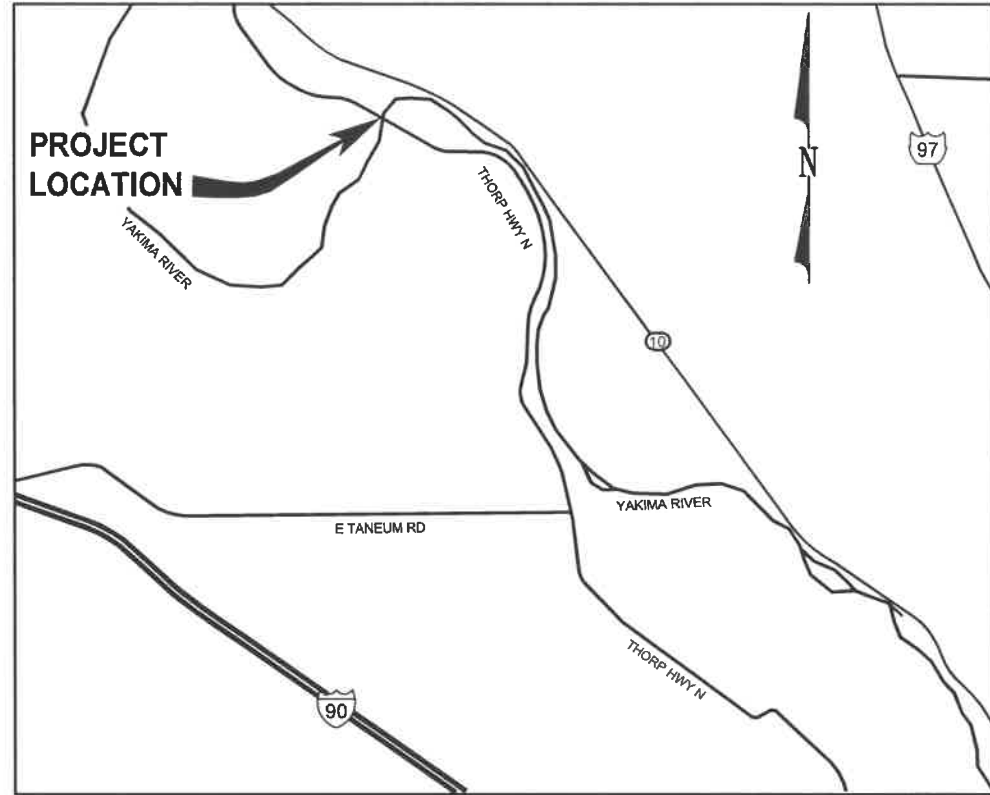


# NORTH THORP HIGHWAY THORP TRUSS REHABILITATION PROJECT

**BRIDGE NO. 97341  
RC 2091**

## ABBREVIATIONS

|        |                                 |
|--------|---------------------------------|
| ABUT   | ABUTMENT                        |
| BK     | BACK                            |
| BOT    | BOTTOM                          |
| CIP    | CAST-IN-PLACE                   |
| CL     | CENTERLINE                      |
| CMP    | CORRUGATED METAL PIPE           |
| CMU    | CONCRETE MASONRY UNIT           |
| CONST  | CONSTRUCTION                    |
| CSBC   | CRUSHED SURFACING BASE COURSE   |
| DIA, # | DIAMETER                        |
| EA     | EACH                            |
| EL     | ELEVATION                       |
| EQ     | EQUAL                           |
| EX     | EXISTING                        |
| E      | EXPANSION                       |
| FF     | FAR FACE                        |
| FSR    | FOREST SERVICE ROAD             |
| FT     | FEET                            |
| HMA    | HOT MIX ASPHALT                 |
| INCL   | INCLUDING                       |
| INT    | INTERIOR                        |
| JT     | JOINT                           |
| LT     | LEFT                            |
| MANUF  | MANUFACTURE                     |
| MIN    | MINIMUM                         |
| NDT    | NON-DESTRUCTIVE TESTING         |
| NF     | NEAR FACE                       |
| NIC    | NOT IN CONTRACT                 |
| NSI    | NON-STANDARD ITEM               |
| NTS    | NOT TO SCALE                    |
| OPP    | OPPOSITE                        |
| P      | PINNED                          |
| PAVT   | PAVEMENT                        |
| PL     | PLATE                           |
| PVC    | POINT OF VERTICAL CURVE         |
| PVI    | POINT OF VERTICAL INTERSECTION  |
| PVT    | POINT OF VERTICAL TANGENT       |
| R      | RADIUS                          |
| ROWY   | ROADWAY                         |
| REINF  | REINFORCEMENT                   |
| RT     | RIGHT                           |
| R/W    | RIGHT-OF-WAY                    |
| SPA    | SPACING                         |
| SPEC   | STANDARD SPECIFICATIONS         |
| STD    | STANDARD                        |
| SYMM   | SYMMETRIC                       |
| TCE    | TEMPORARY CONSTRUCTION EASEMENT |
| TYP    | TYPICAL                         |
| UNO    | UNLESS NOTED OTHERWISE          |
| W/     | WITH                            |



**VICINITY MAP**  
SCALE: NTS

### BOARD OF COUNTY COMMISSIONERS

BRETT WACHSMITH, CHAIRPERSON  
LAURA OSIADACZ, VICE-CHAIRPERSON  
CORY WRIGHT, COMMISSIONER

### DIRECTOR OF PUBLIC WORKS

MARK COOK, P.E.

### COUNTY ENGINEER





JOSH FREDRICKSON, P.E.

### SHEET INDEX

| SHEET NUMBER | PLAN REF NO. | TITLE                                |
|--------------|--------------|--------------------------------------|
| 1            | G1           | INDEX AND VICINITY MAP               |
| 2            | S1           | BRIDGE GENERAL NOTES                 |
| 3            | S2           | BRIDGE PLAN AND ELEVATION            |
| 4            | S3           | STEEL REPAIR PLAN                    |
| 5            | S4           | TRUSS SPAN TYPICAL SECTION AND NOTES |
| 6            | S5           | RIVET EVALUATION CRITERIA            |
| 7            | S6           | ABUTMENT REPAIR PLAN                 |
| 8            | S7           | REPAIR DETAILS 1                     |
| 9            | S8           | REPAIR DETAILS 2                     |
| 10           | S9           | REPAIR DETAILS 3                     |
| 11           | C1           | TRAFFIC CONTROL                      |

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Name: tauniep Date: Nov 12, 2021-01:10:41pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-G1.dwg

|  |   |   |   |  |   |   |   |
|--|---|---|---|--|---|---|---|
| FILE NAME: <b>NTB-G1</b><br>DATE: <b>11/12/2021</b><br>DESIGNED BY: <b>A. GASTINEAU</b><br>ENTERED BY: <b>S. QAYOOMI</b><br>COUNTY ENGINEER: <b>J. FREDRICKSON</b><br>P. W. DIRECTOR: <b>M. COOK</b> | FEDERAL AID PROJECT NO.<br><b>BHS-J191(004)</b> | <br>1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.622.5822<br>www.kpff.com | DEPARTMENT OF PUBLIC WORKS<br><br>411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 962-7523 www.co.kittitas.wa.us | <br>GREGORY HESS<br>STATE OF WASHINGTON<br>LICENSED PROFESSIONAL ENGINEER | <br>Know what's below.<br>Call before you dig. | <b>NORTH THORP HIGHWAY<br/>THORP TRUSS REHAB</b><br><hr/> <b>Kittitas County, Washington</b><br><hr/> <b>INDEX AND VICINITY MAP</b> | PLAN REF NO<br><b>G1</b><br><hr/> <b>1</b><br>OF<br><b>11</b> |
|--|---|---|---|--|---|---|---|

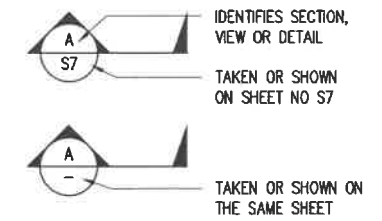
**GENERAL NOTES**

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, DATED 2022, AND AMENDMENTS.
2. CONSTRUCTION AND WIND LOADING LIMITATIONS DURING PAINTING ACTIVITIES HAVE BEEN DETERMINED IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND CHAPTER 6 OF THE WSDOT BRIDGE DESIGN MANUAL M 23-50.20.
3. THE DIMENSIONS SHOWN ON THE PLANS ARE BASED ON ORIGINAL DESIGN DRAWINGS, ALL RELEVANT DETAILS AND DIMENSIONS SHALL BE FIELD MEASURED AND VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS AND PROCEEDING WITH CONSTRUCTION.
4. PAINTING SHALL BE COMPLETED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION SECTION 6-07. ALL STEEL SURFACES REQUIRE FULL PAINT REMOVAL PRIOR TO APPLYING NEW PAINT SYSTEM. SEE WSDOT STANDARD SPECIFICATION SECTION 6-07.3(10)E FOR SURFACE PREPARATION.
5. EXISTING RIVETS SHALL BE INSPECTED AFTER ABRASIVE BLASTING OPERATIONS ARE COMPLETED AND SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH SECTION - LOSS CRITERIA ON SHEET S6.

