

VILAS PARK BRIDGE REPLACEMENTS

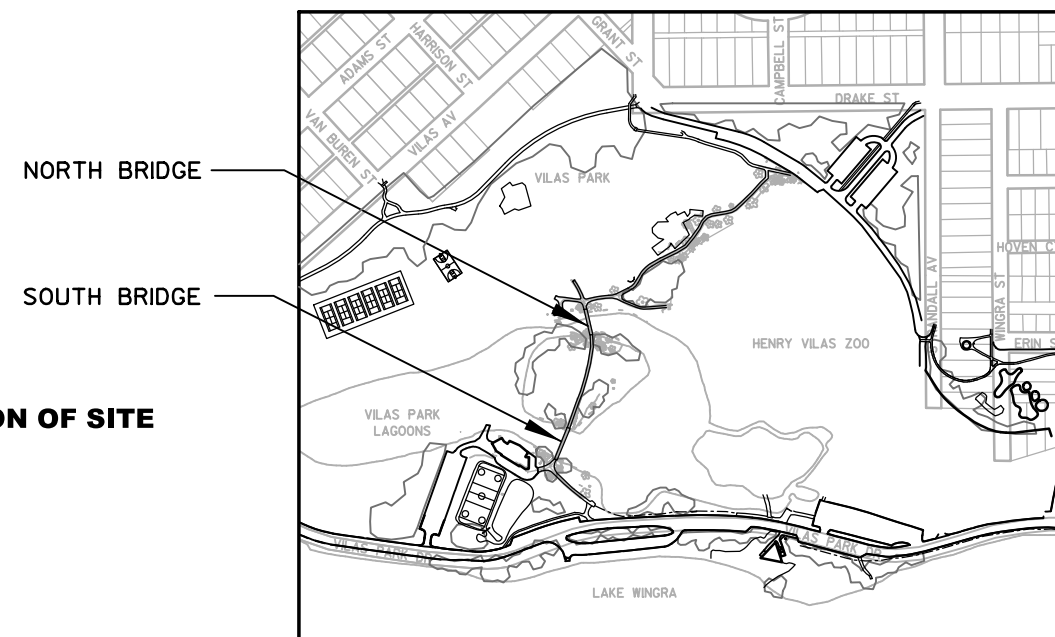
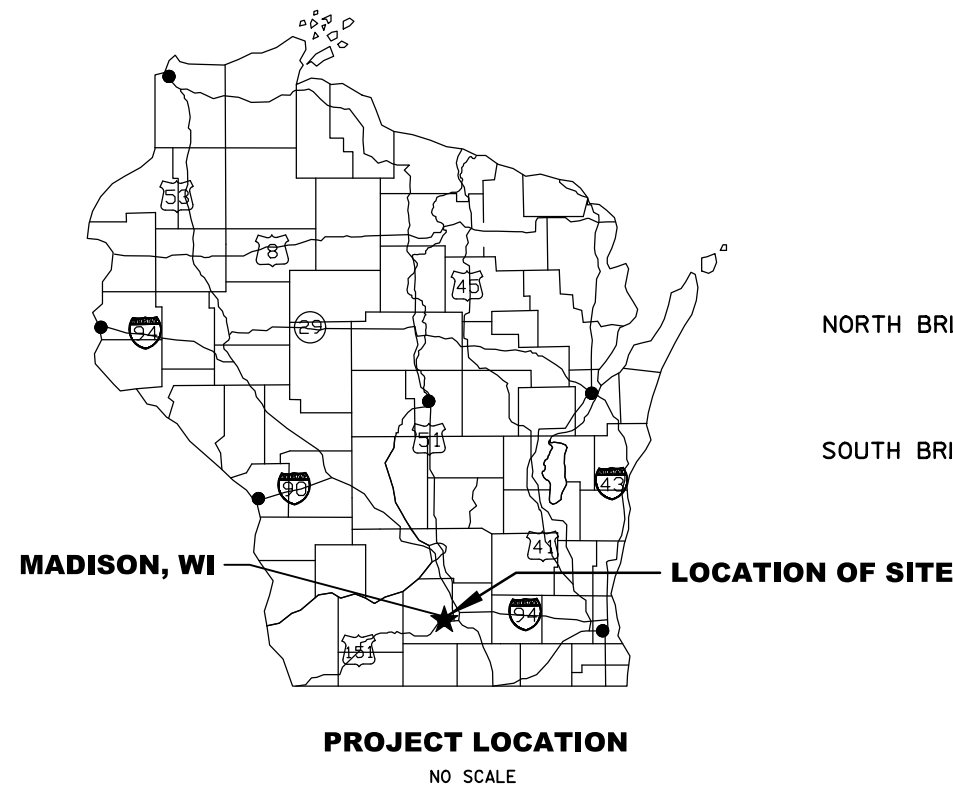
FOR THE

