	PLOT DATE = 3/4/2019	DATE -	REVISED - C. JUCIUS 07-01-13		SCALE: NONE	SHEET 1	OF 1	SHEETS	STA.	TO STA.			
										ILLINOIS	FED. AID PROJECT		



2-LANE ROADWAY

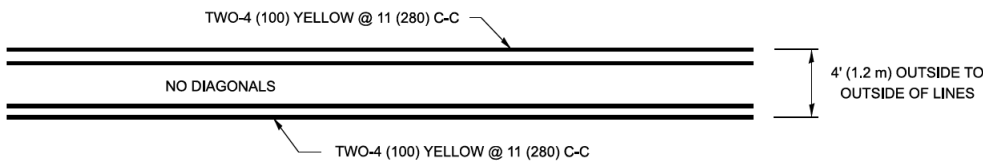


MULTI-LANE UNDIVIDED

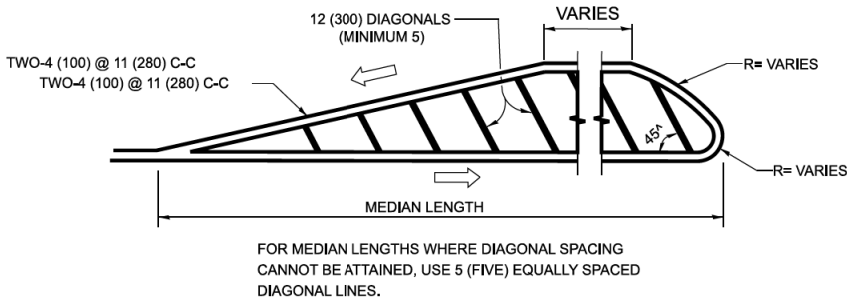


MULTI-LANE DIVIDED WITH MEDIAN

TYPICAL LANE AND EDGE LINE MARKING

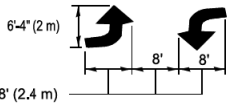
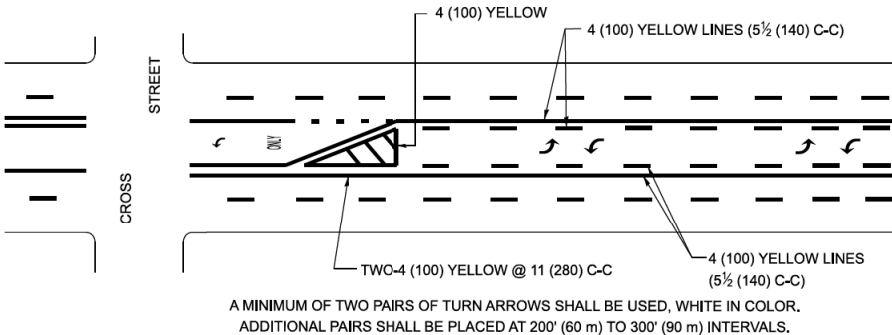


4' (1.2 m) WIDE MEDIANS ONLY



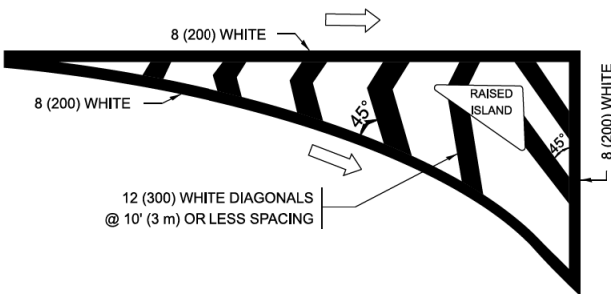
DIAGONAL LINE SPACING: 50' (15 m) C-C (LESS THAN 30MPH (50 km/h))
75' (25 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)
150' (45 m) C-C (MORE THAN 45MPH (70 km/h))

