Illinois Department of Transportation

Abbreviated Structure Geotechnical Report

Original Report Date: 4/22/2021	**Proposed SN:** 047-2050	**Route:**	FAP 311 (IL 71)
Revised Date: N/A	**Existing SN:** 047-0059	**Section:**	(1-1)R, BR1
Geotechnical Engineer: Jeremy Brown, P.E., IDOT District 3		**County:**	Kendall
Structural Engineer: Brad Rotherham PE, SE (BFW Engineering)		**Contract:**	66D26

Indicate the proposed structure type, substructure types, and foundation locations (attach plan and elevation drawing): The proposed structure is a triple 12-feet by 10-feet cast-in-place concrete box culvert with an 8° right forward skew located at station 688+30.

Discuss the existing boring data, existing plans foundation information, new subsurface exploration and need for any additional exploration to be provided with SGR Technical Memo (attach all data and subsurface profile plot): The existing structure is a single span PCC I beam bridge supported by H-piles and integral abutments. Two soil borings and a rock core log were performed by IDOT on 1993. The soil boring logs are attached.

Provide the location and maximum height of any new soil fill or magnitude of footing bearing pressure. Estimate the amount and time of the expected settlement. Indicate if further testing, analysis, and/or ground improvement/treatment is necessary: The proposed culvert will require a fill of approximately 12-feet high to reach existing gradeline at the right end and a fill of approximately 7-feet high at the left end of the culvert . Soil properties below the culvert structure indicate a layer of low moisture, high strength shale rock material followed by dolomite rock. These layers are not compressible, therefore no settlement issues are expected. A site visit also indicated no signs of settlement at existing structure. No further settlement analysis is warranted.

Identify any new cuts or fill slope angles and heights. Estimate the factor of safety against slope failure. Indicate if further testing, analysis or ground improvement/treatment is necessary: The maximum embankment height at the structure is approximately 22-feet high. The proposed side slopes are expected to range from 1V:3H to 1V:4H, which is the same or flatter than the existing side slopes, therefore slope stability is not a concern. A site visit indicated no slope stability problems near the structure.

Indicate at each substructure, the 100-year and 200-year total scour depths in the Hydraulics report, the non-granular scour depth reduction, the proposed ground surface, and the recommended foundation design scour elevations: Not required for closed bottom culverts.

Determining the seismic soil site class, the seismic performance zone, the 0.2 and 1.0 second design spectral accelerations and indicate if that the soils are liquefiable: Not applicable to box culverts.

Confirm feasibility of the proposed foundation or wall type and provide design parameters. Attach a pile design table indicating feasible pile types, various nominal required bearings, factored resistances available and corresponding estimated lengths at locations where piles will be used. Provide factored bearing resistance and unit sliding resistance at various elevations and confirm no ground improvement/treatment is necessary where spread footings are proposed. Estimated top of rock elevations as well as preliminary factored unit side and tip resistance values shall be indicated when drilled shafts are proposed: Based on the proposed cast-in-place box culvert dimensions shown on the preliminary TS&L, the wingwall lengths at each end were determined to be approximately 15'-3" and 17'-6" long using section 4 from the IDOT Culvert Manual. Horizontal cantilever wingwalls are feasible for the shorter, 15'-3" wingwalls since this type can be utilized for wingwalls up to 16' in length. Two-way L-type cantilever wingwalls are feasible for the longer, 17'-6" wingwalls. This type of wingwall is used when the design length is between 14' and 30' long. Two-way L-type wingwalls may also be used for the shorter wingwalls if the designer wishes to utilize the same design type for all the wingwalls. The soils/rock under the proposed box culvert and wingwalls is adequate and will not require removal and replacement to support the proposed structure. Should excavation for the proposed structure go below elevation 595.00, the contractor will encounter shale and dolomite layers and the pay item "Rock Excavation For Structures" should be used for its removal.

Calculate the estimated water surface elevation and determine the need for cofferdams (type 1 or 2), and seal coat: The structure can be constructed using conventional methods for water diversion.

Assess the need for sheeting or soil retention or temporary construction slope and provide recommendation for other construction concerns: Soil properties below the culvert consist of shale and dolomite rock, therefore Temporary Sheet Piling is not feasible. Staged construction is to be utilized and the pay item "Temporary Soil Retention System" (TSRS) should be used. The TSRS shall extend vertically to an elevation matching that of the top of the box culvert section and will be used to retain the porous granular embankment used for backfill after stage 1 construction of the proposed structure is complete. A geotextile retaining wall shall be constructed to retain the left side of the embankment used for construction of the temporary pavement in stage 2 construction. The geotextile retaining wall will be constructed over the top of the box culvert section from stage 1 from the grade established by the top of the box culvert and the top of the TSRS and shall extend vertically to the grade shown in the plans.

Bench Mark: Chiseled "□" on top of SW wingwall of SN 047-0059. Sta. 688+09.00, 22' LT. Elev 621.28.

Existing Structure: S.N. 047-0059 was built in 1997 under F.A.P. RTE. 311, Section (1-A) at STA. 680+30.42. The existing structure is a single-span PPC I-beam bridge with a reinforced concrete deck supported by integral abutments. 88'-6¼" back-to-back abutments. 42'-7¾" out-to-out deck. Structure to be removed and replaced utilizing stage construction

No Salvage

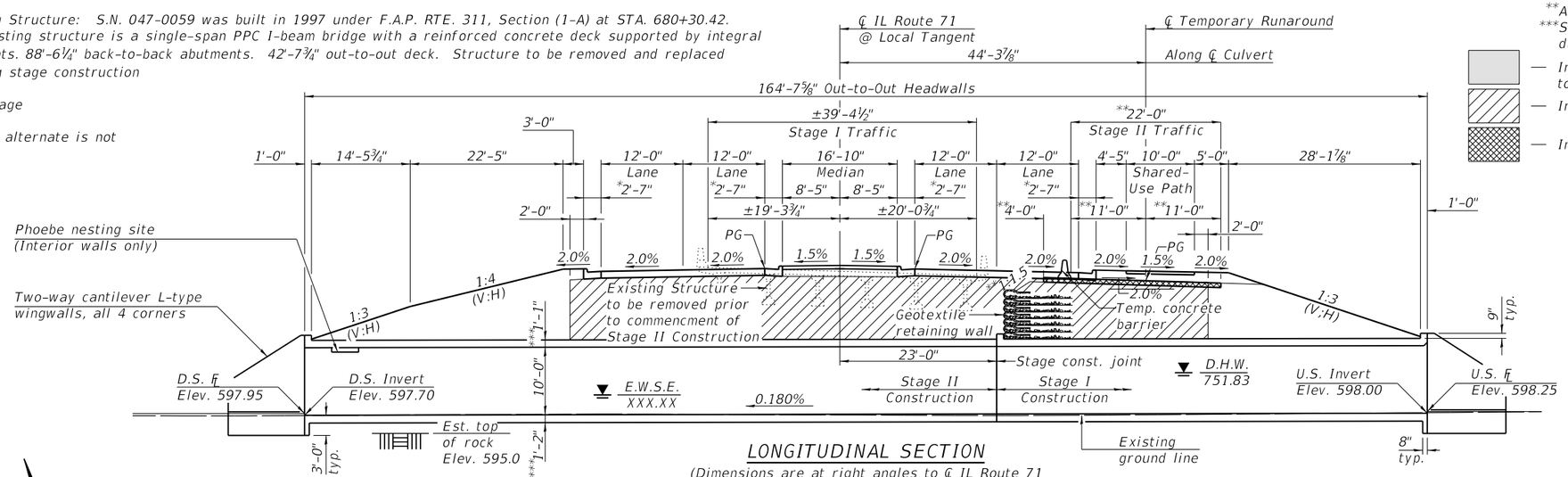
Precast alternate is not allowed.

