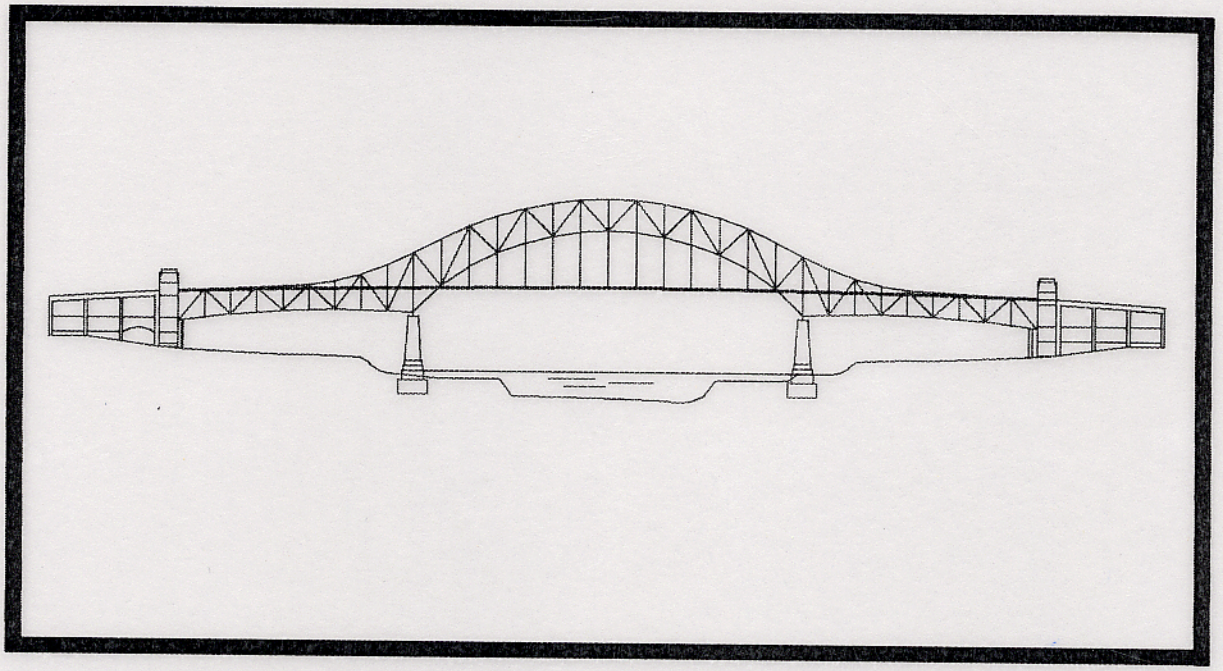
US ARMY CORPS
OF ENGINEERS
NEW ENGLAND DIVISION

VOLUME II

ROUTINE INSPECTION FIELD NOTES



SAGAMORE HIGHWAY BRIDGE
CAPE COD CANAL - BOURNE, MA

OCTOBER 1995

NEW ENGLAND DIVISION

Lichtenstein

NEW YORK NEW JERSEY PENNSYLVANIA MASSACHUSETTS OHIO CONNECTICUT FLORIDA

BRIDGES HIGHWAYS RAILWAYS HISTORIC STRUCTURES DAMS

VOLUME II

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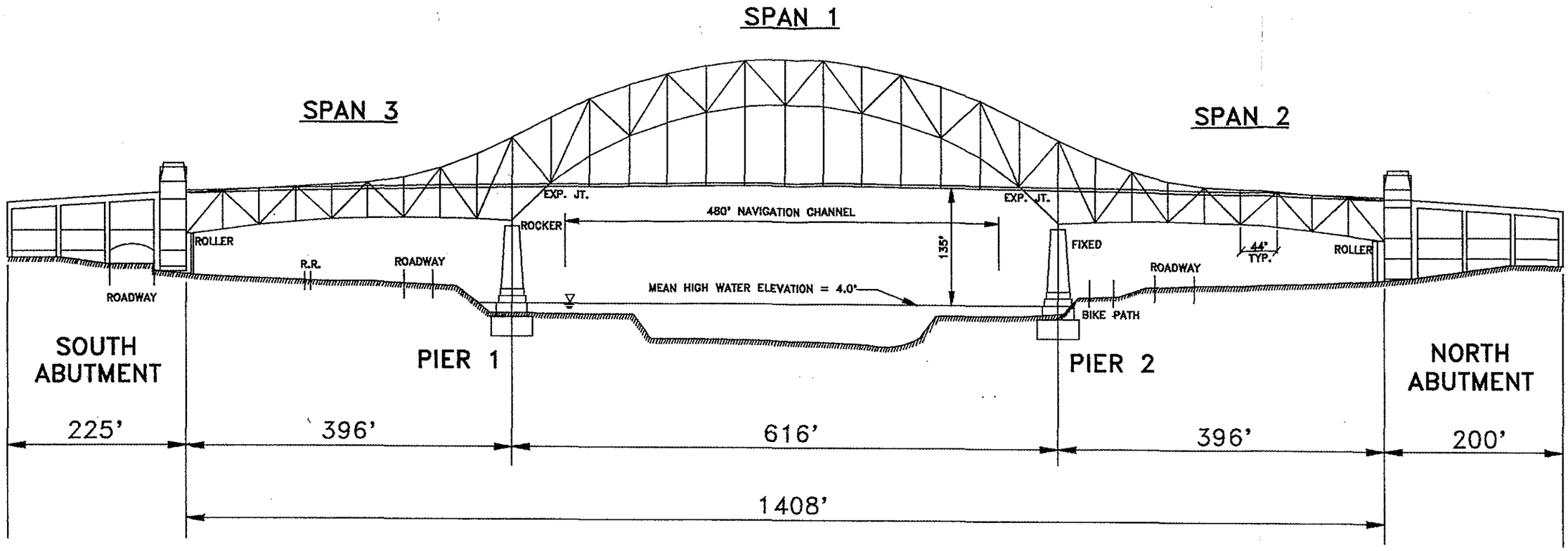
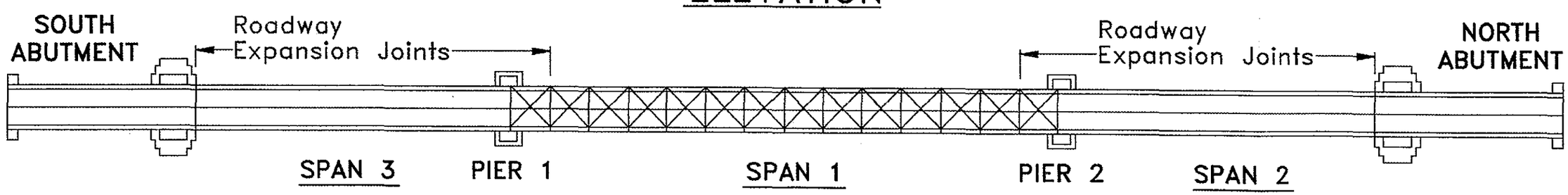
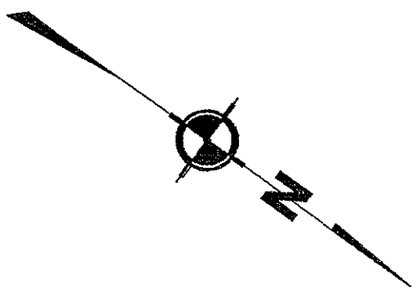
GENERAL PLAN AND ELEVATION



ELEVATION



PLAN



DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

Lichtenstein
A.G. LICHTENSTEIN & ASSOCIATES, INC.
CONSULTING ENGINEERS

GENERAL PLAN & ELEVATION

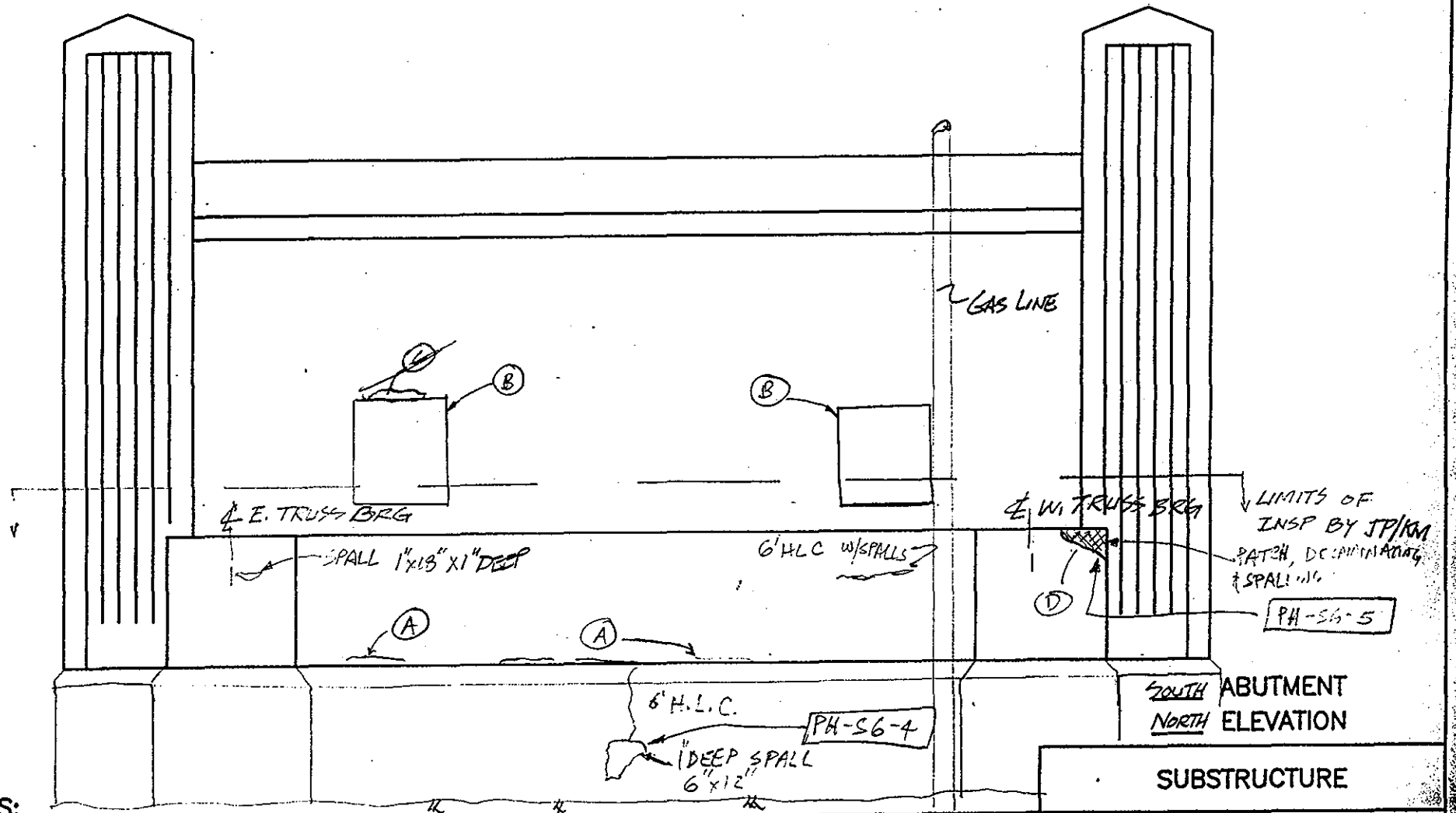
FILE: ELEV.DWG

SCALE: N.T.S.

DATE: 9/95

i

SUBSTRUCTURE



NOTES:

(A) CONSTRUCTION SPALLS AT EDGE OF CONSTRUCTION JT. (TYP.)

(B) SCREENED COVERED DOORWAY AT BRIDGE SEAT.

~~(C) SPALL @ CORNER OF TOP OF OPENING 2'x6"x3" DEEP~~ SEE SHEET 4 OF 5 7/19/95

(D) CRACKED, DELAMINATED PATCH WITH ADJACENT CONC SPALLS 1'x1'x1" DEEP

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

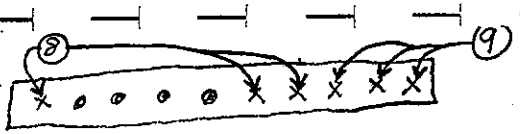
SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

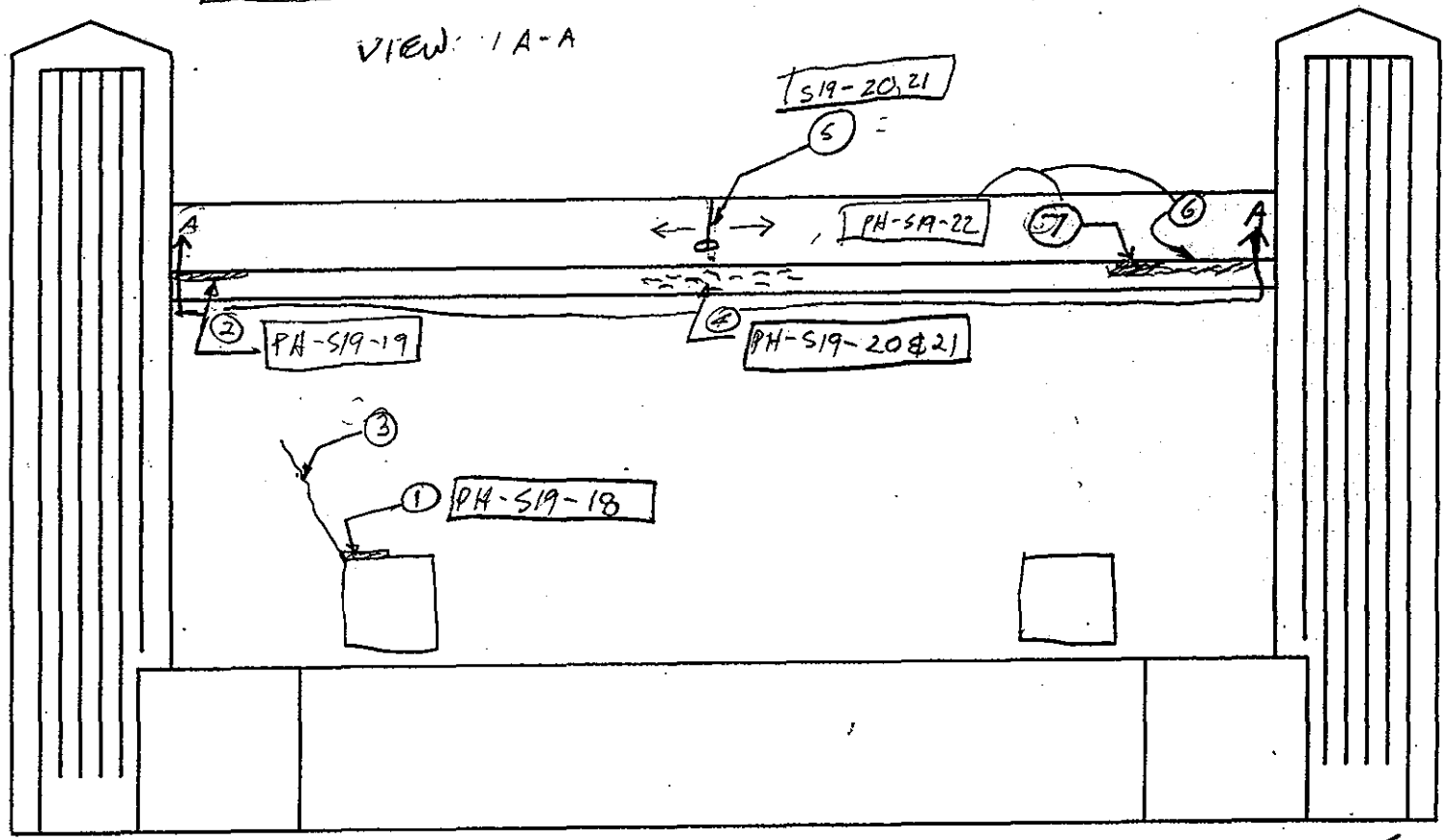
JOB #1784	DATE: 7-11-95
CREW: JP, KAM	SHEET 7 OF 9

(8) ROD MISSING

(9) ROD HANGING FREE



VIEW 1 A-A



SOUTH ABUTMENT BACK WALL

S ABUTMENT
N ELEVATION

GEN. NOTE: CHECK WALLS OK.

NOTES:

1. 37" x 10" x 2" DEEP SPALL PH-S19-18
2. 40" x 8" x 2" DEEP SPALL PH-S19-19
3. 1/8" WIDE x 15FT LONG CRACK
4. MAPPED CRACKING WITH LEACHING PH-S19-20 & 21
5. 6 OF 10 THREADED TENSION RODS MISSING OR DETACHED PH-S19-20 & 21 (SEE VIEW A-A)
6. PATCHED SPALL WITH MAPPED CRACKING AND RUST STAINS PH-S19-22 (10" x 10")
7. SPALL 15" x 8" x ≈1/4" S19-22

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

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CREW: TR/KM	SHEET 4 OF 5

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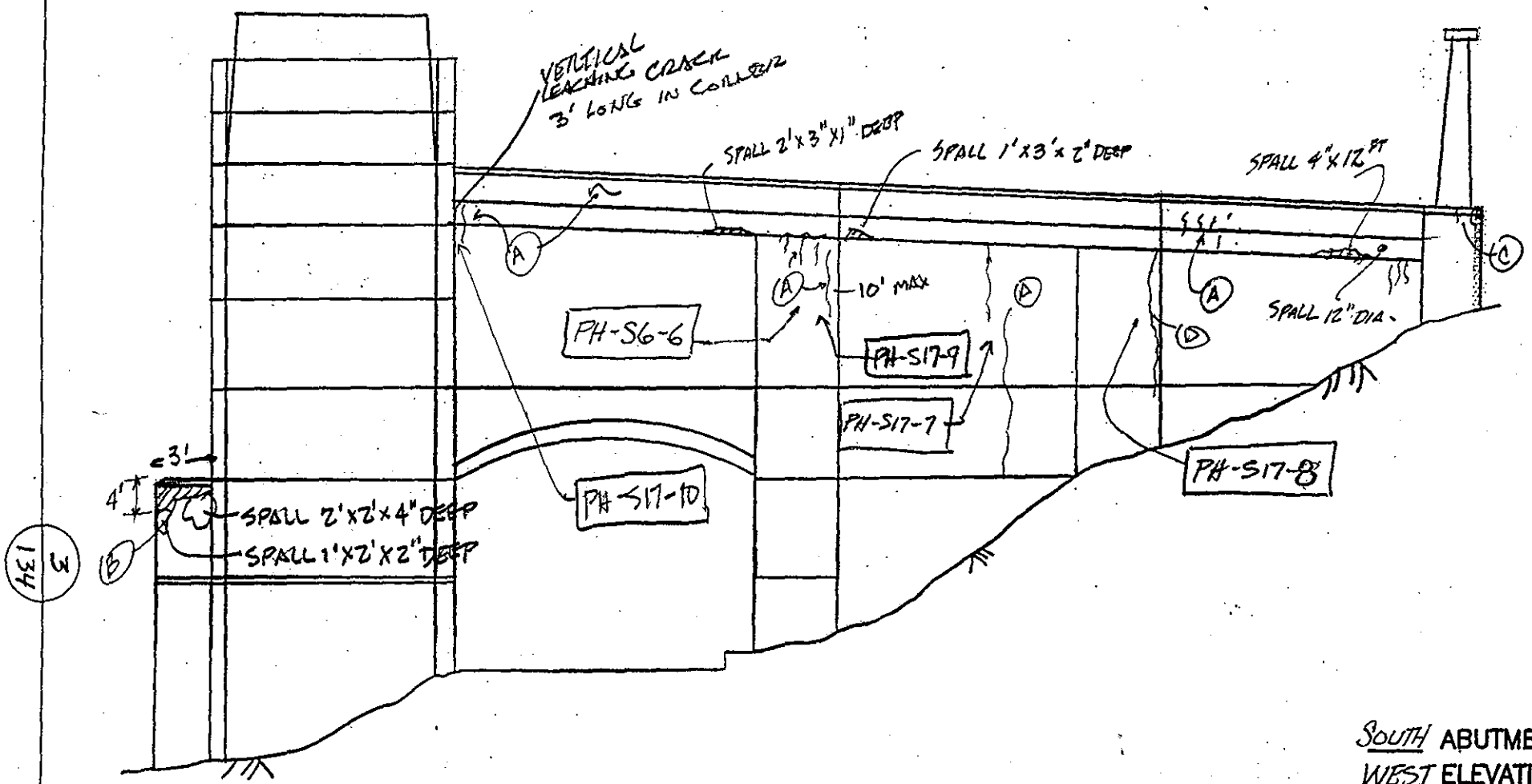

SOUTH ABUTMENT
WEST ELEVATION

NOTES:

(A) CRACKS WITH EFFLORESSENCE
(B) CRACKING, SPALLING & DELAMINATION OF PATCHED CONCRETE.
(C) VERTICAL CRACKS THRU COPING UNDER LIGHT @ S.W. CORNER
(D) VERTICAL CRACKS LEACHING 15' LOLS

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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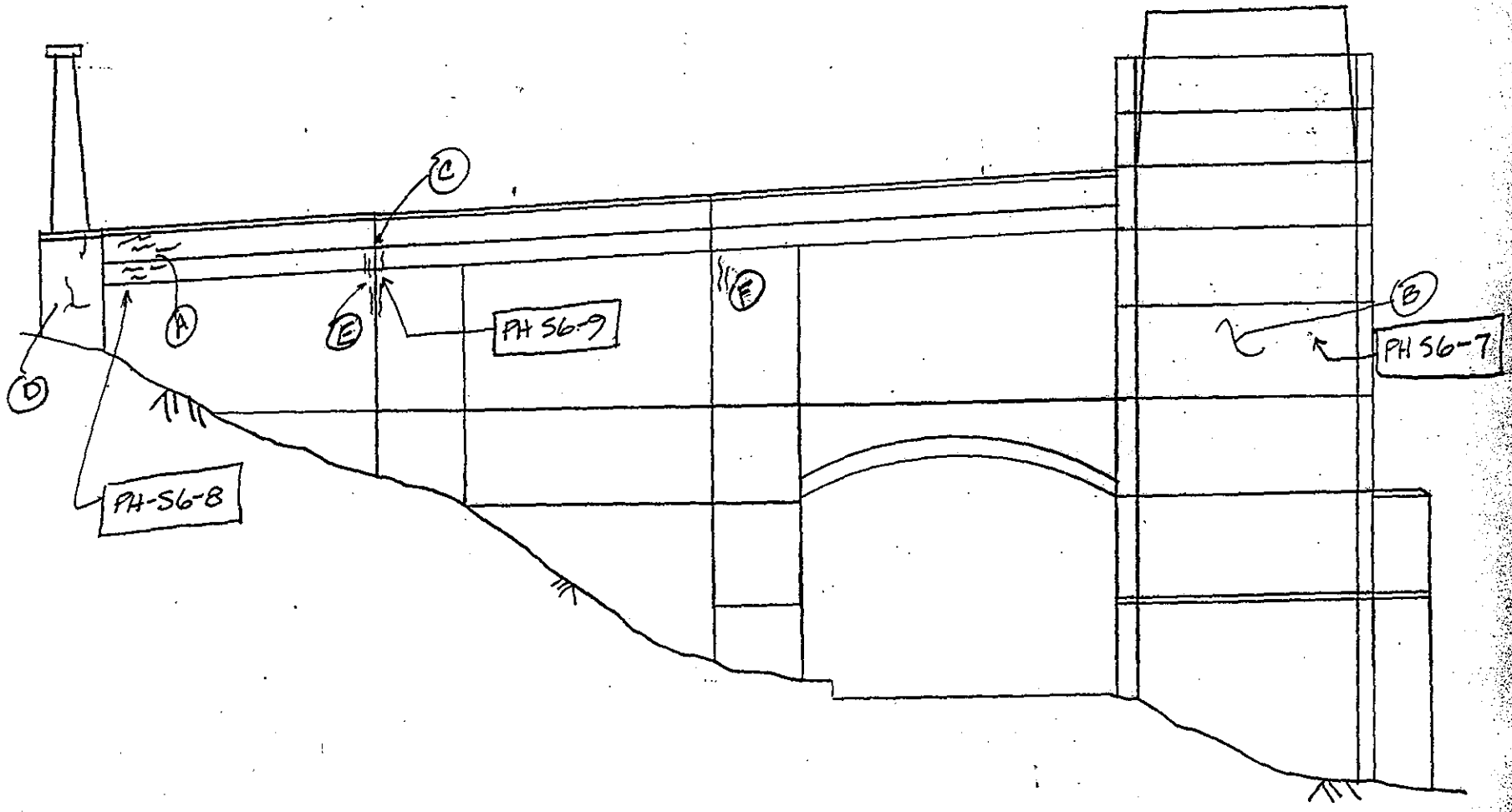

SOUTH ABUTMENT
EAST ELEVATION

NOTES:

(A) LEACHING HAIRLINE MAP CRACKS AREA 2'×4'
(B) DISCOLORATION OF CONCRETE (YELLOW/GREEN) ON E. FACE OF TOWER
(C) JOINT FILLER MAT'L PROTRUDING FROM JOINT.
(D) LEACHING HAIRLINE CRACKS IN FACE OF LIGHT PEDESTAL.
(E) LEACHING HAIRLINE CRACKS OVER AREA 2'×5'
(F) LEACHING CRACKS 3' LONG

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-11-95
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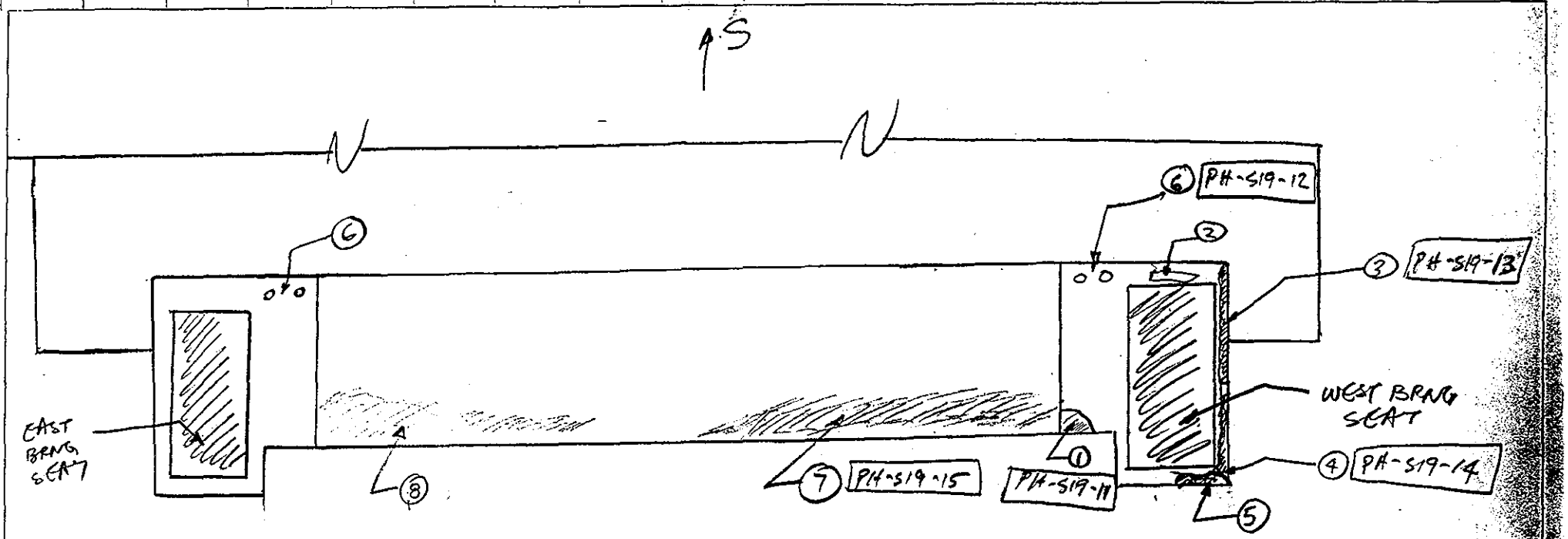

SOUTH ABUTMENT BEARING SEAT PLAN

1. SPALL 9"x11"x2" DEEP PH-S19-11
2. SPALL 10"x22"x1½" DEEP
3. SPALL 40" HIGH x 30" WIDE x 4" DEEP PH-S19-13
4. (1M) - SPALL 33"x12" PH-S19-14
5. SPALL 15" LONG x 8" HIGH x 2½" DEEP (SPALL CONTINUES DOWN NORTH FACE OUT OF SIGHT)
6. 2" ϕ BOLTS INBEDDED IN CONCRETE PH-S19-12 (STICK UP ≈ 4")
7. DEBRI WITH GROWTH PH-S19-15
8. DEBRI WITH GROWTH

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS
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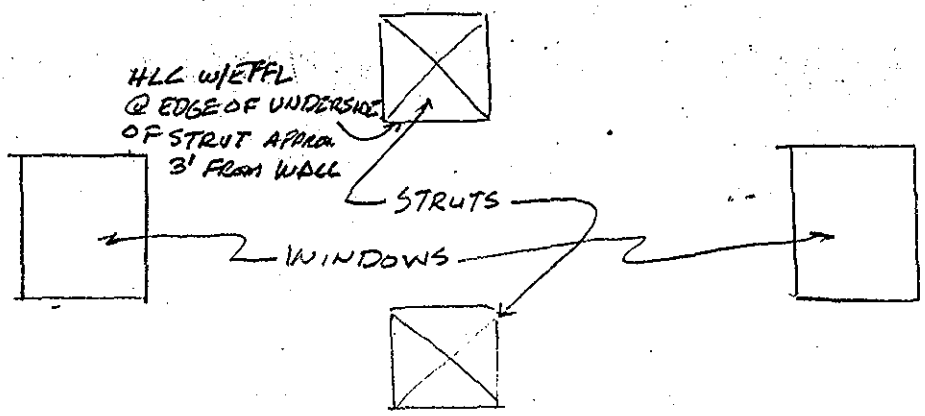

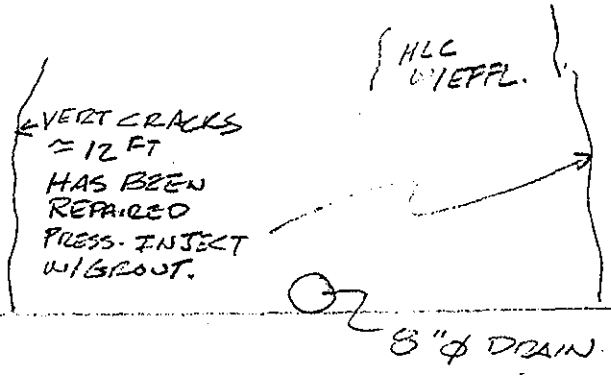

SOUTH ABUTMENT

(INSIDE LOOKING NORTH)

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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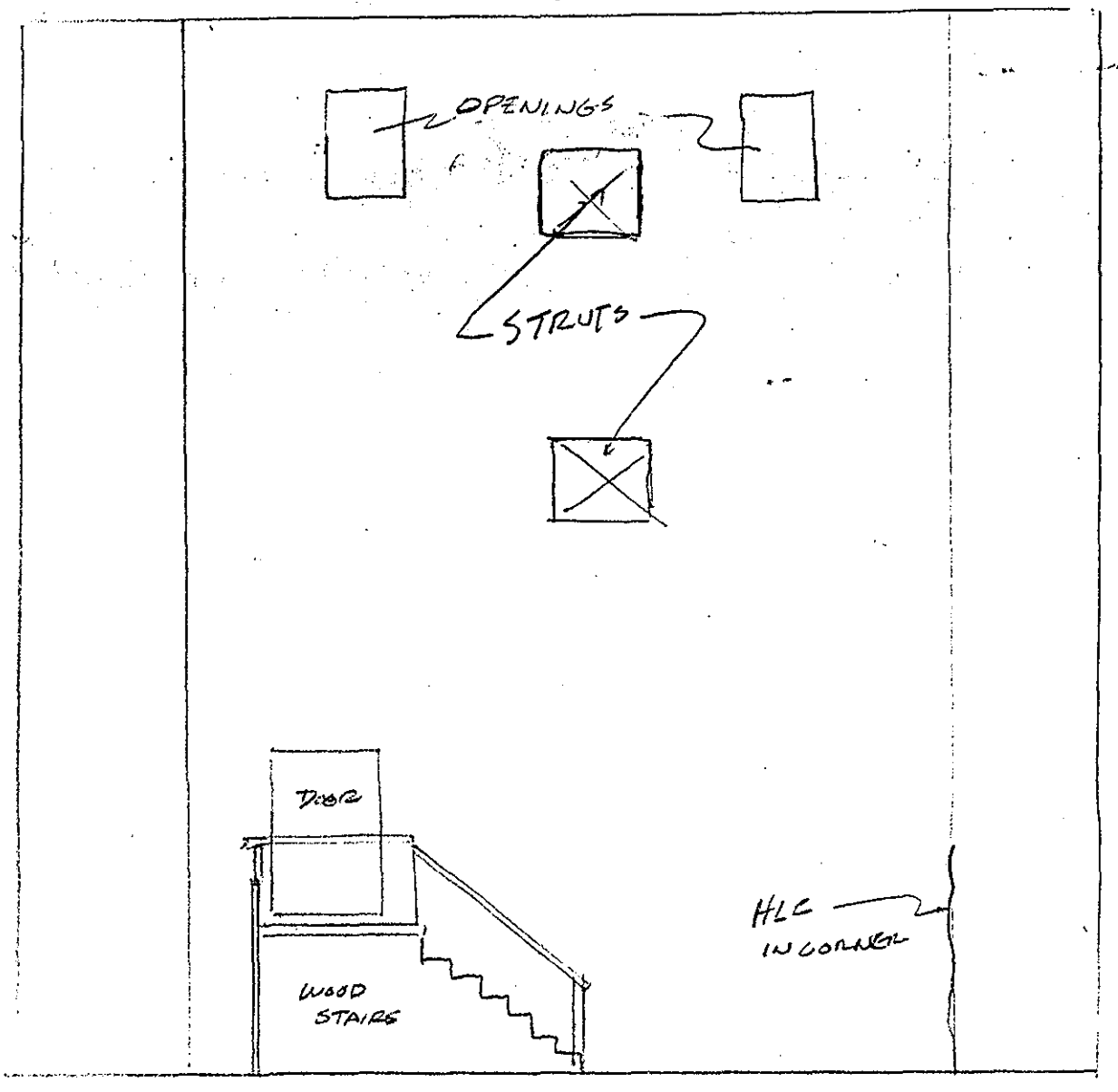
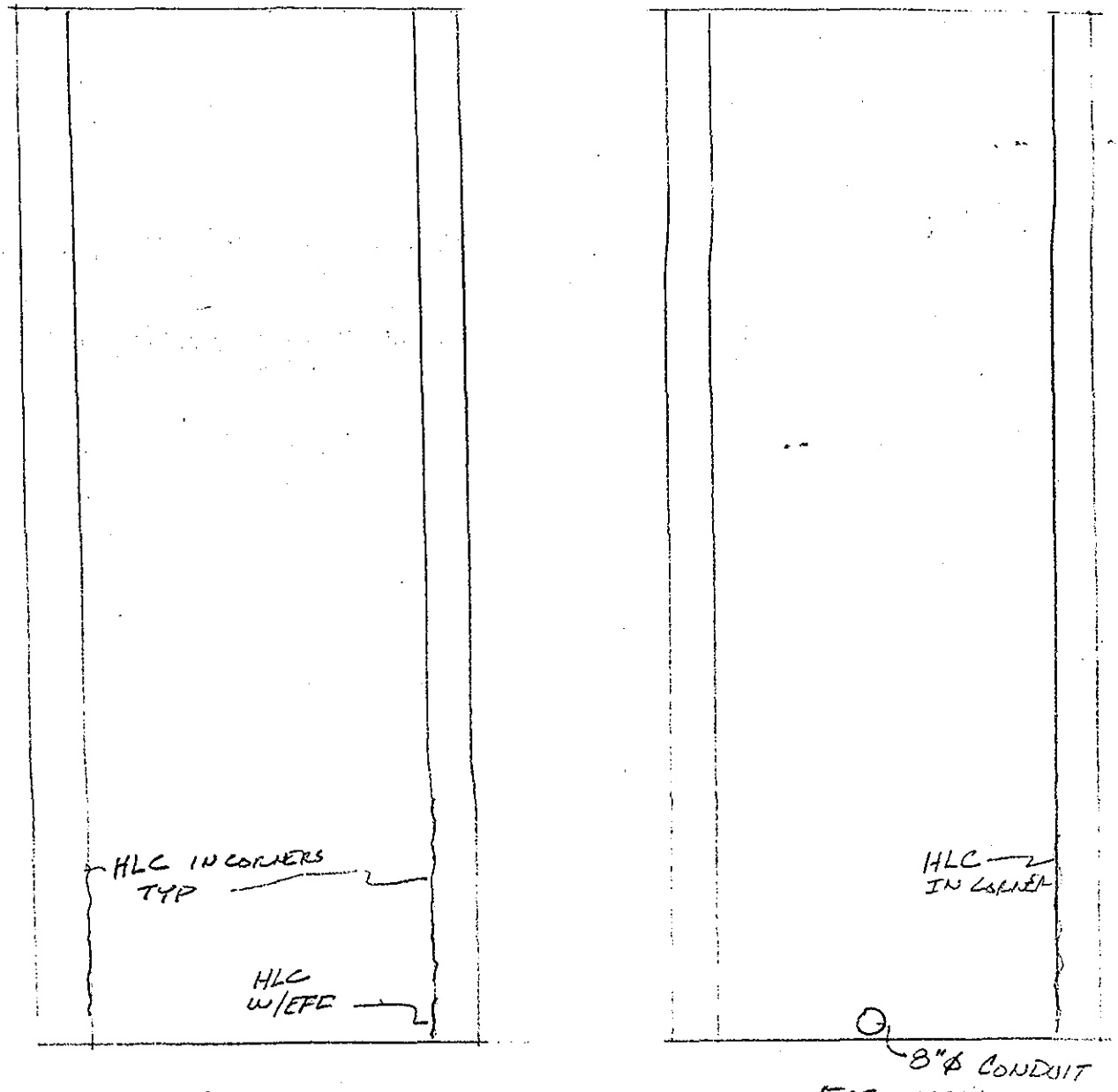


SOUTH ABUTMENT

INSIDE LOOKING SOUTH

GEN NOTES:
GOOD CONDITION, MINOR H.L.C. IN CORNERS.

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-11-95
CREW: JP KM	SHEET 2 OF 9



WEST WALL
Look, west

EAST WALL
Look, east

INSIDE SOUTH ABUTMENT

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-11-95
CREW: JP KM	SHEET 3 OF 9

CONSULTING ENGINEERS

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BRIDGES HIGHWAYS RAILROADS SITE ENGINEERING DAMS

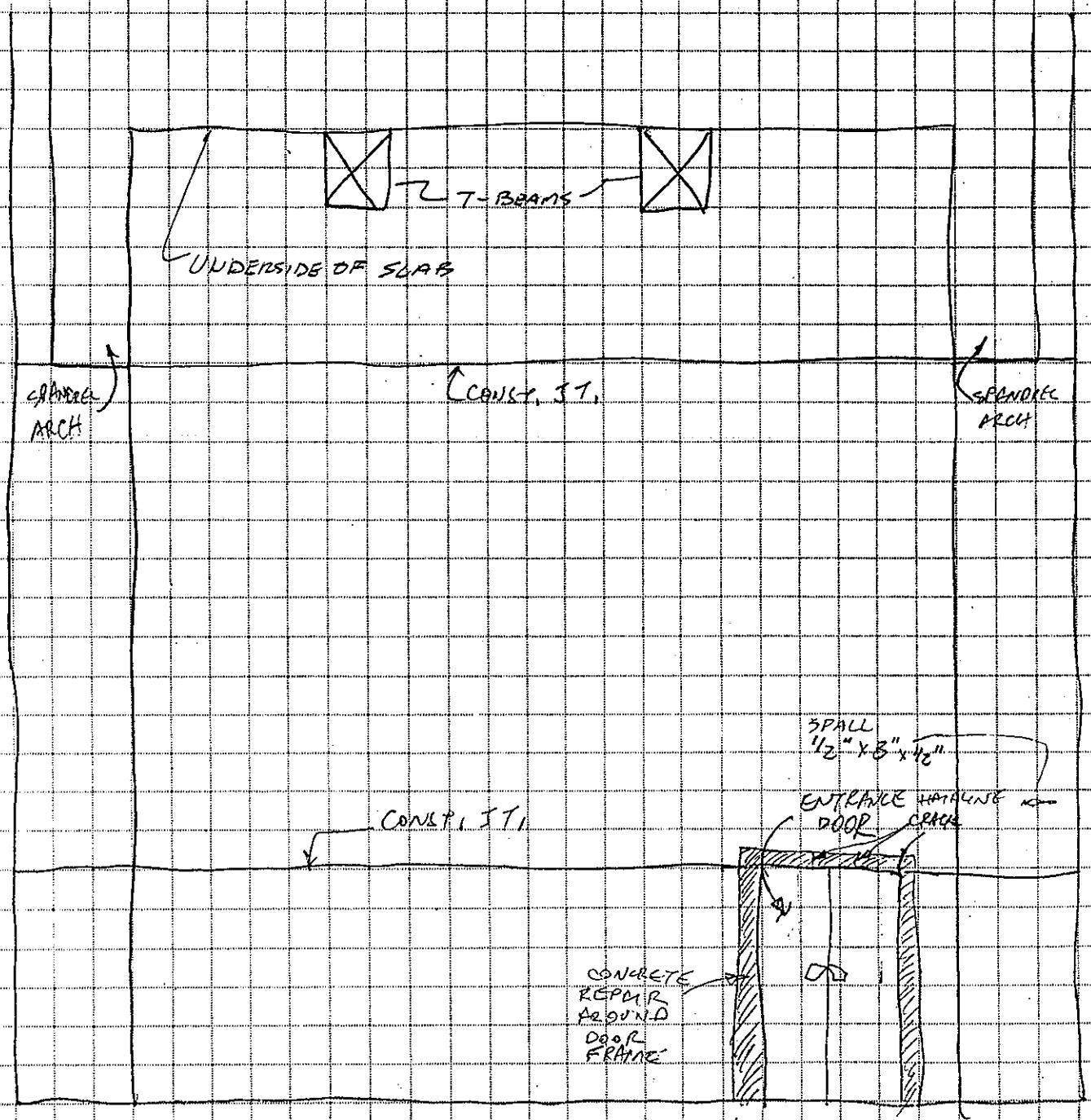
JOB SAGAMORE BRIDGE INSP.

SHEET NO. 4 OF 9

CALCULATED BY JP, KAM DATE 7-11-95

CHECKED BY _____ DATE _____

SCALE NONE



SOUTH ABUTMENT
SOUTH ELEVATION

CONSULTING ENGINEERS

Lichtenstein

BRIDGES HIGHWAYS RAILROADS SITE ENGINEERING DAMS

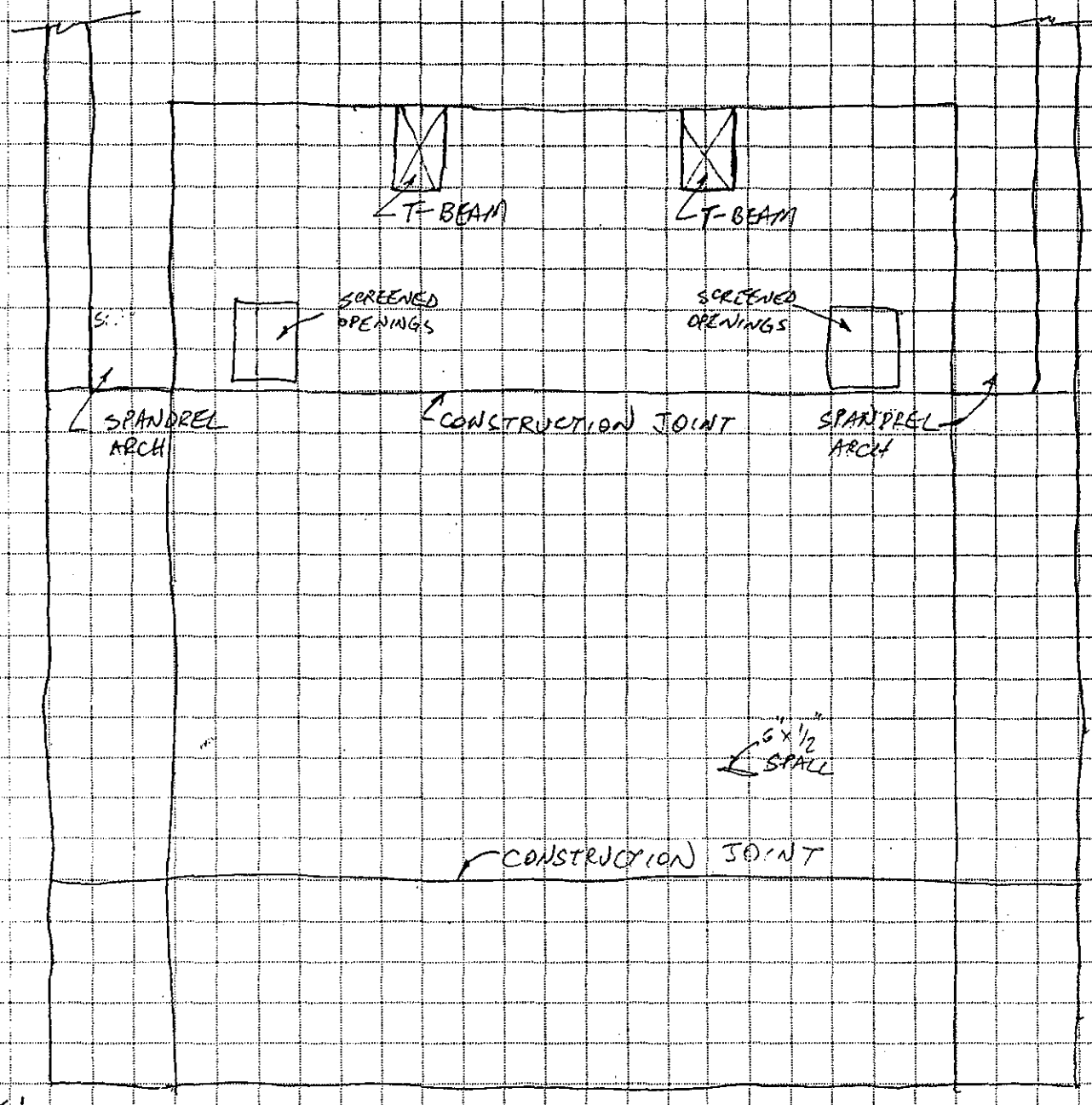
JOB SAGAMORE BRIDGE INSP.

SHEET NO. 5 OF 9

CALCULATED BY JP, KAM DATE 7-11-95

CHECKED BY DATE

SCALE NONE



NOTE:
ABUTMENT IN GOOD CONDITION.

SOUTH APPROACH SPAN ABUTMENT

(NORTH ELEVATION)

CONSULTING ENGINEERS

Lichtenstein

BRIDGES HIGHWAYS RAILROADS SITE ENGINEERING DAMS

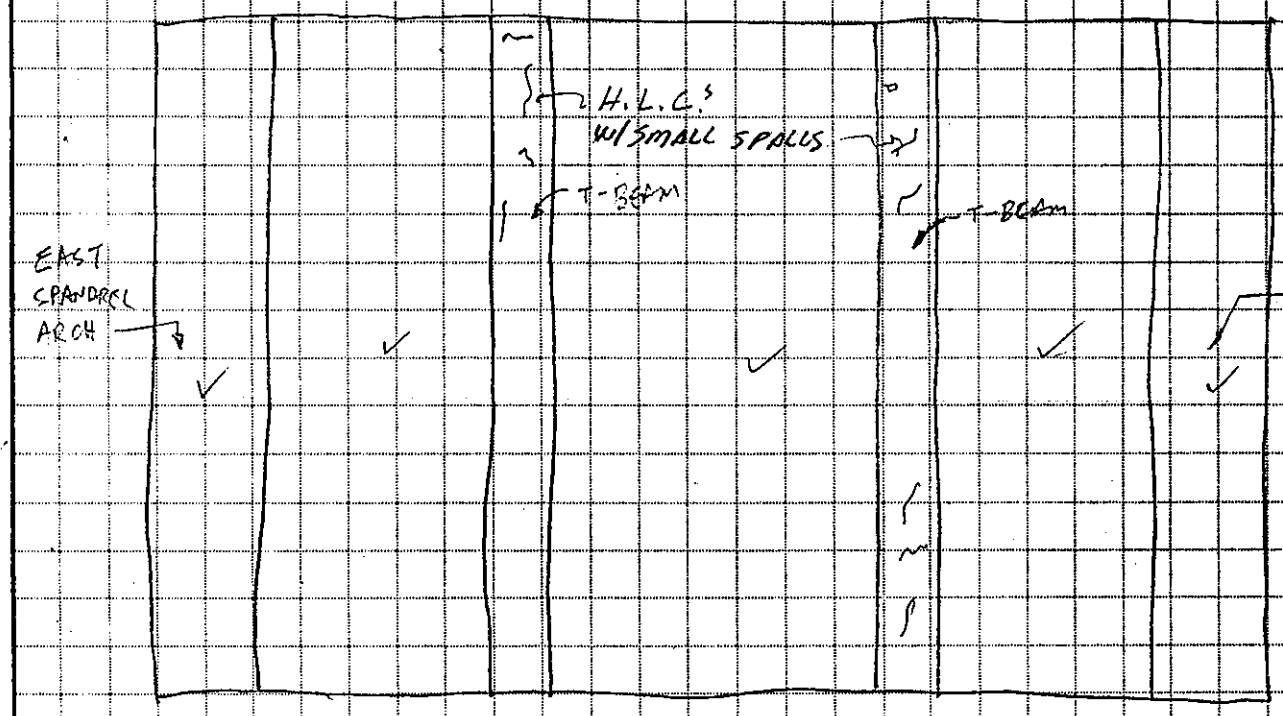
JOB SAGAMORE BR. INSP.

SHEET NO. 6 OF 9

CALCULATED BY JP, KAM DATE 7-11-95

CHECKED BY _____ DATE _____

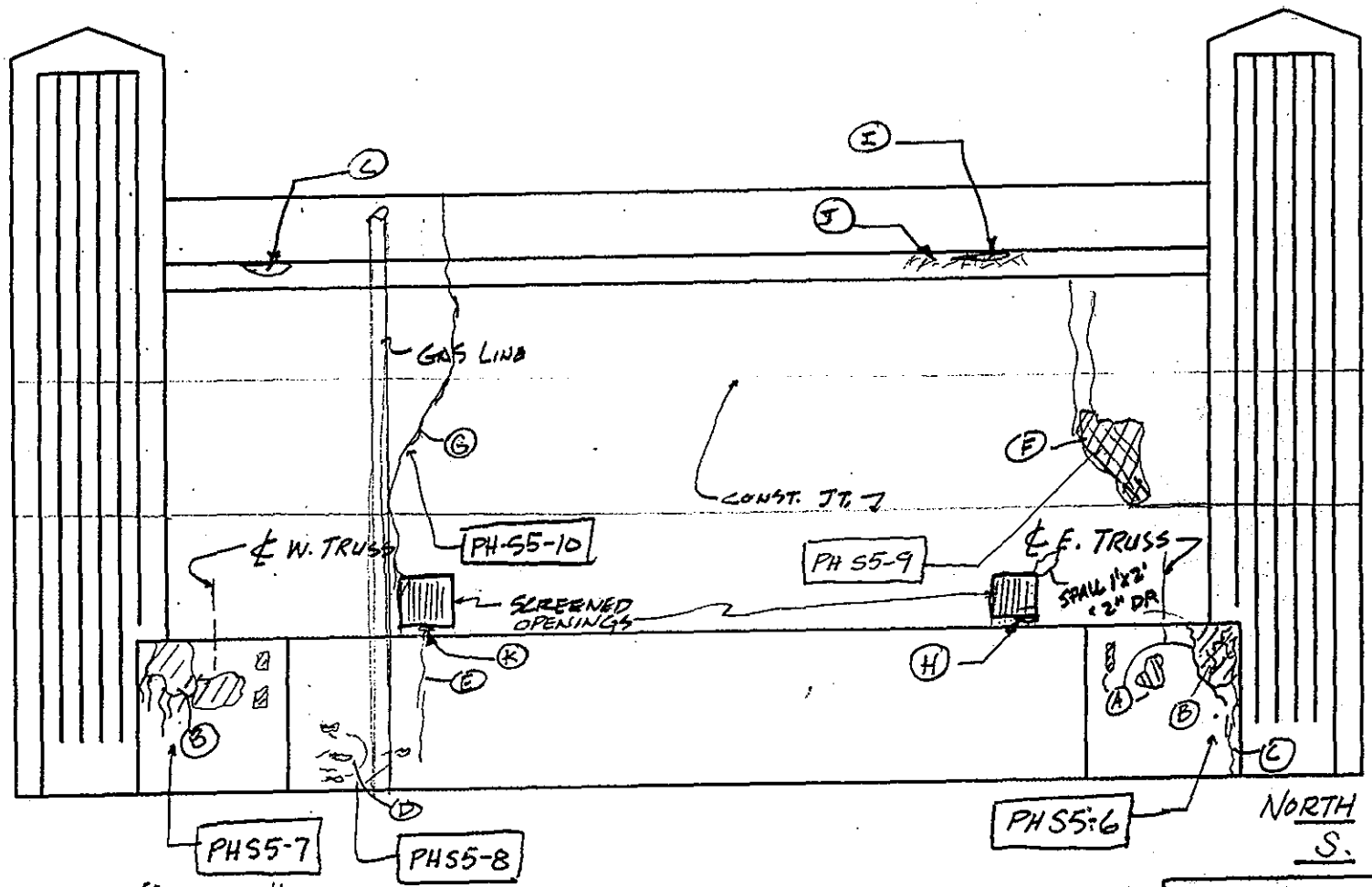
SCALE _____



UNDER SIDE OF SOUTH APPROACH SPAN

NOTES HAIR LINE CRACKS, SMALL SPALLS WITH RUST STAINS ON BOTTOM OF T-BEAMS @ LOCATIONS NOTED. (SPALLS 3"x3"x1/4")
UNDERSIDE OF SLABS IN GOOD CONDITION
UNDERSIDE OF SPANDREL ARCHES IN GOOD CONDITION.

(K) SPALL 5" x 3" x 1"
(L) SPALL 1.5FT x 6" x 2"



NORTH ABUTMENT
S. ELEVATION

(H) SPALL 1.5FT x 6" x 1½" DEEP
(I) SPALL 3FT x 10" x 2" DEEP

NOTES: (J) MAP CRACKING WITH BLEEDING

(A) CONCRETE REPAIRS NOTED (III)

(B) HEAVY MAP CRACKING, DELAMINATIONS, RUST & EFFLORESCENCE OVER REPAIRED AREA. AREA PHOTOS PH-S5-6 PH-S5-7

(C) VERTICAL CRACKING WITH EFFLORESCENCE @ CORNER FULL HEIGHT

(D) SHALLOW SPALLS ¼" DEEP W/ HAIRLINE CRACKING, ISOLATED TO AREA 3'x5' PHS5-8

(E) HAIRLINE VERTICAL CRACKS

(F) SPALL 3'x3'x2" DEEP PH-S5-9

(G) VERTICAL CRACK FROM TOP CORNER OF SCREENED OPENING UP TO BACKWALL ½" MAX WIDTH PH-S5-10

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION, CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-12-95
CREW: JP/KM/TF	SHEET 1 OF 5

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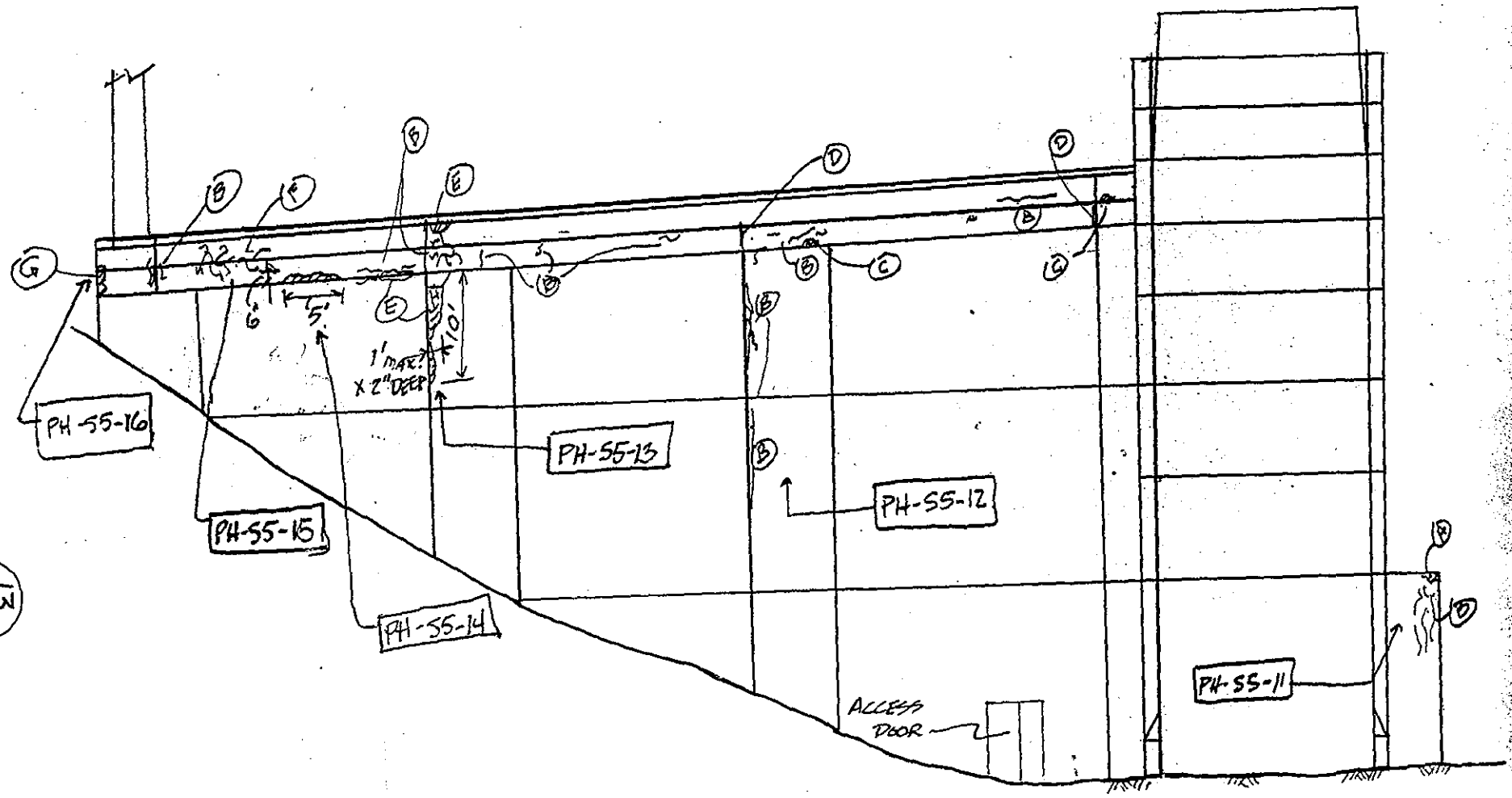

NORTH ABUTMENT
W. ELEVATION

NOTES:

(A) CRACKED & SPALLED CONC. @ CORNER OF BRIDGE SEAT AREA 6"X12"X1" DEEP PH-55-11

(B) VERT., HORIZ. + MAP CRACKS WITH EFFLORESCENCE PH-55-12

(C) SPALL 3" DIA. X 1/2" DEEP W/ RUST STAIN

(D) JOINT FILLER MATERIAL FALLING OUT OF EXP. JTS. PH-55-14 + SPALLS SHOWN

(E) SPALLED CONCRETE WITH EFFLORESCENCE PH-55-13

(F) HAIRLINE MAP CRACKING OF PARAPET PH-55-15

(G) CRACKING, SPALLING & DELAMINATING CONC ON N. FACE OF END OF PARAPET PH-55-16

SUBSTRUCTURE	
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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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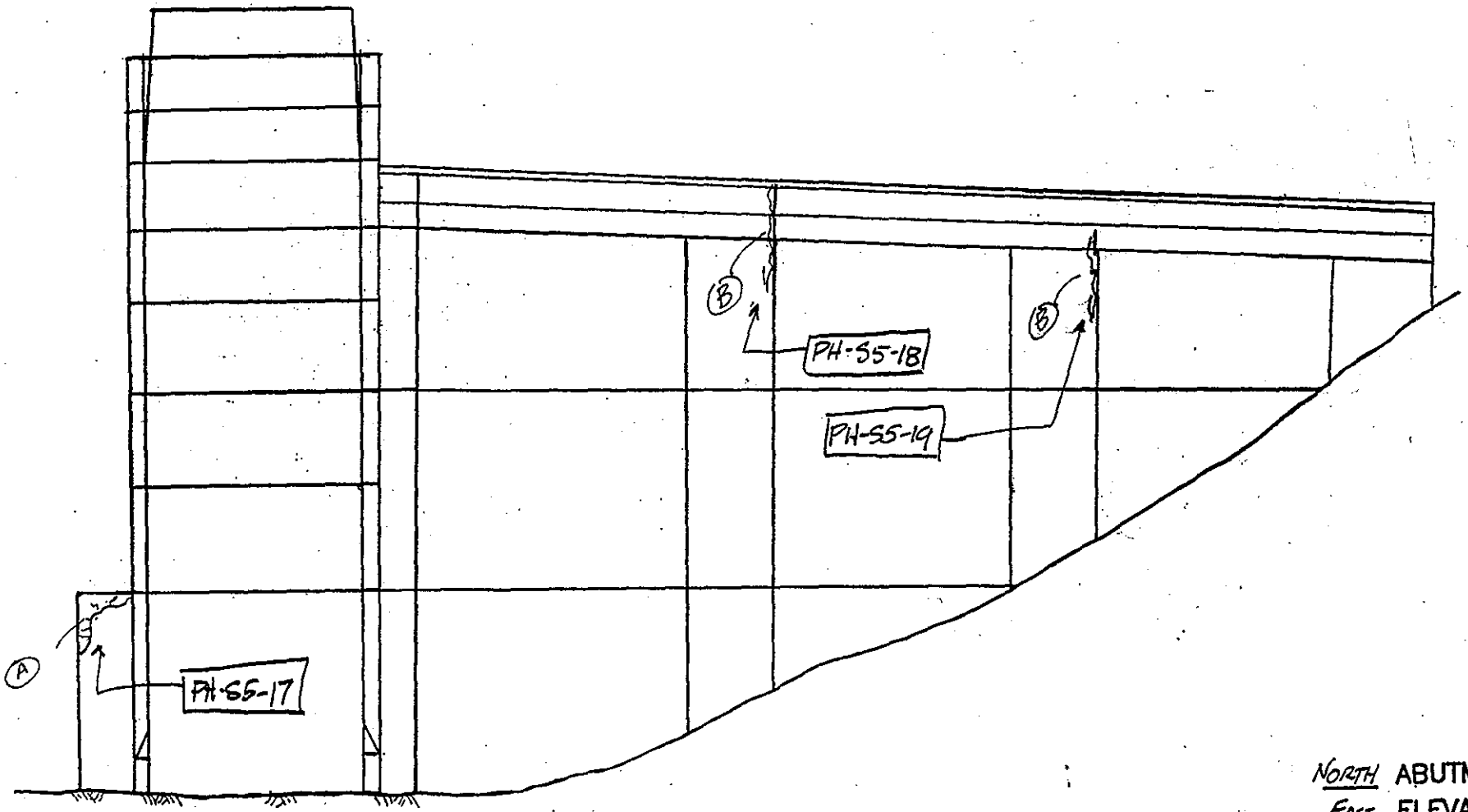

NORTH ABUTMENT
EAST ELEVATION

NOTES:

(A) HEAVY MAP CRACKING & DELAMINATING CONC OF REPAIRED AREA PH 55-17

(B) VERT. CRACKS WITH EFFLORESCENCE PH-55-18, PH 55-19

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-12-95
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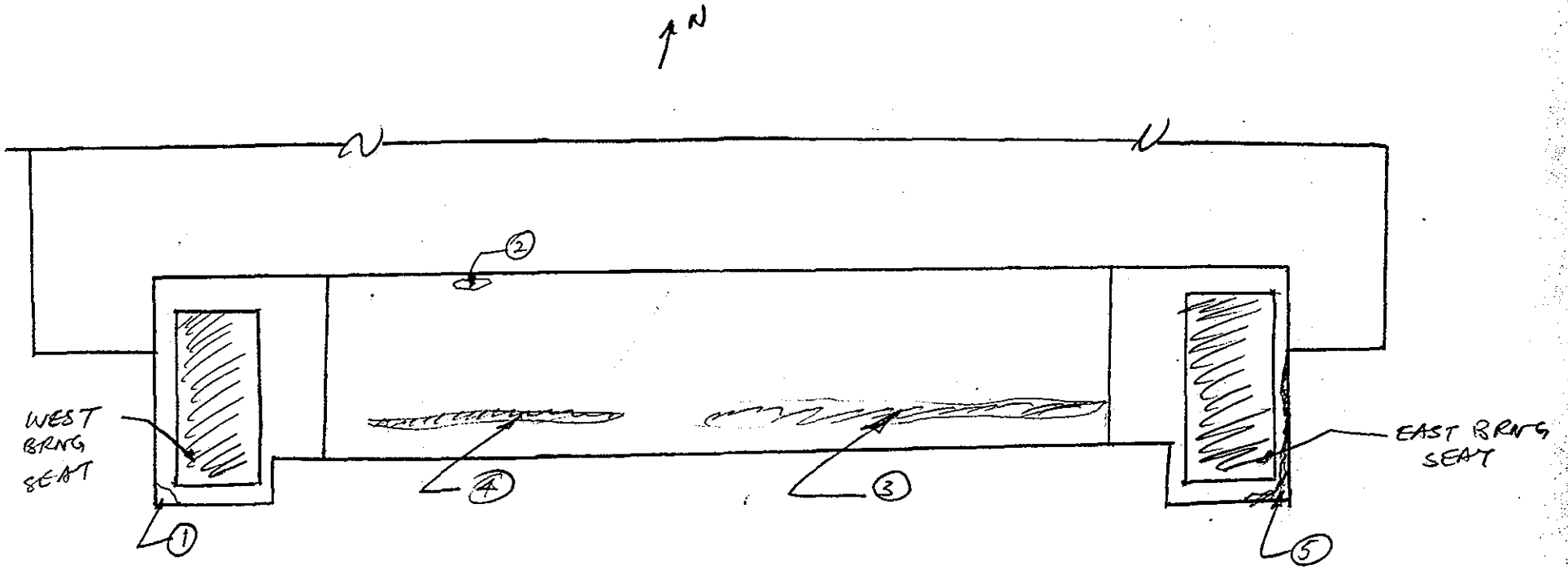

NORTH ABUT. BEARING SEAT PLAN

(1) SPALL 30"x10"x 3/4" DEEP AT SOUTH WEST CORNER
(2) SPALL 6"x 1"x 1/4" DEEP
(3) SOIL / DEBRI WITH GROWTH
(4) SOIL DEBRI
(5) HOLLOW SOUNDING AREA 30"x 5'-2" WITH 10% SURFACE CRACKING

GENERAL NOTE:

~~THREADED TENSION RODS OBSERVED AT SOUTH ABUTMENT ARE NOT PRESENT ON NORTH ABUTMENT.~~

- CHECK WALLS OK.