MEDIANS OVER 4' (1.2 m) WIDE

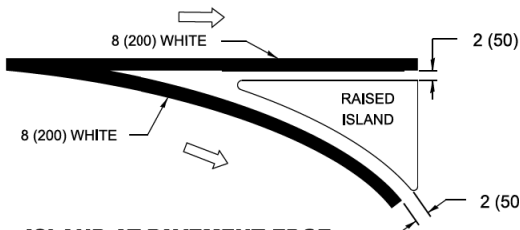


MEDIAN WITH TWO-WAY LEFT TURN LANE

TYPICAL PAINTED MEDIAN MARKING

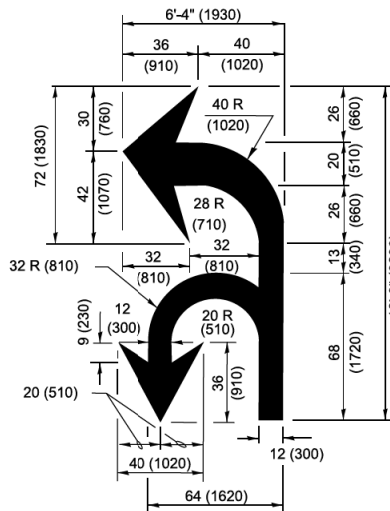


ISLAND OFFSET FROM PAVEMENT EDGE

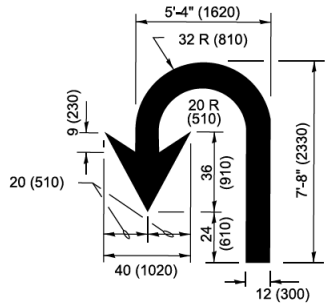


ISLAND AT PAVEMENT EDGE

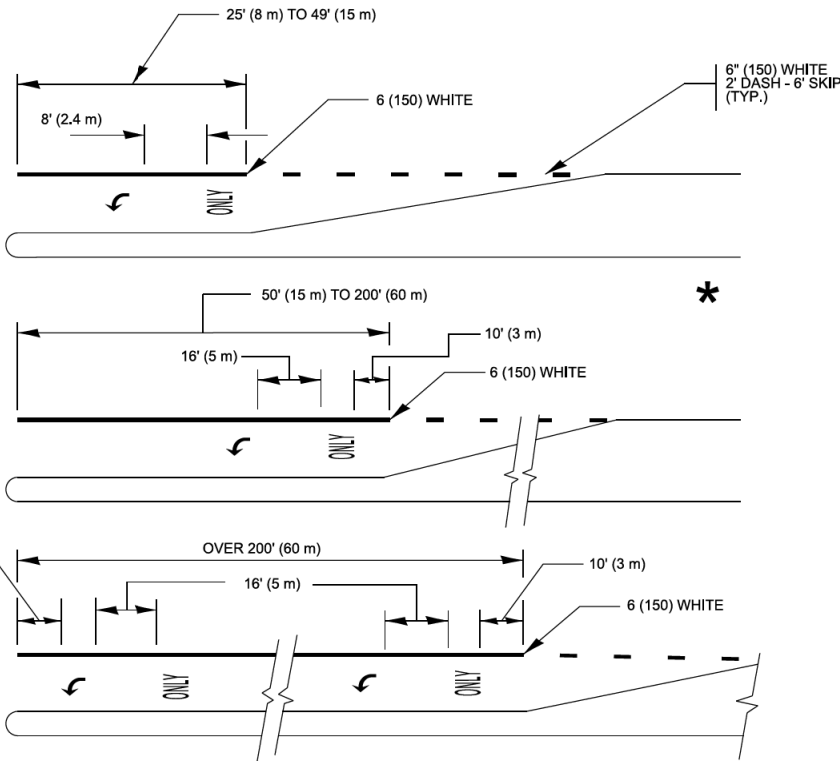
TYPICAL ISLAND MARKING



COMBINATION LEFT AND U-TURN



U-TURN



FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL LEFT (OR RIGHT) TURN LANE MARKING

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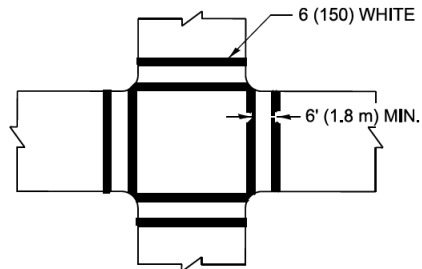
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	DRAWN -	REVISED - C. JUCIUS 12-21-15
PLOT SCALE = 0.08333317' / in.	CHECKED -	REVISED - C. JUCIUS 04-12-16
PLOT DATE = 6/29/2026	DATE - 03-19-90	REVISED - K. KANNAN-HOSADURGA 06-29-26

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

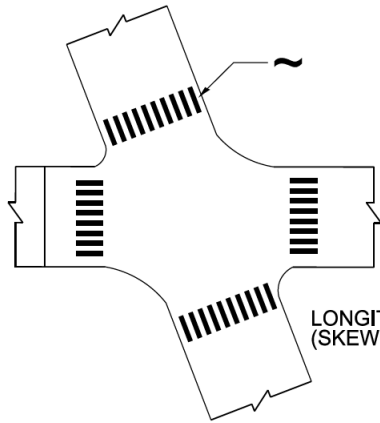
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

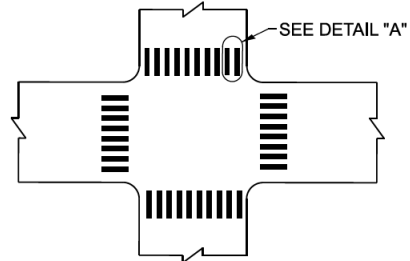
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	TC-13A		CONTRACT NO.	61K62
	ILLINOIS	FED. AID PROJECT		



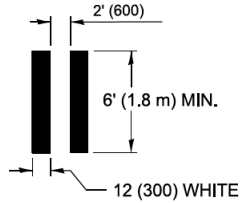
TRANSVERSE CROSSWALK



LONGITUDINAL CROSSWALK
(SKEWED INTERSECTION)



LONGITUDINAL CROSSWALK

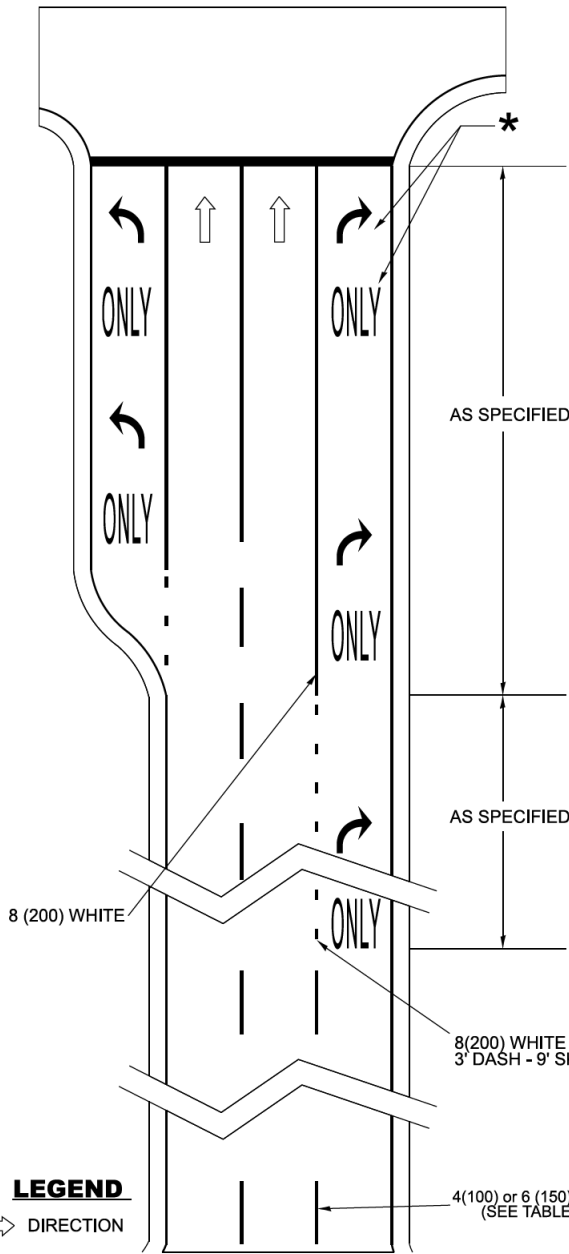


DETAIL "A"

TYPICAL CROSSWALK MARKING

MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES

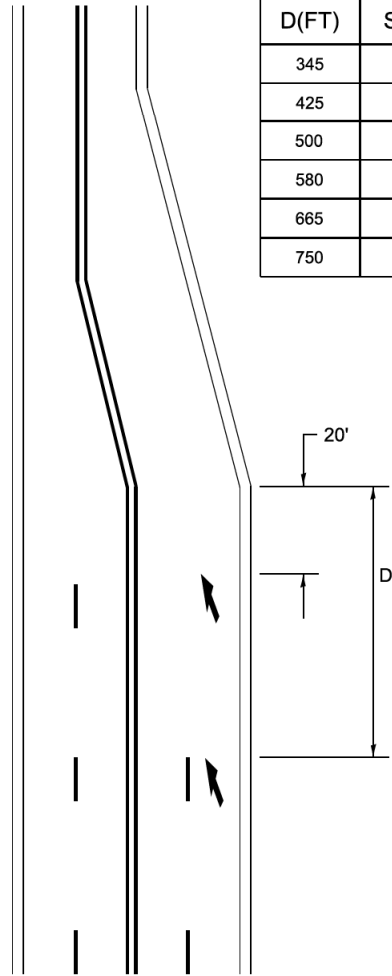
~ THE INDIVIDUAL LONGITUDINAL ELEMENTS OF A LONGITUDINAL BAR CROSSWALK SHOULD BE ANGLED SUCH THAT THEY ARE PARALLEL TO THE TRAVEL PATH OF APPROACHING TRAFFIC