*Combination concrete curb and gutter, Type B-6.24.
**At right L's to ℄ Temp. Runaround
***Slab thickness may be refined during final design.

— Indicates estimated limits of existing Stone Riprap, Class A4 to be removed

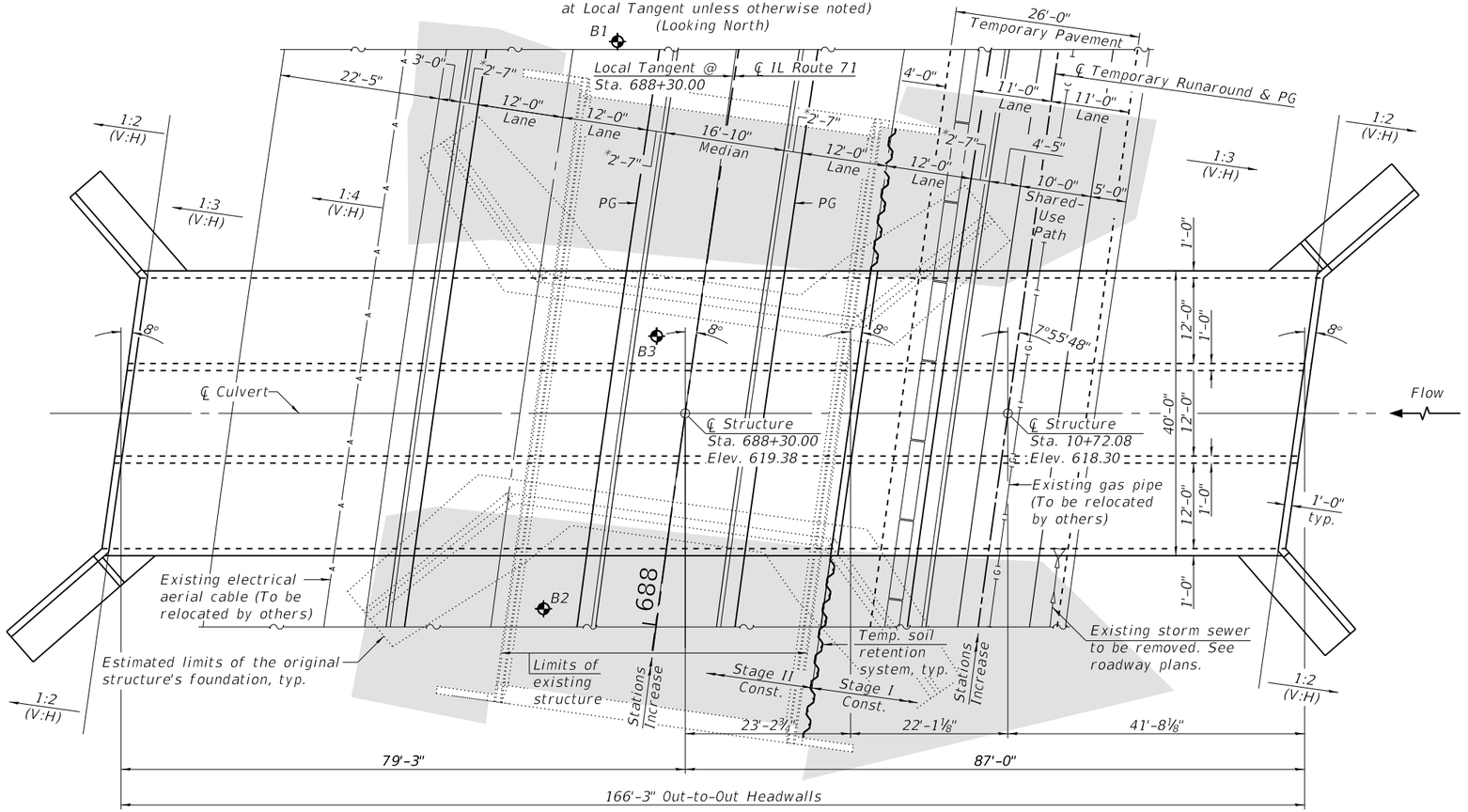
— Indicates limits of porous granular embankment

— Indicates temporary pavement



LONGITUDINAL SECTION

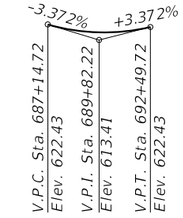
(Dimensions are at right angles to ℄ IL Route 71 at Local Tangent unless otherwise noted)
(Looking North)



PLAN

PI STA. = 687+52.85
Δ = 27° 08' 43" (RT)
D = 1° 23' 59"
R = 4,093.50'
T = 988.25'
L = 1,939.39'
E = 117.60'
e = _____
T.R. = _____
S.E. RUN = _____
P.C. STA. = 677+64.60
P.T. STA. = 697+03.99

IL ROUTE 71
PROP. CURVE PR71-7



L.V.C.= 535'

IL ROUTE 71
PROFILE GRADE
(Along roadway median edge of pavement)

HIGHWAY CLASSIFICATION

F.A.P. Rte. 311 – IL Rte. 71
Functional Class: Other Principal Arterial
ADT: 11948 (2022); 14268 (2042)
ADTT: 1267 (2022); 1513 (2042)
DHV: 1285 (2042)
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.
Two-Way Traffic
Directional Distribution: 59:41