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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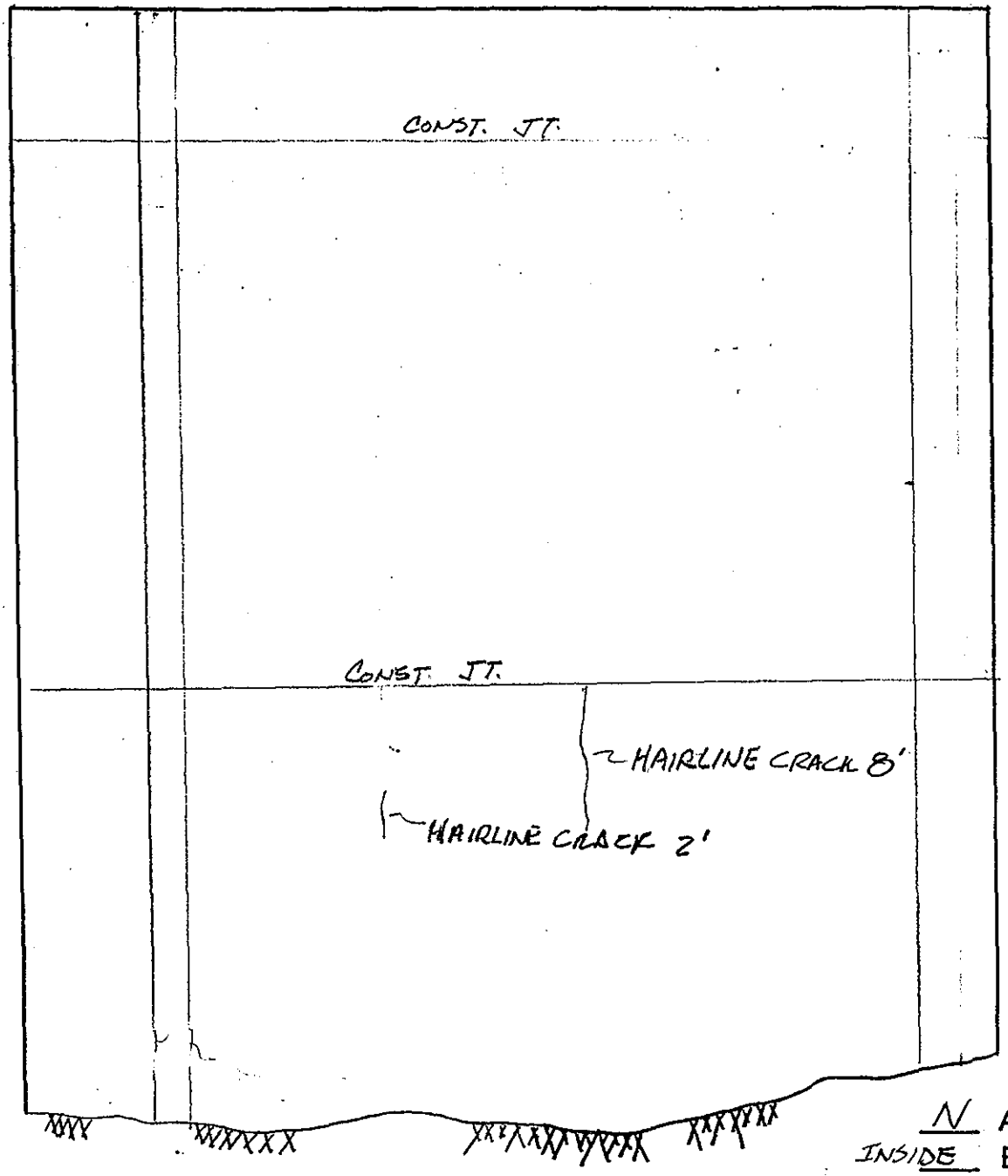

N ABUTMENT
INSIDE ELEVATION

CHAMBER 1

INSIDE ELEVATION OF EAST WALL

NOTES: GENERALLY IN GOOD CONDITION, WITH EXCEPTIONS NOTED.

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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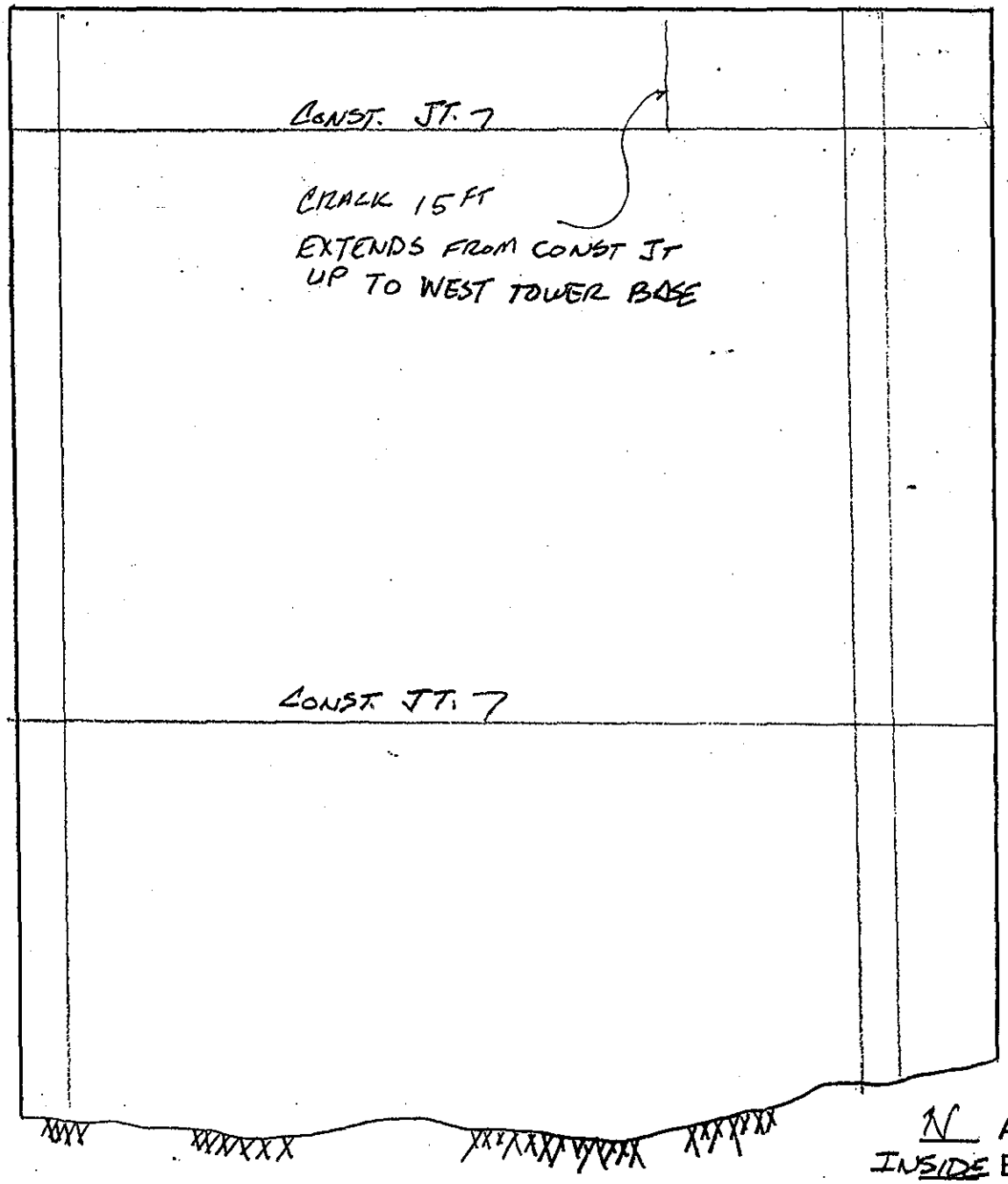

N ABUTMENT
INSIDE ELEVATION

CHAMBER 1

INSIDE ELEVATION OF WEST WALL

NOTES: GENERALLY IN GOOD CONDITION, WITH EXCEPTIONS NOTED

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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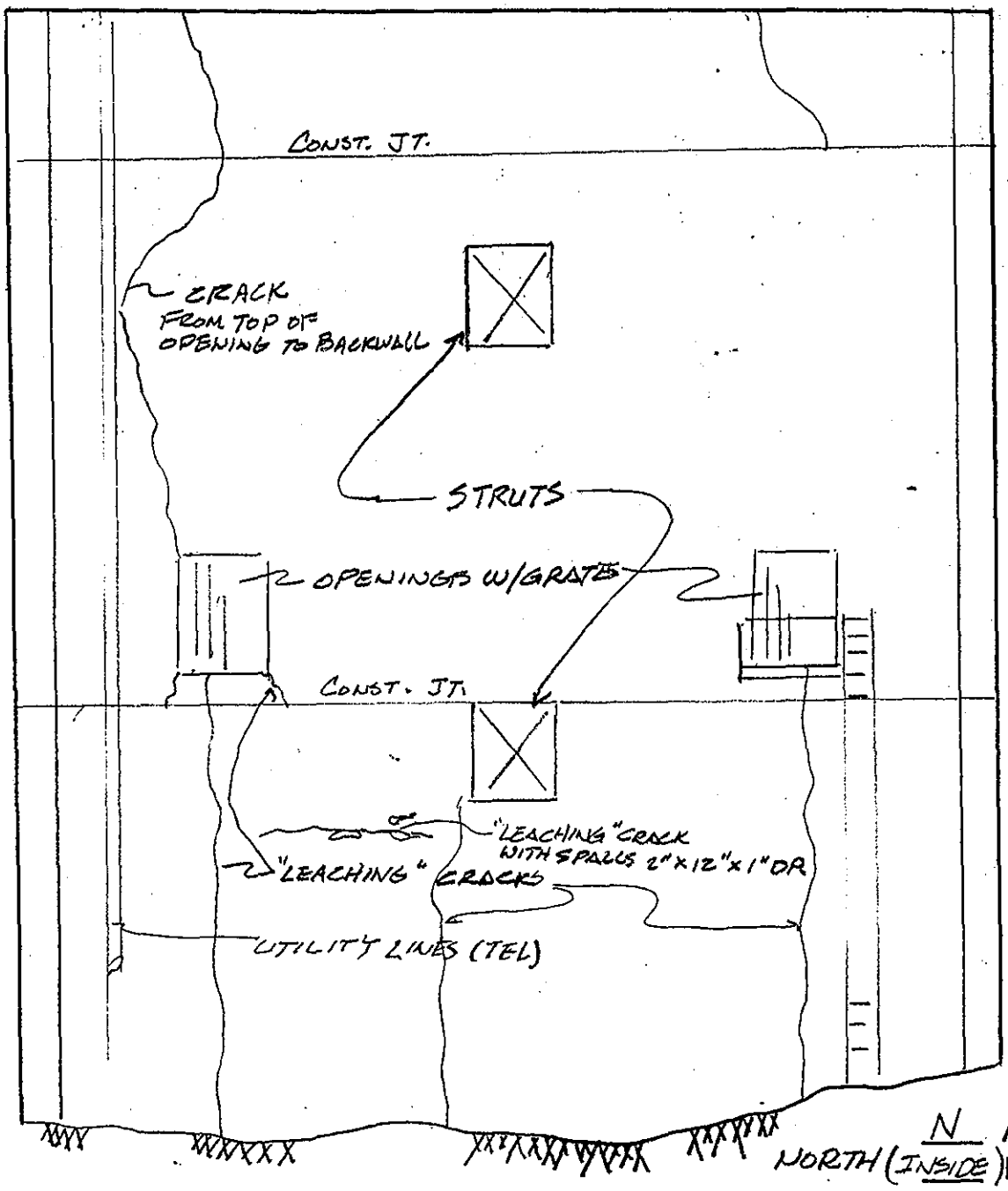

N ABUTMENT
NORTH (INSIDE) ELEVATION

CHAMBER 1

NORTH ELEVATION OF SOUTH WALL

SUBSTRUCTURE	
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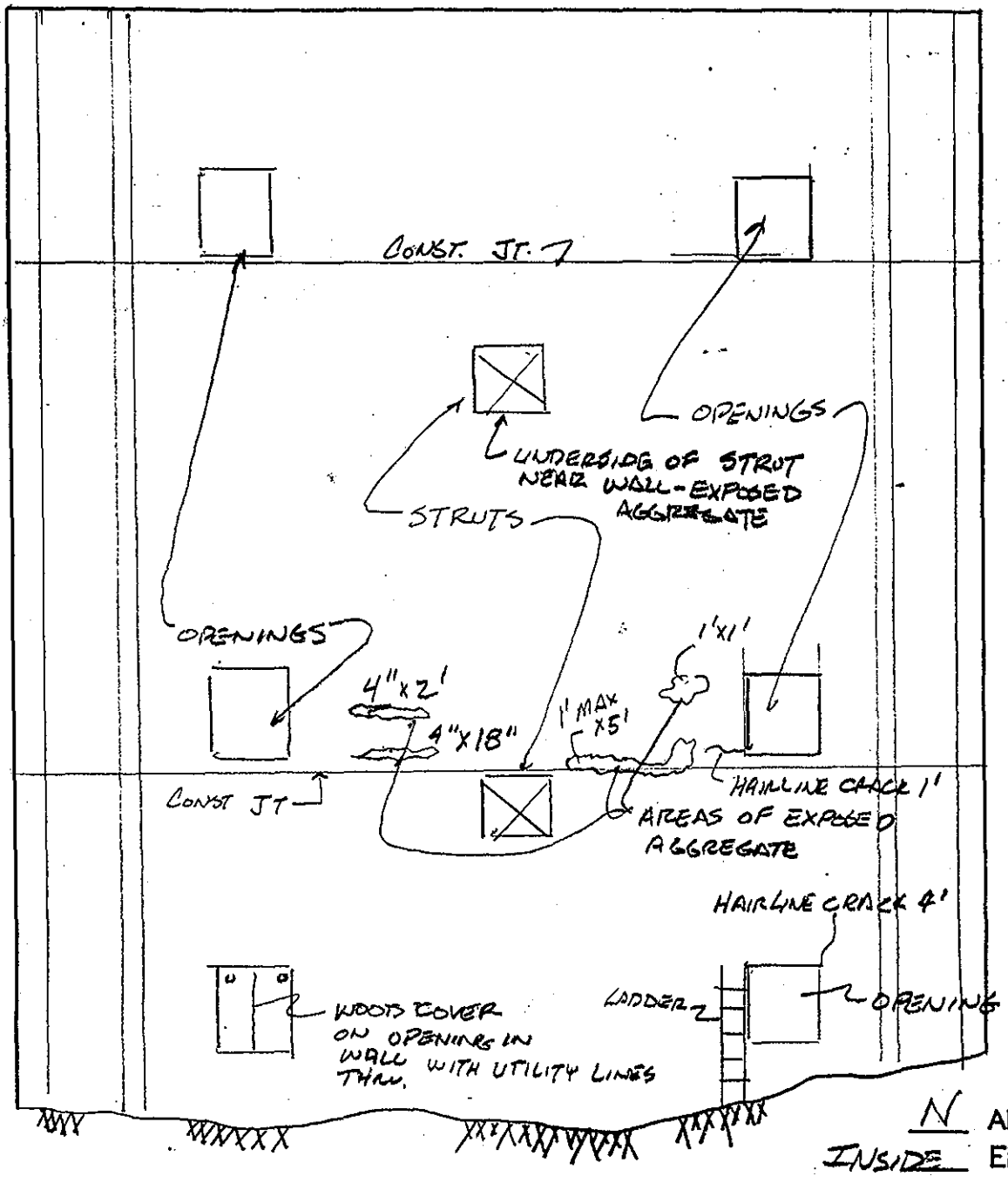

N ABUTMENT
INSIDE ELEVATION

CHAMBER 1

SOUTH ELEV. OF NORTH WALL

NOTES:
GENERALLY IN GOOD CONDITION WITH EXCEPTIONS NOTED.

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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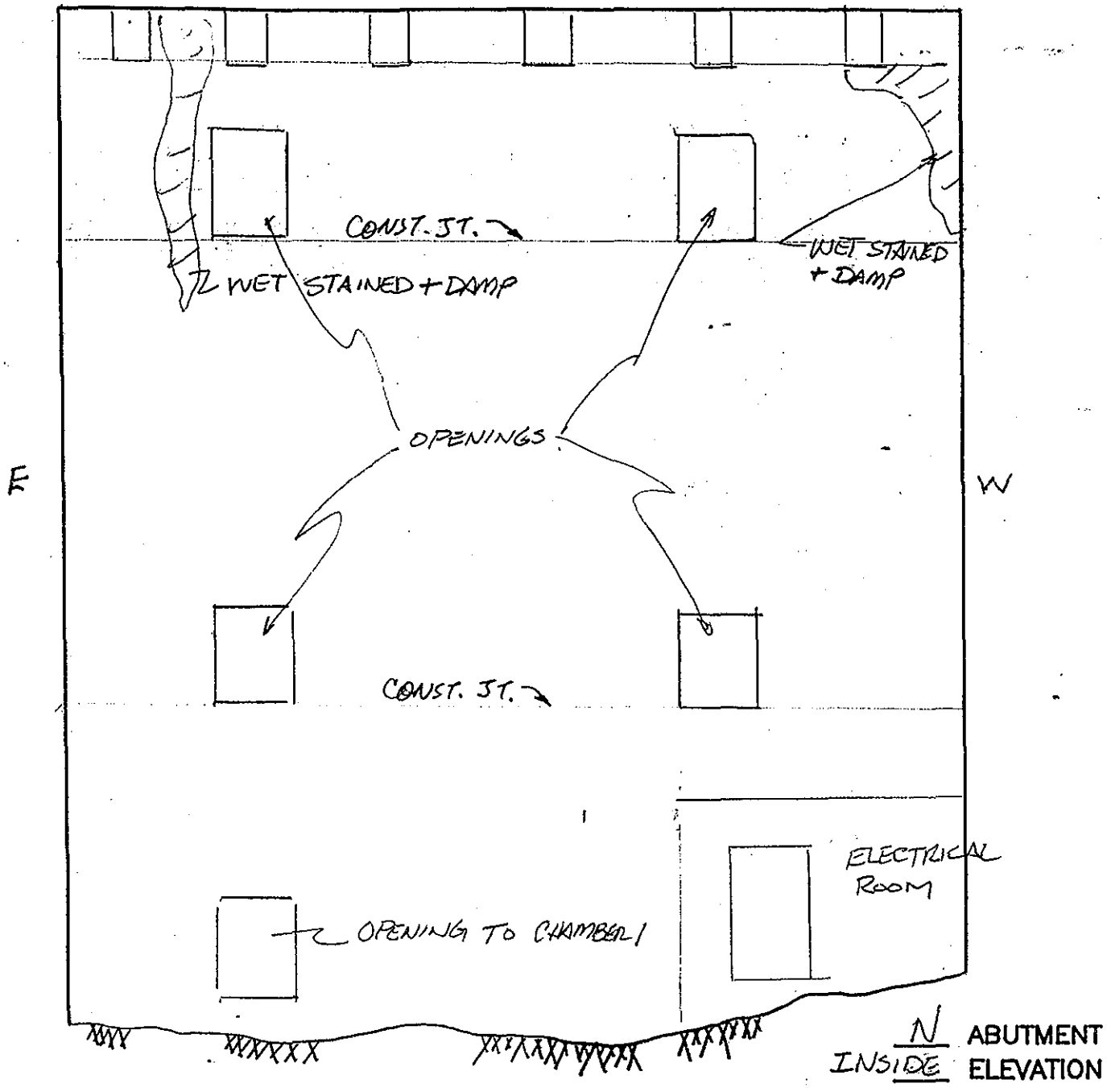

CHAMBER 2
SOUTH WALL ELEVATION

NOTES - GENERALLY IN GOOD CONDITION, LEAKAGE THRU DECK JOINTS @ TOP OF WALL STAINING AS SHOWN

SUBSTRUCTURE	
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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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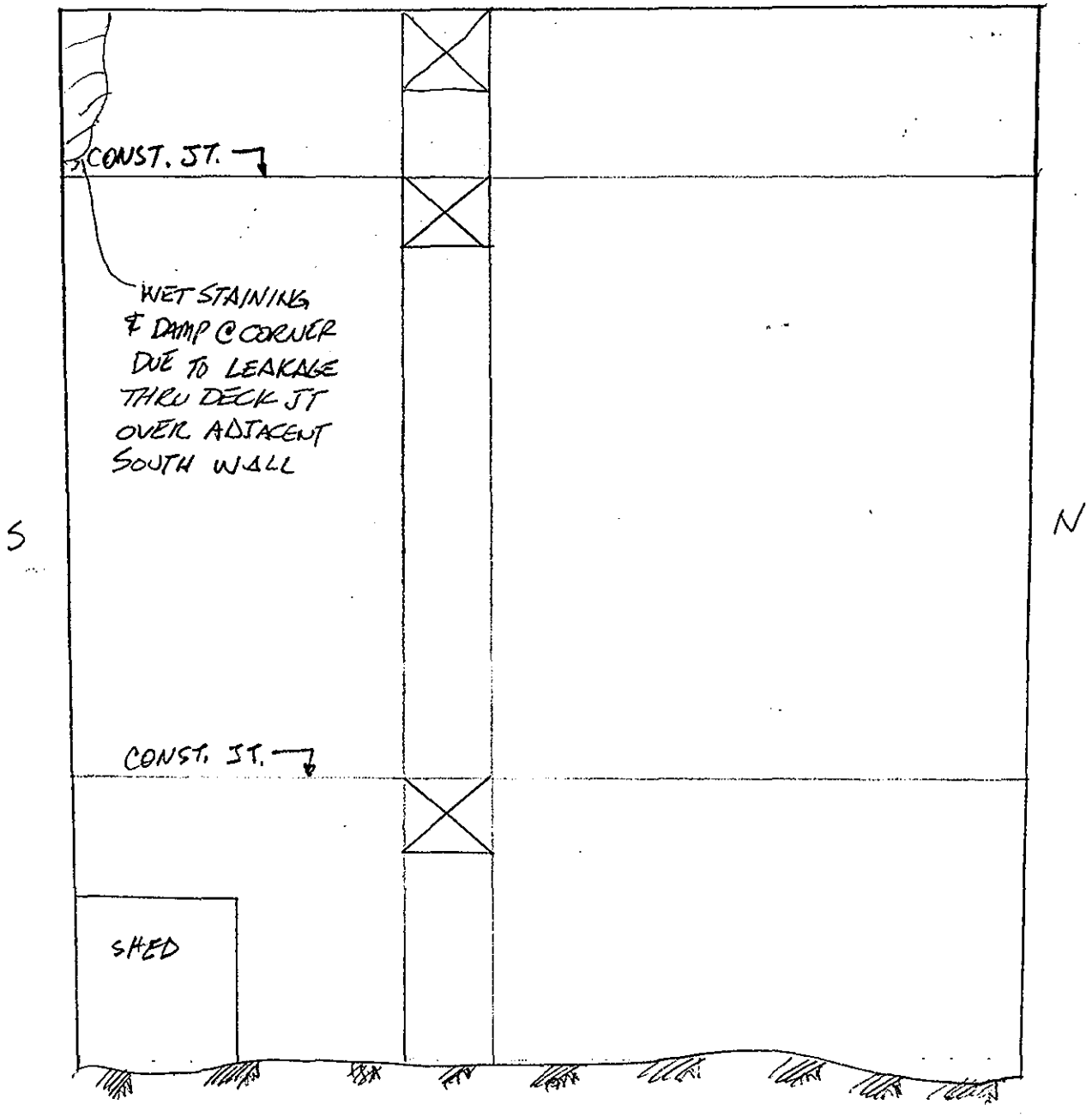

NORTH ABUTMENT

CHAMBER 2 - WEST WALL
INSIDE ELEVATION

NOTES: GENERALLY IN GOOD CONDITION WITH SOME DAMP WET STAINING IN CORNER AS NOTED.

NORTH ABUTMENT (INSIDE) CHAMBER 2	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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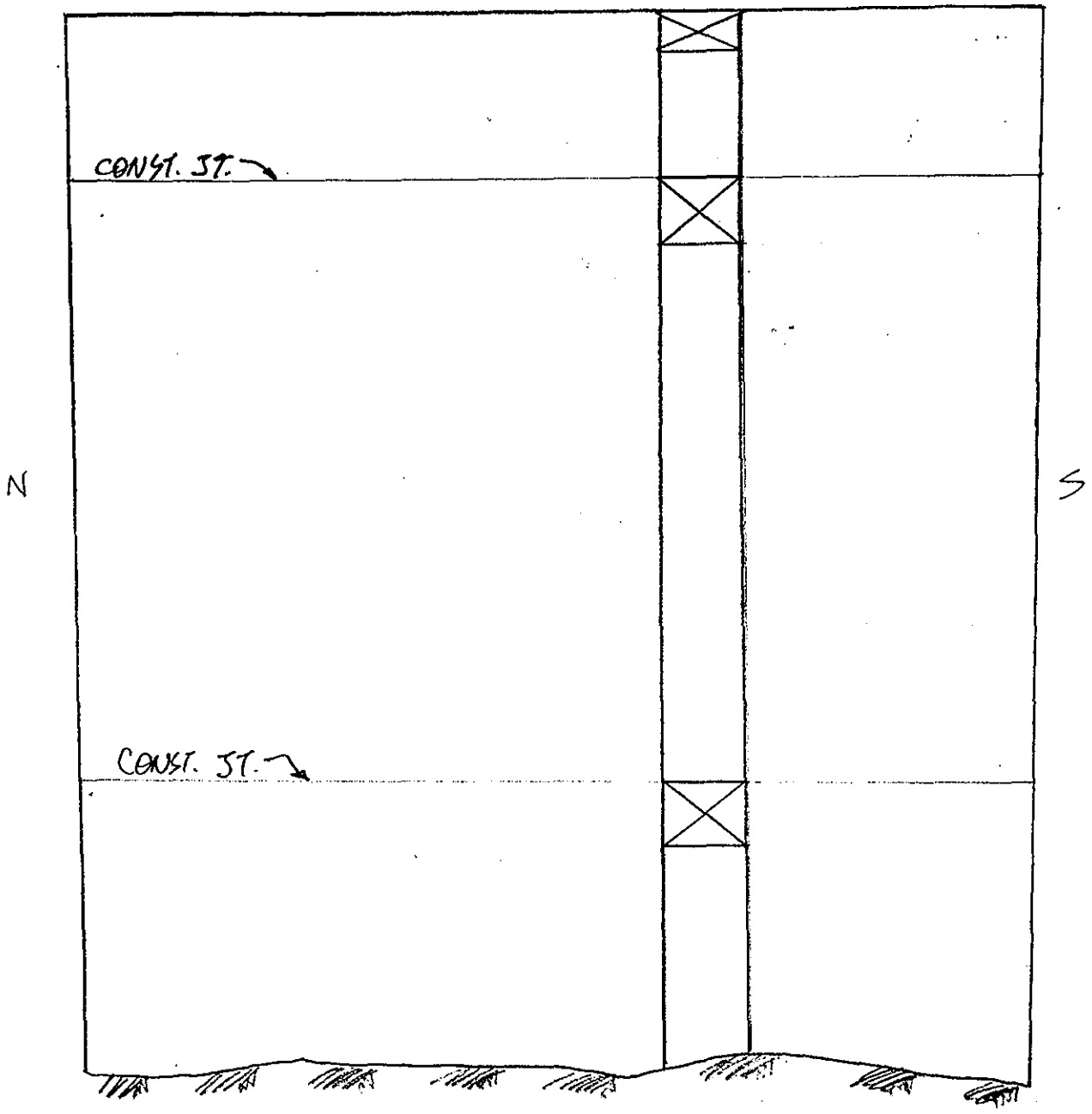
JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 6 OF 9

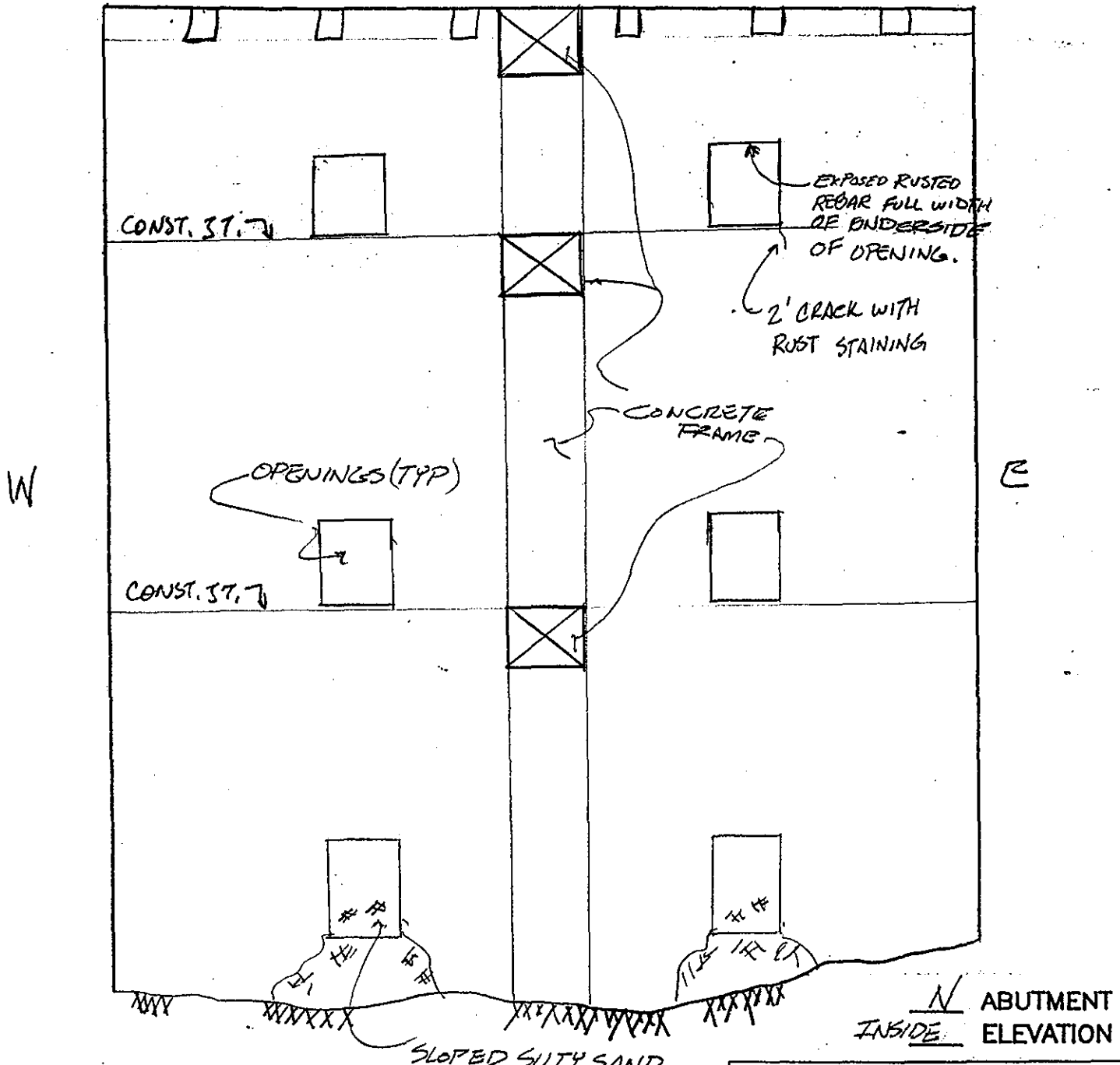


CHAMBER 2

EAST WALL ELEVATION

NOTES: GOOD CONDITION - NO DETERIORATION NOTED.

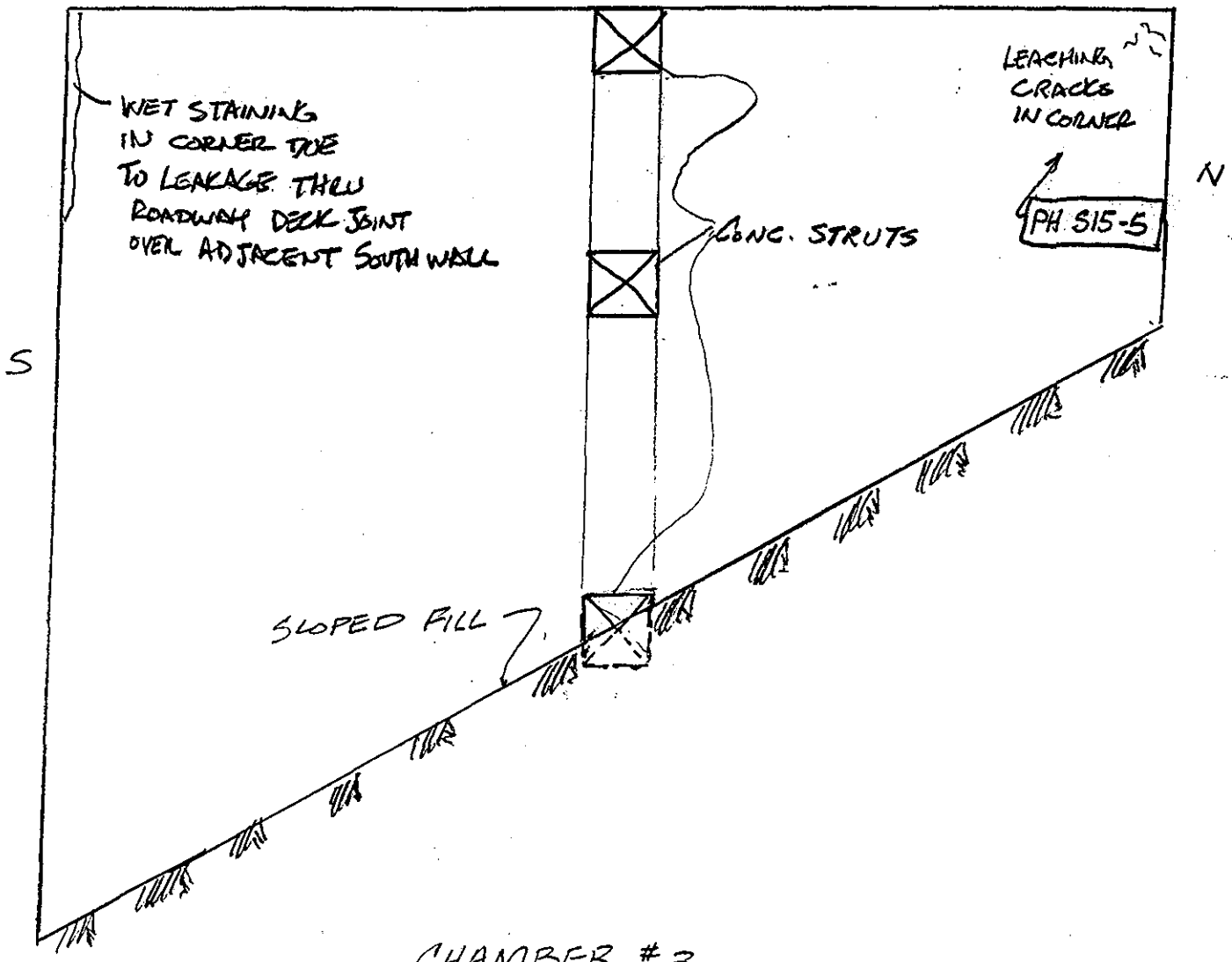
NORTH ABUTMENT (INSIDE) CHAMBER 2	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 7 OF 9



CHAMBER 2
NORTH WALL ELEVATION

NOTES - GENERALLY IN GOOD CONDITION EXCEPT AS NOTED

SUBSTRUCTURE	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 8 OF 9

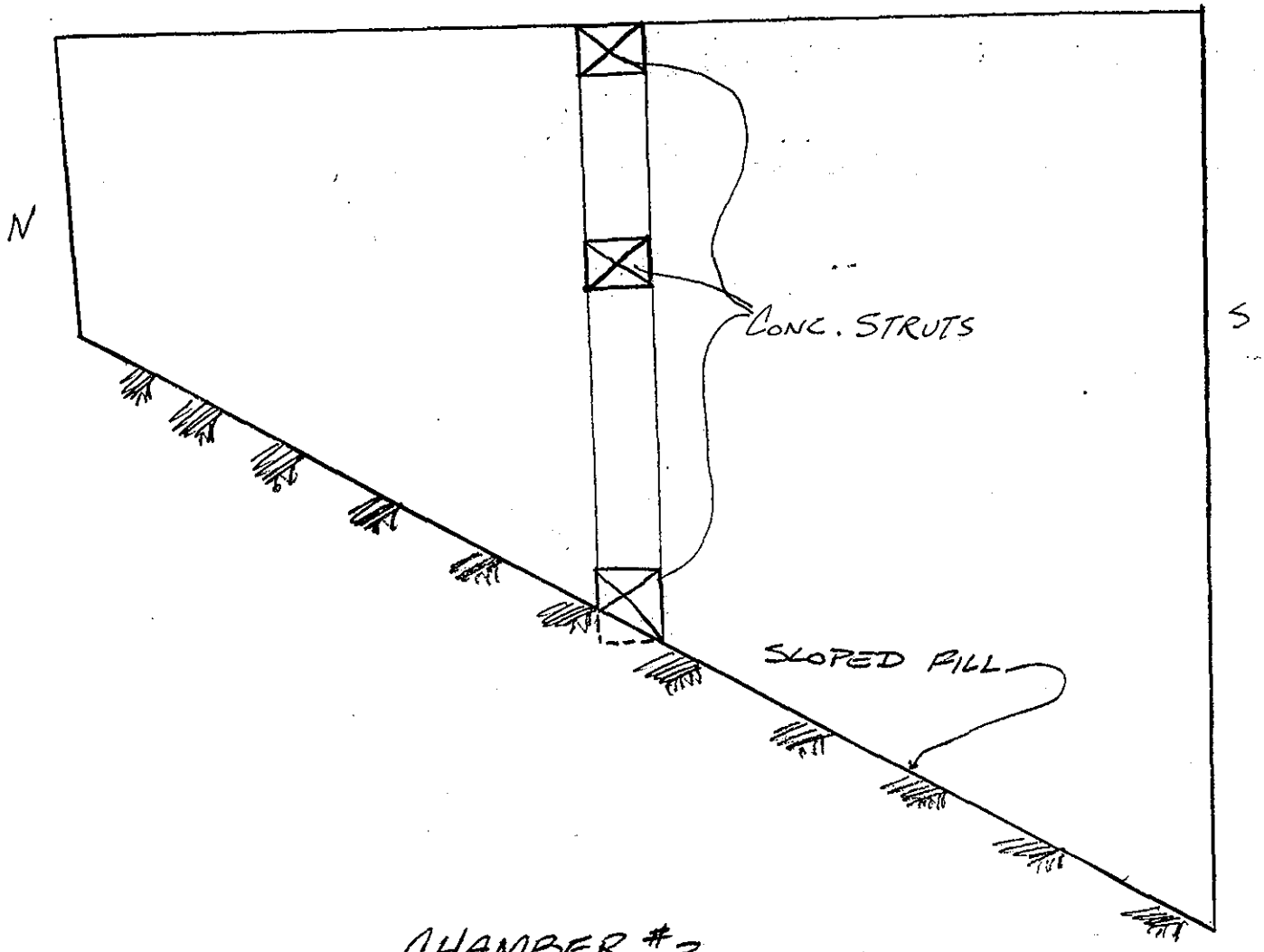


CHAMBER #3

ELEVATION OF WEST WALL

NOTES-
GENERALLY IN GOOD CONDITION WITH EXCEPTIONS NOTED.

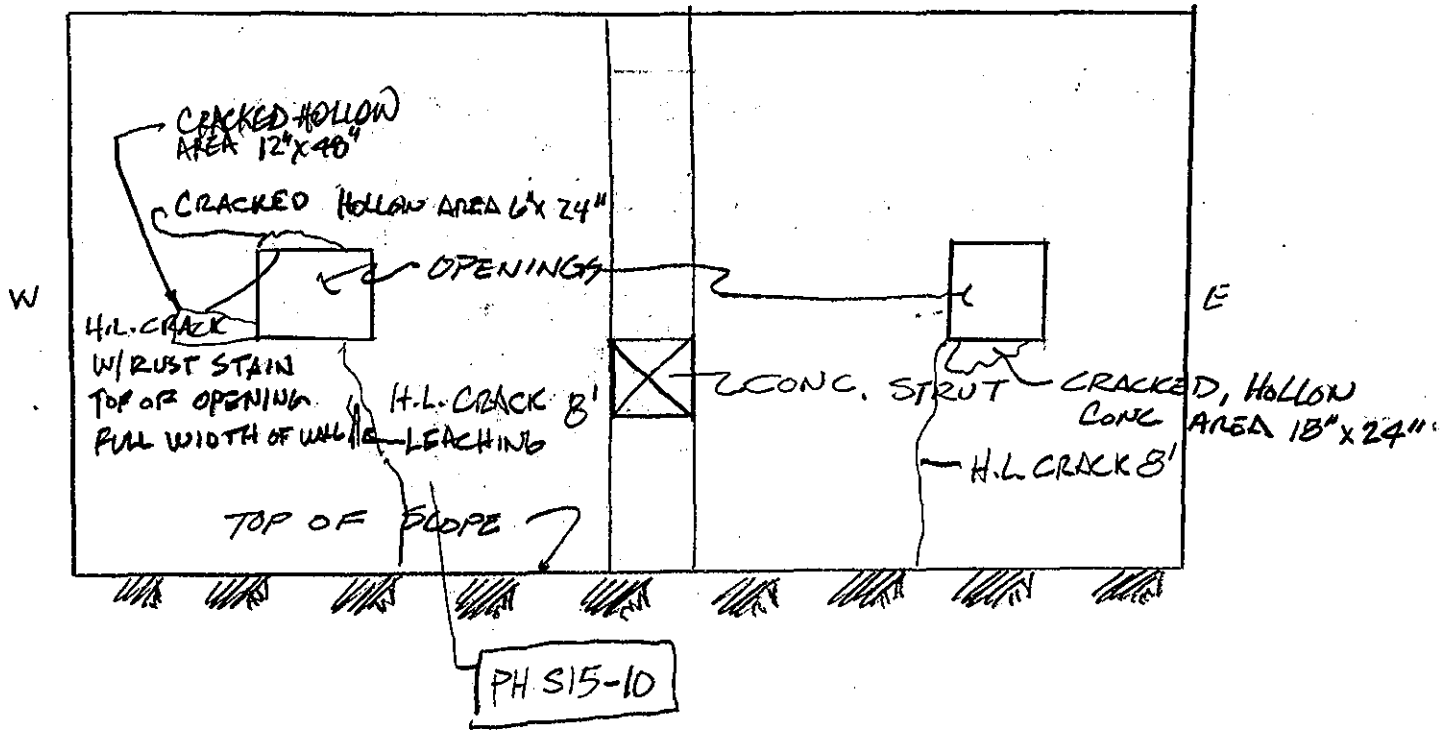
NORTH ABUTMENT INSIDE CHAMBER #3	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 1 OF 10



CHAMBER #3
ELEVATION OF EAST WALL

NOTES-
GENERALLY IN GOOD CONDITION
NO DETERIORATION NOTED.

NORTH ABUTMENT INSIDE CHAMBER 3	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 2 OF 10



CHAMBER #3

ELEVATION OF NORTH WALL

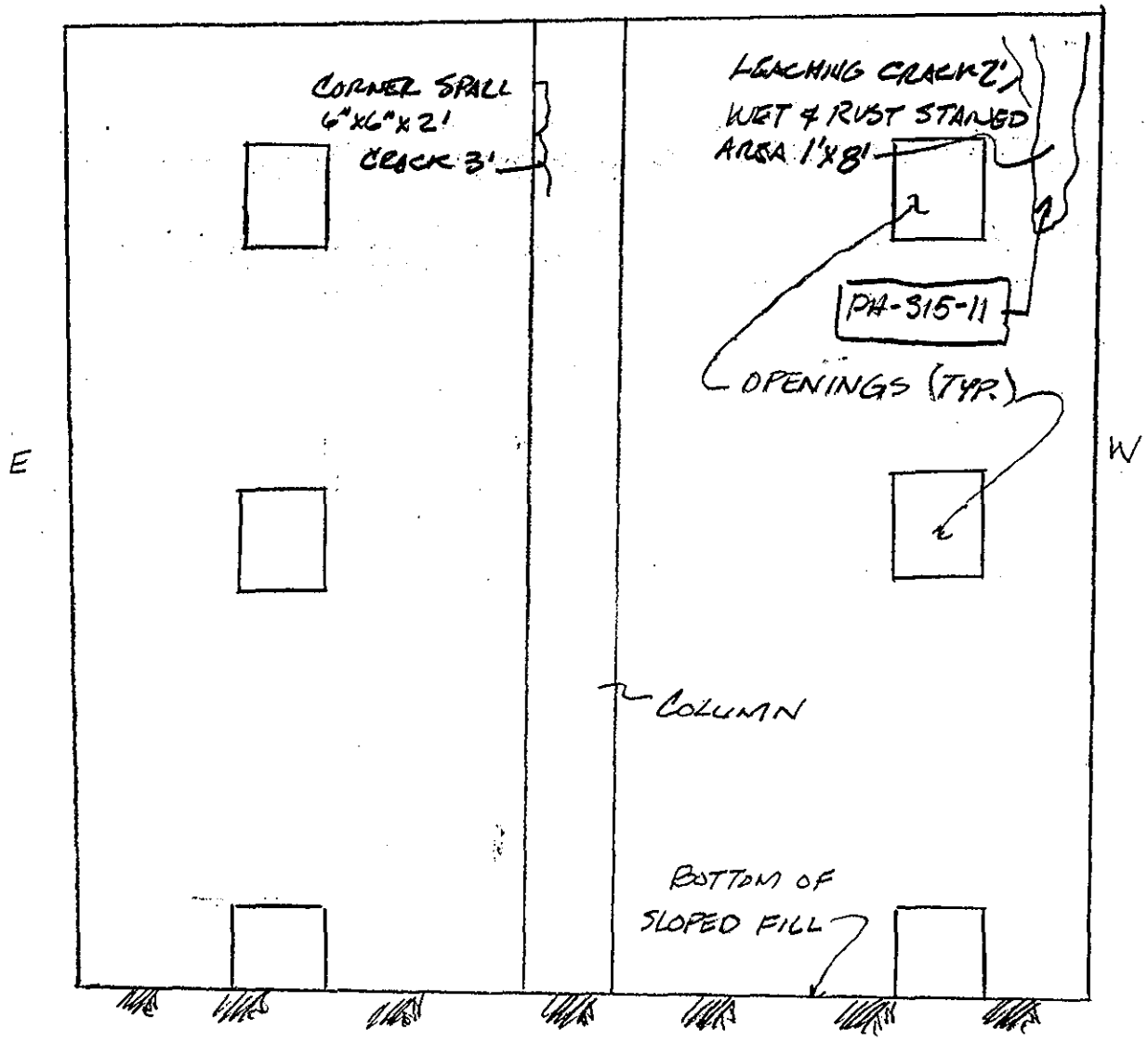
NORTH ABUTMENT INSIDE CHAMBER #3

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 3 OF 10



CHAMBER #3

ELEVATION OF SOUTH WALL

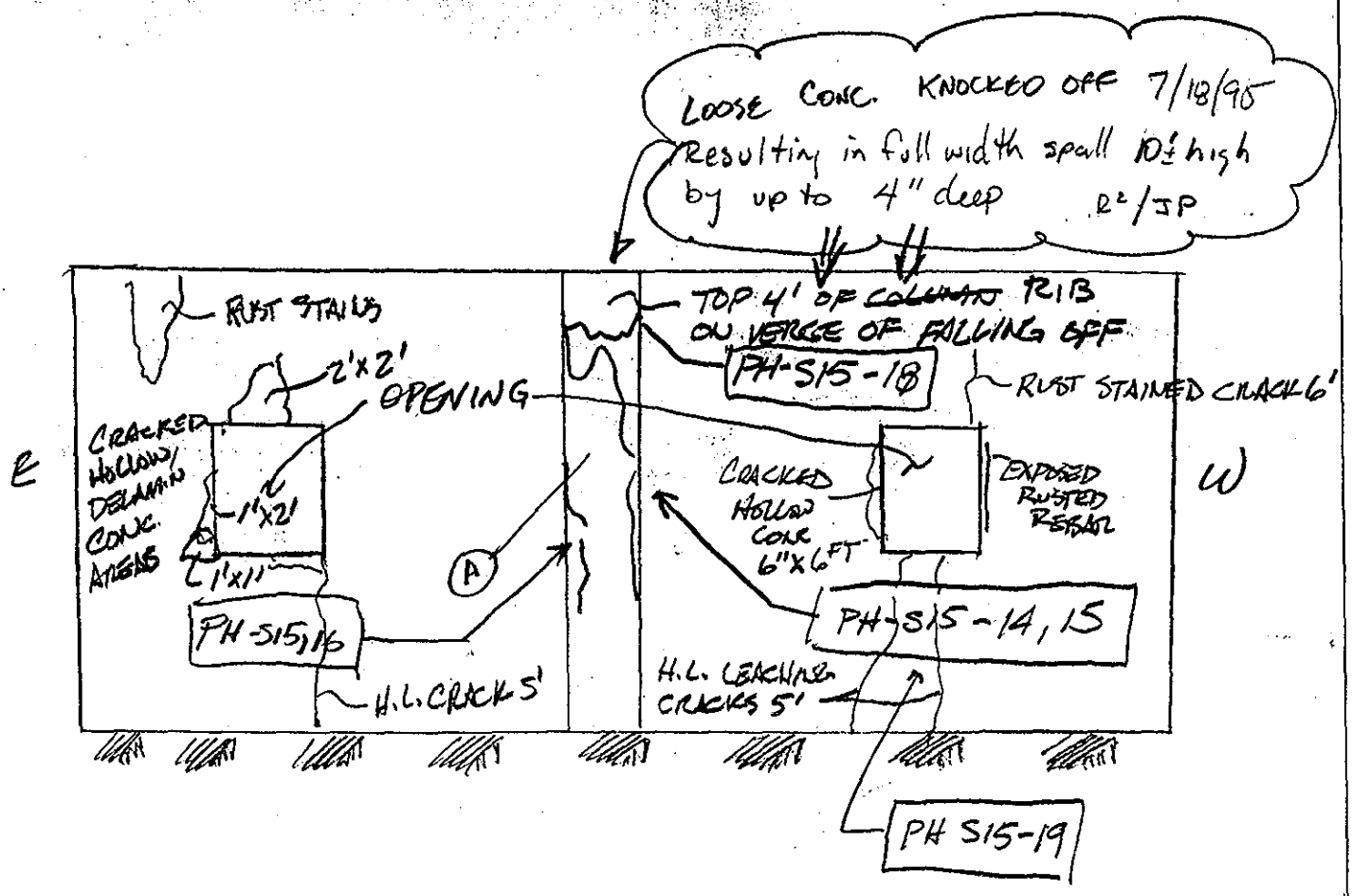
NORTH ABUTMENT
INSIDE CHAMBER #3

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE:
CREW: JP/KM	SHEET 4 OF 10



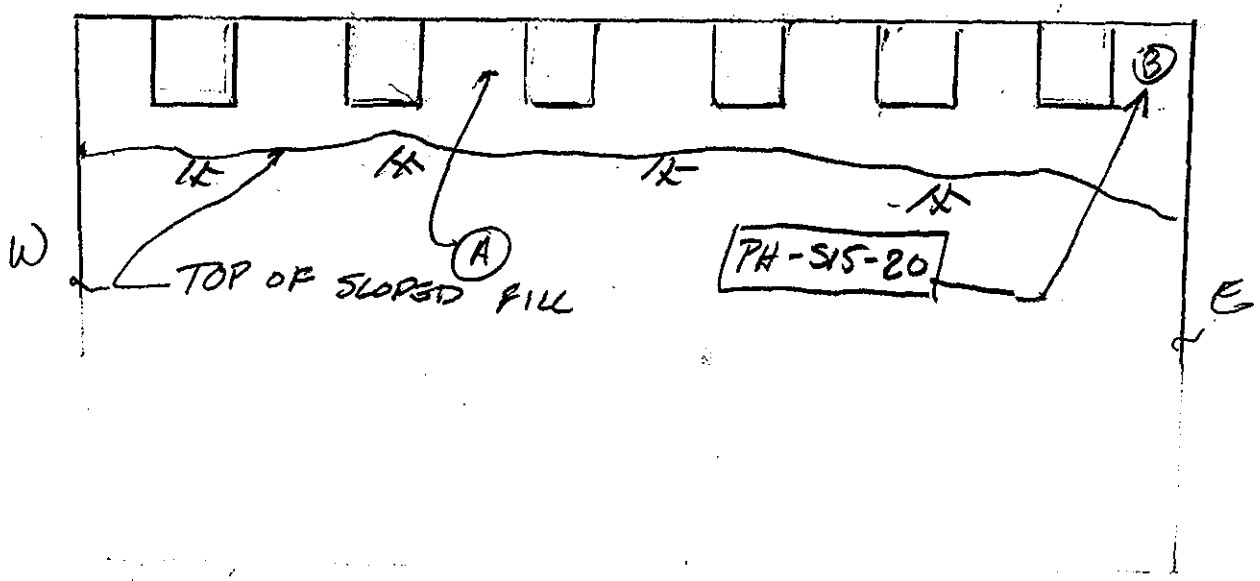
CHAMBER #4

ELEVATION OF SOUTH WALL

NOTES

(A) CONC. COLUMN IN WALL IS HEAVILY CRACKED WITH HOLLOW DELAMINATING CONCRETE THE ENTIRE HEIGHT (15 FT) OF COLUMN. CRACK WIDTH UP TO 1", DELAMINATION UP TO 6" DEEP

NORTH ABUTMENT INSIDE CHAMBER #4	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 7 OF 10



CHAMBER #4

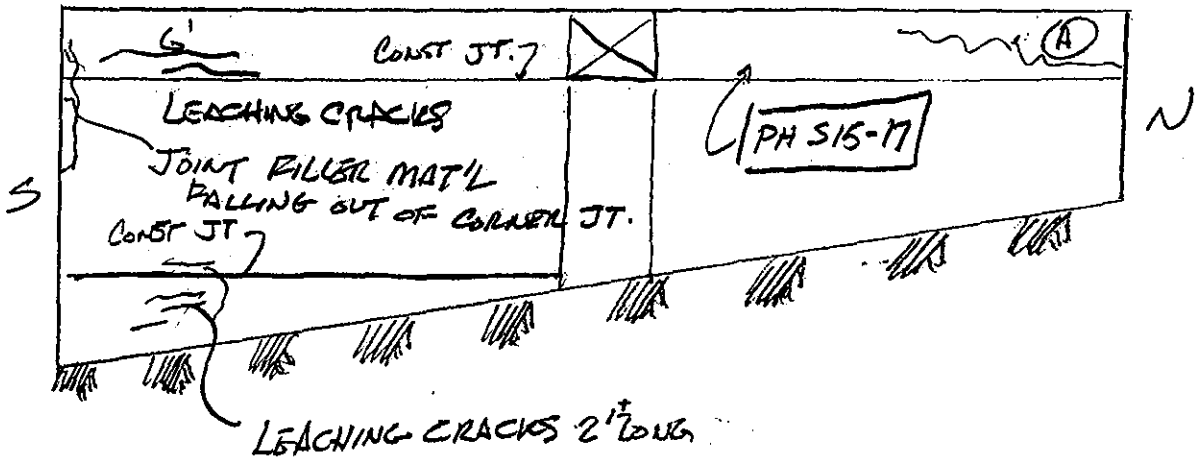
ELEVATION OF NORTH WALL

NOTES

(A) LEACHING THRU BACKWALL BETWEEN T-BEAMS.

(B) RUSTED ELECTRICAL BOX FOR ENDPOST LIGHT LEACHING THRU WALL & SCAB.

NORTH ABUTMENT INSIDE CHAMBER #4	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: SP/KM	SHEET 8 OF 10



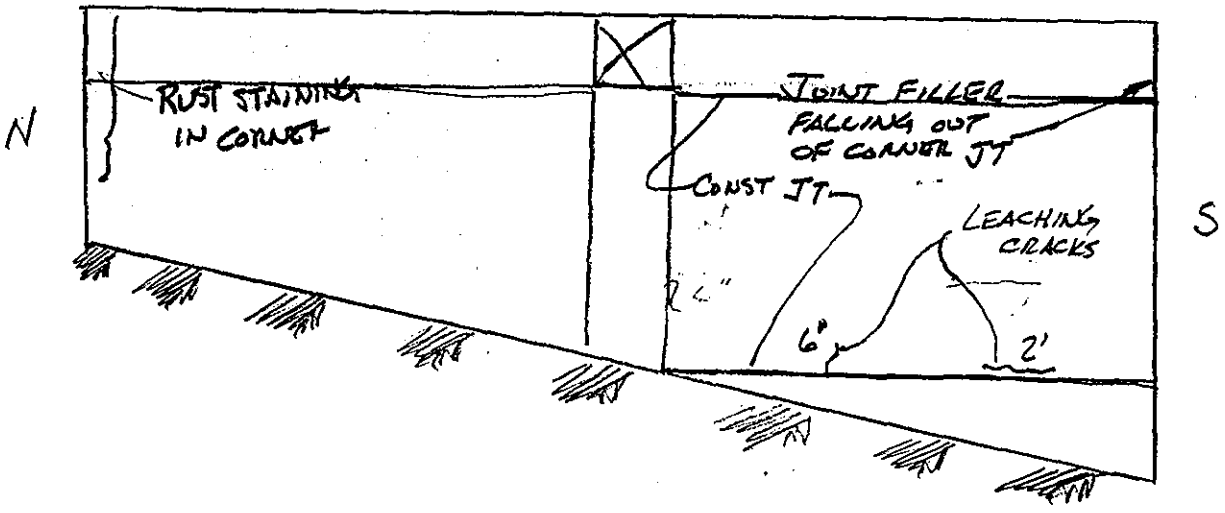
CHAMBER #4

ELEVATION OF WEST WALL

NOTES

(A) LEACHING AT TOP OF WALL

NORTH ABUTMENT INSIDE CHAMBER #4	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 1-17-95
CREW: JP / KM	SHEET 9 OF 10



CHAMBER #4

ELEVATION OF EAST WALL

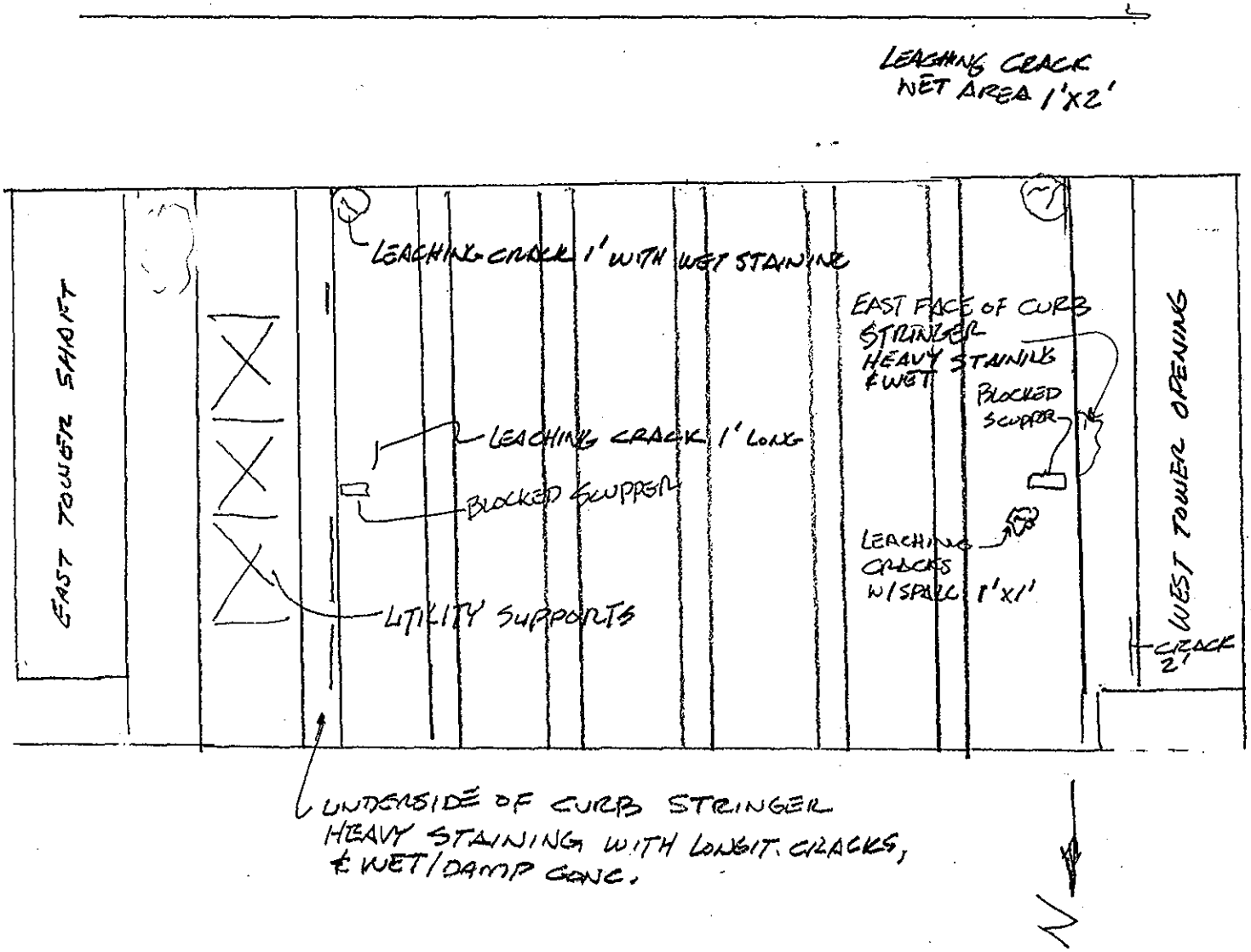
NORTH ABUTMENT
INSIDE CHAMBER #4

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

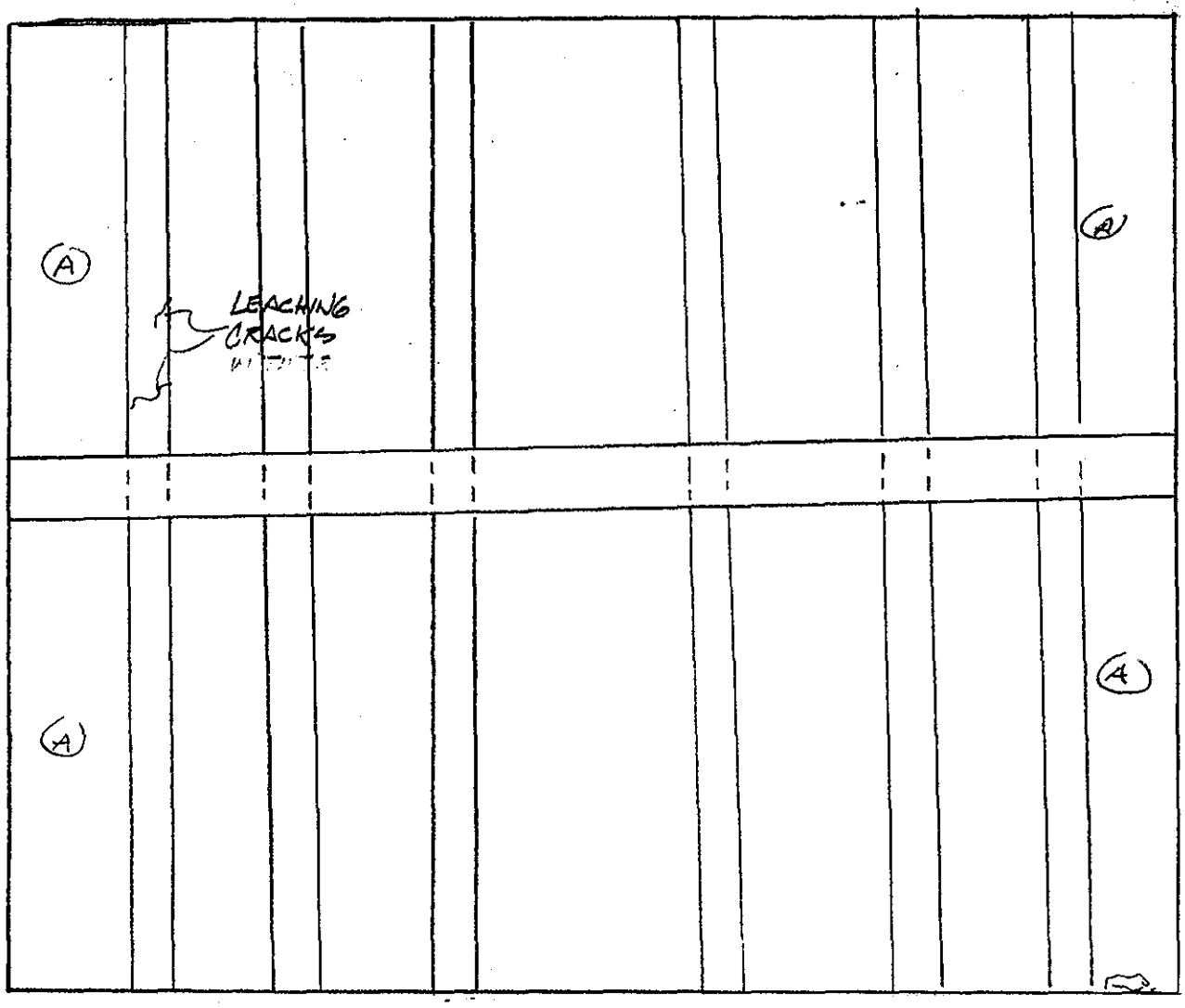
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 10 OF 10



NORTH ABUTMENT

CHAMBER 1 - UNDERSIDE OF DECK

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-14-95
CREW:	SHEET 4 OF 9



DAMP WET STAINED WITH 1' LEACHING CRACK

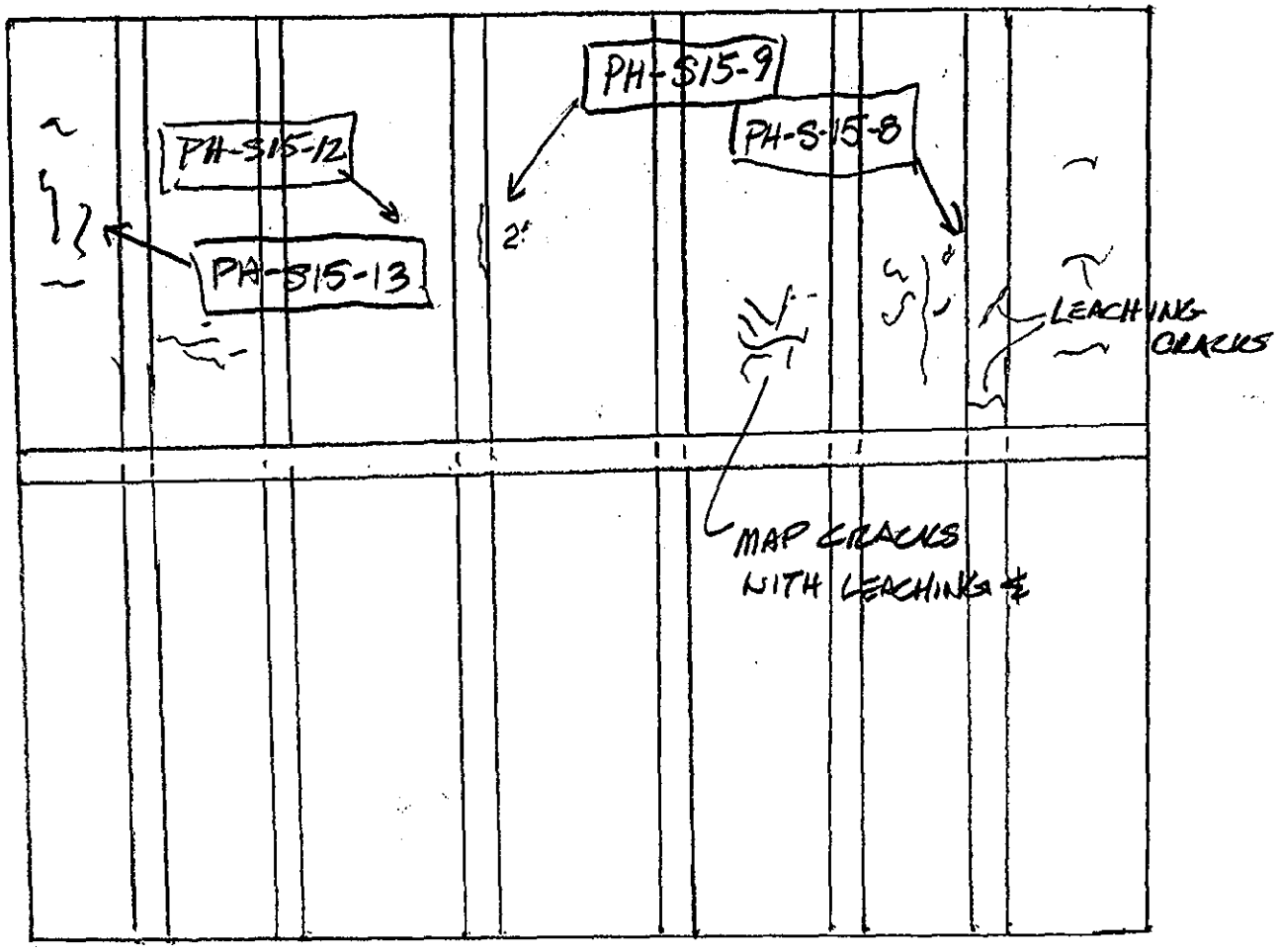
CHAMBER 2

UNDERSIDE OF DECK

NOTES:

(A) EXTERIOR BAYS STAINING & DISCOLORATION OF CONCRETE SLABS - POSSIBLE LEACHING THRU SLABS

NORTH ABUTMENT (INSIDE) CHAMBER 2	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 9 OF 9



