STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-03-023 (USH 53 NB)

USH 53 NB over CTH I

Jun 08,2017

Type	Prior	Frequency (mos)	Performed
Routine	06-05-15	24	X
SIA Review	06-19-13	48	X

Latitude	45°18'13.11"N	Owner	STATE HIGHWAY DEPT
Longitude	91°39'29.25"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
0	52

Team members

wjk

	Name	Number	Signature	Date
Inspector	Kovaleski, William J	8007	William J Kovaleski E-signed by Bill(dotwjk)	09-08-17

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

Identification & Location

Feature On: USH 53 NB	Section Town Range: S31 T33N R10W	Structure Number: **B-03-023**
Feature Under: CTH I	County: BARRON	
Location: 8.4M N JCT CTH M TO E	Municipality: CHETEK	Structure Name: USH 53 NB

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 170.7
Approach Pavement Width: 24	Deck Width: 43.8	Deck Area (sq ft): 7476

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	5550	2014	ONE WAY TRAFFIC
Under	4	4400	2014	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS22	Overburden depth (in): 2.0	Last rating date: 08-08-13	Controlling: INTERIOR DECK GIRDER Positive Moment
Operating rating: HS38	Deck surface material: LOW SLUMP CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 1
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 97.0

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	45	82.0	
2	CONT PREST CONC	DECK GIRDER	45	88.0	Y

Expansion joint(s)

Temperature:

File:	New:

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	15.1	19-Jun-2013	
Highway Min Vertical Under Non-Cardinal	16.2	19-Jun-2013	
Horizontal Under Cardinal	55.7		
Horizontal Under Non-Cardinal	55.7		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
DECK - IOWA MIX	1992	OVERLAY - CONCRETE	

Construction History

Year	Work Performed	FOS id
1992	OVERLAY - CONCRETE	1198-06-73
1972	NEW STRUCTURE	1196-04-72

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Misc - Cut Brush	Kurtz, William G (8008)	REJECTED	09/08/17	
Clear brush around ABUT.				
Approach - Seal Approach to Paving Block	Bjorklund, Allan M (8003)	REJECTED	03/02/15	
Seal failed compression joint with SL1 or Dow Corning XJS both ends.				
Deck - Seal Surface Cracks	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
repour joint over pier with SL-1. 40 LF.				
Expansion Joints - Seal	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
seal joints over piers with SL-1				
Expansion Joints - Replace	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
replace 43 LF compression joint S end of deck. 2-1/2" gap at 89 degrees F.				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Substructure - Other Work	MEDIUM	Kurtz, William G (8008)	IDENTIFIED	06/22/15
Seal columns.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	7,477	6,862	405	210	0
			500 SF also spalls in span 1 bays 2 and 4 approx.4 SF spalls in span 1 bay 2 est. 30SF,bay 3 est. 10 SF ,bay 4 est. 8SF All over shoulder before first conc. diaphragm 2013						
		1080	Delamination - Spall - Patched Area	SF		0	40	210	0
			See 2015 **notes.**						
		1130	Cracking (RC)	SF		0	365	0	0
			See 2015 **notes.**						
	8514		Concrete Overlay	SF	7,477	6,963	476	38	0
			1.03 % delam 96. 2"x4" spall RT lane S abut						
		3210	Debonding/Spall/Patched Area/Pothole	SF		0	150	38	0
			See 2015 **notes.**						
		3220	Crack (Wearing Surface)	SF		6,963	326	0	0
			Random map CRKNG (See notes & photos).						
X	**109**		**Prestressed Concrete Open Girder**	LF	1,190	1,186	4	0	0
			Traffic impacts (3) on fascia g EB I. Impact damage noted from previous inspections.						
		1080	Delamination - Spall - Patched Area	LF		0	4	0	0
			See 2015 **notes.**						
X	**205**		**Reinforced Concrete Column**	EA	3	3	0	0	0

