

Lake Erie Diving, Inc.

362 Blackbrook Rd.
Painesville, OH 44077

Office (440) 352-9472

Fax (440) 352-8471

UNDERWATER BRIDGE INSPECTION REPORT

Location:

Bridge #: CUY-6-1499
Detroit-Superior
Waterway: Cuyahoga River
City: Cleveland, Ohio

Inspected By:

Diver: Youri Bardyguine
Tender: Pat Murphy - Mark Maquire
Date: 2 October 2002

Inspection Performed For:

Name: HNTB
Address: 55 Erieview Plaza Suite 500
Cleveland, Ohio 44114-1816
Field Representative: Bill Vermes
Telephone #: (216) 522-1140

Water Elevation:

Reference Location: Pier #4-East Bank From the top of the concrete cap to the
waterline, just downstream of the pier column corner. (See Sketch)
Water Elevation (Field Measurement): 5.2'

Weather Conditions: Overcast

Water Conditions: Calm -- 70 Degrees

Soundings: Equipment Used: Weighted Tape Measure
(See Attached Print)

Number of Piers Inspected: 2
(See Attached For Detailed Observations)

Number of Abutments Inspected: 0
(See Attached For Detailed Observations)

Culvert: N/A
(See Attached For Detailed Observations)

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PIER OBSERVATIONS

Bridge #: CUY-6-1499

Inspection Date: 2 October 2002

Pier Number: West Bank - Pier #3

(Reference Attached Print)

Type of Construction: Concrete: Cut-Stone: Timber: Steel:
Other:

Bottom Material: Concrete rubble & rebar

Debris Around Pier: Concrete rubble & rebar

Scour: None

Exposed Footer: None

Footer Undermining: None

Exposed Piling Under Footer: N/A

Piling Condition: N/A

Cracks & Spalls: Yes – See sketch

Fender Condition: N/A

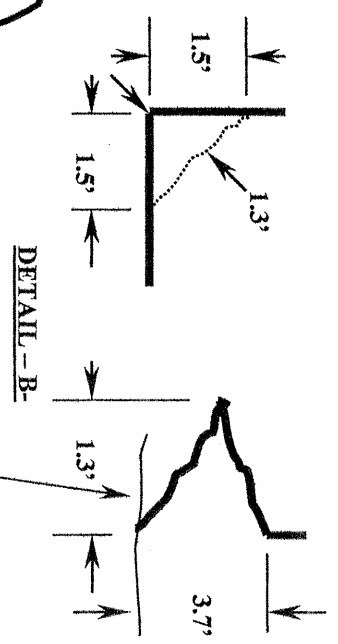
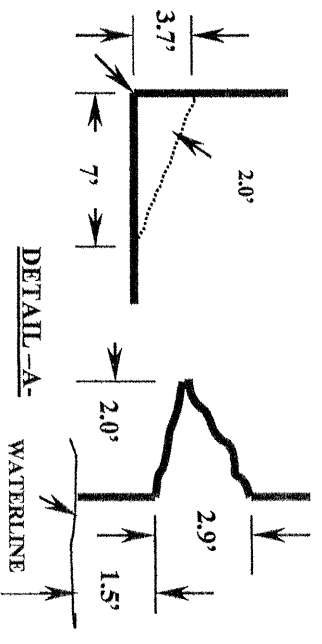
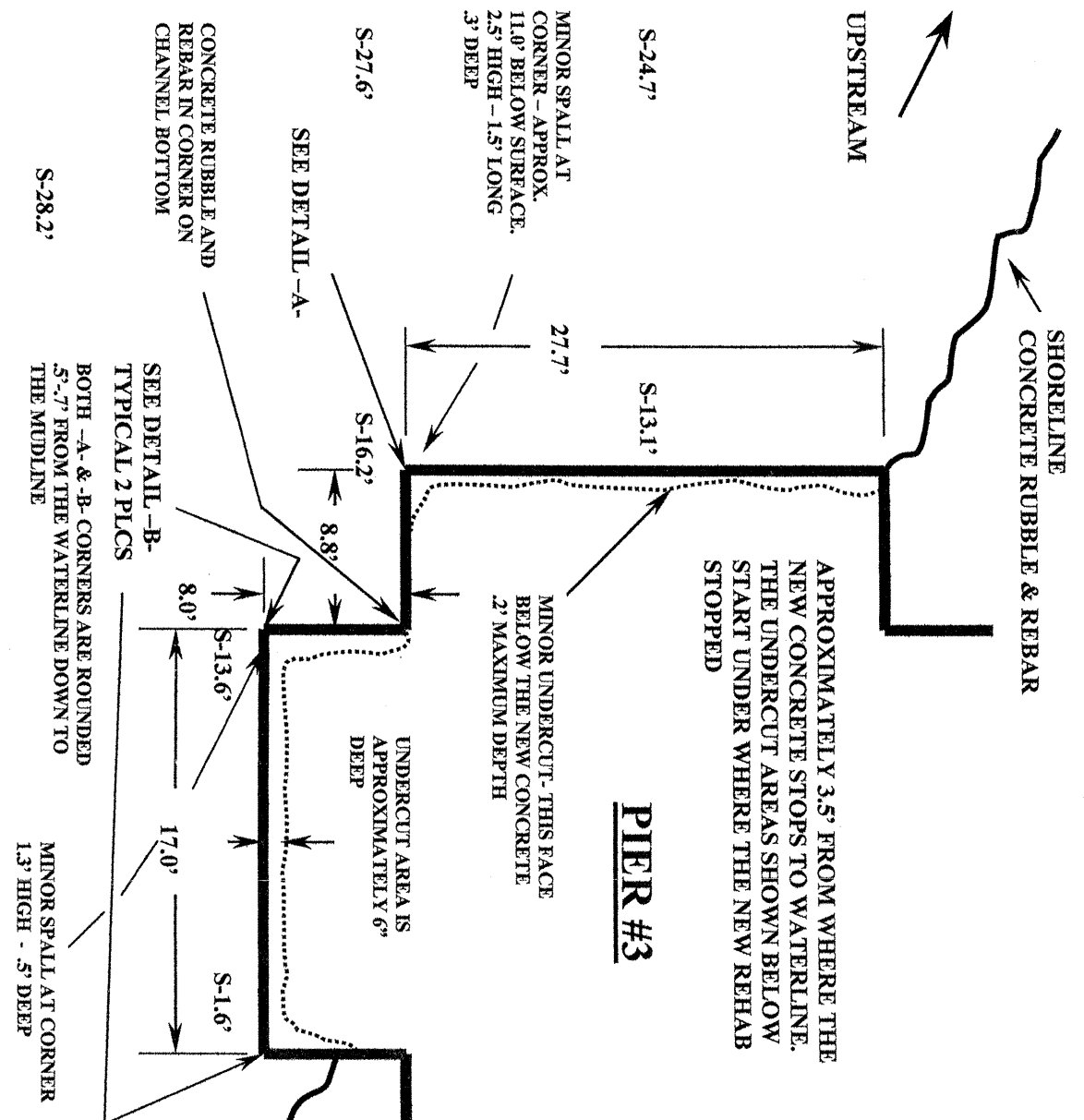
Impact Damage: Pier corners are spalled above the waterline – see detail. Corners are rounded and spalled below the waterline.

Unusual Conditions: New concrete placed during rehab stopped 3.5' above waterline. Existing concrete below the new has spalling on the face with the corners rounded below the waterline.

Overall Condition Rating: Good

ALL NUMBERS PRECEDED BY AN S- REPRESENT SOUNDINGS TAKEN AGAINST THE PIER AND 25' OUT

NO ZEBRA MUSSEL COVERAGE ON CONCRETE FACES UNDERWATER



THE CONCRETE FACE OF THE PIER IS SMOOTH BELOW THE WATERLINE. THE SPALLING AND EXPOSED AGGREGATE IS PRESENT FROM THE WATERLINE UP.

EXISTING STEEL SHEET PILING POOR CONDITION APPROX. 25' DOWNSTREAM

CUYAHOGA RIVER DOWNSTREAM

DETROIT SUPERIOR PIER #3 WEST BANK

LAKE ERIE DIVING, INC.