**SUMMARY OF QUANTITIES**

| ITEM NUMBER     | STD. ITEM NO. | TOTAL QUANTITY | UNIT | DESCRIPTION                                    |
|-----------------|---------------|----------------|------|--|
| PREPARATION     |               |                |      |  |
| 1               | 0001          | 1              | L.S. | MOBILIZATION                                   |
| STRUCTURE       |               |                |      |  |
| 2               | 4468          |                | L.S. | CLEANING AND PAINTING BRIDGE                   |
| 3               | 4469          |                | L.S. | CONTAINMENT OF ABRASIVES                       |
| 4               | 4470          |                | EST. | TESTING AND DISPOSAL OF CONTAINMENT WASTE      |
| 5               | 4487          | 50             | L.F. | SEALING AND CAULKING PACK RUST                 |
| 6               |               | 50             | EACH | REPLACE VACANT/DAMAGED RIVET WITH HS BOLT      |
| 7               | 4444          | 40             | L.F. | EXPANSION JOINT MODIFICATION                   |
| 8               |               | 40             | L.F. | ASPHALT PLUG REMOVAL AND HEADER REBUILD        |
| 9               | 5706          | 160            | L.F. | SEALING EXISTING TRANSVERSE JOINT              |
| 10              |               | 510            | S.F. | CONCRETE SPALL REPAIRS TYPE 1                  |
| 11              |               | 40             | S.F. | CONCRETE SPALL REPAIRS TYPE 2                  |
| 12              |               | 0              | S.F. | CONCRETE SPALL REPAIRS TYPE 3                  |
| 13              |               |                | L.S. | STEEL PORTAL REPAIRS                           |
| OTHER ITEMS     |               |                |      |  |
| 14              |               |                | L.S. | BARRIER GROUT PAD REPAIR                       |
| 15              |               | 50             | EACH | GUARDRAIL BOLT/NUT REPAIR                      |
| 16              | 6757          | 8              | L.F. | BEAM GUARDRAIL TYPE 31                         |
| 17              | 7736          |                | L.S. | SPCC PLAN                                      |
| 18              |               |                | L.S. | MIN. BID REQ. - TYPE B PROGRESS SCHEDULE       |
| EROSION CONTROL |               |                |      |  |
| 19              | 6488          | 1              | L.S. | EROSION CONTROL AND WATER POLLUTION PREVENTION |
| TRAFFIC         |               |                |      |  |
| 20              | 6971          | 1              | L.S. | PROJECT TEMPORARY TRAFFIC CONTROL              |

**LEGEND**

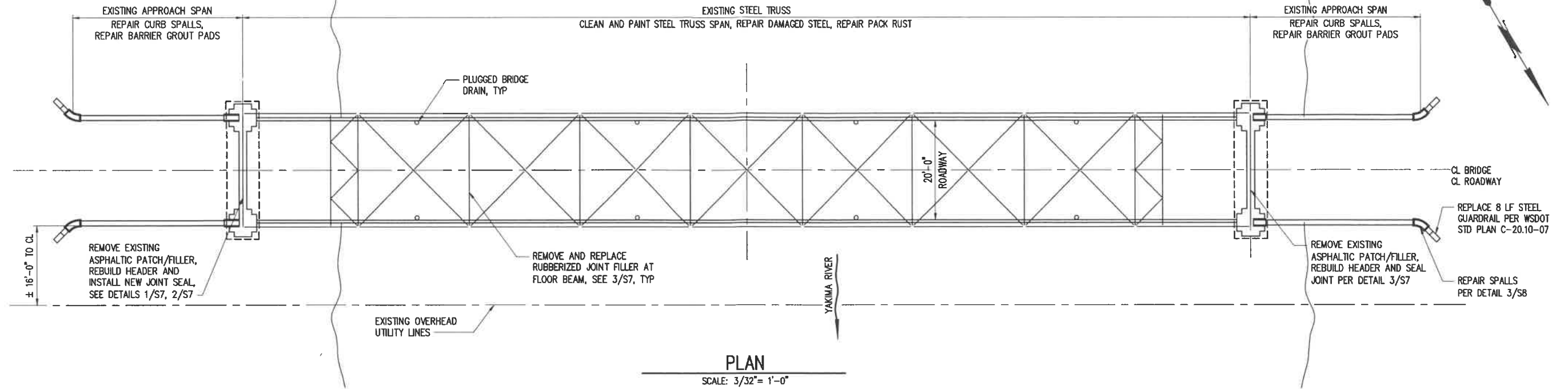


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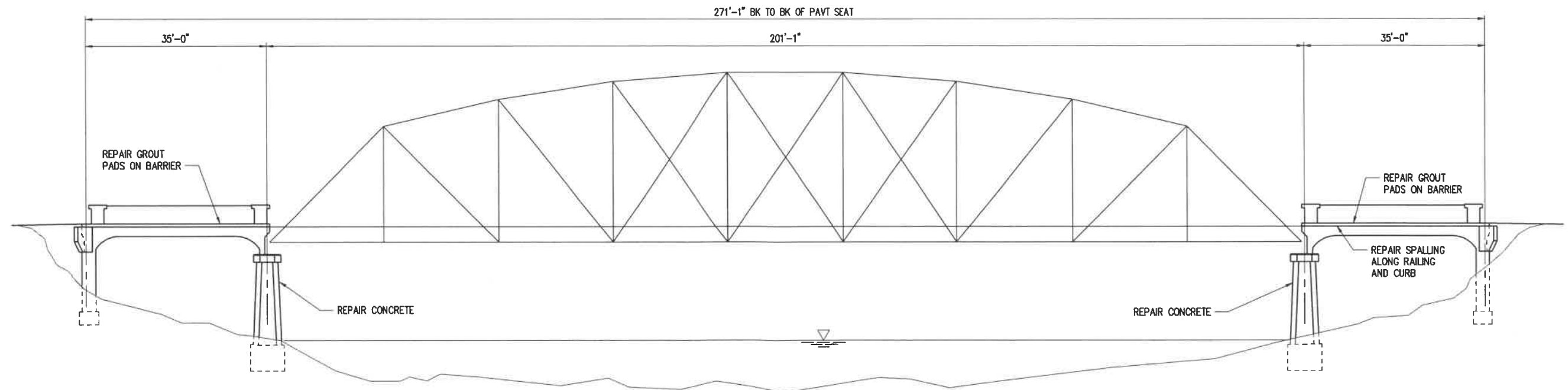
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| FILE NAME: <b>NTB-S1</b>               | FEDERAL AID PROJECT NO. <b>BHS-J191(004)</b> |  |   |  |  | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB | PLAN REF NO<br><b>S1</b> |
| DATE: <b>11/12/2021</b>                |  |  |   |  |  |  | <b>2</b>                 |
| DESIGNED BY: <b>A. GASTINEAU</b>       |  | 1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.622.5822<br>www.kpff.com | 411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 982-7523<br>www.co.kittitas.wa.us |  |  | Kittitas County, Washington              | OF                       |
| ENTERED BY: <b>S. QAYOOMI</b>          |  |  |   |  |  | BRIDGE GENERAL NOTES                     | <b>11</b>                |
| COUNTY ENGINEER: <b>J. FREDRICKSON</b> |  |  |   |  |  |  |                          |
| P. W. DIRECTOR: <b>M. COOK</b>         | REVISION                                     | DATE   | BY  |  |  |  |                          |

SEC. 34, T.19N., R.17E., W.M.



PLAN

SCALE: 3/32" = 1'-0"



ELEVATION

SCALE: 3/32" = 1'-0"

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Name: tounlep Date: Nov 12, 2021 01:57:56pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (2019)\NTB-S2.dwg

|                  |                |                         |         |
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| FILE NAME:       | NTB-S2         | FEDERAL AID PROJECT NO. |         |
| DATE:            | 11/12/2021     | BHS-J191(004)           |         |
| DESIGNED BY:     | A. GASTINEAU   |                         |         |
| ENTERED BY:      | S. QAYOOMI     |                         |         |
| COUNTY ENGINEER: | J. FREDRICKSON |                         |         |
| P. W. DIRECTOR:  | M. COOK        | REVISION                | DATE BY |

**kpff**  
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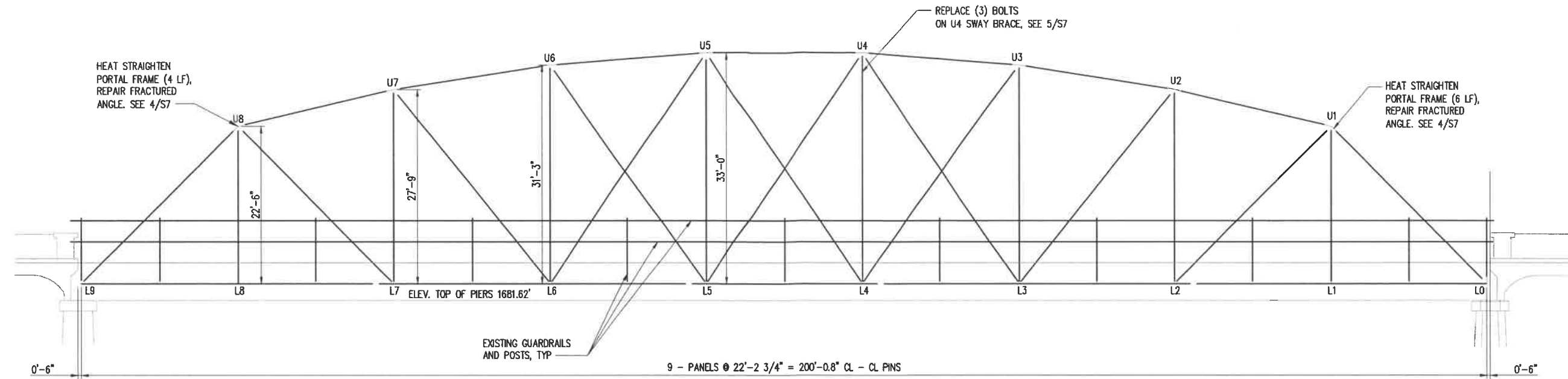
W. GREGORY HEAS  
 STATE OF WASHINGTON  
 4807  
 PROFESSIONAL ENGINEER  
 DATE

