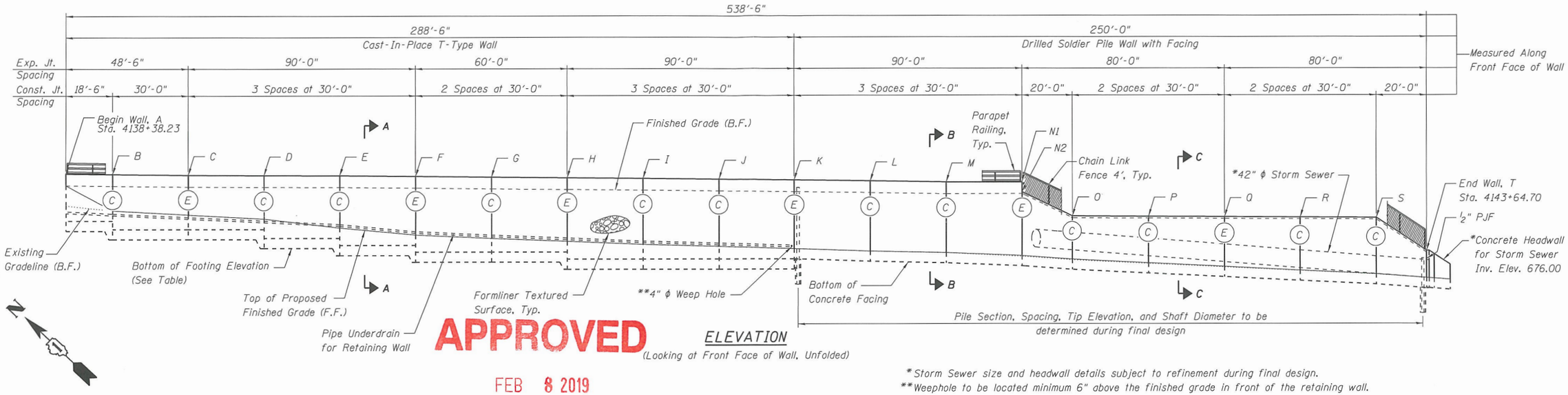
Benchmark: North Bolt of fire hydrant, between RR and "Mobil" gas station, station 4138+51, Offset 47' Left, Elevation 692.91.

Existing Structure: None

Proposed Structure: Wall to be constructed during Stage 1 of IL 53 reconstruction.



ELEVATION

(Looking at Front Face of Wall, Unfolded)

*Storm Sewer size and headwall details subject to refinement during final design.

**Weephole to be located minimum 6" above the finished grade in front of the retaining wall.

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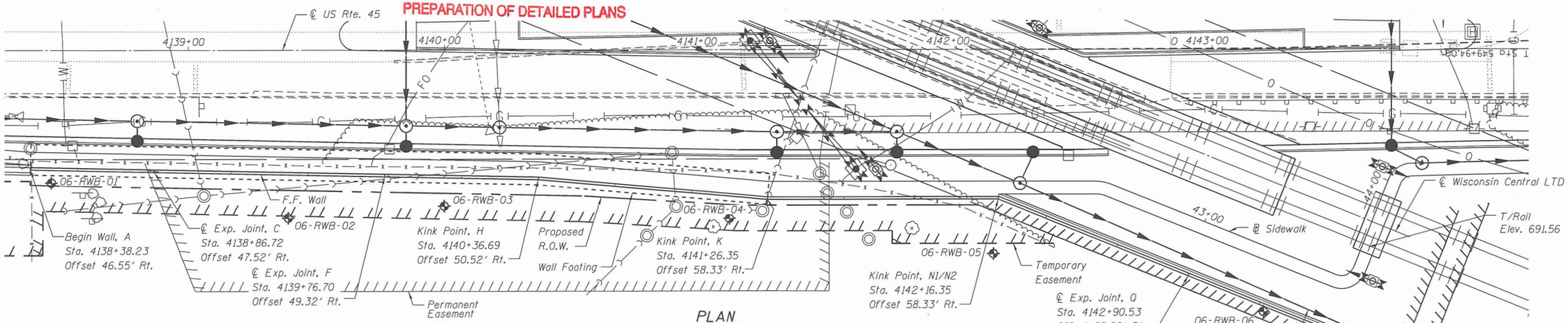


PLAN

(Wall offsets are measured from the ℄ US Rte. 45 to Front Face of Wall)

HIGHWAY CLASSIFICATION

F.A.U. Rte. 3502 - US Rte. 45
Functional Class: Minor Arterial (Urban)
ADT: 19,100 (2016); 23,800 (2030)
ADTT: 1250 (2016)
DHV: 2685 (Two-Way)
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.
Two-Way Traffic
Directional Distribution 50:50