CITY OF MADISON PARKS DIVISION

MADISON, WISCONSIN

AUGUST, 2017

NOT FOR
CONSTRUCTION



30% DESIGN DRAWINGS

PROGRESS MEETING NO. 2

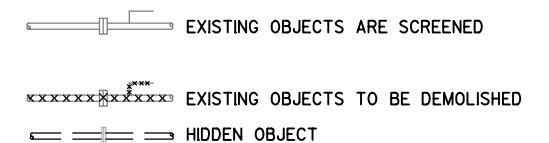
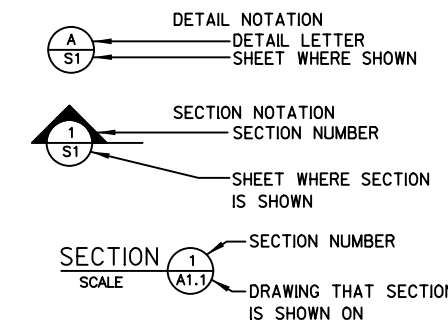
910 West Wingra Drive
Madison, WI 53715
608-251-4843
608-251-8655 fax
www.strand.com

CONTRACT NO. XXXX

LIST OF DRAWINGS

SHEET NO.	DRAWING TITLE
1	TITLE SHEET
2	OVERALL SITE PLAN
3	NORTH BRIDGE DEMOLITION PLAN
4	NORTH BRIDGE SITE PLAN
5	NORTH BRIDGE STRUCTURE PLAN
6	SOUTH BRIDGE DEMOLITION PLAN
7	SOUTH BRIDGE SITE PLAN
8	SOUTH BRIDGE STRUCTURE PLAN