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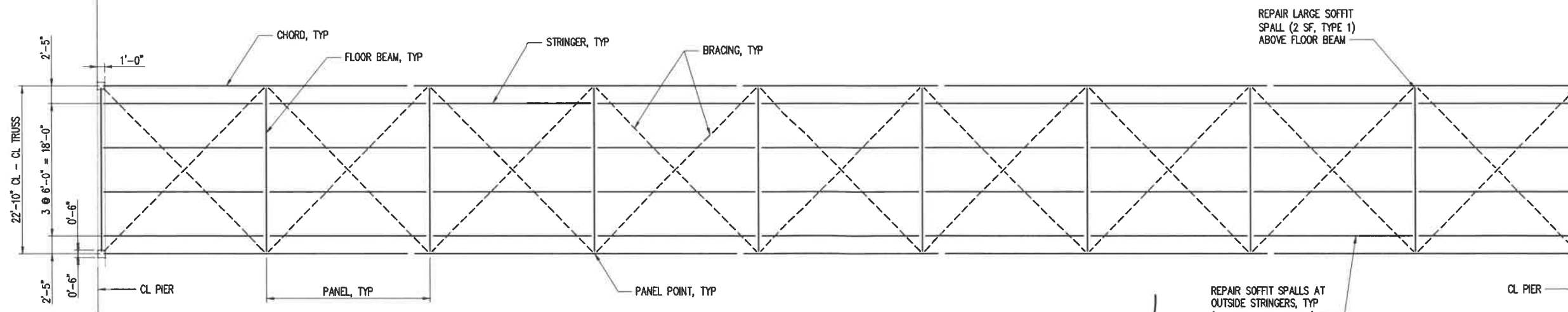
NORTH THORP HIGHWAY  
 THORP TRUSS REHAB  
 Kittitas County, Washington  
 PLAN AND ELEVATION

|             |    |
|-------------|----|
| PLAN REF NO | S2 |
|             | 3  |
| OF          |    |
|             | 11 |

Name: toumiep Date: Nov 12, 2021-03:44:34pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S3.dwg



**INSIDE VIEW OF SOUTH TRUSS**  
SCALE: 1/8" = 1'-0"



**BELOW DECK FRAMING PLAN**  
SCALE: 1/8" = 1'-0"

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|                  |                |
|------------------|----------------|
| FILE NAME:       | NTB-S1         |
| DATE:            | 11/12/2021     |
| DESIGNED BY:     | A. GASTINEAU   |
| ENTERED BY:      | S. QSYOONI     |
| COUNTY ENGINEER: | J. FREDRICKSON |
| P. W. DIRECTOR:  | M. Cook        |
| REVISION         | DATE BY        |

FEDERAL AID PROJECT NO.  
BHS-J191(004)

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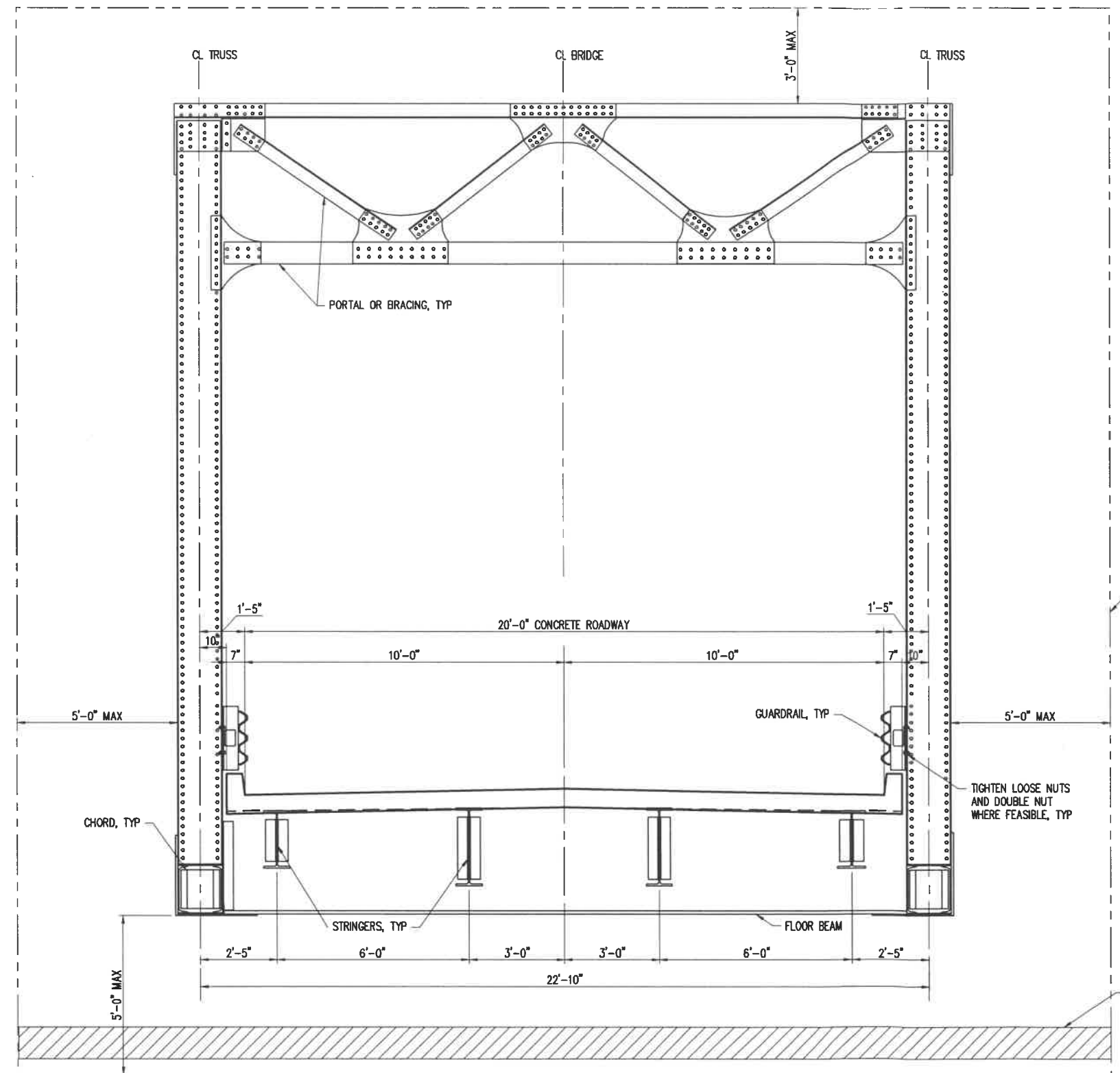
NORTH THORP HIGHWAY  
THORP TRUSS REHAB

Kittitas County, Washington

TRUSS REPAIR PLAN

|             |    |
|-------------|----|
| PLAN REF NO | S3 |
|             | 4  |
| OF          |    |
|             | 11 |

Name: tounlep Date: Nov 12, 2021-02:15:06pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S4.dwg



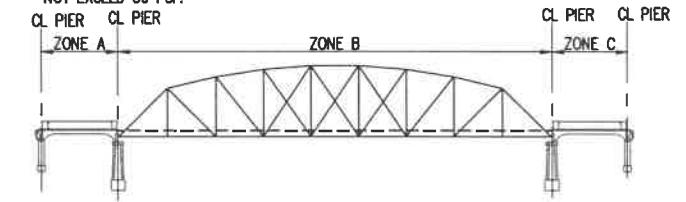
TYPICAL SECTION  
SCALE: 1/2" = 1'-0"

CONSTRUCTION LOADING NOTES FOR TRUSS SPAN:

- TEMPORARY BARRIERS ARE NOT ALLOWED ON THE TRUSS SPAN DURING CONSTRUCTION.
- THE WEIGHT OF CONTAINMENT SYSTEM AND ABOVE-DECK CONSTRUCTION LOADS SUCH AS SCAFFOLDING AND PAINTING EQUIPMENT MAY BE SUPPORTED WITHIN THE WORK AREA SHOWN IN THE TYPICAL SECTION ON THIS SHEET. SEE NOTE 8 FOR CONTAINMENT SYSTEM AND ABOVE-DECK CONSTRUCTION LOAD LIMITS ALONG THE LENGTH OF THE BRIDGE. ATTACHMENTS MAY BE MADE TO THE TRUSS AT TRUSS PANEL POINTS ONLY. NO ATTACHMENTS MAY BE MADE TO TRUSS MEMBERS BETWEEN PANEL POINTS.
- TEMPORARY BELOW-DECK WORK PLATFORM:
  - THE CONTRACTOR MAY SUPPORT A TEMPORARY BELOW-DECK PLATFORM FROM THE TRUSS SPAN. THE WIDTH OF THE PLATFORM SHALL NOT EXCEED THE OUT-TO-OUT WIDTH OF THE BRIDGE PLUS 5- FEET ON EITHER SIDE. SEE NOTE 8 FOR BELOW-DECK PLATFORM LIMITS ALONG THE LENGTH OF THE BRIDGE.
  - THE TOTAL WEIGHT OF THE BELOW-DECK PLATFORM (SELF WEIGHT, PLUS IMPOSED LOADS) SHALL NOT EXCEED 25 PSF.
  - WHILE THE BELOW-DECK WORK PLATFORM IS IN PLACE, THE TRIBUTARY WEIGHT OF ABOVE-DECK CONSTRUCTION LOADS TO ANY OF THE LOWER PANEL POINTS, WITHIN THE CORRESPONDING CONSTRUCTION LOADING ZONE, SHALL NOT EXCEED 6,000 POUNDS.
  - THE PLATFORM MAY BE SUSPENDED FROM THE STRINGERS AND FLOOR BEAMS. MAXIMUM IMPOSED LOADS ARE SHOWN IN THE FOLLOWING TABLE. ADJACENT POINT LOADS MAY NOT BE PLACED CLOSER THAN 4 FEET.