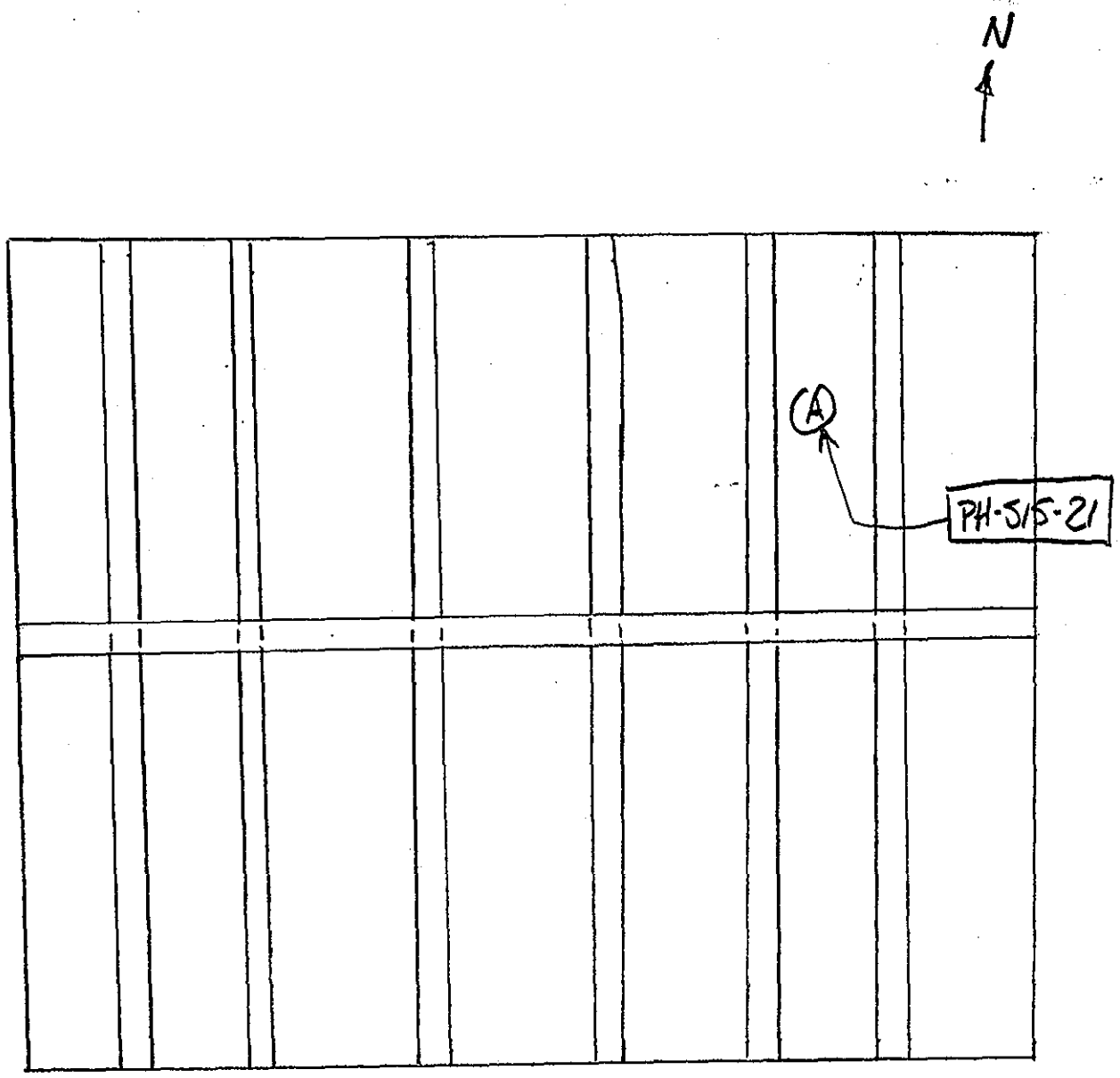
CHAMBER #3

UNDERSIDE OF DECK

NOTES-

GENERALLY MOST BAYS, MOST NOTABLY UNDER SIDEWALK & SAFETY WALK HAVE DISCOLORATION OF CONC WITH SOME LEACHING CRACKS

NORTH ABUTMENT INSIDE CHAMBER #3	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 5 OF 10



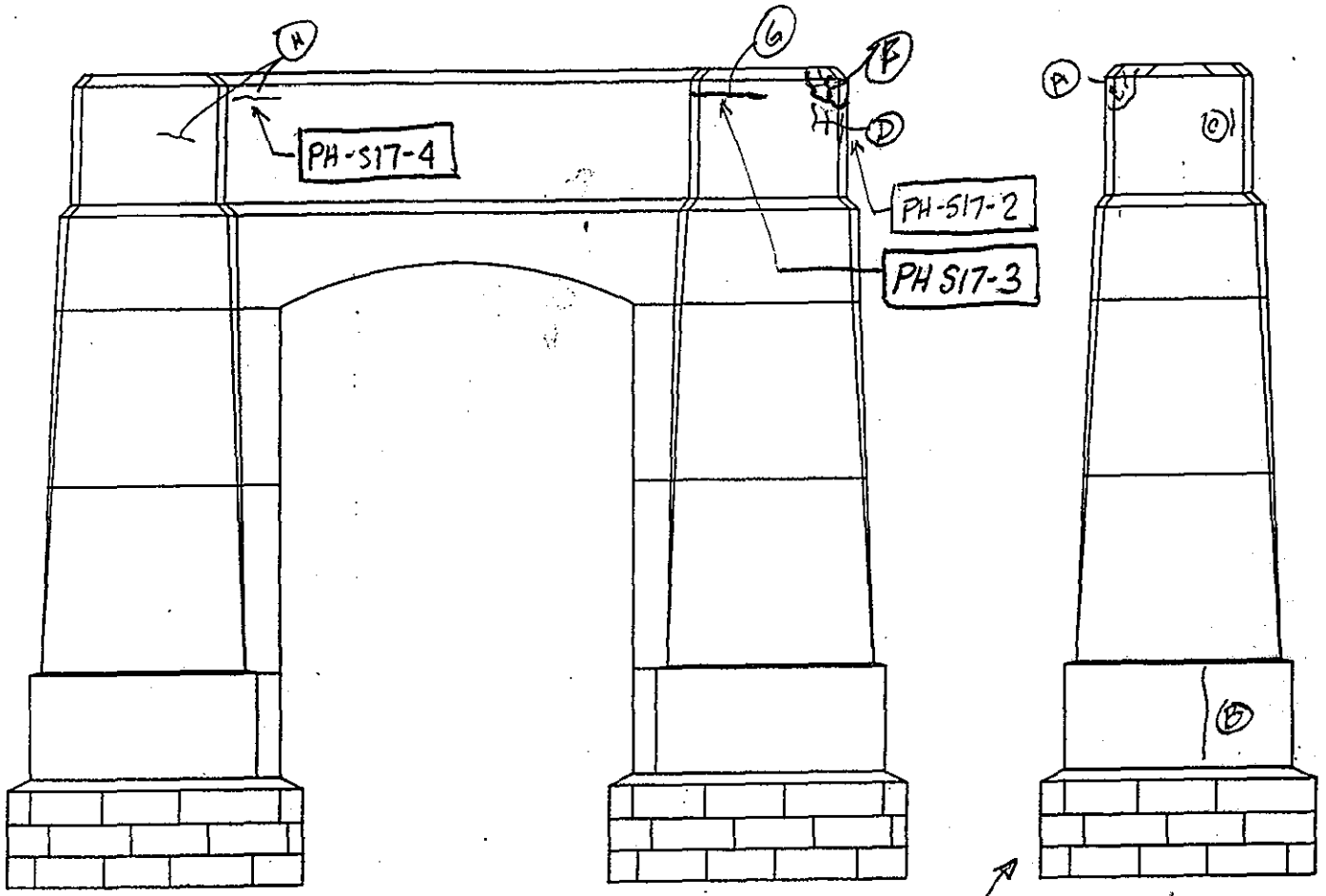
CHAMBER # 4

UNDERSIDE OF DECK

NOTES -

(A) HEAVY EFFLORESCENCE UNDERSIDE OF SLAB & T-BEAM WEBS TYPICAL - ESPECIALLY HEAVY ON NORTHERN HALF OF UNDERSIDE OF DECK

NORTH ABUTMENT INSIDE CHAMBER # 4	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-17-95
CREW: JP/KM	SHEET 6 OF 10



S PIER
S ELEVATION

PH-S14-20,21 XV ELEVATION

NOTES:

(A) CRACKED, LEACHING PATCH
(B) VERTICAL HAIRLINE CRACK 6 FT LONG
(C) LEACHING CRACK 1 FT LONG
(D) LEACHING CRACKS WITH EFFLORESCENCE MAX LENGTH 18"
(F) PATCH AREA 1'x2' @ TOP CORNER WITH MAP CRACKING PH-S17-2
(G) HORIZ. CRACK 4' LONG PH-S17-3
(H) HORIZ - CRACKS 1' LONG PH-S17-4

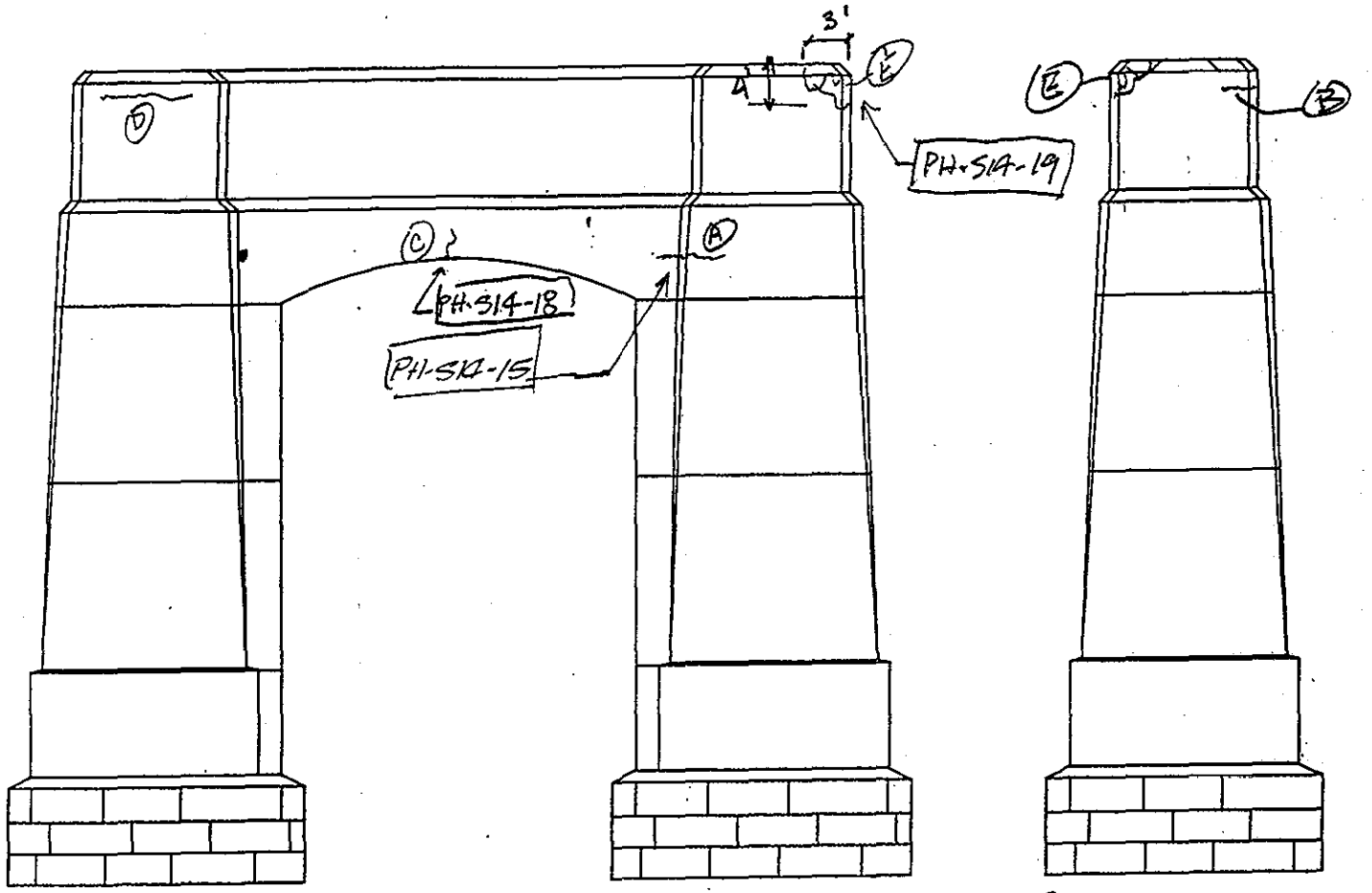
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 4 OF 4



S PIER
N ELEVATION

PH S14-13

PH-S14-16,17

E ELEVATION

NOTES:

(A) HORIZ CRACK 6FT LONG
(B) LEACHING CRACK @ TOP N.E. CORNER 2FT LONG
(C) TRANSVERSE CRACK UNDERSIDE OF ARCH FULL WIDTH PH-S14-18
(D) HORIZ. CRACK 6FT LONG
(E) CRACKED LEACHING PATCHES PH-S14-19

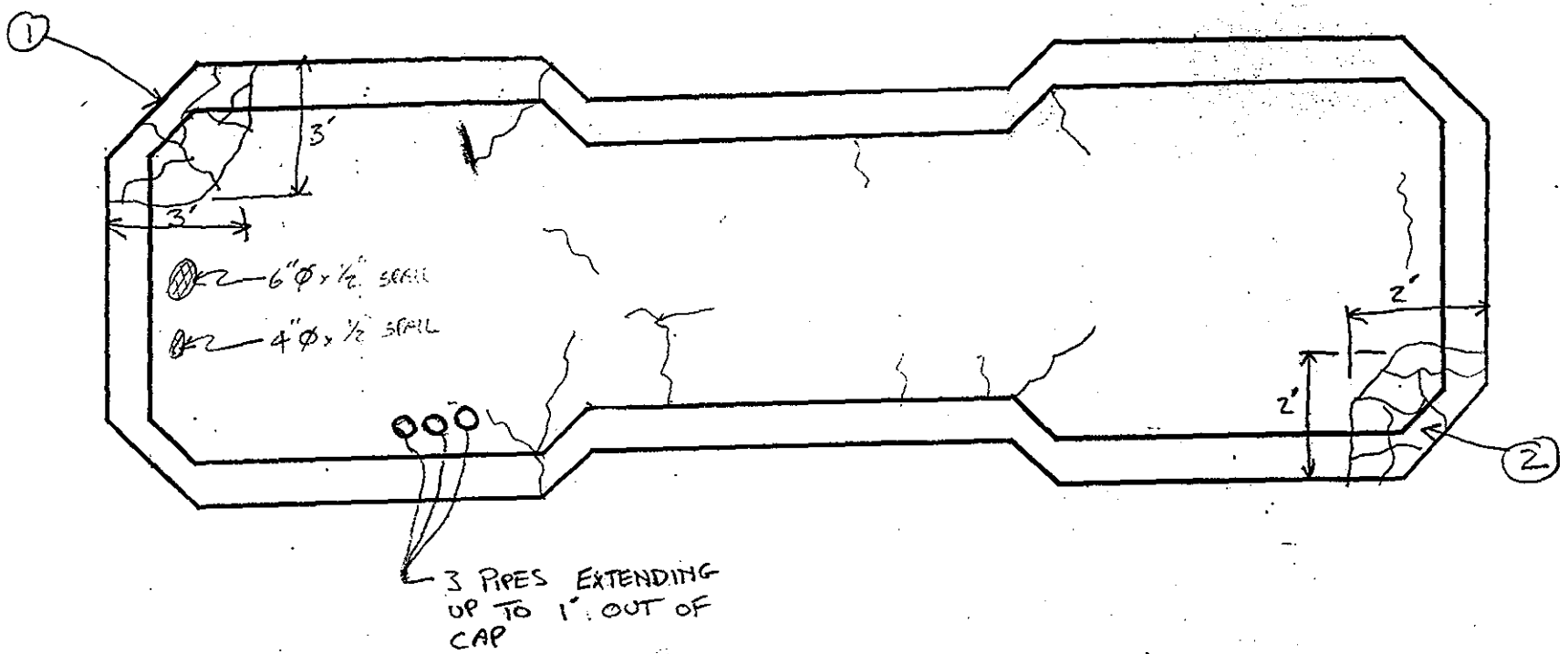
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-14-95
CREW: JP/KM | SHEET 3 OF 4



LEGEND:

S HAIRLINE CRACK

SC HAIRLINE MAP CRACK

SOUTH PIER

NOTES: (1) HOLLOW MAP CRACKED PATCH READY TO SPALL 513-8

(2) HOLLOW MAP CRACKED PATCH 513-9

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

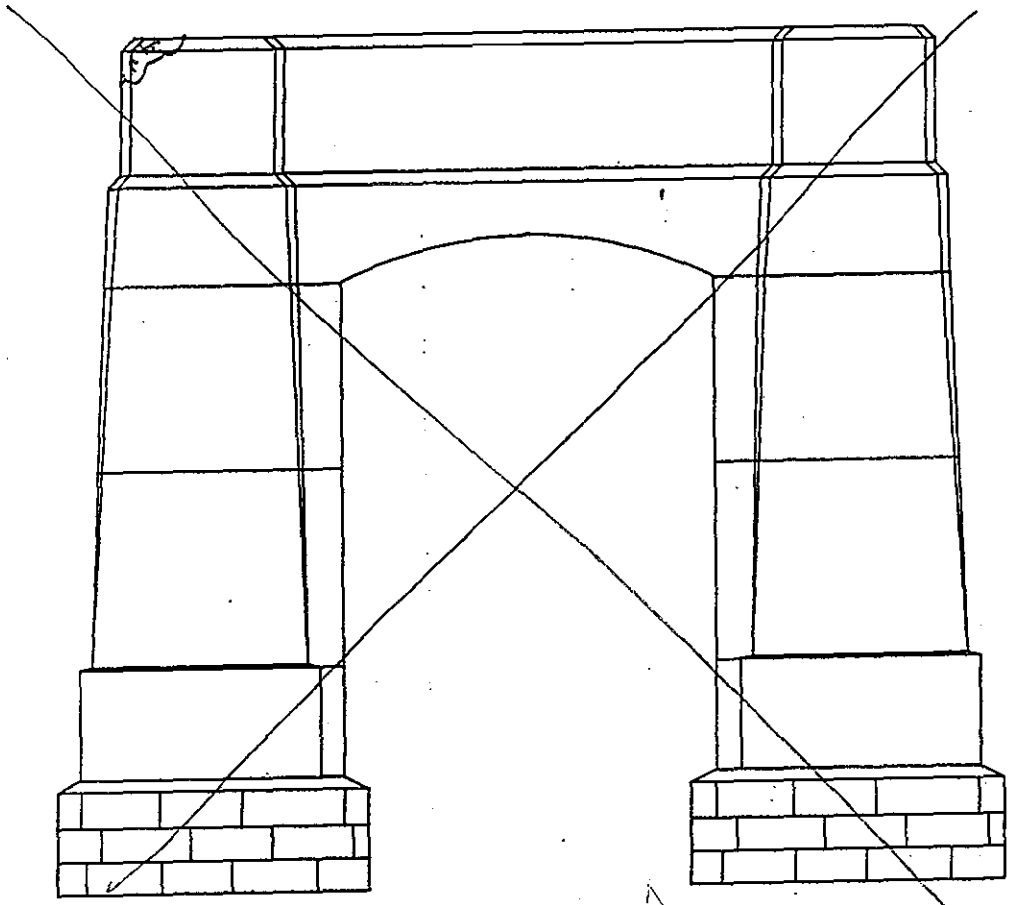
SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

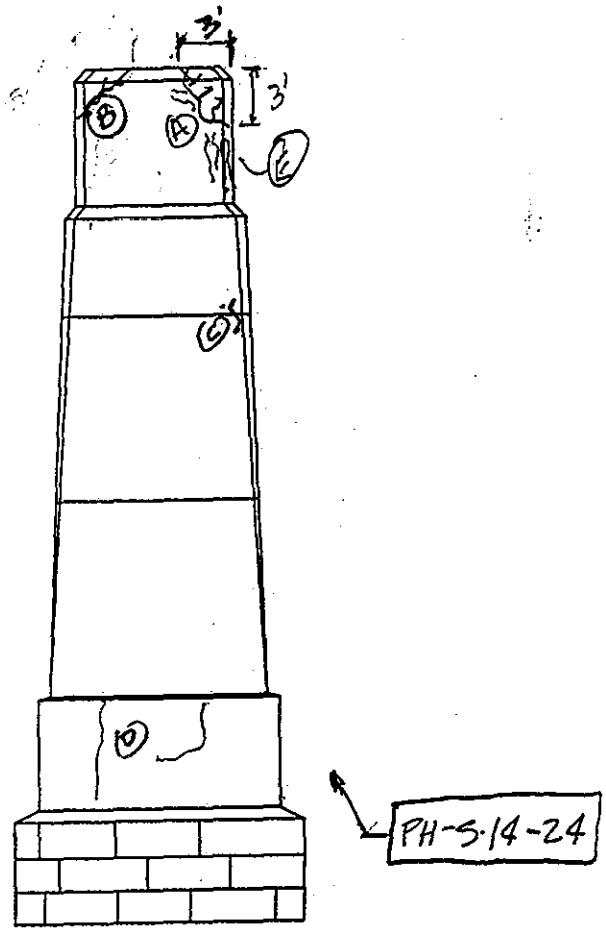
JOB #1784 | DATE: 7/13/95

CREW: PWN BH | SHEET 3 OF 3

38
134



N PIER
S ELEVATION



W ELEVATION

NOTES: FOR SOUTH EL. NOTES SEE SHT 1 OF 4
(A) CRACKED, LEACHING PATCH @ S.W. TOP CORNER
(B) LEACHING CRACK 3 FT LONG
(C) LEACHING CRACK 1 FT LONG
(D) HAIRLINE CRACKS 6 FT LONG APPEAR TO BE GROUTED
(E) HEAVY CRACKED, LEACHING AREA EXTENDS 5 FT BELOW CORNER PATCH, 2 FT WIDE.

SUBSTRUCTURE

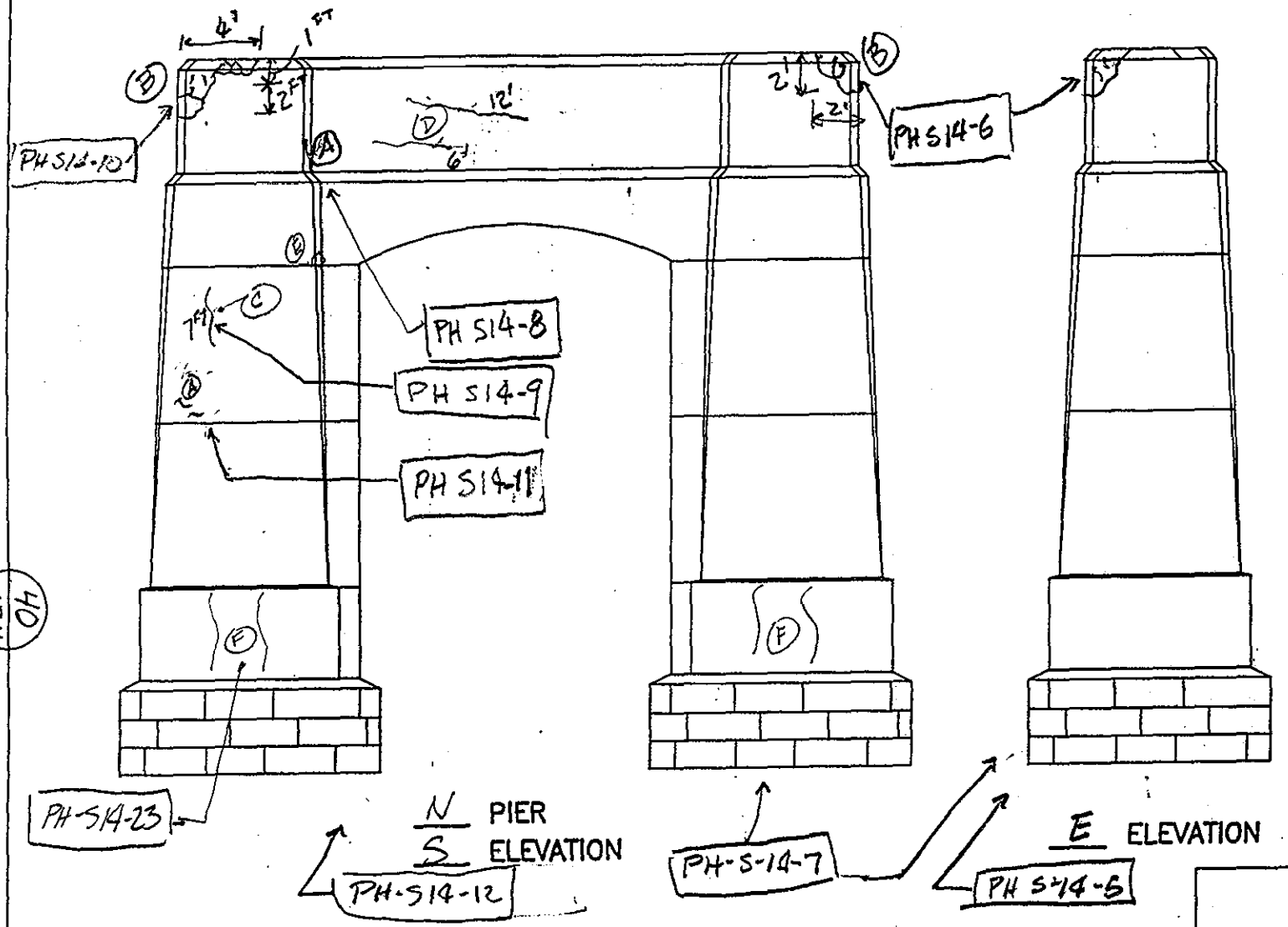
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-14-95
CREW: JP/KM	SHEET 2 OF 4

39 134



NOTES:

(A) LEACHING CRACKS 1 FT LONG
(B) CRACKED, LEACHING PATCHES @ CORNERS
(C) VERTICAL CRACK IN SOUTH FACE OF WEST COL. 7 FT LONG
(D) 2 HORIZ. CRACKS IN TOP OF PIER 6 & 12 FT. LONG.
(E) CORNER SPALL 3" x 6" x 1"
(F) HAIRLINE CRACKS 6 FT LONG APPEAR TO BE GROUTED: PH S14-24

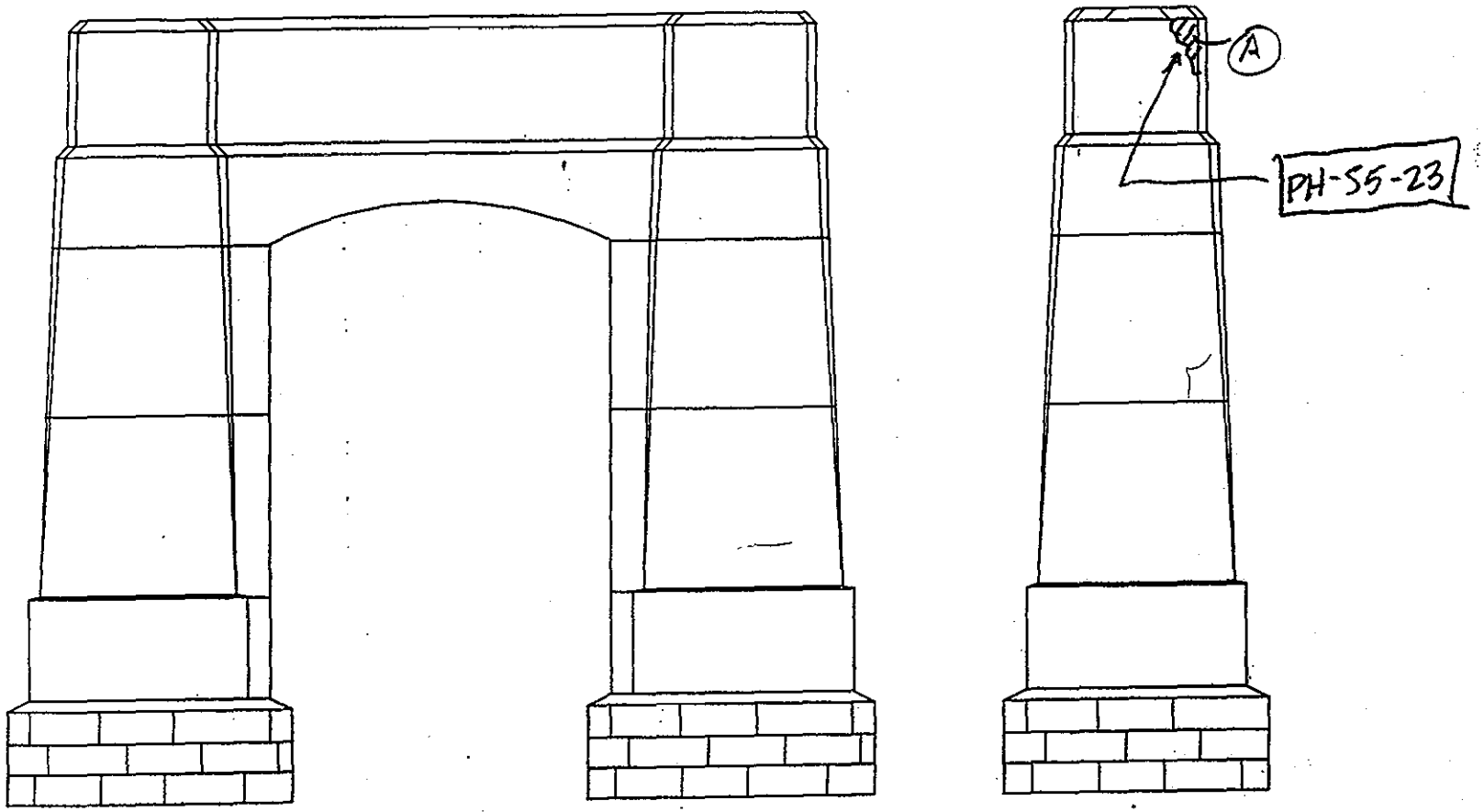
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7-14-95
CREW: JP/KM | SHEET 1 OF 4



N PIER 2
N ELEVATION
PH-55-21

W ELEVATION
PH-55-22

NOTES:

NORTH ELEV. - GOOD CONDITION SEE PHOTO PH-55-21

(A) WEST ELEV. - CORE REPAIR @ S.W. TOP CORNER - MAP CRACKING WITH EFFLORESCENCE SEE ELEVATION PHOTO PH-55-22 & DETAIL PHOTO PH-55-23

SUBSTRUCTURE

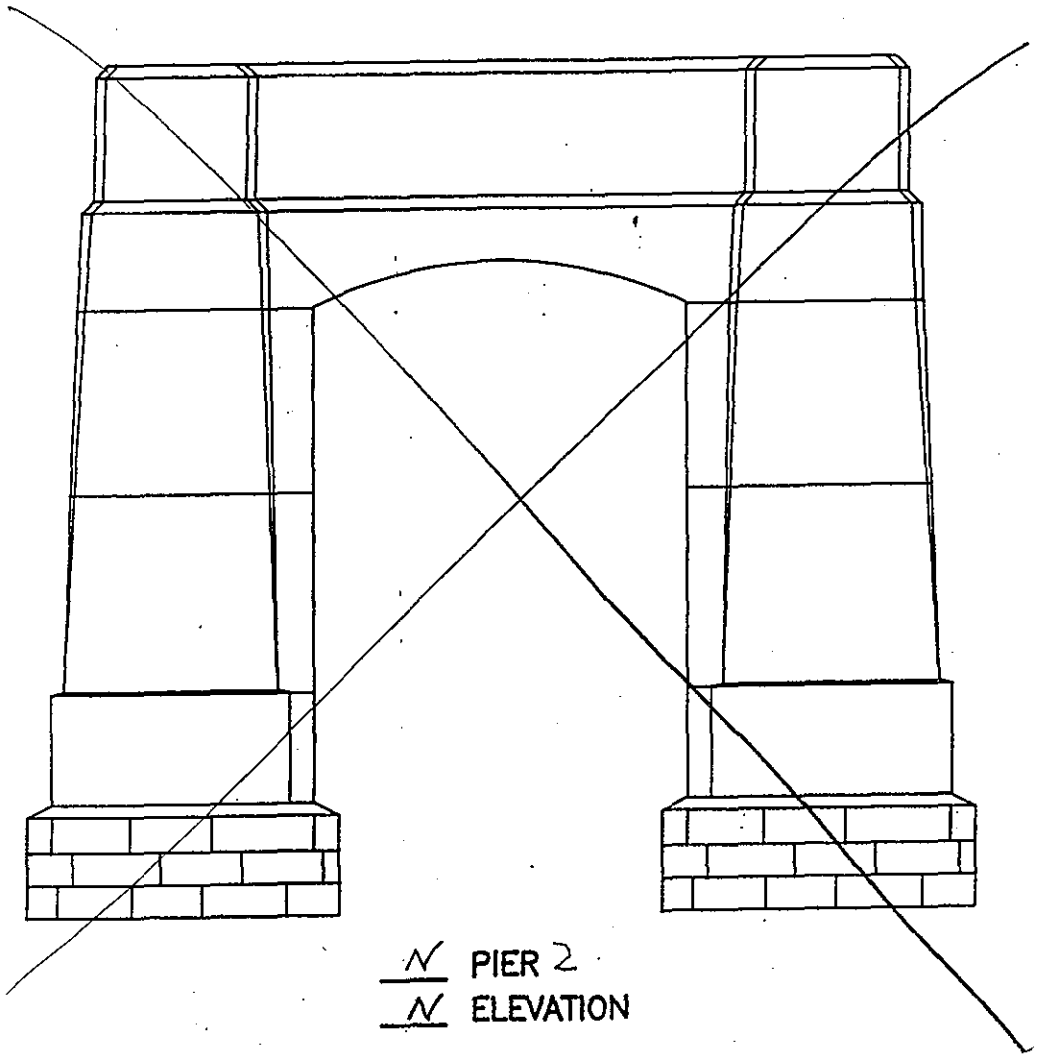
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

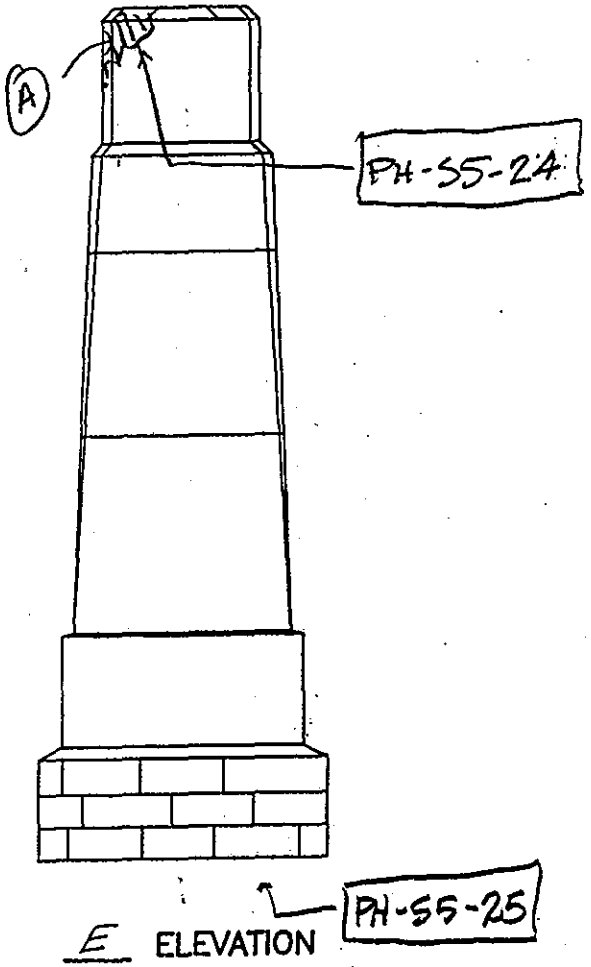
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-11-95
CREW: JP/KM | SHEET 4 OF 5

H1 134



N PIER 2
N ELEVATION



E ELEVATION

NOTES:

NORTH ELEVATION SHOWN ON SHEET 4 OF 5

(A) EAST ELEVATION REPAIR AREA @ S.E. TOP CORNER OF PIER MAP CRACKING WITH EFFLORESCENCE PH-55-24

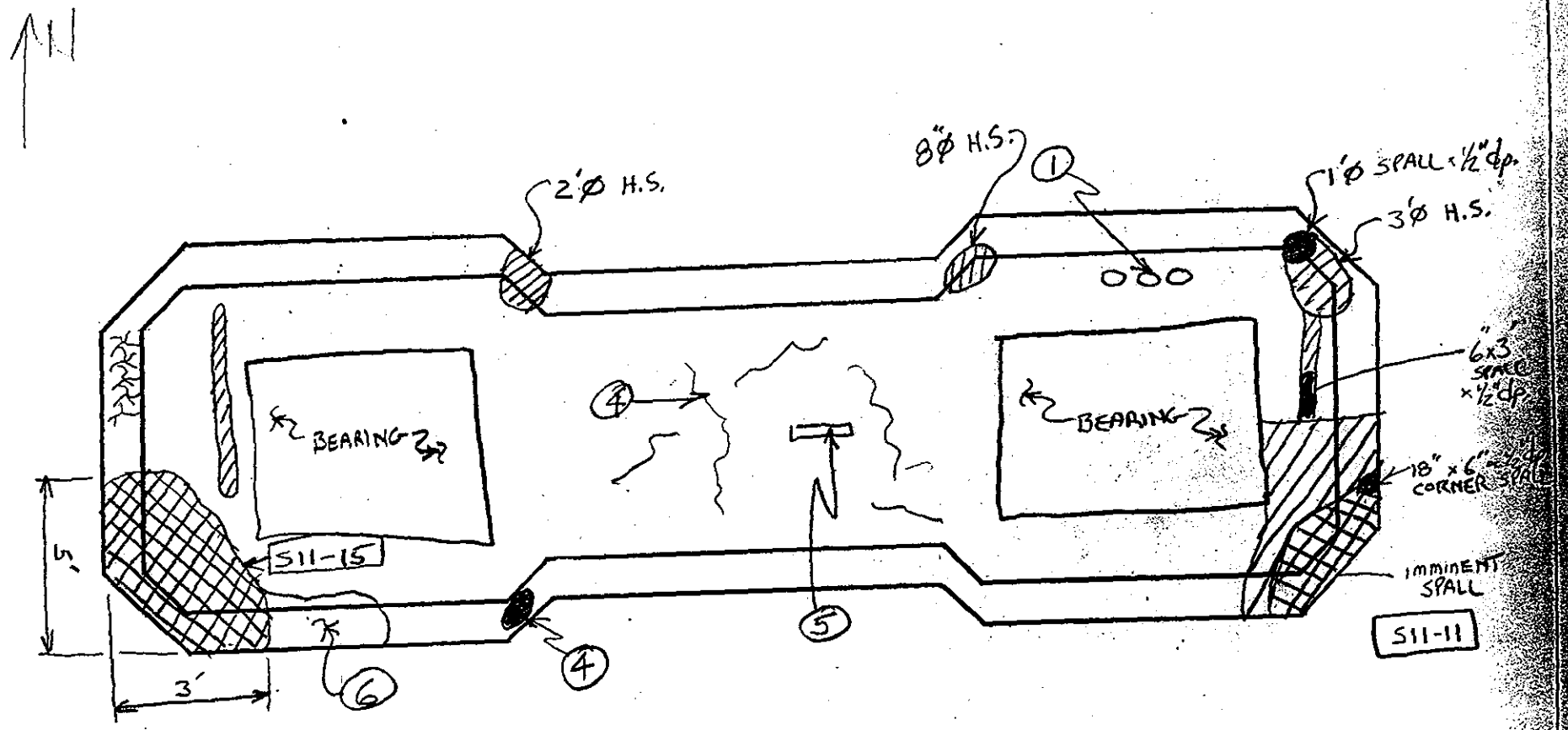
SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-11-95
CREW: JP/KM | SHEET 5 OF 5



KEY
- HAIRLINE MAP CRACKS
- HAIRLINE CRACK
- HOLLOW SOUNDING AREA (H.S.)
- HOLLOW SOUNDING + IMMENENT SPALL + MAP CRACKED
- SPALL

N. PIER 2

NOTES:

1. (3) - 6" UTILITY CONDUITS
2. 1/8" WIDE CRACK 10" LONG
3. H.L. CRACKS
4. 8" x 2" x 3/4" SPALL
5. 1 OF 8 LOOSE BOLTS ON LADDER SPLICE
6. 18" x 36" EXPOSED PATCH → SURFACE PATCH SPALLED OFF REVEALING ANOTHER MAP CRACKED PATCH BELOW

SUBSTRUCTURE

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/14/95

CREW: R², PWM, TF | SHEET 4 OF 6

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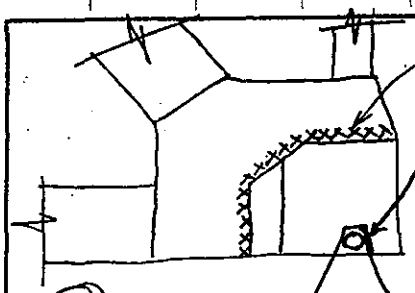
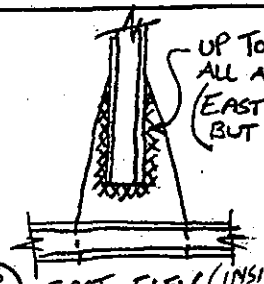
MAIN TRUSS MEMBERS



UP TO 1/8" PITTING, 1" HIGH OR WIDE

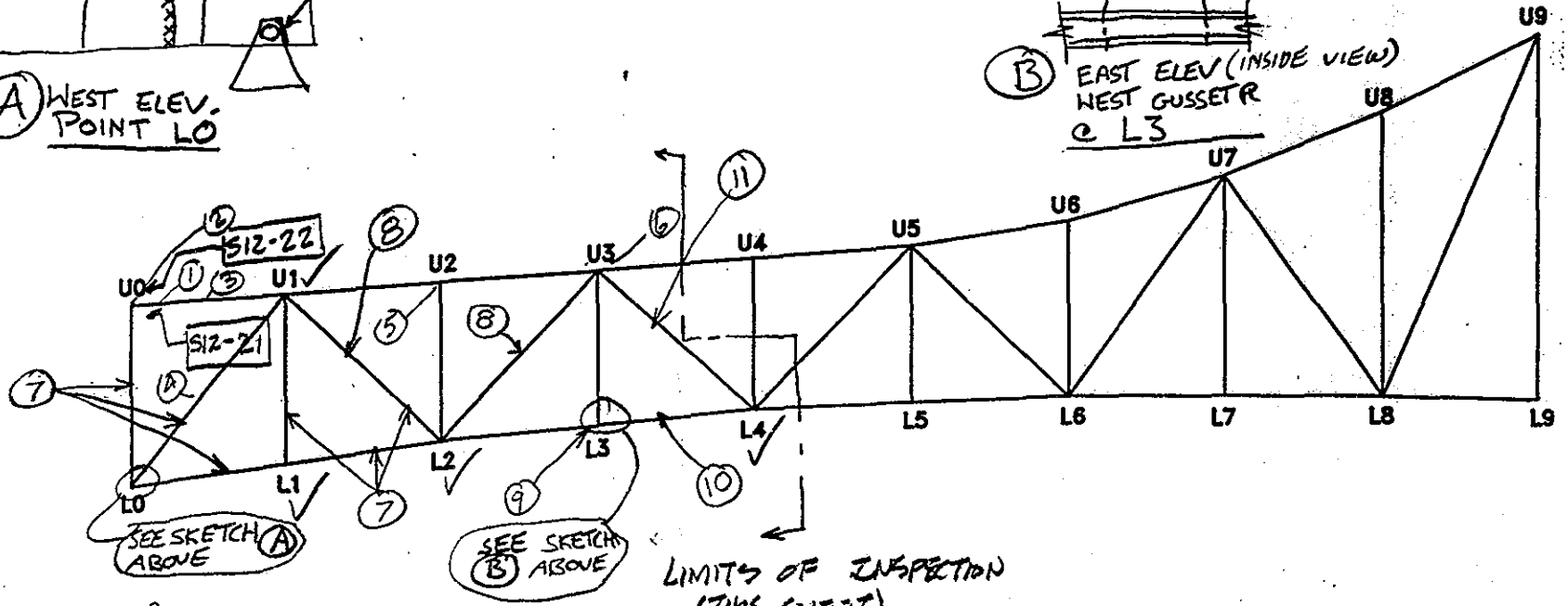
3/16" (IR) BETWEEN PIN PL & GUSSET PL

(A) WEST ELEV. POINT L0



UP TO 1/8" PITTING x 1" ALL AROUND VERT L3U3 (EAST GUSSET SIMILAR BUT NOT AS BAD)

(B) EAST ELEV (INSIDE VIEW) WEST GUSSET PL @ L3



(9) 3/16" x 1" DEEP PITTING ON VERT. CHANNEL, F.W. DIRECTLY ABOVE EAST GUSSET PL

(10) UP TO 1/8" (IR) BETWEEN WEB PL'S, F.L.

(11) SCATTERED 4"Ø x 1/16" DEEP PITTING FULL LENGTH OF E. WEB, E. FACE

SPAN 3

W TRUSS E ELEVATION

NOTES:

(1) (IR) UP TO 1/2" BETW. W. PL & BOTTOM W. ANGLE OF U0U1 ENTIRE LENGTH OF MEMBER S12-21

(2) HOLE RUSTED THRU NORTH FACE OF VERT. U0L0 UNDER BR. RAILING S12-22

(3) UP TO 1/8" PITTING 4" DIA. ON W. FACE OF U0U1, SCATTERED OVER ENTIRE LENGTH

(4) 1/8" (IR) BETW. W. PL & BOTTOM W. ANGLE OF U1L0 @ ISOLATED LOCATIONS

(5) 1/8" PITTING ALONG THE S. FL. BM. CONNECTION ANGLE, 2 FT HIGH, ON GUSS PL

(6) (IR) UP TO 1/2" BETW BOT. FLG OF BRACING & GUSSET PL @ U3

(7) DRAIN CONNECTION BRACKET WELDED TO TRUSS

(8) UP TO 1/8" (IR) BETWEEN WEB PL'S & FLANGE ANGLES

TRUSS ELEVATION

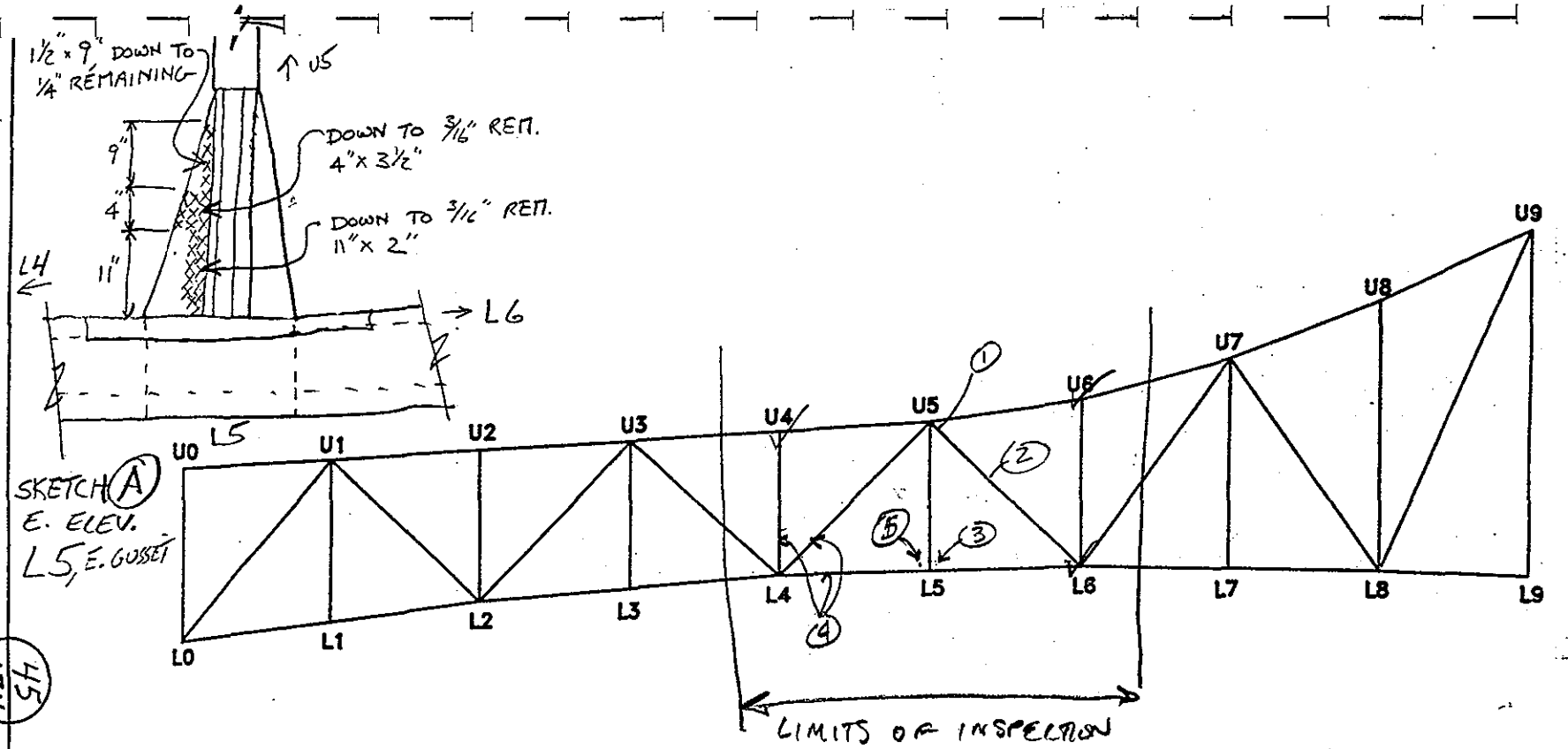
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/19/95

CREW: RR, NT, J.P. PUN | SHEET 2 OF 3



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SPAN 3

W TRUSS E ELEVATION

NOTES:

(1) STAY-IN-PLACE FORM UNDER SAFETY CURB/WALK IS DETERIORATED

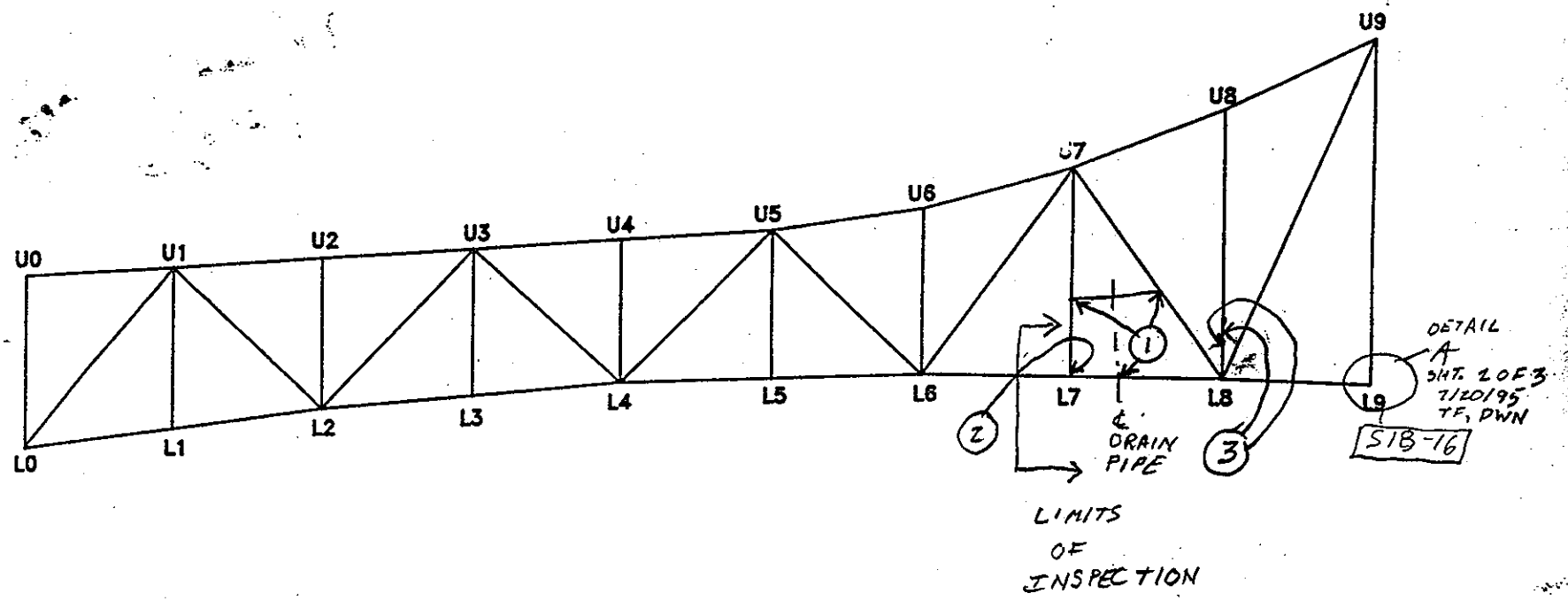
(2) 1/4 (IR) BETW THE 2 ADJ. SIDE PL'S OF DIAG. U5L6 (BOTH E. & W. SIDES)

(3) 1/8" PITTING x UP TO 1" WIDE ON INSIDE FACE OF EAST GUSSET PL ALL AROUND EDGE OF CHANNEL OF VERT. U6L5

(4) WELDED SCUPPER DOWNSPOUT SUPPORT ON VERT U4L4, DIAG U5L4, BOT. CORD L4L5

(5) UP TO 1/8" PITTING x UP TO 3½" WIDE FULL HEIGHT OF E. GUSSET PL ALONG S. CONNECTION ANGLE TO SWAY BRACING. SEE SKETCH (A) FOR RESULTING REMAINING AREAS

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-20-96
CREW: PWN, JP	SHEET 1 OF 1



SPAN 3

W TRUSS E ELEVATION

NOTES: (1) DRAIN BRKT WELDED TO TRUSS MEMBER
(2) UP TO 1/4" (IR) BETWEEN N.W. VERT. FLNG. & ½ VERT. WEB ℄.
(3) " " " " FLNG.&'s ½ WEB ℄'s

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 7/20/95
CREW: TF, DWN	SHEET 1 OF 3

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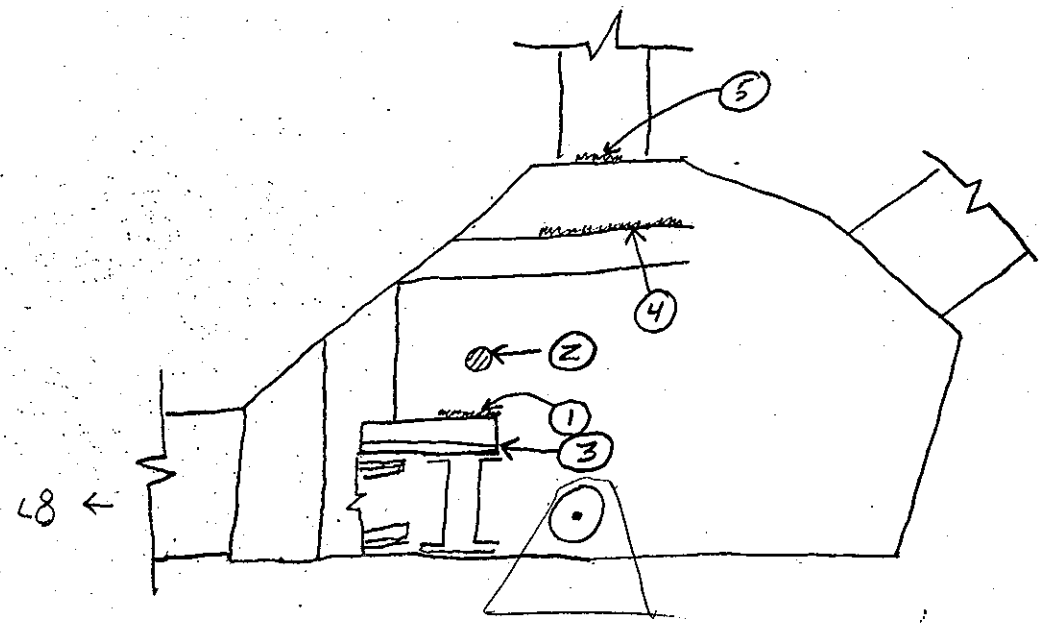
NOTE: BRACING LEFT OUT FOR CLARITY.



VIEW (A) SEE $\boxed{S\ 18\text{-}16}$

E. GUS PL

L9W SPAN 3

SEE SHT. 1 OF 3
7/20/95 TF, PWN

SPAN 3
W TRUSS

NOTES: (1) 1/8" x 17" x 1" PIT.
(2) 5/16" x 2" Ø PIT.
(3) 1" x 1/2" Ø HOLE TOP LAT. BR. GUS. PL.
(4) 1/16" x 2" x 52" PIT.
(5) 1/16" x 2" x 27" PIT.

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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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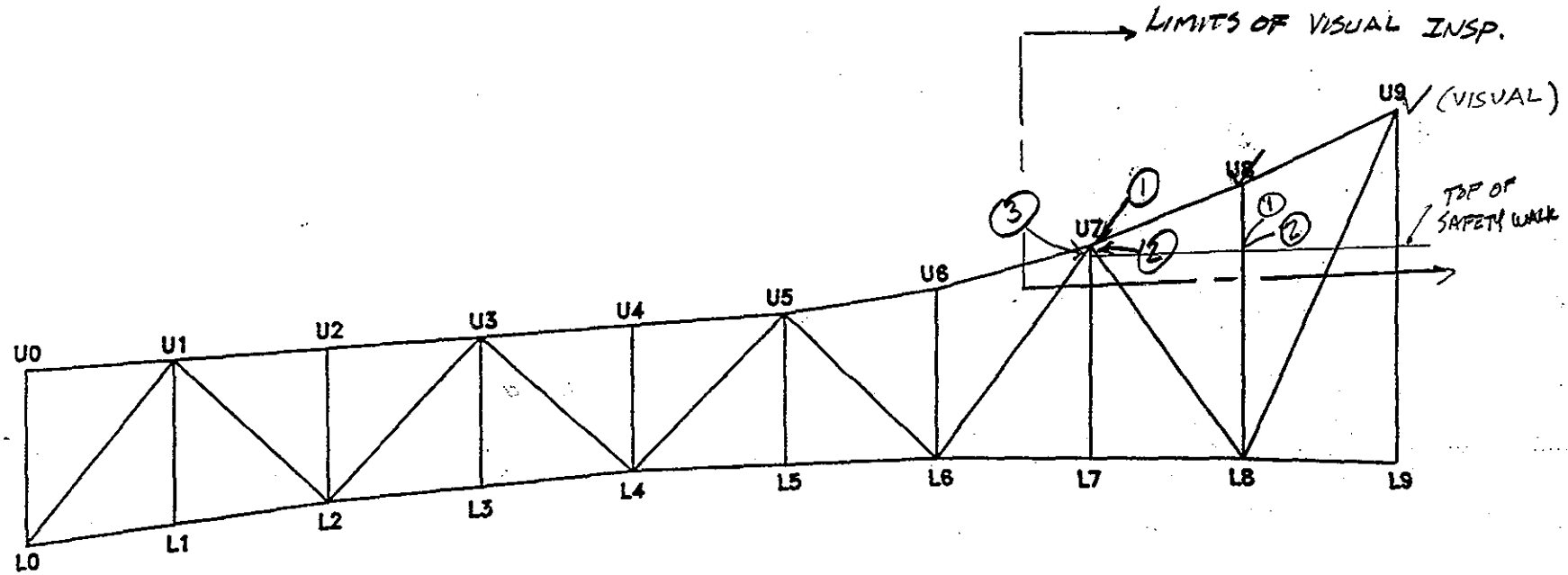
JOB #1784	DATE: 7/20/95
CREW: TF, PWN	SHEET 2 OF 3



SPAN 3

W TRUSS E ELEVATION

NOTES: UP TO VISUAL INSPECTION FROM SIDEWALK

(1) 1/8" PITTING ALONG SIDEWALK EDGE, FULL WIDTH ALONG THE EAST FACE OF VERTICAL U7L7

(2) MEDIUM RUST ON VERTICAL BELOW THE BOTTOM SAFETY WALK BRACKET CONNECTION

(3) ABOUT 1/8" x 4" DIA. PITTING ON VERT U7L7 @ SAFETY WALK

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #178	DATE: 7-20-95
CREW: NMT, JP	SHEET 2 OF 4

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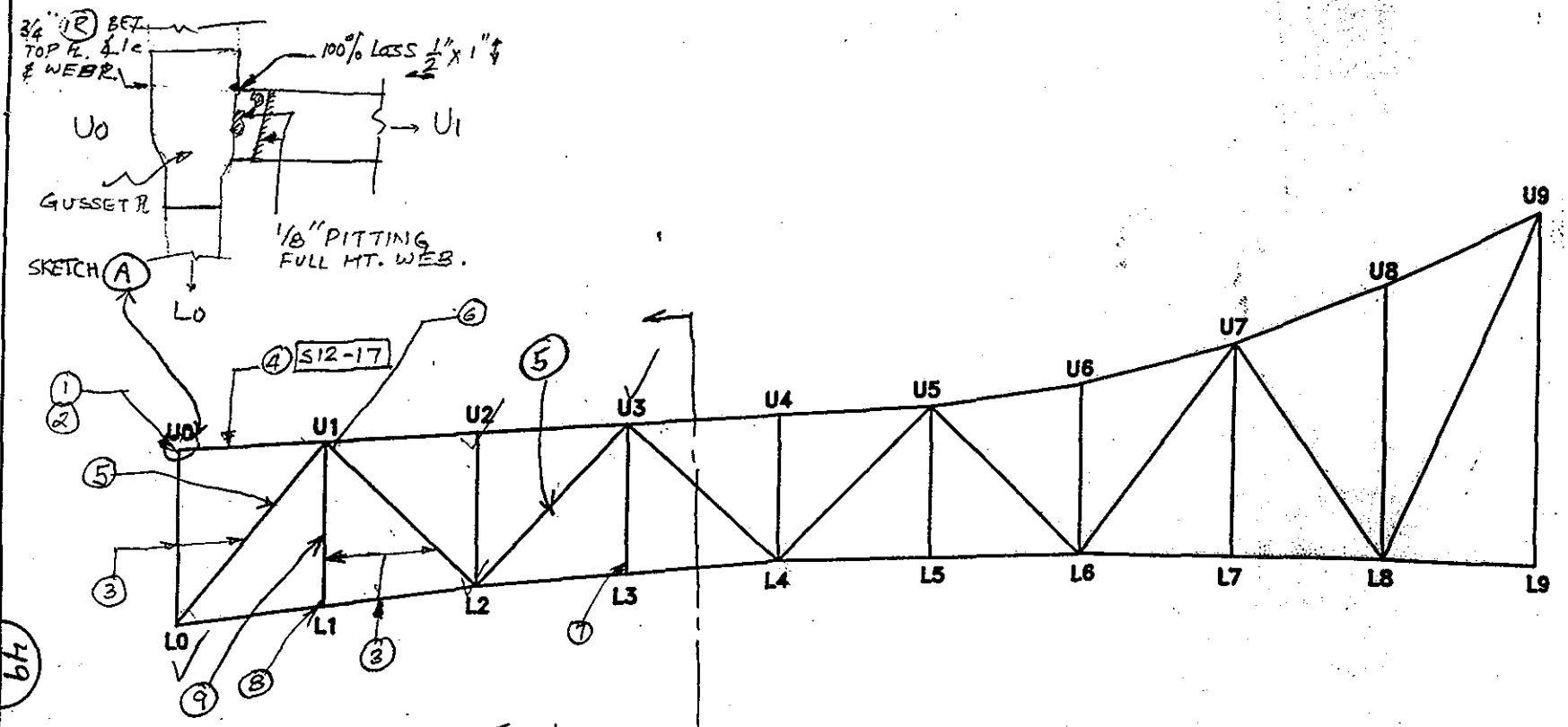

(8) UP TO 3/16" PITTING x 1" HIGH FULL WIDTH ON EAST VERTICAL CHANNEL JUST ABOVE TOP OF E. GUSSET PL

(9) SCATTERED 4"Ø x 1/8" DEEP PITS ALONG FULL HEIGHT OF WEST VERTICAL CHANNEL

SPAN 3

E TRUSS E ELEVATION

NOTES:

(1) 1 1/4" (1R) @ BOT. CORNER OF WEST FILL PL / WEST WEB SOUTH SIDE OF JT., 6" HIGH x 4" WIDE

(2) 3/4" (1R) @ TOP & BOT. CORNER OF EAST FILL PL, EAST WEB, SOUTH SIDE OF JT. 4" HIGH x 2" WIDE

(3) WELDED BRACKETS FOR DRAINFIRE

(4) UPTO 1/2" (1R) BETWEEN WEB PL AND FLANGE ∠1es, ALL FOUR ∠1es

(5) UP TO 1/4" (1R) BETWEEN WEB PL & FLANGE ∠S, ALL FOUR ∠S

(6) 3/4" (1R) BETWEEN BOT. PL OF TOP BRACING & GUSSET PL.

(7) 1/16" PITTING SCATTERED OVER THE BOTTOM 8' OF W. CHANNEL WEB INSIDE FACE.