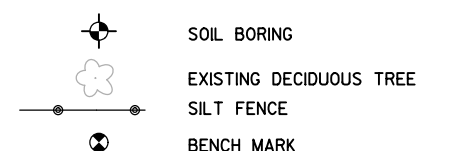
DRAFTING SYMBOLS



ARCHITECTURAL SYMBOLS



TOPOGRAPHICAL SYMBOLS



SA
STRAND
ASSOCIATES®

SHEET
1
JOB NO. 1020.103



OVERALL SITE PLAN

VILAS PARK BRIDGE REPLACEMENTS

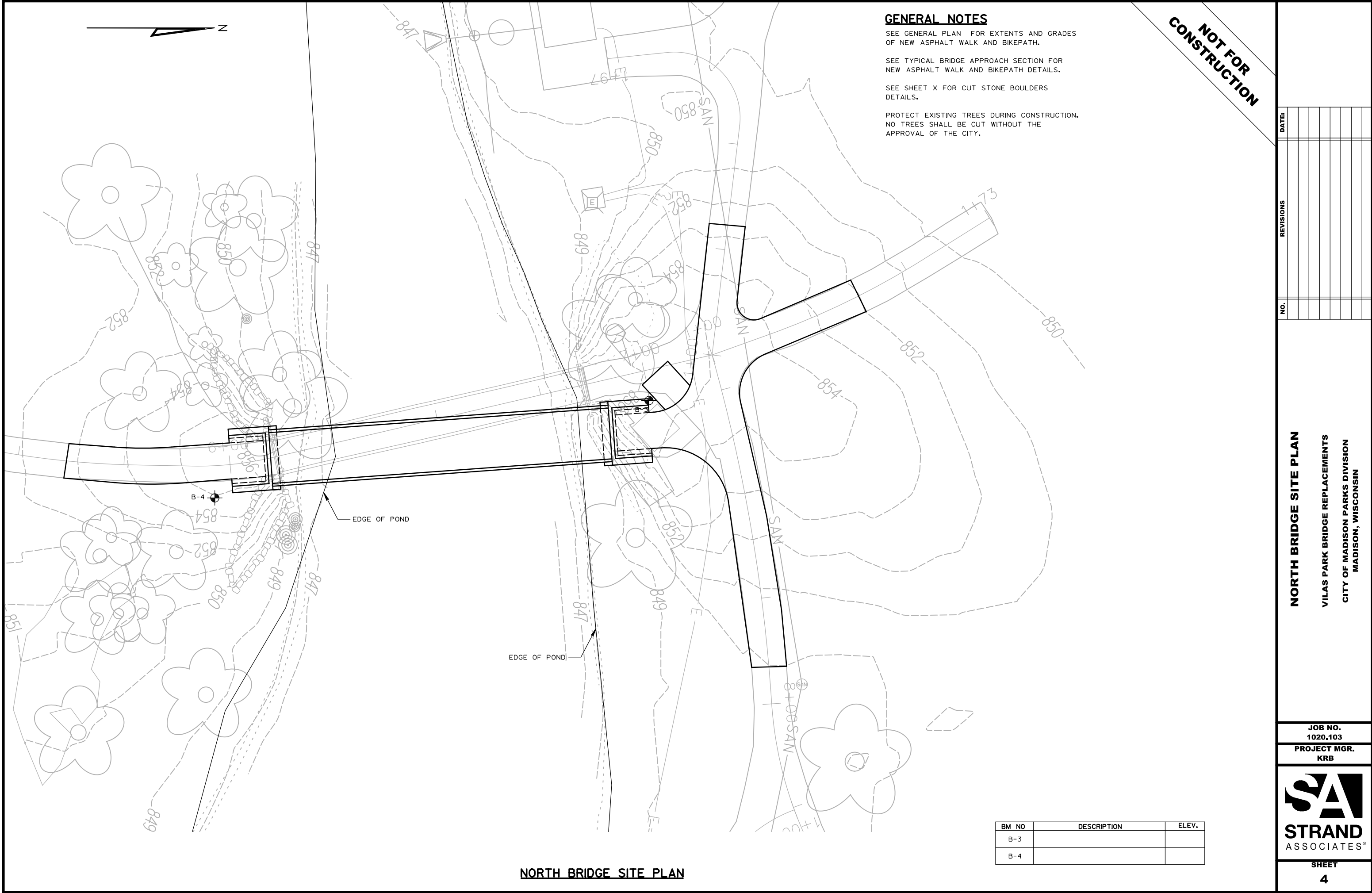
CITY OF MADISON PARKS DIVISION
MADISON, WISCONSIN

JOB NO.
1020.103

PROJECT MGR.
KRB



SHEET
2



GENERAL NOTES

SEE GENERAL PLAN FOR EXTENTS AND GRADES OF NEW ASPHALT WALK AND BIKEPATH.

SEE TYPICAL BRIDGE APPROACH SECTION FOR NEW ASPHALT WALK AND BIKEPATH DETAILS.

SEE SHEET X FOR CUT STONE BOULDERS DETAILS.

PROTECT EXISTING TREES DURING CONSTRUCTION. NO TREES SHALL BE CUT WITHOUT THE APPROVAL OF THE CITY.