LOADING HL-93

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

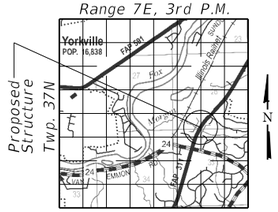
DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

DESIGN STRESSES

FIELD UNITS

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



LOCATION SKETCH

GENERAL PLAN & ELEVATION
IL ROUTE 71 OVER MORGAN CREEK
F.A.P. RTE. 311 – SEC. (1-1)R, BR1
KENDALL COUNTY
STATION 688+30.00
S.N. 047-2050

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
403 NORTH COURT STREET
MARION, ILLINOIS 62959
PHONE - 618.997.9190

USER NAME - _____	DESIGNED - GBR	REVISED - ____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		
	CHECKED - JGY	REVISED - ____			
PLOT SCALE = _____	DRAWN - GBR	REVISED - ____			
PLOT DATE = _____	CHECKED - JGY	REVISED - ____			

SHEET 1 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	(1-1)R,BR 1	KENDALL	__	__
		CONTRACT NO. 66D26		
		ILLINOIS	FED. AID PROJECT	

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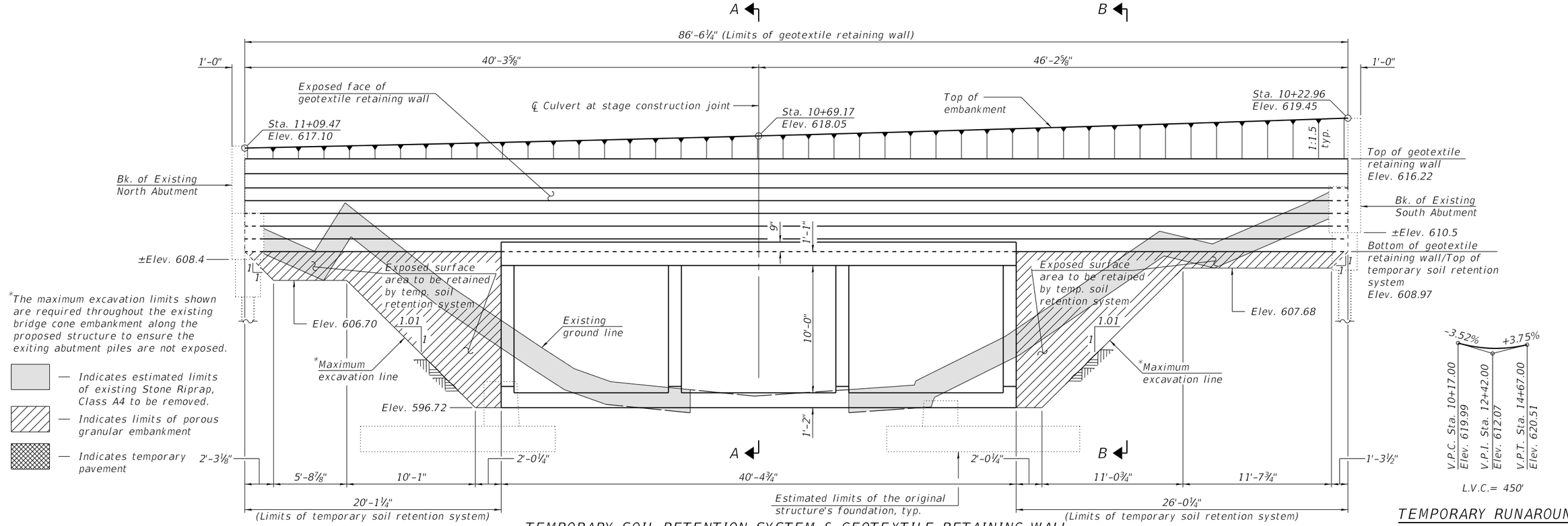
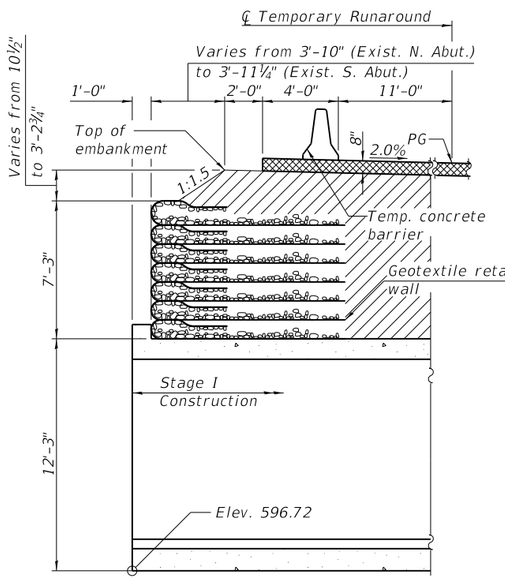


TEMPORARY SOIL RETENTION SYSTEM & GEOTEXTILE RETAINING WALL

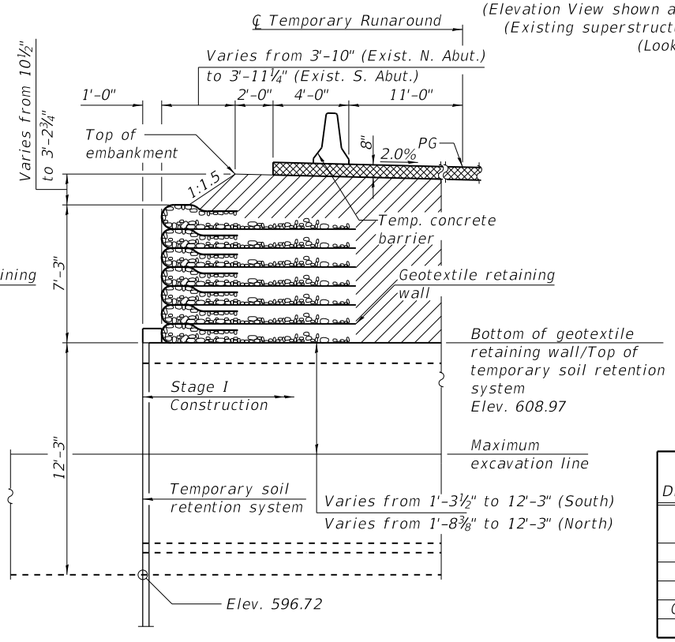
(Elevation View shown along stage construtions joint)
(Existing superstructure not shown for clarity)
(Looking East)