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/19/95

CREW: PWN, NT/JR | SHEET 3 OF 3

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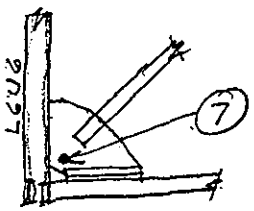
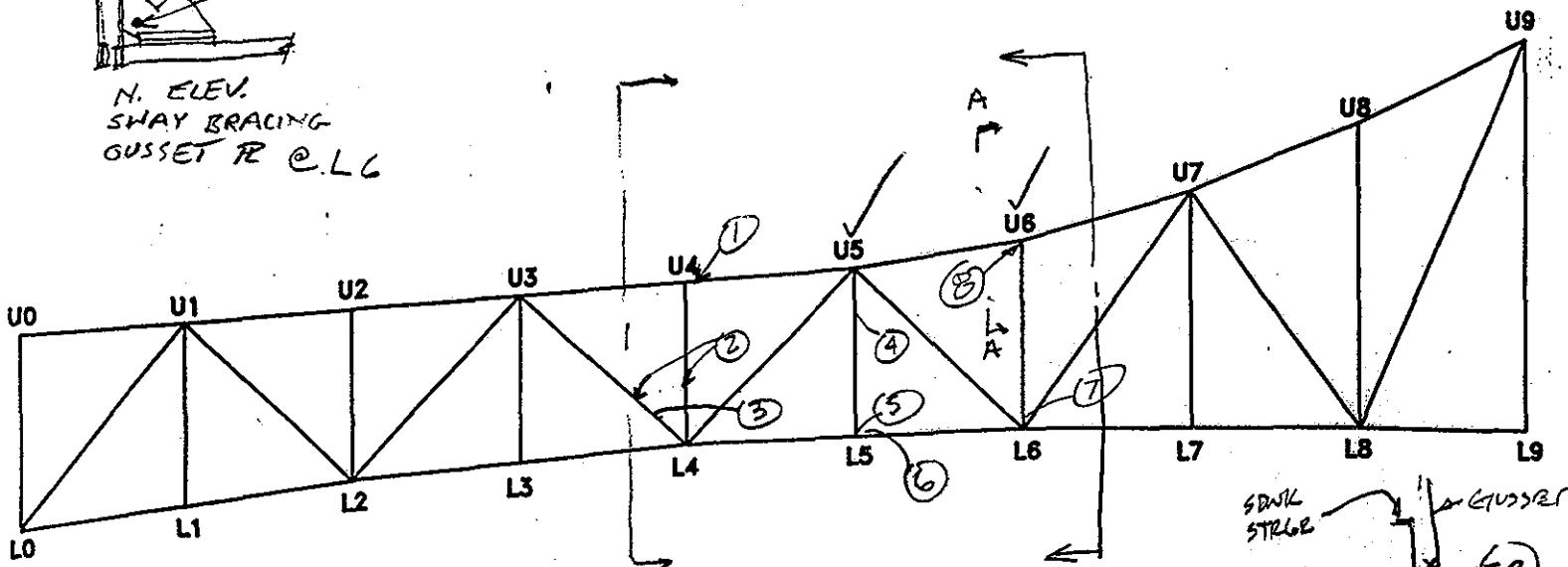
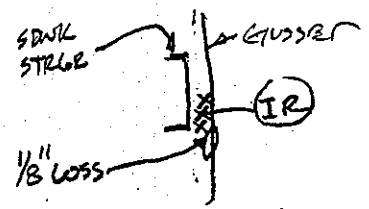


N. ELEV.
SWAY BRACING
GUSSET PL @ L6





SECTION A-A

(8) (IR) BETWEEN SIDEWALK STRINGER AND WEST FACE OF WEST GUSSET ALLONG BOTTOM EDGE OF STRINGER, 1/8" LOSS TO GUSSET
see section A-A

SPAN 3

E TRUSS E ELEVATION

NOTES:

(1) 1/4" (IR) BETW. GUSSET PL & BOTTOM FLANGE OF BRACING
(2) SCUPPER DOWNSPOUT SUPPORT WELDED TO DIAG U3L4; AND VERT U4L4
(3) UP TO 1/4" (IR) BETW E. PL & TOP ANGLE OF DIAG U3L4
(4) UP TO 1/8" PITTING 4" DIA. SCATTERED OVER INSIDE FACE OF W. CHANNEL WEB
(5) UP TO 1/8" PITTING 1" HIGH ON INSIDE FACE OF W. GUSSET PL JUST ABOVE TOP PLG OF LOWER CORD.
(6) 1/4" (IR) BETW. W. GUSSET PL & THE N. PLG OF THE W. CHANNEL OF VERT U5L6
(7) 1" DIA. HOLE IN LOWER E. CORNER OF SWAY BRACING GUSSET PL. (SEE SKETCH ABOVE)

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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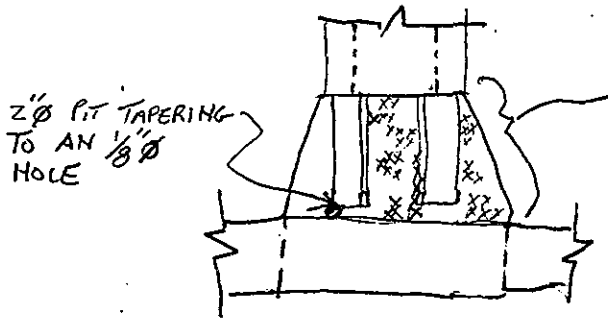
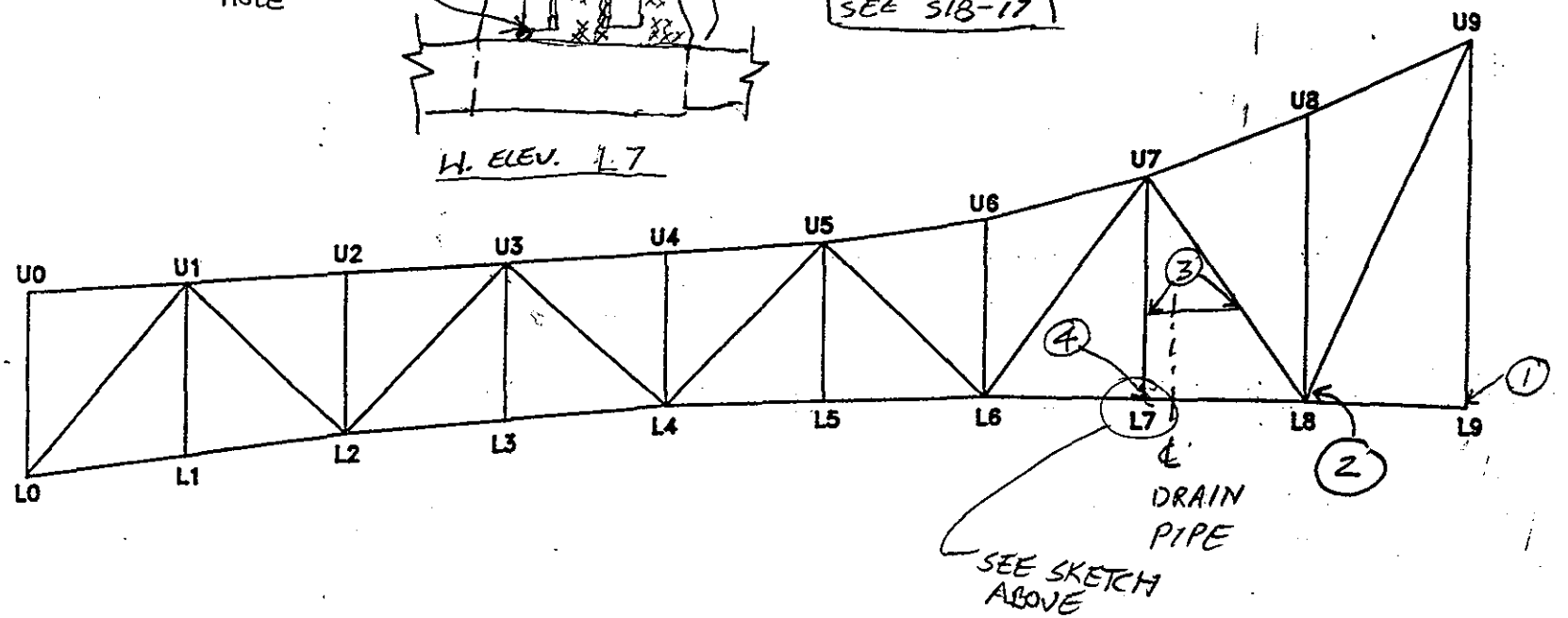
JOB #1784 | DATE: 7-19-95
CREW: PWN, JP | SHEET 1 OF





SPAN 3

E TRUSS E ELEVATION

NOTES: (1) INSIDE OF JOINT FILLED W/ DEBRIS & BIRDS NEST.

(2) NORTH GUS PL TO SWAY BR @ CONN. & TO CROSS BR, ~~UP TO 3/16"~~ UP TO 3/16" X 2" HIGH X 10" W PIT.

(3) DRAIN BRKT. WELDED TO TRUSS MEMBER

(4) UP TO 1/8" PITTING 1" HIGH FULL WIDTH OF INSIDE FACE OF W. GUSSET PL ALONG TOP OF LOWER CORD FLANGE ANGLE

TRUSS ELEVATION	
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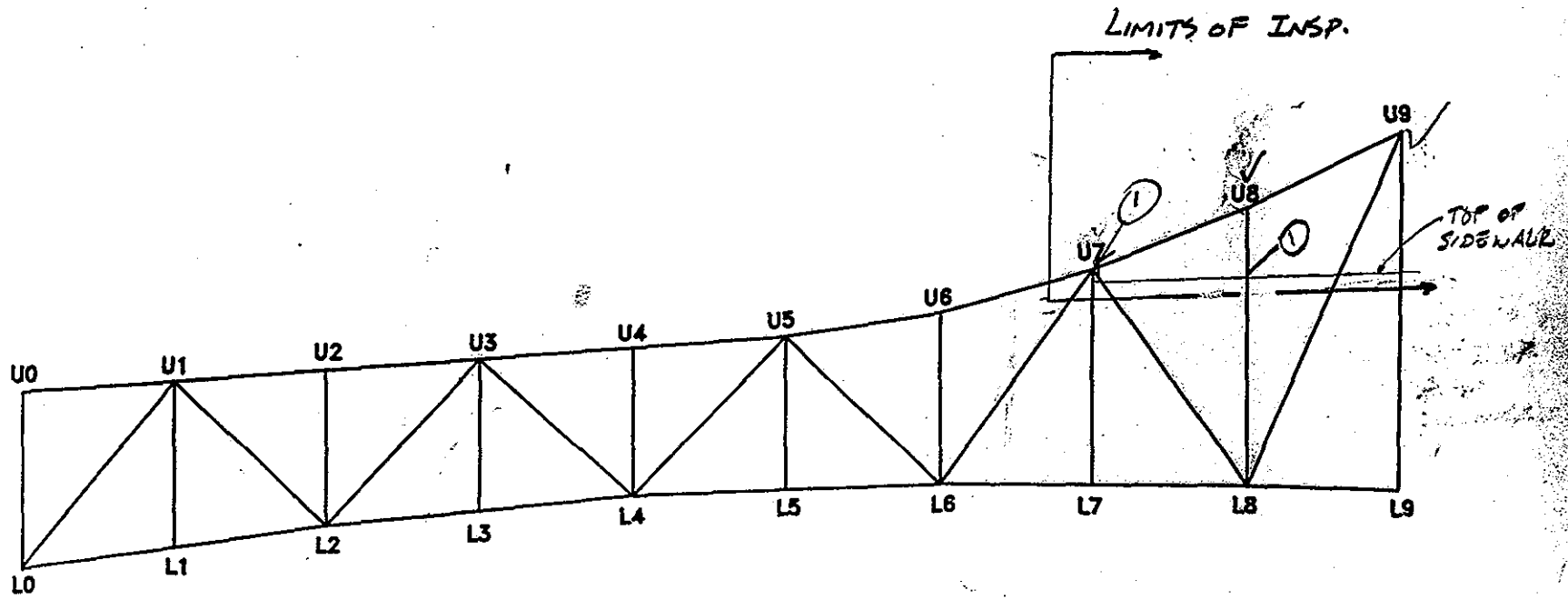

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SPAN 3

E TRUSS E ELEVATION

NOTES: UP TO FULL WIDTH
① 1/8" PITTING ALONG SIDEWALK EDGE NONE W. FACE OF VERTICAL

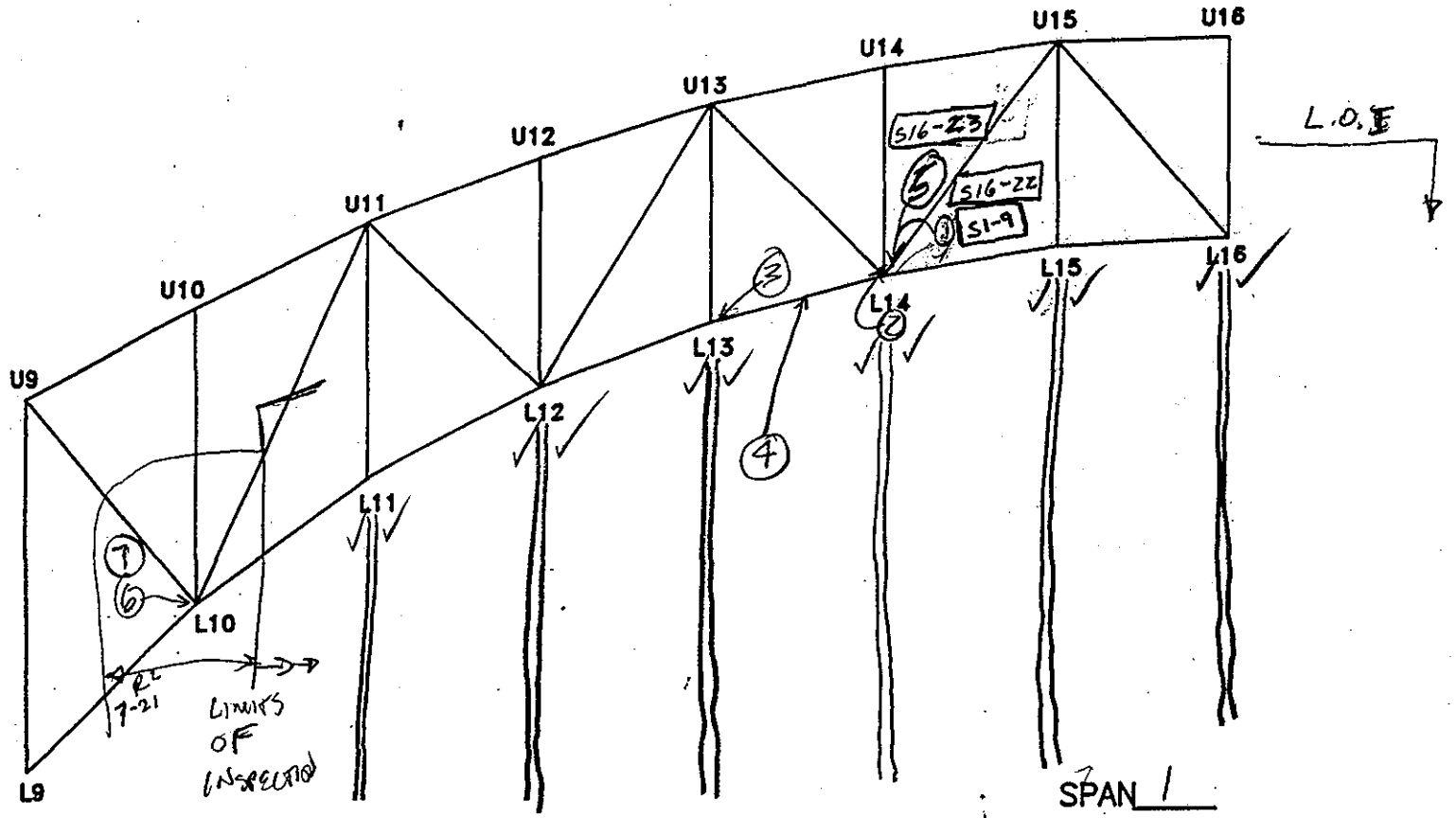
TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-20-95
CREW: NMT/JP | SHEET 1 OF 4



Cable Hangers & Bot. Chord

W TRUSS E ELEVATION

NOTES:

① 2"x½" hole in interior stiff. PL just N. of L14 on L14U15, W. Truss
② welded plate to E. Guss. PL (cable guide)
③ welded 6"x6" plate on top batten PL & int. web stiff. PL
④ LAT. BRACING CENTER CONN. MEMBER L13W TO L14E WELDED PL ON TOP OF BOTTOM FLANGE EACH SIDE
⑤ 2 (TWO), ½" Ø HOLES IN TOP BATTEN PL FROM L14W TO U15W @ L14
⑥ MOD RUST ON EAST FACE OF INTERIOR (EAST) Gusset & Doubler
⑦ 1/4" (IR) ALLONG EDGE OF EAST GUSSET & DOUBLER

TRUSS ELEVATION

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NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7-10-95
CREW: PN, BH, TC | SHEET 3 OF 3

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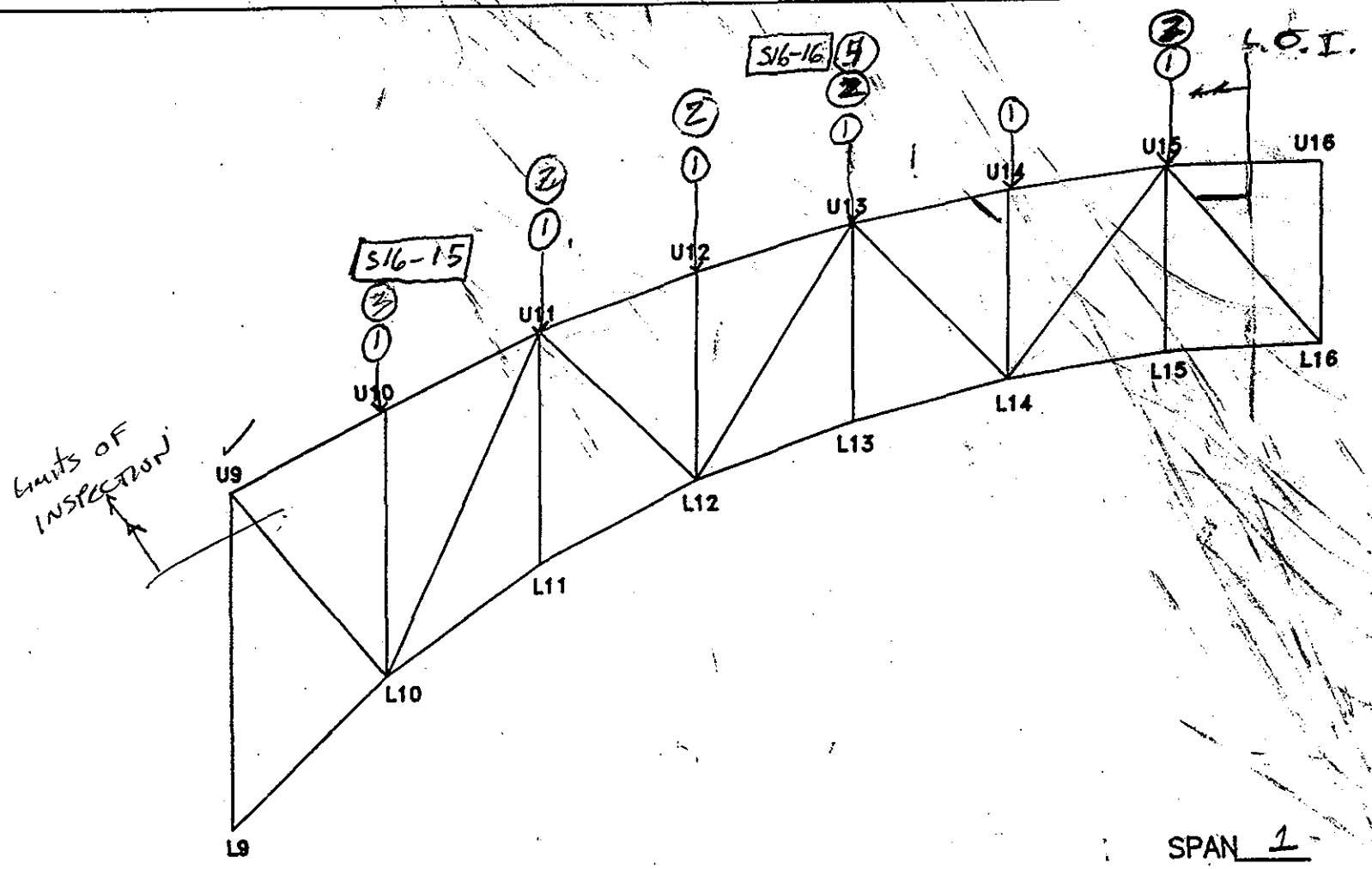

SPAN 1

W TRUSS E ELEVATION

NOTES: ① 1/8 - 3/16 PITTING TO TOP FACE, BOT. LAT. BR. / GUS. PL CONNECT.

② IR BETWEEN TOP GUS PL / BOTH DIAG. LAT. BR.

③ 1/4" - 3/16 Pitting in TOP. LAT. BR @ GUS. PL. CONNECT. U10W-U9E

④ 1/8" - 3/16" PITT. EAST FACE EAST GUS. PL (in the vertical)

TRUSS ELEVATION	
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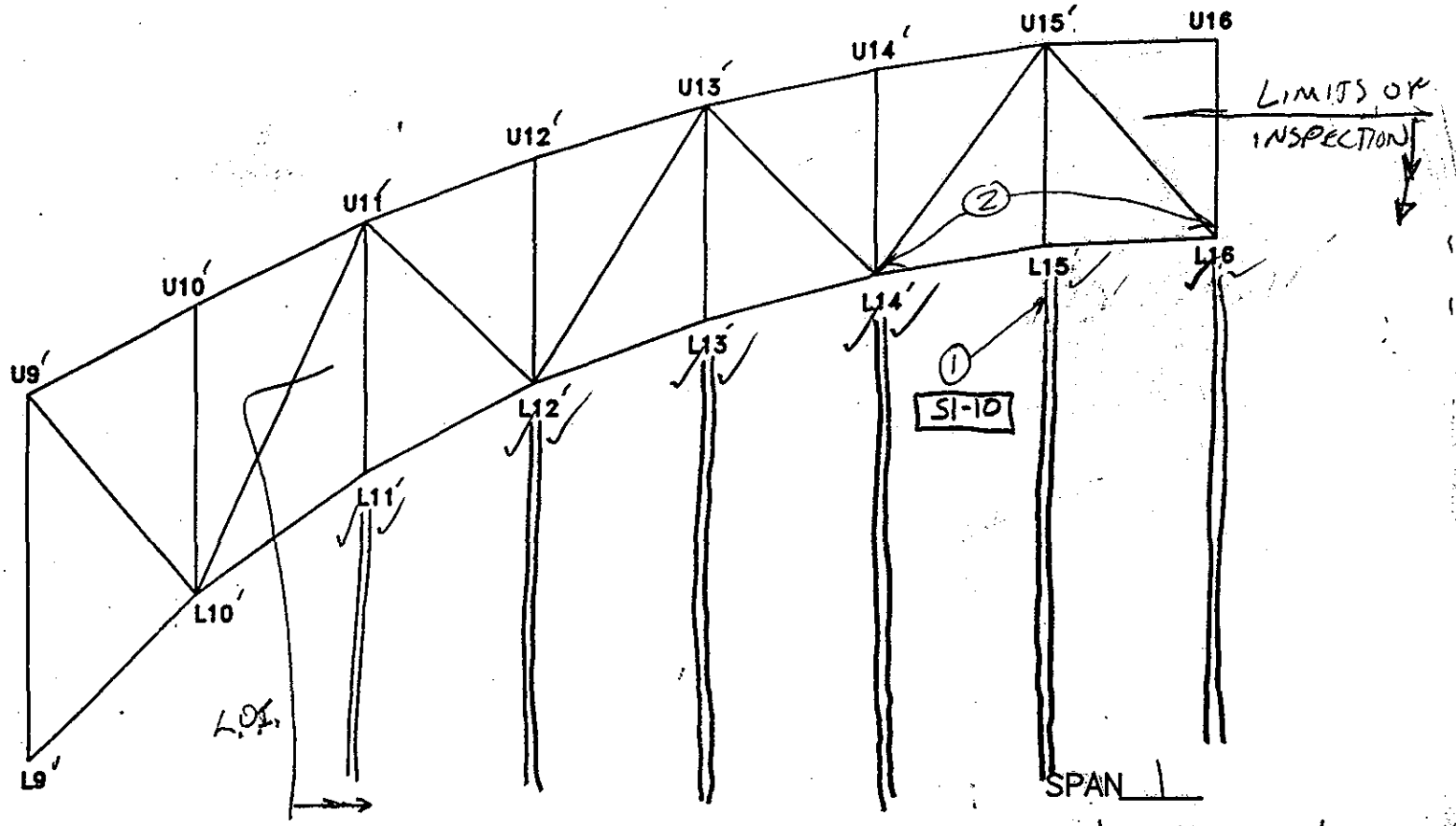
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/13/95
CREW: TE, R²	SHEET 2 OF 2



CABLE HANGER & BOT. CHORD

W TRUSS W ELEVATION

NOTES:

① (2) MISSALIGNED STRANDS 1' BELOW HANGER FOR A LENGTH OF 2'

② Welded PL to E. Gusset PL (Cable Guide)

TRUSS ELEVATION

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NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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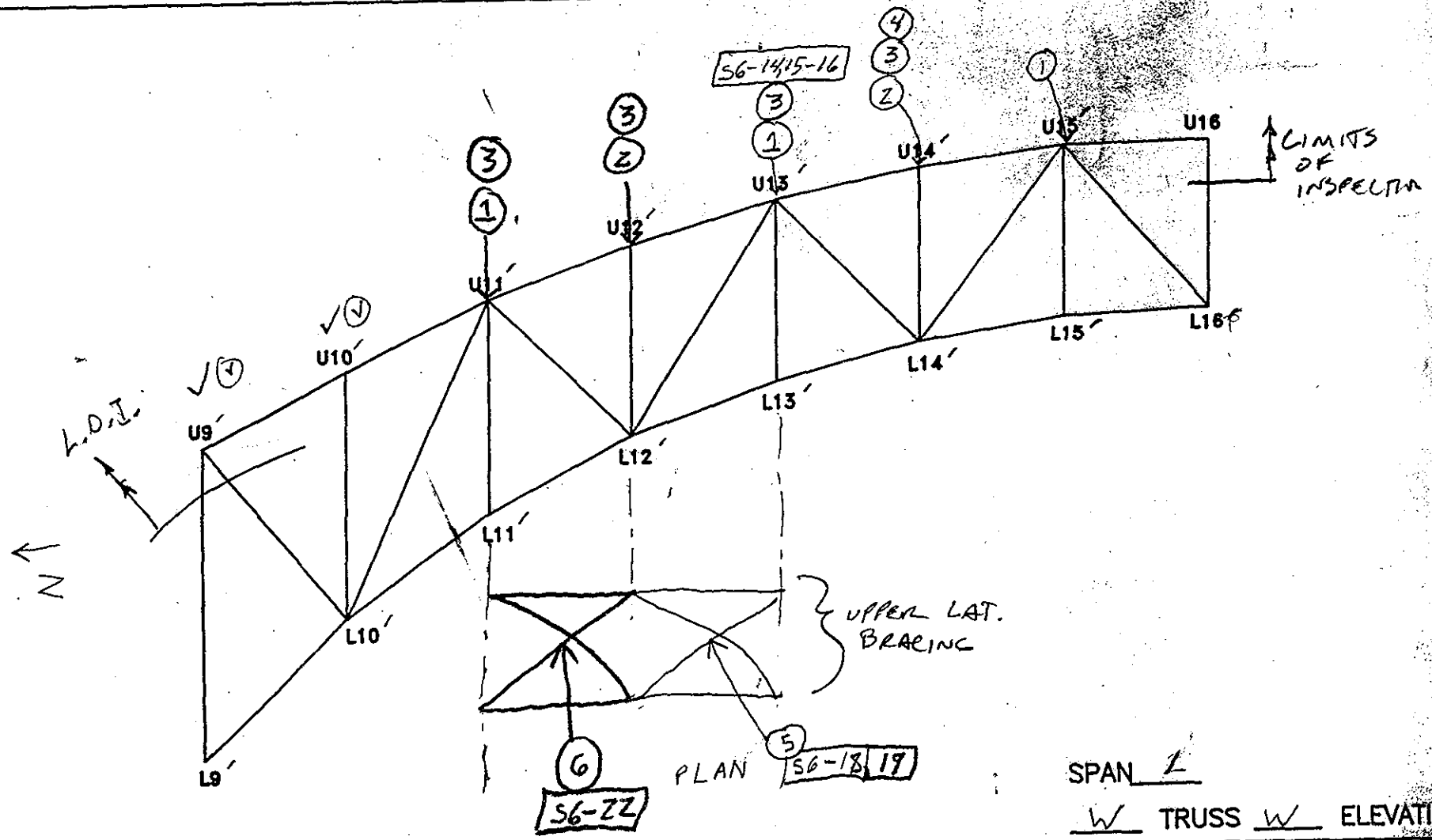
JOB #1784 | DATE: 7/10/85

CREW: RWN, DN, TF | SHEET 2 OF 5



SPAN 1

W TRUSS W ELEVATION

NOTES:
1. 1/8 - 3/16" Pitt Top Face BTM Lat. Bracing Gusset PL Conection
2. 3/16 - 1/4" " " "
3. 1/4" IR between Top Gus. PL and both diag Lat. Braces.
4. ~~1/4" Ø pin hole, Top Gus PL, Against Connect. & To inner Truss Face.~~ Next To
4. 1/4" Ø hole in Top Lat. Gus. PL @ ℄ of Gus. Adjacent To Top ~~Chord~~ Chord.
5. HOLE 1 1/2" HIGH IN DIAG. LAT. BRACE LOWER ∡ U12' W - U13' E.
6. HEAVY PITT & WATER TRAPPED Between LOWER ∡'s LAT. Brac.

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/[illegible]
CREW: R, TF | SHEET 1 OF 2

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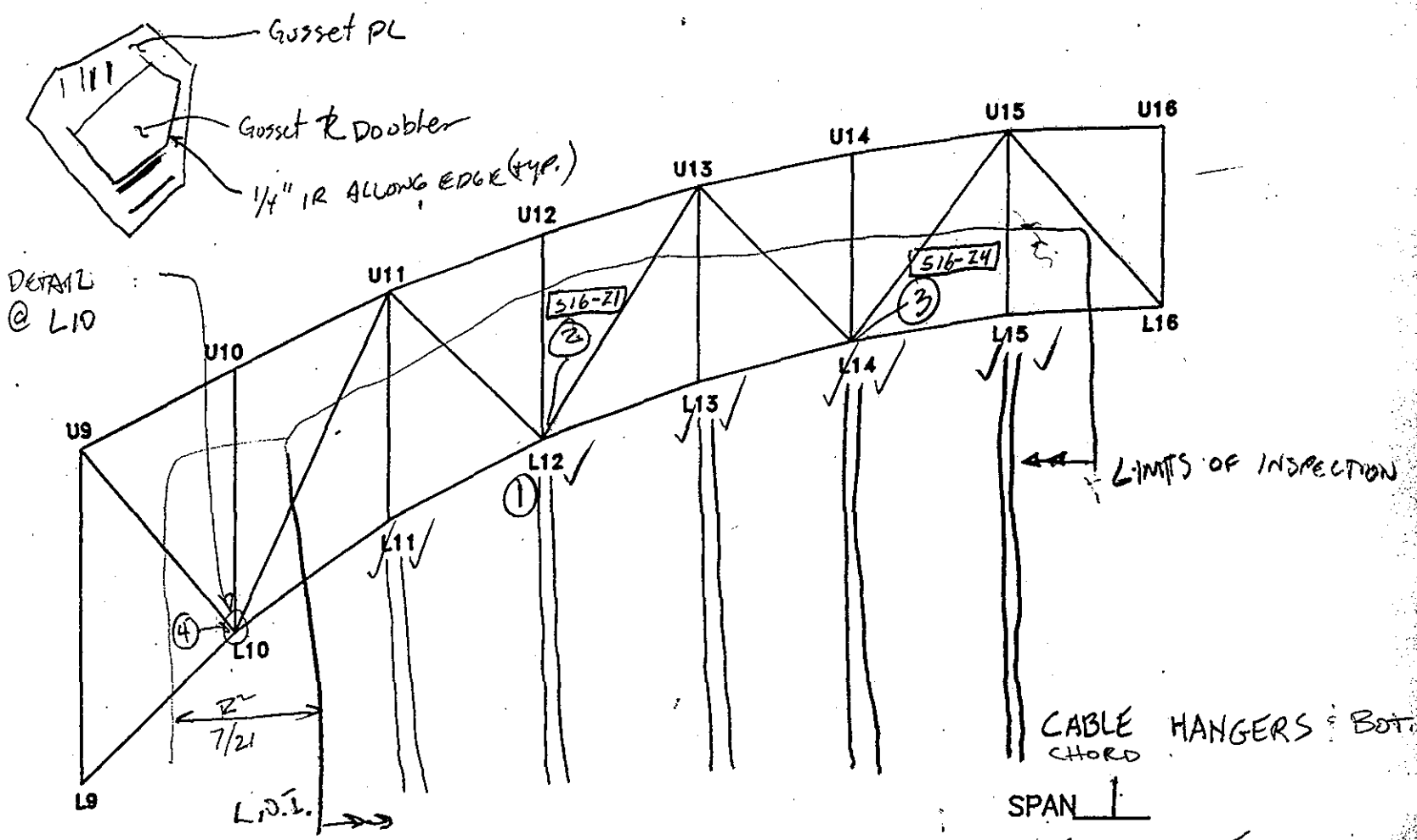


NOTES:
1. UP TO 1/16" GAP BETWEEN STRANDS
2. 1" Ø HOLE IN INTERIOR DIAPH @ L12
3. LOWER LAT. BR., BOT. WEST FROM L14E TO L13W @ L14E HAS 2 (TWO) HOLES. 1" Ø, IN VERT. LEG
4. 1/4" IR ALLONG EDGE OF Gusset PL Doubler (see sketch above)

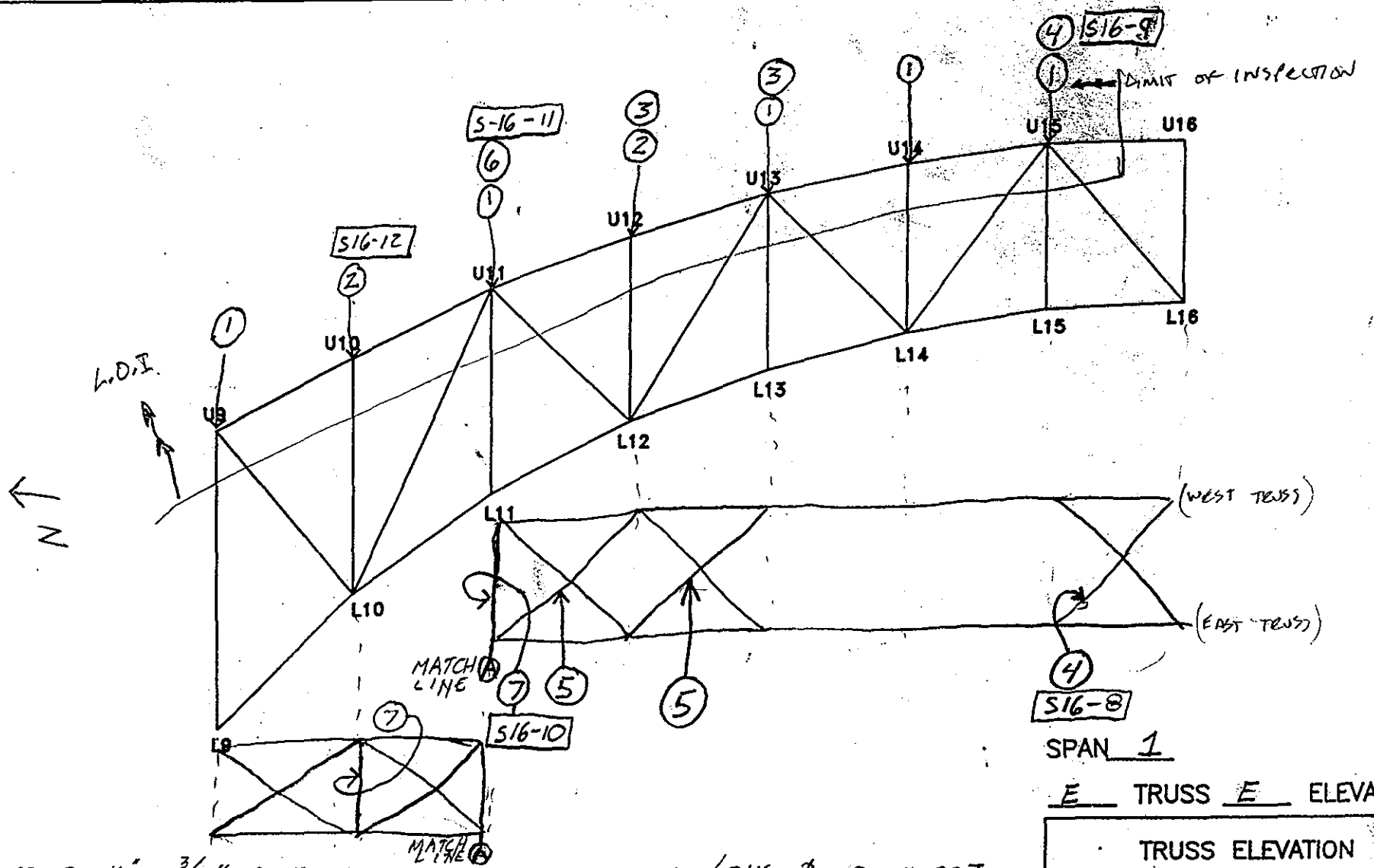
TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/12/95
CREW: RWN BH | SHEET 3 OF 3



SPAN 1

E TRUSS E ELEVATION

NOTES:
1. 1/8" - 3/16" PITT TOP FACE BTM. LAT. BRAC./GUS. & CONNECT.
2. 3/16" - 1/4". " " "
3. IR BETWEEN TOP GUS. & BOTH DIAG. LAT. BR.
4. IR BETWEEN BTM & LAT BR, & REPAIR & U15E-U16W
5. WATER TRAPED BETWEEN LOWER LAT. BR. &'S
6. 2, 1" Ø HOLES TOP GUS. &, TO LAT. BR. U11E-U11W
7. WATER TRAPPED W/ PITT

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
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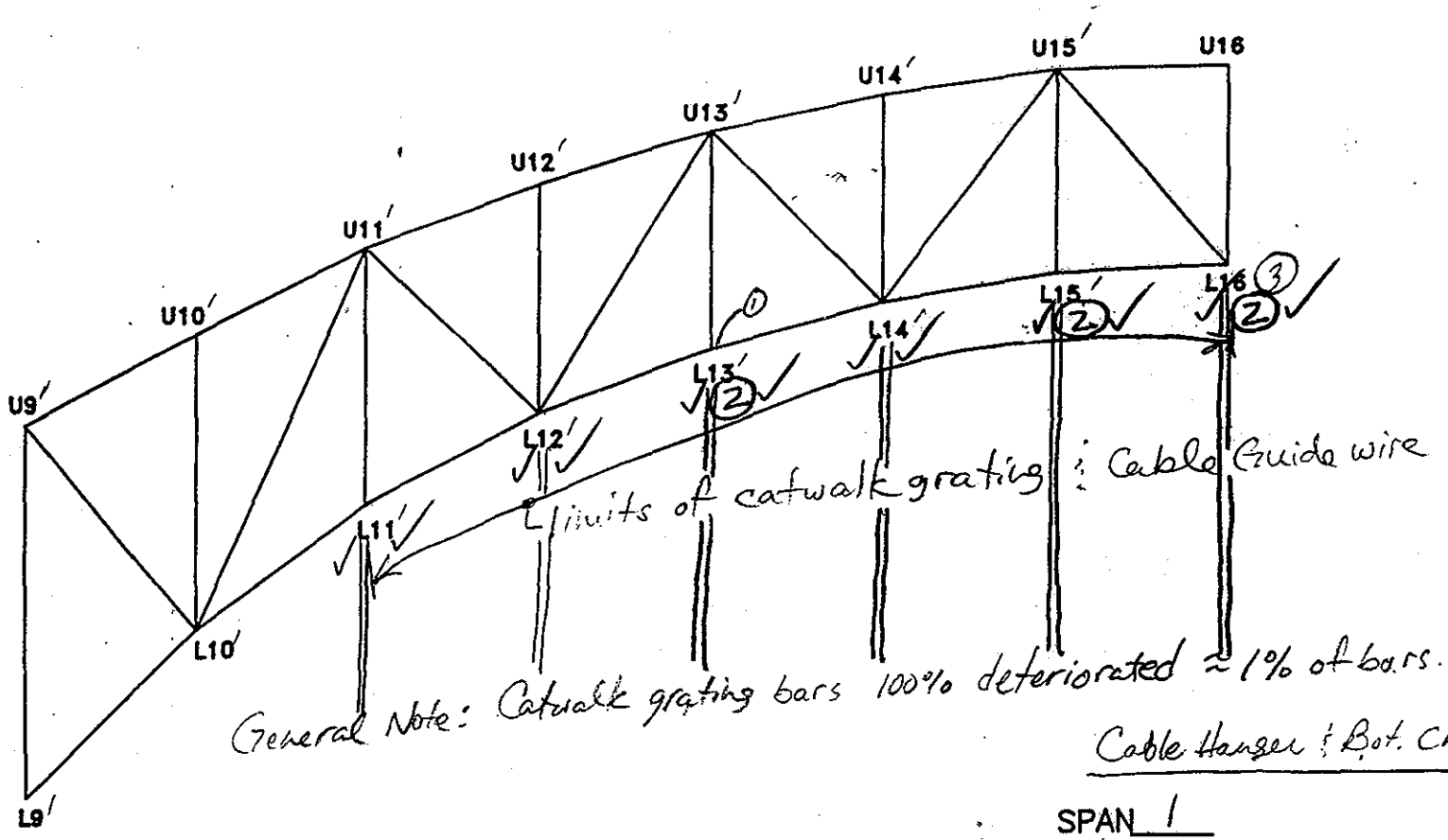
JOB #1784	DATE: 7/13/95
CREW: TF, R²	SHEET 1 OF 2



SPAN 1

E TRUSS W ELEVATION

Note for all Bot. Chord sheets - Main span

NOTES:

(1) Welded 6"x6" ∠ to top batten ∠ and int web stiff. ∠ S1-2 (Typ. all locations)

(2) (HANDS ON) INSPECTION OF CABLE HANGERS USING BLOCK + TACKLE SYSTEM

(3) MISALIGNED STRAND AT L16 E TRUSS SOUTH CABLE S1-3 & 4

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784	DATE: 7-10-95
CREW: BH, PN, TF	SHEET 1 OF 2

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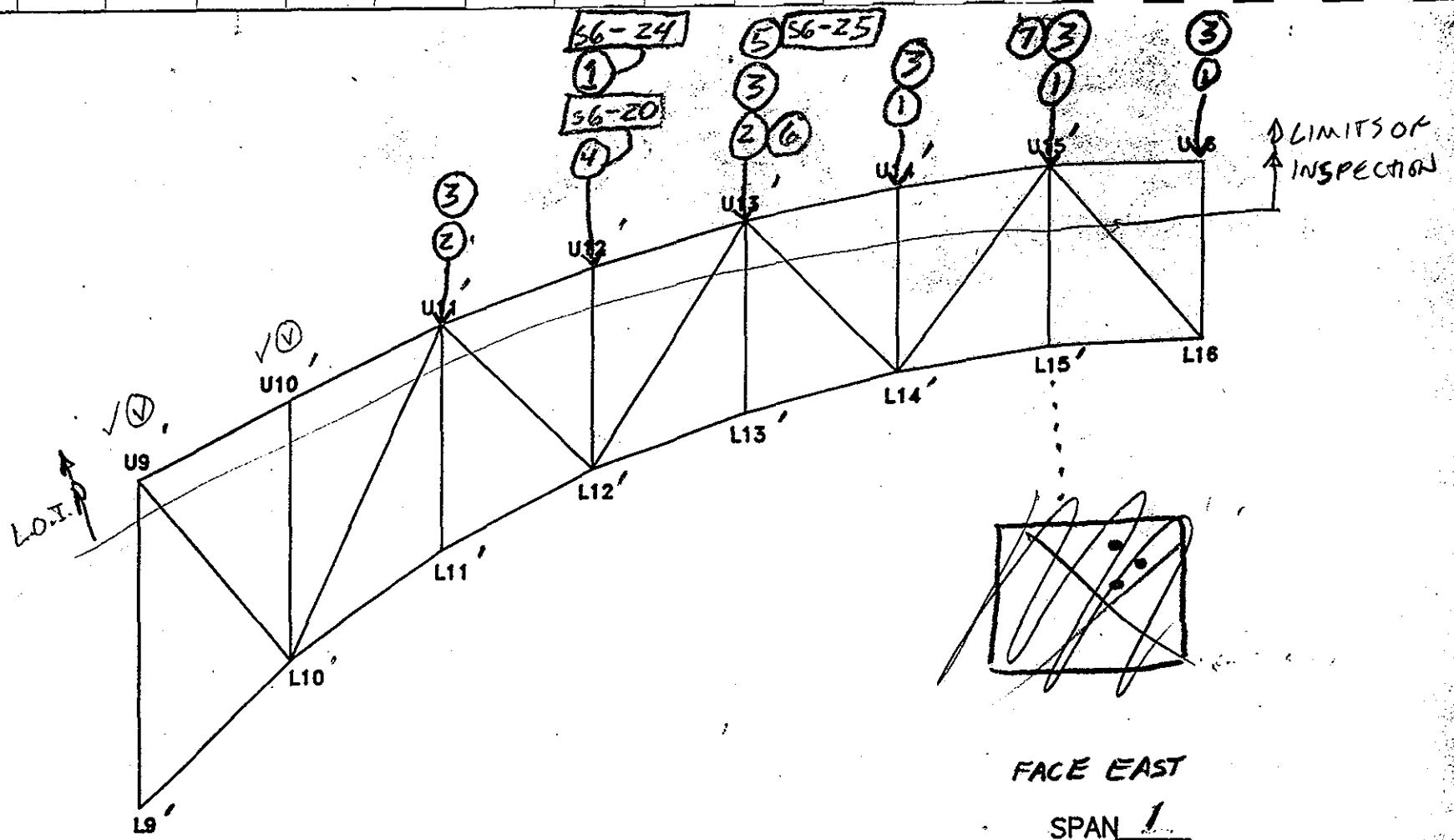

FACE EAST

SPAN 1

E TRUSS W ELEVATION

NOTES: (1) 1/8" - 3/16" PITT., TOP FACE BTM. LAT. BRAC, GUSS. PL CONNECT.
(2) 3/16" - 1/4" PITT, TOP FACE, BTM. LAT. BRAC, GUSS. PL
(3) IR BETWEEN TOP GUS. PL & BOTH DIAG LAT. BR.
(4) IR @ TRUSS TIE PL (TOP)
(5) 5" x 5" WELDED PL (REPAIR?) BTM. LAT. GUS. PL
(6) 1" Ø HOLE VERT LEG, LAT. BR, U13'E-U12'W 1/2" FROM END OF ∡
(7) 3 RIVET HEADS RUSTED AWAY 100% / 3 @ 50% OUT OF 40 ON INTERIOR GUSS. PL

TRUSS ELEVATION

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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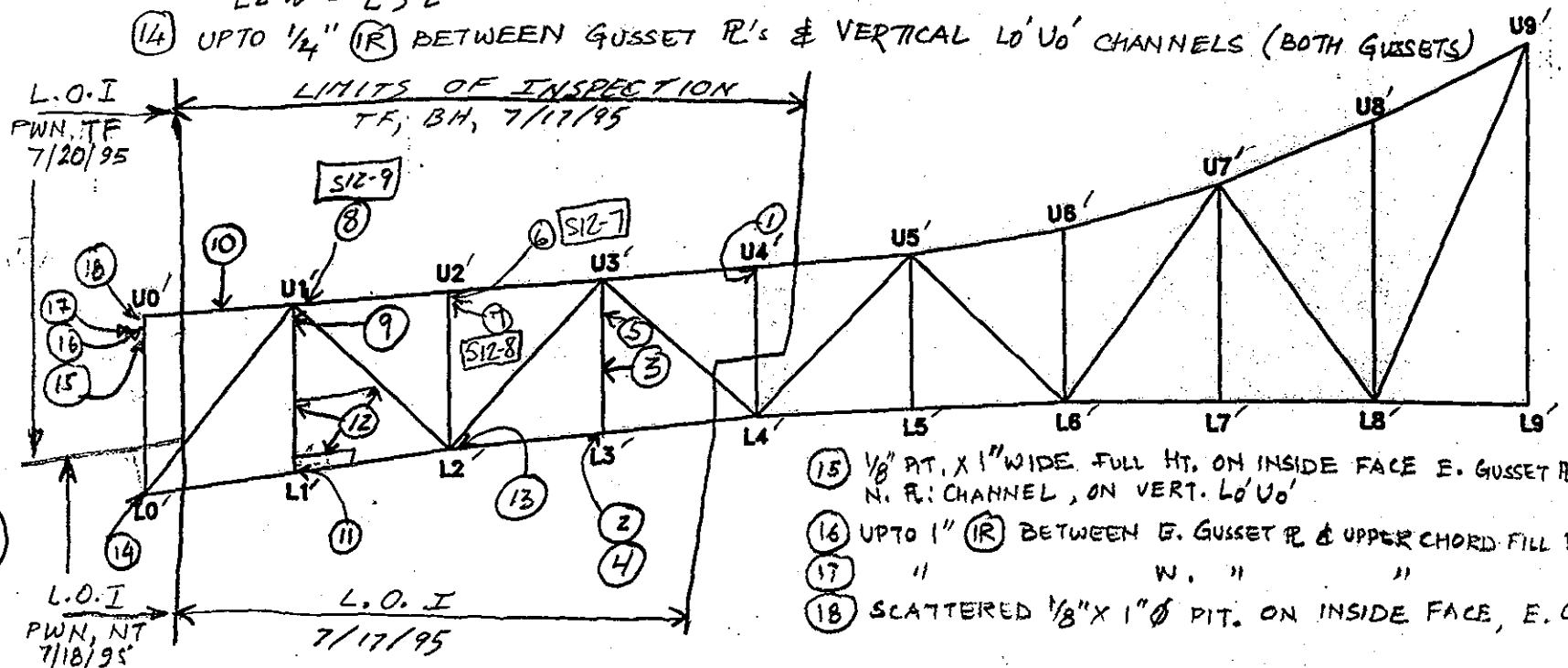
JOB #1784 | DATE: 7-12-95
CREW: TF, R² | SHEET 2 OF 2

(11) 1/8" PIT. E. VERT. GUS. PL W. FACE. x 1" wide x 8" high along vertical

(12) WELDED DRAIN SUPP. BRKT.

(13) 1/2" Ø HOLE IN TOP LAT. BR. GUS. PL. ADJACENT TO TOP LAT. BR. FLANGE ∡'s FROM L2'W – L3'E

(14) UP TO 1/4" (IR) BETWEEN GUSSET PL's & VERTICAL L0'U0' CHANNELS (BOTH GUSSETS)



(15) 1/8" PIT. x 1" WIDE FULL HT. ON INSIDE FACE E. GUSSET PL ALONG N. PL: CHANNEL, ON VERT. L0'U0'

(16) UP TO 1" (IR) BETWEEN E. GUSSET PL & UPPER CHORD FILL PL

(17) " W. " "

(18) SCATTERED 1/8" x 1" Ø PIT. ON INSIDE FACE, E. GUSSET PL.

(8) ≈ 1" BOWED BTM BATTEN PL U1'–U2'

(9) 1/4" PIT. x 3" WIDE WEST FACE, W. WEB PL.

(10) UP TO 5/8" (IR) BETWEEN WEST WEB PL & BTM CONNECT ∡ (LATTICE) ≈ 60% LENGTH

SPAN 2 (NORTH)

W TRUSS W ELEVATION

NOTES: (1) 1/2" (IR) btwn. E. vert. gus. PL and horiz. lateral bracing guss. PL conn. ∡ to E. vert. gus. PL

(2) 1/8" x 4" PIT. W. GUS PL – ALONG TOP OF Bot. CHORD.

(3) 1/8" x 5" WIDE PIT. MID SPAN E. WEB PL, E. face

(4) 1/8" PIT. x 1" WIDE x 8" HIGH ON INT. FACE, E. GUS. PL ALONG VERT.

(5) 1/8" pit. x 4" wide on int. face of E. web PL

(6) 3/16" loss on E. face of E. Guss PL x 1 1/2" high by 15" wide along lat. bracing chr. gus. PL at the bot. PL ∡'s of lateral bracing btwn. U2'W & U3'E has 100% deterioration 1" high on vert. leg of SW ∡

(7) Str. 1 conn. ∡/stiff ∡ has ≈ 1" (ER) causing stiff./conn. ∡ to bow, welded PL attached to stiff ∡ conn. ∡, str. 1 web has 1/4" loss x 1 1/2" high @ conn.

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
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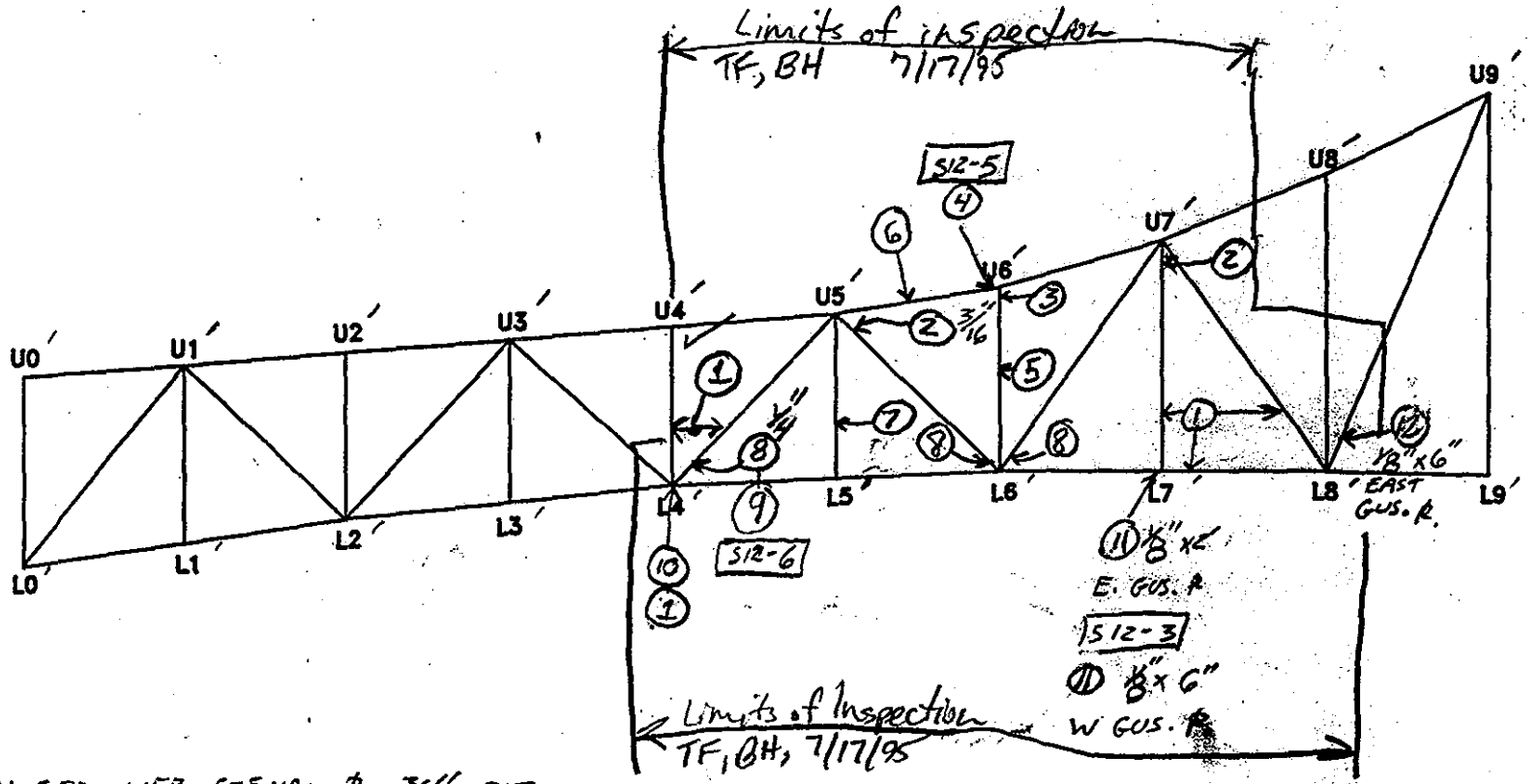
(11) PITT. UP TO 1" HIGH, INT. FACE, GUS. PL, ALONG TOP OF BTM. CHORD.

(12) PITT UP TO 1" HIGH, INT. FACE. GUS. PL, ALONG TOP OF DIAG.



(10) BTM CRD. WEB STFNR. PL, 3/16" PIT.

SPAN 2 NORTH

W TRUSS W ELEVATION

NOTES: (1) WELDED DRAIN SUPPORT BRKTS (EAST FACE)
(2) SOUTH SWAY BRACE GUS PL, 1/8" PITT, 30% AREA. (U7' W, L7' E)
(3) FB 6'S.V. WELDED REPAIR PL ON STR. 2 CONNECT. S/Stiff. 7 (W. side)
(4) 1/2" (IR) BETWEEN W. GUS. PL & W. TOP CHORD. SPLICE PL.
(5) 1/8" PITT. E. WEB PL, 10" WIDE
(6) UP TO 3/16" PITT 4" high on E face of E. web PL
(7) 1/8" PITT VERT. WEB PL EAST PL. 5" WIDE
(8) 1/8" pit. x 5" wide on int. stiff. PL
(9) 100% DETERIORATION 1 1/4" x 1/2" INT. STIFFNER. PL

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/17/95
CREW: TF, BH	SHEET 1 OF 2

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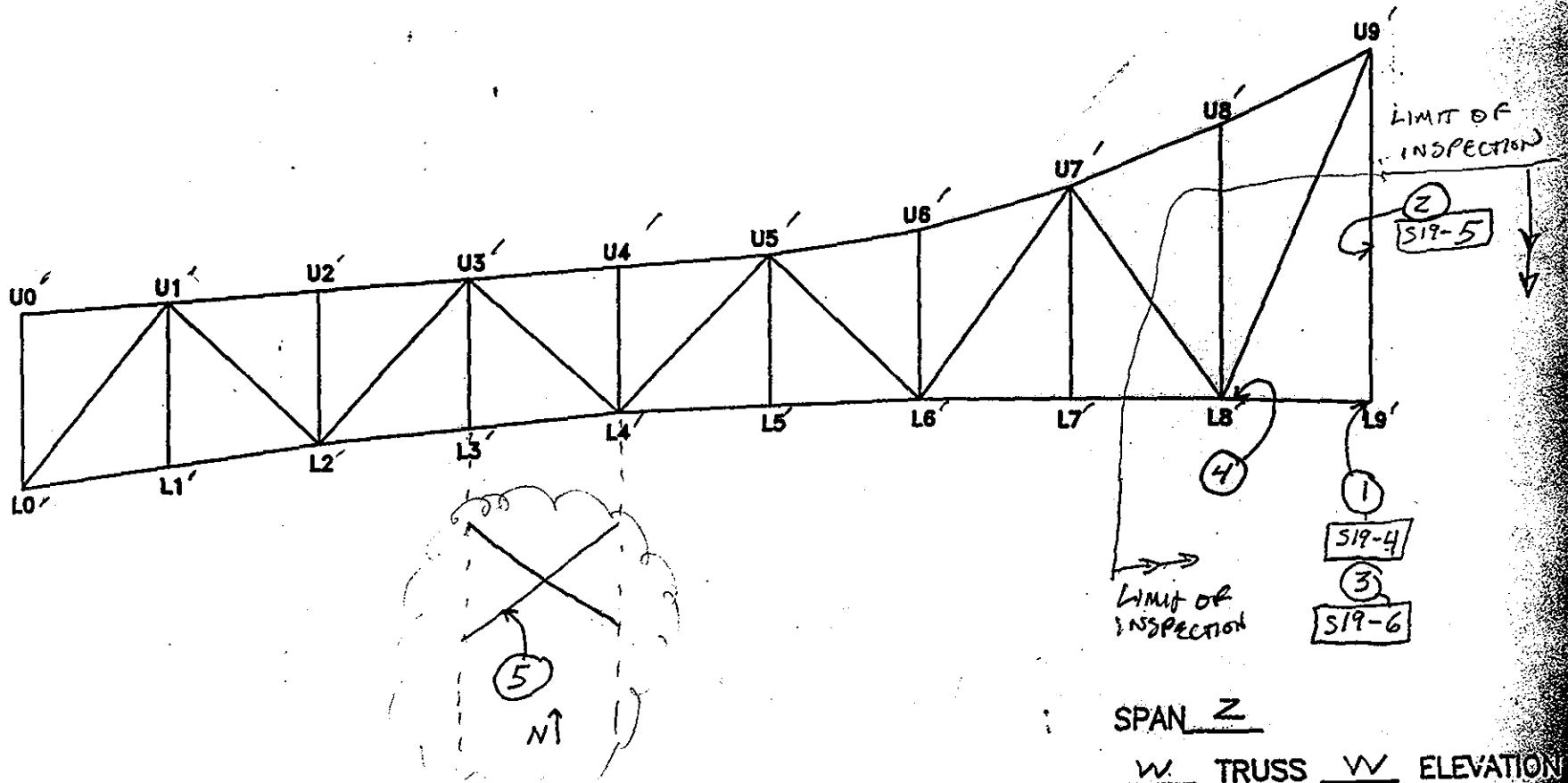

SPAN 2

W TRUSS W ELEVATION

NOTES: (1) WATER TRAPPED ON BRG PAD. (TYP. CONDITION, WORST CASE, SEE PHOTO)
(2) CONDUIT NOT SUFFICIENTLY SECURED (FROM L9'-U9')
(3) 1"Ø HOLE LOWER LAT. BR., TOP GUS. PL ALONG EAST FREE GUS. PL EDGE.
(4) 1/8" PIT. LAT. BR., LOWER GUS. PL
(5) BOW IN LAT. BR. ℄, TOP FLANGE, 1" HIGH x 4" LONG x ℄ WIDTH

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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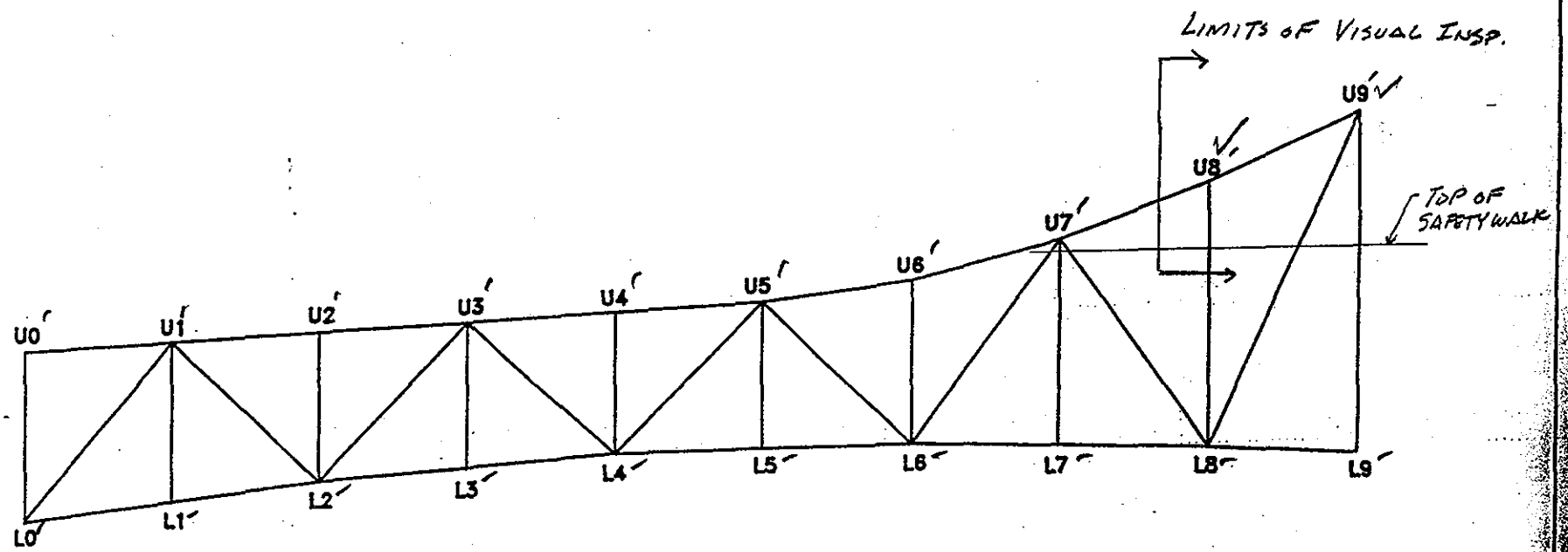
JOB #1784	DATE: 2/18/75
CREW: T.F., R.Z.	SHEET 2 OF 2



SPAN 2

W TRUSS E ELEVATION

NOTES: VISUAL INSPECTION FROM SIDEWALK (EAST TRUSS)

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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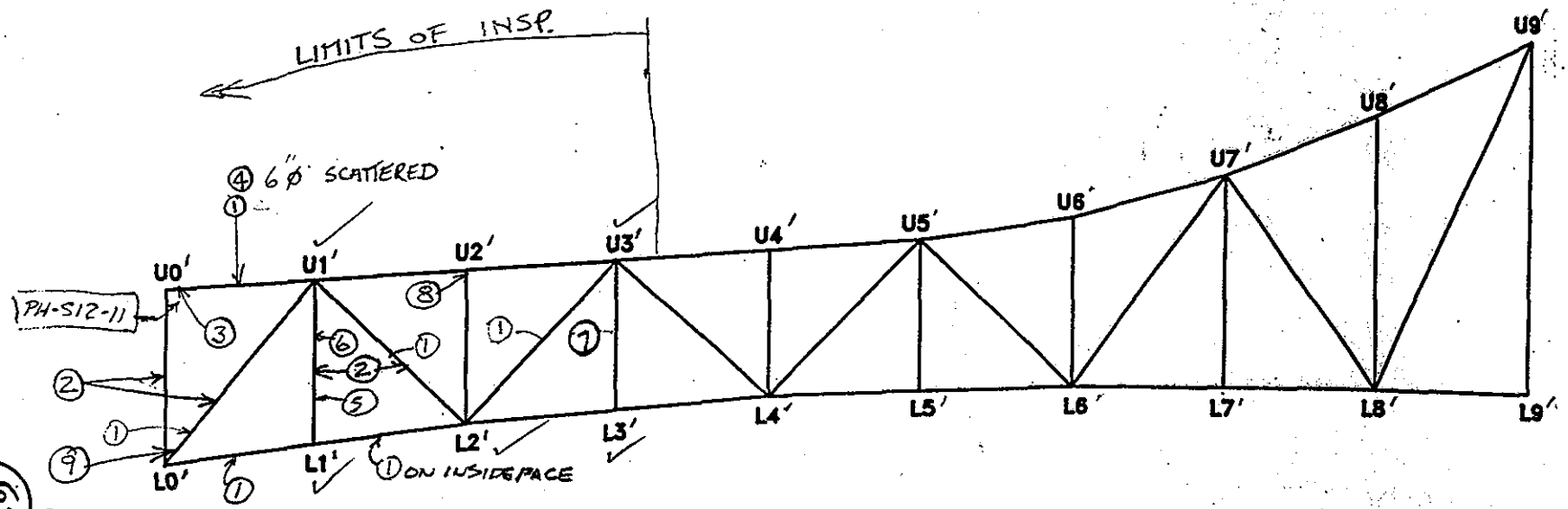
*TYP. → UP TO 1/8" PITTING ON EAST + WEST FACES OF TRUSS MEMBERS ALONG ALL GUSSET PLATES, UP TO 1" WIDE OR HIGH



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⑦ UP TO 1/8" PITTING ON VERTICAL, INSIDE FACE OF W. CHANNEL, 5"Ø PITTING THROUGHOUT FULL HT. OF VERTICAL

⑧ 1/16" × 10"Ø PITTING ON OUTBOARD FACE OF EAST GUSSET PL

⑨ UP TO 3/16" PITTING, 2' HIGH × 1' WIDE, INSIDE FACE OF EAST GUSSET PL JUST ABOVE CONN. TO L0'U1'

SPAN 2

E TRUSS W ELEVATION

NOTES:

① UP TO 1/4" I.R. BETWEEN SIDE PL'S + ANGLES OR TOP PLATES

② DRAIN PIPE BRACKET WELDED TO TRUSS MEMBER

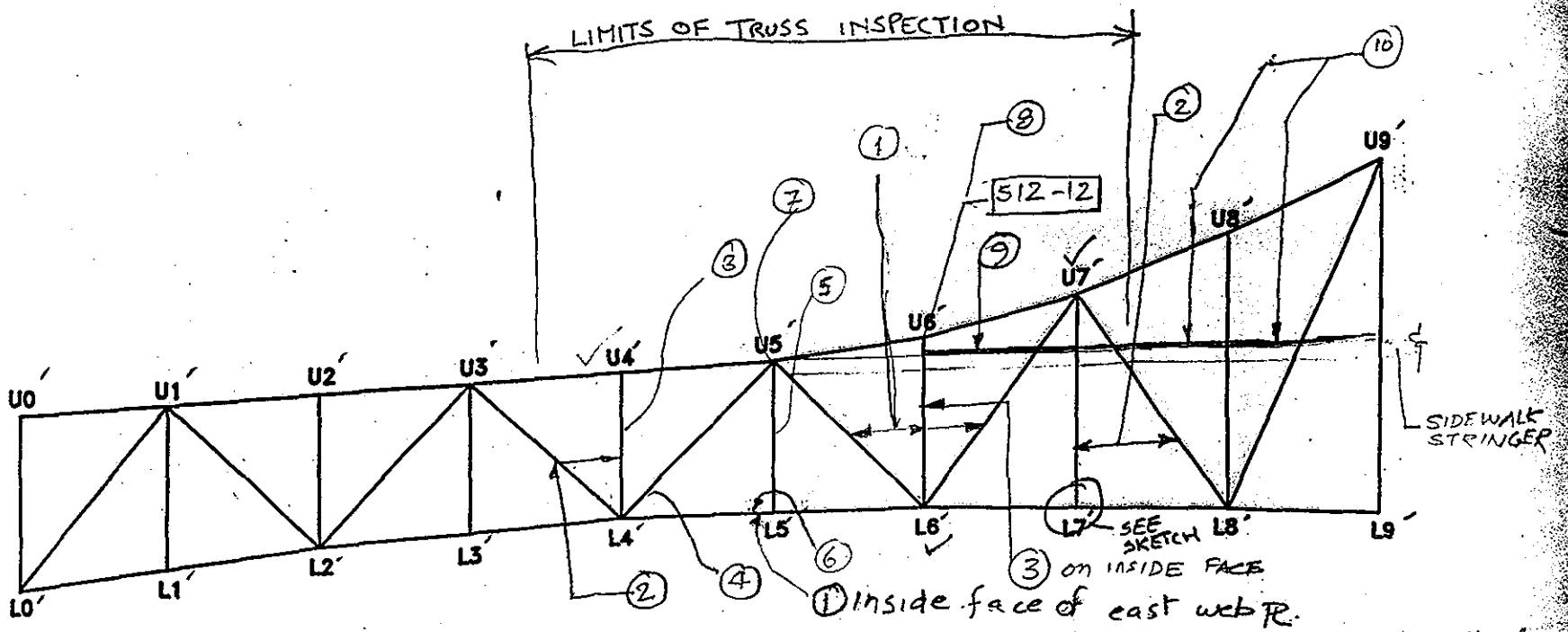
③ UP TO 3/16" PITTING ON E. FACE OF U0'U1' 1 1/2" WIDE × FULL HEIGHT ALONG EDGE OF GUSSET PL PH-S12-11

④ UP TO 3/16" PITTING

⑤ UP TO 1/4" PITTING 6" DIA. PATCHES INSIDE FACE OF EAST CHANNEL BOTTOM QUARTER OF VERTICAL

⑥ 1/4" DIA. HOLE SURROUNDED BY 6" DIA. PITTING, ON WEST CHANNEL WEB OF VERTICAL

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/18
CREW: PAN, JP	SHEET 1 OF 1



(9) UPTO 3/16" LOSS FULL WIDTH TOP FL. OF SIDEWALK STRINGER BETWEEN U6' & U7'; 1/8" PITTING, 3½" HIGH, 5" WIDE ON THE WEB APPROX. @ MIDSPAN.