NOT FOR
CONSTRUCTION

NORTH BRIDGE SITE PLAN
VILAS PARK BRIDGE REPLACEMENTS
CITY OF MADISON PARKS DIVISION
MADISON, WISCONSIN

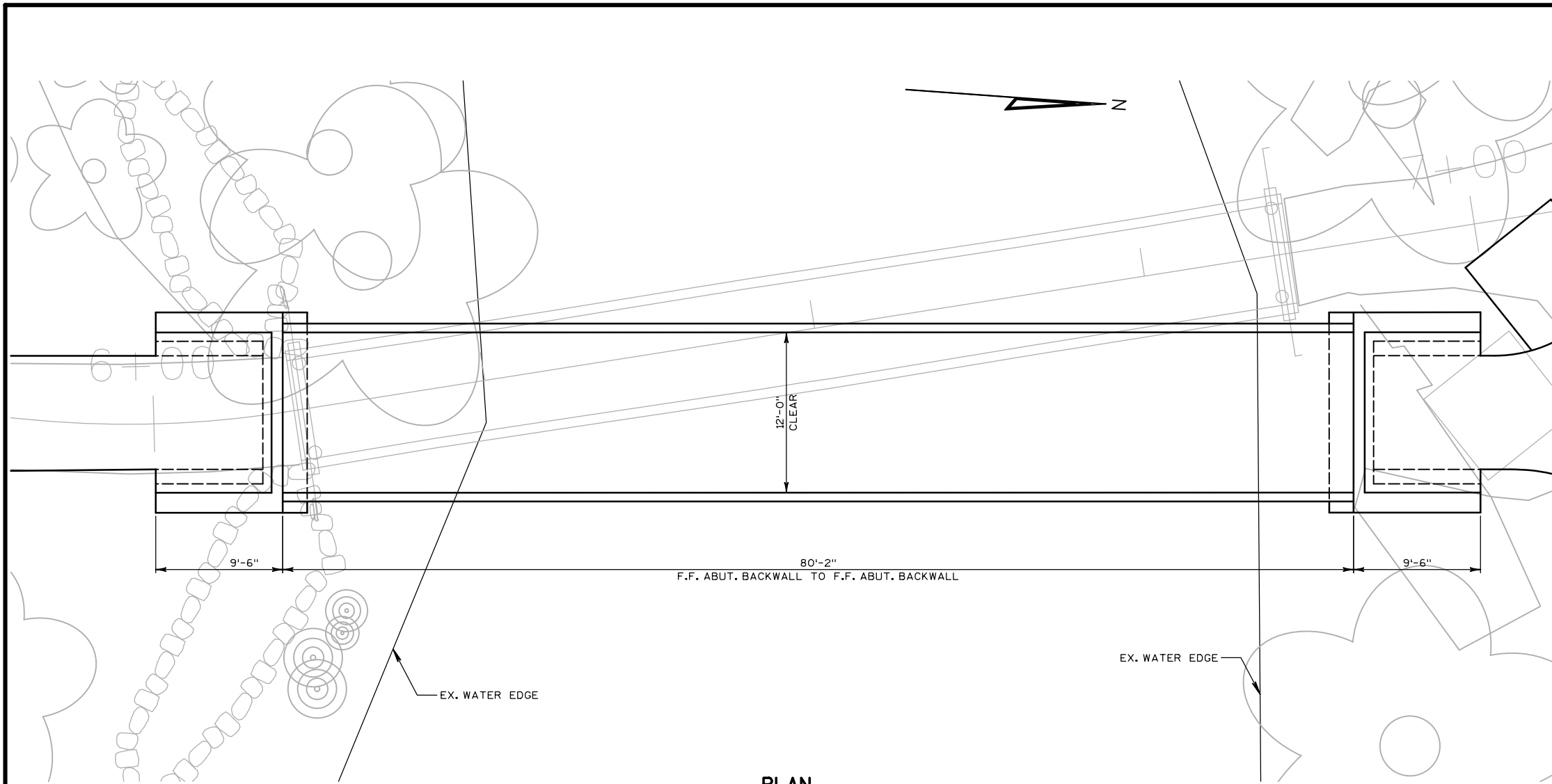
JOB NO.
1020.103
PROJECT MGR.
KRB



SHEET
4

BM NO	DESCRIPTION	ELEV.
B-3		
B-4		

NORTH BRIDGE SITE PLAN



PLAN



ELEVATION
(LOOKING WEST)