ARTERIAL ROAD LANE-DROP MARKINGS

* FOLLOW TYPICAL TURN LANE MARKINGS FOR PLACEMENT AND SIZE DETAILS OF 'ARROW' AND 'ONLY' MARKINGS IN THE TURN LANE.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55



LANE REDUCTION TRANSITION

LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES FOR SPEED LIMIT ≤ 45 MPH LANE LINES FOR SPEED LIMIT > 45 MPH	4 (100) 6 (150)	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (TYPICAL FOR EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS, EXCEPT AT LANE-DROP MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (0.60m) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
TRANSVERSE CROSSWALK LONGITUDINAL BARS CROSSWALK	2 @ 6 (150) 12 (300) @ 90°	SOLID SOLID	WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART AND PARALLEL TO TRAFFIC FLOW SEE TYPICAL CROSSWALK MARKING DETAIL 'A'.
STOP LINES	24 (600)	SOLID	WHITE	PLACE MINIMUM 4' (1.2 m) IN ADVANCE OF CROSSWALK IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. NO MORE THAN 30' (9.1 m) OR LESS THAN 4' (1.2 m) FROM NEAREST EDGE OF INTERSECTING TRAVELED WAY.
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C (30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001, TC 23 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF
ARTERIAL LANE-DROP MARKINGS DOTTED LINES FOR LANE-DROP TURN LANE MARKINGS	8 (200) 8 (200)	SKIP - DASH SOLID	WHITE WHITE	3' (0.91 m) LINE WITH 9' (2.74 m) SPACE

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

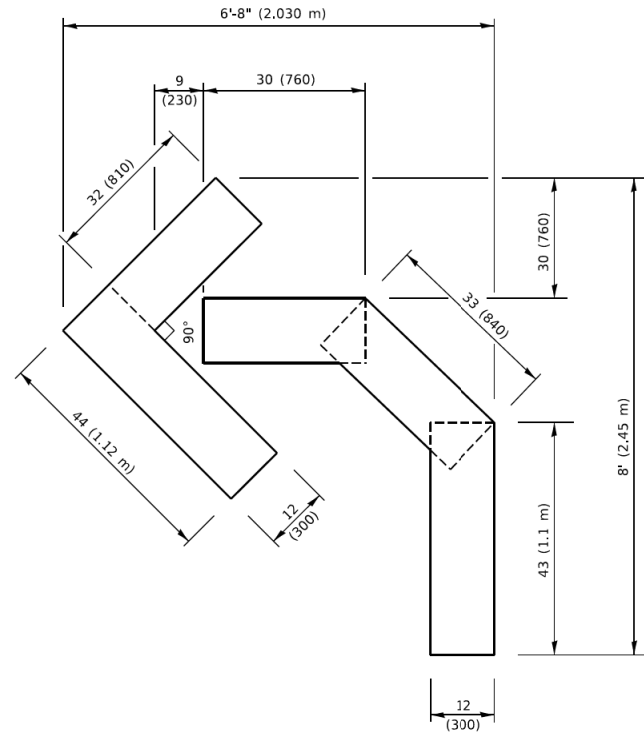
DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	15-00038-07-WR	LAKE	1090	694
TC-13B		CONTRACT NO. 61K62		
ILLINOIS		FED. AID PROJECT		

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

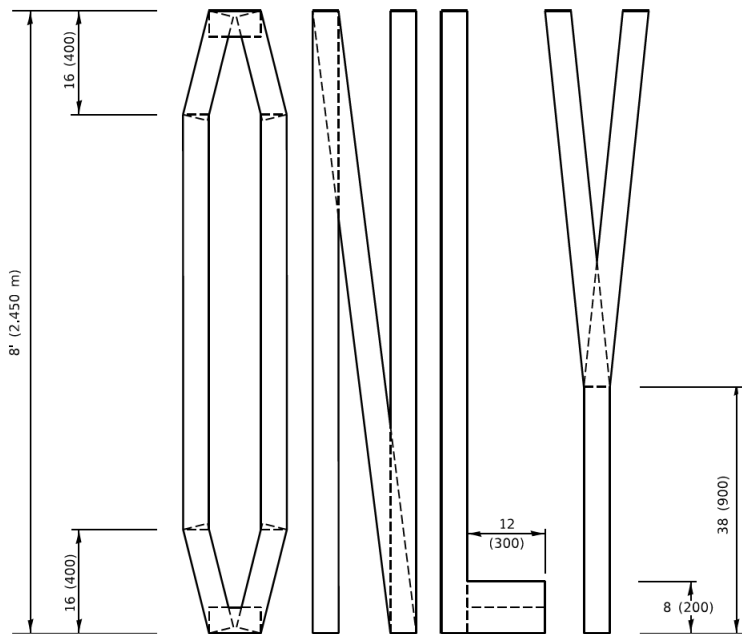
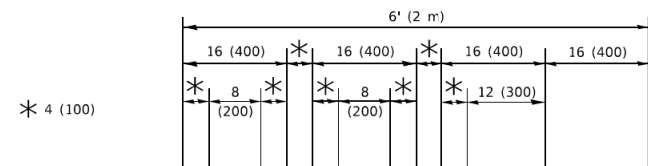
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	DRAWN -	REVISED - C. JUCIUS 12-21-15
	CHECKED -	REVISED - C. JUCIUS 04-12-16
PLOT DATE = 6/29/2026	DATE - 03-19-90	REVISED - K. KANNAN-HOSADURGA 06-29-26