TEMPORARY RUNAROUND PROFILE GRADE

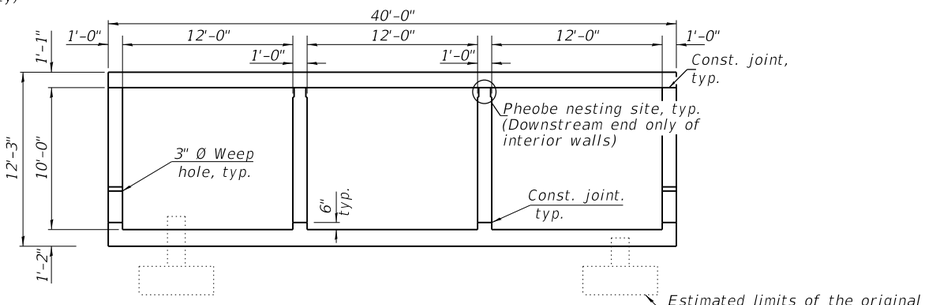
(Along ℄ temporary runaround)



SECTION A-A



SECTION B-B



SECTION THRU BARREL

(Thickness of top and bottom slabs are subject to refinement during final design.)
(Looking West)

WATERWAY INFORMATION

Existing Low Grade Elev. = 617.1 @ Sta. 690+00.00
Drainage Area = 17.8 sq. mi. Prop. Low Grade Elev. = 617.1 @ Sta. 690+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Ten-Year	10	1030	176	189	603.3	0.3	0.0	603.6	603.3
Design	50	1510	212	216	604.0	0.7	0.0	604.7	604.1
Base	100	1700	226	226	604.3	0.8	0.3	605.1	604.6
Overtopping Proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	2160	256	247	604.9	1.1	0.9	606.0	605.8

Existing 10 Year Outlet Velocity = 6.1 ft/s Proposed 10 Year Outlet Velocity = 6.0 ft/s

DETAILS
IL ROUTE 71 OVER MORGAN CREEK
F.A.P. RTE. 311 - SEC. (1-1)R, BR1
KENDALL COUNTY
STATION 688+30.00
S.N. 047-2050

BACON | FARMER | WORKMAN
ENGINEERING & TESTING, INC.
403 NORTH COURT STREET
MARION, ILLINOIS 62959
PHONE - 618.997.9190

USER NAME = ____	DESIGNED - GBR	REVISED - ____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	
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PLOT SCALE = ____	DRAWN - GBR	REVISED - ____		
PLOT DATE = ____	CHECKED - JGY	REVISED - ____		SHEET 2 OF 2 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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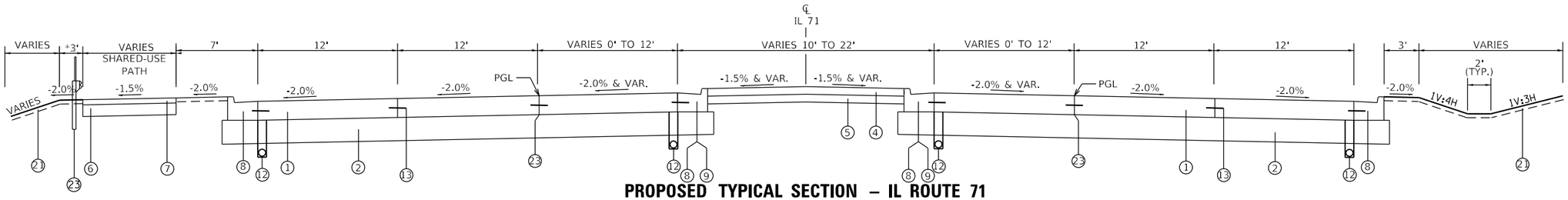
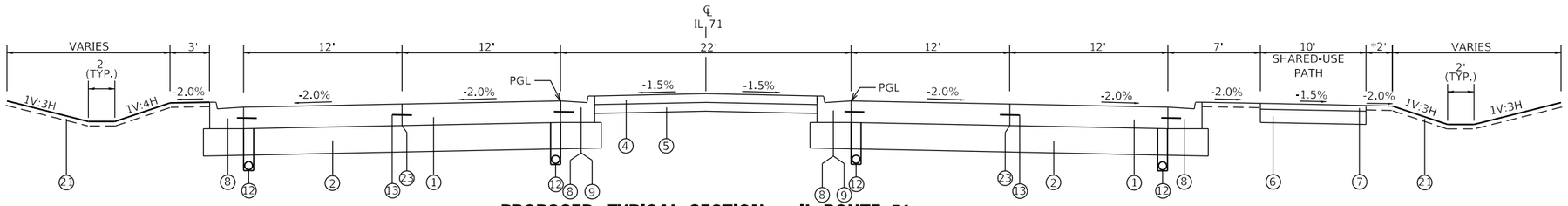
		CONTRACT NO. 66D26		
		ILLINOIS	FED. AID PROJECT	



PROPOSED TYPICAL SECTION – IL ROUTE 71

STA. 613+78.25 TO 620+17.21

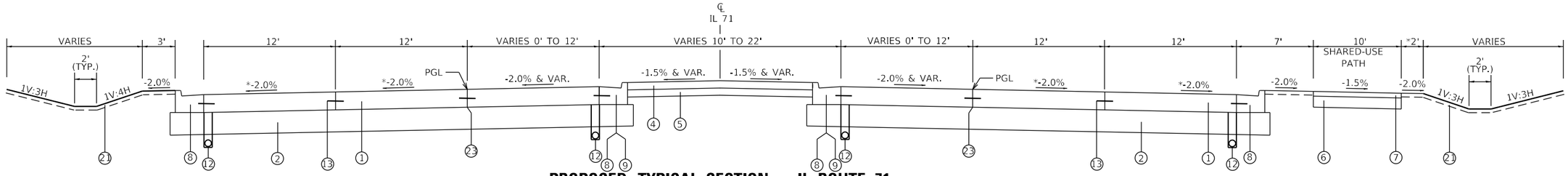
* WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH;
AT LOCATIONS WITH GUARDRAIL USE 4' WIDTH MINIMUM



PROPOSED TYPICAL SECTION – IL ROUTE 71

STA. 650+80.85 TO 655+16.94
STA. 666+15.76 TO 667+32.80
STA. 683+04.77 TO 689+31.01
STA. 709+12.43 TO 710+60.15
STA. 718+75.13 TO 730+83.93
STA. 734+58.99 TO 741+91.21
STA. 754+07.17 TO 761+28.74
STA. 769+53.43 TO 770+90.28

* WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH;
AT LOCATIONS WITH GUARDRAIL USE 4' WIDTH MINIMUM



PROPOSED TYPICAL SECTION – IL ROUTE 71

STA. 629+91.50 TO 650+80.85
STA. 655+16.94 TO 666+15.76
STA. 671+32.78 TO 683+04.77- *PAVEMENT SLOPES VARIES 2% TO 1% 671+35.40 TO 673+88.86
STA. 689+31.01 TO 709+12.43
STA. 710+60.15 TO 718+75.13
STA. 730+83.93 TO 734+58.99
STA. 741+91.21 TO 754+07.17
STA. 761+28.74 TO 769+53.43
STA. 770+90.28 TO 786+13.70