WALL DEFLECTION CRITERIA

Max. Lateral Total Deflection at Top of Wall < 1% of Retained Soil Height

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications
8th Edition

DESIGN STRESSES

FIELD UNITS

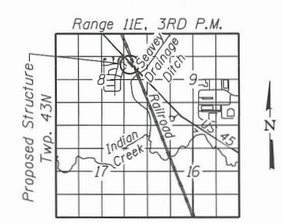
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

SOLDIER PILES

fy = 50,000 psi (AASHTO M270 Gr. 50)

LEGEND:

(C)	Construction Joint	—FO—	Existing Fiber Optic
(E)	Expansion Joint, ½"	—G—	Existing Gas
◆	Soil Boring Location	—O—	Existing Oil Pipe Line
F.F.	Front Face	—W—	Existing Water Main
B.F.	Back Face	◎	Existing Manhole
—→—	Proposed Storm Sewer	—□—	Existing Aerial Line
—X—	Existing Fence		



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
US ROUTE 45
F.A.U. RTE. 3502 - SEC. 49-Y
LAKE COUNTY
STATION 4138+38.23 - 4143+64.70
STRUCTURE NO. 049-0623

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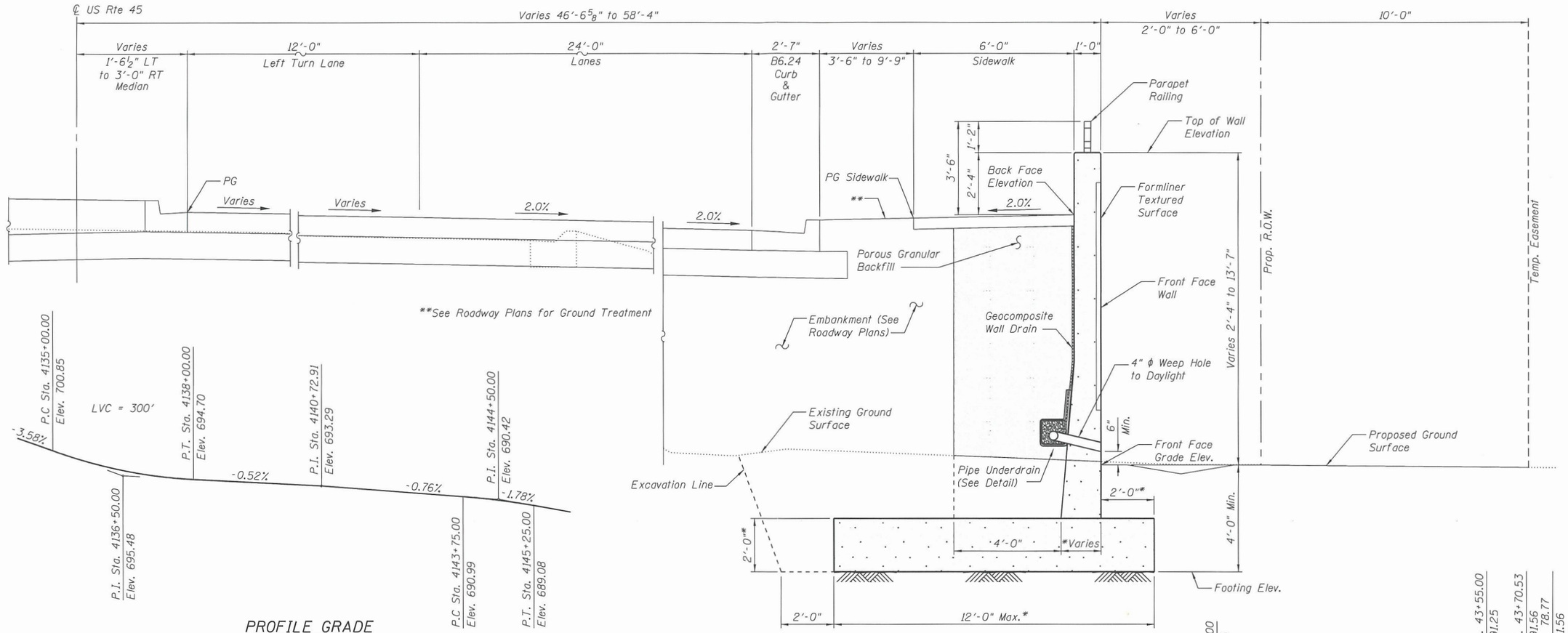
PLOT DATE =	CHECKED - CSP	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3502	49-Y	LAKE	3	1
		CONTRACT NO. 60N84		
		ILLINOIS FED. AID PROJECT		