CLIENT:	HNTB
SUBJECT:	UNDERWATER BRIDGE INSPECTION
SCALE:	NONE STRUCTURE I.D.: CUY-6-1499
DRAWN BY:	PM INSPECTION DATE: 2 OCTOBER 2002
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PIER OBSERVATIONS

Bridge #: CUY-6-1499

Inspection Date: 2 October 2002

Pier Number: East Bank - Pier #4
(Reference Attached Print)

Type of Construction: Concrete: Cut-Stone: Timber: Steel:
Other:

Bottom Material: Soft silt

Debris Around Pier: None

Scour: None

Exposed Footer: None

Footer Undermining: None

Exposed Piling Under Footer: None

Piling Condition: N/A

Cracks & Spalls: Yes - see sketch

Fender Condition: N/A

Impact Damage: None

Unusual Conditions: None

Overall Condition Rating: Good

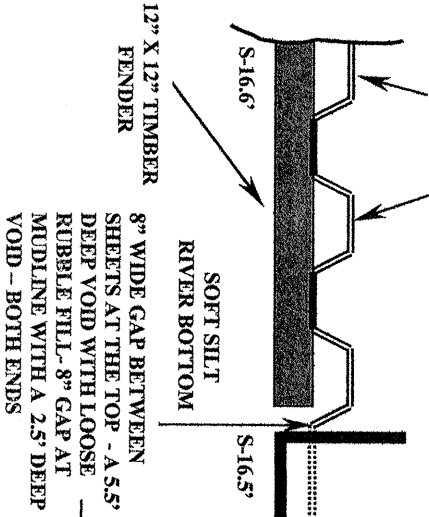
CONCRETE CAP

CONCRETE CAP HAS MINOR SPALLING ON THE LOWER HALF WITH NO EXPOSED REBAR EXCEPT WHERE THE PIER COLUMN JOINS THE CONCRETE CAP THERE IS HEAVY SPALLING THE ENTIRE HEIGHT. EIGHT HORIZONTAL REBAR ARE EXPOSED 3' DOWNSTREAM AND 10' UPSTREAM FROM THE PIER COLUMN CORNER. THE BOTTOM OF THE CONCRETE CAP IS 19' BELOW THE SURFACE AND EXTENDS OUT APPROXIMATELY 2' FROM THE STEEL SHEETS.

THE OUTER UNDERWATER CORNER OF THE CONCRETE CAP HAS A MINOR SPALLED AREA AT THIS POINT. APPROXIMATELY 3.0' LONG AND .3' DEEP. ONE PIECE OF EXPOSED REBAR.

SHEETS INSPECTED 20' DOWNSTREAM OF CONCRETE CAP

STEEL SHEETS GOOD CONDITION MINOR MUSSEL COVERAGE



S-26.5'

S-25.6'

DOWNSTREAM

CUYAHOGA RIVER

ALL NUMBERS PRECEDED BY AN S- REPRESENT SOUNDINGS TAKEN AGAINST THE PIER AND 25'-OUT

THE SHEET PILING UNDER THE CONCRETE CAP WAS FOUND NOT TO BE Z-SHAPED. WE BELIEVE THAT IT WAS CONSTRUCTED USING EIGHT CIRCULAR PILING WITH FLAT SHEETS BETWEEN. ALL SHEETS AND ROUND PILING ARE IN GOOD CONDITION AT THIS TIME.

WHERE THE DOWNSTREAM SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS APPROXIMATELY 5' OF THE CONCRETE FACE EXPOSED. WHERE THE STEEL SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS 3' GAP AT THE TOP WITH A 6'+ DEEP VOID AND A 6" GAP AT THE MUDLINE WITH A 3' DEEP VOID BEHIND THE SHEETS.

WHERE THE UPSTREAM SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS APPROXIMATELY 1' OF THE CONCRETE FACE EXPOSED. WHERE THE STEEL SHEETS JOIN THE CONCRETE PIER COLUMN THERE IS A 4" GAP AT THE TOP AND A 8" GAP AT THE MUDLINE WITH NO VOID BEHIND THE SHEETS.

PIER #4

* WATER ELEVATION REFERRECE FROM THE TOP OF THE CONCRETE CAP TO THE WATERLINE - 5.2'

S-25.3'

S-21.5'

S-26.5'

S-27.9'

UPSTREAM

CUYAHOGA RIVER

SHEET PILING 10% COVERED WITH ZEBRA MUSSEL

S-20.9'

SOFT SILT RIVER BOTTOM

STEEL SHEETS GOOD CONDITION

20" DIAMETER METAL PIPE THROUGH SHEETS - BOTTOM OF PIPE IS AT THE WATERLINE

DETROIT - SUPERIOR PIER #4 - EAST BANK

LAKE ERIE DIVING, INC.

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SCALE: NONE STRUCTURE I.D.: CUY-6-1499

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