* WHEN DITCH DEPTH GREATER THAN 6' USE 5' WIDTH

(1) PORTLAND CEMENT CONCRETE PAVEMENT, 9 1/2" (JOINTED)
(2) AGGREGATE SUBGRADE IMPROVEMENT, 12"
(3) CONCRETE MEDIAN, TYPE SB (SPECIAL)
(4) CONCRETE MEDIAN SURFACE, 4" (RAISED MEDIAN)
(5) AGGREGATE BASE COURSE TYPE B, 4"
(6) AGGREGATE BASE COURSE TYPE A, 6" (WITH COMPACTED SUBGRADE)
(7) INCIDENTAL HOT-MIX ASPHALT SURFACING, 2"
(8) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24
(9) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12
(10) COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.06
(11) PORTLAND CEMENT CONCRETE SIDEWALK, 4"
(12) PIPE UNDERDRAINS, TYPE 3
(14) POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (11 ¼")
(15) HOT-MIX ASPHALT SHOULDERS, 6"
(16) POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (2")
(17) POLYMERIZED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90 (9")
(18) HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70 (2")
(19) HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70 (5 ¼")
(21) TOPSOIL PLACEMENT, 4"
(22) AGGREGATE SHOULDERS, TYPE B 6"
(23) PAVEMENT JOINT (TYP.)
(24) POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90 (1 ½")
(25) POLYMERIZED LEVELING BINDER (MACHINE METHOD), N90 (¾")
(26) HOT-MIX ASPHALT SURFACE REMOVAL, 2 ¼"

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 71
PROPOSED TYPICAL SECTION

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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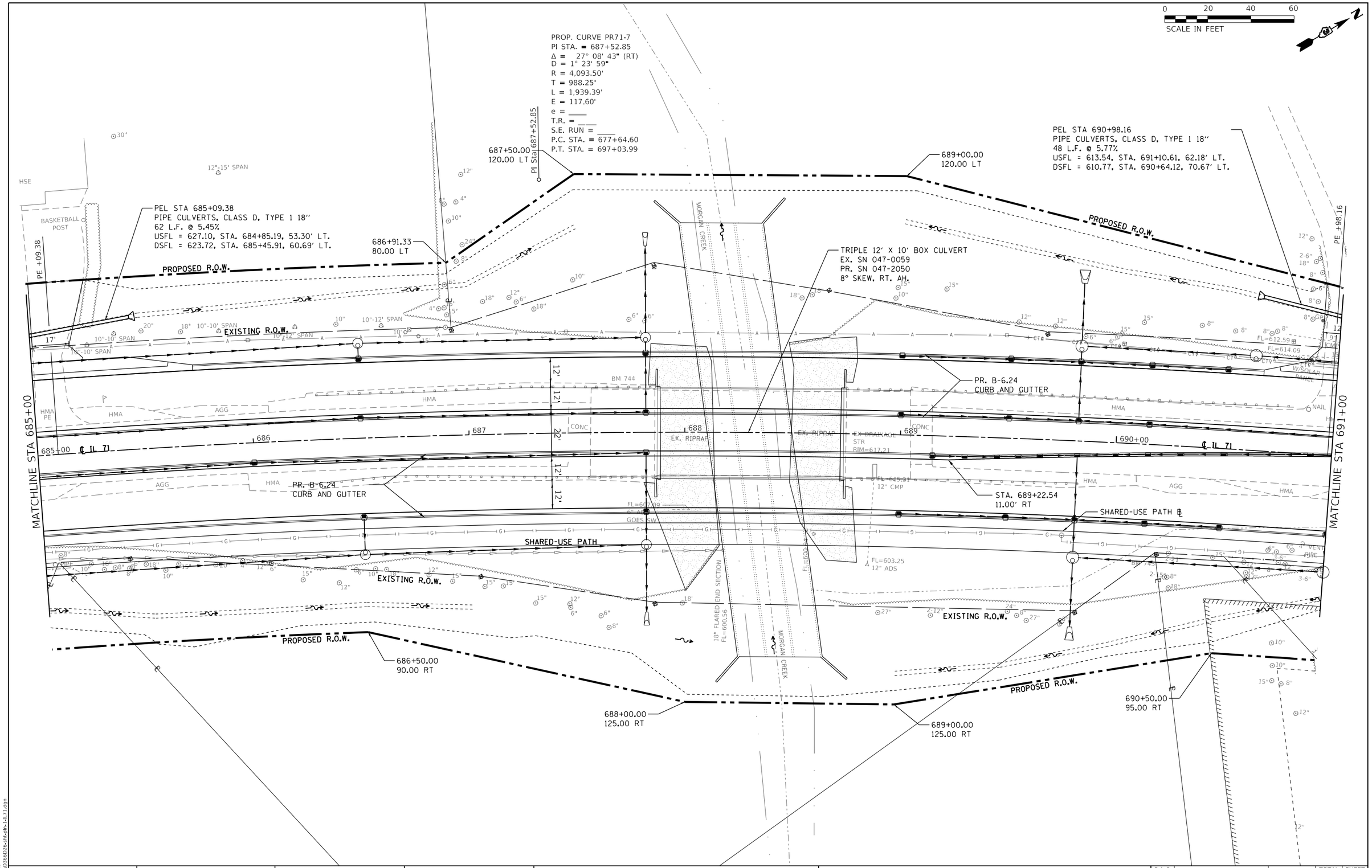
		CONTRACT NO. 66D26		
		ILLINOIS	FED. AID PROJECT	



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 71
PLAN

SCALE: 1"=20' | SHEET OF SHEETS | STA. 685+00 | TO STA. 691+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	(1-1)R,BR1	KENDALL	755	131
		CONTRACT NO. 66D26		
	ILLINOIS	FED. AID PROJECT		