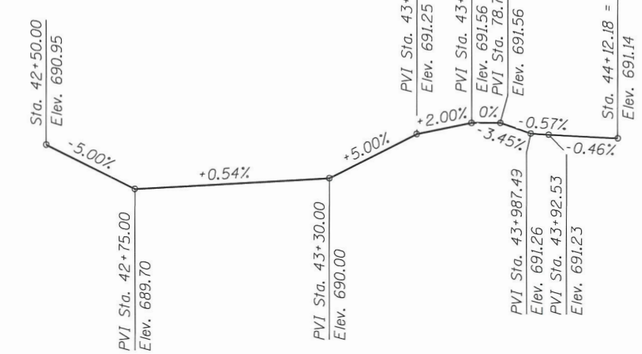
SECTION A-A

TYPICAL SECTION THRU CAST-IN-PLACE T-TYPE WALL

*Subject to Refinement during Final Design

PROFILE GRADE

(Along U.S. Rte. 45 SB)



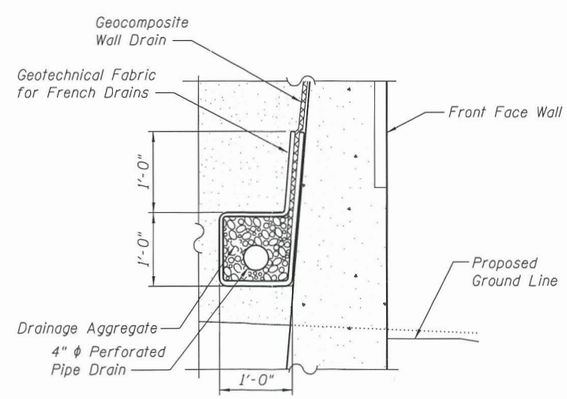
PROFILE GRADE

(Along Sidewalk)

Location	Station	Offset	Top of Wall Elev.	Back Face Grade Elev.	Front Face Grade Elev.	Bottom of Footing Elev.
A	4138+38.23	46.55 RT	696.74	694.41	694.43	685.42
B	4138+56.73	46.92 RT	696.64	694.30	689.43	683.75
C	4138+86.72	47.52 RT	696.48	694.14	688.62	683.75
D	4139+16.71	48.12 RT	696.39	694.06	687.79	682.00
E	4139+46.71	48.72 RT	696.36	694.02	686.02	680.58
F	4139+76.70	49.32 RT	696.21	693.88	684.61	679.25
G	4140+06.70	49.92 RT	696.06	693.73	683.92	679.25
H	4140+36.69	50.52 RT	695.91	693.58	683.33	677.83
I	4140+66.58	53.12 RT	695.78	693.45	682.72	677.83
J	4140+96.46	55.73 RT	695.61	693.28	682.29	677.83
K	4141+26.35	58.33 RT	695.44	693.10	681.83	677.83

ELEVATION TABLE

(Wall Offsets are measured from the ℄ US Rte. 45 to Front Face of Wall.)