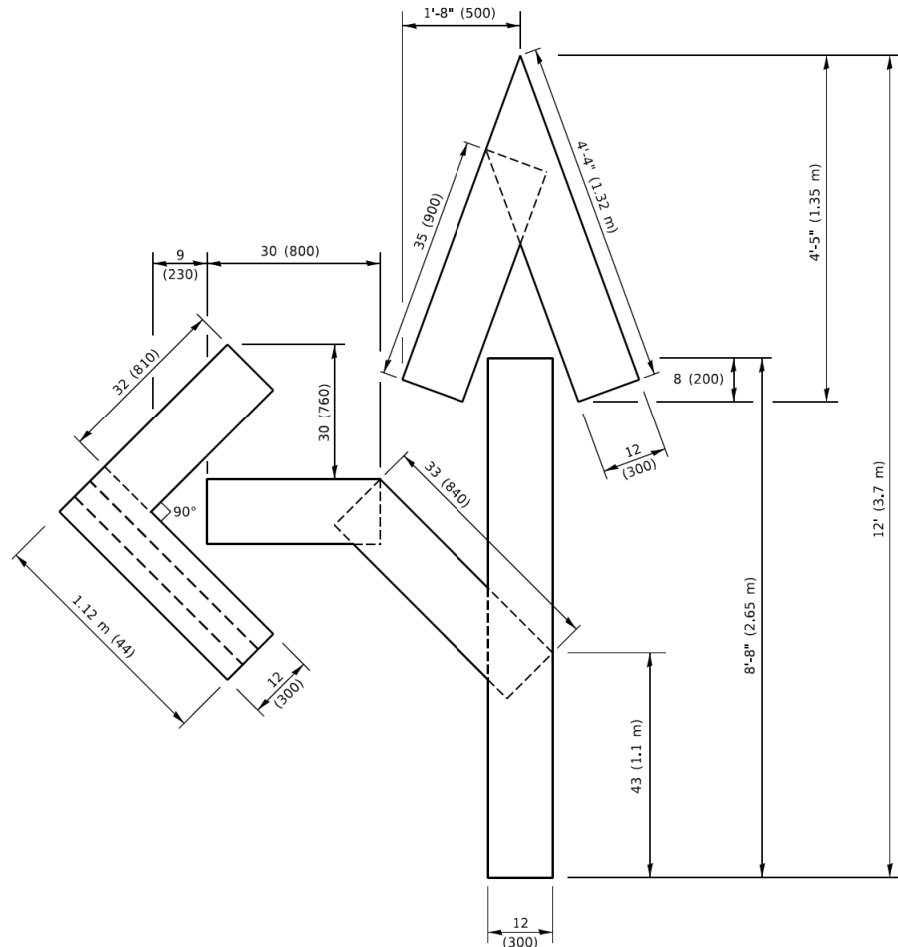
QUANTITY

4 (100) LINE = 45.5 ft. (13.9 m)
15.2 sq. ft. (1.41 sq. m)



QUANTITY

4 (100) LINE = 64.1 ft. (19.5 m)
21.4 sq. ft. (1.99 sq. m)

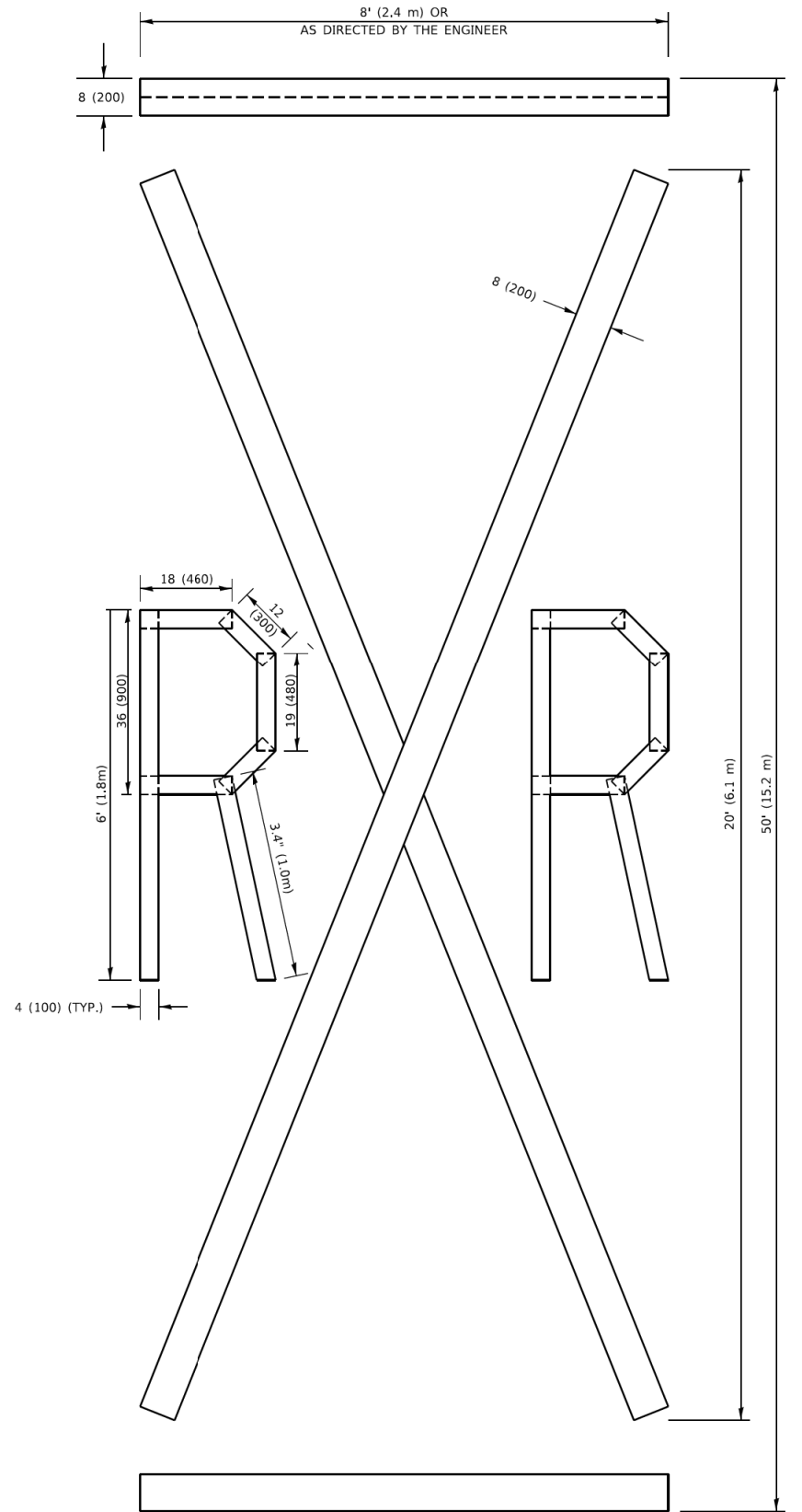


QUANTITY

4 (100) LINE = 82.5 ft. (25.1 m)
27.5 sq. ft. (2.53 sq. m)

NOTE:

ALL QUANTITIES OF PLACEMENT ARE REPRESENTED IN LINEAR FEET OF 4" LINES TO MATCH THE 4" TEMPORARY TAPE PAY ITEM AND REPRESENTS THE TOTAL QUANTITY OF 4" TAPE REQUIRED.