X	**215**		**Reinforced Concrete Abutment**	LF	88	71	10	7	0
			North abut. spall @ G#7 South abut spall @ G#1 SW corner						
		1080	Delamination - Spall - Patched Area	LF		0	0	7	0
			Some SPLs have exposed rebar (See **2015 notes.).**						
		1130	Cracking (RC)	LF		0	10	0	0
			See 2015 **notes.**						
X	**234**		**Reinforced Concrete Cap**	LF	39	35	4	0	0
			Vertical hairline crack both sides and bottom under G5. Same 2011. Also G2 and G3 2013.						
		1130	Cracking (RC)	LF		0	4	0	0
			CRK under G2, G3, G5 CS2 4LF.						
X	**331**		**Reinforced Concrete Bridge Rail**	LF	379	173	170	36	0
			Rail has rebar exposed in 5 loc. spalling & deterioration advancing. NE and SW top six feet are spilt 6" deep at ends from pushing wing walls						
		1080	Delamination - Spall - Patched Area	LF		0	70	36	0
			E RAIL SPL CS3 6LF | SPL CS2 10LF. W RAIL SPL CS3 30LF | SPL CS2 60LF.						
		1130	Cracking (RC)	LF		173	120	0	0
			E RAIL CRK CS2 90LF. W RAIL CRK CS2 30LF. Random map CRK remainder CS1 173.						
X	**8400**		**Integral Wingwall**	EA	4	0	4	0	0
			Sw wing moving out 2" behind abutment. NW out 1", NE out 2", SE out 3/4". NE out 2in. down 1/2in, NW out 1/2in, down 1/4in, SE out 1in, down 1/2in, SW out 2in. 2013.						
		8902	Wall Movement	EA		0	3	0	0
			SE 1 1/4" out | 3/4" down.NW 3/4" out | 1/2" down.NE 2 1/4" out | 1/2" down.SW 2 1/4" out | 0 down.						
		8903	Wall Deterioration	EA		0	1	0	0
			SE SPL CS3.NW CS2.NE CS2.SW CS2.						

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**9001**		**Drainage - Approach**	EA	4	4	0	0	0
			6/5/2015 Clean and operational.						
X	**9011**		**Utilities**	EA	1	1	0	0	0
			Weather pucks in deck in span 1 bays 2 and 4 south of first diaphragm. Remote weather station on slope SE corner of structure. Sensors also in approach slabs south abutment.						
X	**9030**		**Signs - Object Markers**	EA	2	2	0	0	0
X	**9043**		**Slope Protection- Crushed Aggregate with Bit.**	EA	2	2	0	0	0
X	**9168**		**Concrete Diaphragm**	EA	30	27	2	1	0
			Bay 1 over pier spall bay 6 same S side. S abut west corner 3" vertical spall.						
X	**9322**		**Approach Roadway - Concrete (non-structural)**	EA	2	0	2	0	0
			S APPR SPL AT JT CS3. N APPR SPL AT JT CS3.						

NBI Ratings

	File	New
Deck	4	4
Superstructure	6	6
Substructure	6	6
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

OLD: Overall cond of structure is very good. 1.03% delam in 1996.
(99) EB CTH I has traffic impact on surface of G #1 fascia lower flange soffit. There are no reinforcing cables showing. Marked with white paint for future reference.
(01) No additional impacts since 1999 noted.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru

Special Requirements

Chk	Hours	Cost	Comments

Routine

Document Comment/Description

NE abutment

Routine

Document Comment/Description

SE abutment

Routine

Document Comment/Description

SW abutment

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-03-023
USH 53 NB over CTH I

LOCATION

(3) Municipality:	CHETEK
(16) Latitiude(° ' "):	45°18'13.11"N
(17) Longitude(° ' "):	91°39'29.25"W

TRAFFIC SERVICE

(28A) Lanes On:	2
(28B) Lanes Under:	4
(102) Traffic Pattern On:	-NO TRAFFIC X-ONE WAY TRAFFIC -TWO WAY TRAFFIC
(102) Traffic Pattern Under:	-NO TRAFFIC -ONE WAY TRAFFIC X-TWO WAY TRAFFIC
(19) Detour Length(mi):	0

GEOMETRY

(49) Structure Length(ft):	170.7	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 0.0
(50) Curb Width(ft):		
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 0	**Direction:** -RIGHT FORWARD -LEFT FORWARD
	Cardinal	**Non-Cardinal**
(51) Bridge Roadway Width(ft):	40.0	40.0
(52) Deck Width(ft):	43.8	43.8
Right Wingwall Length(ft):		
Left Wingwall Length(ft):		
(32) Approach Roadway Width(ft):	40	40
	Cardinal Under Clearance	**Non-Cardinal Under Clearance**
(47) Minimum Horizontal(ft):	55.7	55.7
(55) Minimum Right Lateral(ft):	16.0	16.0
(56) Minimum Left Lateral(ft):	15.7	15.7