| COMPONENT               | POINT LOAD (POUNDS) |
|-------------------------|---------------------|
| EXTERIOR STRINGER       | 1600                |
| INTERIOR STRINGER       | 1600                |
| INTERMEDIATE FLOOR BEAM | 1600                |

- THE PLATFORM MAY BE SUSPENDED FROM THE TRUSS IF SUPPORT POINTS ARE LOCATED AT THE LOWER PANEL POINTS ONLY. NO ATTACHMENT SHALL BE MADE TO TRUSS MEMBERS BETWEEN PANEL POINTS.
- THE MAXIMUM REACTION AT ANY ATTACHMENT POINT SHALL NOT EXCEED 3,000 POUNDS.
- ATTACHMENT TO THE BRIDGE SHALL BE MADE WITH CLAMP OR PADDED WRAP TYPE CONNECTORS. HOLES SHALL NOT BE MADE IN BRIDGE MEMBERS. NO WELDING TO BRIDGE IS ALLOWED. METHODS OF ATTACHMENT TO THE BRIDGE SHALL BE SUBMITTED IN ACCORDANCE WITH THE STANDARD SPECIFICATION SECTION 6-07.3(2)F. THE PLATFORM MAY BE SUSPENDED FROM THE STRINGERS AND FLOOR BEAMS. MAXIMUM IMPOSED LOADS ARE SHOWN IN THE PREVIOUS TABLE. ADJACENT POINT LOADS MAY NOT BE PLACED CLOSER THAN 4 FEET. CONTRACTOR TO SUBMIT ATTACHMENT PLAN. PLAN SHALL INCLUDE CALCULATIONS SIGNED BY A PROFESSIONAL ENGINEER IN THE STATE OF WASHINGTON DEMONSTRATING CONNECTORS WILL NOT DAMAGE BRIDGE MEMBERS LOCALLY.
- WORKING DRAWINGS AND CALCULATIONS (TYPE 2E) SHALL BE SUBMITTED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 1-05.3. WORKING DRAWINGS AND CALCULATIONS SHALL SHOW THAT ALL THE ABOVE CONSTRAINTS HAVE BEEN MET. CONSTRUCTION LOADS SHALL NOT BE PLACED ON THE BRIDGE UNTIL THE ASSOCIATED WORKING DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED AND ACCEPTED BY THE ENGINEER.
- REMOVED PAINT, DEBRIS AND SPENT ABRASIVE BLAST MEDIA SHALL BE COLLECTED AND REMOVED FROM THE BRIDGE DAILY, AT A MINIMUM.
- CONSTRUCTION LOADS MAY BE PLACED ANYWHERE IN ZONES A AND B OR C AS SHOWN BELOW. TOTAL LOADS ON THE DECK AND BELOW WORK PLATFORM IN ZONES A AND C SHALL NOT EXCEED 40 PSF. TOTAL LOADS ON THE DECK AND BELOW WORK PLATFORM IN ZONE B SHALL NOT EXCEED 30 PSF.



- VERTICAL COMPONENTS OF THE CONTAINMENT SYSTEM (TARPS) SHALL BE REMOVED WHEN WIND SPEEDS (GUST) EXCEED OR ARE FORECASTED TO EXCEED 45 MILES PER HOUR. SEE SPECIAL PROVISIONS FOR WEATHER SOURCE REQUIREMENTS.

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|                   |                                       |  |   |                              |  |  |   |
|-------------------|---------------------------------------|--|---|------------------------------|--|--|---|
| FILE NAME: NTB-S1 | FEDERAL AID PROJECT NO. BHS-J191(004) | <p>1601 5th Avenue, Suite 1600<br/>Seattle, WA 98101<br/>206.622.5822<br/>www.kpff.com</p> | <p>DEPARTMENT OF PUBLIC WORKS<br/>FROM THE CASCADES... TO THE COASTLINE<br/>KITITAS COUNTY<br/>411 N. RUBY ST., ELLENSBURG WA 98926<br/>(509) 962-7523 www.co.kititas.wa.us</p> | <p>PROFESSIONAL ENGINEER</p> | <p>Know what's below.<br/>Call before you dig.</p> | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB                   | PLAN REF NO<br>S4                                 |
| DATE: 11/12/2021  | DESIGNED BY: A. GASTINEAU             |  |   |                              |  | COUNTY ENGINEER: J. FREDRICKSON<br>P. W. DIRECTOR: M. COOK | KITTITAS COUNTY, WASHINGTON<br>PLAN AND ELEVATION |

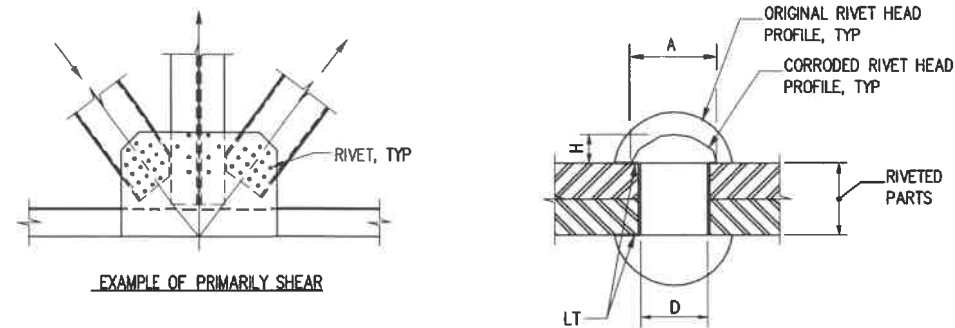
**RIVET INSPECTION AND REPLACEMENT NOTES:**

- EXISTING RIVETS TO REMAIN ON MEMBERS AND/OR GUSSETS SHALL BE EVALUATED AFTER FIELD PREPARATION FOR PAINTING AND PRIMING IS COMPLETED AND SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THE RIVET EVALUATION CRITERIA SHOWN ON THIS SHEET. NEW H.S. BOLTS SHALL BE INSTALLED AND TENSIONED IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION SECTION 6-03.3(33), AND PREPARED FOR PAINT IN ACCORDANCE WITH SECTION 6-07.3(11)A.
- BOLTS SHALL CONFORM TO ASTM F3125 GR A325 AND SHALL BE GALVANIZED. BOLTS REPLACING RIVETS SHALL HAVE A DIAMETER MATCHING THE DIAMETER OF THE RIVET THEY REPLACE. EXISTING HOLES MAY BE REAMED TO THE RIVET DIAMETER PLUS 1/8" MAXIMUM TO FACILITATE BOLT INSTALLATION IF NEEDED.
- UNLESS OTHERWISE SHOWN IN THE PLANS OR APPROVED BY THE ENGINEER, ONLY ONE RIVET MAY BE REMOVED AND REPLACED AT A TIME AT ANY CONNECTION. THE REPLACEMENT BOLT SHALL BE FULLY INSTALLED AND TENSIONED BEFORE THE NEXT RIVET MAY BE REMOVED.
- PRIOR TO STARTING ANY RIVET REMOVAL, THE CONTRACTOR SHALL SUBMIT AT TYPE 2 WORKING DRAWING DETAILING PROPOSED RIVET REMOVAL METHODS TO THE ENGINEER. ACCEPTANCE WILL REQUIRE DEMONSTRATION BY THE CONTRACTOR TO ENSURE NO DAMAGE WILL OCCUR TO THE EXISTING MEMBER TO REMAIN. NO FLAME CUTTING METHODS WILL BE PERMITTED.

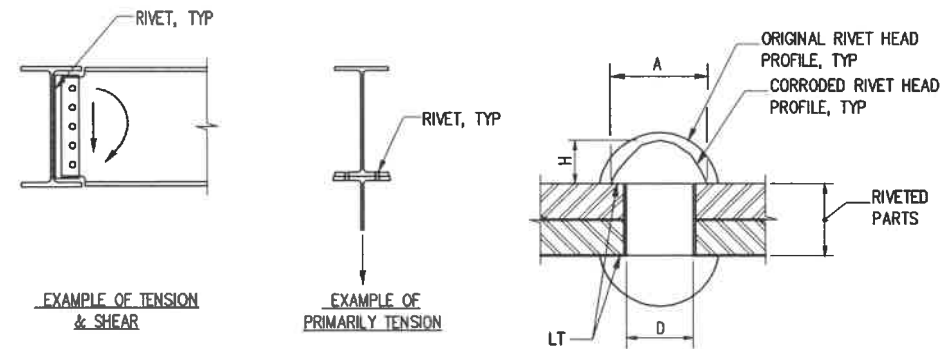
**RIVET EVALUATION CRITERIA:**

RIVETS SHALL BE REPLACED IF THEY FAIL TO MEET ANY ONE OF THESE CRITERIA.