QUANTITY

4 (100) LINE = 225.9 ft. (68.9 m)
75.3 sq. ft. (6.99 sq. m)

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL Default:
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USER NAME = footemj	DESIGNED -	REVISED - T. RAMMACHER 03-02-98
	DRAWN -	REVISED - E. GOMEZ 08-28-00
PLOT SCALE = 50,0068 ' / in.	CHECKED -	REVISED - E. GOMEZ 08-28-00
PLOT DATE = 3/4/2019	DATE - 09-18-94	REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SHORT TERM PAVEMENT MARKING LETTERS AND SYMBOLS

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

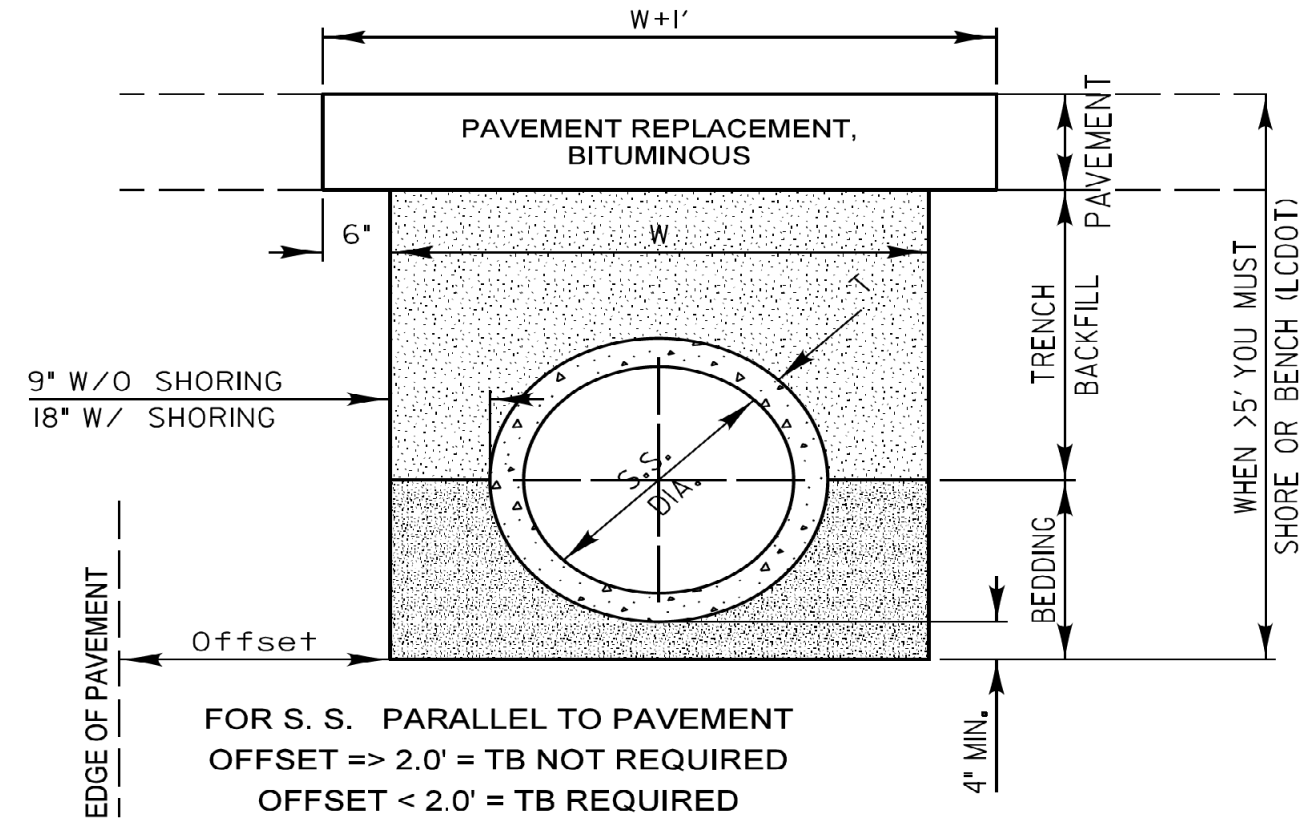
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	15-00038-07-WR	LAKE	1090	695
TC-16		CONTRACT NO. 6IK62		
		ILLINOIS	FED. AID PROJECT	

ENGLISH		TRENCH WIDTH (W)		MIN OFFSET FROM E.O.P.* FOR NO TB		½ PIPE AREA [O.D.]
S.S. DIA.	T	WITHOUT SHORING	WITH SHORING	WITHOUT SHORING	WITH SHORING	
(IN)	(IN)	(FT)	(FT)	(FT)	(FT)	(SQ FT)
10	2.00	2.67	4.17	3.33	4.08	0.53
12	2.00	2.83	4.33	3.42	4.17	0.70
15	2.25	3.13	4.63	3.56	4.31	1.04
18	2.50	3.42	4.92	3.71	4.46	1.44
21	2.75	3.71	5.21	3.85	4.60	1.92
24	3.00	4.00	5.50	4.00	4.75	2.45
27	3.25	4.29	5.79	4.15	4.90	3.06
30	3.50	4.58	6.08	4.29	5.04	3.73
36	4.00	5.17	6.67	4.58	5.33	5.28
42	4.50	5.75	7.25	4.88	5.63	7.09
48	5.00	6.33	7.83	5.17	5.92	9.17

* TO CENTER LINE OF PIPE

DESIGN NOTES:

1. Trench backfill is required if the storm sewer or culvert offset from the edge of the pavement is less than the tabulated values (the inner trench wall is closer than 2' to the edge of pavement)
2. Payment for the trench backfill shall not exceed the quantity computed using the maximum trench width dimensions. If the trench is excavated beyond these limits, the contractor shall furnish and place any additional trench backfill at his/her expense.
3. If the trench width is less than the above maximum values, payment will be based on the actual dimensions of the dug trench.
4. Bedding shall be placed from 4" under the pipe to the spring line of the pipe and is incidental to the corresponding storm sewer or culvert pay item.
5. If any part of the excavation for a drainage structure falls within 2' of the edge of pavement, the space between the side of the excavation and the outer surface of the drainage structure shall be filled with trench backfill. The cost of this item is included in the pay item for the drainage structure.