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36B) Transition Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36C) Approach Guardrail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36D) Guardrail Termination Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE

Outer Rail: Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
X	X	SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
		VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
		OTHER(99) (Please specify)

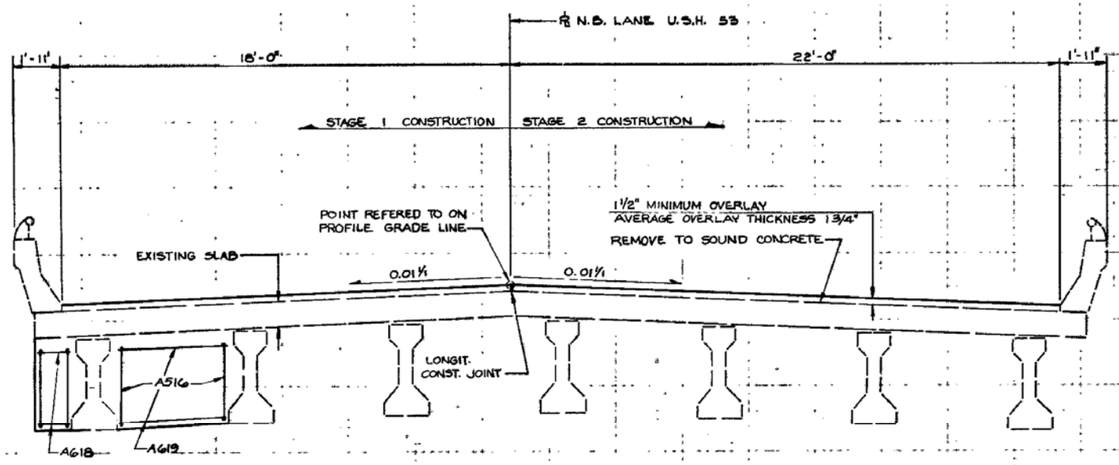
Transition Type:	
	CONT GUARD RAIL
	NO APP GRDRL
	NO ATTACHMENT
5	22 MM(7/8") BOLT (Please enter quantity)
	25 MM(1") BOLT (Please enter quantity)
	OTHER (Please specify)

Approach Attachment Rail Note:	
Guardrail Termination Type:	
X	(01) ENERGY ABSORBING TERMINAL/EAT
	(02) TURN DOWN
	(99) OTHER (Please specify)
Guardrail Termination Note:	

ROADWAY ALIGNMENT APPRAISAL

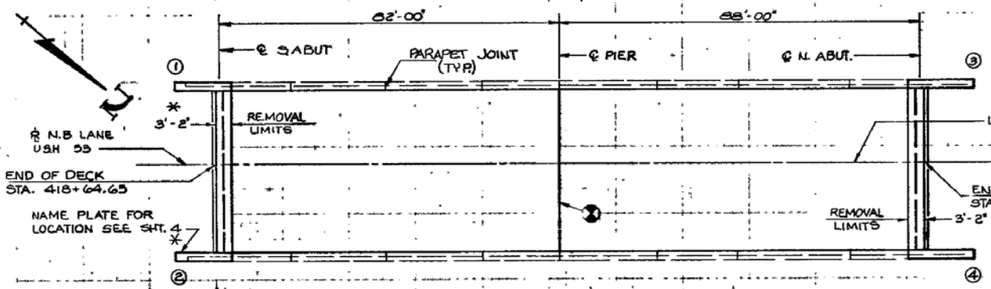
(72) Approach Alignment Appraisal:	
	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction

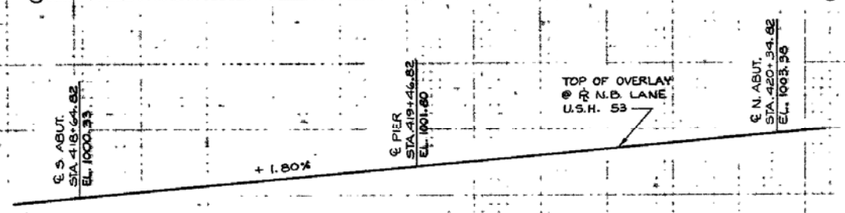
STATE PROJECT NUMBER	SHEET NO
1198-06-73	8.10



DIAPH. @ ABUT.