- REPLACE RIVET IF THERE IS SEPARATION BETWEEN THE SOUND METAL SURFACES OF EITHER RIVET HEAD AND THE RIVETED PARTS. (SEE SYMBOL 66)
- REPLACE RIVET IF THE RIVET VISUALLY APPEARS TO BE LOOSE FOR ANY REASON. RIVETS VISUALLY SUSPECT OF BEING LOOSE SHALL BE CONFIRMED LOOSE IF IT CAN BE FELT TO MOVE AFTER BEING STRUCK ON THE SIDE OF THE HEAD IN A DIRECTION APPROXIMATELY PERPENDICULAR TO ITS SHANK WITH A 40 OZ HAMMER.
- REPLACE RIVET IF SECTION LOSS IS EQUAL TO OR GREATER THAN THE DIAGRAM SHOWN BELOW. THE ENGINEER SHALL BE CONSULTED IF UNCLEAR AS TO THE RIVET LOADING CONDITION OR USE THE SECTION LOSS CRITERIA FOR "UNKNOWN" LOADING CONDITION. FOR RIVETS WITH IRREGULAR SECTION LOSS, CONTACT THE ENGINEER FOR DIRECTION.



**RIVET LOADING CONDITION – PRIMARILY SHEAR**


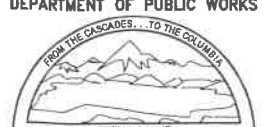




**RIVET LOADING CONDITION PRIMARILY TENSION, TENSION & SHEAR, OR UNKNOWN**

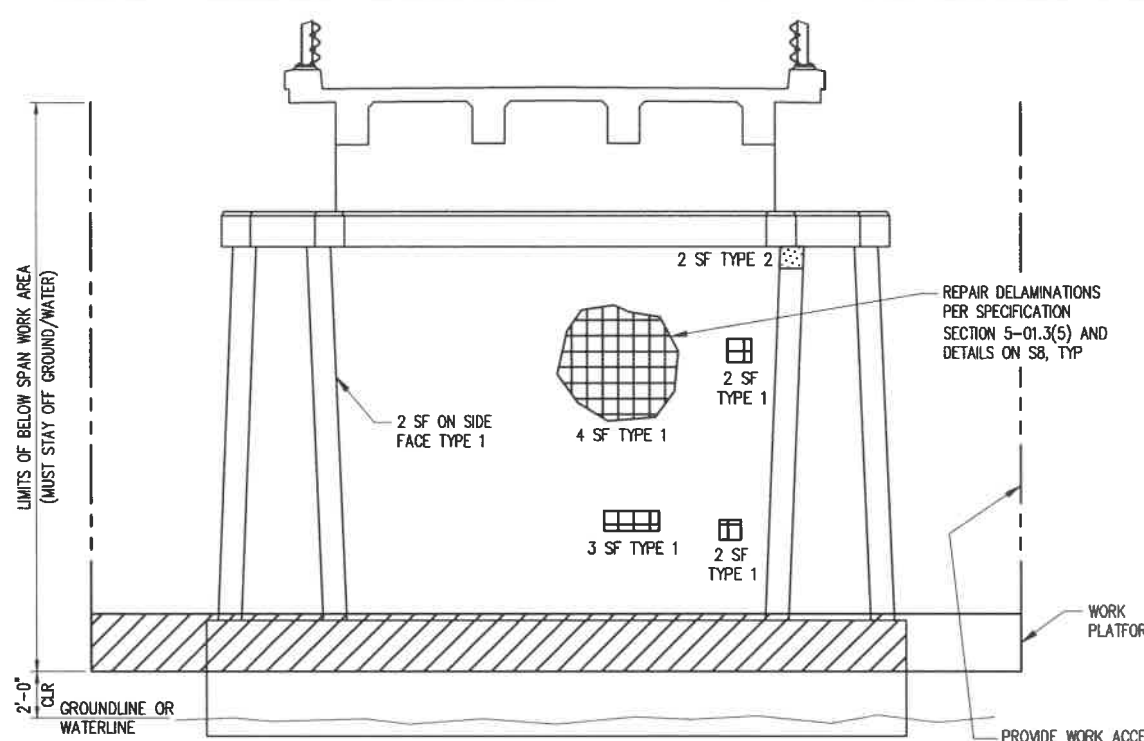
| MINIMUM RIVET DIMENSIONS |                           |                         |  |                         |
|--------------------------|---------------------------|-------------------------|--|-------------------------|
| RIVET SHANK DIAMETER "D" | LOADING: PRIMARILY SHEAR  |                         | LOADING: TENSION & SHEAR, TENSION OR UNKNOWN |                         |
|                          | MINIMUM HEAD DIAMETER "A" | MINIMUM HEAD HEIGHT "H" | MINIMUM HEAD DIAMETER "A"                    | MINIMUM HEAD HEIGHT "H" |
| 5/8"                     | 7/8"                      | 3/16"                   | 1"   | 3/8"                    |
| 3/4"                     | 1"                        | 1/4"                    | 1 1/8"                                       | 7/16"                   |
| 7/8"                     | 1 1/8"                    | 3/8"                    | 1 1/4"                                       | 9/16"                   |

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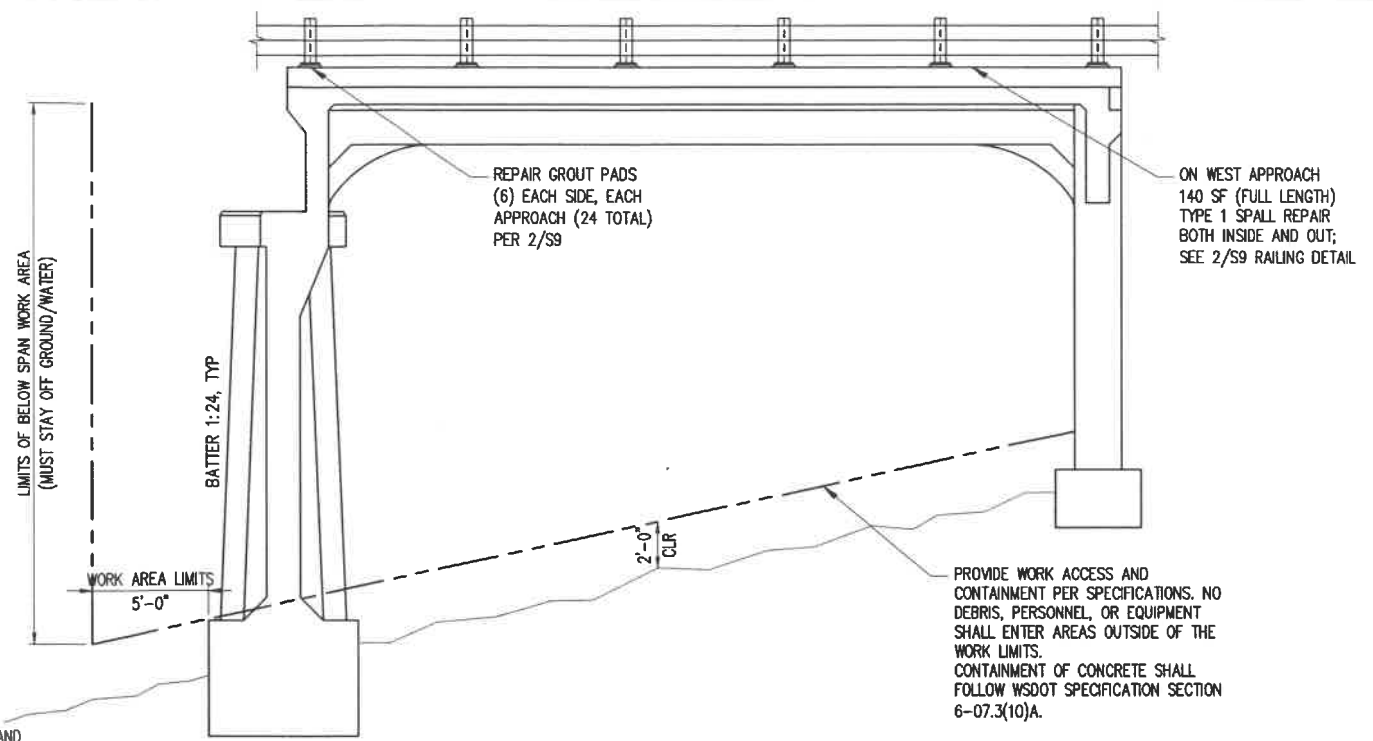
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|                                |  |   |   |   |  |  |                             |
|--------------------------------|--|---|---|---|--|--|-----------------------------|
| FILE NAME: <b>NTB-S6.DWG</b>   | FEDERAL AID PROJECT NO. <b>BHS-J191(004)</b> | <br>1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.622.5822<br>www.kpff.com | <br>DEPARTMENT OF PUBLIC WORKS<br>FROM THE CASCADES... TO THE COASTLINE<br>KITTITAS COUNTY<br>411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 982-7523 www.co.kittitas.wa.us | <br>GREGORY LEES<br>STATE OF WASHINGTON<br>4867<br>PROFESSIONAL ENGINEER |  Know what's below.<br>Call before you dig. | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB | PLAN REF NO<br>S5           |
| DATE: <b>11/12/2021</b>        | DESIGNED BY: <b>A. GASTINEAU</b>             |   |   |   |  | COUNTY ENGINEER: <b>J. FREDRICKSON</b>   | Kittitas County, Washington |
| ENTERED BY: <b>R. JACKSON</b>  | REVISION                                     | DATE  | BY  |   |  | RIVET EVALUATION CRITERIA                | 11                          |
| P. W. DIRECTOR: <b>M. COOK</b> |  |   |   |   |  |  |                             |

Name: solehm Date: Jan 20, 2022 - 10:25:39am File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S6.dwg