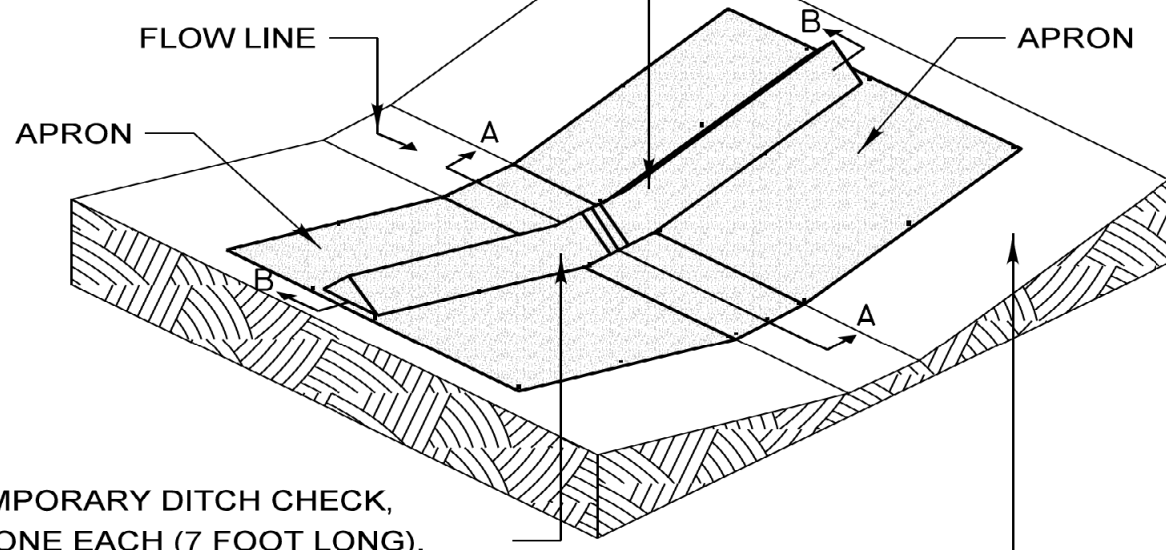


SCALE: 1" = 2'

REVISIONS	DATE	 LakeCounty Division of Transportation	APPROVED BY: M. G. ZEMAITIS DATE: APRIL 1, 2007	LC0020
Text Revision	11/06/07			
Text Update	7/14/11			
		TRENCH WIDTHS FOR TRENCH BACKFILL & PAVEMENT REPLACEMENT, BITUMINOUS		

FOR BARE EARTH APPLICATION ONLY

TEMPORARY DITCH CHECK,
(1) ONE EACH (7 FOOT LONG).
[ON THE RIGHT SIDE OF THE DITCH]



TEMPORARY DITCH CHECK,
(1) ONE EACH (7 FOOT LONG).
[ON THE LEFT SIDE OF THE DITCH]

BARE EARTH DITCH LINE

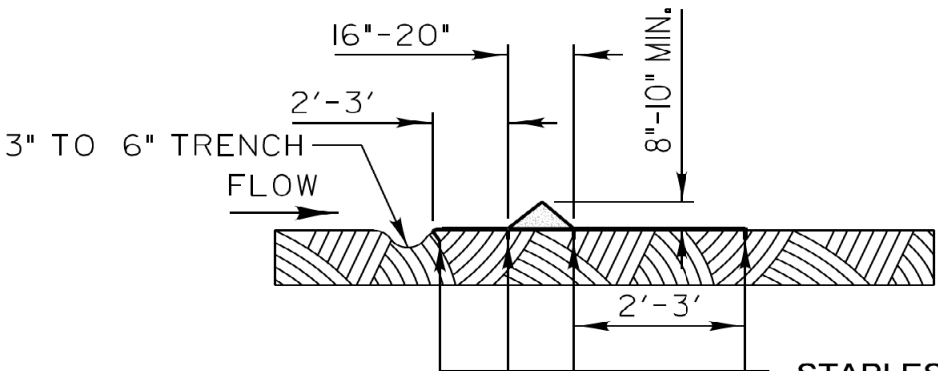
SILT DIKE UNIT
ISOMETRIC

NOTES:
THE TEMPORARY DITCH CHECK SHALL BE USED IN BARE EARTH DITCH LINES
AND SHALL BE REMOVED JUST PRIOR TO THE INSTALLATION OF EROSION
CONTROL BLANKET AND SEEDING.

THE INSTALLATION SHOWN WILL BE MEASURED AND PAID FOR AS A
TEMPORARY DITCH CHECK 14 FEET IN LENGTH.

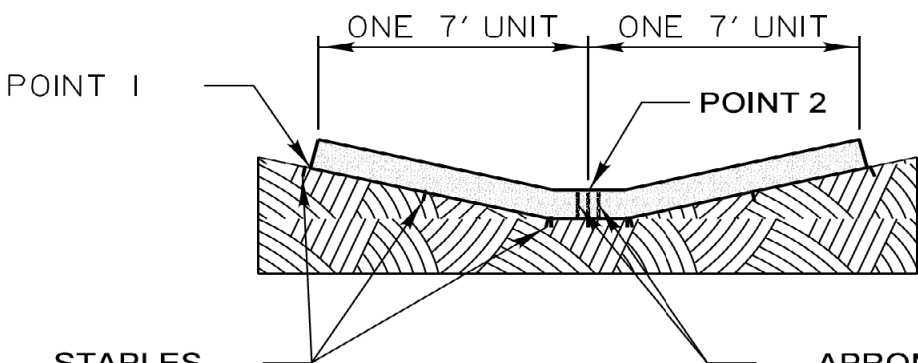
STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND
IN THE CENTER OF THE 7' UNIT AS SHOWN ON THE DIAGRAM.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER
FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.