CROSS SECTION THRU ROADWAY
LOOKING NORTH





PROFILE GRADE LINE
BENCH MARK: BRASS CAP @ S.E. COR. OF EXISTING B-3-23, EL 1000.00

⊠ ¼" SAW CUT OR FORMED JOINT x DEPTH OF OVERLAY. INSTALL NEOPRENE COMPRESSION SEAL, ACME M044 OR APPROVED EQUAL IN ONE CONTINUOUS PIECE, OR COLD APPLIED ELASTIC TYPE JOINT SEALER, SL-1 BY SONNEBORNE OR EQUIVALENT. HOLD ALL ⅛" BELOW SURFACE OF OVERLAY. CONSIDERED INCIDENTAL TO "CONCRETE MASONRY, OVERLAY".

* ATTACH BEAM TYPE GUARD RAIL TO WING PARAPET

REMOVE EXISTING WINGS AT BACK FACE OF ABUTMENTS REPLACE WITH RETAINING WALL WINGS.

GENERAL NOTES

DRAWING SHALL NOT BE SCALED
CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OTHERWISE.
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.
EXISTING NAMEPLATE TO BE SALVAGED AND ATTACHED AT LOCATION SHOWN.

DESIGN DATA

LIVE LOAD :
INVENTORY RATING — HS 22
OPERATING RATING — HS 42
MAXIMUM ST'D. PERMIT VEHICLE LOAD — 250 KIPS

ULTIMATE DESIGN STRESS
SLAB CONCRETE MASONRY — f'c = 4,000 PSI
ALL OTHER CONCRETE MASONRY — f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT — f'y = 60,000 PSI

TOTAL ESTIMATED QUANTITIES

BID ITEM	UNIT	TOTAL
REMOVING OLD BRIDGE, STA 419+49.82	LS	1
EXCAVATION FOR STRUCTURES, BRIDGES	LS	1
CONCRETE MASONRY, BRIDGE	C.Y	42
PREFORMED ELASTOMERIC COMPRESSION JOINT SEALER 2"	LF	120
PROTECTIVE SURFACE TREATMENT	GAL	47
CONCRETE MASONRY ANCHORS, TYPE L, NO. 9 BARS	EA	24
CONCRETE MASONRY ANCHORS, TYPE S, 5/8 INCH	EA	36
HIGH STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	LB	6,910
STRUCTURAL CARBON STEEL	LB	670
PREPARATION, DECKS	SY	170
CLEANING, DECKS	SY	730
FULL DEPTH DECK REPAIR	SY	32
CONCRETE MASONRY, OVERLAY DECKS	CY	57
RUBBERIZED MEMBRANE WATERPROOFING	SY	16
ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	2
RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	394
NON-BID ITEMS		
FILLER	SIZE	1"& ¾"

LIST OF DRAWINGS
1. CONCRETE OVERLAY
2. ABUTMENT DETAILS
3. DETAILS & BILL OF BARS
4. SLOPED FACE PARAPET

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-23

USH 53 N.B. OVER C.T.H. I

Cou: BARRON — Town/Village/City: CHETEK
Design Spec: AASHTO 90 — Load — Date: 1989
Designed By: MGW — Design Check: SMS — Drawn By: S — Plans Checked: M
Approved: Stanley W. Woods — 8/16/89