(10) UPTO 3/16" LOSS FULL WIDTH OF TOP FL. OF SIDEWALK STRINGER BETWEEN U7' & U9'; 1/8" PITTING FULL HT. OF WEB ALONG THE EDGES OF SIDEWALK RAILING SUPPORT POSTS.

SPAN 2

E TRUSS W ELEVATION

NOTES: (1) UP TO ¼" I.R. BETWEEN SIDE PL'S & ANGLES OR TOP PL'S & ∠'s.
(2) DRAIN PIPE BRACKET WELDED TO TRUSS MEMBER
(3) 4" Ø Patches of up to 1/16" pitting scattered along entire height of vertical E & W "C's"
(4) 3/16" PITTING, 6" WIDE x 18" long
(5) 8" Ø patches of 1/16" Pitting on west face of west chanel.
(6) welded repair PL 3"x 4", welded to top of bracing gusset PL.
(7) UPTO ¼" IMPACTED RUST BETWEEN TOP PL AND PL ∠'s and TOP PL & TIE PL @ TOP CHORD SPLICE
(8) ½" (IR) BETWEEN SIDEWALK STRINGER WEB & BOT. FL ∠'s JUST BELOW CONNY. TO U6' UPTO 3/16" LOSS, 8" HIGH FROM BOT. FL @ SUPPORT @ U6' ON WEB PL ON EAST FACE OF STRINGER.

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 7/18/95
CREW: PUN NT	SHEET 1 OF 4

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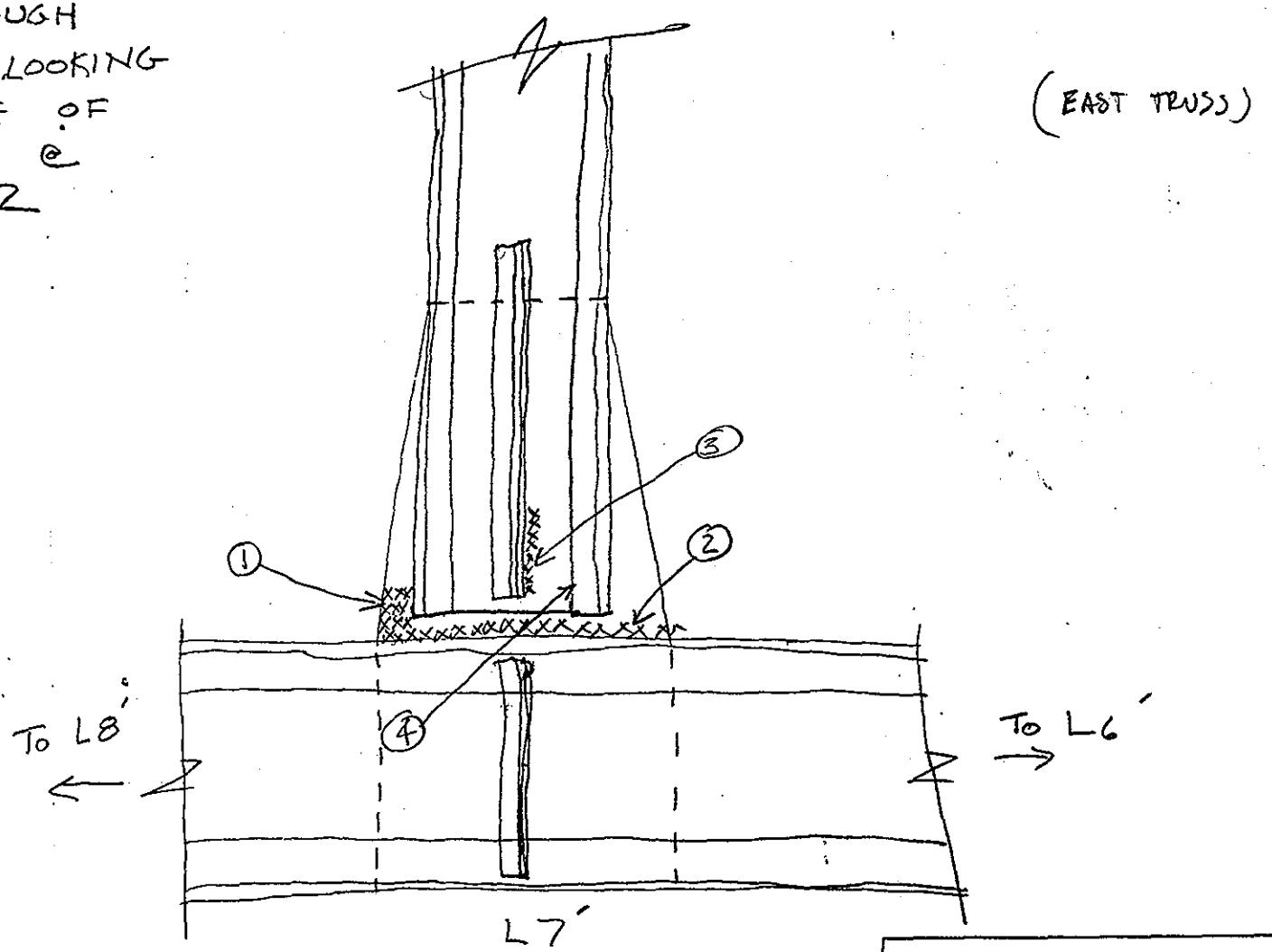
SECTION THROUGH EAST TRUSS LOOKING AT EAST FACE OF WEST GUSSET @ L7' SPAN 2



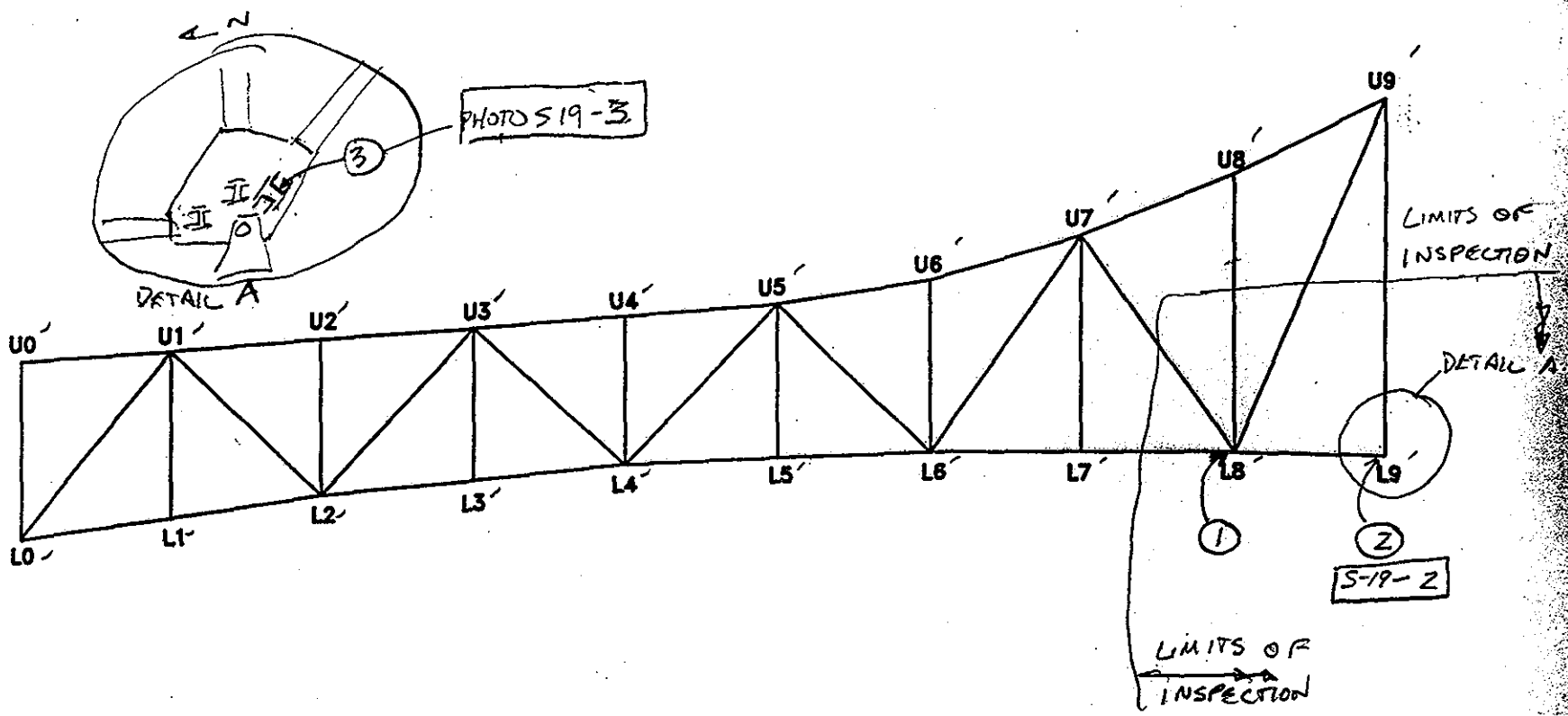
NOTES: ① 3/16" x 5" x 6" PITTING
② 1/8" x 1" HIGH x 47" PITTING ON GUSSET ALONG EDGE OF TOP FLANGE OF LOWER CHORD
③ 1/16" PITTING 10" HIGH ON VERT WEB PL ALONG STIFFENER PL
④ UP TO 1/4" (I.R.) BETWEEN N. FLANGE ANGLE & VERT. WEB PL

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/18/95
CREW: RON NT | SHEET 2 OF 4

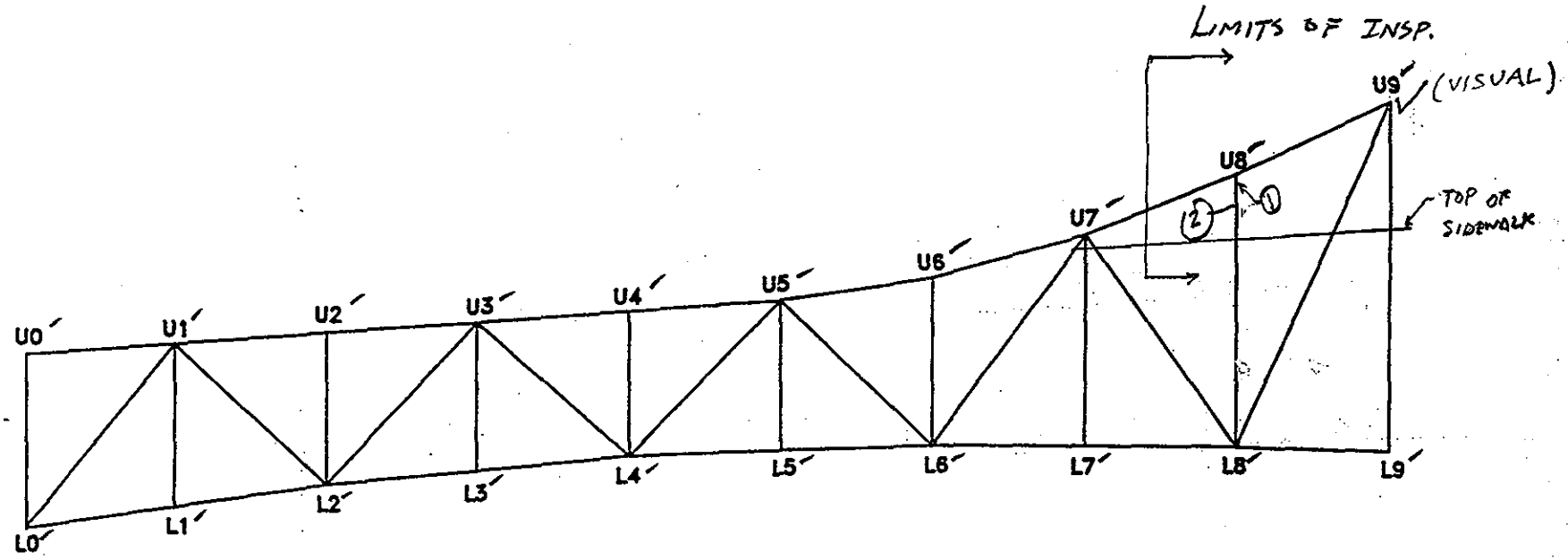


SPAN 2 (NORTH)

E TRUSS W ELEVATION

NOTES: (1) 1/8" PITT 4" Ø @ 2 LOCATIONS NORTH FACE, VERT. DIAPH
(2) 1" Ø HOLE IN UPPER GUS. ℞ Ø F LOWER LATERALS
(3) TRAPPED WATER / BOLTS STARTING TO RUST @ LOWER LAT. BR. FLNG.

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/18/95
CREW: TF, R²	SHEET 1 OF 2



SPAN 2

E TRUSS W ELEVATION

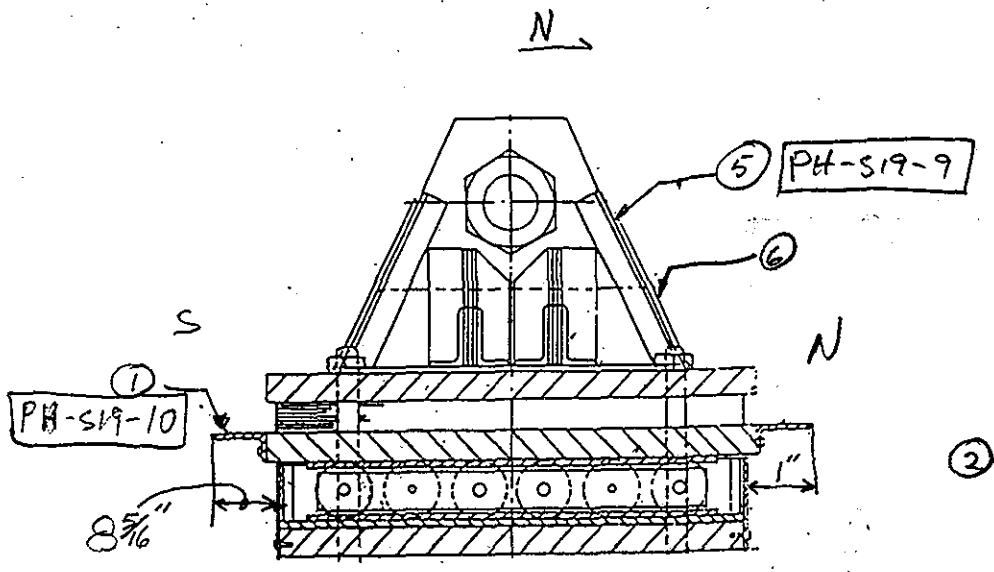
NOTES: → SCATTERED PATCHES OF UP TO 4"Ø x

(1) UP TO 3/16" PITTING ON THE INSIDE FACE OF THE EAST WEB PL OF U8L8

(2) UP TO 1/4" (IR) BETW THE FLANGE ANGLES & E. WEB PL OF U8L8.

TRUSS ELEVATION	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-20-95
CREW: NMT, JP	SHEET 3 OF 4

BEARINGS

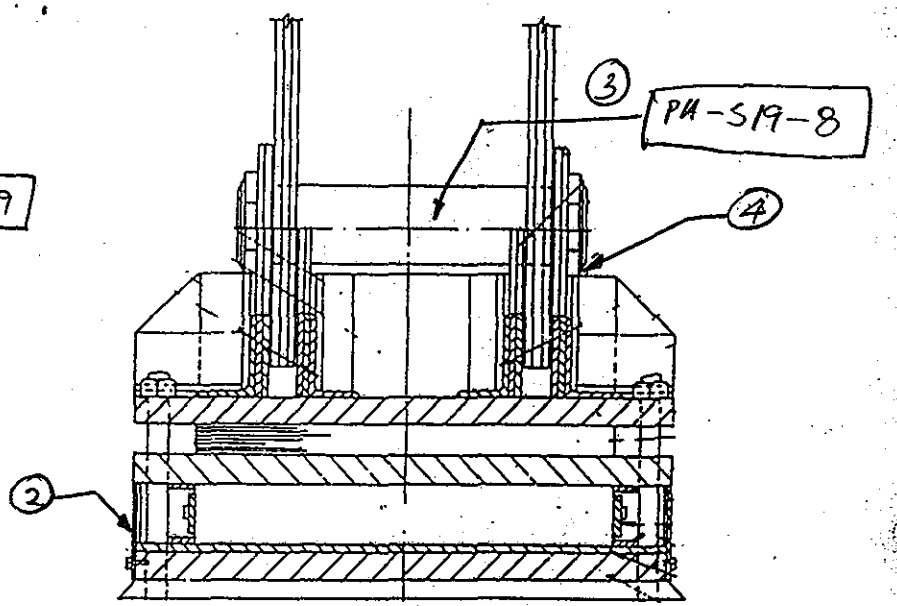


WEST BEARING (EXP.)

S ABUTMENT

~~PIER~~

℄ ELEVATION



S ELEVATION

70/134

GENERAL NOTES:

1/16" LONGITUDINAL MOVEMENT NOTED ON ROLLER BRNG OF SOUTH ABUTMENT (SEEMS TO BE DUE TO LIVE LOAD)

TEMP. = 85°F

NOTES:

1. ∠ BENT DOWN 1/2" AT SOUTH EAST CORNER OF WEST BRNG @ SOUTH ABUT.
2. ONE BOLT MISSING WEST FACE WEST ROLLER BRNG COVER PL
3. SOUTH SIDE OF WEST BRNG PIN DEBRI ACCUMULATED 3" DEEP PH-S19-8
4. RUST STAINS UNDERNEATH EAST SIDE WEST BRNG PIN
5. 1" KINK 2" LONG IN CONNECTION ANGLE EAST SIDE WEST BRNG PH-S19-9
6. RUST STAINS BETWEEN GUSSET PL AND BRNG PL AT BOTH EAST & WEST FACE OF WEST BRNG. NORTH SIDE ONLY.

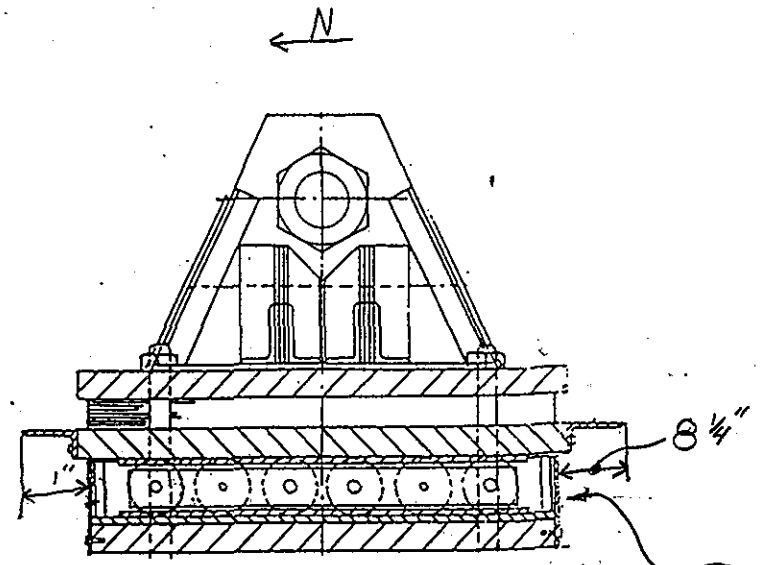
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

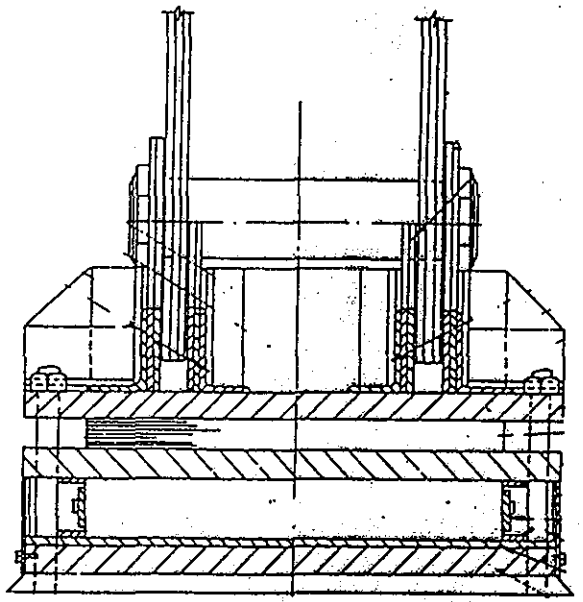
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-19-95

CREW: TF/KM | SHEET 2 OF 5



EAST BEARING (EXP)



S ABUTMENT

~~PIER~~

W ELEVATION

ELEVATION

GENERAL NOTES:
1/16" LONGITUDINAL MOVEMENT NOTED ON ROLLER BRNG OF SOUTH ABUTMENT (SEEMS TO BE DUE TO LIVE LOAD)

TEMP. = 85° F

NOTES:

① THREE MISSING BOLTS OF 21 EAST FACE COVER & OVER BRNG. ROLLERS OF EAST BRNG.

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/19/95

CREW: KM, TF | SHEET 1 OF 15

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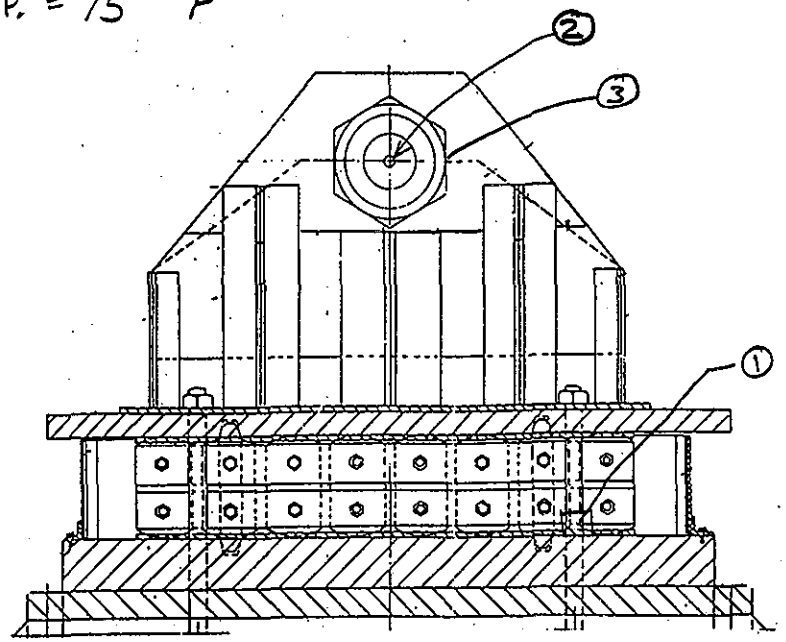
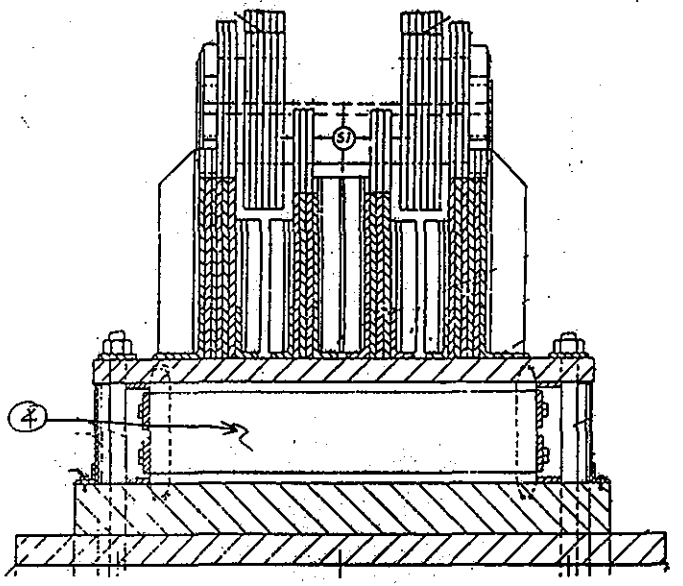
TEMP. = 75° F





___ ABUTMENT

___ ELEVATION

___ ELEVATION

SOUTH PIER, 1

S13-5

WEST BEARING

MEASUREMENTS:

SEE EAST BEARING, PIER 1 FOR MEASUREMENT LOCATIONS, (SHEET 1 OF 3 DATED 7/13/95)

(A) 3½" SOUTH

(B) 0" NORTH

WEST BEARING

NOTES: (1) ALL 4 ANCHOR BOLT NUTS ARE LOOSE, ALL 8 KEEPER BOLT NUTS ARE LOOSE.

* SIGNS OF MOVEMENT NOTED

(2) 2 SIDES OF HEX NUT ARE UP TO 30% DETERIORATED S13-6

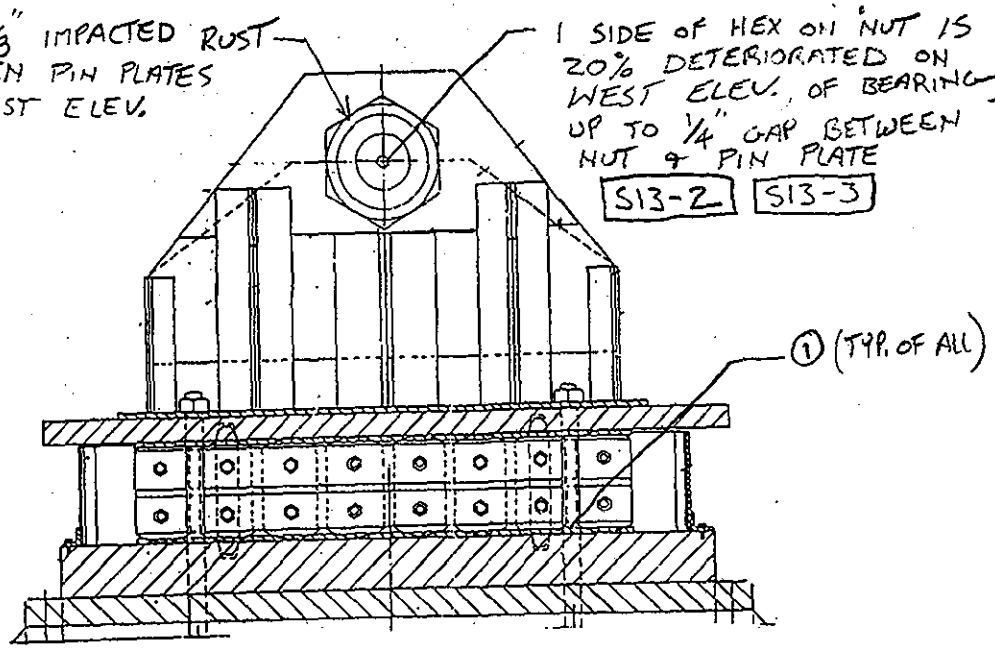
(3) UP TO ¼" I.R. BETWEEN PIN NUT & PIN PLATE

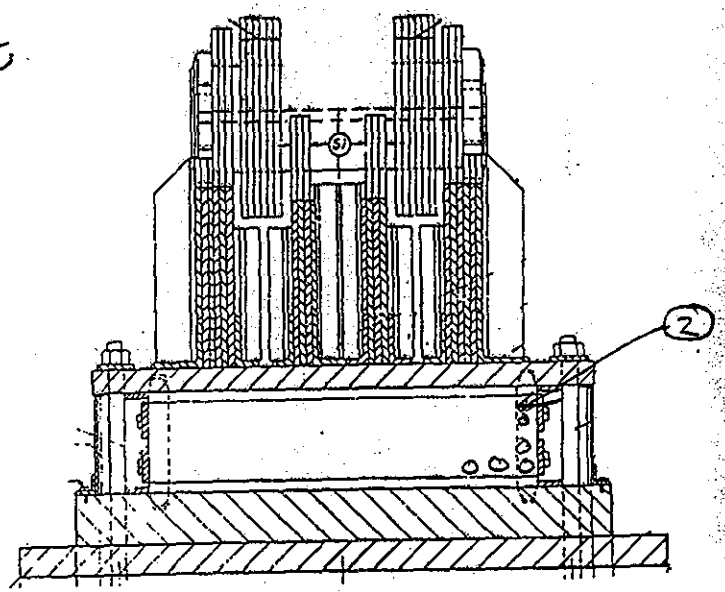
* DEBRIS BUILD UP AROUND PIN

(4) 2 OF 20 LOOSE BOLTS ON BEARING COVER NORTH SIDE, 1 OF 20 LOOSE SOUTH SIDE

S-13-7

BEARINGS PIER 1	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/13/95
CREW: PWN BH	SHEET 2 OF 3





N. ELEVATION

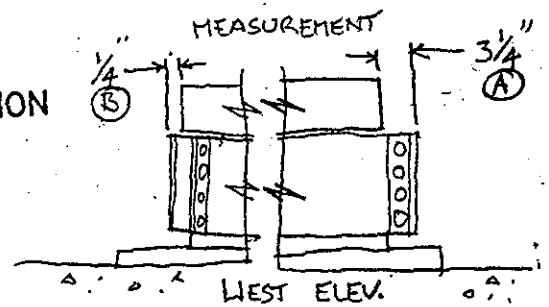
___ ABUTMENT

___ ELEVATION

SOUTH PIER 1

EAST BEARING

S13-4



EAST BEARING

NOTES: ① ALL 4 ANCHOR BOLTS LOOSE (Nuts move), ALL 8 BOLTS LOOSE W/ RECESSED THREADS UP TO 3/16" ON KEEPER BRACKETS (2 @ 4 locations)

* SIGNS OF MOVEMENT NOTED
* TEMP 75°F
② 2 OF 20 LOOSE BOLTS ON NORTH BEARING COVER, 1 OF 20 ON S. COVER
* DEBRIS BUILD UP AROUND PIN

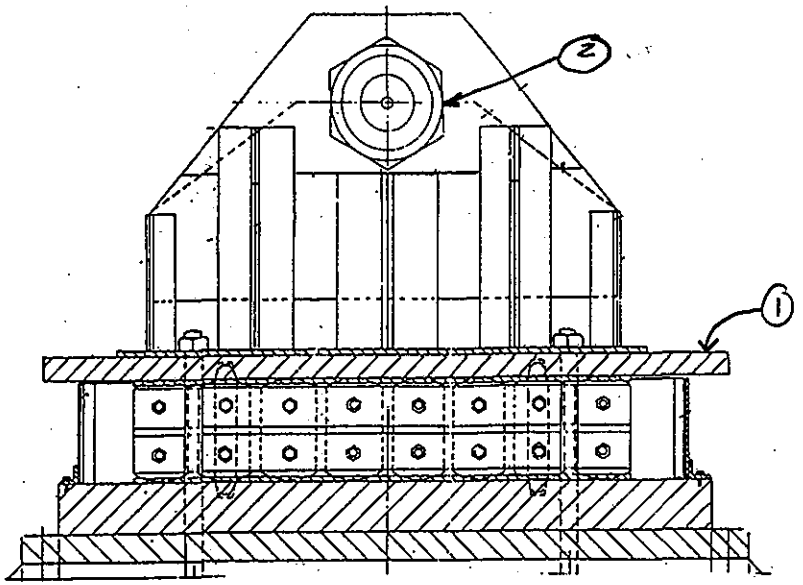
BEARINGS PIER 1

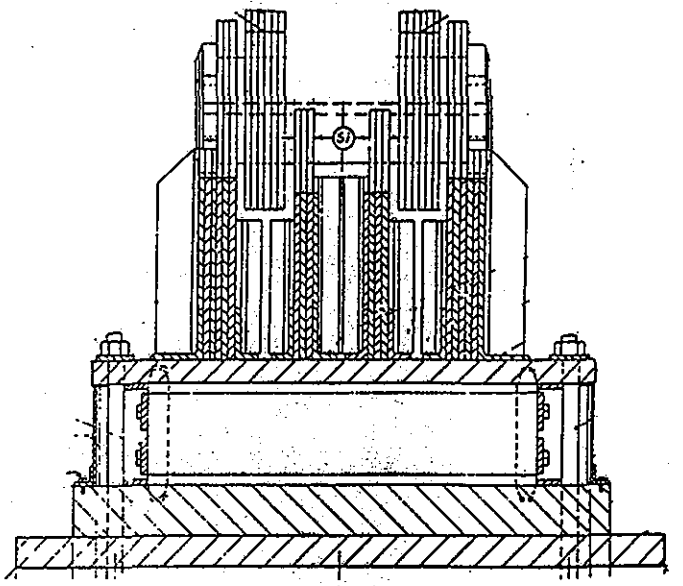
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/13/95
CREW: RON BH | SHEET 1 OF 3





___ ABUTMENT

___ ELEVATION

2 PIER (NORTH END BRIDGE)
WEST BRG. (FIX.)

___ ELEVATION

NOTE: NO SIGNS OF MOVEMENT.

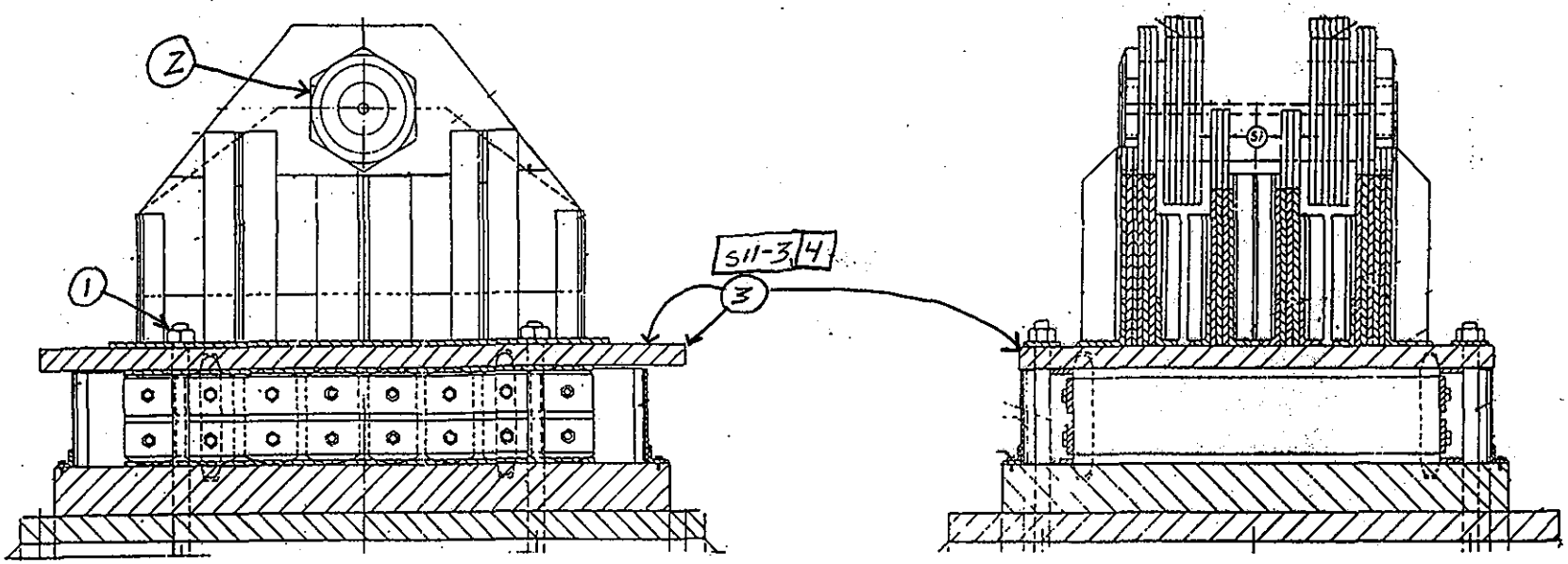
NOTES: ① TOP PAD PROTECT SHEATHING DETERIORATED ≈25% AROUND TOP EDGE (EAST ONLY.)
② DEBRIS AROUND PIN

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/14/15
CREW: TF, PWN, R² | SHEET 2 OF 52



___ ABUTMENT

___ ELEVATION

2 PIER (NORTH END OF BRIDGE)

EAST BRG.

(BRG IS FIXED)

___ ELEVATION

NOTES: ① 1/2" Neg THREADS ON EAST 2 (BOTH) ANCHOR NUTS

② DEBRIS ~~IN AND~~ AROUND PIN

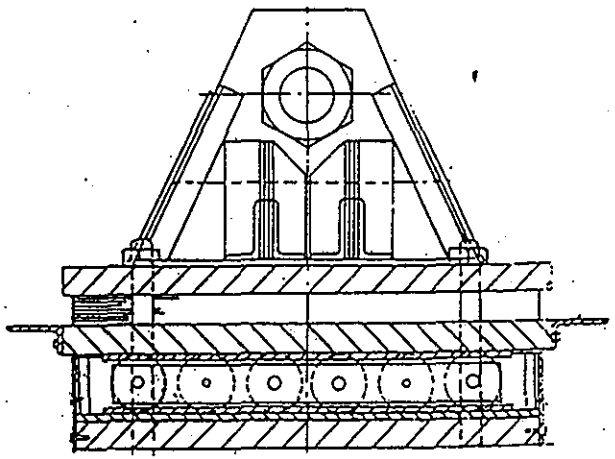
③ TOP PAD PROTECTIVE SHEATHING DETERIORATED AROUND TOP EDGE ~ ALL 4 SIDES.

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

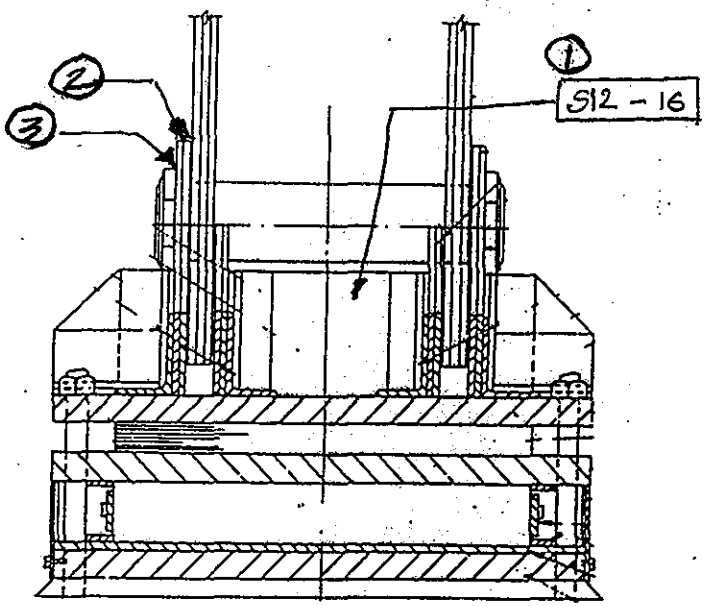
NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7/14/95
CREW: TF, RW, R²	SHEET 1 OF 5



N ABUTMENT

~~PIER~~



E ELEVATION

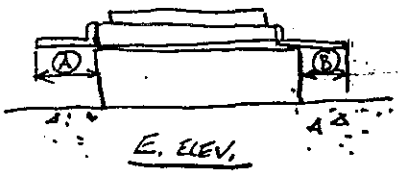
W. BEARING

S12-15

S ELEVATION

(A) S. MEASUREMENT = $5\frac{3}{4}$"

(B) N. MEASUREMENT = $3\frac{13}{16}$"



TEMP. = 75°F

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NOTES:

- EXPANSION BEARING – SIGNS OF MOVEMENT NOTED
- 1 OF 21 BOLTS LOOSE; 1 OF 21 BOLTS MISSING, EAST SIDE AND WEST SIDE
- (1) HEAVY DEBRIS AROUND PIN, FILLED TO CENTER OF PIN S12-16
- (2) 1/8" (IR) BETWEEN PIN PL & GUSSET PL, WEST FACE
- (3) 1/8" (IR) BETWEEN PIN NUT & PIN PL, WEST FACE
- SOUTH EAST ANCHOR BOLT COVER ATTACHED BY ONLY 2 OF 4 BOLTS (1 MISSING, 1 BOLT HOLE DETERIORATED

N. ABUT.
W. BEARING

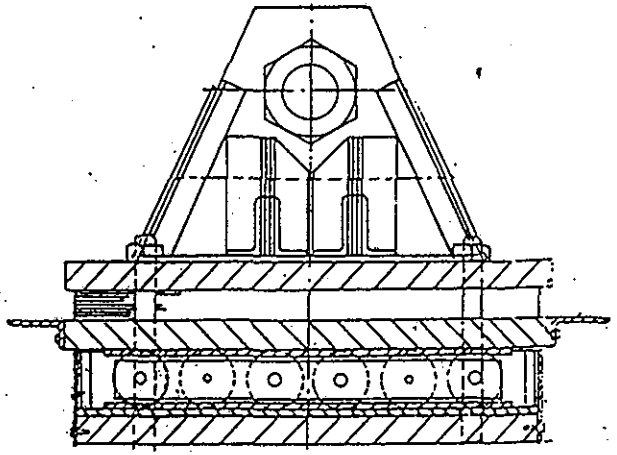
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

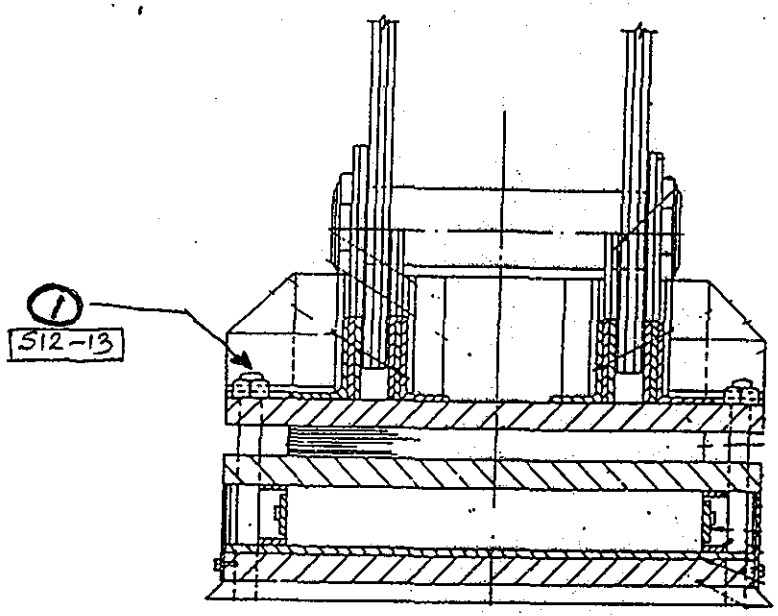
JOB #1784 | DATE: 7/18/95

CREW: PJN NT | SHEET 4 OF 4



N ABUTMENT

~~PIER~~



W ELEVATION S12-14

E. BEARING

9 ELEVATION

FOR MEASUREMENT LOCATION SKETCH SEE N. ABUTMENT W. BEARING

(A) = 6 9/16"

(B) = 2 15/16"

TEMP. = 75°F

NOTES:

- 2 OF 21 BOLTS MISSING AND 2 LOOSE, WEST SIDE
- EXPANSION BEARING - SIGNS OF MOVEMENT NOTED
- (1) S.W. ANCHOR BOLT LOOSE, NUT TIGHT; ANCHOR BOLT COVER NOT ATTACHED. HEAVY RUST ON BOLT & NUT. ONE HEX. OF NUT 50% DETERIORATED
- HEAVY DEBRIS AROUND PIN, UP TO MID HEIGHT OF PIN SHAFT. VEGETATION GROWING.
- 1 LOOSE - & 2 MISSING BOLTS ON EAST SIDE

N. ABUT.
E. BEARING

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

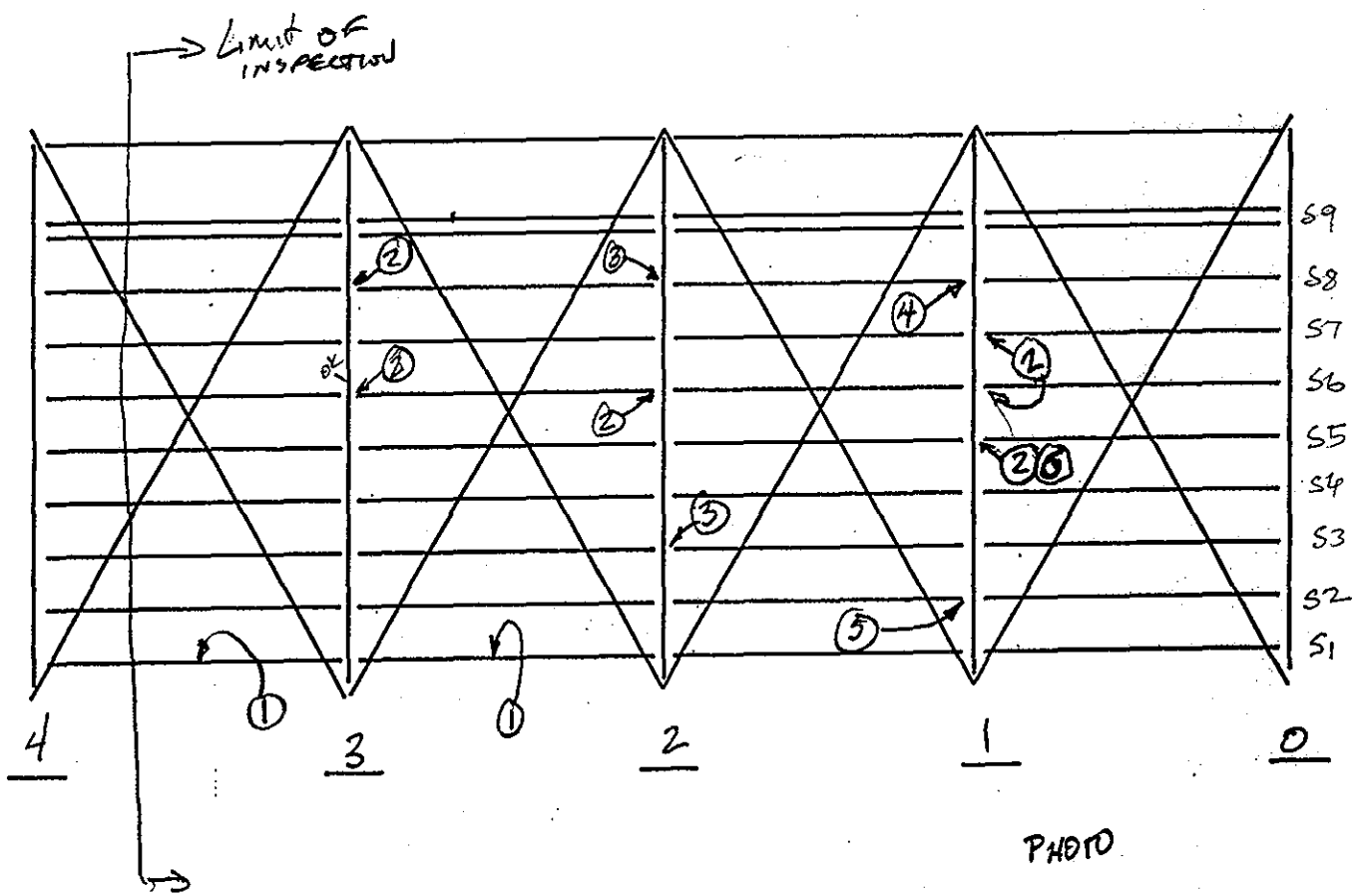
SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7/18/95

CREW: PWN NT | SHEET 3 OF 4

FLOOR SYSTEM



SPAN 3

NOTES:

1. - 1/4" pitting along E. EDGE OF STRINGER BOT. FLG. (Full length)
2. ABRASION DUST @ STRINGER CONNECTION TO FB.
3. 1/4" PITTING 1' either side of S9, full width of ½ bot flg of FB (bot of flg)
4. 1/4" Pitting bot 3" of FB stiffener, full width
5. 100% Loss bot 1" of FB stiffener, full width
6. bot 6" of FB stiffener KINKED 1" out of Plane

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-20-95
CREW: RZ, NT	SHEET 1 OF

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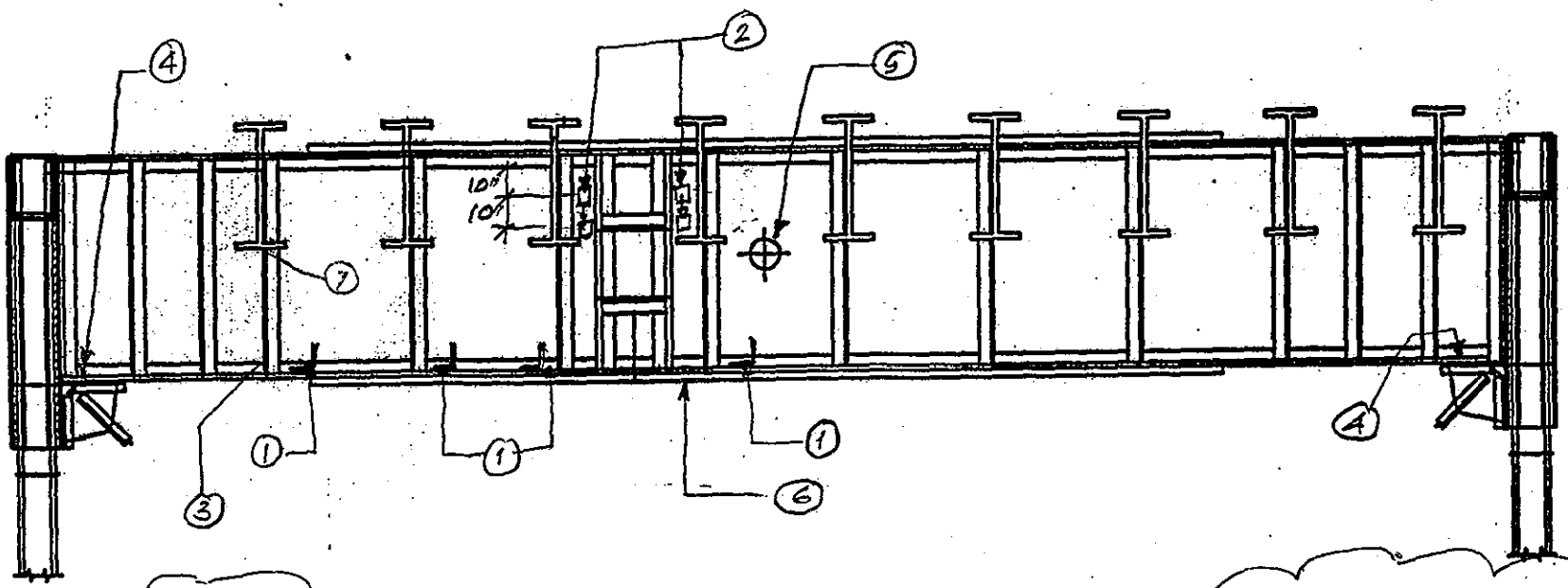
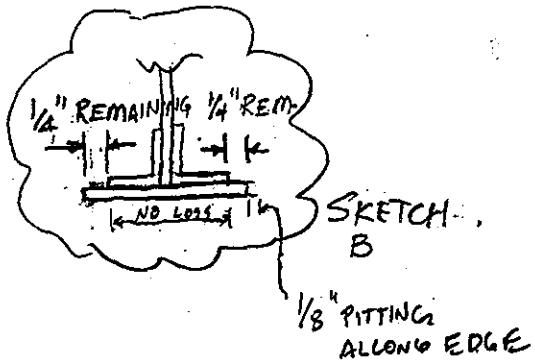
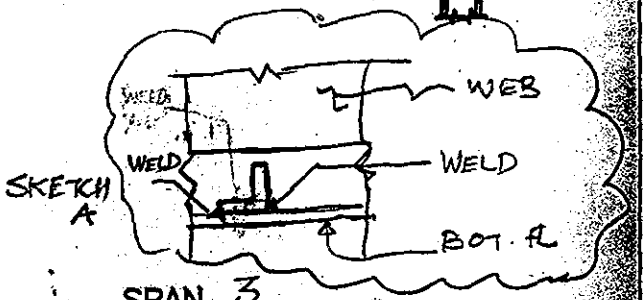






SPAN 3
FLOORBEAM O N ELEV.

NOTES:

1. 4 L's WELDED TO TOP OF BOT. PL, FIRST @ MIDSPAN, OTHERS SPACED @ 4' TO EAST (SEE SKETCH A)
2. 4"x4" PL WELDED TO F.B. WEB
3. 1/8" PITTING 3" HIGH ON WEST FACE OF STIFFENER, FULL WIDTH, (BOTTOM 3")
4. HEAVY DEBRIS AND PIGEON DUNG ON GUSSET AND ON TOP OF BOT. PL. & L, LAST STIFFENER BAY
5. 6"x12" PL's WELDED TO F.B. WEB @ LOCATION OF UTILITY HOLE. HEAVY RUST WITH UPTO 1/16" PITTING UPTO 2" WIDE ALONG THE CIRCUMFERENCE OF THE HOLE.
6. 1/4" REMAINING ON BOT. PL. COVER PL @ MIDSPAN (SEE SKETCH B)
7. 3/4" (R) ALONG BOTTOM EDGE OF S9 (BLOCKED FLG) & COMN L

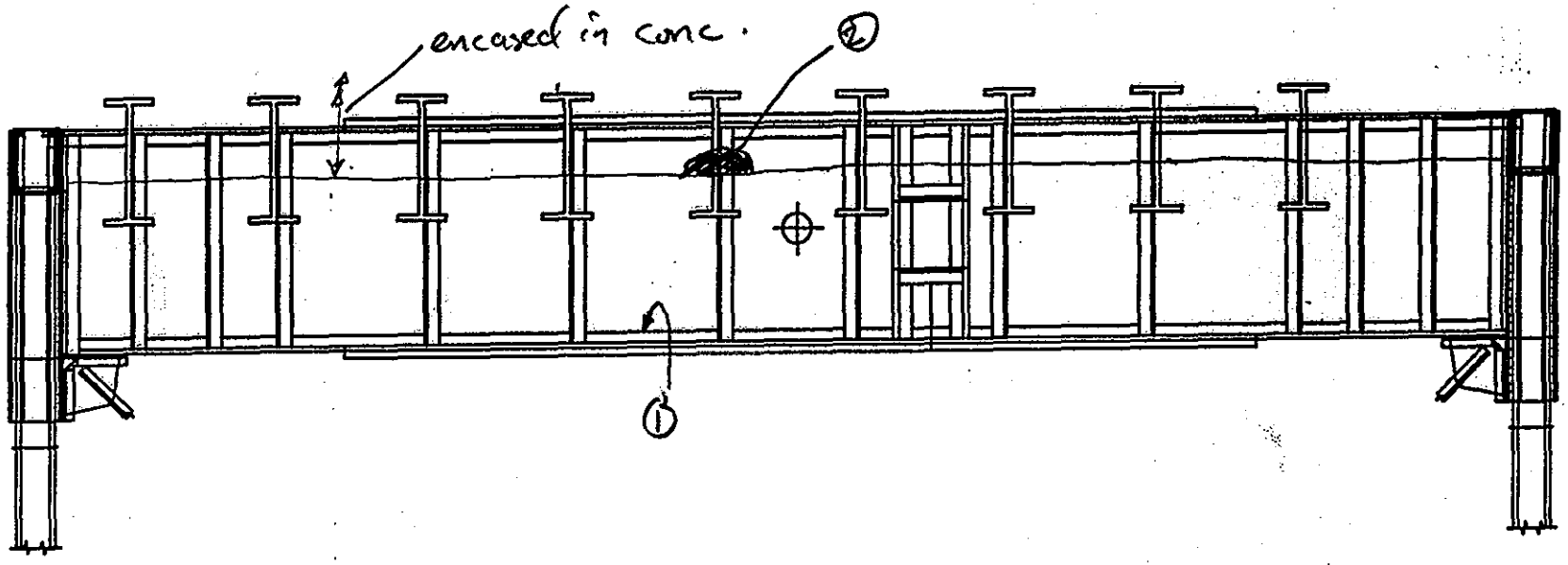
FLOORBEAM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7/20/95
CREW: AMT, RR	SHEET 2 OF



TYP MOD: RUST ENTIRE SOUTH FACE OF THIS FB

SPAN 3
FLOORBEAM 0 S ELEV.

NOTES:
① WELDED TROUGH BURNED OFF JUST ABOVE BOT. FLG ∡ (FULL LENGTH)
② 1' x 3" high x 2" deep spall in Conc. ENCASEMENT

FLOORBEAM 0

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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JOB #1784 DATE: 7-30-90
CREW: RZ, NT SHEET 3 OF

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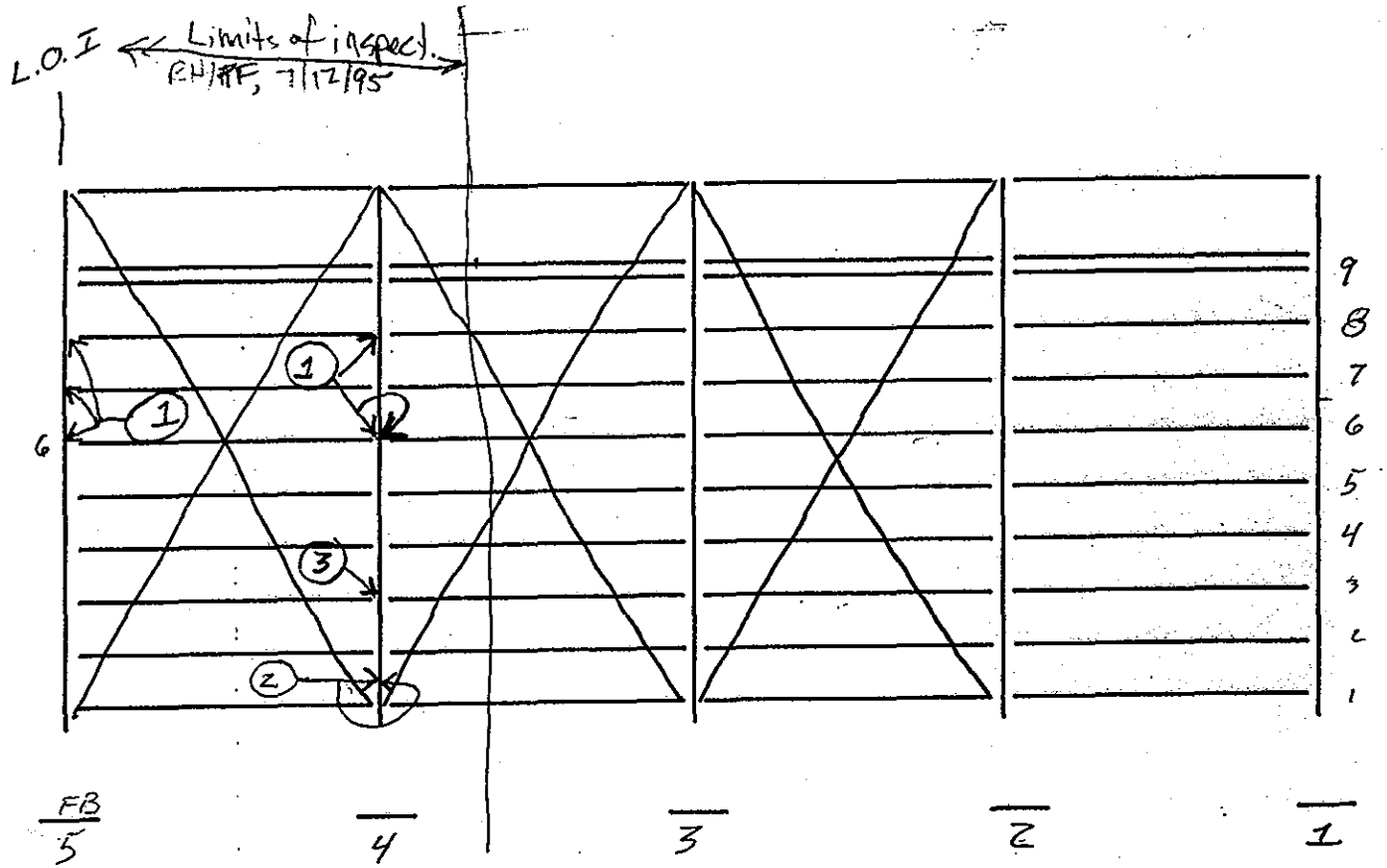

TYP NOTE: Welded UTIL. & BRKT. N. side F.B. 21" up From TOP of BTM Flg.

SPAN 3

NOTES: (1) AD = ABRASION DUST

(2) ≈ 1/2" gap Between Stiff & 3 BTM Flg.

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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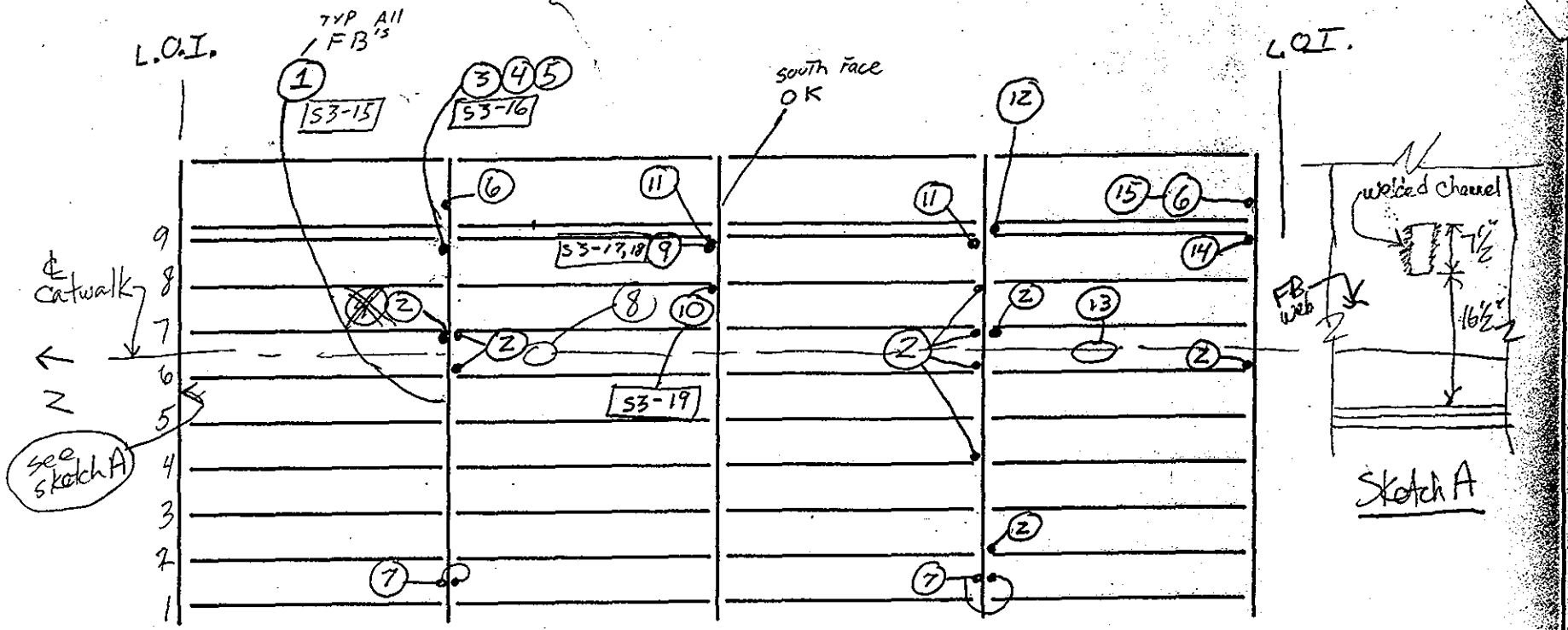
JOB #1784 | DATE: 7/12/95

CREW: BH, TF | SHEET 2 OF 2



(10) Cracked Rivett Head outer Row of BTM Flg FLR. Beam.
(11) UP TO 3/16" Pitt, 3" wide, TOP of BTM Flg F.B.
(12) 3/8" IR between STR & BTM Flg FB
(13) Same as (8) NOT as Severe
(14) Welded PL TO Stiff/conn &
(15) BTM Flg & to FB Web Connection 7 Bolts Replacing Rivetts.

NOTES: (1) Welded Util. Bracket N. Side FB 21" up From TOP of BTM FLNge. (TYP)
(2) ABRASION DUST between STR & Connect &
(3) 1/4" Pitt 3" Ø @ btm connect & Just Above FB BTM Flg w/ 1/8" Ø Pin hole
(4) UP TO 3/16" pitt outer 1" on BTM Flg Cov. PL under STR 7
(5) N. Edge BTM Flg 3/16" Pitted. (S3-16)
(6) Pitt 1½" high on FB Web 1/4" deep Just Above BTM Flg &
(7) Approx. 1/2" gap between Stif. & and BTM Flg.
(8) Both. west rail of catwalk bowed ≈2" over 4' span
(9) welded PL TO stiff/conn &, welded PL TO BTM of web of STR 9 ≈ 3"x12"

SPAN 3

FLOOR SYSTEM

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NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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JOB #1784 | DATE: 7/12/95
CREW: BH, TF | SHEET 1 OF 2

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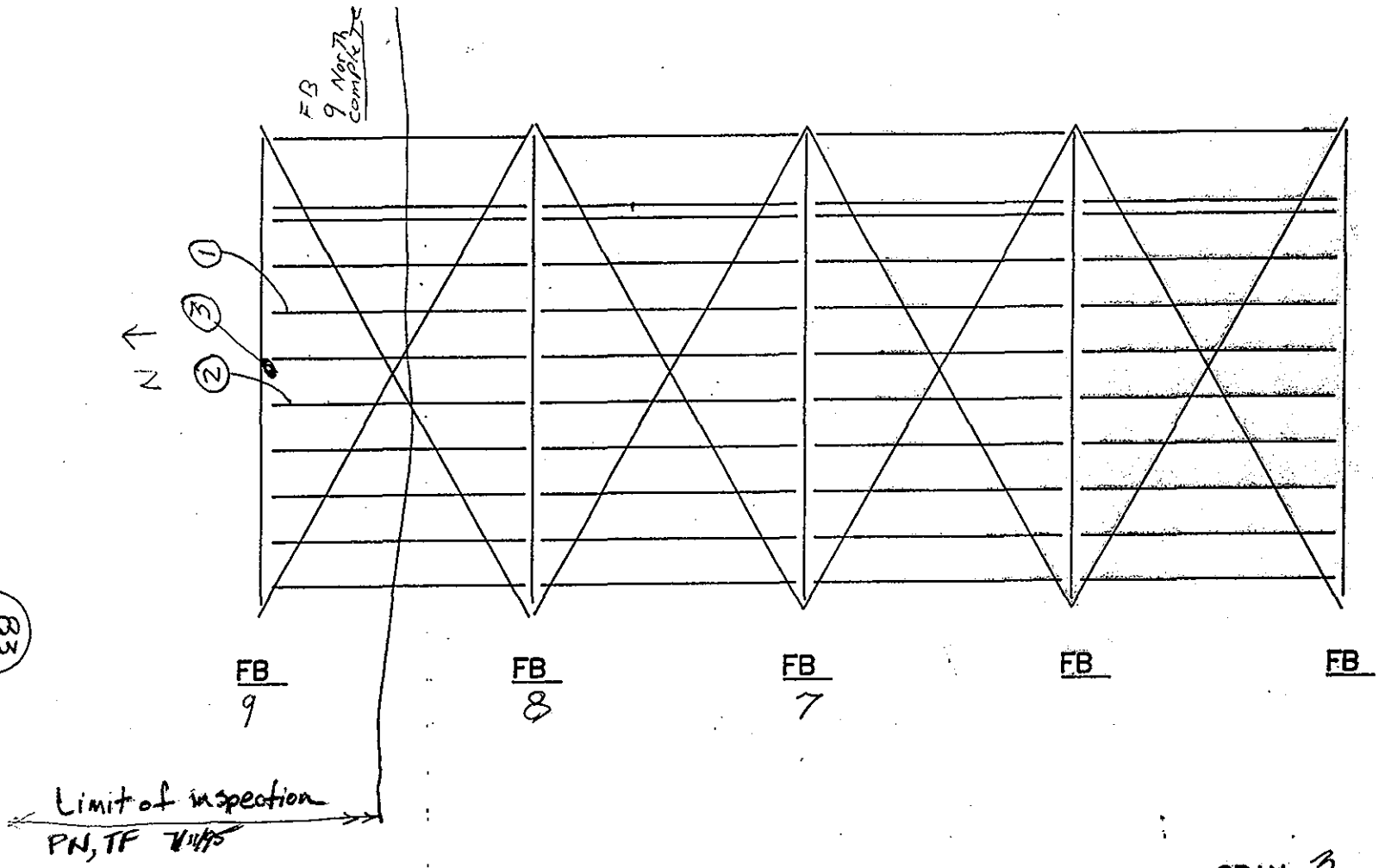
Sked. 1



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SPAN 3 TRUSS ____

NOTES: ① AD between Stringer and connection ∡
② Welded ∡ * Present on Top of Btm FLG FB 9 Below STR 5
③ UTIL Bracket welded to F.B. web. Adjacent to STR 6.