DESIGN DATA

LIVE LOAD:
90 PSF PEDESTRIAN LOAD
20,000 LB. VEHICLE LOAD (H-10)
35 PSF WIND LOAD (AS IF ENCLOSED)
20 PSF WIND UPLIFT
HORIZONTAL EARTH PRESSURE:
40 P.S.F. EQUIVALENT FLUID PRESSURE.
SURCHARGE PRESSURE = 2'-0" OF EARTH.
ULTIMATE DESIGN STRESSES:
CONCRETE DECK $f'_c = 4,000$ psi
CONCRETE SUBSTRUCTURE $f'_c = 3,500$ psi
HIGH STRENGTH BAR
STEEL REINFORCEMENT $f_y = 60,000$ psi
HIGH STRENGTH STRUCTURAL STEEL
ASTM A847, ASTM A588, ASTM A606,
ASTM A709 OR ASTM A242 $f_y = 50,000$ psi
FOUNDATION DATA:
ABUTMENT TO BE SUPPORTED ON PILING
CAST-IN-PLACE CONCRETE 10 $\frac{3}{4}$ -INCH, WITH $\frac{1}{2}$ -INCH
MINIMUM SHELL THICKNESS, DRIVEN TO A REQUIRED
DRIVING RESISTANCE OF 80 TONS ** PER PILE AS
DETERMINED BY THE MODIFIED GATES DYNAMIC
FORMULA. PROVIDE 1 $\frac{1}{4}$ -INCH MINIMUM THICKNESS END
PLATES WELDED TO BASES OF PILES, ESTIMATED 40'
LONG AT WEST ABUTMENT AND 30' LONG AT EAST
ABUTMENT.
** THE FACTORED AXIAL RESISTANCE OF PILES IN
COMPRESSION USED FOR DESIGN IS THE REQUIRED
DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE
FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE
DRIVEN PILE CAPACITY.

ESTIMATED BRIDGE REACTIONS

LOAD TYPE	P (LBS.)	H (LBS.)	L (LBS.)
DEAD LOAD	12,925		
UNIFORM LIVE LOAD, 90 psf	12,600		
VEHICLE LIVE LOAD	10,000		
WIND UPLIFT, 20 psf	-4,500/		
WINDWARD/LEEWARD	-1,600		
WIND	± 910	4,085	
SEISMIC			
THERMAL			1,940

P = VERTICAL LOAD AT EACH BASE PLATE (4 PER BRIDGE)
H = HORIZONTAL LOAD AT EACH SPAN END (2 PER BRIDGE)
L = LONGITUDINAL LOAD AT FIXED BEARING (4 PER BRIDGE)

- NOTES:
- VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL
VALUES SHALL BE PROVIDED BY PREFABRICATED BRIDGE
MANUFACTURER.
 - "+" INDICATES DOWNWARD LOAD
"-" INDICATES UPWARD LOAD
 - ESTIMATED BRIDGE LIFTING WEIGHT = 11,200 LBS (TO BE
VERIFIED BY BRIDGE MANUFACTURER).

LEGEND

DIMENSION OR STATION TO BE VERIFIED BY BRIDGE
MANUFACTURER.

ARCHITECTURAL SURFACE TREATMENT AND CONCRETE
STAINING.