CONCRETE OVERLAY

SHEET 1 OF 4

X83612

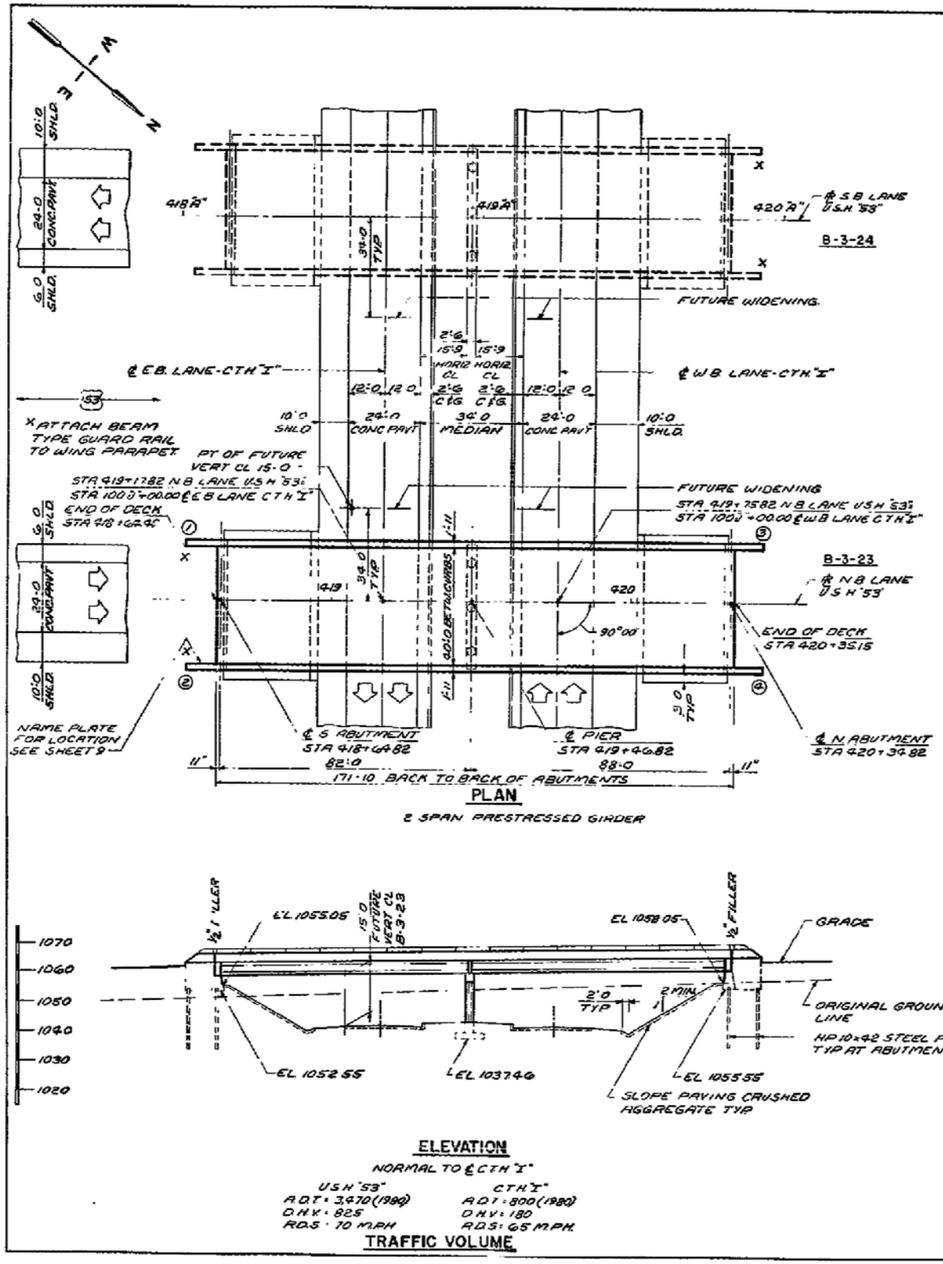
B-3-23

Form F 8.11 69

PROJECT ID	LOCAL NUMBER	SHEET NO.
1196-4-73	95	413

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED
#4 STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING, CRUSHED AGGREGATE, TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS
THE EXISTING GROUNDLINE WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR THE COMPUTATION OF EXCAVATION QUANTITIES FOR THE NORTH ABUTMENT
THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR THE COMPUTATION OF EXCAVATION QUANTITIES AT THE PIER
THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE SOUTH ABUTMENT SHALL BE THE BOTTOM OF SLOPE PROTECTION AND THE QUANTITIES WERE COMPUTED FROM THIS LINE
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHO DESIGNATION M153 OR M213.