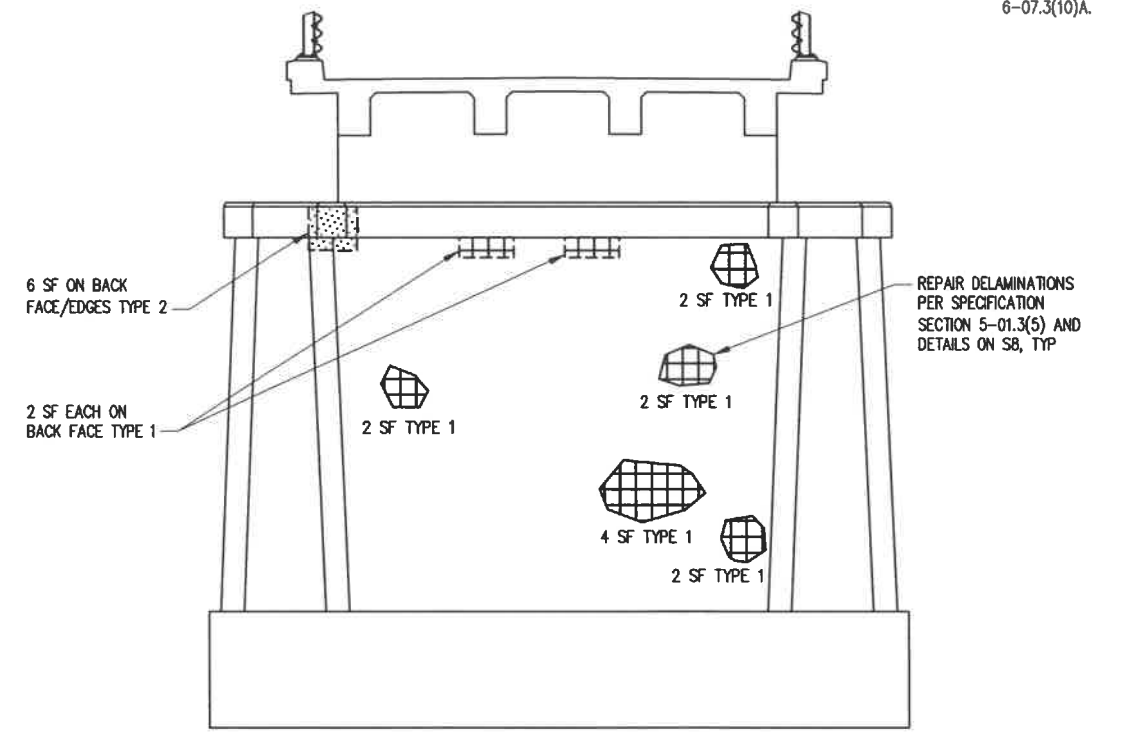
**EAST ABUTMENT**  
(LOOKING EAST)



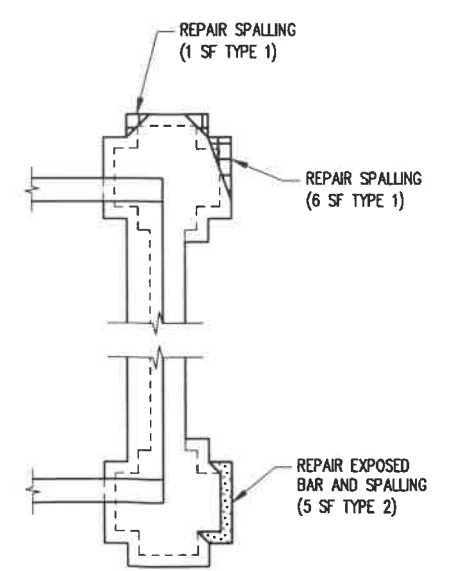
**APPROACHES**  
**SECTION ON CL**  
**ROADWAY**

**NOTES:**

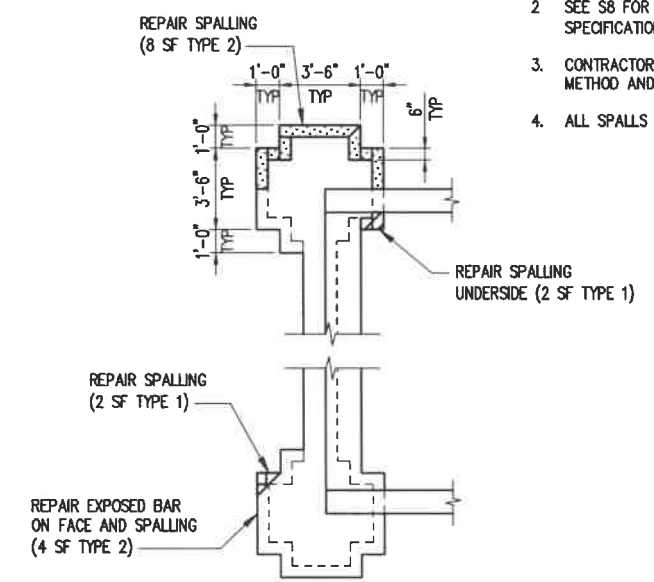
1. REPORTED AREAS ARE APPROXIMATE BASED ON SUPERFICIAL OBSERVATION OF THE DEFECTS. ACTUAL AREA OF DEFECT AND SURROUNDING UNSOUND CONCRETE MAY BE GREATER. CONTRACTOR SHALL EVALUATE EXTENT OF DEFECT PRIOR TO BEGINNING REPAIR.
2. SEE S8 FOR REPAIR TYPES AND DETAILS AND REPAIR PER WSDOT STANDARD SPECIFICATIONS SECTION 5-01.3(5).
3. CONTRACTOR SHALL NOTIFY ENGINEER IF DEFECT MERITS A DIFFERENT REPAIR METHOD AND TYPE.
4. ALL SPALLS SHALL BE REPAIRED TO MATCH ORIGINAL SHAPE.



**WEST ABUTMENT**  
(LOOKING WEST)



**EAST ABUTMENT**  
**PARTIAL HALF PLAN**



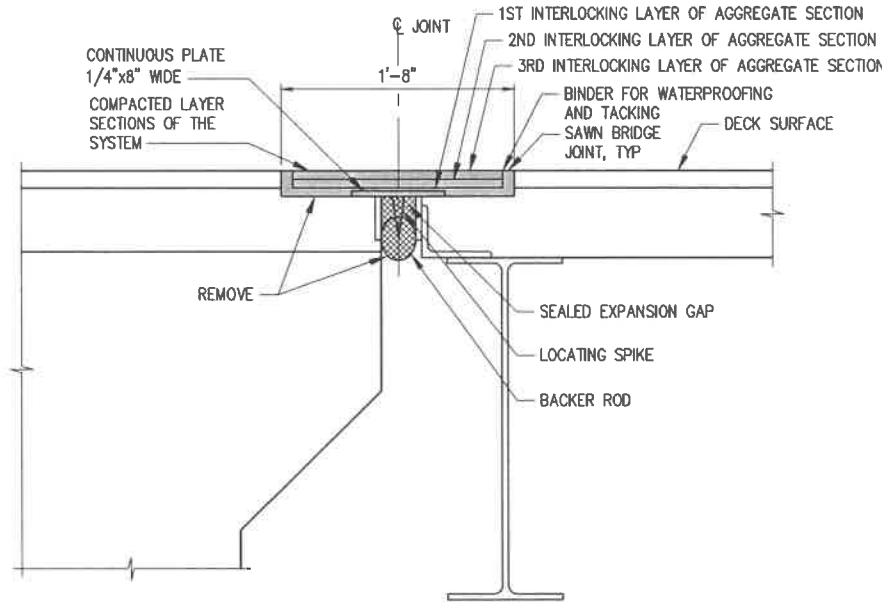
**WEST ABUTMENT**  
**PARTIAL HALF PLAN**

NOTE: SEE EAST ABUTMENT FOR WORK AREA LIMITS.

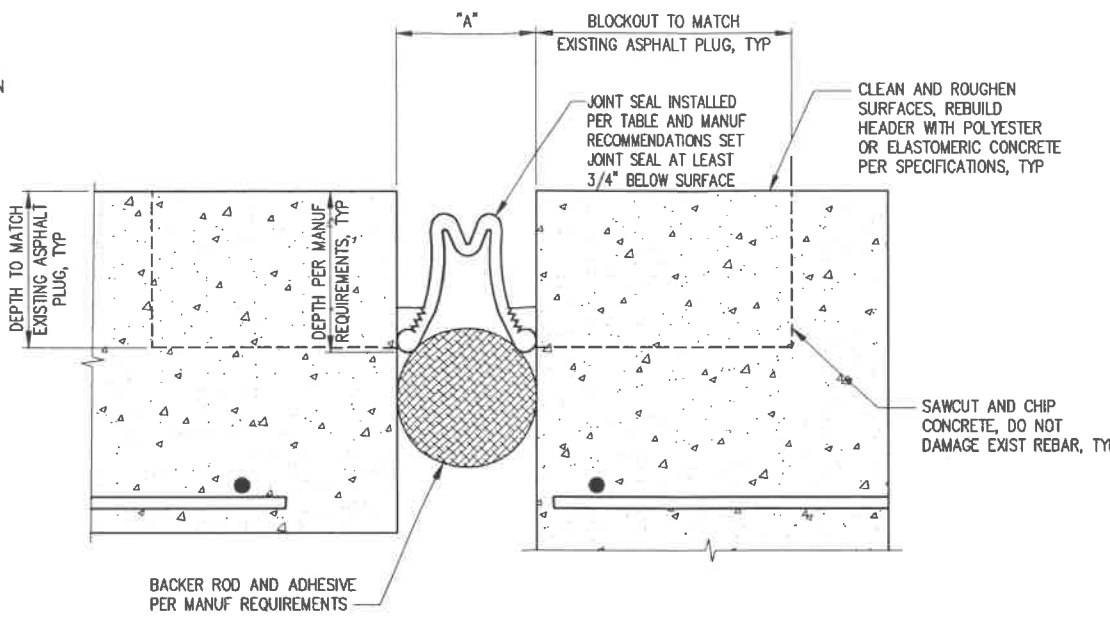
**100% SUBMITTAL - NOT FOR CONSTRUCTION**