NOT FOR
CONSTRUCTION

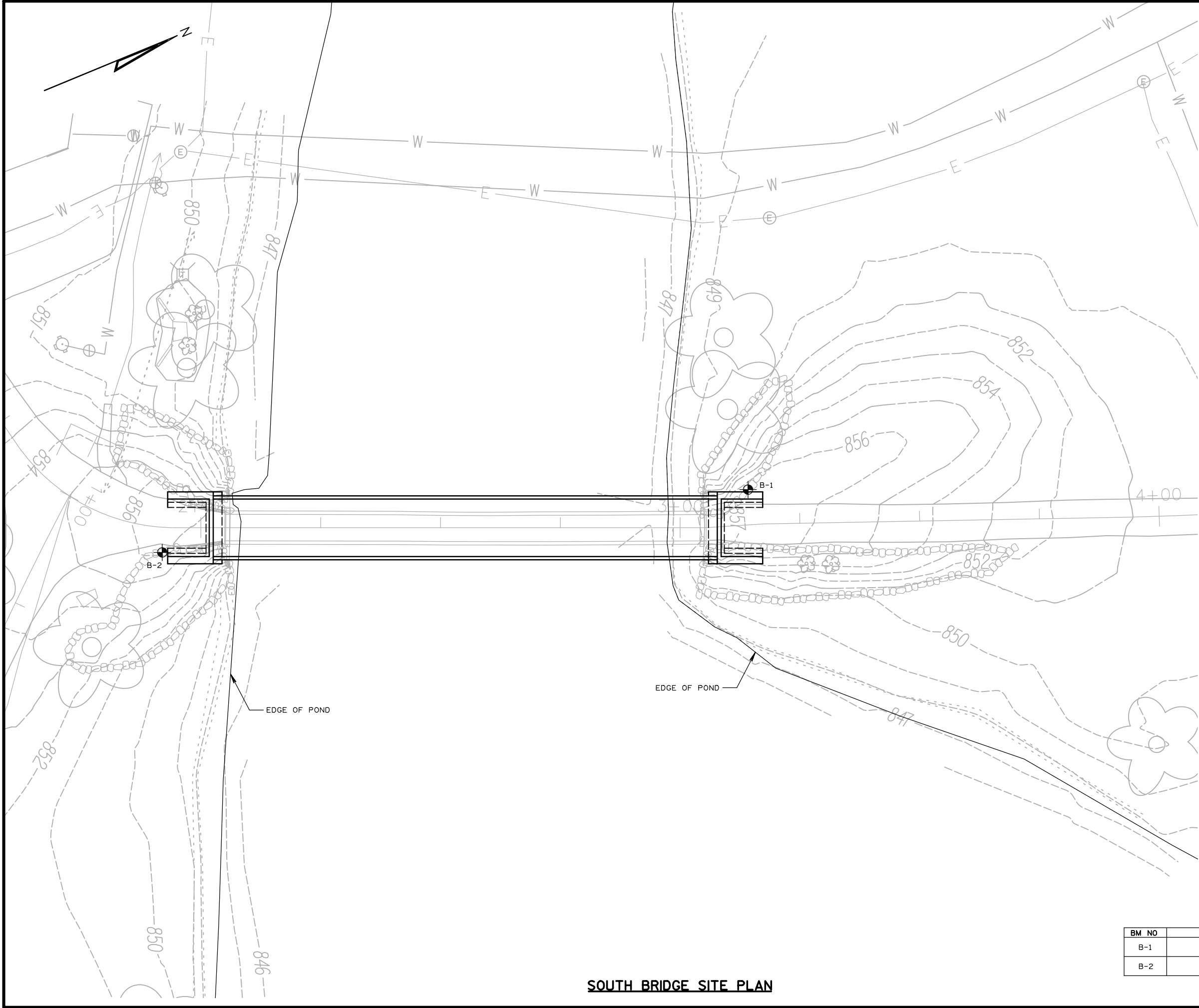
NORTH BRIDGE STRUCTURE PLAN

VILAS PARK BRIDGE REPLACEMENTS
CITY OF MADISON PARKS DIVISION
MADISON, WISCONSIN

JOB NO.
1020.103
PROJECT MGR.
KRB

SA
STRAND
ASSOCIATES®

SHEET
5



NOT FOR
CONSTRUCTION

GENERAL NOTES

- SEE GENERAL PLAN FOR EXTENTS AND GRADES OF NEW ASPHALT WALK AND BIKEPATH.
- SEE TYPICAL BRIDGE APPROACH SECTION FOR NEW ASPHALT WALK AND BIKEPATH DETAILS.
- SEE SHEET X FOR CUT STONE BOULDERS DETAILS.
- PROTECT EXISTING TREES DURING CONSTRUCTION. NO TREES SHALL BE CUT WITHOUT THE APPROVAL OF THE CITY.