PLAN

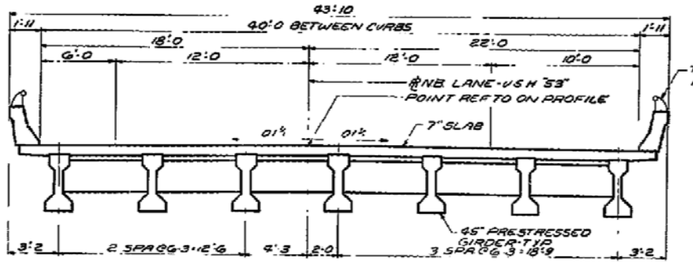
2 SPAN PRESTRESSED GIRDER

ELEVATION

NORMAL TO ℄ C.T.H. "I"

U.S.H. "53"	C.T.H. "I"
A.D.T. = 3,470 (1989)	A.D.T. = 800 (1989)
D.H.V. = 825	D.H.V. = 180
R.D.S. = 70 M.P.H.	R.D.S. = 65 M.P.H.

TRAFFIC VOLUME



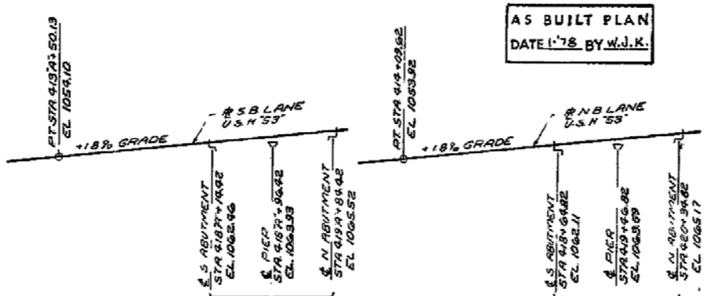
CROSS SECTION THRU ROADWAY

LOOKING NORTH

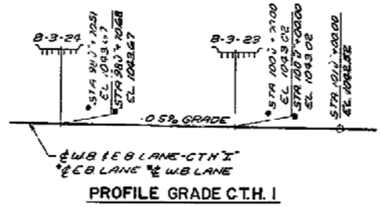
TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SUPER	SOUTH ABUT	PIER	NORTH ABUT	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	----	30	120	40	190
CONCRETE MASONRY	C.Y.	2295	362	477	364	3498
PRESTRESSED GIRDER, I TYPE, 45 INCH	L.F.	1,191	----	----	----	1,191
BAR STEEL REINFORCEMENT	LB.	58,310	2,080	8,010	2,090	70,490
STRUCTURAL CARBON STEEL	LB.	490	----	----	----	490
BEARING PADS, ELASTOMERIC	S.F.	43	----	----	----	43
STEEL PILING DELIVERED & DRIVEN HP10x42	L.F.	----	242	----	165	407
TUBULAR RAILING TYPE "J"	L.F.	307	----	----	----	307
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	----	78	----	216	294
NON-BID ITEMS						
FILLER	S.I.P.	----	----	----	----	½", ½" & ¾"
⅛" ALUMINUM OR ZINC PLATE	S.F.	39	----	----	----	39
POLYVINYL CHLORIDE WATERSTOP	L.F.	----	90	----	40	80

AS BUILT PLAN
DATE 1-78 BY W.J.K.



PROFILE GRADE U.S.H. 53



PROFILE GRADE C.T.H. I

LAYOUT

LIST OF DRAWINGS

DESIGN DATA

LIVE LOAD ——— HS20

ALLOWABLE DESIGN STRESSES
CONCRETE MASONRY, GRADE "AA"
SLAB ——— 1,200 P.S.I.
ABUT'S & PIER ——— 1,400 P.S.I.
BAR STEEL REINFORCEMENT — 20,000 P.S.I.
45" PRESTRESSED GIRDERS
CONCRETE MASONRY ——— 6,000 P.S.I.
STRANDS - ½" Ø WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA
SOUTH AND NORTH ABUTMENTS TO BE SUPPORTED ON HP 10x42 STEEL PILING TO BE DRIVEN TO A MIN BRG OF 37 TONS PER PILE LENGTH = 22'0 AT S ABUT, 15'0 AT N ABUT
PIER TO BE SUPPORTED ON SPREAD FOOTINGS WITH A MAX BRG OF 5,000 POUNDS PER SQUARE FOOT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-23

U.S.H. 53 OVER C.T.H. I

County BARRON — Village — T.N. CHETEK
Design Spec. A.A.S.H.O. 1969 — Loading H520 — Date 1969
Designed By B.F.K. — Design Computed By J.J.Z. — Drawn By P.E.R. — Plans Checked B.M.W.
Approved W. H. Schmidt — Chief Bridge Engineer — Date 12-3-72

GENERAL PLAN — SHEET 1 OF 10 — X 46030