|                  |                |                         |  |                            |  |   |  |             |
|------------------|----------------|-------------------------|--|----------------------------|--|---|--|-------------|
| FILE NAME:       | NTB-S1         | FEDERAL AID PROJECT NO. | kpf  | DEPARTMENT OF PUBLIC WORKS |  | Know what's below. Call before you dig. | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB                                     | PLAN REF NO |
| DATE:            | 11/12/2021     | BHS-J191(004)           |  |                            |  |   |  | S6          |
| DESIGNED BY:     | A. GASTINEAU   |                         | 1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.622.5822<br>www.kpff.com |                            |  |   | Kittitas County, Washington  | 7           |
| ENTERED BY:      | S. QAYOONI     |                         |  |                            |  |   | 411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 962-7523 www.co.kittitas.wa.us | DATE        |
| COUNTY ENGINEER: | J. FREDRICKSON |                         |  |                            |  |   | ABUTMENT REPAIR PLAN   | 11          |
| P. W. DIRECTOR:  | M. COOK        | REVISION                |  |                            |  |   |  |             |



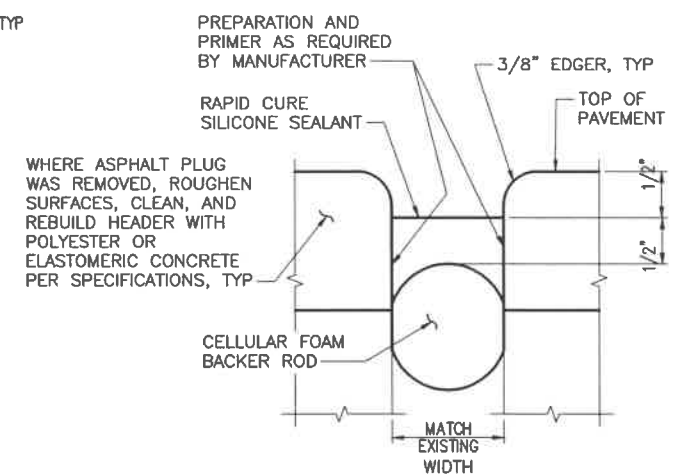


**EXISTING ASPHALT PLUG REMOVAL** 1  
SCALE: 1 1/2" = 1'-0" S2



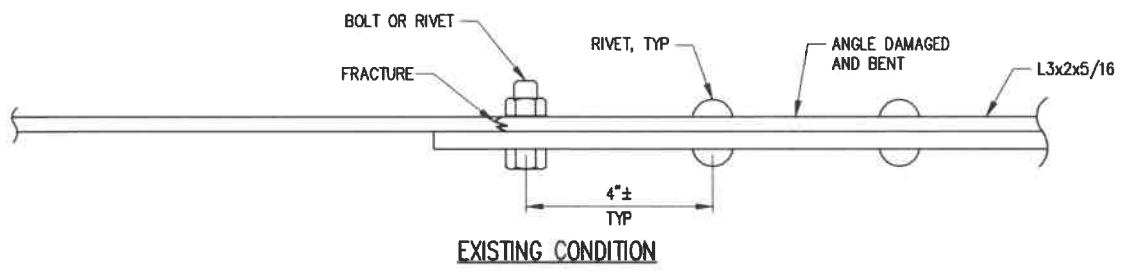
**SECTION** 2  
SCALE: 6" = 1'-0" S2

| STRIP SEAL TABLE   |                  |                             |     |                                     |                          |        |        |
|--------------------|------------------|-----------------------------|-----|-------------------------------------|--------------------------|--------|--------|
| MANUFACTURER       | ITEM NAME        | OPENING "A" NORMAL TO JOINT |     | MIN INSTALLATION WIDTH NORMAL TO JT | OPENING "A" NORMAL TO JT |        |        |
|                    |                  | MIN                         | MAX |                                     | Ø40F                     | Ø64F   | Ø80F   |
| D.S. BROWN         | V-400            | 1"                          | 5"  | 2 1/4"                              | 3 1/8"                   | 2 3/4" | 2 1/2" |
| WATSON BOWMAN ACME | WABO SPS-400     | 1"                          | 5"  | 2"                                  | 3 1/8"                   | 2 3/4" | 2 1/2" |
| RJ WATSON          | SILCOFLEX SF 400 | 1"                          | 5"  | 2 1/2"                              | 3 1/8"                   | 2 3/4" | 2 1/2" |

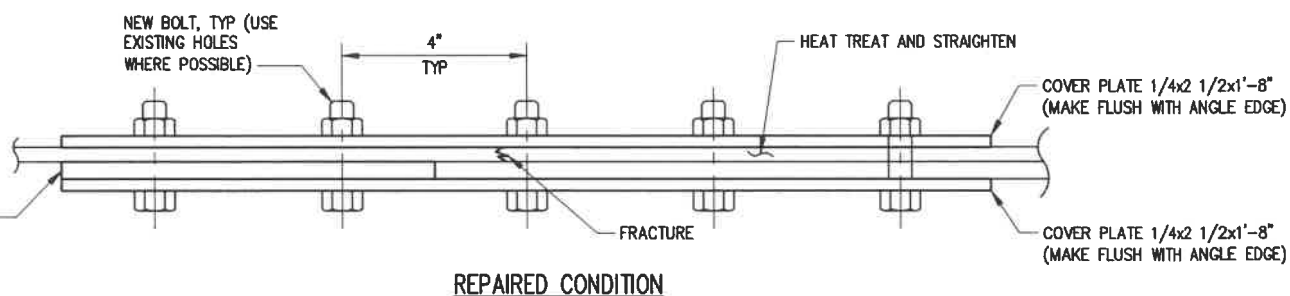


**JOINT SEALANT** 3  
SCALE: 6" = 1'-0" S2

NOTE:  
1. EXISTING JOINT WIDTHS VARY, SIZE BACKER ROD ACCORDINGLY.



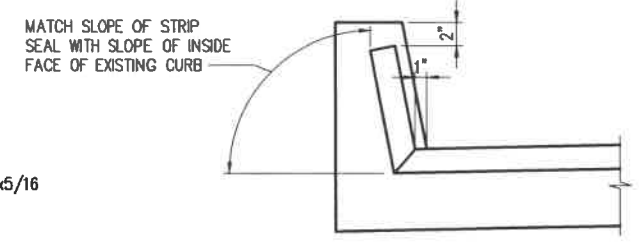
**EXISTING CONDITION**



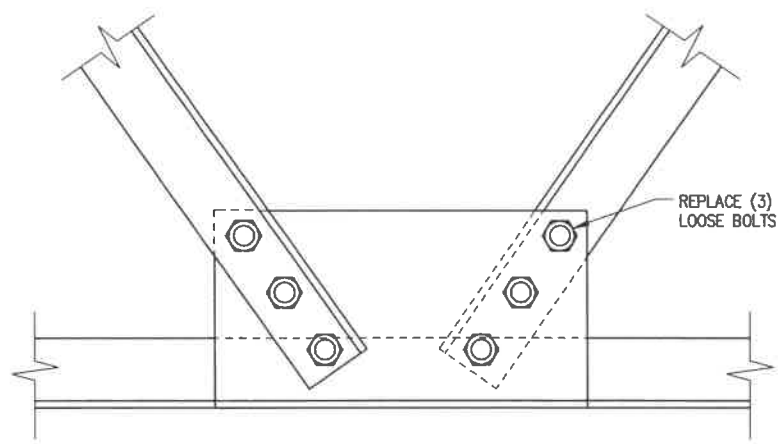
**REPAIRED CONDITION**

NOTE: ALL NEW STEEL TO BE PAINTED TO MATCH STRUCTURE.