SECTION A-A

STAPLES - 11 GAUGE WIRE
MINIMUM 6" LENGTH



SECTION B-B

REVISIONS	DATE
ADDED DIMENSIONS	04/11/08
REVISED PAY ITEM	04/15/10
ADDED PLASTIC BERM (pg2)	10/10/12

 LakeCounty
Division of Transportation

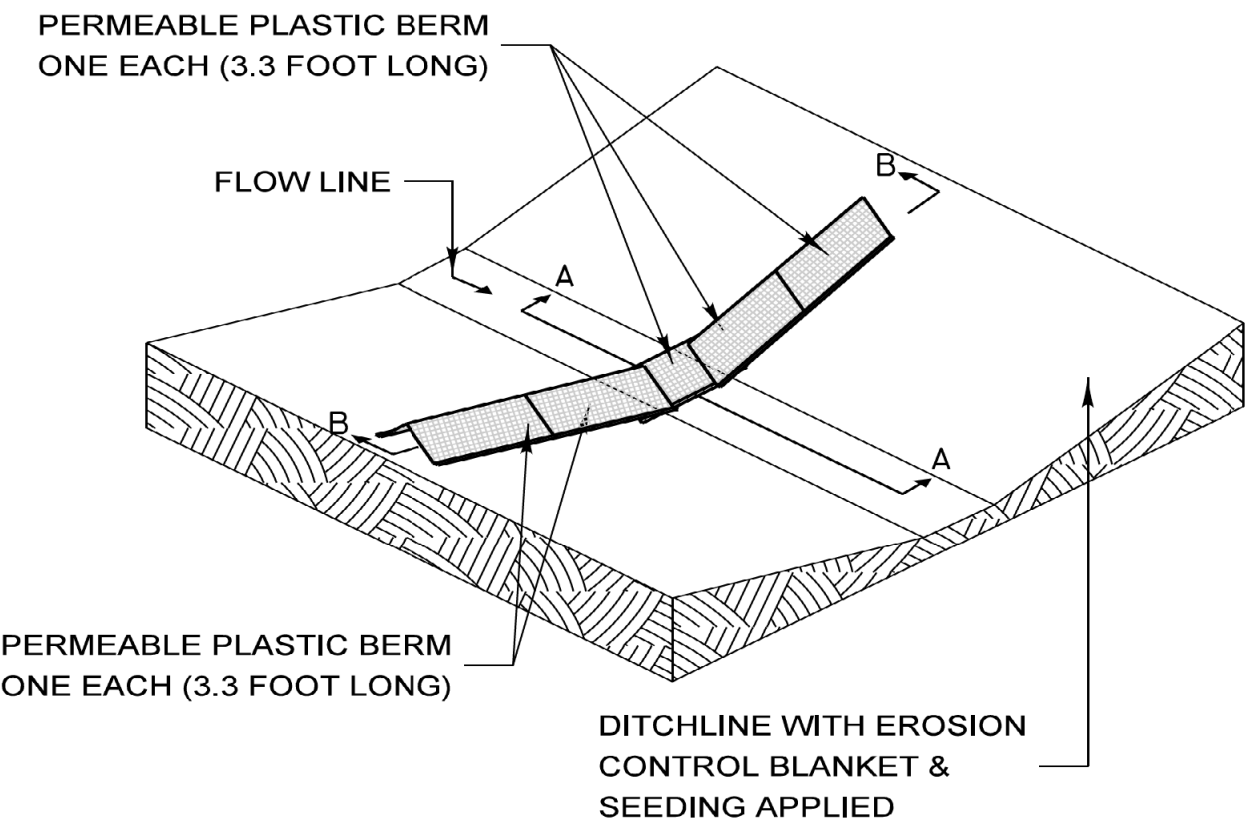
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

**TEMPORARY DITCH CHECK
INSTALLATION FOR
ROADWAY OR
DRAINAGE DITCH**

(SHEET 1 OF 2)

LC2050

FOR USE WHILE ESTABLISHING FINAL LANDSCAPING



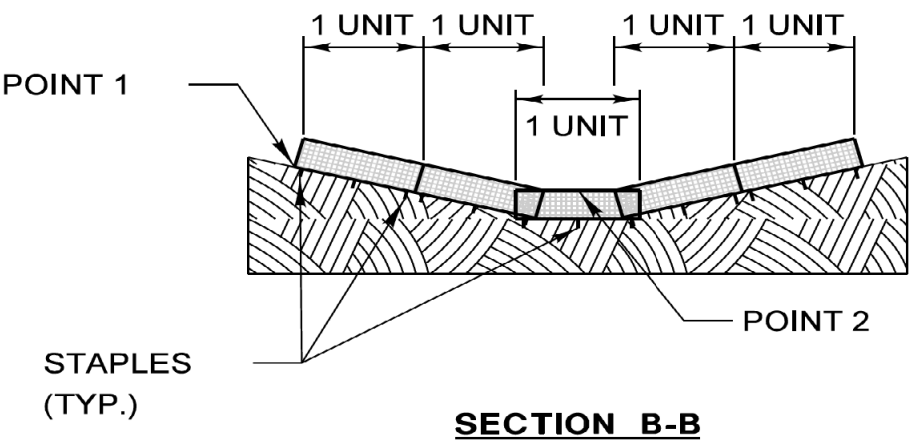
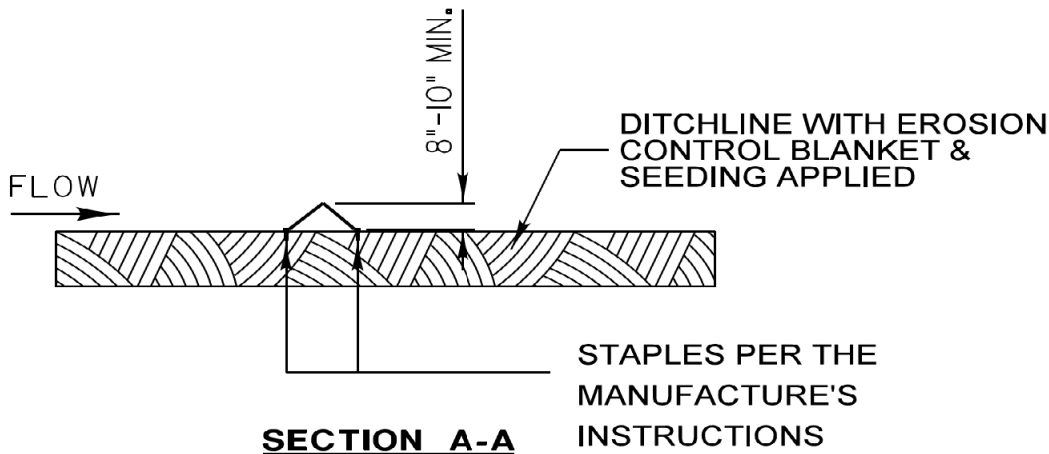
PERMEABLE PLASTIC BERM
ISOMETRIC

NOTES:
THE PERMEABLE PLASTIC BERM SHALL REPLACE THE TEMPORARY DITCH
CHECK AFTER THE INSTALLATION OF EROSION CONTROL BLANKET AND
SEEDING.

EACH PERMEABLE PLASTIC BERM IS 3.3 FEET IN LENGTH. THE MINIMUM
INSTALLATION IN A DITCH SHALL BE THREE UNITS. THE INSTALLATION
SHOWN WILL BE MEASURED AND PAID FOR AS A PERMEABLE PLASTIC
BERM 16.5 FEET IN LENGTH (5 UNITS).

STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND
ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

POINT 1 MUST BE HIGHER THAN POINT 2 TO INSURE THAT WATER
FLOWS THROUGH OR OVER THE BERM AND NOT AROUND THE ENDS.