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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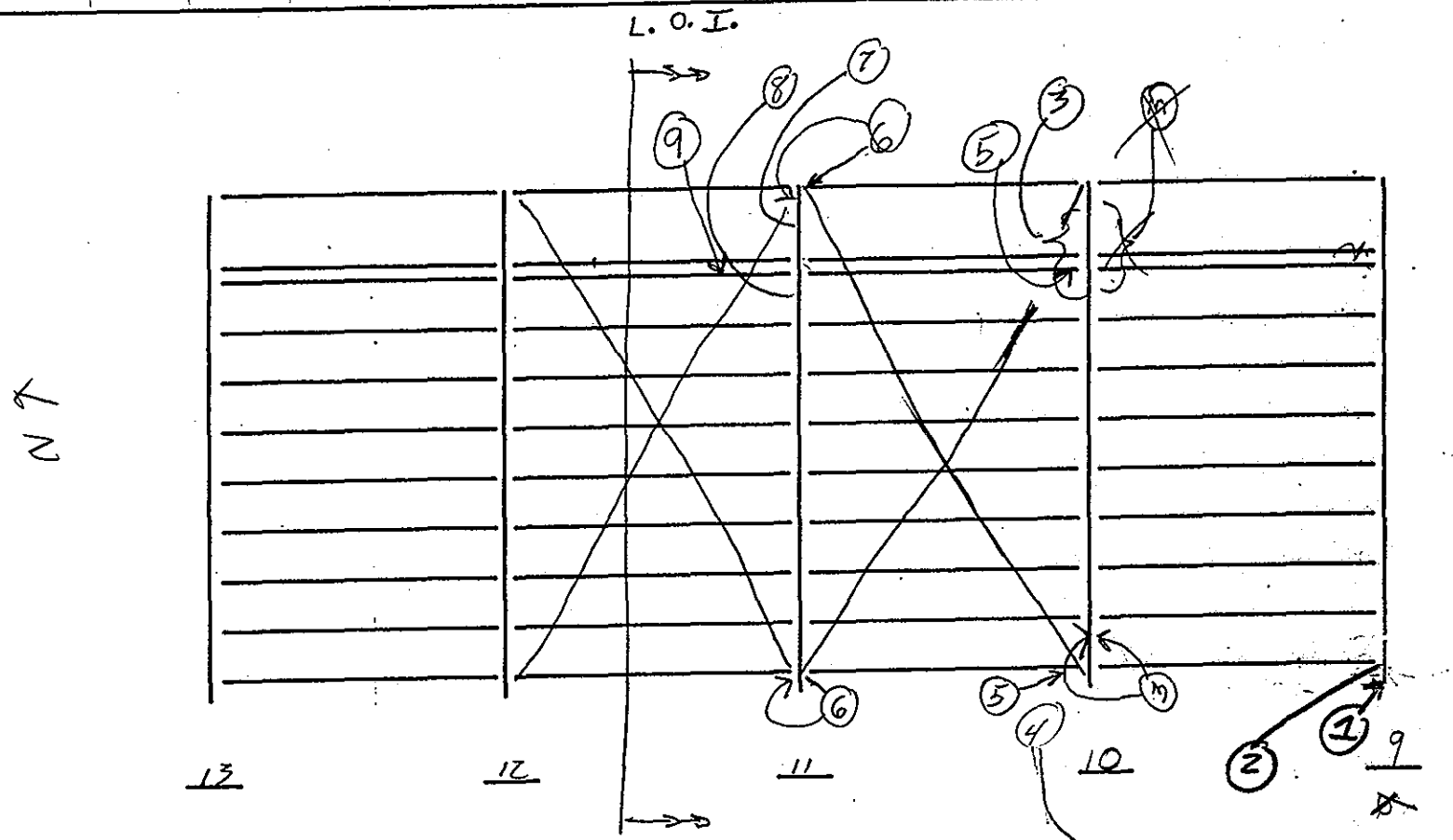
JOB #1784 DATE: 7/11/95
CREW: PN, TF SHEET 6 OF 6

Sheet 1



(9) Int. weld on cov. PL w/ no end Returns
IR Forming between cov. PL & STR.

Joint Does Not Leak. (FB/vert. conn. ∡)

SPAN 1

NOTES: (1) Pitting on west vert. Col. 1" wide x 1/8" deep Hgt of Clip ∡
(2) Impact. Rust. between STR 1 & Clip ∡ 3/4" Th I x 4" h I
(3) 1/16" Pitting BTM Flg between STR 1 & 2 / and between 8 & End
(4) See sht. 2 of 6, R2, TF, 7/11/95 (Floorbeam sht.)
(5) STR 9 Mod. Rust. @ Brg. Area. & STR 1
(6) IR Between Lat. Brace & Gus.
~~(7) IR " " "~~
(7) 1/8" Pitting of BTM Flg No cover PL (1/2 Flange width)
(8) 1/4 " " " " (1/2 Flange width)

FLOOR SYSTEM	
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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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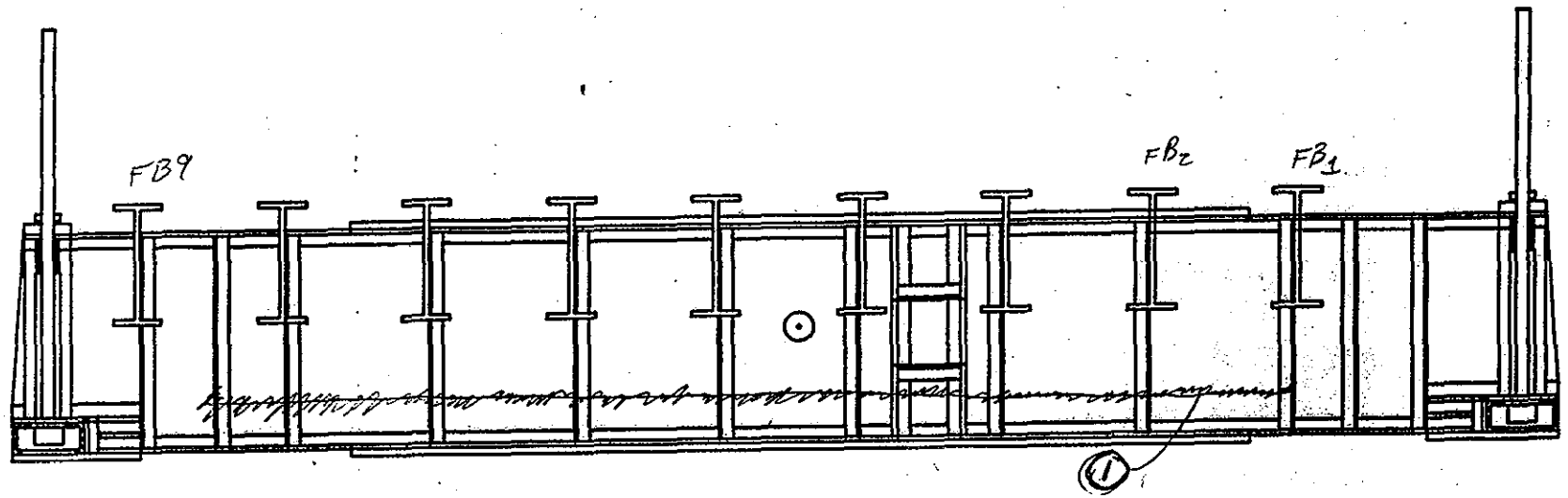
JOB #1784	DATE: 7/11/95
CREW: R2, TF	SHEET 1 OF 6

Sheet 2

~~Elev~~ Mirror Image of This Elev. shown



SPAN 1
FLOORBEAM 10 N ELEV.

NOTES: North ElEV F.B. 10
(1) weld 9" up From Btm of FLR Beam. (North Face)

FLOORBEAM	
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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 7/11/95
CREW: R2 TF	SHEET 2 OF 6

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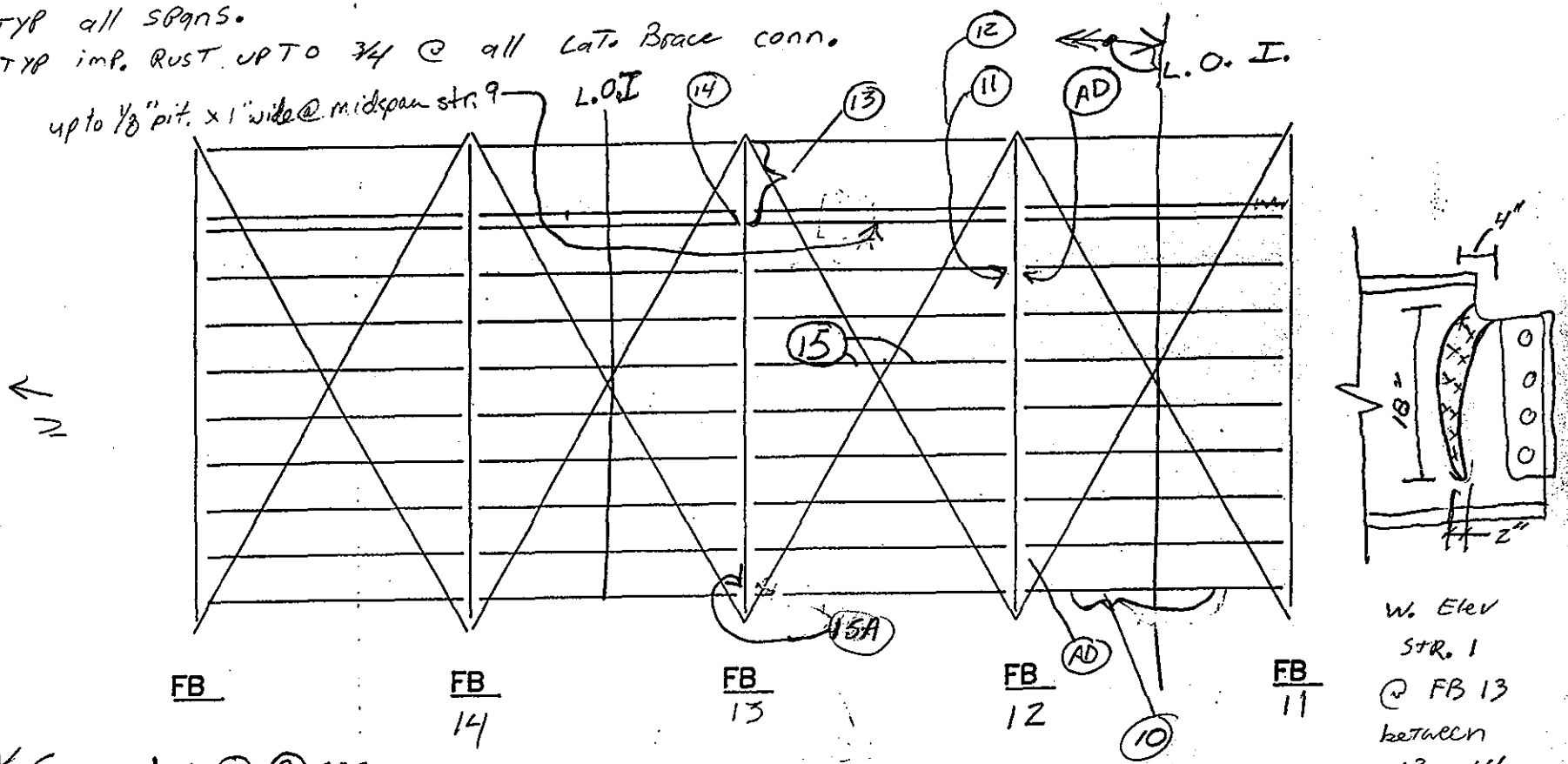
TYP all SPANS.
TYP imp. RUST UP TO 3/4 @ all Cat. Brace conn.



W. Elev
STR. 1
@ FB 13
between
13 - 14
(See note 15A)

* For notes ①-⑨ see
Sht. 1 of 6; R², TF; 7/11/95

(15) Catwalk handrail connection; rail to rail splice disattached.

(15A) STR 1 Hvy (Pitt) Along web 3/4" Hgt. of STR x 1/8" to 1/4" deep. see diagram This sheet.

SPAN 1 TRUSS

NOTES:

~~(10) Abrasion Dust~~
(AD) - Abrasion Dust
(10) Wind Bracing Heavily Pitted up to 3/4 Hgt. E. face of channel (TYP. 1/8" deep)
(11) Pin hole in Btm of stiffner. @ STR 9.
(12) 1/4" Pitting 1'-0" each side of stiffner x full width of 1/2 Bot. ft. on FB.
(13) 1/8" Pitting between S9 & End on FB Bot. ft x full width of 1/2 bot. ft
(Pitt) - Pitting
(14) 1/4" Pitt 1'-0" either side stiffner @ S9. (see (12) this sht.)

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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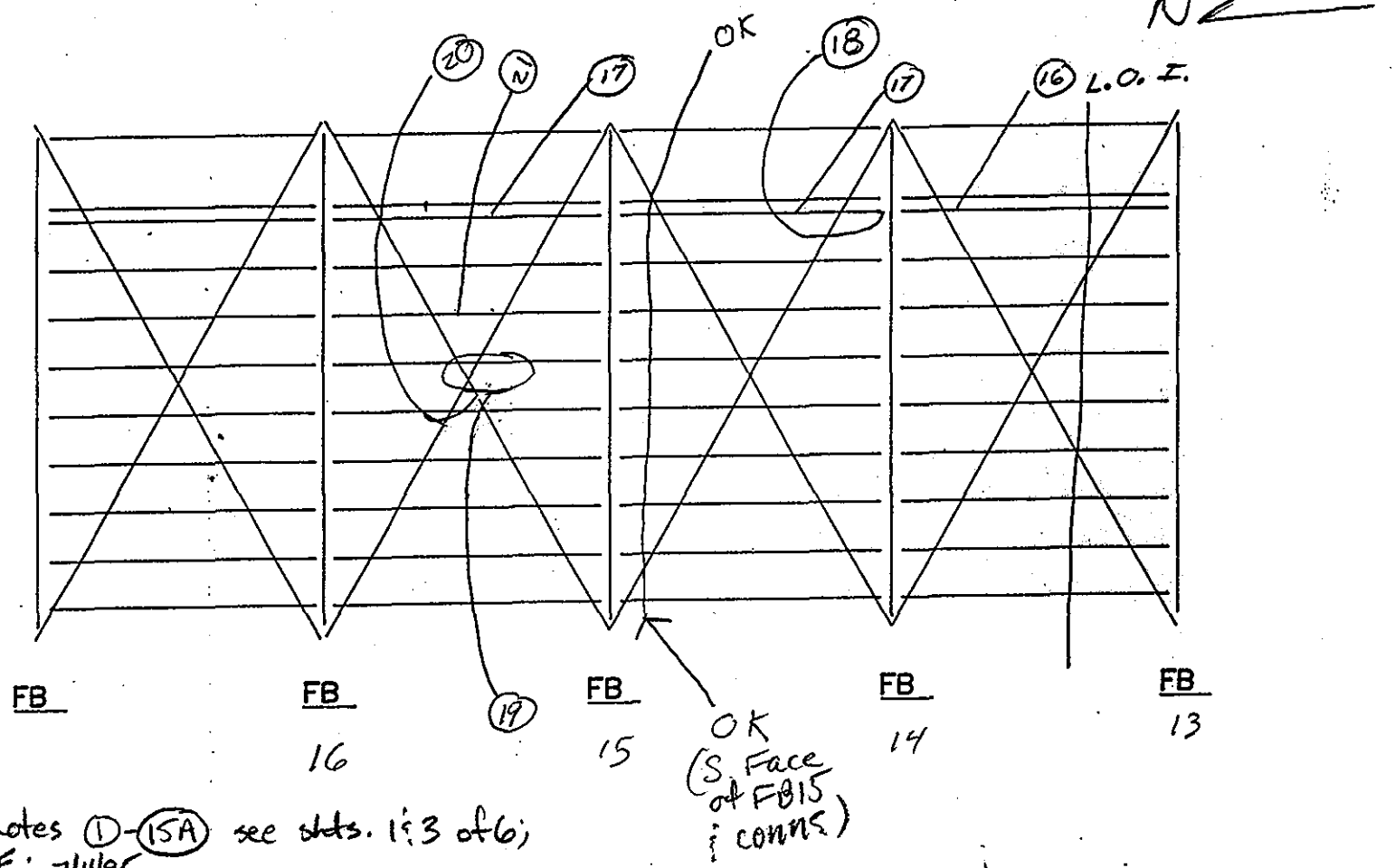
JOB #1784 | DATE: 7/11/95
CREW: R², TF | SHEET 3 OF 6



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* For notes (1)-(15A) see shts. 1 & 3 of 6; R², TF; 7/11/95

SPAN 1 TRUSS ____

NOTES:
(16) Int. weld on 16'-0" Cov. ℞ w/ no End Returns, I.R. Forming between ℞ & STR.
(17) 1/4" pitt, 1/2 Btm Flg width, Full Length, STR. 9.
(18) 1/4" pitt, 1/2 Btm. Flng width, 1'-0" each side of STR. 9 on FB
(19) 2 sections of Cat walk Grating major section loss. (25% members Rust Thru)
(20) 1/4" Ø hole in Lat. Brace
(21) 1/4" Pitt Btm Flng.; ~~1/2~~ 1" wide

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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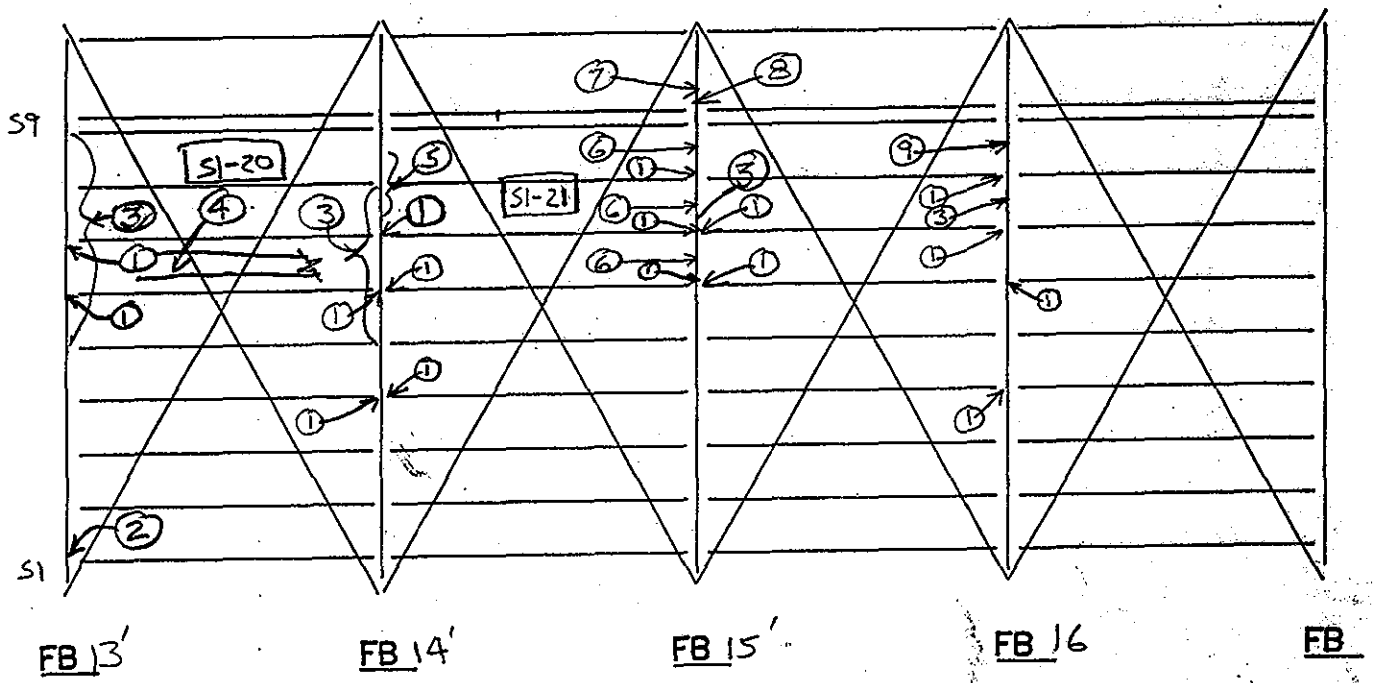
JOB #1784 | DATE: 7/11/95
CREW: R², TF | SHEET 5 OF 6

N

* FOR TYPICAL NOTES, SEE SHEET 1 OF DATED 7/11/95



⑨ UP TO 3/16" PITTING 3" WIDE ON TOP OF BOTTOM FLANGE

SPAN 1 TRUSS ____

NOTES:
① A.D. BETWEEN STRINGER & CONN. ANGLE
② WELDED REPAIR PR ON STRINGER CONN. ANGLE
③ UP TO 3/16" PITTING ON OUTER 1" OF BOT. FL COV. PL.
④ CORROSION OF CATWALK BEARING BARS S1-20
⑤ UP TO 1/8" PITTING 3" WIDE ON TOP OF BOT. FL OF FB [illegible] PLATE
⑥ PAINT ON FLBM WEB PEELING
⑦ UP TO 1/8" PITTING 1 1/2" HIGH. E. OF S9 ON FLBM WEB
⑧ UP TO 1/8" PITTING 3/4" HIGH ON FLBM WEB JUST ABOVE BOT. FL ANGLE

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

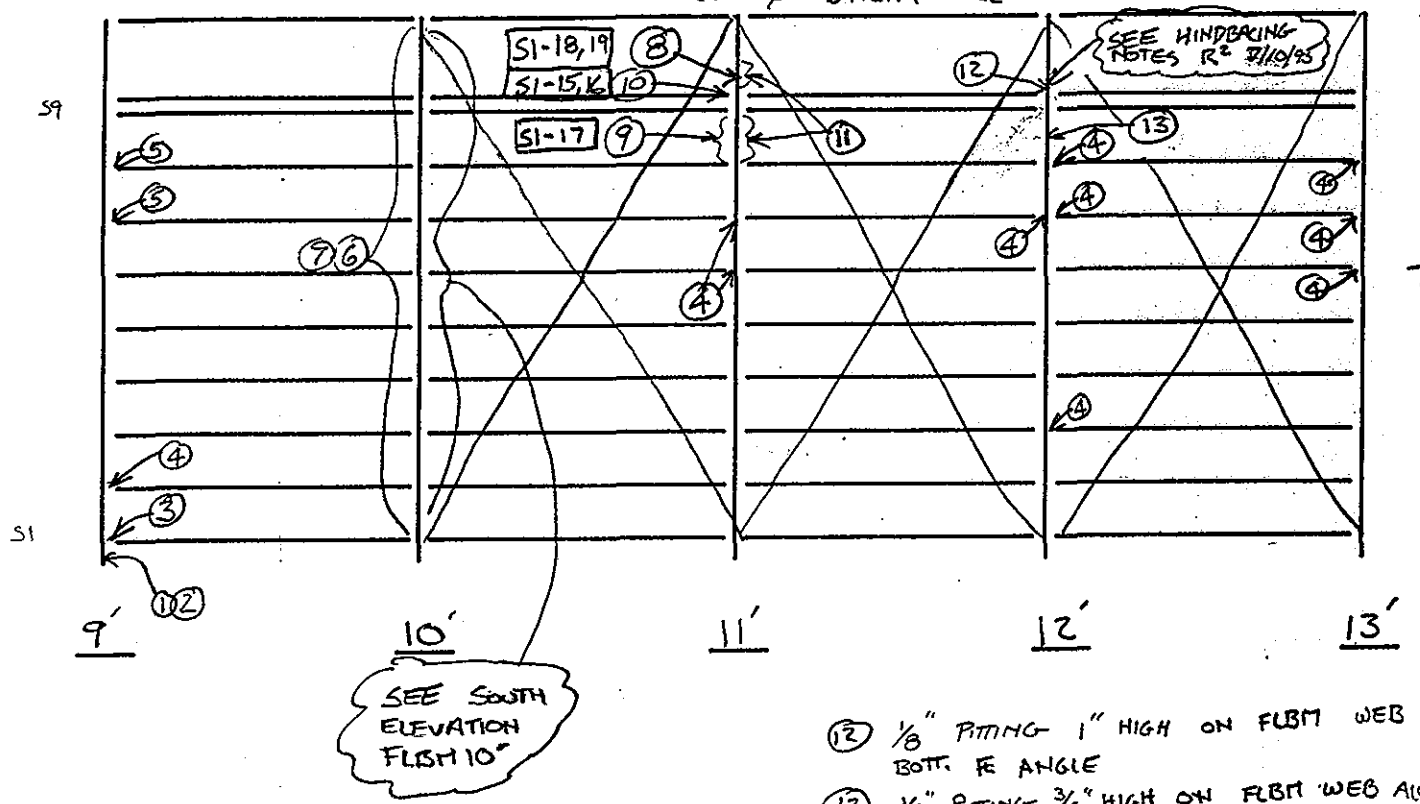
JOB: #1784 DATE: 7/11/95
CREW: RJH BK SHEET 3 OF 3

GENERAL NOTE: SCUPPERS FUNCTIONING,
(4)-2¾"ø HOLES IN WEB FOR UTILITIES,
2 ON EACH SIDE OF CATWALK,
BETWEEN S6 & S7,
(1)-1'ø UTILITY HOLE BETWEEN S5 + S6

GENERAL NOTE:
STEEL EXHIBITS
LIGHT SURFACE
RUST LESS THAN 5%

TYP. - UTILITY SUPPORT ANGLE WELDED TO FLBM WEB ON N. FACE, of FB JUST BELOW 1'ø UTILITY HOLE.

TYP. 50% OF CATWALK GRATING HAS BEEN REPLACED, REMAINING GRATING EXHIBITS LESS THAN 10% OF BEARING BARS RUSTED THROUGH 100%



(12) ⅛" PITTING 1" HIGH ON FLBM WEB ALONG TOP OF BOTT. FE ANGLE

(13) ¼" PITTING ¾" HIGH ON FLBM WEB ALONG TOP OF BOTT FE. ∠.

(9) (4) RIVET HEADS BEGINING TO MUSHROOM

(10) ⅛" x ¼" GOUGE IN STRINGER WEB @ COPE

(11) UP TO 3/16" PITS, 2" LONG, IN FLBM WEB ALONG TOP OF BOTTOM FLANGE ANGLE

SPAN 1

NOTES:

1. BOTTOM RIVET *CRACKED ON VERTICAL CONN. ∠ BETWEEN TRUSS VERT + FLBM.
2. 6 RIVETS (SPREAD OUT) W/ MISSING HEADS ALONG TRUSS VERTICAL
3. WELDED PLATE REPAIR ON STRINGER CONN. ANGLE
4. A.D. @ STRINGER CONN TO CONN. ∠.
5. UP TO ¼" I.R. BETWEEN STRINGER & STRINGER CONN. ∠.
6. TYP. KNEE BRACKET SUPPORTS @ STRINGERS
7. DOWN TO ¼" REM CENTER SPAN ON OUTER 1" OF BOTT. COV. PLATE
8. UP TO ¼" LOSS ≈ 10" HIGH, FLRBM WEB N. FACE, E OF S9

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/11/95
CREW: PWN BH	SHEET 1 OF 3

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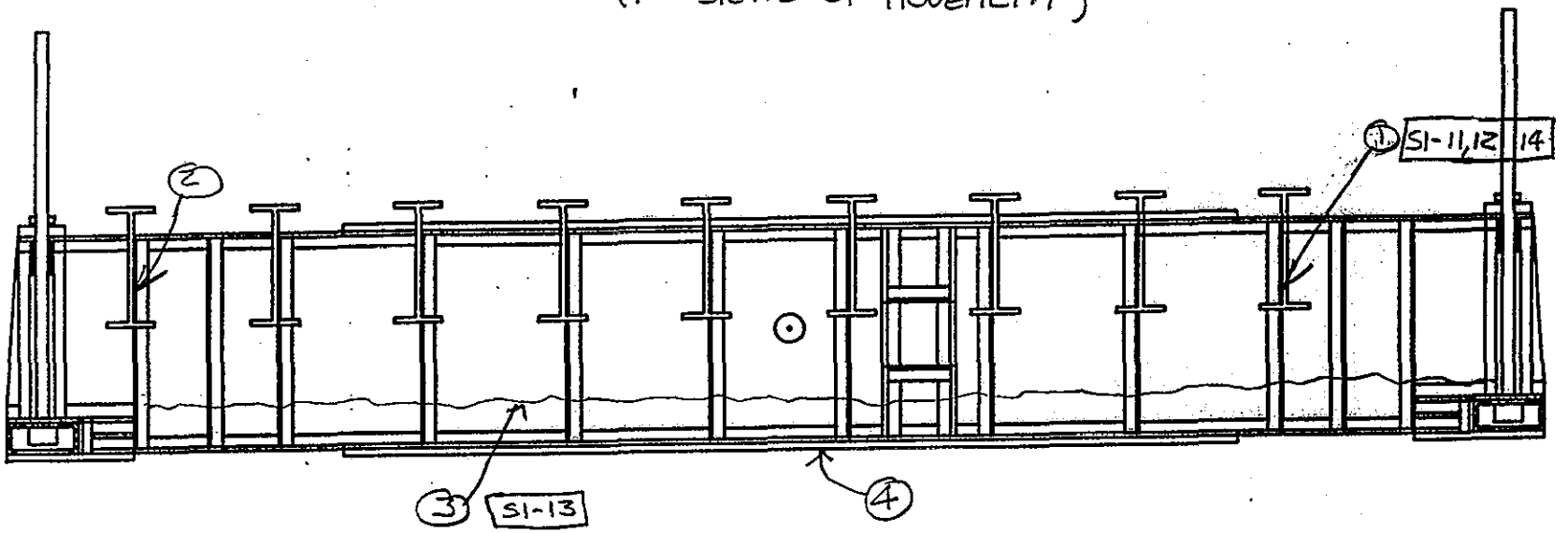
TYPICAL NOTE: PAINT SEALED BETWEEN SLOTTED HOLES AND EXP. BOLTS @ STRINGER BEARING SEATS ON KNEE BRACKET (NO SIGNS OF MOVEMENT)



SPAN 1
FLOORBEAM 10' S ELEV.

NOTES:
1. HEAVY RUST ON & AROUND STRINGER & KNEE BRACE — S9,
2. S1, LIGHT TO MED RUST ON & AROUND STRINGER & KNEE BRACE
3. WELD PRESENT FULL LENGTH ON WEB
4. DOWN TO 1/4" REM ON OUTER 1" OF BOTT. FE. COV. PL.

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/11/95
CREW: RWH BH	SHEET 2 OF 3

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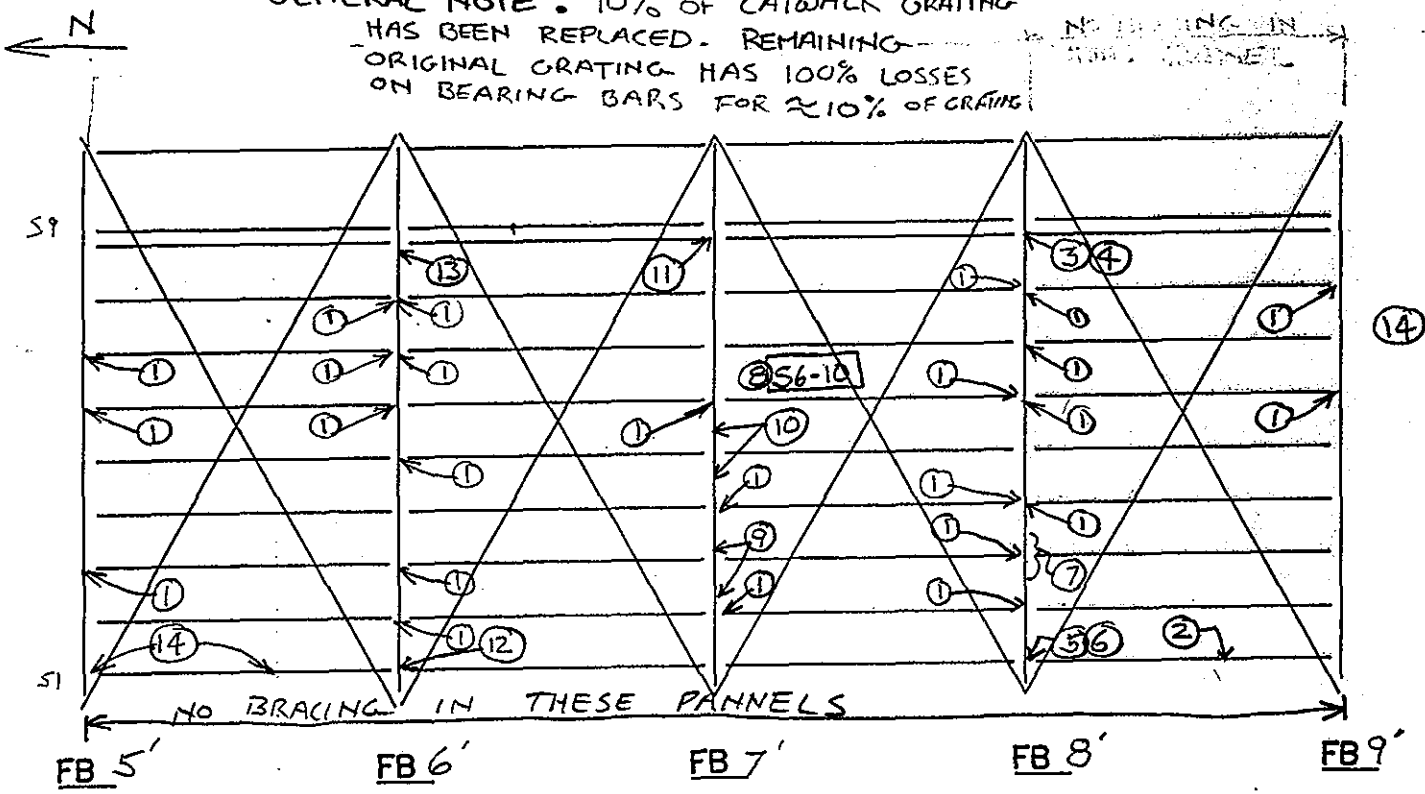
GENERAL NOTE: 10% OF CATWALK GRATING HAS BEEN REPLACED. REMAINING ORIGINAL GRATING HAS 100% LOSSES ON BEARING BARS FOR ≈10% OF GRATING



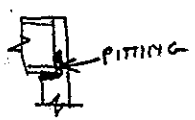
(14) UP TO 1/4" PITTING ALONG EAST EDGE OF STRINGER BOTTOM FLANGE, FULL LENGTH

(9) 3/16" PITTS × 1"² ON TOP OF BOTT. FLANGE JUST E. OF STIFF. ∠.

(10) UP TO 1/8" × 1"Ø PITTING ON TOP OF BOTTOM FLANGE (TOTAL SURFACE AREA OF FLANGE LESS THAN 1%)

(11) 1/8" × 1"² PIT ON TOP OF BOTTOM FLANGE.

(12) 3/16" PITTING ON STIFF. < JUST BELOW STRINGER



(13) 1/8" PITTING 2"×2" ON TOP OF BOTTOM PL

NOTES:
(1) A.D. BETWEEN STRINGER & STRINGER CONN. ANGLE
1/2 flange width → (2) 1/8" TO 3/16" PITTING ON TOP & EDGE OF WEST BOTT. FLANGE OF STRINGER
→ (3) 1/8" PITTING TOP OF BOTTOM PL OF FLOORBEAM, 1' E.S. (each) OF S9 STIFFENER
(4) WELDED REPAIR PL ON STIFFENER ANGLE
Full width → (5) 3/16" TO 1/4" PITTING 1" HIGH ON STIFF. < JUST BELOW STRINGER
(6) UP TO 3/16" PITTING ALONG (on) EDGE OF STRINGER BOTT PL @ CONN.
(7) UP TO 1/4" PITTING ON OUTER 3/4" OF COV. PL 1' E.S. OF S7 STIFF. ∠
(8) SEVERAL BEARING BARS ON CATWALK 100% DETERIORATION (2 SECTIONS 6'-9")

SPAN 2 TRUSS —

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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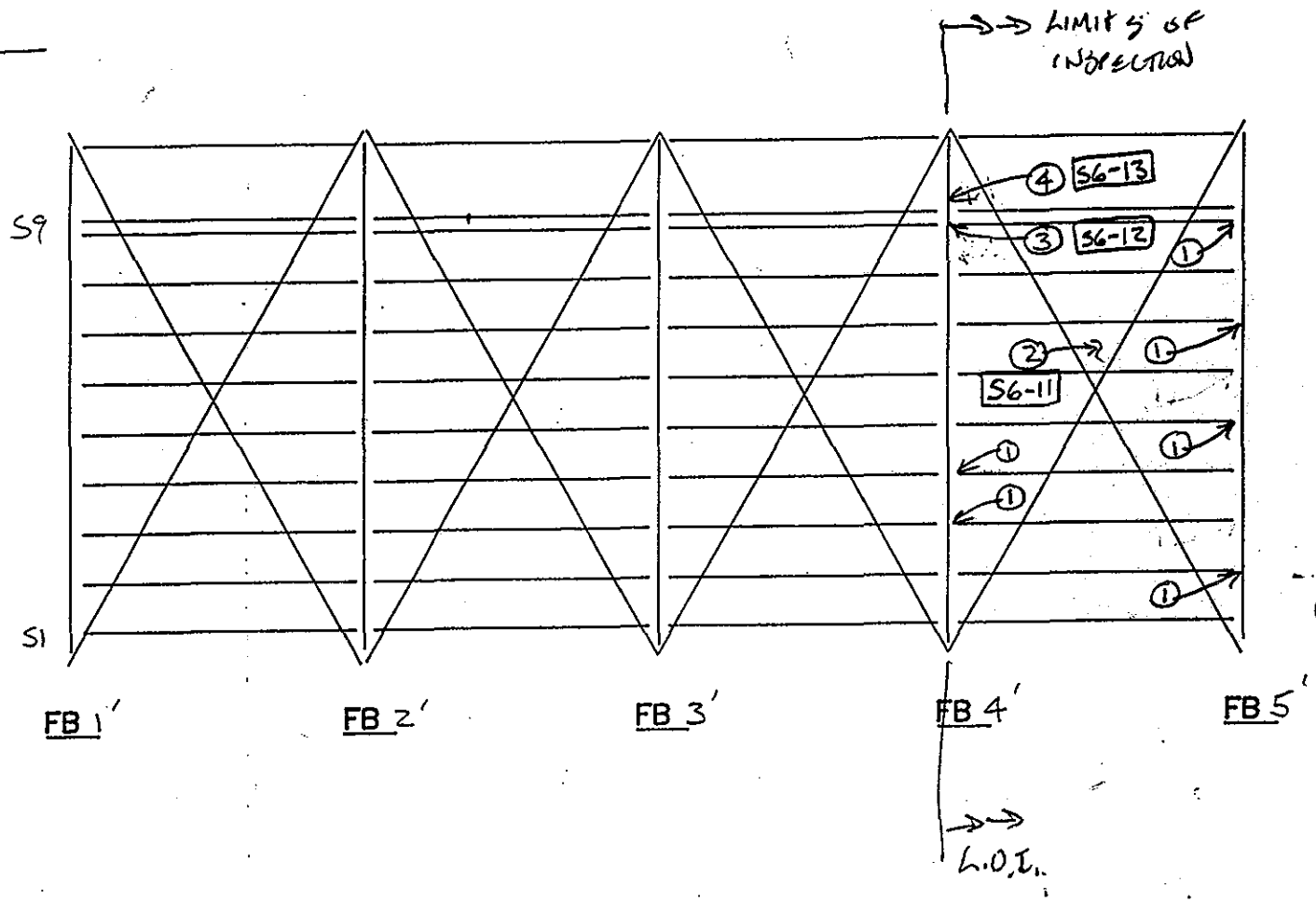
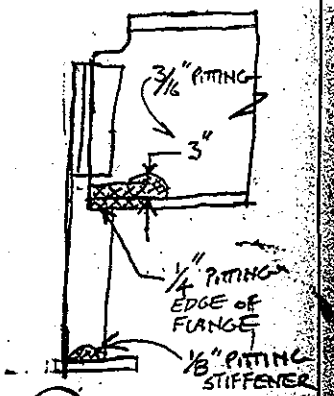
JOB #1784	DATE: 7/12/95
CREW: PWN R²	SHEET 1 OF 2





③ W. ELEV S9 @ FB 4' S. SIDE

SPAN 2 TRUSS —

NOTES: ① ABRASION DUST BETWEEN STRINGER & CONNECTION ANGLE
② (2) 100% DETERIORATED BEARING BARS ON CATWALK NEXT TO EACH OTHER, POSSIBLE TRIPPING HAZZARD
③ (SEE SKETCH)
④ UP TO 1/4" PITTING ON 1/2 OF SOUTH BOTTOM FLANGE WIDTH

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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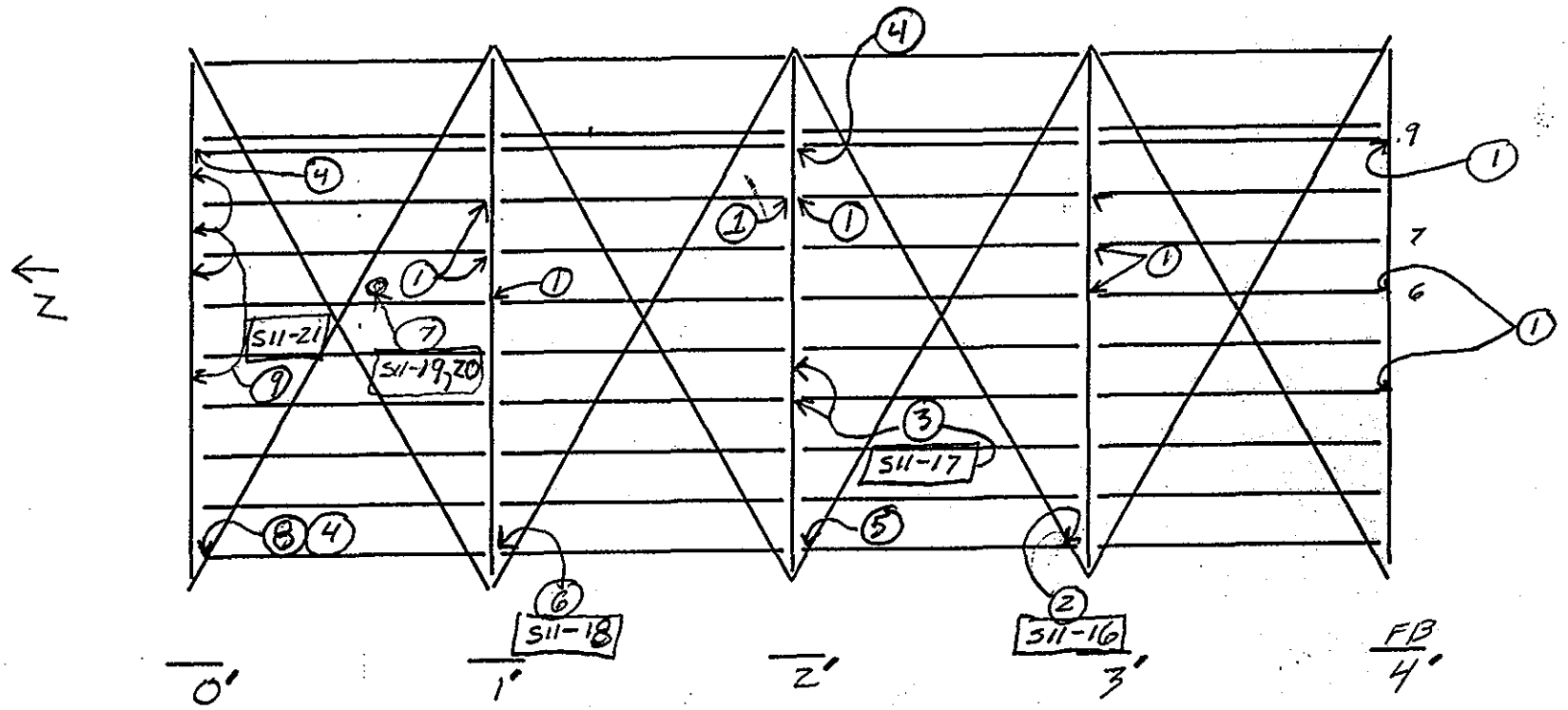
JOB #1784 | DATE: 7/12/95
CREW: PWN R² | SHEET 1 OF 2



TYP NOTE: UTIL. BRKT. WELDED TO F.B. N. FACE BETWEEN STR. 6 & 5.

SPAN 2

NOTES:
1. A.D. BETWEEN STR & CONN. ∡.
2. KINK IN BTM ∡ of LAT. BR @ GUS. ℞
3. 2 DINGS BTM. FLG. COVER ℞
4. 1/8" PITT, FULL WIDTH BTM FLG OF F.B, BELOW S-9.
5. 3/16" PITT 2" WIDE ON STIFNER ∡
6. REPAIR ℞ TO STIF/CONN. ∡ @ STRINGER 1.
7. MISSALIGNED CAT WALK DECK W/ 1½" GAP.
8. RUST STAINING ON STIFF/CONN. ∡
9. MISC WELDS ≈ 2" - 4" SPACED @ ≈ 5'-0", 2½" ABOVE TOP FACE. BTM FLG.

FLOOR SYSTEM	
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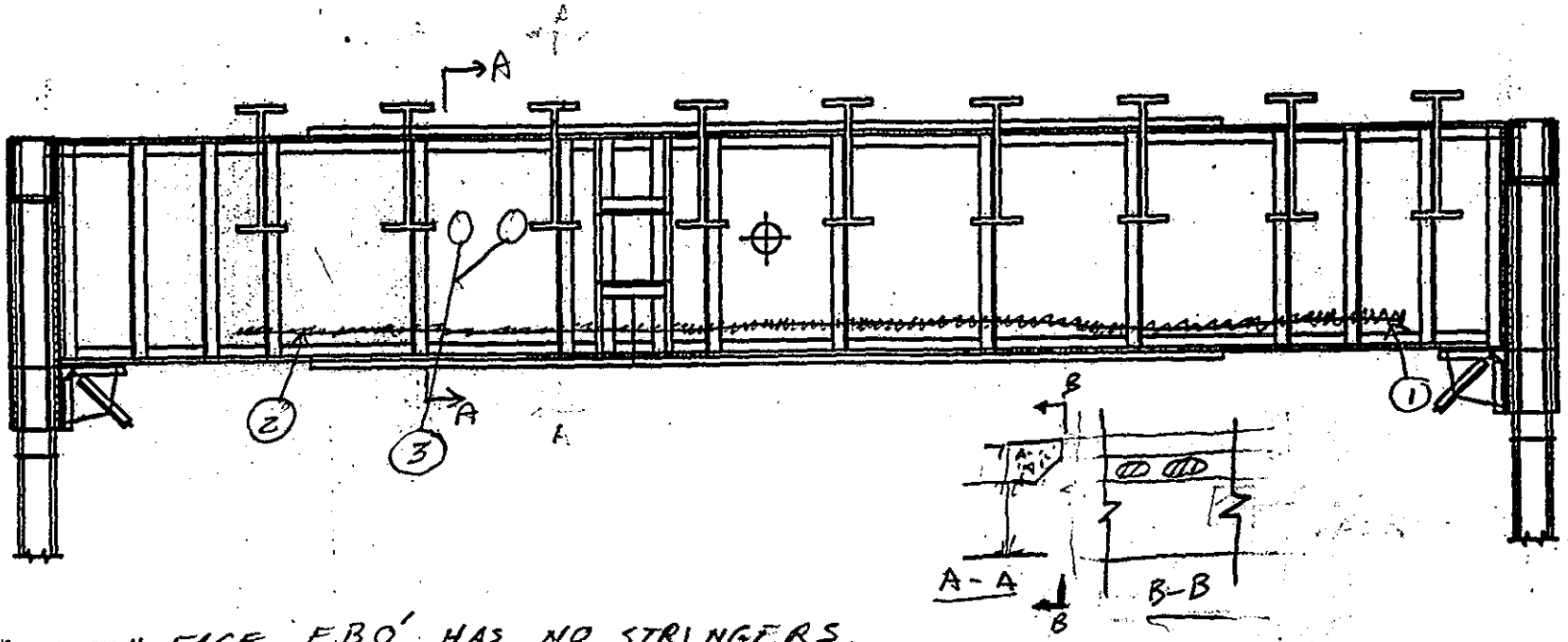
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/14/95
CREW: TF, R², PN.	SHEET 3 OF 5



* NORTH FACE F.B.O' HAS NO STRINGERS.
* EXTREMLY LOUD NOISE WHEN LIVE LOAD CROSSES DECK JOINT, ESPECIALLY IN EAST MOST LANE.

SPAN 2
FLOORBEAM O' N ELEV.

NOTES: ① WELD 90% OF LENGTH OF FB, LOCATED 2" ABOVE BOT FLG ⊥
② WELD & REMNANTS OF TROUGH SPREAD ACROSS ENTIRE F.B. LENGTH.
③ IMM. SPALLS SEE SKETCH THIS SHEET. (18" ø each)
on south concrete header at FBO'.

FLOORBEAM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/14/95
CREW: TF, PWN, RZ	SHEET 5 OF 5

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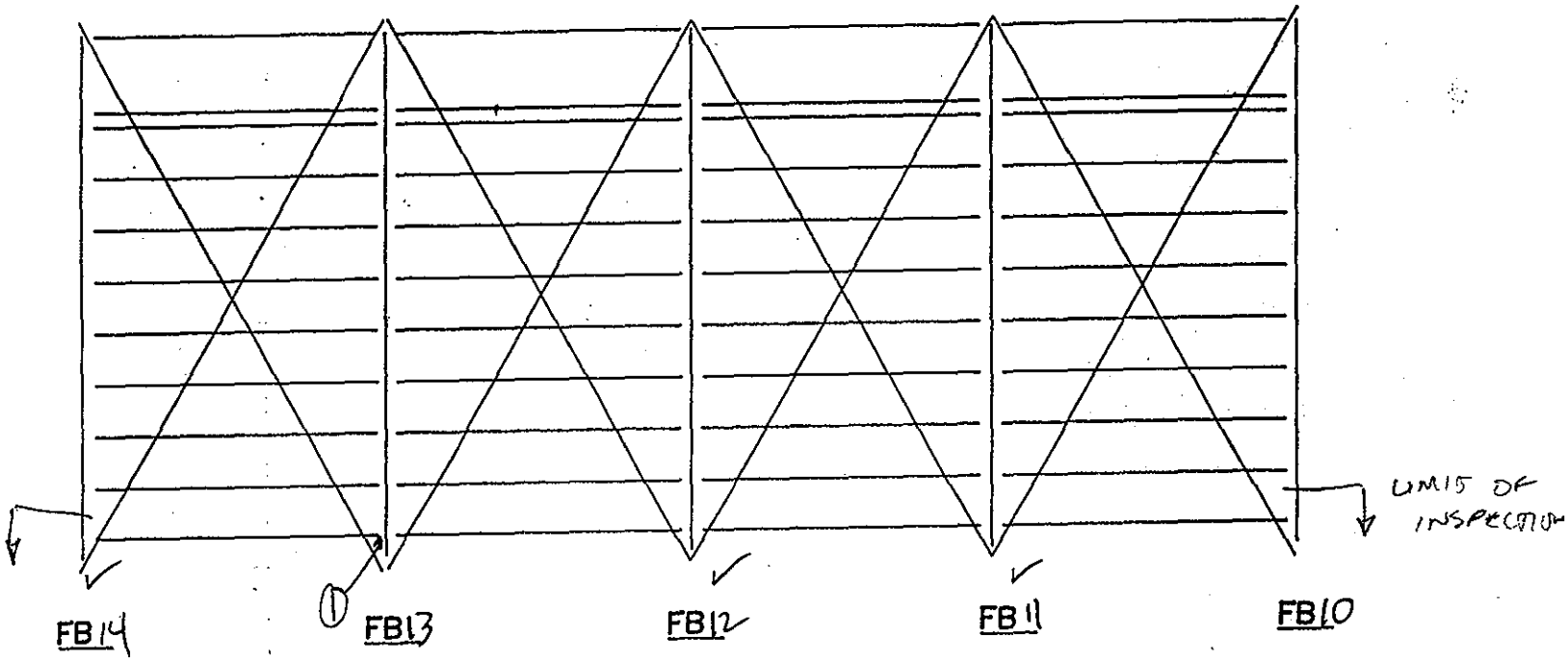


SPAN 1 TRUSS W

WIND BRACING & Cables

NOTES:
1. 1/8" to 1/4" Pitting 18" high (@ COPE) on stringer

FLOOR SYSTEM

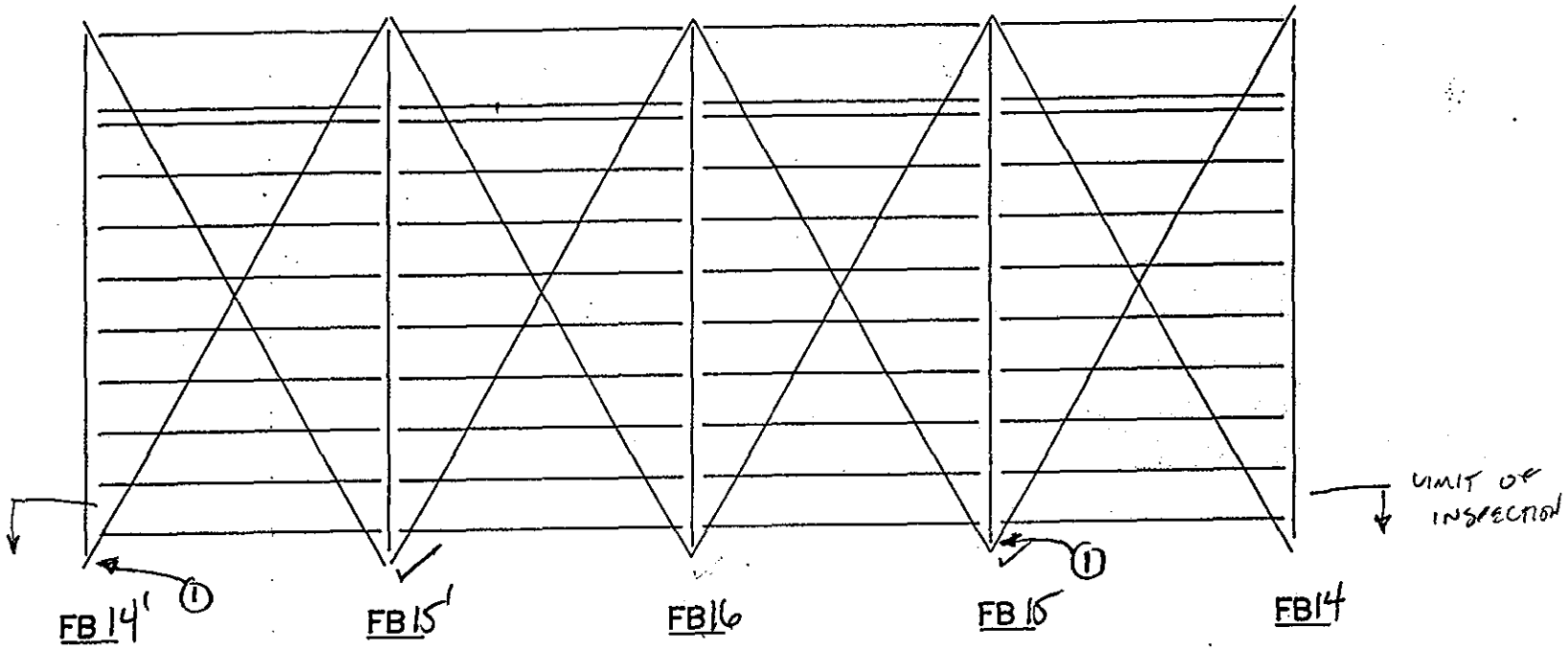
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 7-10-95
CREW: R², G² SHEET 6 OF 7

95 134



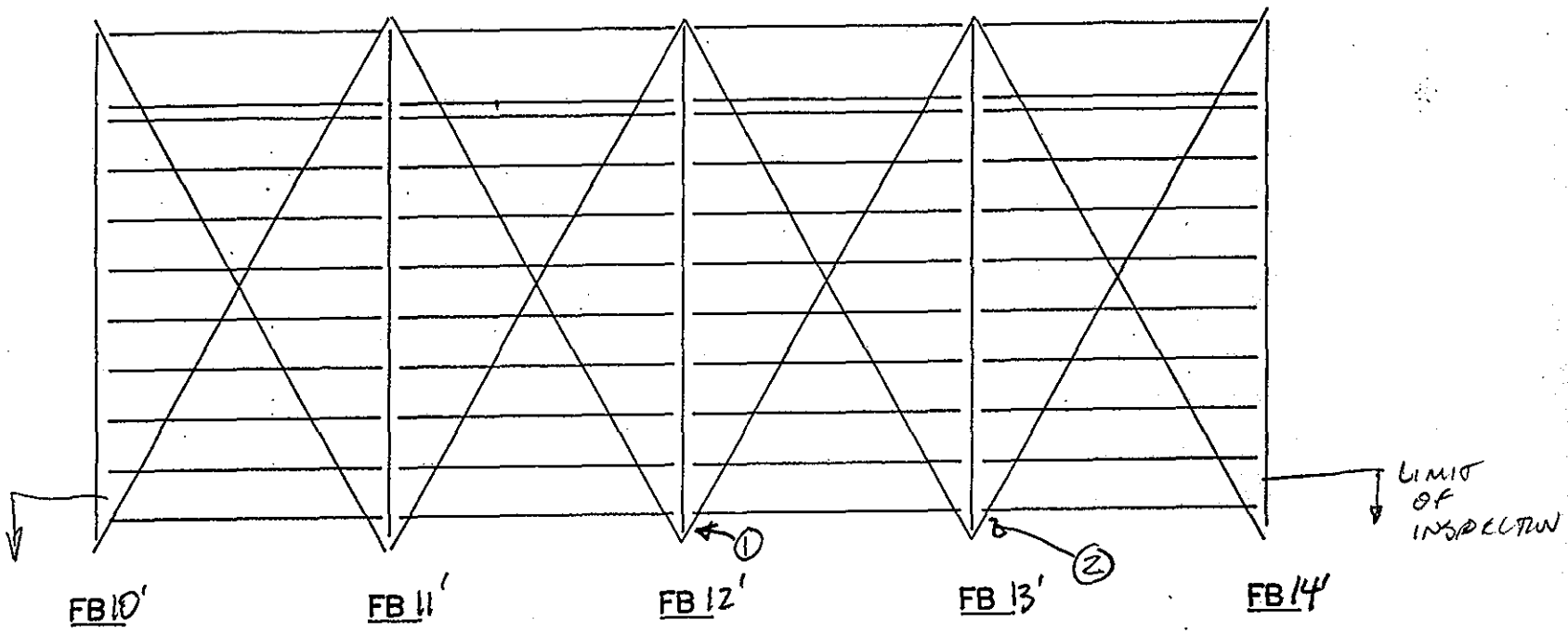
WIND BRACING & CABLES

SPAN 1½ TRUSS W

NOTES:

1. PAINT FLAKING OFF HANGER CABLE (BOT 6')

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-10-95
CREW: R², G²	SHEET 5 OF 7



WIND BRACING & CABLES

SPAN 1 TRUSS W

NOTES:

1. PAINT FLAKING OFF HANGER CABLE (BOT 6')
2. SIP FORMS RUSTED THROUGH, MOD RUST TOP FLG OF S1.

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 DATE: 7-10-95

CREW: R², G² SHEET 7 OF 7

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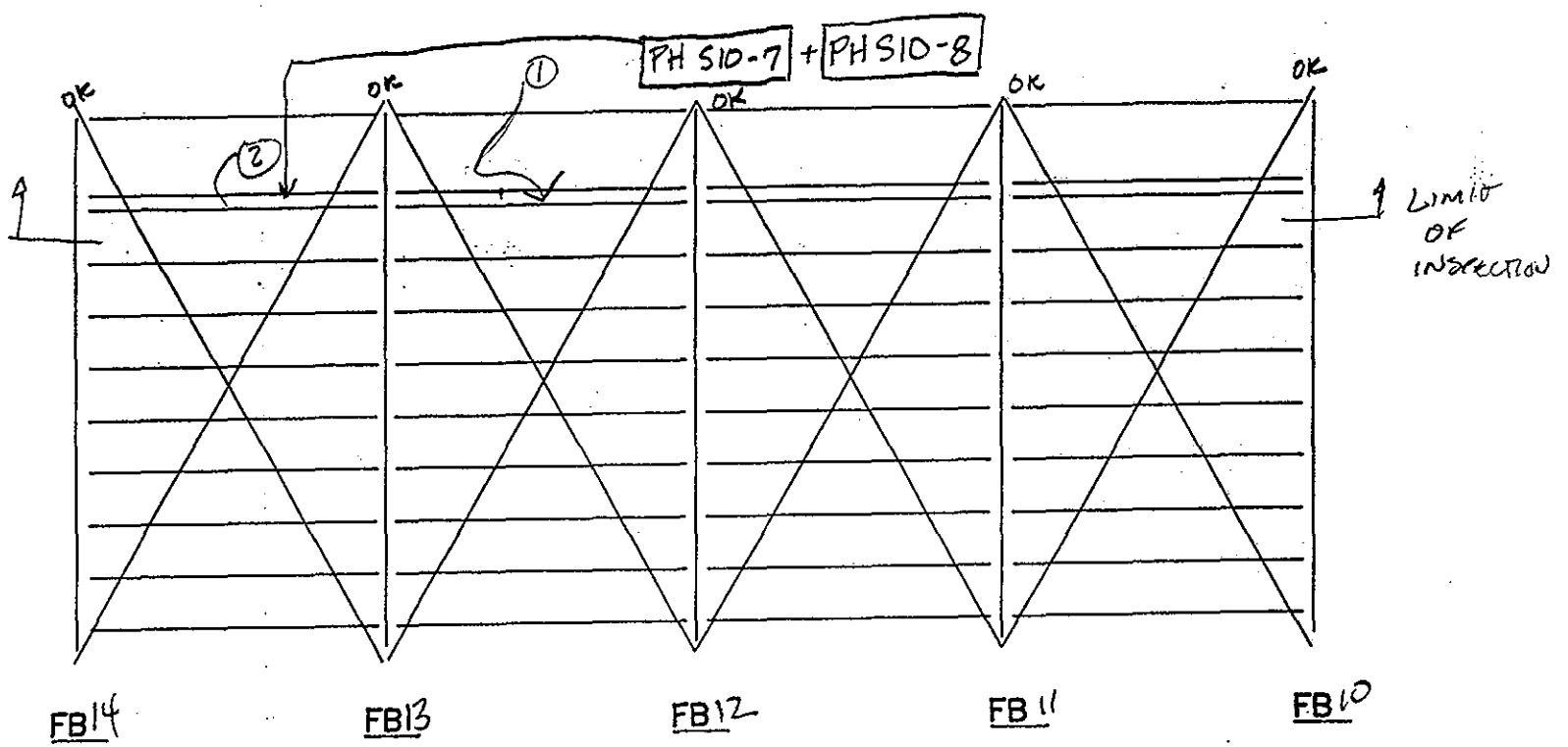


SPAN 1 TRUSS E

NOTES: INSPECTED FROM WIND BRACING (EAST SIDE)

1. PITTING ON STRG BOTTOM FLG. 1/4" TO 3/8" 1/2 WIDTH @ MIDSPAN FOR 6 FT.
2. WELDED COVER PL. BOT. FLG OF STRG 9 (REPAIR PL)

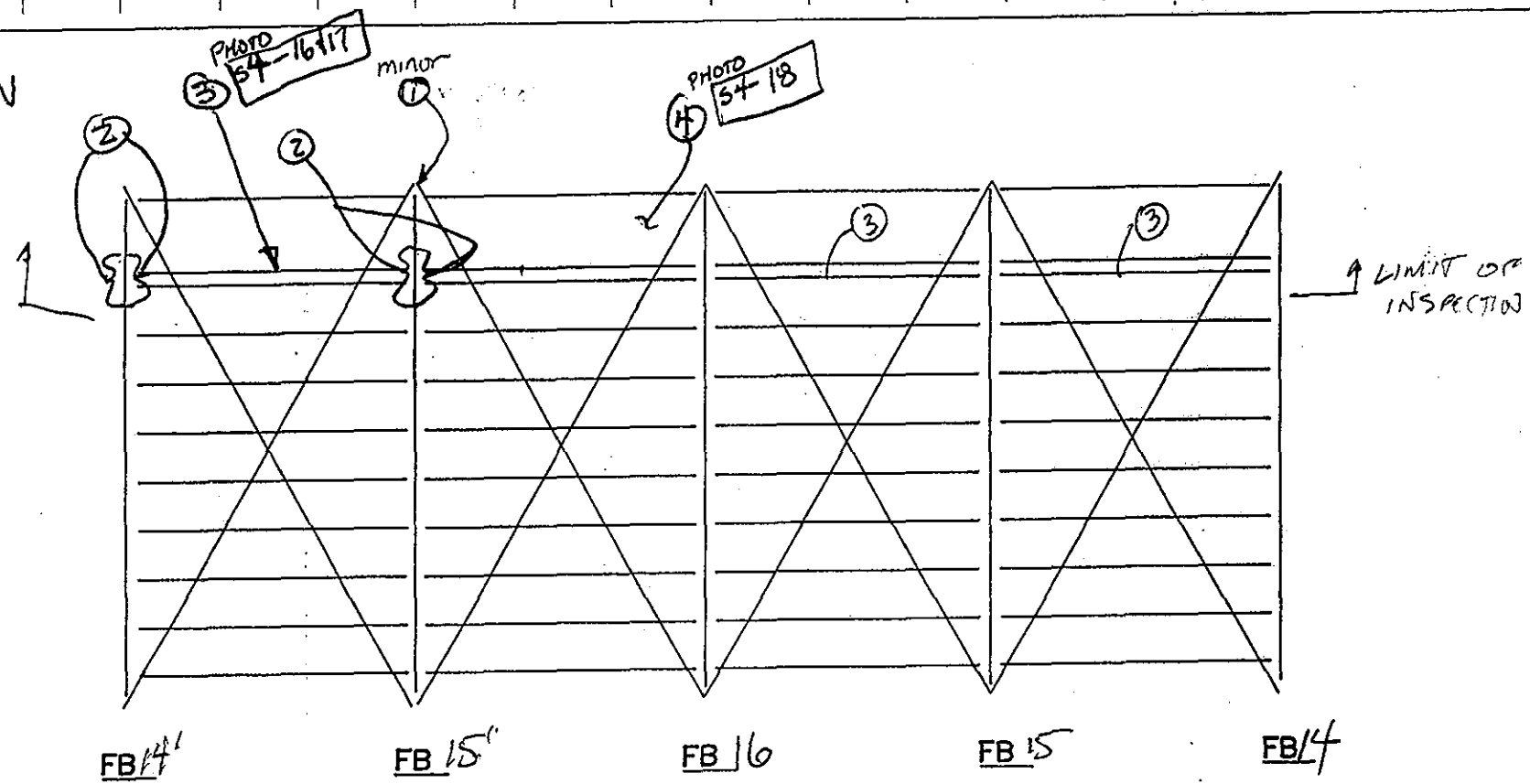
FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-10-95
CREW: GG/JP RR/KM	SHEET 3 OF 7



WIND BRACING: Cable

SPAN 1 TRUSS E

NOTES:

1. PAINT FLAKING OFF Bottom 6' of HANGER CABLE
2. minor pitting bottom flange of FB typ. upto 1/8" (unless noted otherwise)
3. PITTING 1/4"+, 1/2 BOT. FLG WIDTH FULL LENGTH OF STRG 9
4. BROKEN ELEC. CONDUIT ABOVE ACCESS PLATFORM

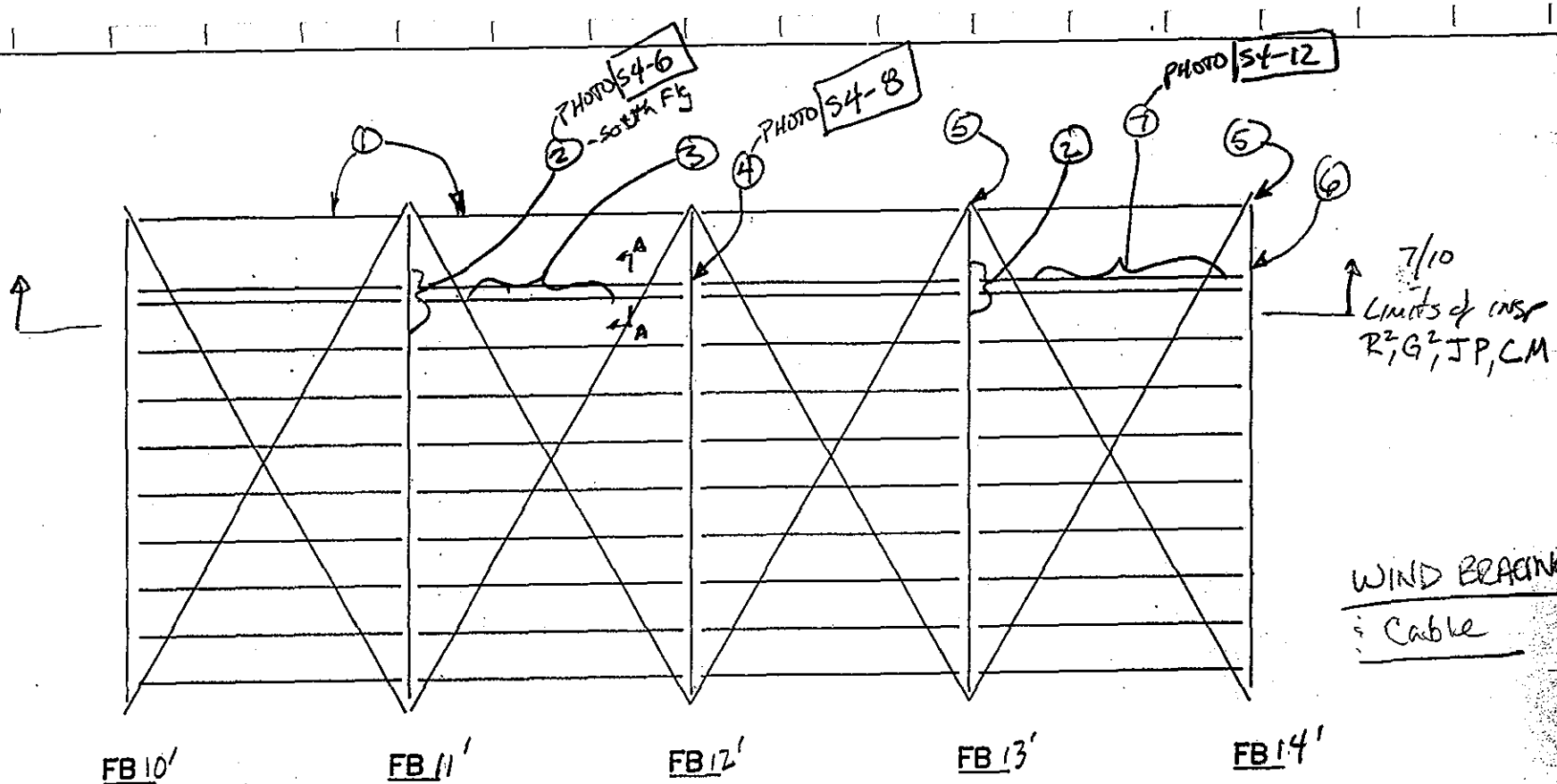
FLOOR SYSTEM

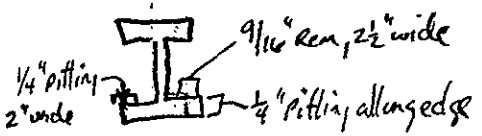
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784	DATE: 7-10-95
CREW: GG/JP RDIKN	SHEET 2 OF 7





SECTION A-A
(FIRST 13'-3" from face of FB12', NO COV. PL)

⑥ - Pin hole rusted through web of FB just above bot flg Angle

⑦ - Losses near Bot Cov. PL - (UNABLE TO ACCESS TO MEASURE) (see photo)

SPAN 1 TRUSS E

see PHOTO S4-3

NOTES: • ALL PAINT, ALL SPANS TYPICALLY GOOD TO FAIR unless noted otherwise

• WIND BRACING (SPANS 1 & 2) TYPICALLY PITTED UP TO ⅛" W/ UPTO ¼" IMPACTED RUST @ LACING, BUT ALL IS COVED W/ PAINT & DOES NOT APPEAR TO BE DETERIORATING FURTHER.