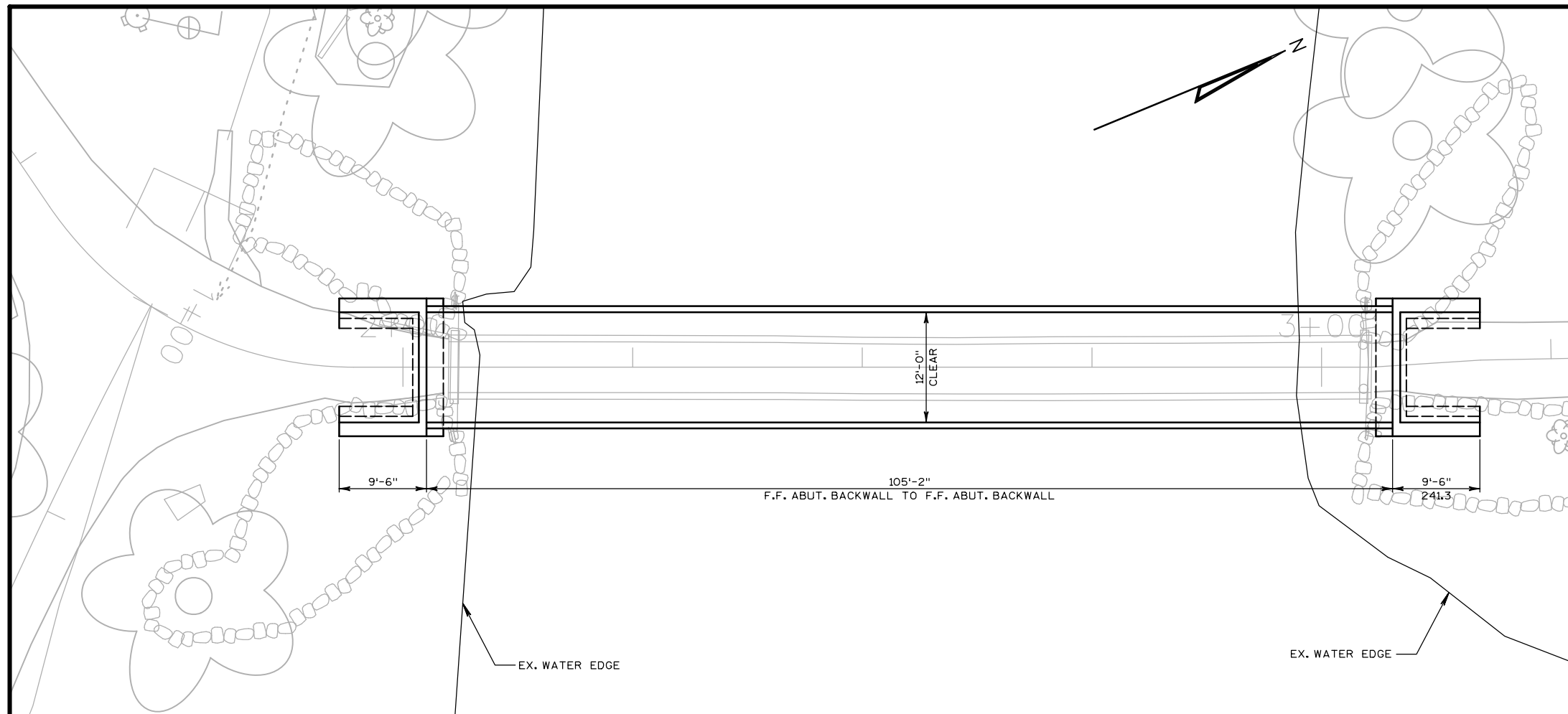
NO.	REVISIONS		DATE	

SOUTH BRIDGE SITE PLAN
VILAS PARK BRIDGE REPLACEMENTS
CITY OF MADISON PARKS DIVISION
MADISON, WISCONSIN

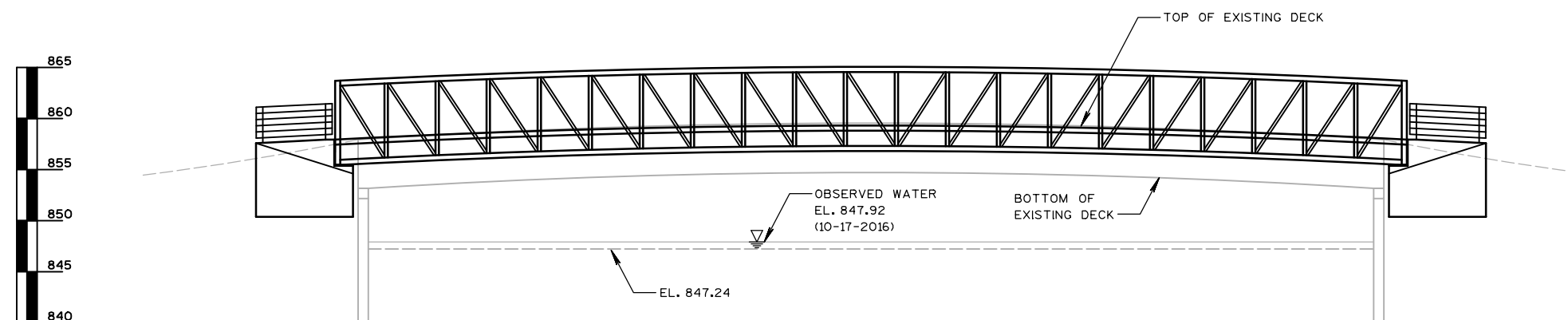
JOB NO.
1020.103
PROJECT MGR.
KRB



SHEET
7



PLAN



ELEVATION
(LOOKING WEST)

DESIGN DATA

LIVE LOAD:
90 PSF PEDESTRIAN LOAD
20,000 LB. VEHICLE LOAD (H-10)
35 PSF WIND LOAD (AS IF ENCLOSED)
20 PSF WIND UPLIFT

HORIZONTAL EARTH PRESSURE:
40 P.S.F. EQUIVALENT FLUID PRESSURE.
SURCHARGE PRESSURE = 2'-0" OF EARTH.

ULTIMATE DESIGN STRESSES:

CONCRETE DECK _____	$f'c = 4,000$ psi
CONCRETE SUBSTRUCTURE _____	$f'c = 3,500$ psi
HIGH STRENGTH BAR _____	
STEEL REINFORCEMENT _____	$f_y = 60,000$ psi
HIGH STRENGTH STRUCTURAL STEEL _____	
ASTM A847, ASTM A588, ASTM A606, _____	
ASTM A709 OR ASTM A242 _____	$f_y = 50,000$ psi

** THE FACTORED AXIAL RESISTANCE OF PILES IN
 COMPRESSION USED FOR DESIGN IS THE REQUIRED
 DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE
 FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE
 DRIVEN PILE CAPACITY.

ESTIMATED BRIDGE REACTIONS

LOAD TYPE	P (LBS.)	H (LBS.)	L (LBS.)
DEAD LOAD	12,925		
UNIFORM LIVE LOAD, 90 psf	12,600		
VEHICLE LIVE LOAD	10,000		
WIND UPLIFT, 20 psf	-4,500/		
WINDWARD/LEEWARD	-1,600		
WIND	±910	4,085	
SEISMIC			
THERMAL			1,940

P = VERTICAL LOAD AT EACH BASE PLATE (4 PER BRIDGE)
H = HORIZONTAL LOAD AT EACH SPAN END (2 PER BRIDGE)
L = LONGITUDINAL LOAD AT FIXED BEARING (4 PER BRIDGE)

NOTES:

1. VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL VALUES SHALL BE PROVIDED BY PREFABRICATED BRIDGE MANUFACTURER.
2. "+" INDICATES DOWNWARD LOAD
 "-" INDICATES UPWARD LOAD
3. ESTIMATED BRIDGE LIFTING WEIGHT = 11,200 LBS (TO BE VERIFIED BY BRIDGE MANUFACTURER).

LEGEND

DIMENSION OR STATION TO BE VERIFIED BY BRIDGE MANUFACTURER.

ARCHITECTURAL SURFACE TREATMENT AND CONCRETE STAINING.

NOT FOR CONSTRUCTION

[illegible]

SOUTH BRIDGE STRUCTURE PLAN

VILAS PARK BRIDGE REPLACEMENTS

JOB NO.
1020.103

PROJECT MGR.
KRB



STRAND
ASSOCIATES®

SHEET
8