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SURVEYED
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ALIGNMENT CHECKED
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NOTE BOOK
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BY
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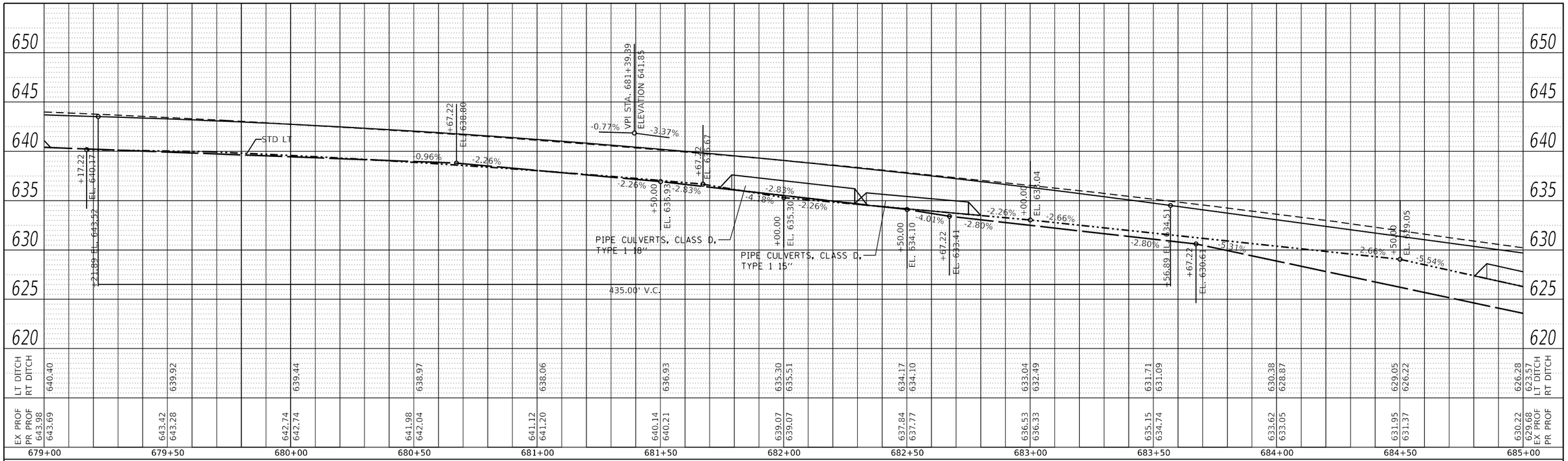

PROFILE LEGEND

SPECIAL DITCH RIGHT

SPECIAL DITCH LEFT

PROFILE
SURVEYED
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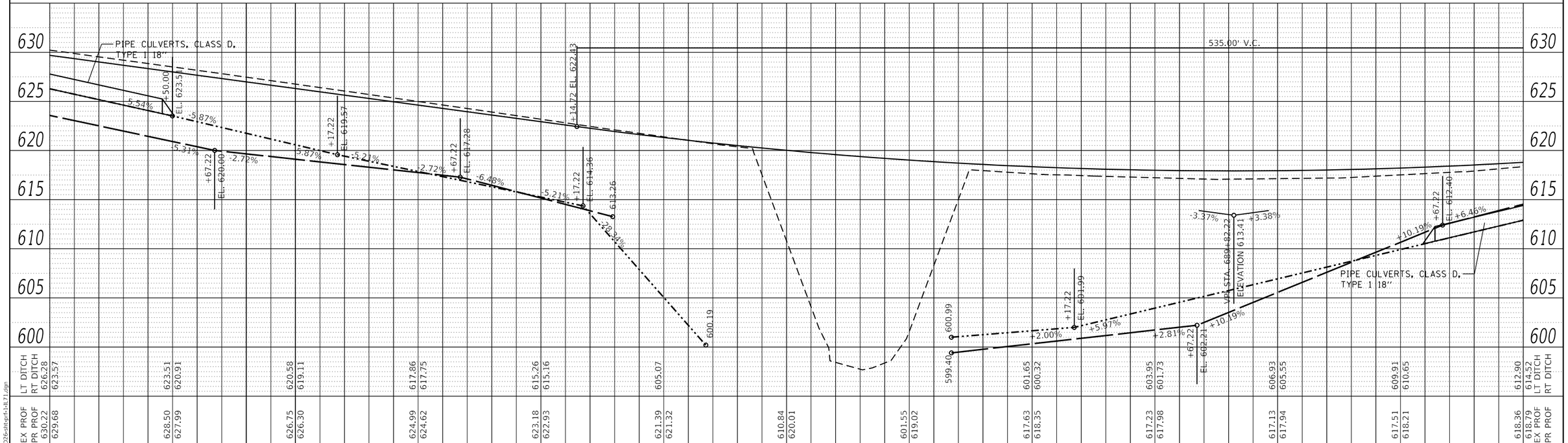
CADD FILE NAME
NOTE BOOK
NO.
BY
DATE



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 71
PROFILE

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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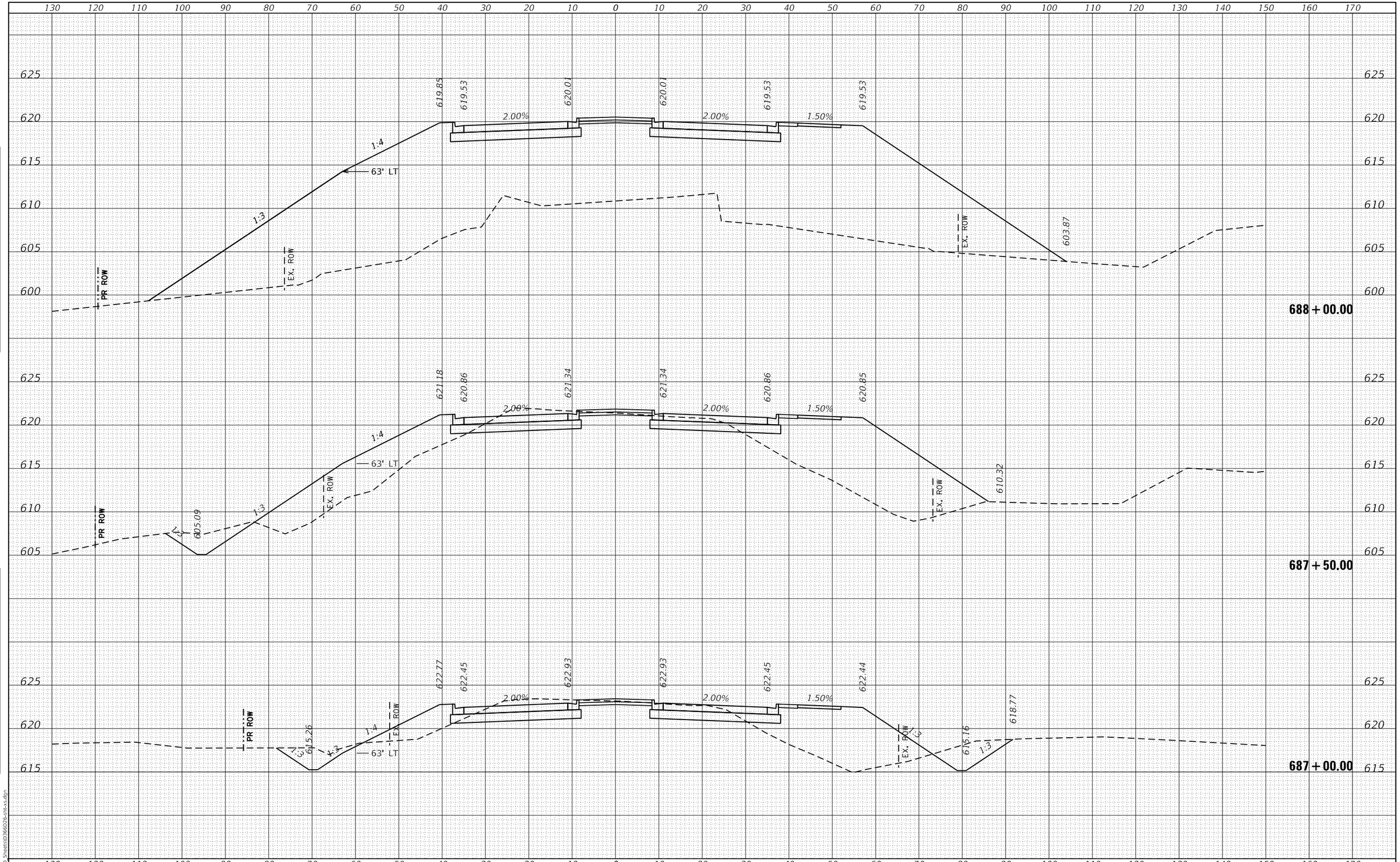
		CONTRACT NO. 66D26		
	ILLINOIS	FED. AID PROJECT		