① - ⅛" pitting to fascia sidewalk CHANNEL

② ¼" pitting to bot. flg. of FB

③ stringer Bot Flg / COV. PL intermittently welded w/out end returns, IMP. Rust developing bet. Stel Cov PL

④ 1¼" ϕ hole in FB web just above bot. flg. L

⑤ PAINT FLAKING OFF HANGER CABLE @ bot. 6'

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/10/95
CREW: R², G², JP, CM	SHEET 1 OF 7

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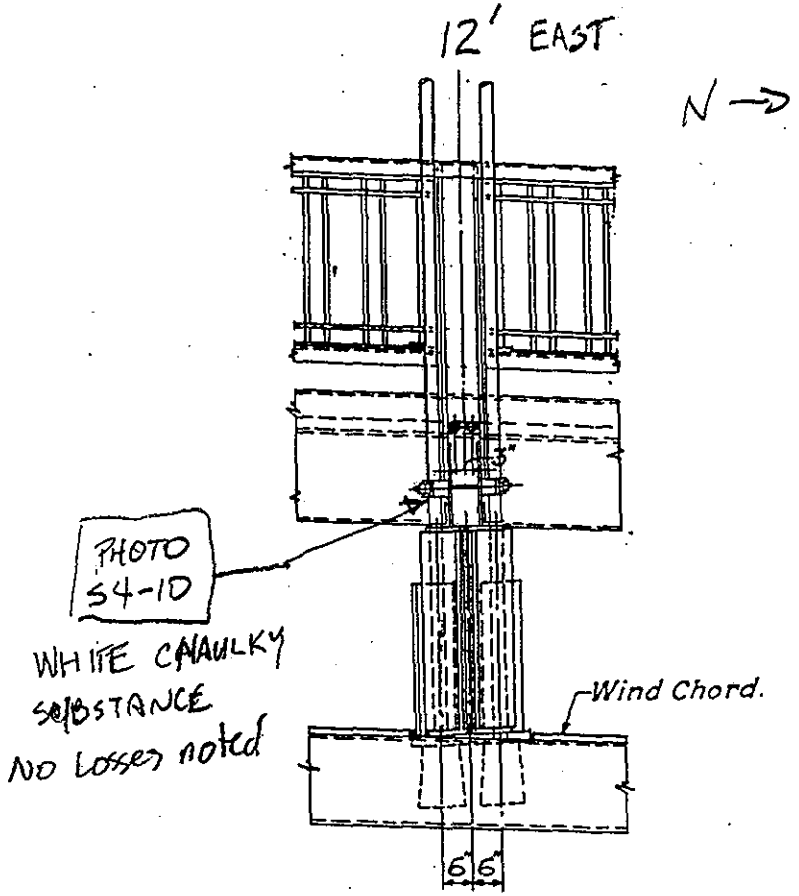


TYPICAL DETAIL AT HANGER

TRUSS East

FLOORBEAM 12'

NOTES:

HANGER DETAILS

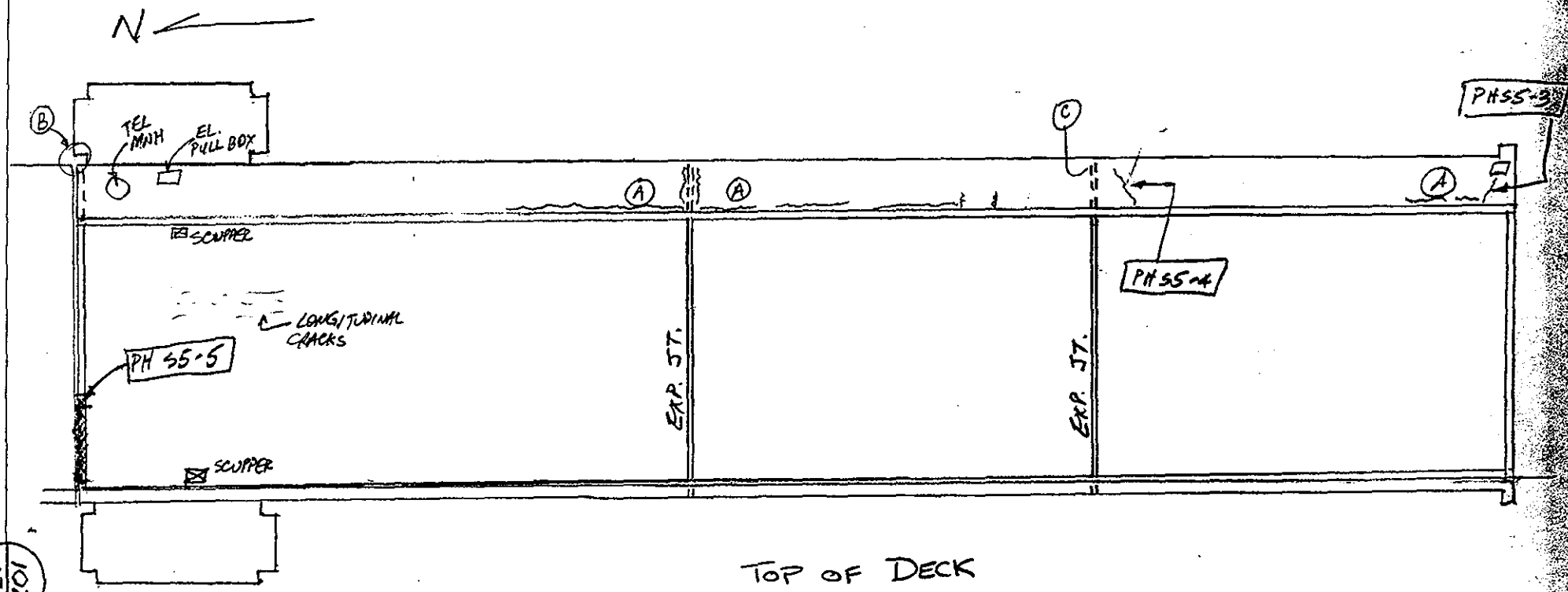
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-10-95
CREW: R², G², JP, KM	SHEET 4 OF 7

DECK



TOP OF DECK
SOUTH ABUTMENT

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GEN. NOTES:

(A) TYP. CRACKING & SPALLING OF CONC. ALONG EDGE OF GRANITE CURB. UP TO 1" x 1/4" DEEP

(B) OPENING @ EDGE OF SIDEWALK ≃ 9"x12" BETWEEN END OF SPAN & SOUTH ABUT.

(C) VEGETATION IN JOINT OF SIDEWALK @ COPING.