PIPE UNDERDRAIN DETAIL

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GENERAL DETAILS

US ROUTE 45

F.A.U. RTE. 3502 - SEC. 49-Y

LAKE COUNTY

STATION 4138+38.23 - 4143+64.70

STRUCTURE NO. 049-0623

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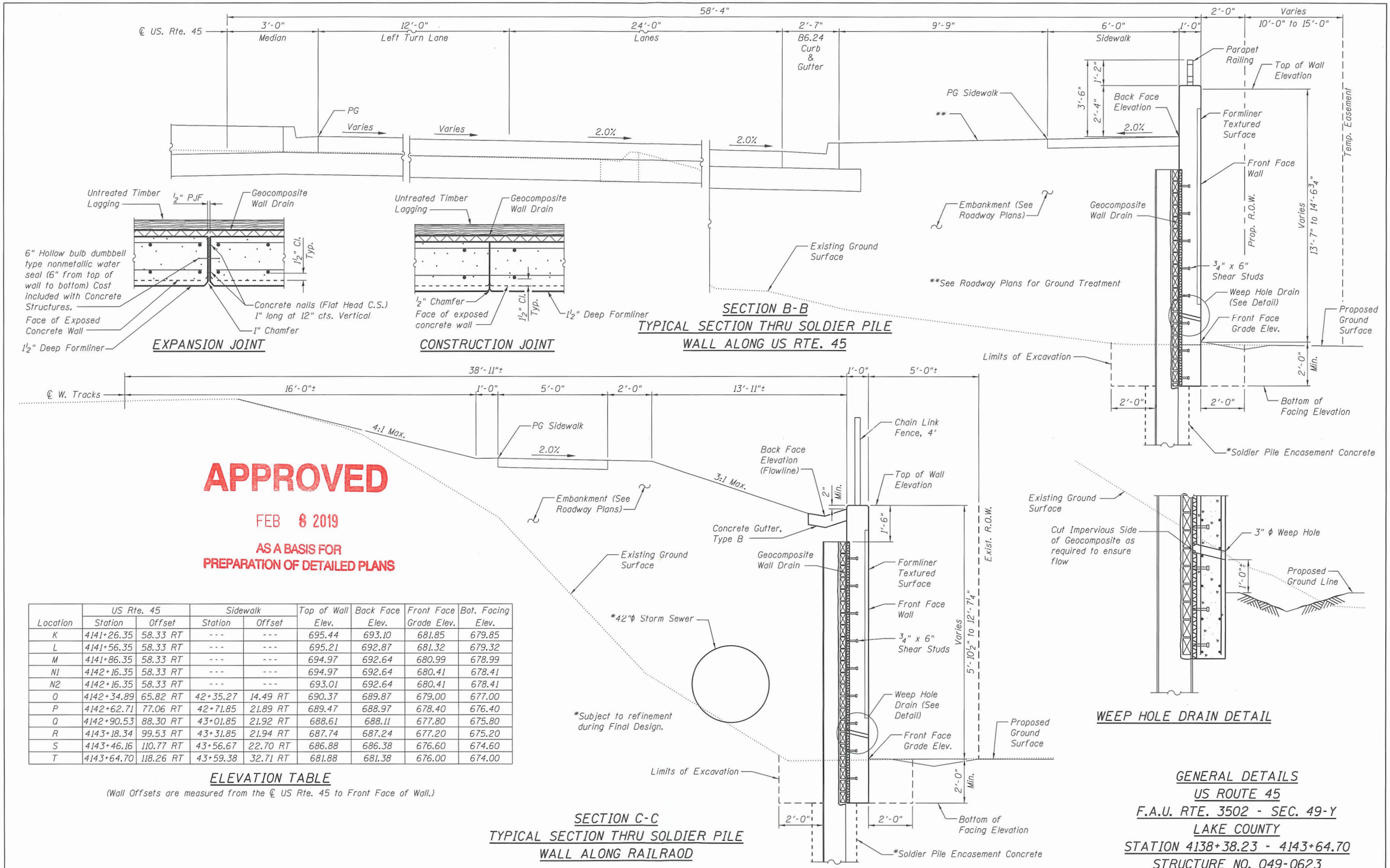
SHEET 2 OF 3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3502	49-Y	LAKE	3	2
		CONTRACT NO. 60N84		
		ILLINOIS FED. AID PROJECT		



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AS A BASIS FOR PREPARATION OF DETAILED PLANS

Location	US Rte. 45 Station	US Rte. 45 Offset	Sidewalk Station	Sidewalk Offset	Top of Wall Elev.	Back Face Elev.	Front Face Grade Elev.	Bot. Facing Elev.
K	4141+26.35	58.33 RT	---	---	695.44	693.10	681.85	679.85
L	4141+56.35	58.33 RT	---	---	695.21	692.87	681.32	679.32
M	4141+86.35	58.33 RT	---	---	694.97	692.64	680.99	678.99
N1	4142+16.35	58.33 RT	---	---	694.97	692.64	680.41	678.41
N2	4142+16.35	58.33 RT	---	---	693.01	692.64	680.41	678.41
O	4142+34.89	65.82 RT	42+35.27	14.49 RT	690.37	689.87	679.00	677.00
P	4142+62.71	77.06 RT	42+71.85	21.89 RT	689.47	688.97	678.40	676.40
Q	4142+90.53	88.30 RT	43+01.85	21.92 RT	688.61	688.11	677.80	675.80
R	4143+18.34	99.53 RT	43+31.85	21.94 RT	687.74	687.24	677.20	675.20
S	4143+46.16	110.77 RT	43+56.67	22.70 RT	686.88	686.38	676.60	674.60
T	4143+64.70	118.26 RT	43+59.38	32.71 RT	681.88	681.38	676.00	674.00

ELEVATION TABLE

(Wall Offsets are measured from the ℄ US Rte. 45 to Front Face of Wall.)

GENERAL DETAILS
US ROUTE 45
F.A.U. RTE. 3502 - SEC. 49-Y
LAKE COUNTY
STATION 4138+38.23 - 4143+64.70
STRUCTURE NO. 049-0623

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DEPARTMENT OF TRANSPORTATION

SHEET 3 OF 3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3502	49-Y	LAKE	3	3

CONTRACT NO. 60N84

ILLINOIS FED. AID PROJECT