REVISIONS	DATE
ADDED DIMENSIONS	04/11/08
REVISED PAY ITEM	04/15/10
ADDED PLASTIC BERM (pg2)	10/10/12

LakeCounty
Division of Transportation

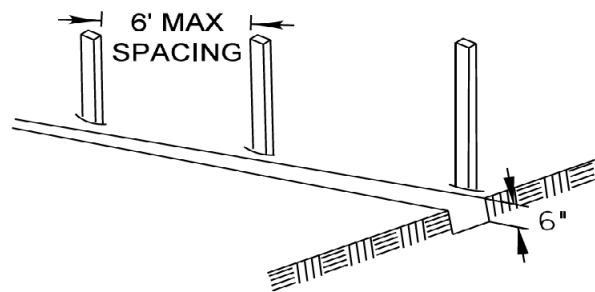
APPROVED BY: M. G. ZEMAITIS
DATE: APRIL 1, 2007

TEMPORARY DITCH CHECK
INSTALLATION FOR
ROADWAY OR
DRAINAGE DITCH

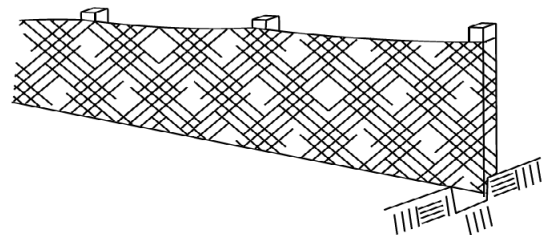
(SHEET 2 OF 2)

LC2050

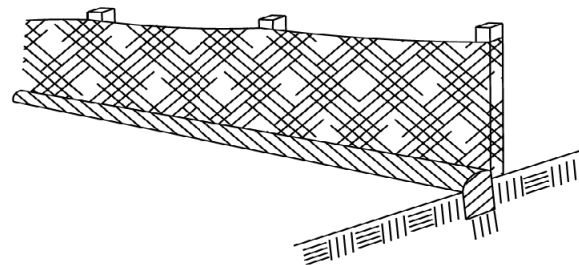
1. SET POSTS AND EXCAVATE OR SLIT-TRENCH A 6-INCH DEEP TRENCH UPSLOPE ALONG THE LINE OF POSTS



2. ATTACH GEOTEXTILE FILTER FABRIC TO EACH POST WITH A MINIMUM OF 3 (THREE) FASTENERS PER POST AND EXTEND FABRIC TO THE BOTTOM OF THE TRENCH

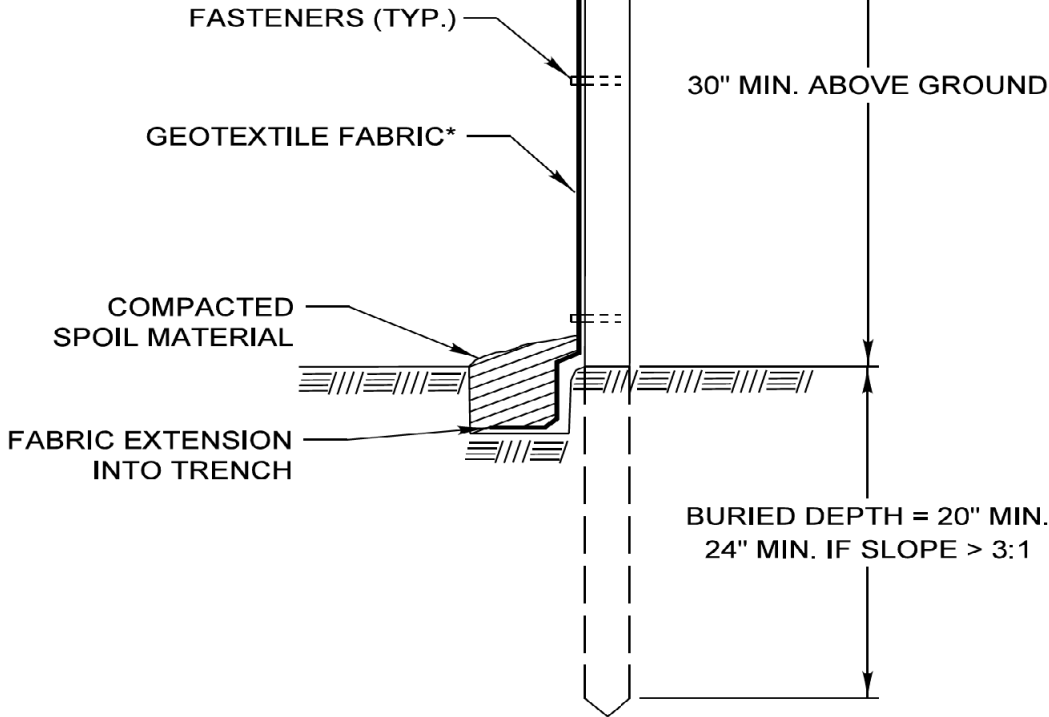


3. BACKFILL AND COMPACT THE EXCAVATED MATERIALS



Requirements	Test Methods	Wire Backed Supported Silt Fence ^a	Unsupported Silt Fence	
			Geotextile Elongation $\geq 50\%$ ^b	Geotextile Elongation $< 50\%$ ^b
Maximum Post Spacing		4 feet	4 feet	6 feet
Grab Strength	ASTM D 4632			
Machine direction		90 lbs	124 lbs	124 lbs
X-Machine direction		90 lbs	100 lbs	100lbs
Permittivity ^c	ASTM D 4491	0.05 sec ⁻¹	0.05 sec ⁻¹	0.05 sec ⁻¹
Apparent Opening Size	ASTM D 4751	0.024in maximum average roll value		
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours of exposure		

POSTS - CHOICE OF:
1.2" X 1.2" NOMINAL
HARDWOOD POSTS
2.6" X 2.6" NOMINAL
NO.2 SOUTHERN PINE
OR
U, T, L, OR C-SHAPE
STEEL POSTS WITH
MIN. WEIGHT 1.33 LBS/FT



* NOTE: OPTIONAL WIRE SUPPORT
- MIN. 30" HEIGHT
- MIN. 14 GAUGE WIRE
- MIN. 6 HORIZ. WIRES
- MIN. 6" VERTICAL SPACING

SCALE 1" = 1'

REVISIONS		DATE	 LakeCounty Division of Transportation	APPROVED BY: M. G. ZEMAITIS	LC2051
ORIG. by LCSCMC		4/21/08		DATE: JUNE 20, 2008	
Update Text		7/15/11			
			PERIMETER EROSION BARRIER INSTALLATION		