LEGEND:

~~~ H.L. CRACK

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-10-95
CREW: JP, KM	SHEET 1 OF 4
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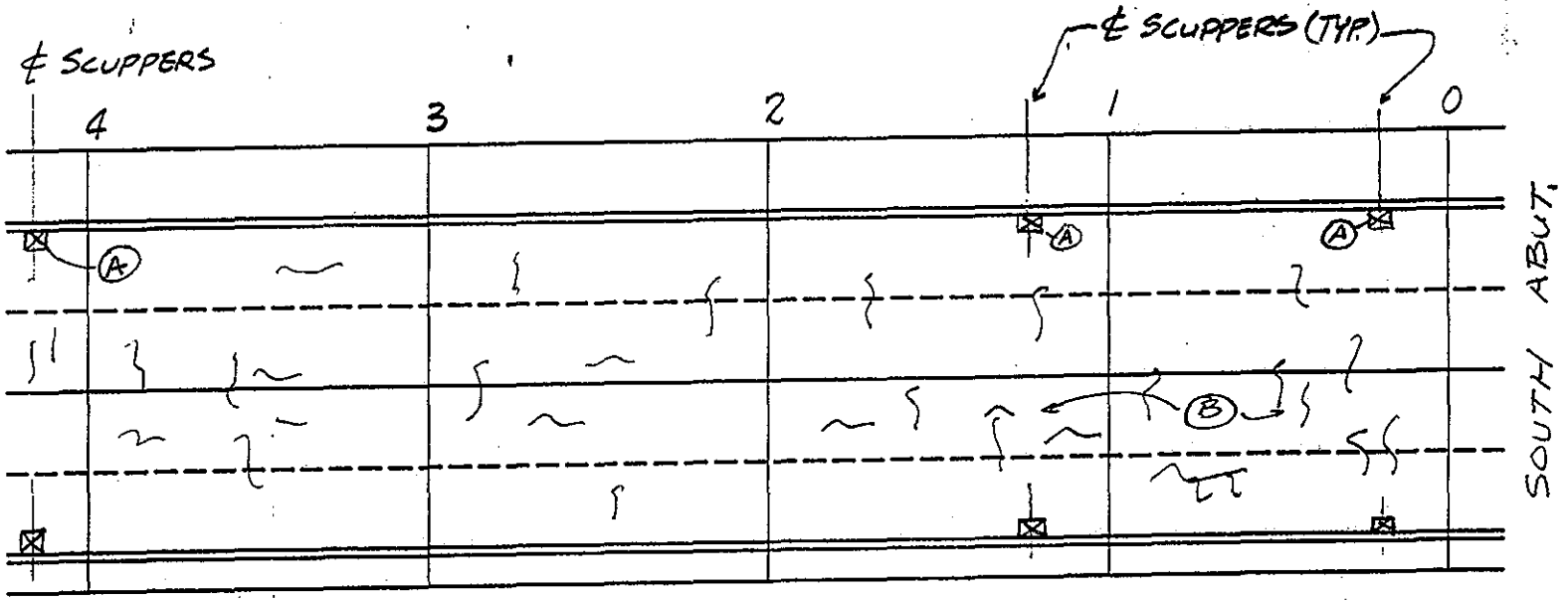


SPAN 3

NOTES:

(A) SCUPPERS COMPLETELY BLOCKED WITH DEBRIS

(B) HAIRLINE RANDOM CRACKS IN PAVEMENT (Noted as ~)

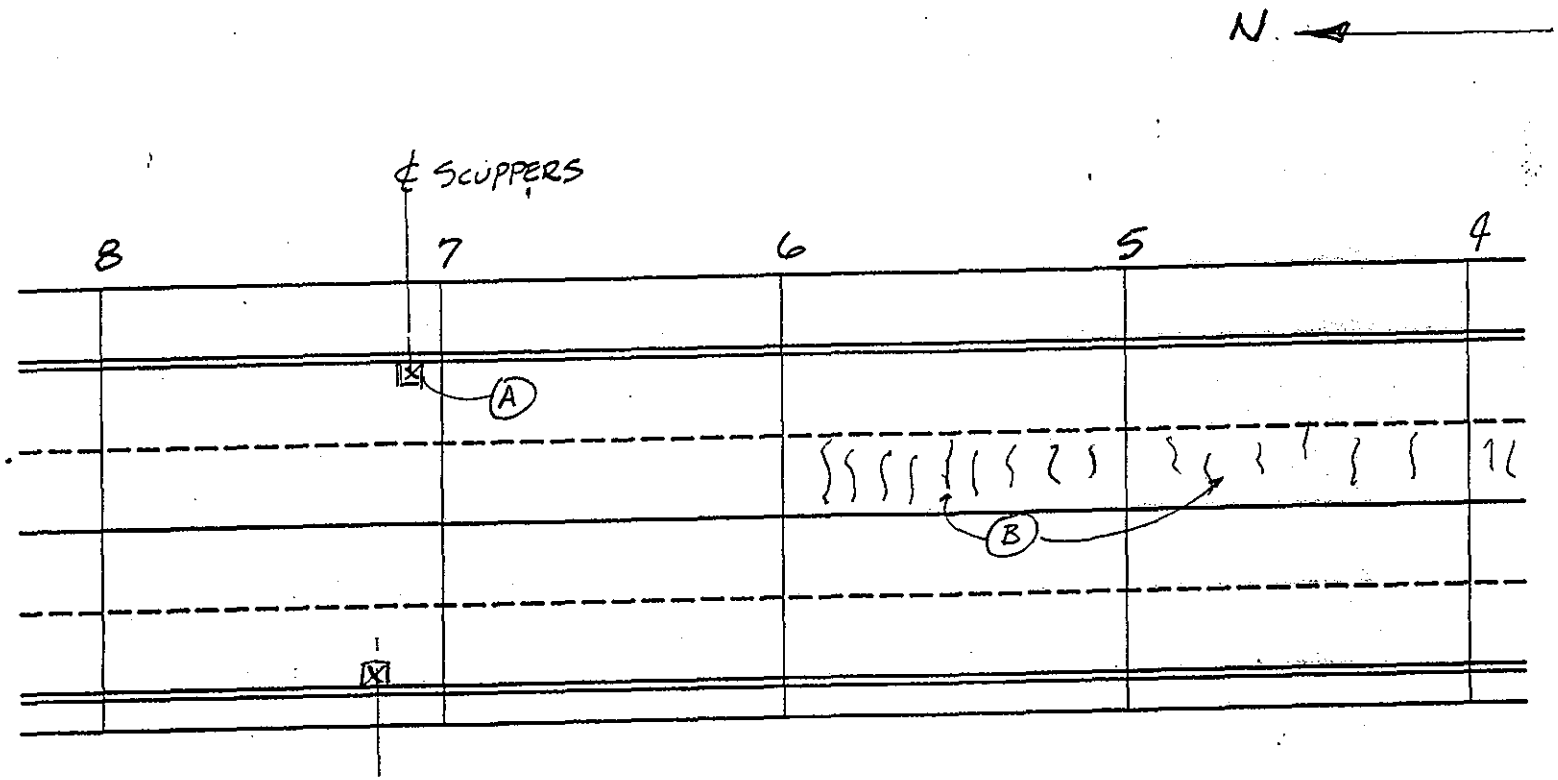
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-10-95
CREW: JP/KM	SHEET 2 OF 4



SPAN 3

TOP OF DECK

NOTES:

(A) SCUPPER PARTIALLY BLOCKED WITH DEBRIS

(B) TRANSVERSE HAIRLINE CRACKS IN PAVEMENT.

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-10-95

CREW: JP/KM | SHEET 3 OF 4

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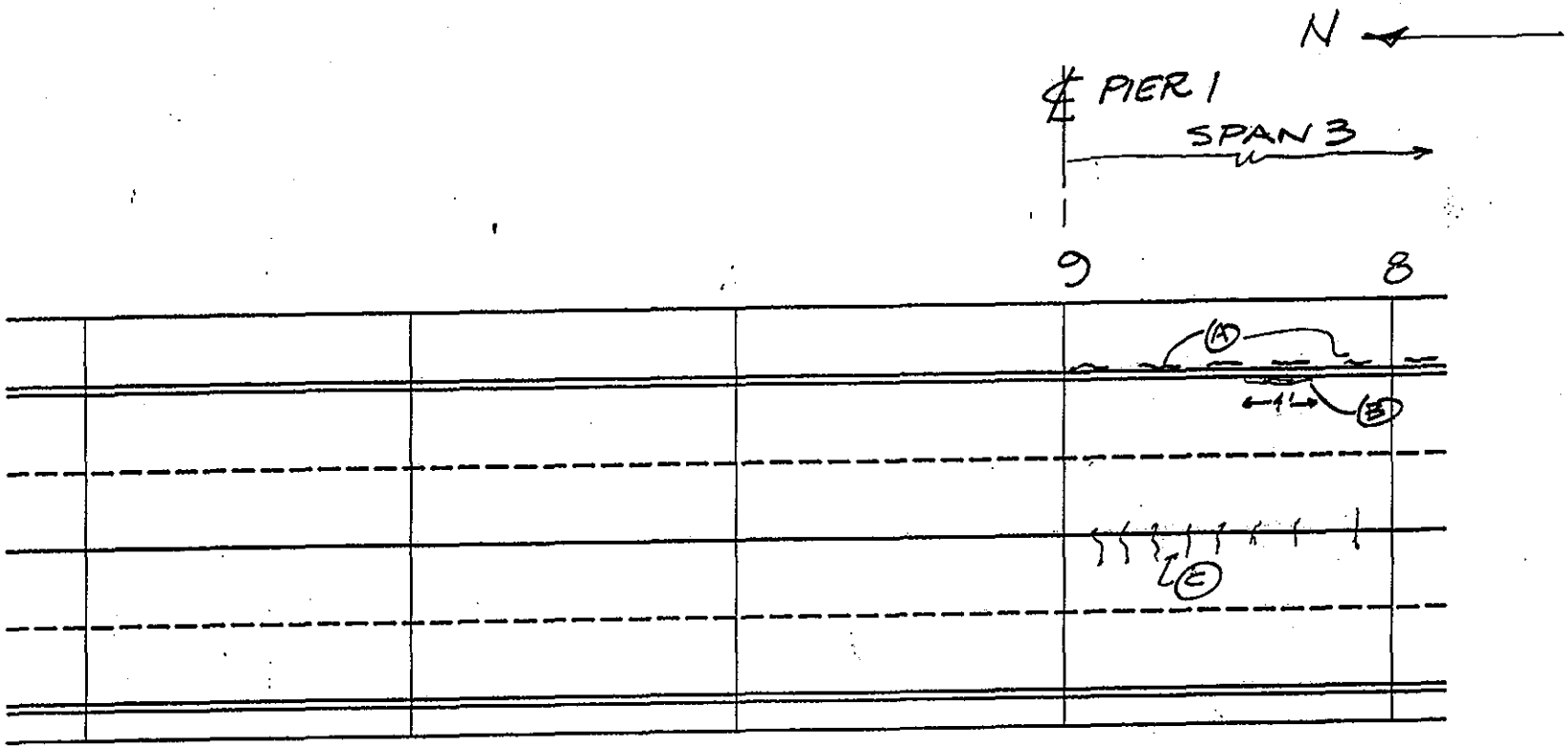


SPAN 3

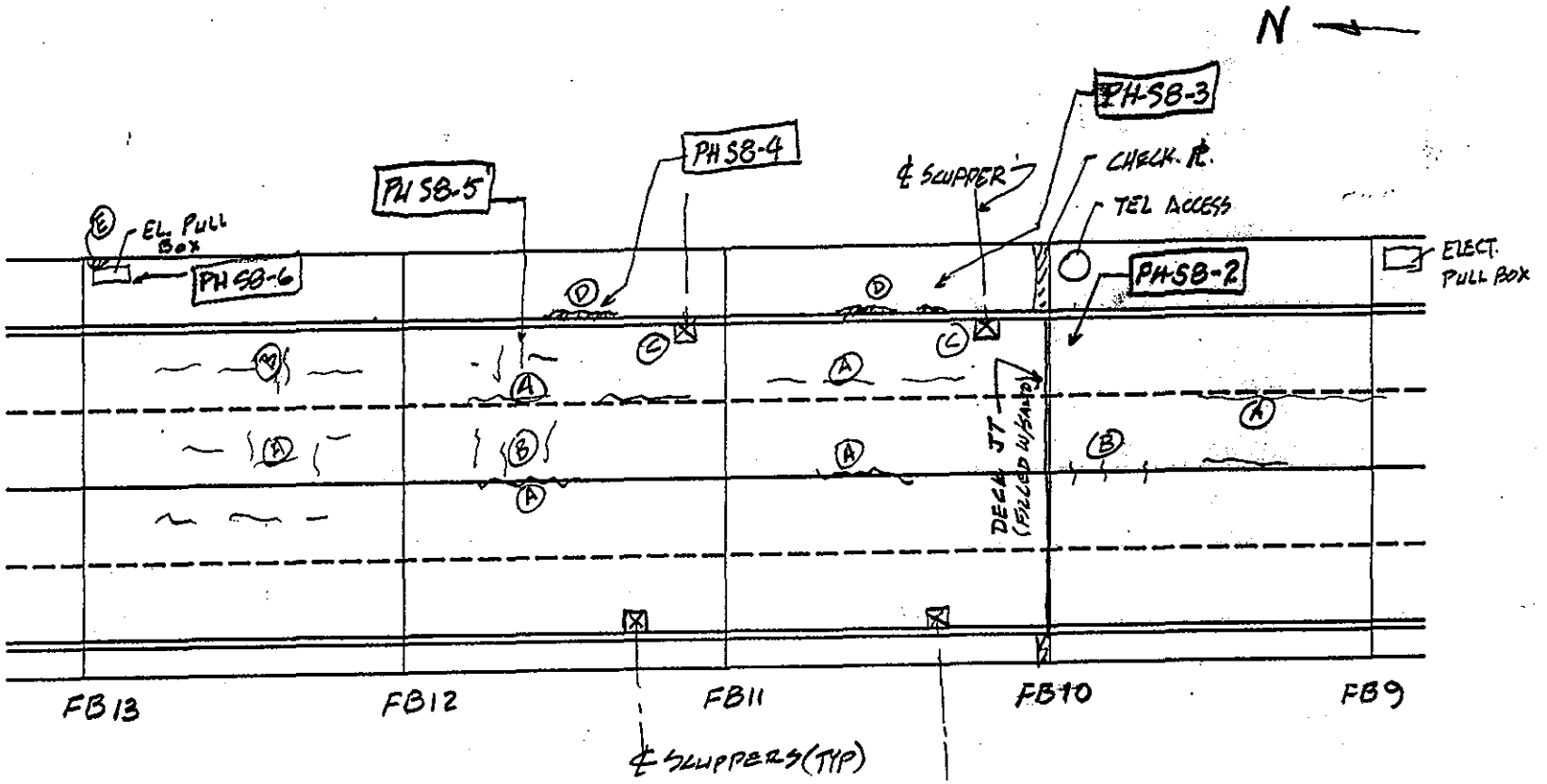
NOTES:

(A) LONGITUDINAL CRACKING AND UP TO 1" x 1/4" DEEP SPALLING OF CONC SIDEWALK ALONG GRANITE CURB.

(B) HEAVING ASPHALT

(C) TRANSVERSE HAIRLINE CRACKING IN PAVEMENT

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-10-95
CREW: JP/KM	SHEET 4 OF 4



SPAN 1 FB 9 THRU 13

NOTES:

(A) LONGIT. HAIRLINE CRACKS IN PAVEMENT

(B) TRANS. HAIRLINE CRACKS IN PAVEMENT

(C) SCUPPER PARTIALLY BLOCKED WITH DEBRIS

(D) SPALLS UP TO 2" WIDE X 1" DEEP @ ISOLATED LOCATIONS ALONG GRANITE CURB PH S8-3

(E) SPALL 4"X2"X1" DEEP ADJ. TO ELECT. PULL BOX @ EDGE OF SIDEWALK PH-S8-6

TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-12-95
CREW: JP/KM	SHEET 1 OF 1

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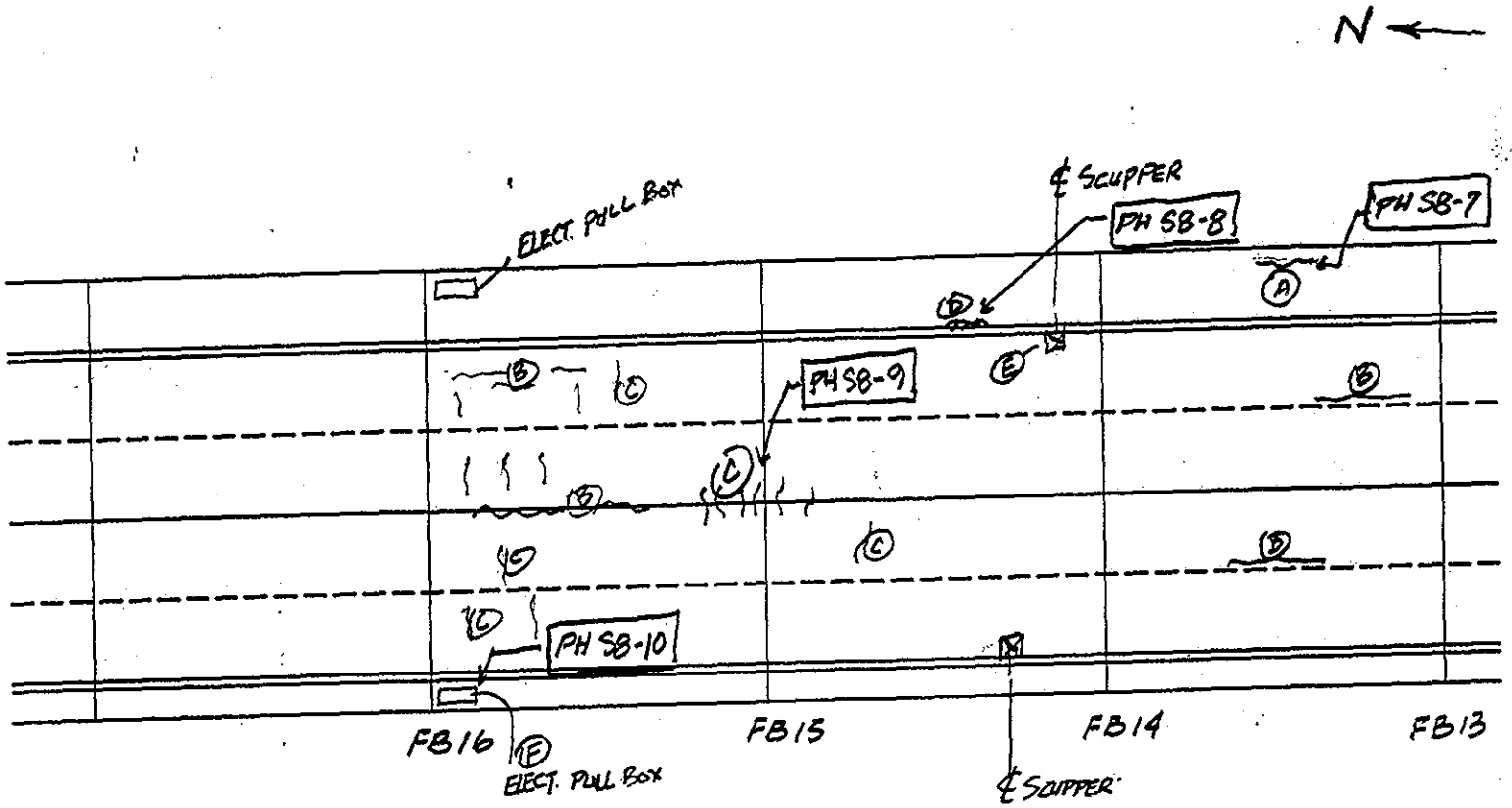


SPAN 1 FB 13 THRU FB 16

TOP OF DECK

NOTES:

(A) LONGIT. CRACK IN SIDEWALK ALONG BR. RAILING BETW FB13-FB14

(B) LONGIT. HAIRLINE CRACKS IN PAVEMENT

(C) TRANS. HAIRLINE CRACKS IN PAVEMENT

(D) SPALLS UP TO 2" WIDE 1" DEEP ALONG GRANITE CURB @ ISOLATED LOCATIONS PH SB-8

(E) SCUPPER PARTIALLY BLOCKED WITH DEBRIS

(F) CONC. ADJ. TO ELECT. PULL BOX FRAME CRACKED, BOX IS LIFTED UPWARDS FROM SURFACE OF SAFETY WALK, BIT. CONC PATCH ALONG SOUTH SIDE OF BOX PH SB-10

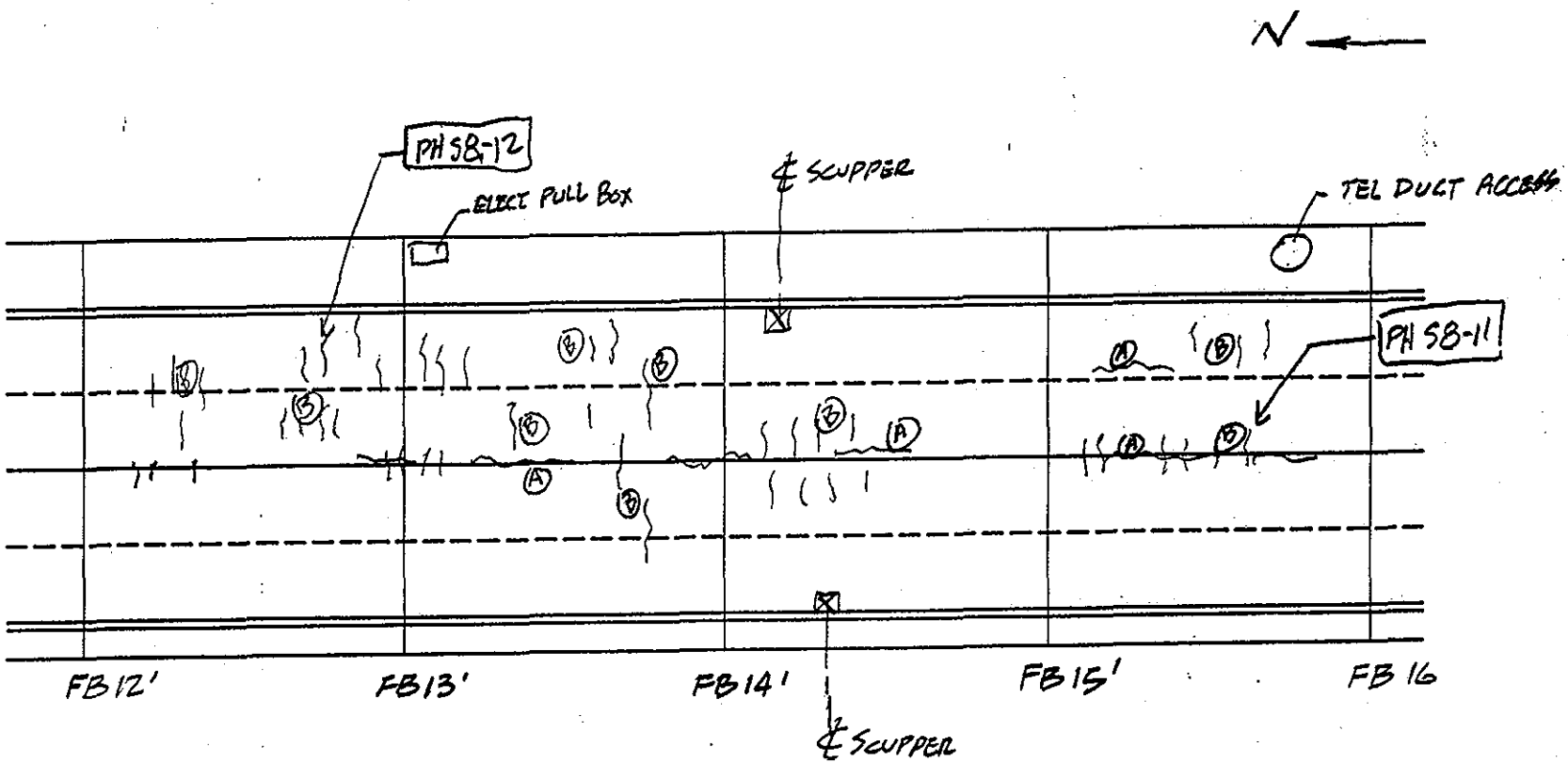
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-12-95

CREW: JP/KM | SHEET 2 OF 7



SPAN 7 FB 16 THRU FB 12'

NOTES:

(A) LONGIT. HAIRLINE CRACKS IN PAVEMENT.

(B) TRANSVERSE CRACKS IN PAVEMENT

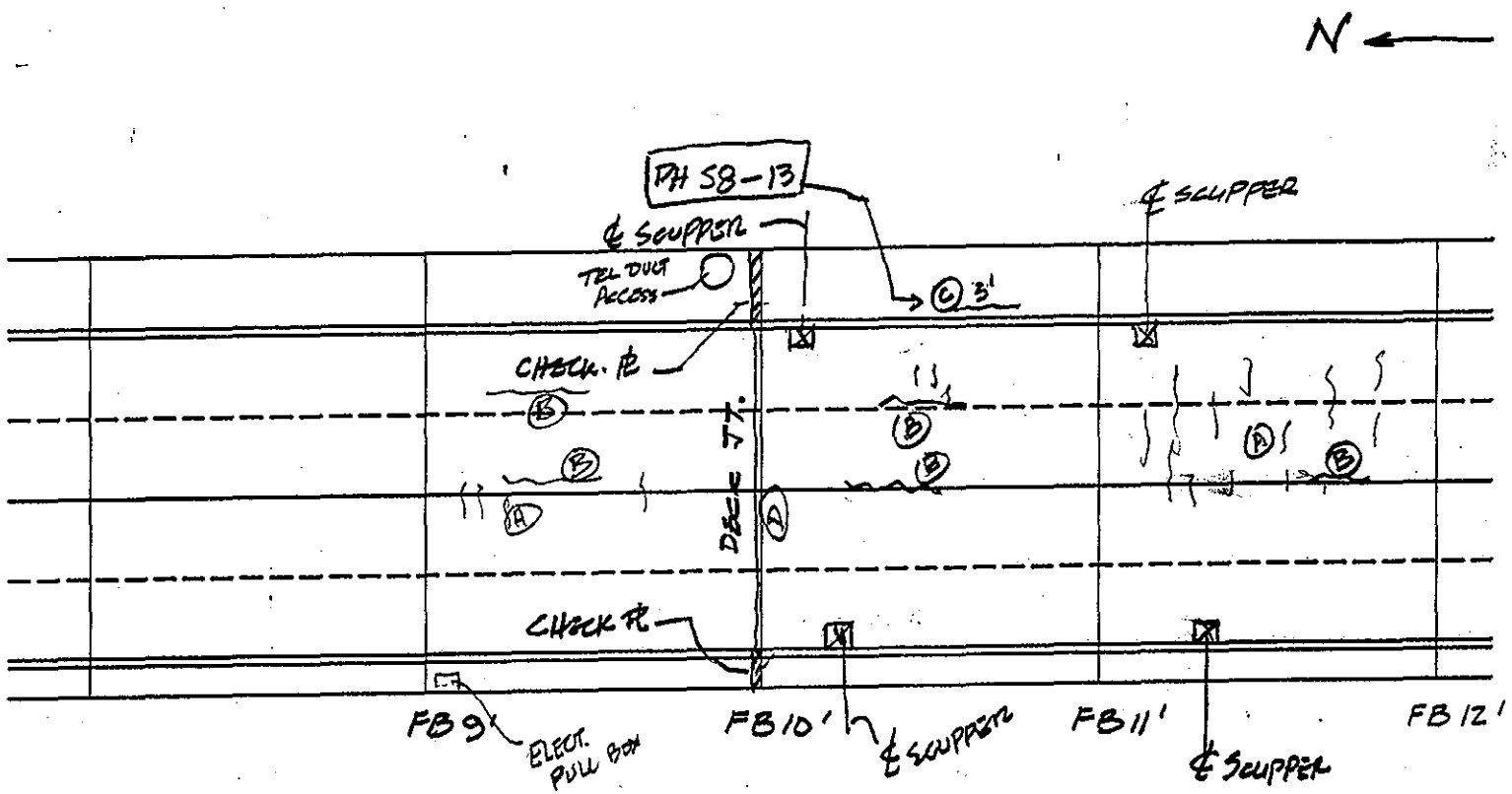
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-12-95
CREW: JP/KM	SHEET 3 OF 7



SPAN 1 FB 12'-FB 9'

TOP OF DECK

NOTES:

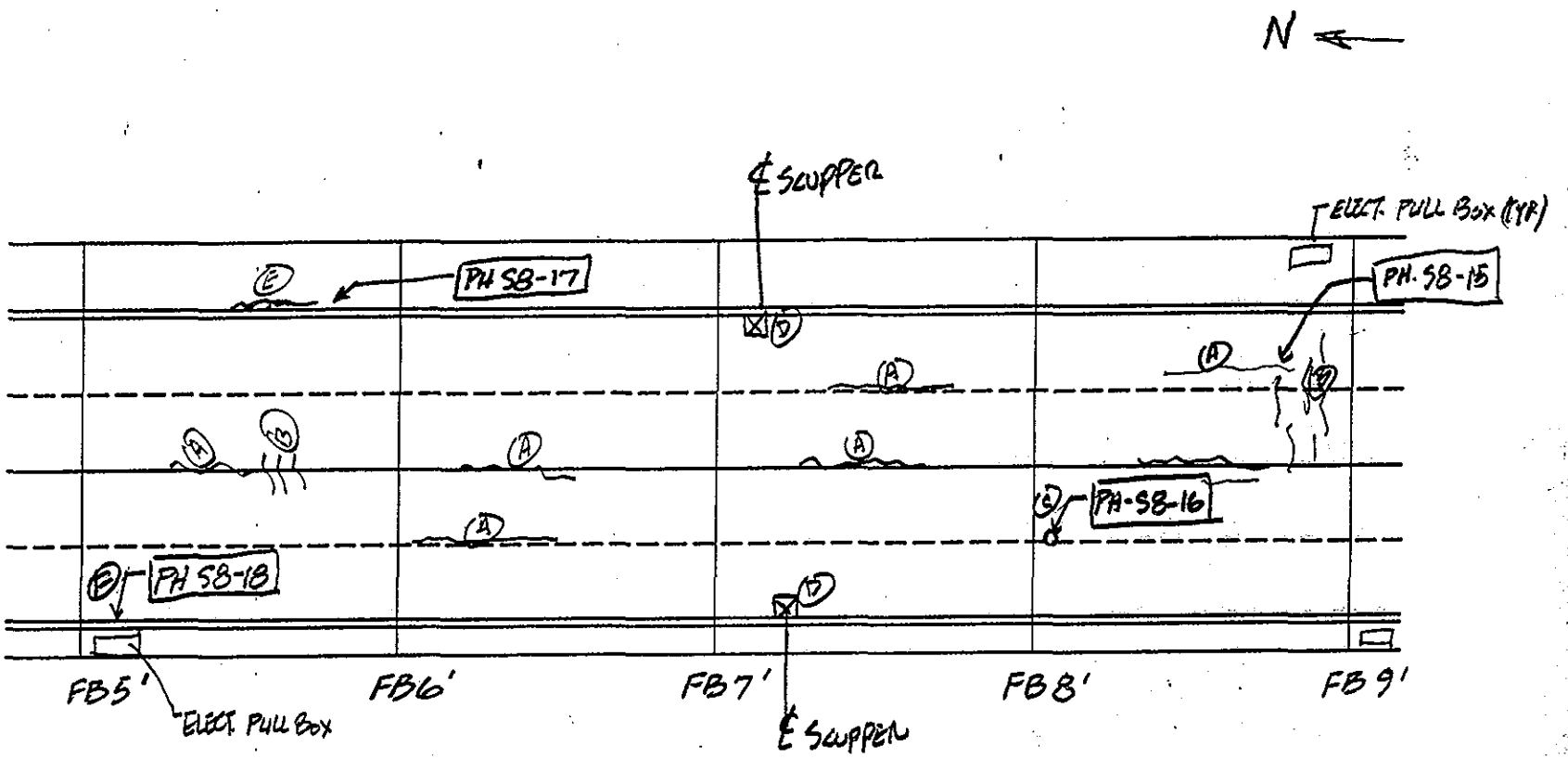
(A) TRANSVERSE HAIRLINE PAVEMENT CRACKS
(B) LONGITUDINAL HAIRLINE PAVEMENT CRACKS
(C) LONGIT CRACK IN CONC SIDEWALK ALONG GRANITE CURB
(D) SAND & DEBRIS IN DECK JOINT.

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-12-95
CREW: JP/KM | SHEET 6 OF 7



SPAN 2 FB 9' - FB

NOTES:

(A) LONGITUDINAL HAIRLINE CRACKS IN PAVEMENT
(B) TRANSVERSE HAIRLINE CRACKS IN PAVEMENT
(C) 2" DIA. POT HOLE IN PAVEMENT
(D) SCUPPERS COMPLETELY BLOCKED WITH DEBRIS
(E) LONGIT. CRACK & SPALL IN SIDEWALK ADJACENT TO GRANITE CURB PH S8-17
(F) CRACKED & BROKEN CONC. SAFETY WALK ADJ TO ELECT. PULL BOX @ FB 5'

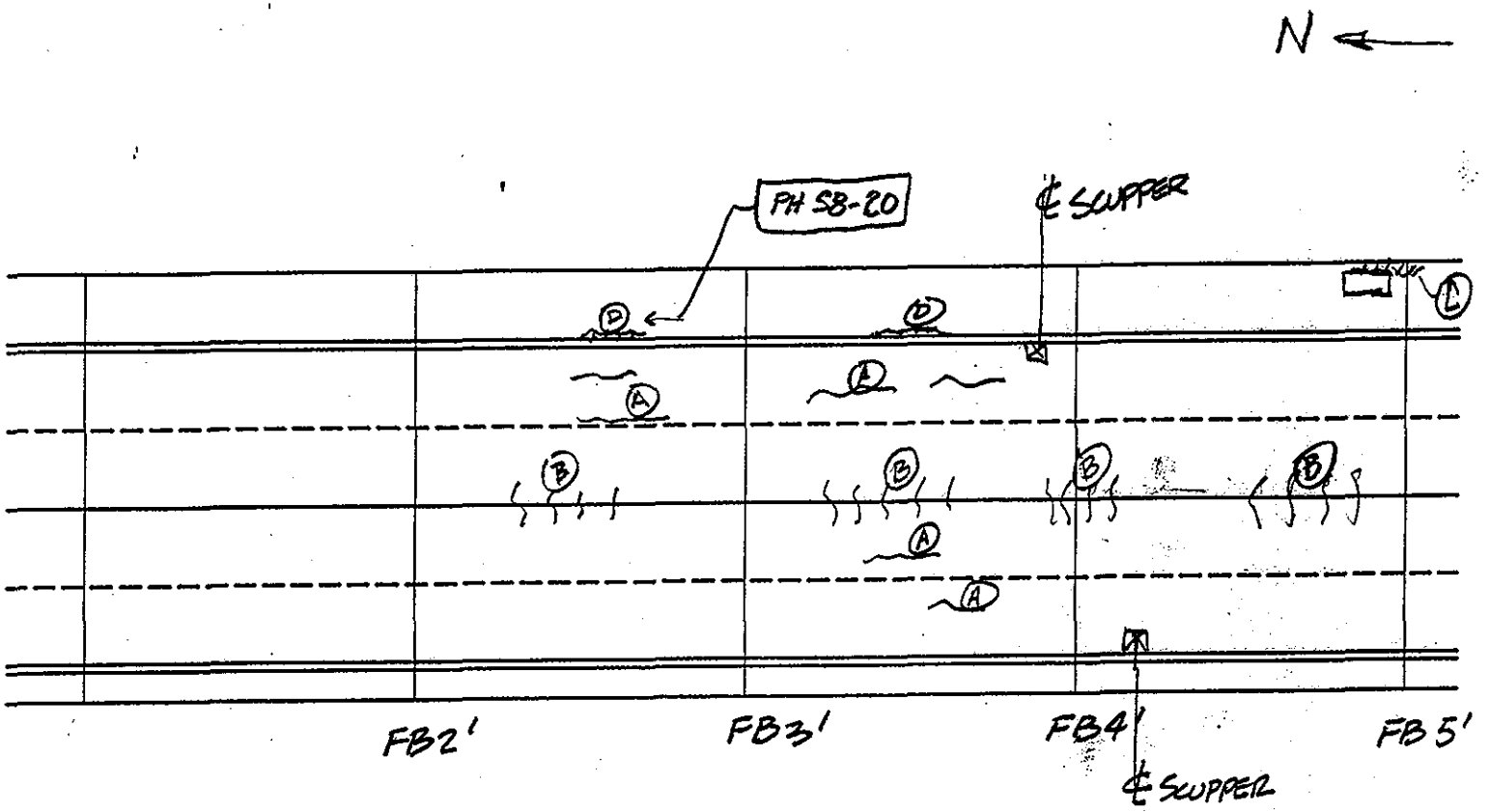
TOP OF DECK

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7-12-95
CREW: JP/KM	SHEET 5 OF 7



SPAN 2 FB5'-FB2'

NOTES:

(A) LONGIT. HAIRLINE PAVEMENT CRACKS

(B) TRANSVERSE HAIRLINE PAVEMENT CRACKS

(C) CRACKED, SPALLED CONC. AT EDGE OF SIDEWALK @ FB 5' PH SB-19

(D) LONGIT. CRACKS & SPALLS ALONG GRANITE CURB IN SIDEWALK UP TO 2" WIDE x 1" DEEP (PH SB-20)

TOP OF DECK	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-12-95
CREW: JP/KM	SHEET 6 OF 7

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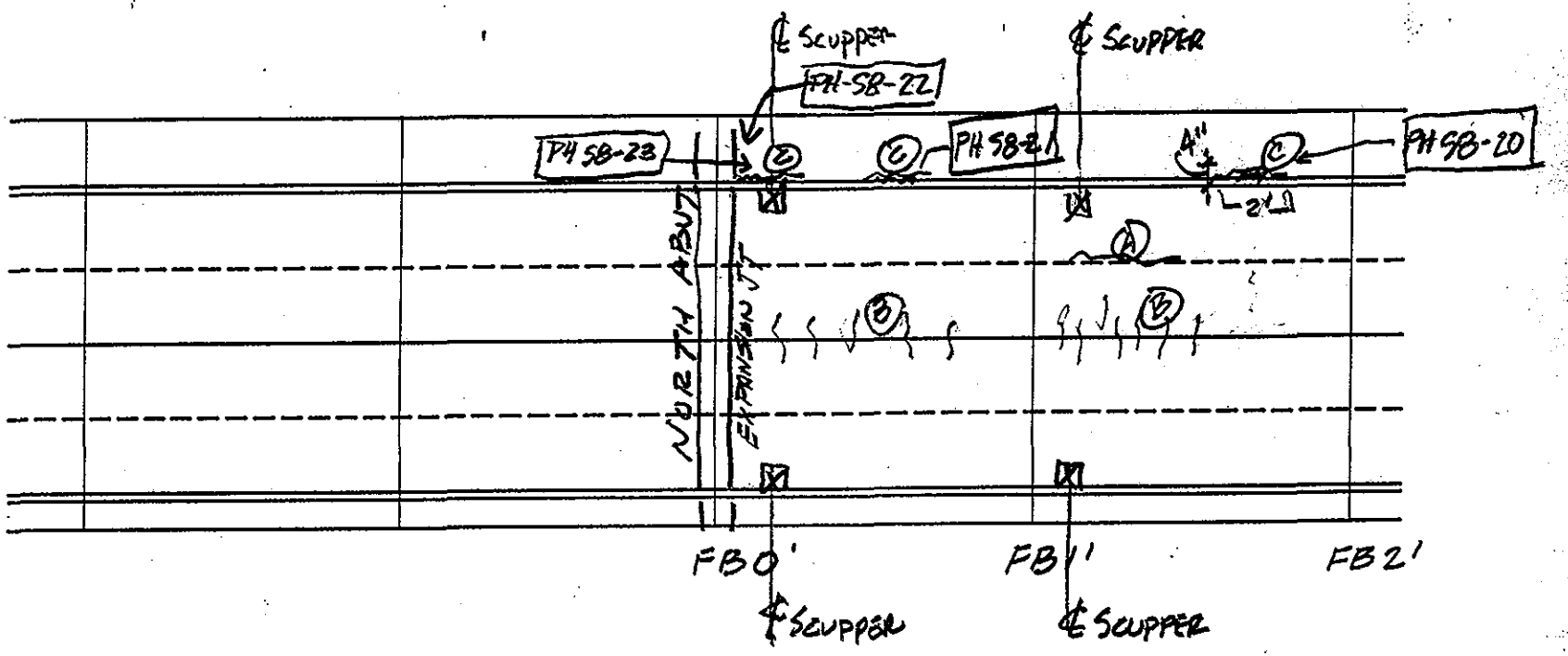


SPAN 2 FB 2' - FB 0'

TOP OF DECK

NOTES:

(A) LONGIT. HAIRLINE PAVEMENT CRACKS

(B) TRANSVERSE HAIRLINE PAVEMENT CRACKS

(C) CRACKED, SPALLED CONC. ADJ. TO GRANITE CURB PH-SB-20, PH SB-21, PH-SB-23

NOTE: RUBBER SURFACE COMPLETELY WORN OFF EXPANSION JT @ NORTH ABUTMENT

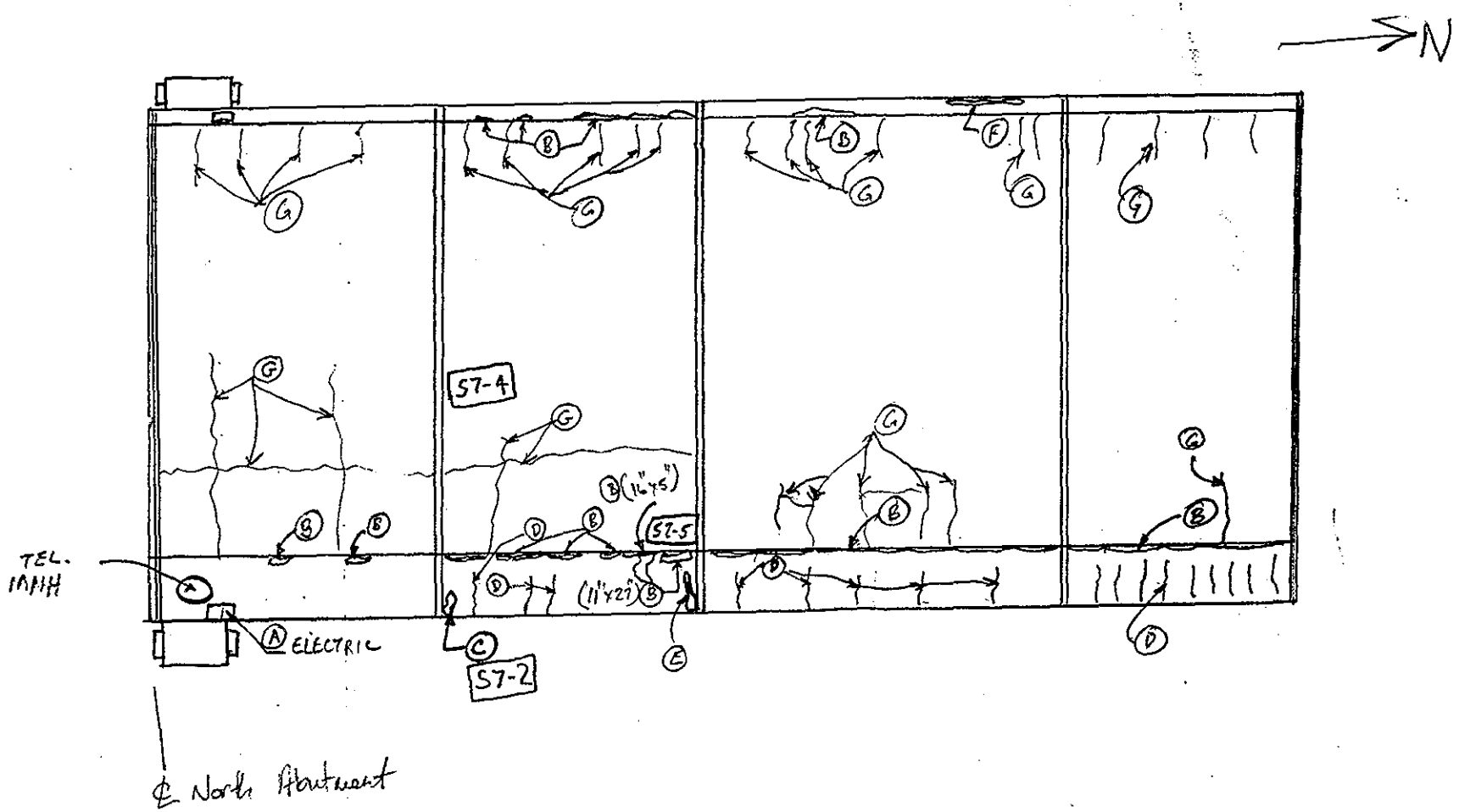
DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7-12-95

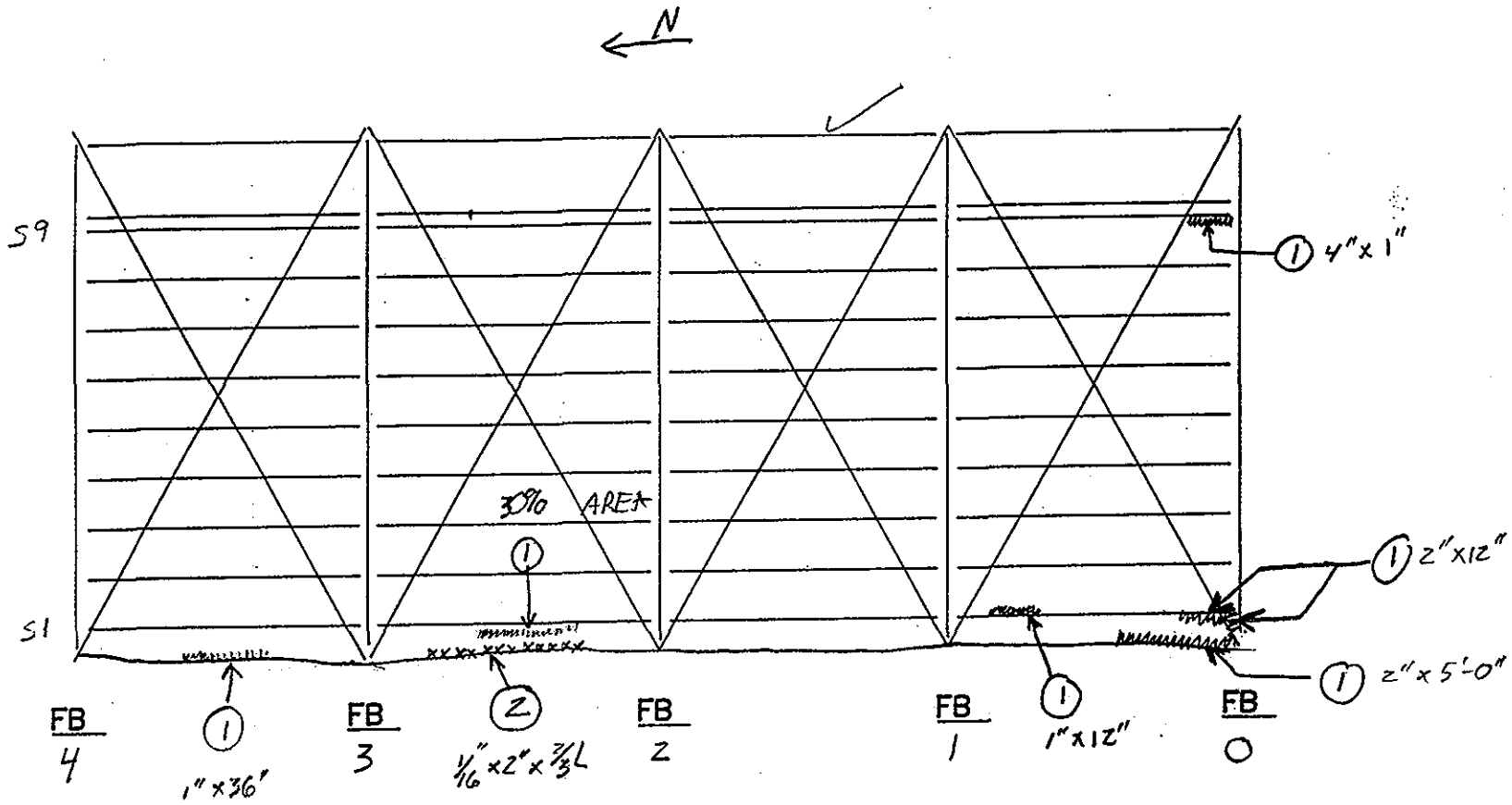
CREW: JP/KM | SHEET 7 OF 7



NOTES:

- (A) ELECTRIC MNH: COVER IS NOT ANCHORED DOWN.
- (B) SMALL SURFACE SPALL AT THE EDGE OF SIDEWALK ON THE CONCRETE.
- (C) LOOSE PATCH WITH VEGETATION 9"x6"
- (D) HAIR LINE CRACK
- (E) 1" DEEP SURFACE SPALL ALONG EDGE OF JOINT
- (F) SURFACE SPALL ON SAFETY WALK.
- (G) SURFACE CRACK ON ROADWAY (HAIR LINE CRACK)

DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-13-95
CREW: PWN/KM	SHEET 1 OF 5



UNDERSIDE OF DECK

SPAN 3 TRUSS ____

NOTES: (1) SURFACE RUST.
(2) (IR) ≈ 1/16" DEEP

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/21/95
CREW: TF	SHEET 1 OF 4

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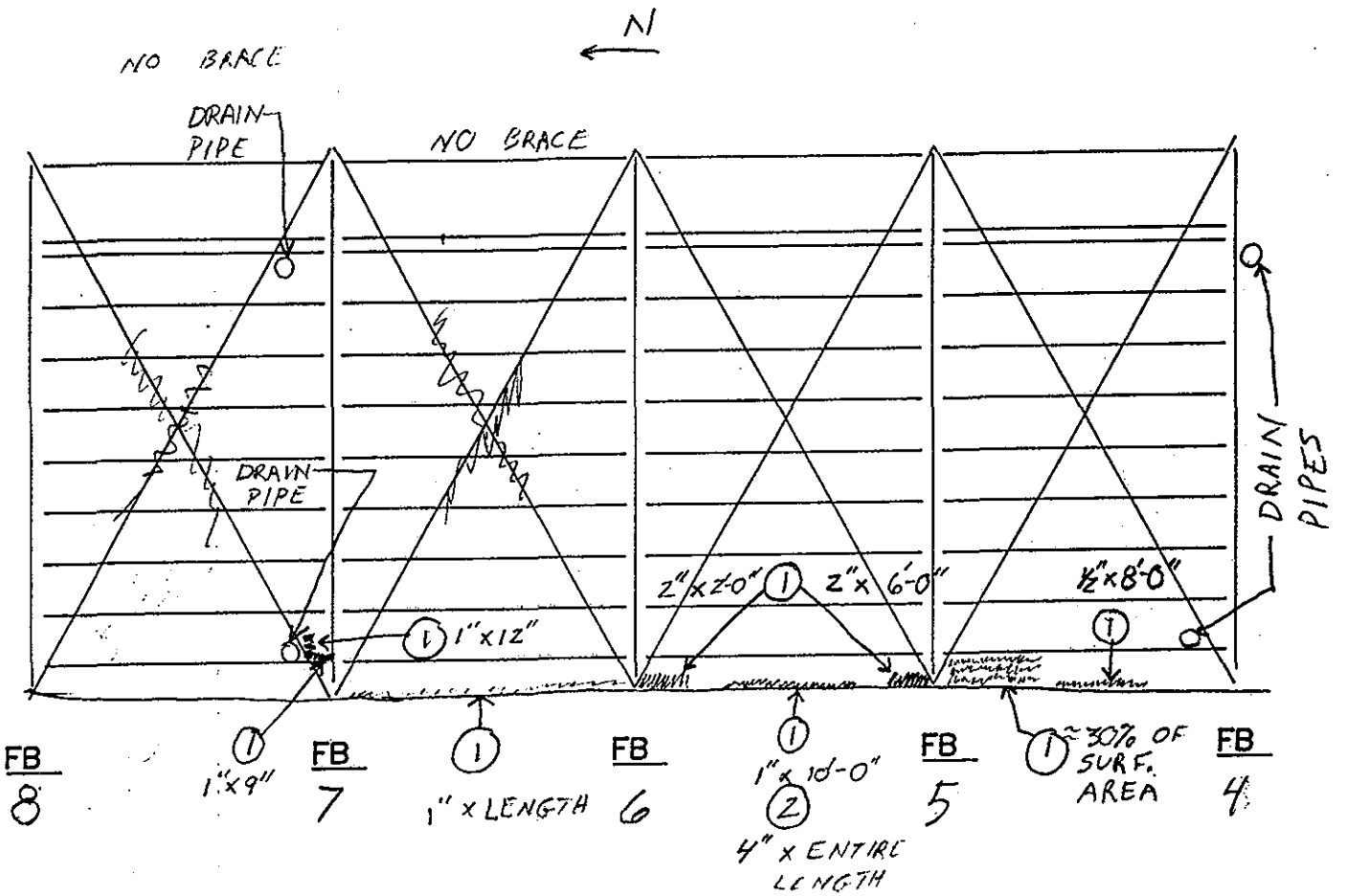

UNDERSIDE OF DECK

SPAN 3 TRUSS ____

NOTES: (1) SURFACE RUST
(2) RUST STAINING

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/21/95
CREW: TF	SHEET 2 OF 4

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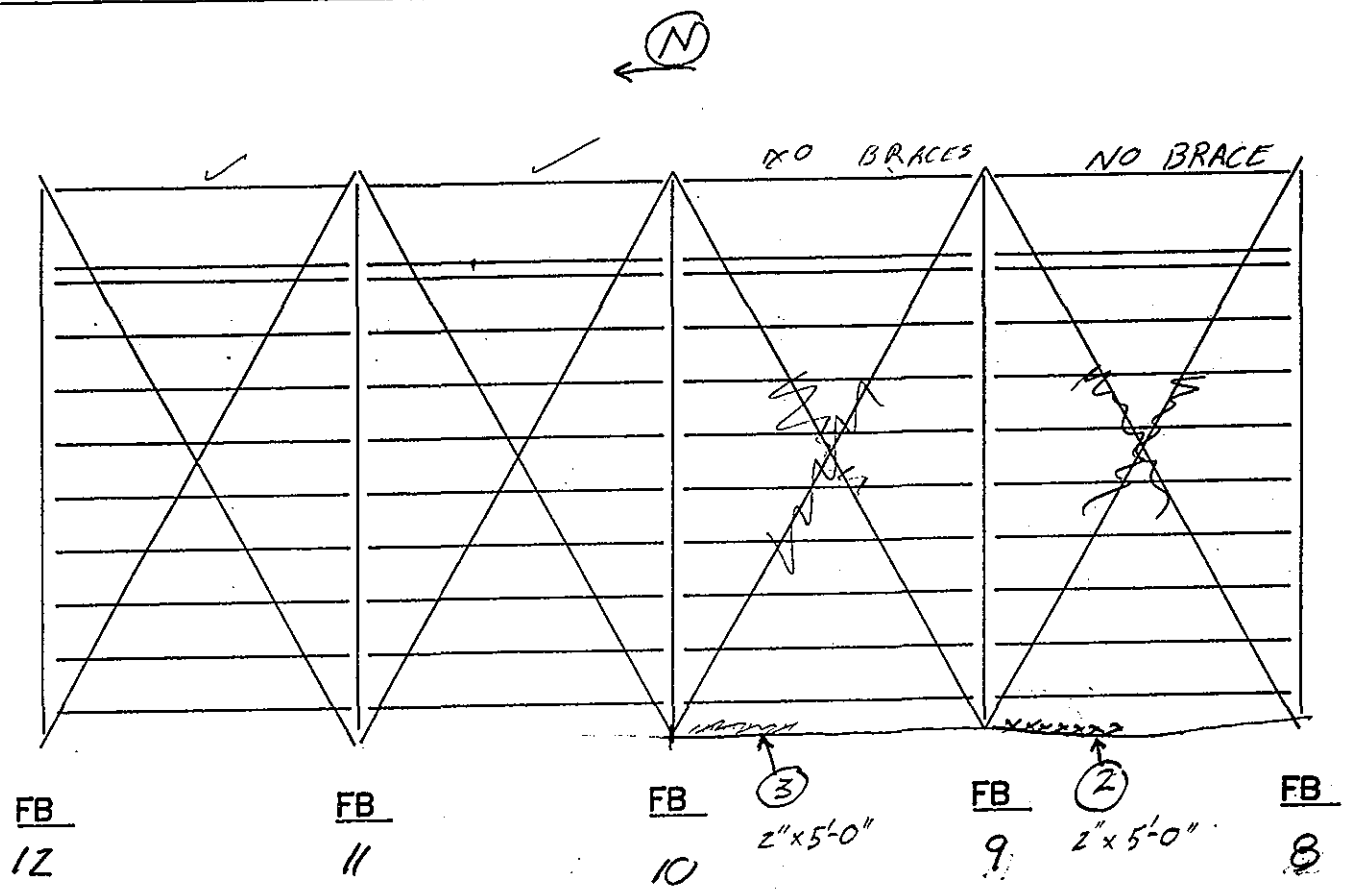

NOTE: WIND BRACING FROM 10 TO 10'.

UNDERSIDE OF DECK

SPAN 3 & 1 TRUSS ____

NOTES: (1) SURFACE RUST
(2) CR ≈ 1/16" DEEP
(3) RUST STAINING

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/21/95
CREW: TF | SHEET 3 OF 4

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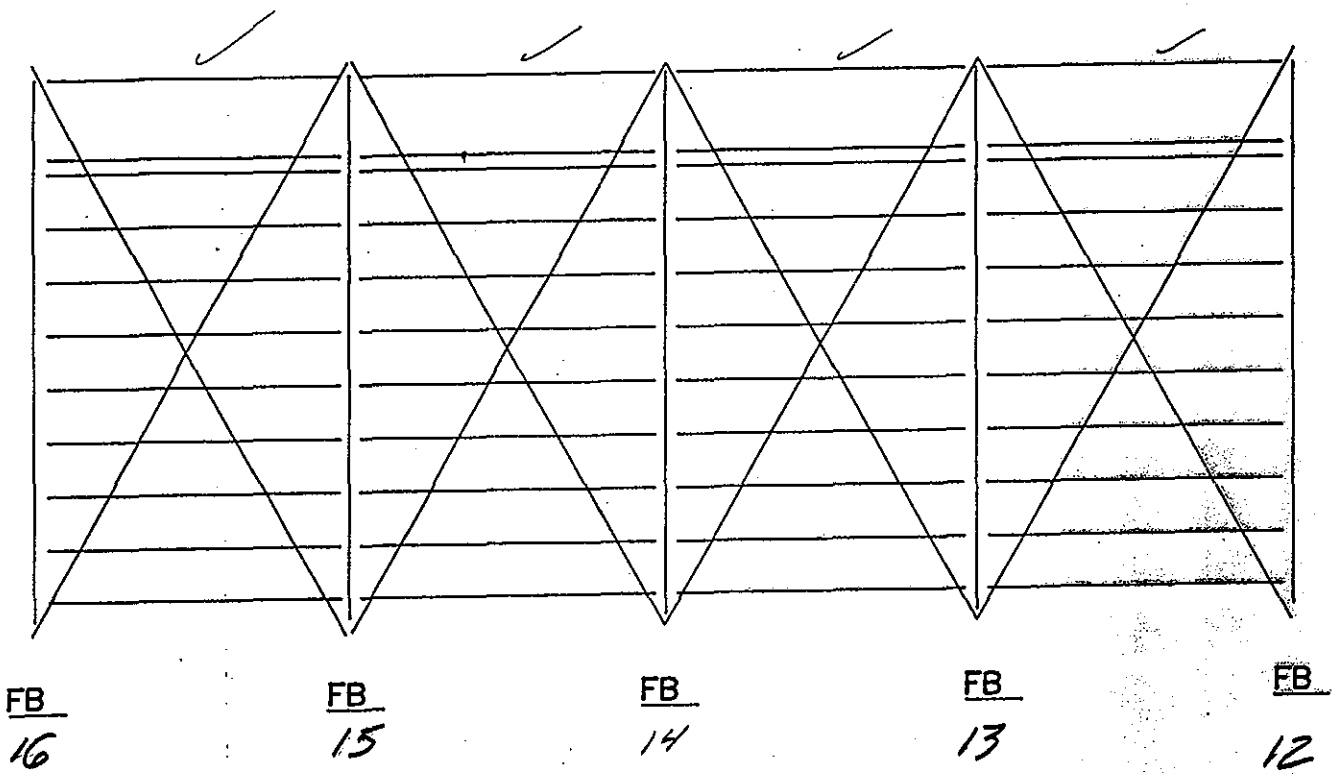

UNDERSIDE OF DECK

SPAN II TRUSS ____

NOTES:

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/21/95

CREW: TF | SHEET 4 OF 4

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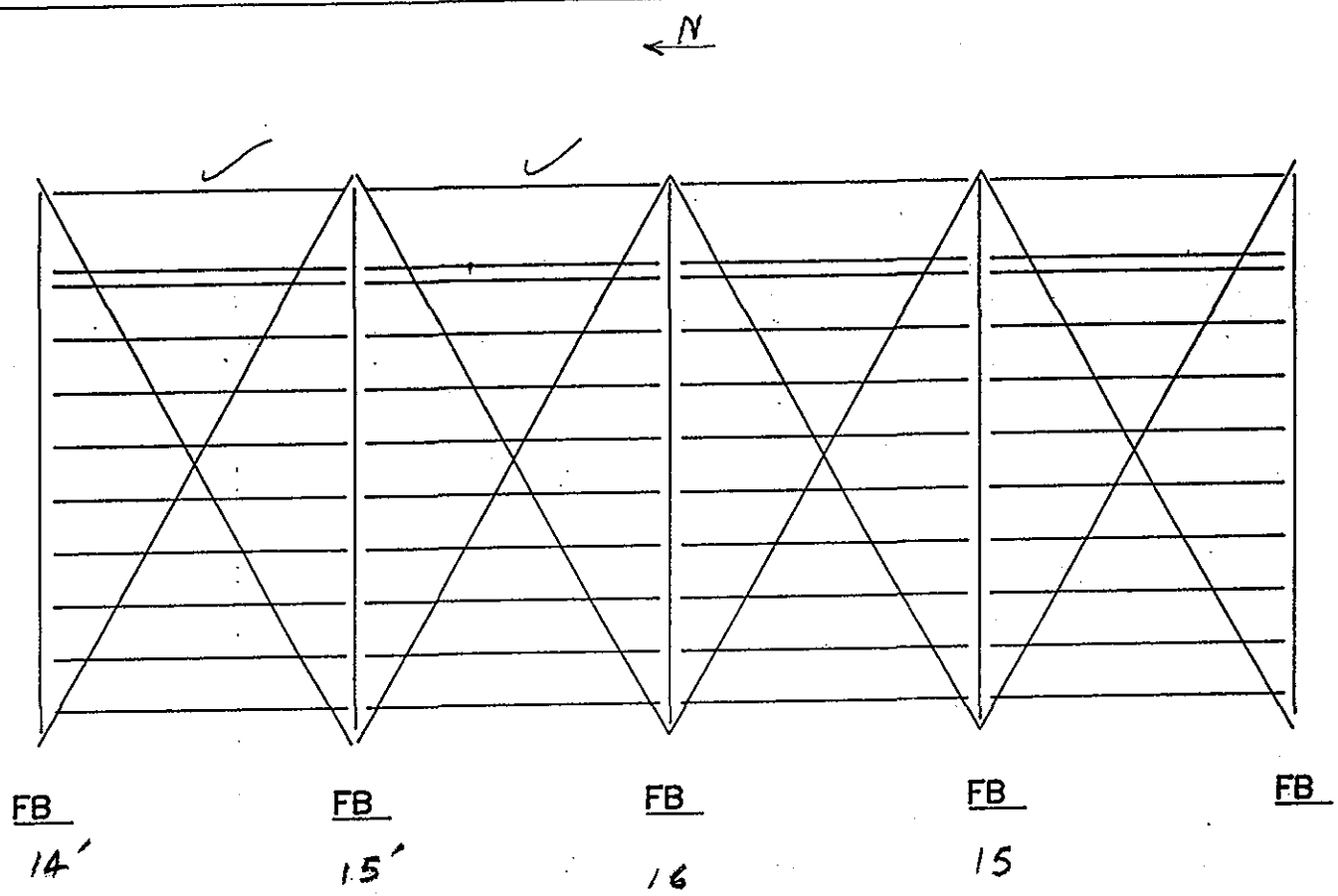

UNDERSIDE OF DECK

SPAN 1 TRUSS ____

NOTES:

FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/21/95

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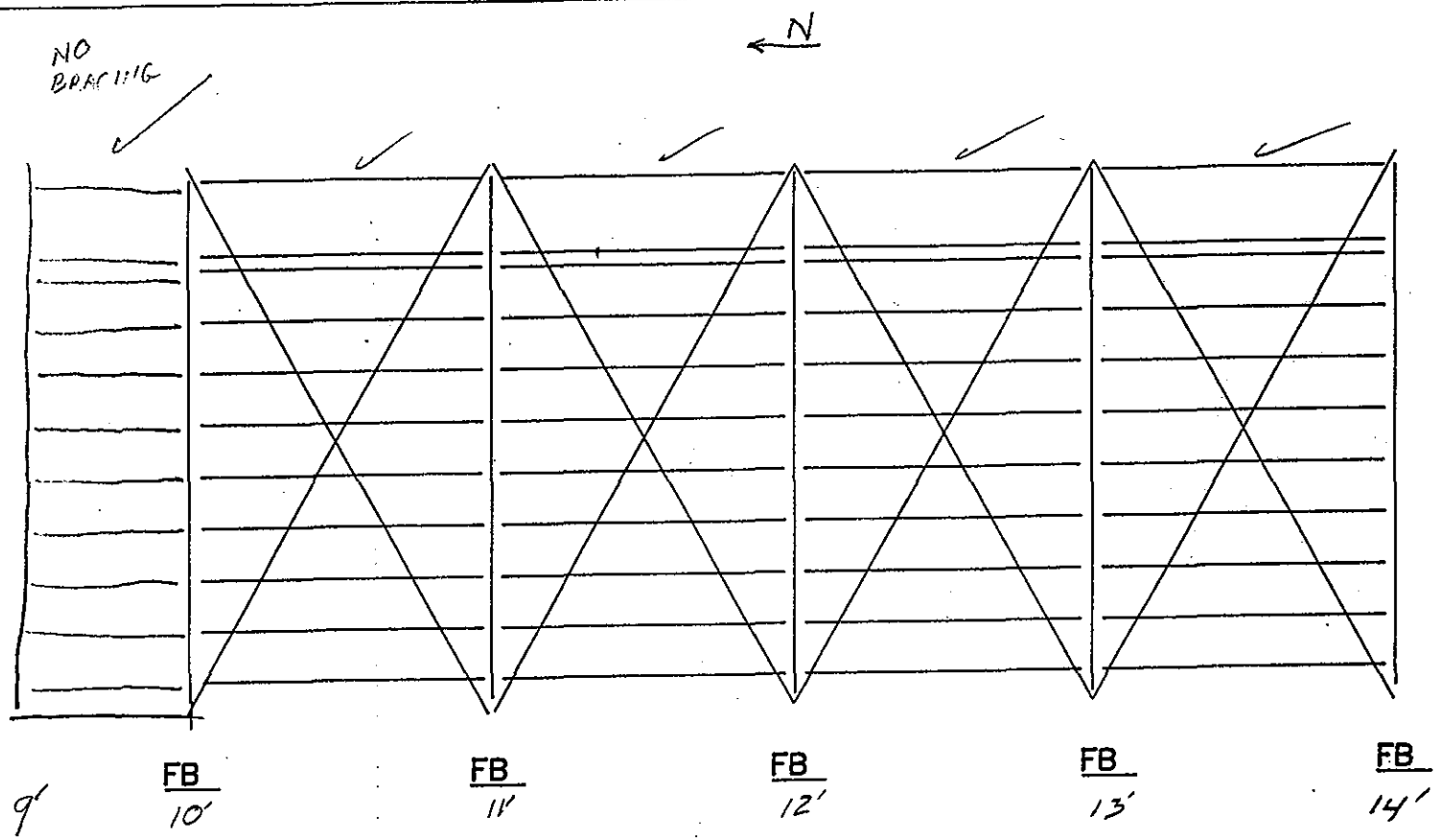

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UNDERSIDE OF DECK

SPAN 1 TRUSS ____

NOTE: WIND BRACING FROM 10' TO 10.

NOTES:

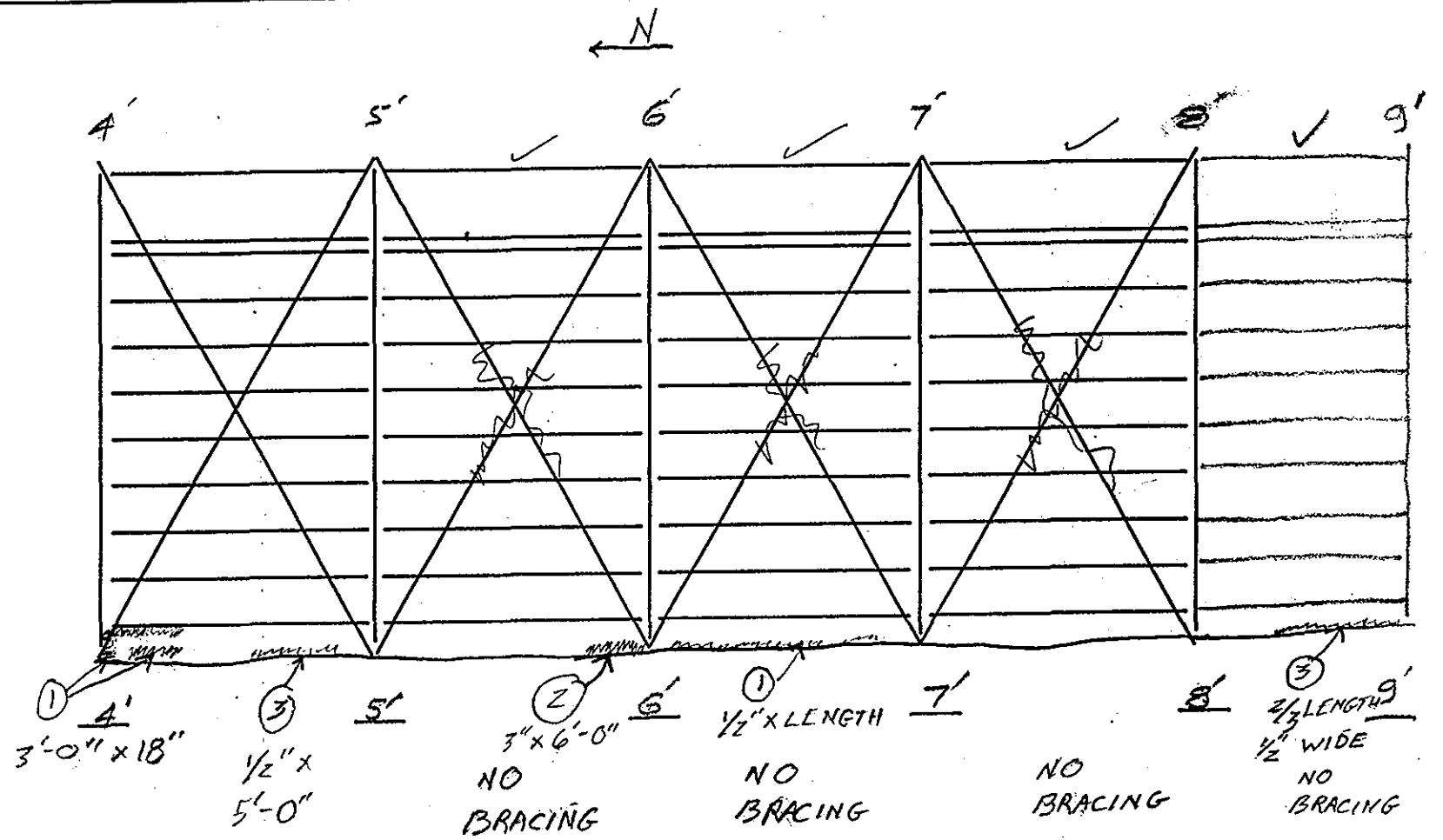
FLOOR SYSTEM

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7/21/95
CREW: TF	SHEET 3 OF 4



UNDERSIDE OF DECK
SPAN 2

NOTES: (1) SURFACE RUST (LIGHT RUST)
(2) RUST STAINING
(3) (IR) ≈ 1/16" DEEP

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7/21/95
CREW: TF	SHEET 2 OF 4

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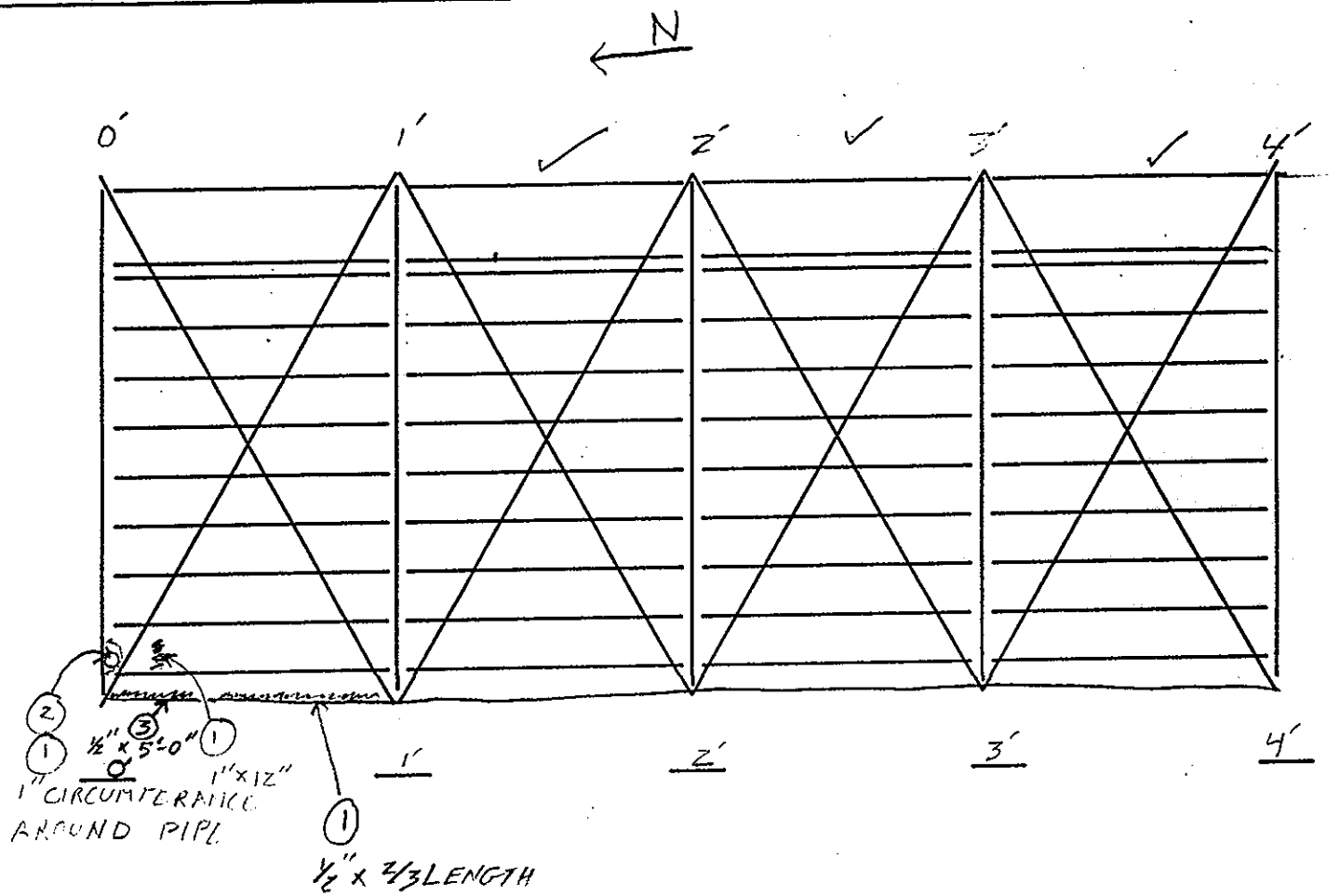

UNDERSIDE OF DECK

SPAN 2

NOTES: (1) SURFACE RUST (LIGHT.)

(2) 2" Ø PIPE ≈ 4" LONG EXTENDING FROM DECK

(3) (IR) ≈ 1/16" DEEP

FLOOR SYSTEM	
DEPARTMENT OF THE ARMY NEW ENGLAND DIVISION CORPS OF ENGINEERS	
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
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JOB #1784	DATE: 7/21/95
CREW: TF	SHEET 1 OF 4

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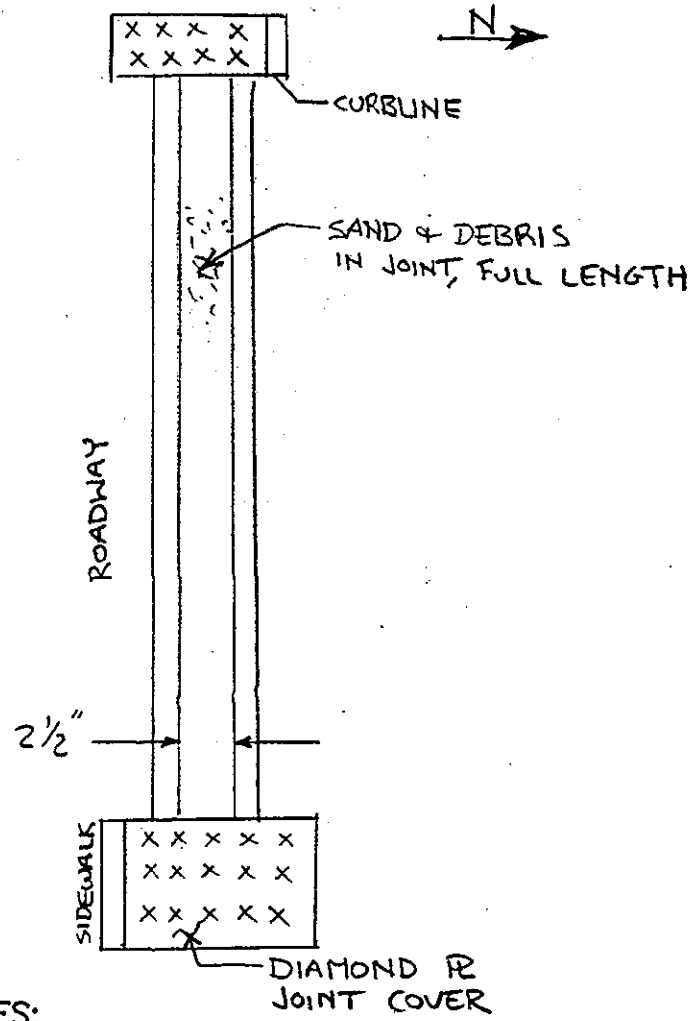
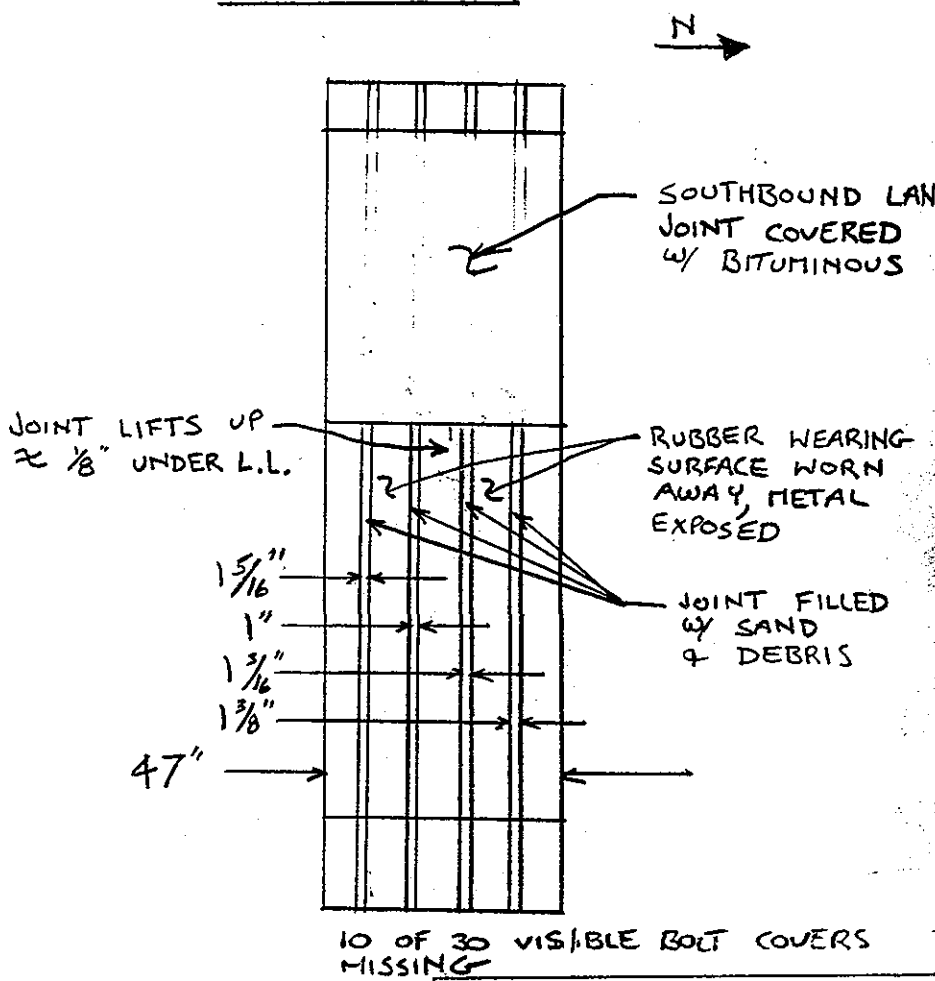
EXPANSION JOINTS

DECK JOINT @
PANNEL POINT 10



DECK JOINT @
SOUTH ABUT.



NOTES:

TEMP. 80° F

NOTE CURB REVEAL IS TYP 18"

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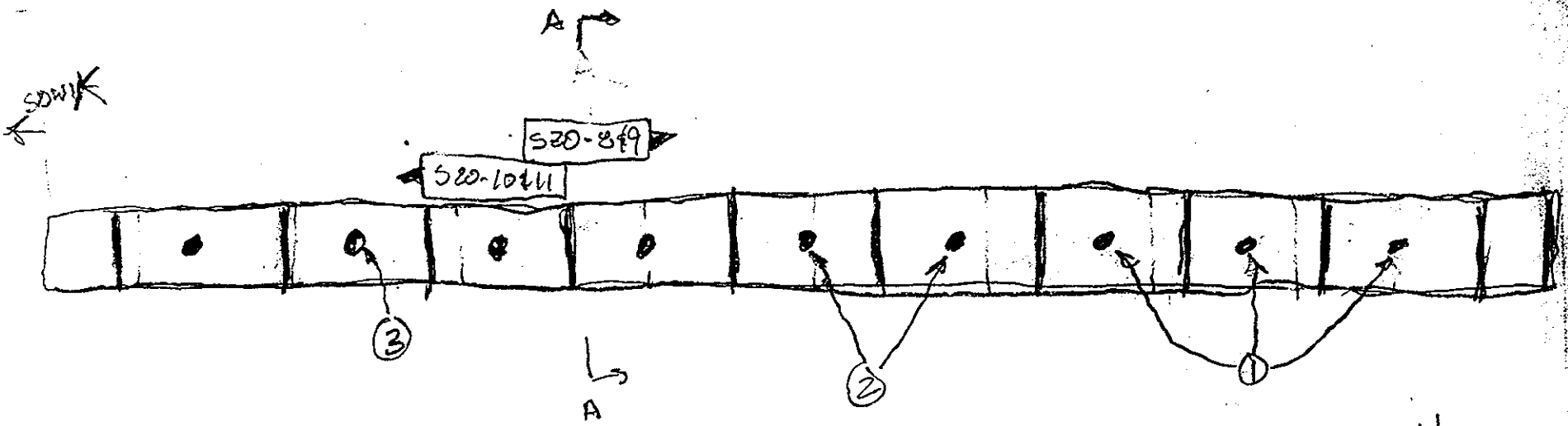
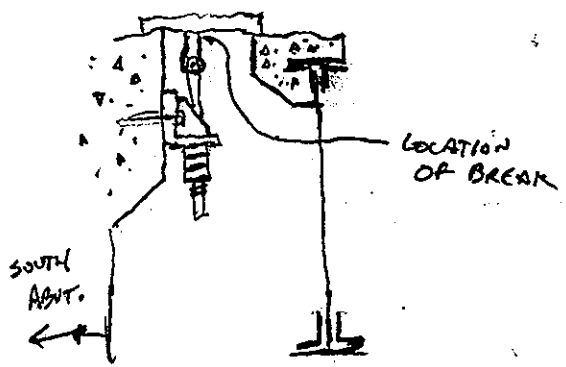
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784	DATE: 7/12/95
CREW: PWN BH	SHEET 1 OF 3





LEGEND

● - LOCATION OF JOINT REPAIR ROD

(@ S. ABUT)

DECK JOINT @ U0

NOTES:

1. REPAIR ROD BROKE @ CONNECTION W/ JOINT & hanging down
2. " " COMPLETELY MISSING
3. " " LOOSE - GAP CAN BE SEEN BETWEEN ELASTOMERIC PADS UNDER LIVE LOAD

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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JOB #1784 | DATE: 7-20-95
CREW: R², NT | SHEET 4 OF

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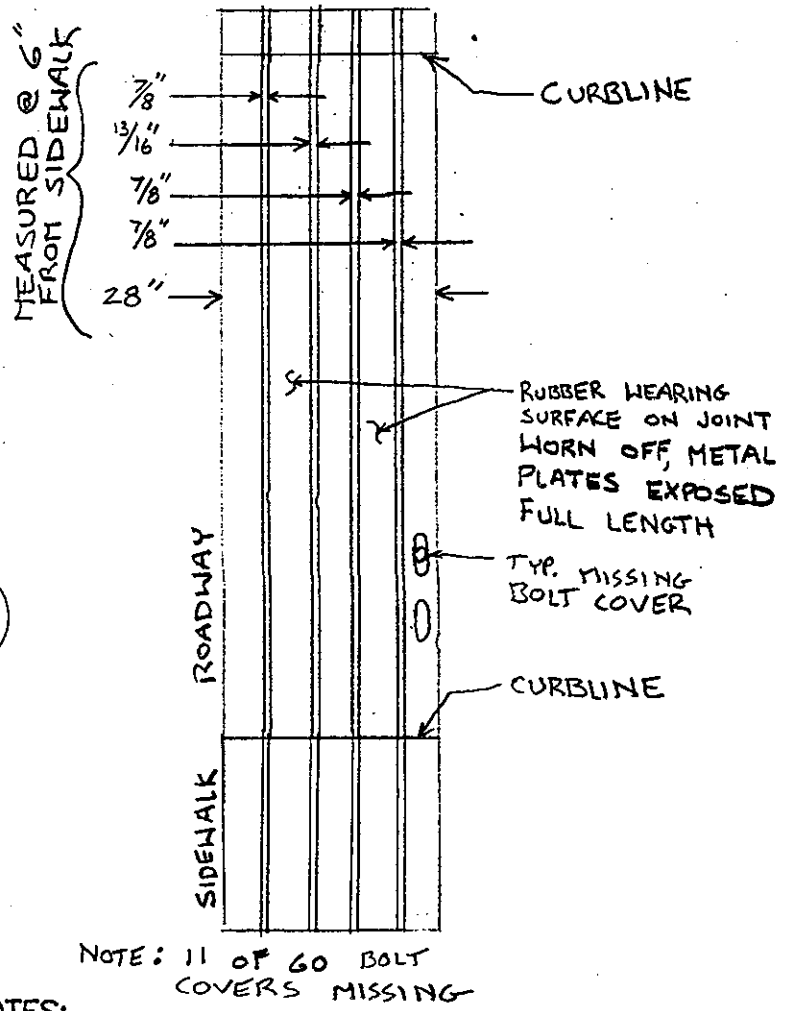
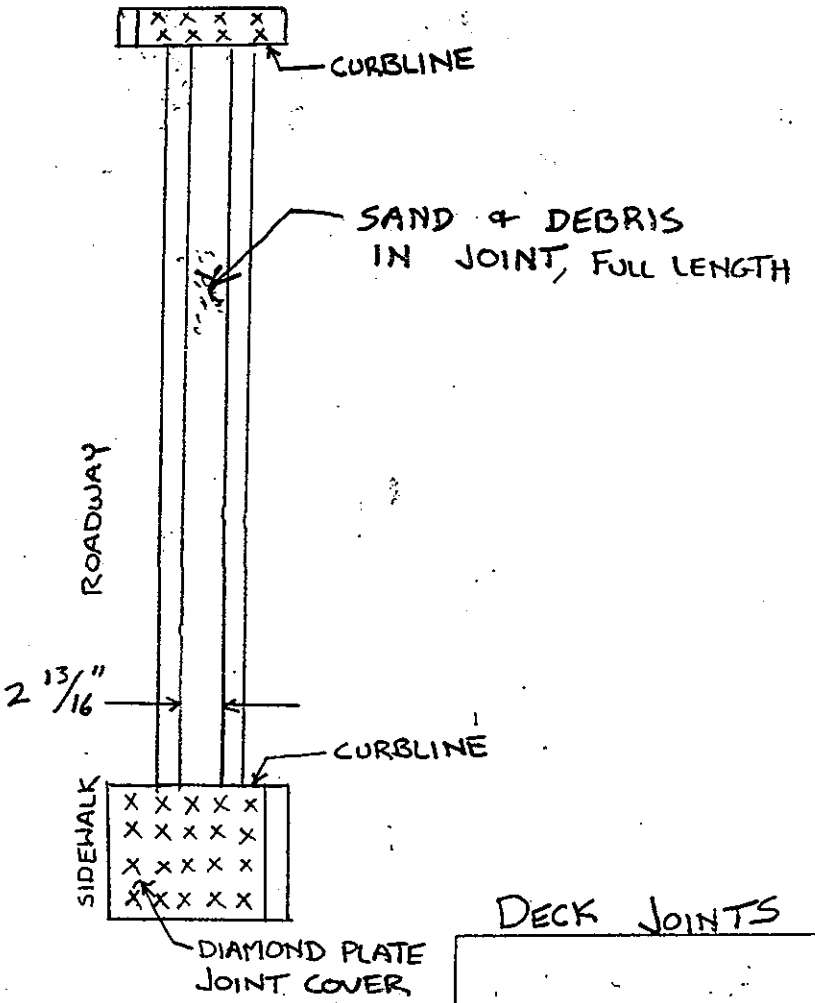
DECK JOINT @ NORTH ABUT.



NOTE: 11 OF 60 BOLT COVERS MISSING

DECK JOINT @ PANNEL POINT 10'



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NOTES:

TEMP. 80°F

DECK JOINTS

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

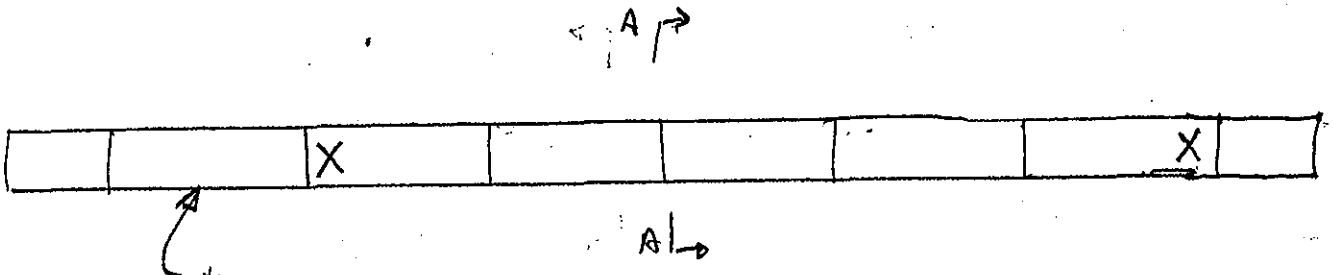
SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
CONSULTING ENGINEERS

JOB #1784 | DATE: 7/12/95

CREW: JWN BH | SHEET 2 OF 3

N



TYPICAL ARMORED JOINT SECTION
6 long & 2 short (one on ec on each end)

UNDERSIDE OF N. ABUT.
DECK JOINT

SECTION A-A SEE SHEET 2 of 2
DATED 7-18-95
CREW: R², JP

X- LOCATION OF LOUD NOISE SOURCE
UNDER LIVE LOAD

DECK JOINT AT 0'	
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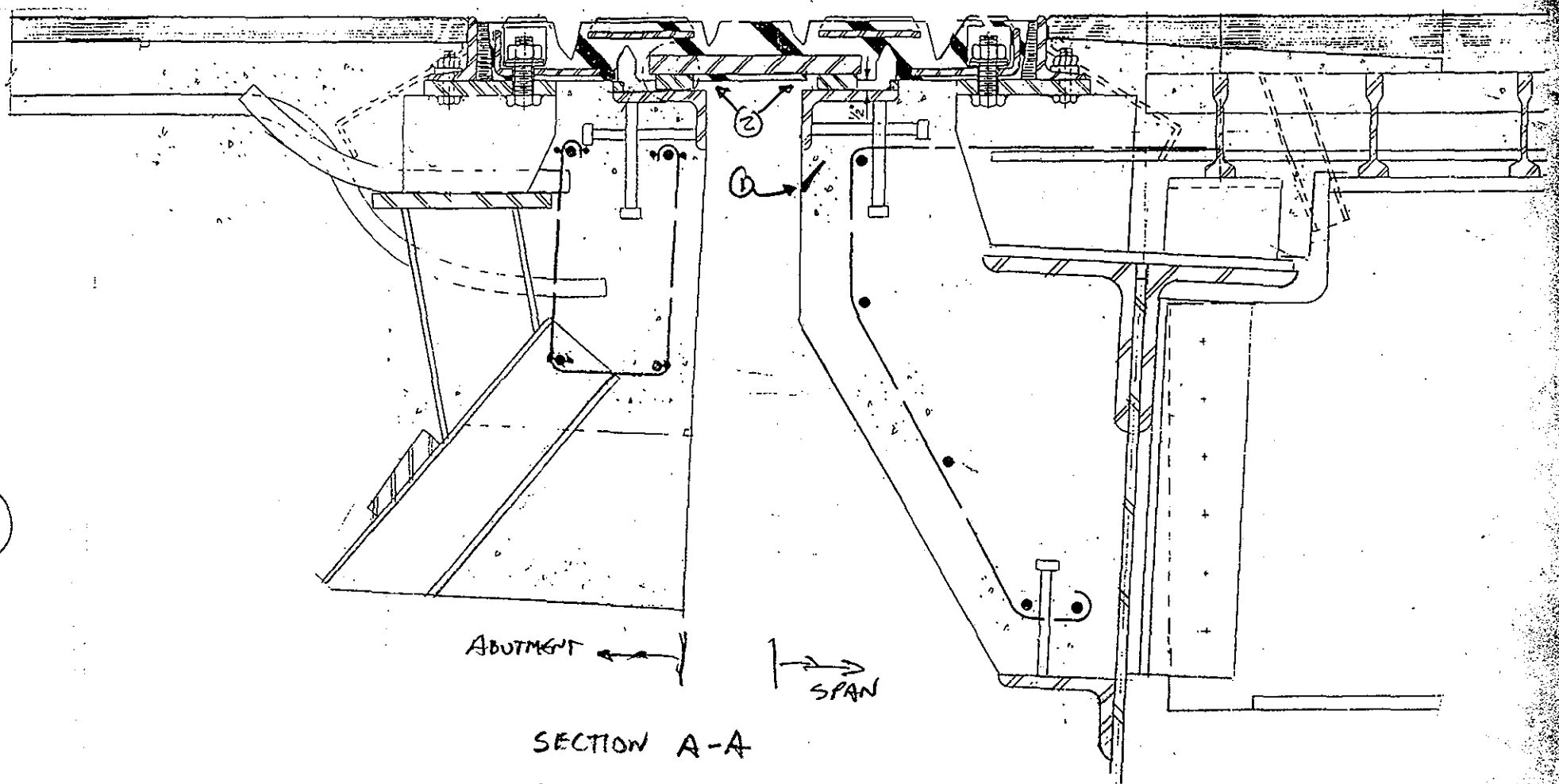
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-18-95
CREW: R², JP	SHEET 1 OF 2



SECTION A-A

EXPANSION JOINT
AT ABUTMENT (NORTH)
(NODE 0')

① - $\frac{1}{8}$" to $\frac{1}{2}$" WIDE CRACK / imminent spall entire length of joint

② ARMORED JOINT DEFLECTS UP TO $\frac{1}{2}$" UNDER LIVE LOAD & EMITS A LOUD BANG (METAL AGAINST METAL SOUND) AT LOCATIONS AS SHOWN ON SHEET 1 OF 1 DATED 7-18-95 BY RZ & JP

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SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB # 1784	DATE: 7-18-95
CREW: RZ JP	SHEET 2 OF 2

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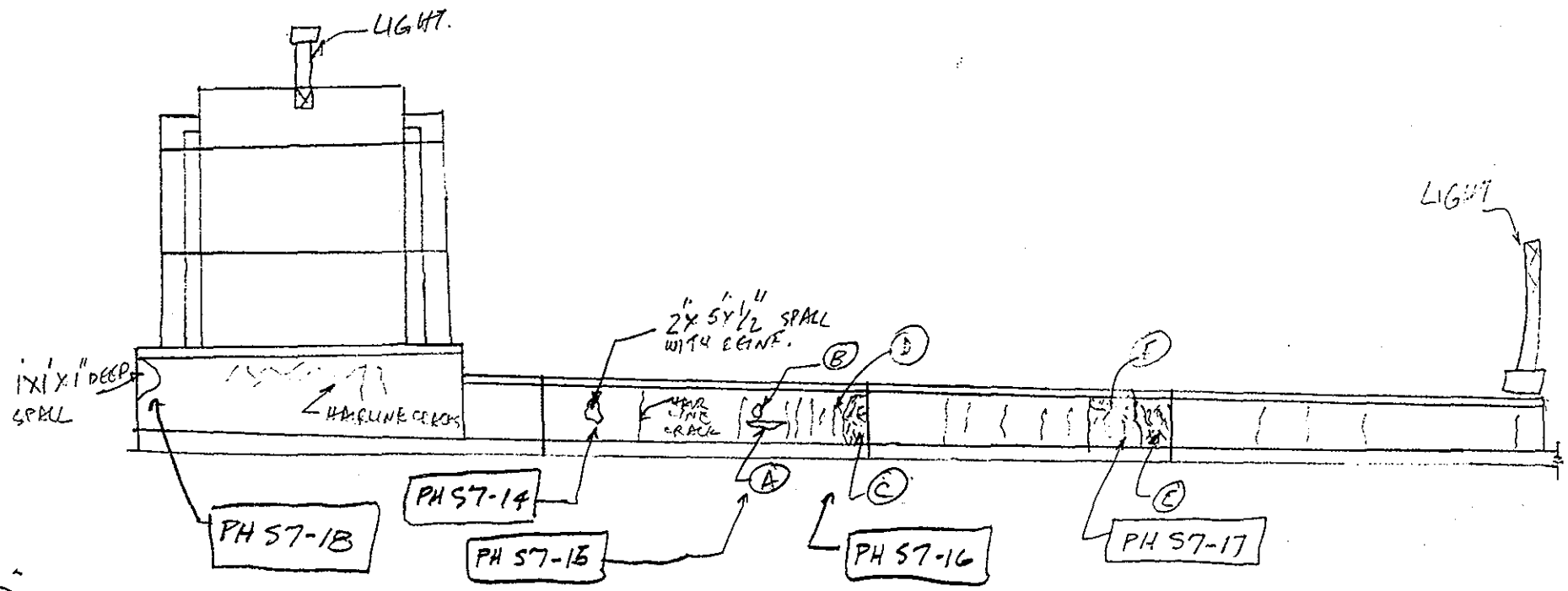
CURB AND PARAPET



NORTH ABUTMENT
(WEST ELEVATION OF EAST ~~RWING WALL~~ PARAPET)
(MIRROR IMAGE)

(A) 8"x 2"x 1/2" SPALL
(B) 2"ϕ SPALL WITH EXPOSED REINF.
(C) 2'x2' HOLLOW MAP CRACK PATCH
(D) 43"x 26" MAPPED CRACK AREA
(E) 30"x 26" HOLLOW MAP CRACKED PATCH
(F) 48"x 26" MAPPED CRACK AREA.

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS
JOB #1784 | DATE: 7-13-95
CREW: [illegible] | SHEET 2 OF 5

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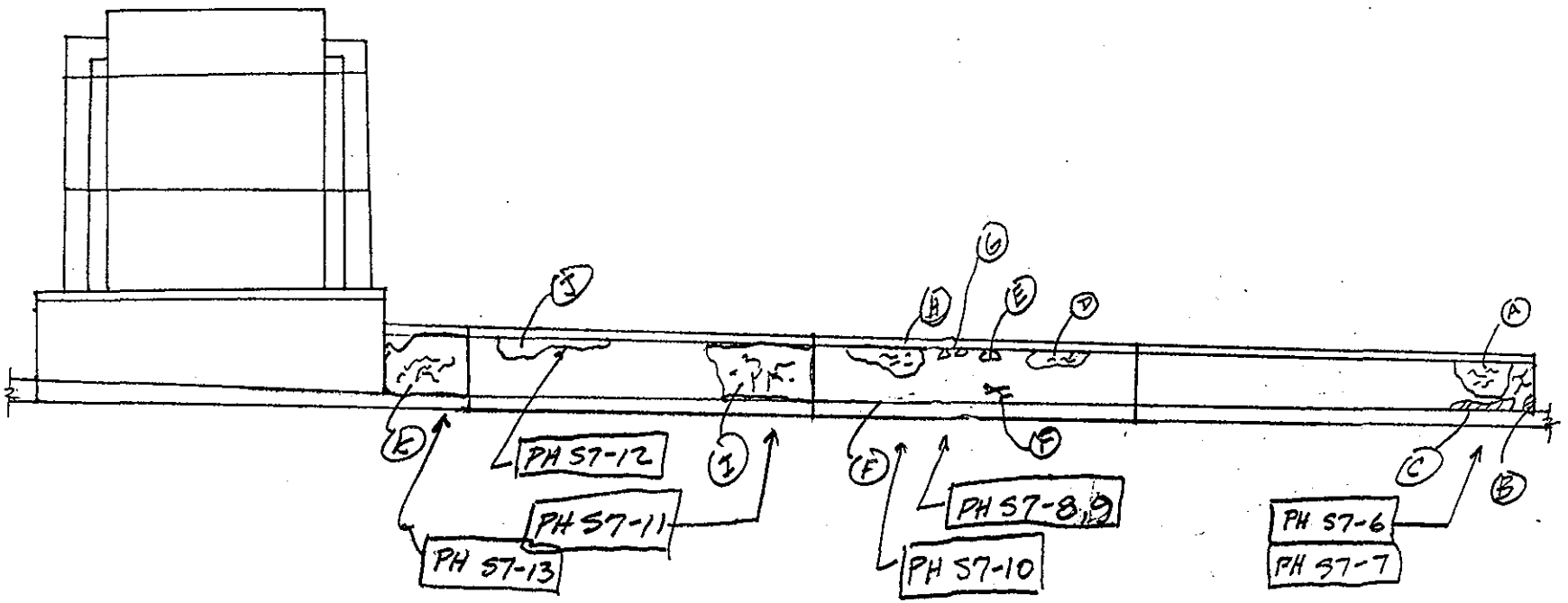

NORTH ABUTMENT
(EAST ELEVATION OF WEST PARAPET WALL)

(A) PATCHED AREA 2'x4' WITH MAP CRACKS
(B) CORNER SPALL 9"x4"
(C) SPALL 2'x4"x1" DEEP
(D) PATCHED AREA 3'x1" WITH HAIRLINE CRACKS
(E) PATCHED AREA 6"x12"
(F) HAIRLINE CRACKS WITH EFFLORESCENCE
(G) 2 SPALLS 3"x6"x1" DEEP
(H) PATCHED AREA 7'x1'-6" WITH MAP CRACKS & EFFLORESCENCE
(I) PATCHED AREA 6' x FULL HEIGHT OF PARAPET, MAP CRACKS. PH S7-11
(J) PATCHED AREA 8' x 1'-6" PH S7-12
(K) PATCHED AREA 2'x3' WITH HEAVY MAP CRACKS PH S7-13

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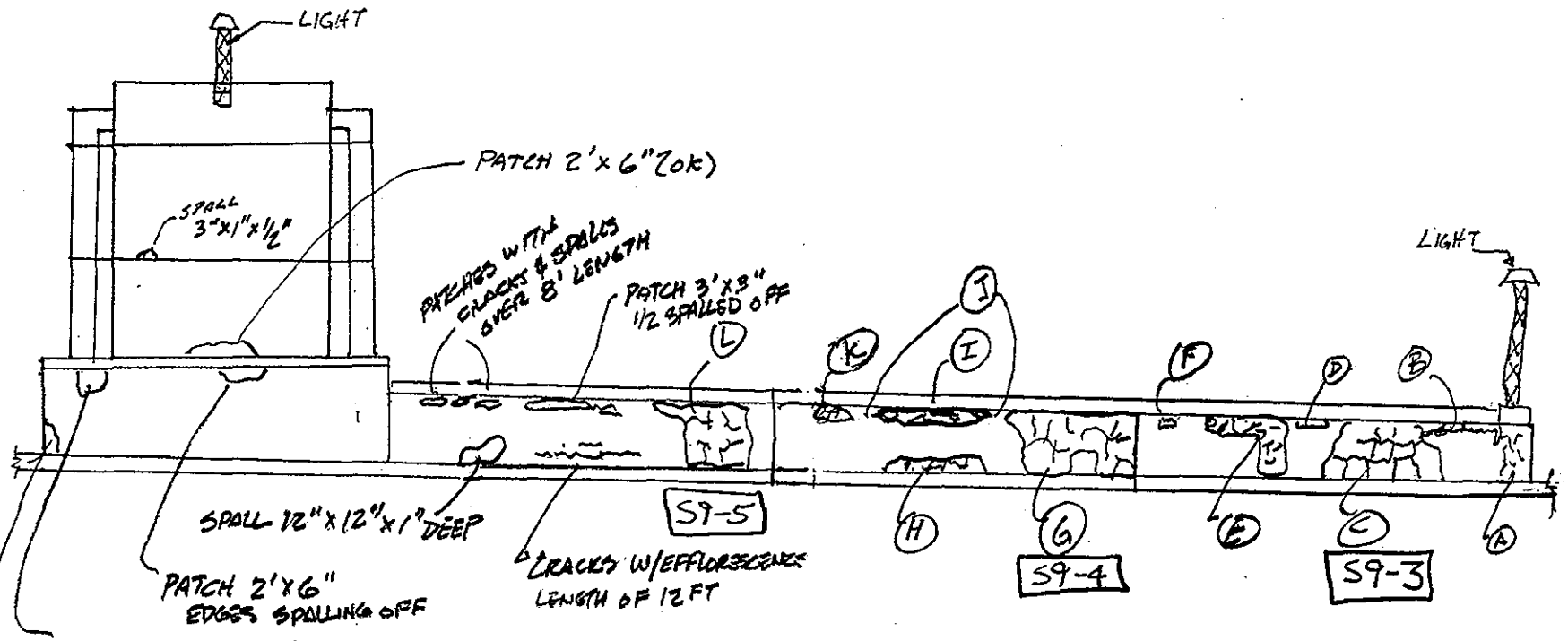
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE:
CREW: JP/KM	SHEET 3 OF 5



SOUTH ABUTMENT
EAST ELEV. OF WEST PARAPET WALL
(MIRROR IMAGE)

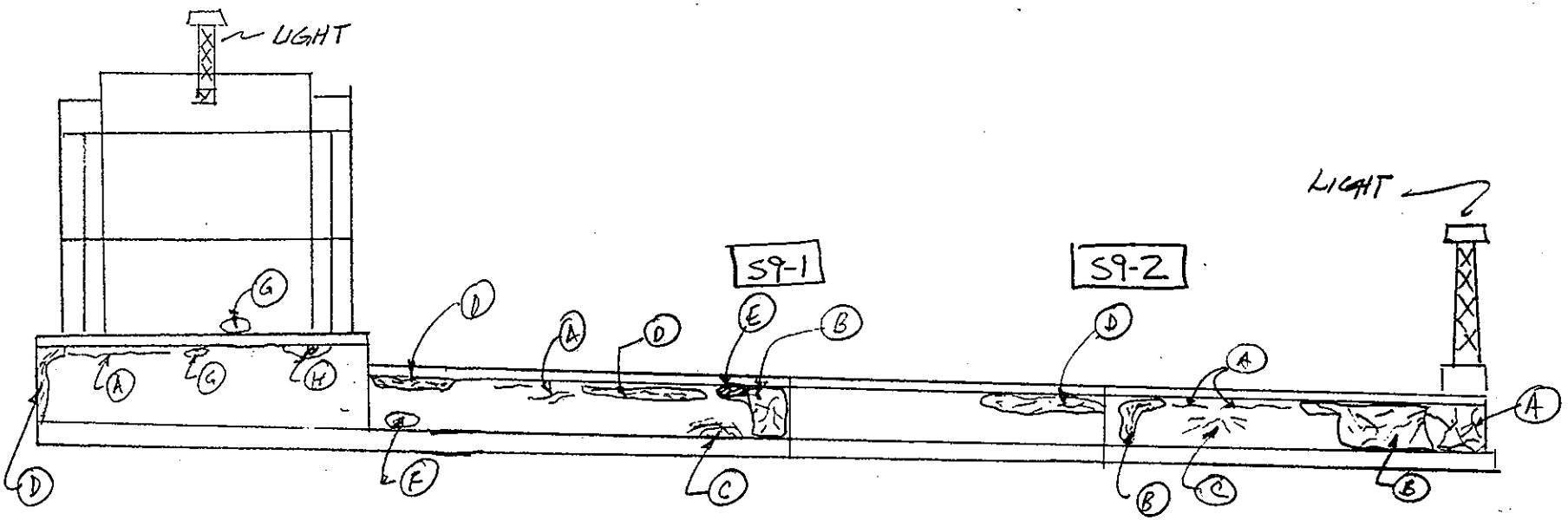
(A) HEAVY MAP CRACKING ON PARAPET FACE UNDER LIGHT.
(B) HORIZ. CRACK 5 FT LONG @ TOP OF PARAPET
(C) PATCHED AREA 6 FT x FULL HEIGHT OF PARAPET WITH HEAVY CRACKING
(D) SPALL 3"x 18"x 2" DEEP
(E) L-SHAPED PATCH 6 FT ACROSS TOP, 3 FT ACROSS BOTTOM, FULL HEIGHT WITH HEAVY CRACKING
(F) SPALL 3"x6"x1" DEEP.
(G) PATCH 12' LONG, FULL HEIGHT WITH HEAVY CRACKING
(H) PATCH 7'x 1' WITH HEAVY CRACKING.
(I) PATCH 8' x 9" WITH HEAVY CRACKING
(J) CRK SPALLED ADJACENT TO PATCH 2'x 3"x 1" EA. SIDE OF PATCH
(K) PATCH 2' x 8" WITH MAP CRACKS
(L) PATCH 14' x FULL HEIGHT WITH HEAVY CRACKING

DEPARTMENT OF THE ARMY
NEW ENGLAND DIVISION CORPS OF ENGINEERS

SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS

JOB #1784 | DATE: 7-13-95
CREW: JTP/KM | SHEET 5 OF 5



SOUTH ABUTMENT

(WEST ELEVATION OF EAST PARAPET WALL)

(A) HAIRLINE CRACKS
(B) HOLLOW MAPPED CRACKS WITH CONCRETE PATCH
(C) MAP CRACKING
(D) HOLLOW CRACKS WITH CONCRETE PATCH
(E) SURFACE CRACK (15" x 6" x 1" DEEP) WITH PATCH
(F) SURFACE SPALL 12" x 7" x 1/2" DEEP
(G) SURFACE SPALL 4" x 2" x 1/2" DEEP
(H) SURFACE SPALL WITH 4" DEEP HOLE

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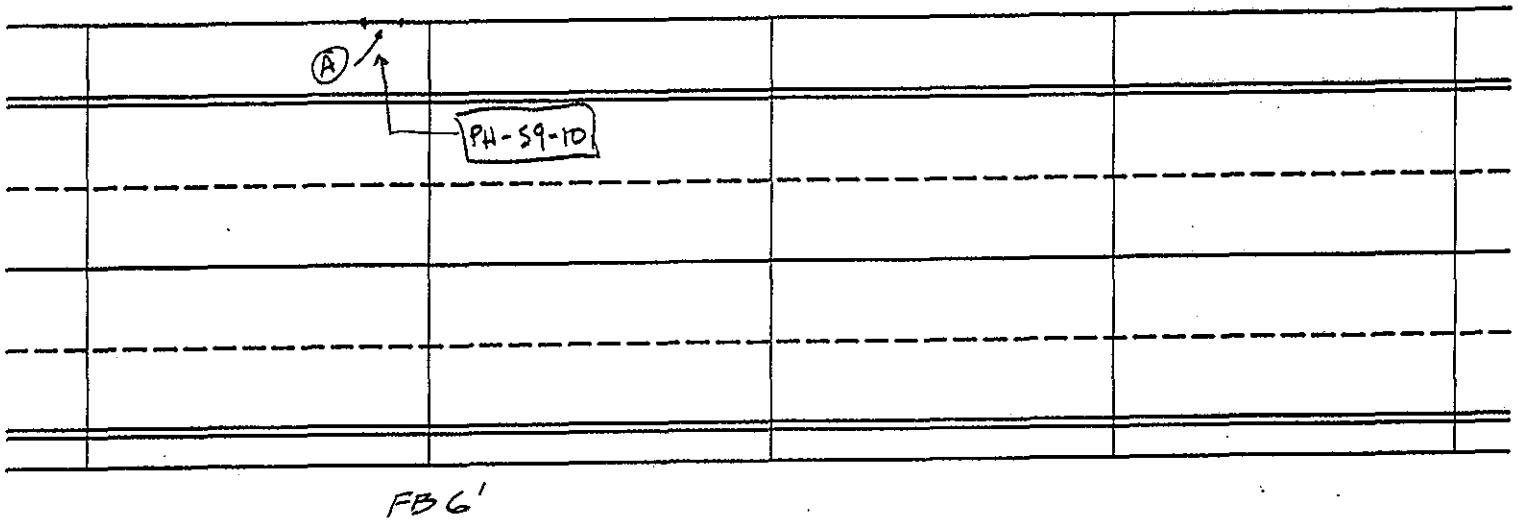
SAGAMORE HIGHWAY BRIDGE ROUTINE INSPECTION	
NOTES BY: LICHTENSTEIN CONSULTING ENGINEERS	
JOB #1784	DATE: 7-13-95
CREW: JP/KM	SHEET 4 OF 5

ANTI-MISSILE FENCE



SPAN 2

TOP OF DECK
SUICIDE PREVENTION FENCE

NOTES:

(A) EAST SUICIDE PREVENTION FENCE GATE NORTH OF FB 6' 1 BOLT TOO SHORT, THUS NUT IS NOT COMPLETELY ENGAGED PH-S9-10

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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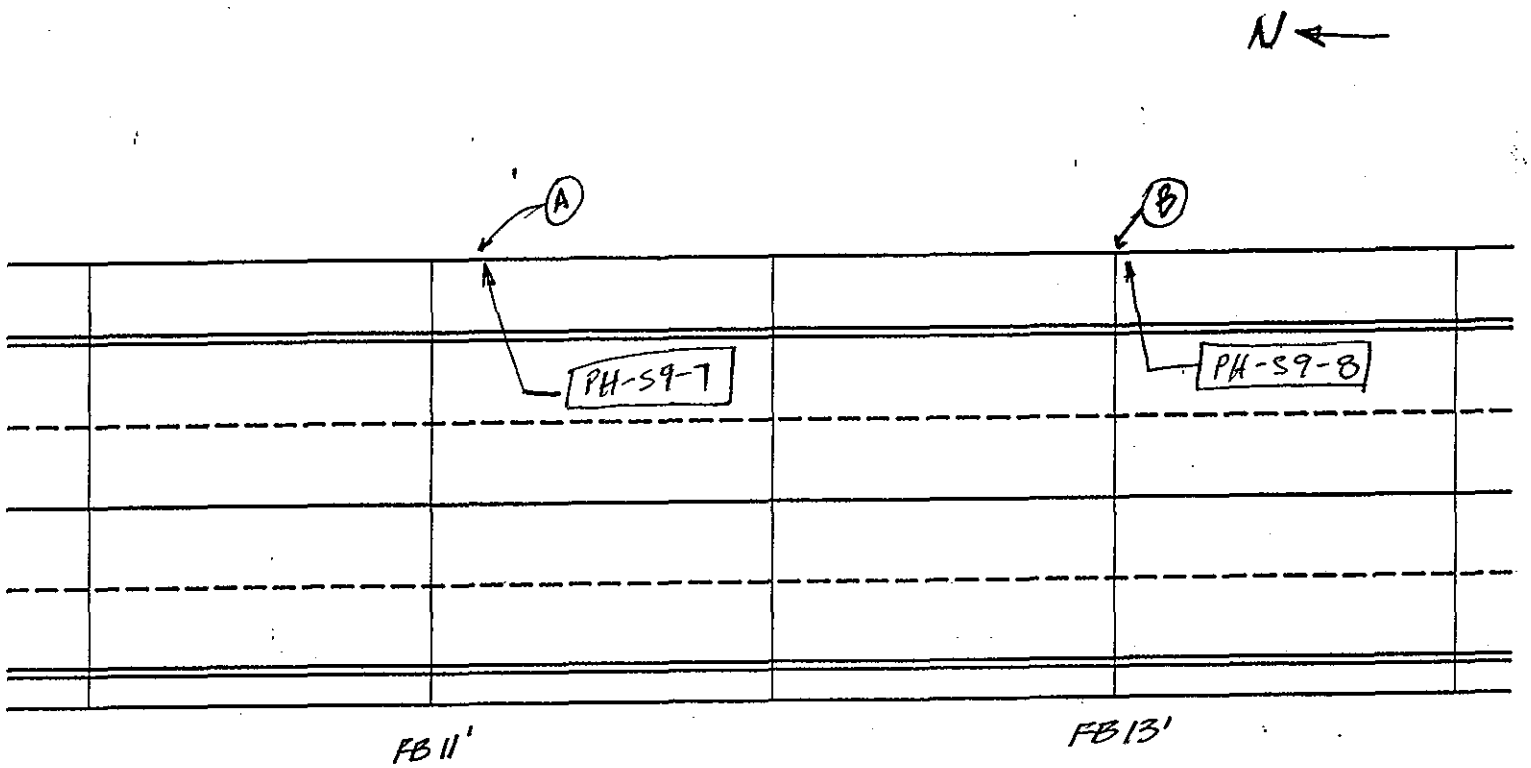
JOB #1784 | DATE: 7-18-95
CREW: JP/KM | SHEET 4 OF 4



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SPAN 1

TOP OF DECK
SUICIDE PREVENTION FENCE

NOTES:

(A) EAST SUICIDE PREVENTION FENCE GATE @ FB 11' MISSING BOLT PH-S9-7

(B) BENT PICKET @ TOP OF E. SUICIDE FENCE @ FB 13' PH-S9-8

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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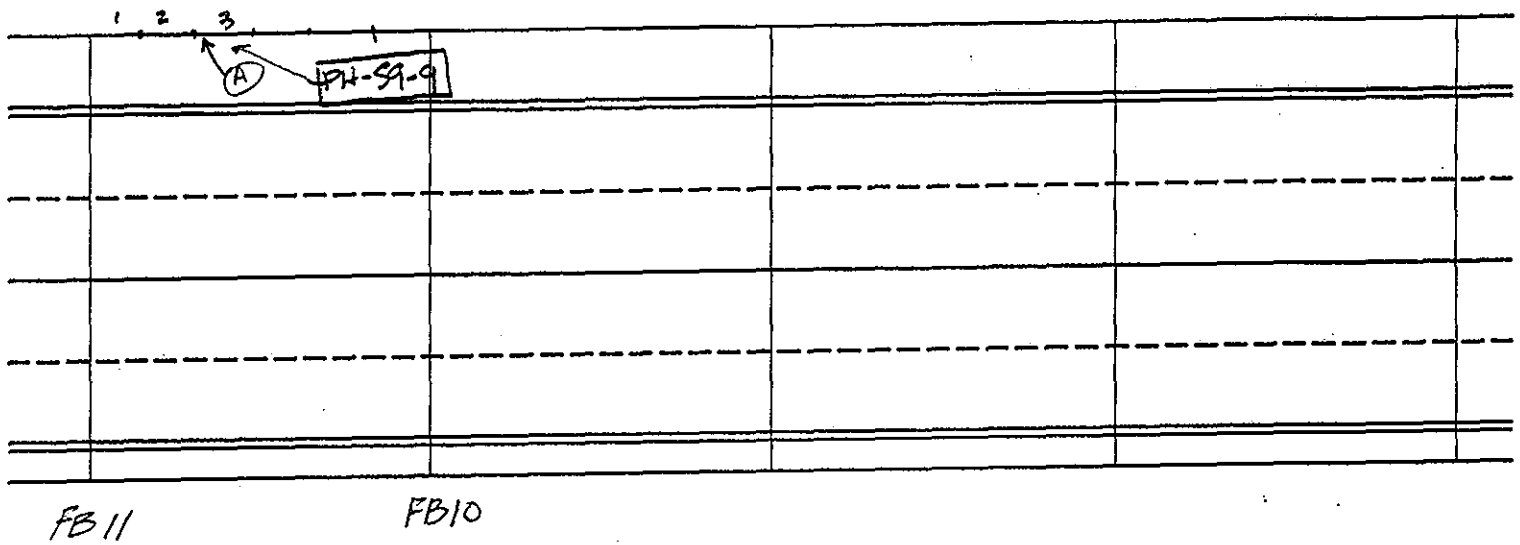
JOB #1784	DATE: 7-18-95
CREW: JP/KM	SHEET 1 OF 4



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SPAN 1

TOP OF DECK
SUICIDE PREVENTION FENCE

NOTES:

(A) EAST SUICIDE PREVENTION FENCE: NORTH END OF 3RD PANEL FROM FB11 ABRASION DUST @ CENTER RAIL CONNECTION, RAIL LOOSE - VIBRATES WHEN SHAKEN PH-S9-9

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

NOTES BY: LICHTENSTEIN
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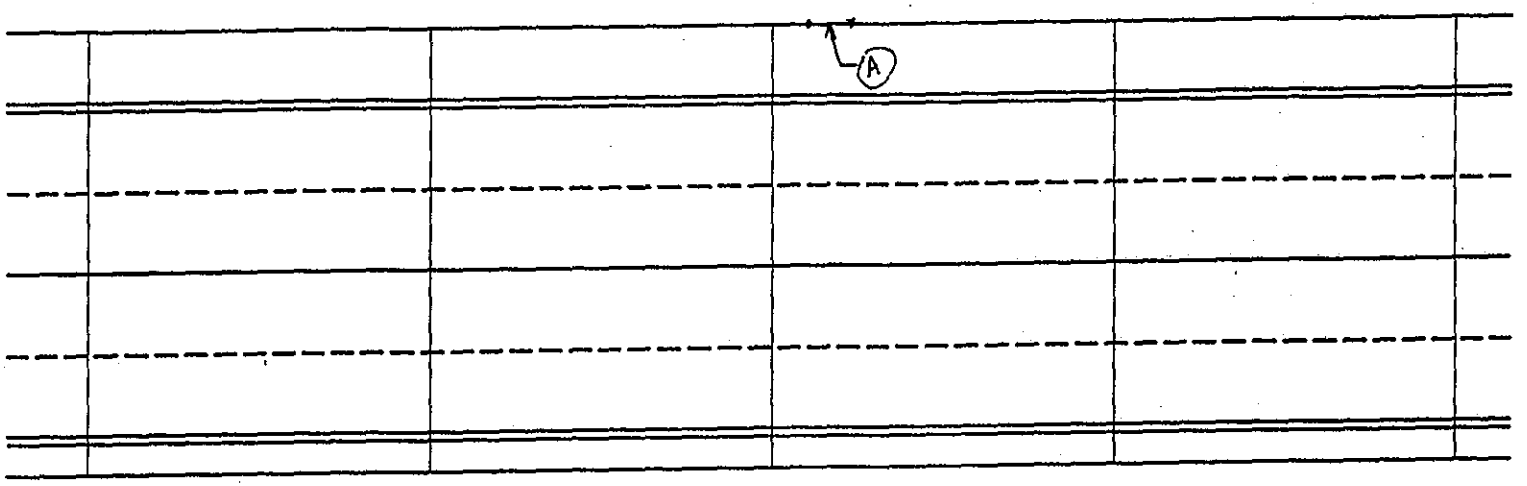
JOB #1784	DATE: 7-18-95
CREW: JP/KM	SHEET 2 OF 4

N



FB 2

SPAN 3

TOP OF DECK
SUICIDE PREVENTION FENCE

NOTES:

(A) EAST SUICIDE PREVENTION FENCE GATE SOUTH OF FB2 LOOSE BOLT.

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SAGAMORE HIGHWAY BRIDGE
ROUTINE INSPECTION

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JOB #1784 | DATE: 7-18-95
CREW: JP/KM | SHEET 3 OF 4