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SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
NOTE BOOK	AREAS CHECKED	
NO.		

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SURVEYED		
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AREAS		
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PLOT DATE = 10/7/2020 - 9:18:19 AM	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 71
CROSS SECTIONS

SCALE: 1"=10' | SHEET OF SHEETS | STA. 687+00.00 | TO STA. 688+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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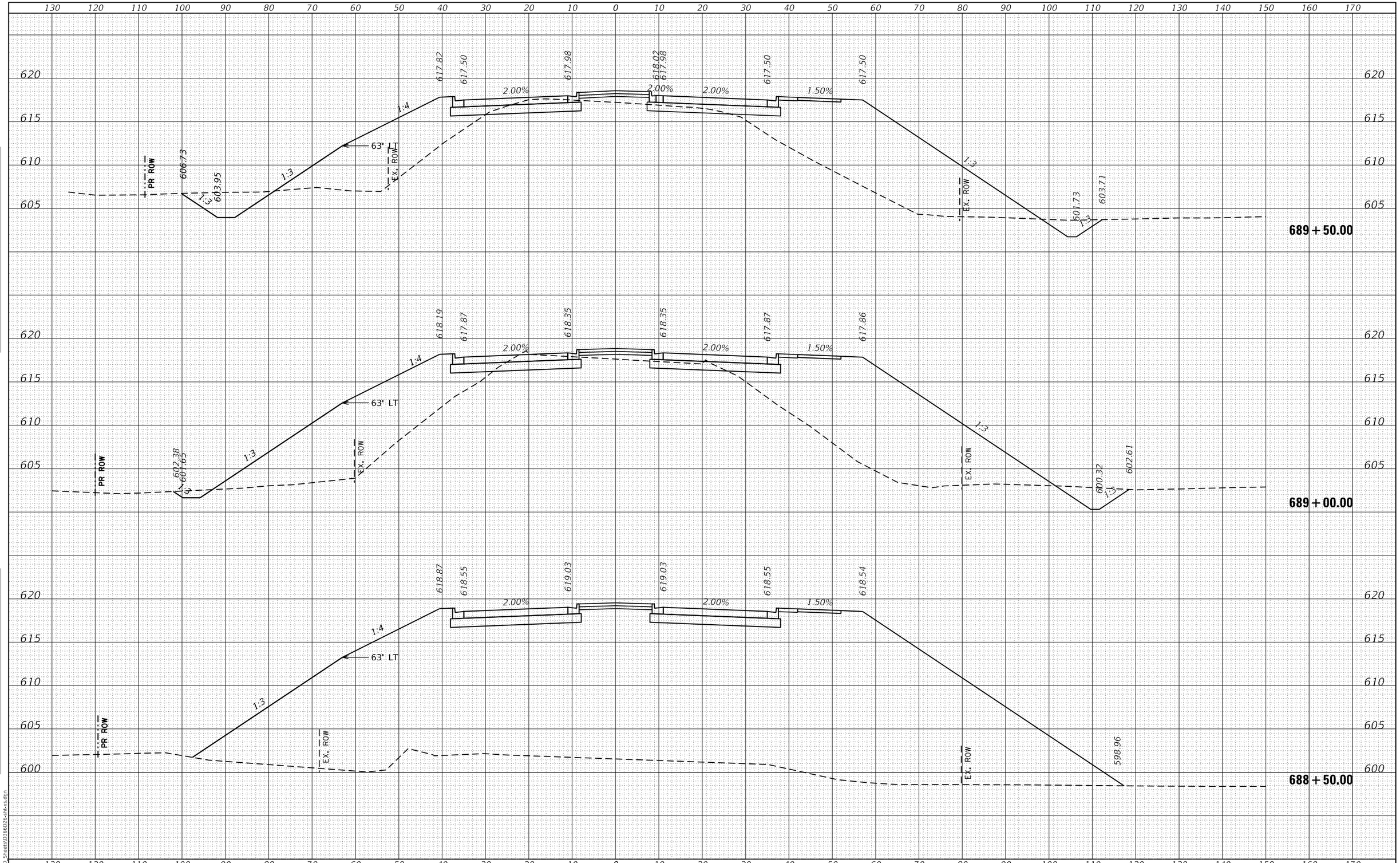
		CONTRACT NO. 66D26		
	ILLINOIS	FED. AID PROJECT		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 71
CROSS SECTIONS

SCALE: 1"=10' | SHEET OF SHEETS | STA. 688+50.00 | TO STA. 689+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
311	(1-1)R,BR1	KENDALL	755	686
		CONTRACT NO. 66D26		
		ILLINOIS	FED. AID PROJECT	

ORIGINAL SURVEY / FINAL SURVEY
NOTE BOOK
NO.
SURVEYED
PLOTTED
TEMPLATE
AREAS
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DATE

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Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 9/24/93

ROUTE FAP 311 (IL 71) **DESCRIPTION** IL 71 Over Morgan Creek, East of Yorkville **LOGGED BY** K Whittington

SECTION 1-A BR **LOCATION** SW1/4, **SEC.** 26, **TWP.** 37, **RNG.** 7, 3rd **PM**,
Latitude , **Longitude**

COUNTY Kendall **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME

STRUCT. NO. 047-2050 Pro. / 047-0059 Exist.
Station 688+30

BORING NO. 1 (N. Abut.)
Station 688+80
Offset 17.0 ft Left
Ground Surface Elev. 616.20 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 595.0 ft ▼
Upon Completion 599.2 ft ▽
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Not Recorded
613.70				
	3			Medium Brown Silty Clay with Gravel (Fill)
	2 3	0.7 P	14	
611.70				
-5				Soft Brown Silty Clay Loam (Fill)
	2			
	2 2	<0.5 P	20	
608.20	4	0.7 P	14	
	8			Medium Brown Sand/Gravel (Fill)
	7		6	
606.70				
-10				Stiff Brown Silty Clay Loam with Gravel Pebbles (Fill)
	3			
	3 8	1.5 P	20	
	6			
	5 8	2.0 P	12	
601.70				
-15				Soft to Medium Brown Silty Clay with Pebbles (Fill?)
	3			
	2 3	0.7 P	24	
599.20 ▽				
	7			Medium Dark Gray to Black Loamy Sand Gravel with Angular Dolomite Pieces mixed with Gray Silty Loam Till - Free Water
	12 9		12	
-20				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
	18			Medium Dark Gray to Black Loamy Sand Gravel with Angular Dolomite Pieces mixed with Gray Silty Loam Till - Free Water *(continued)*
	14 10		9	▼
594.20				
	40			Gray Shale
	60/4"		8	
-25				
	100/0.75"			
589.70				
				Dolomite
588.70				
				Auger Refusal @ 27.5'
				End of Boring
-30				
-35				
-40				

SOIL BORING 047-2050.GPJ IL_DOT.GDT 4/22/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 9/24/93

ROUTE FAP 311 (IL 71) **DESCRIPTION** IL 71 Over Morgan Creek, East of Yorkville **LOGGED BY** K Whittington

SECTION 1-A BR **LOCATION** SW1/4, **SEC.** 26, **TWP.** 37, **RNG.** 7, 3rd **PM**,
Latitude , **Longitude**

COUNTY Kendall **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME

STRUCT. NO. 047-2050 Pro. / 047-0059 Exist.
Station 688+30

BORING NO. 2 (S. Abut.)
Station 688+00
Offset 16.0 ft Left
Ground Surface Elev. 618.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 596.0 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Gravel, Buried Concrete, Brown Soil			
613.50			
-5			
Soft Brown Silty Clay Loam & Gravel Mix (Fill)	3		
	3 2	<0.5 P	20
	2		
	2 3	0.5 P	15
-10			
	2		
	1 4	0.5 P	16
606.50			
Dark Gray & Black Silty Clay & Gravel Mix (Fill)	3		
	1 6		23
604.50			
Medium Gray Loam Gravel (Fill?)			
-15	51		
	6 5		16
601.50			
Soft Black Silty Clay with some Gravel Pieces	4		
	5 4		21
599.00			
-20			
Dense Wet Gray Sand & Gravel with Gray Till and Large Pieces of Weathered Dolomite *(continued)*	14		
	14 9		10
596.50			
Dense Hard Gray Silty Loam Till with Rock Pieces ▼	18		
595.00	27	>4.5	6
Gray Shale with some Dolomite Layers	76	P	6
-25			
	100/4"		
			8
590.50			
Gray Dolomite			
589.00			
Auger Refusal @ 29.5' End of Boring			
-30	100/2"		
-35			
-40			

SOIL BORING 047-2050.GPJ IL_DOT.GDT 4/22/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Date 9/28/93

ROUTE FAP 311 (IL 71) **DESCRIPTION** IL 71 Over Morgan Creek, East of Yorkville **LOGGED BY** K Whittington

SECTION 1-A BR **LOCATION** SW1/4, **SEC.** 26, **TWP.** 37, **RNG.** 7, 3rd **PM**,
Latitude , **Longitude**

COUNTY Kendall **DRILLING METHOD** Hollow Stem Auger **HAMMER TYPE** CME

STRUCT. NO. 047-2050 Pro. / 047-0059 Exist.
Station 688+30

BORING NO. 3 (Bridge Deck)
Station 688+40
Offset 5.5 ft Left
Ground Surface Elev. 617.40 ft

Surface Water Elev. 597.90 ft
Stream Bed Elev. 597.40 ft

Groundwater Elev.:
First Encounter 597.9 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Bridge Deck			
-5			
-10			
-15			
597.90 ▼			
Top of Water @ 597.9			
-20			
Streambed. Augered 5'			
592.40 -25	80		
Borehole continued with rock coring.	20/.5"		
-30			
-35			
-40			

SOIL BORING 047-2050.GPJ IL_DOT.GDT 4/22/21

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Illinois Department of Transportation

ROCK CORE LOG

Date 9/28/93

ROUTE FAP 311 (IL 71) **DESCRIPTION** IL 71 Over Morgan Creek, East of Yorkville **LOGGED BY** K Whittington

SECTION 1-A BR **LOCATION** SW1/4, **SEC.** 26, **TWP.** 37, **RNG.** 7, 3rd **PM**,
Latitude , **Longitude**

COUNTY Kendall **CORING METHOD**

STRUCT. NO. 047-2050 Pro. / 047-0059 Exist.
Station 688+30

BORING NO. 3 (Bridge Deck)
Station 688+40
Offset 5.5 ft Left
Ground Surface Elev. 617.40 ft

CORING BARREL TYPE & SIZE
Core Diameter in
Top of Rock Elev. 592.40 ft
Begin Core Elev. 592.40 ft

		DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Siltstone, Fine, Black to Gray, Contains Fossils, Argillaceous with Dolomite Cement	592.40		1	93	43		
	591.50						
Shale, Gray, Mudstone, Calcareous	591.10						
Dolomite, Dark Gray, Dense, Contains many Fragmented Fossils and Crystalline Calcite Cement, Vuggy & Vesicular with Calcite and Pyrite Crystals, Occasional areas of Wavy Shale Partings Fort Atkinson Formation Maquoketa Group Ordovician System		-30					280.0
			2	100	86		211.0
	582.90						
End of Boring		-35					
		-40					
		-45					

ROCK CORE 047-2050.GPJ IL_DOT.GDT 4/22/21

Color pictures of the cores Yes
Cores will be stored for examination until No
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)