**FRACTURED ANGLE REPAIR** 4  
SCALE: 6" = 1'-0" S3



**STRIP SEAL SECTION AT CURBS** A  
SCALE: 1 1/2" = 1'-0"



**SWAY BRACE AT U4 REPAIR** 5  
SCALE: 3" = 1'-0" S3

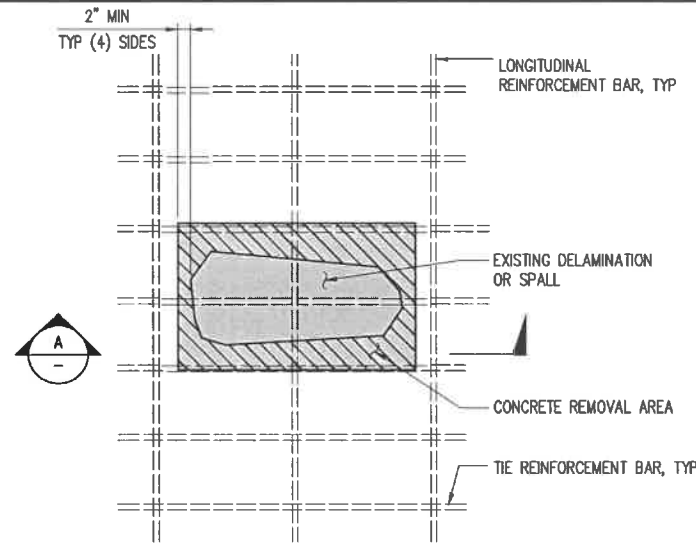
100% SUBMITTAL - NOT FOR CONSTRUCTION

Name: tounlep Date: Nov 12, 2021 - 03:54:24pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S7.dwg

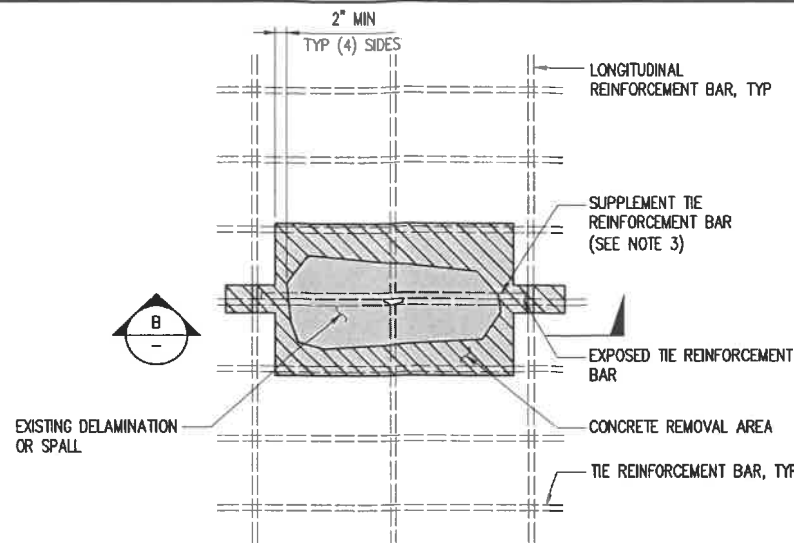
|   |                                       |  |  |  |  |   |                                    |
|---|---------------------------------------|--|--|--|--|---|------------------------------------|
| FILE NAME: NTB-S1   | FEDERAL AID PROJECT NO. BHS-J191(004) | <br>1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.522.5822<br>www.kpff.com | <br>DEPARTMENT OF PUBLIC WORKS<br>FROM THE CASCADES... TO THE COAST<br>KITTITAS COUNTY<br>411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 962-7523 www.co.kittitas.wa.us | <br>GREGORY HILLES<br>STATE OF WASHINGTON<br>4807<br>PROFESSIONAL ENGINEER | <br>Know what's below.<br>Call before you dig. | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB<br>Kittitas County, Washington<br>REPAIR DETAILS 1 | PLAN REF NO<br>S7<br>8<br>OF<br>11 |
| DATE: 11/12/2021<br>DESIGNED BY: A. GASTINEAU<br>ENTERED BY: S. QAYOONI<br>COUNTY ENGINEER: J. FREDRICKSON<br>P. W. DIRECTOR: M. COOK | REVISION<br>DATE BY                   |  | DATE   |  |  |   |                                    |



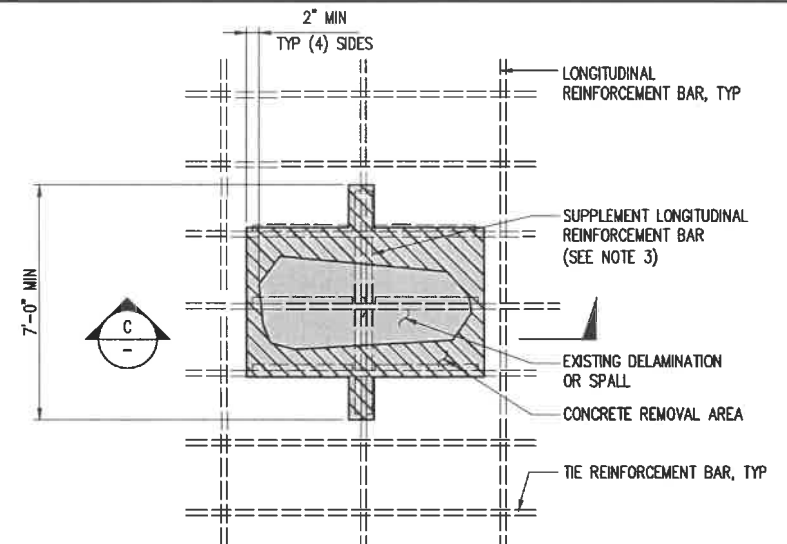
Name: tauniep Date: Nov 12, 2021 - 02:32:15pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S8.dwg



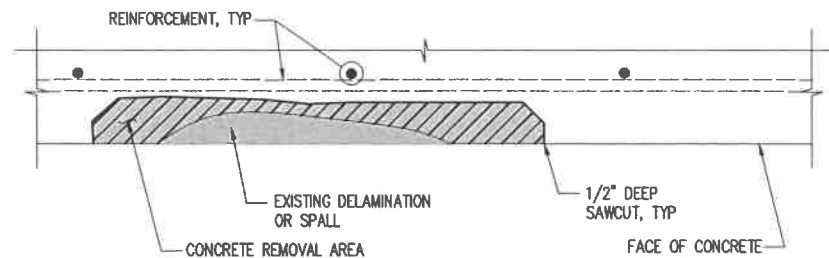
**PLAN - TYPE 1 REPAIR**  
SCALE: NTS



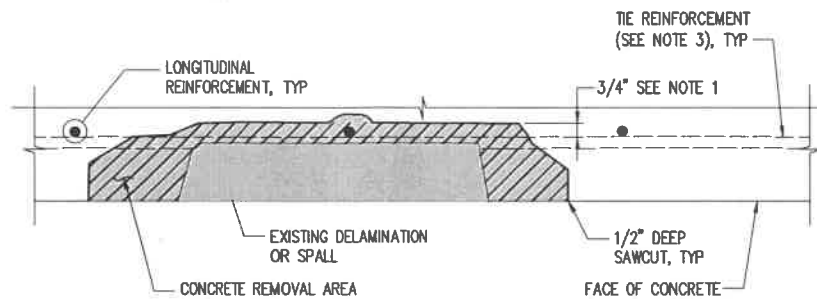
**PLAN - TYPE 2 REPAIR**  
SCALE: NTS



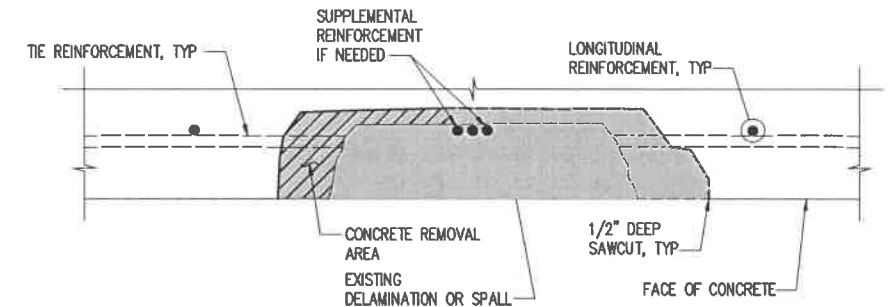
**PLAN - TYPE 3 REPAIR**  
SCALE: NTS



**SECTION - TYPE 1 REPAIR** (A)  
SCALE: NTS



**SECTION - TYPE 2 REPAIR** (B)  
SCALE: NTS



**SECTION - TYPE 3 REPAIR** (C)  
SCALE: NTS

**NOTES FOR TYPE 1 REPAIR**

1. DELAMINATION OR SPALL EXTENDS NO FURTHER THAN THE OUTSIDE OF TIE REINFORCING BARS (BARS NOT VISIBLE). REMOVE CONCRETE WITHIN LIMITS SHOWN. PATCH WITH CONCRETE REPAIR MORTAR CONFORMING TO SECTION 9-20 OF THE PROJECT SPECIFICATIONS.

**NOTES FOR ALL REPAIRS**

1. CONTRACTOR SHALL PERFORM REPAIR WORK IN ACCORDANCE WITH SPEC SECTION 6-01.16, ACI 546R-14, AND APPLICABLE ACI FIELD GUIDE TO REPAIR APPLICATION (RAP) BULLETINS. CONTRACTOR SHALL SUBMIT TYPE 2E WORKING DRAWINGS FOR PROPOSED REPAIR PROCEDURES AND MATERIALS TO THE ENGINEER FOR APPROVAL. IMPACT BREAKERS SHALL NOT EXCEED 15 POUNDS IN WEIGHT.
2. ALL EXPOSED REINFORCING STEEL SHALL BE CLEANED OF ALL SCALE, RUST, DIRT, OIL OR ANY OTHER DELETERIOUS MATERIAL PRIOR TO PLACING MORTAR OR CONCRETE.

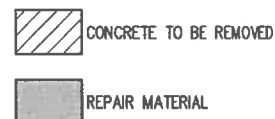
**NOTES FOR ROUGHENED SURFACES**

1. CONTRACTOR SHALL PREPARE ALL EXISTING CONCRETE SURFACES TO COME IN CONTACT WITH CONCRETE CLASS 4000B IN ACCORDANCE WITH SPEC SECTION 6-02.3(12)B.

**NOTES FOR TYPE 2 REPAIR**

1. DELAMINATION OR SPALL EXTENDS FURTHER THAN TYPE 1, BUT NO FURTHER THAN THE OUTSIDE OF THE TIE REINFORCEMENT BARS. REMOVE ALL CONCRETE 3/4" MINIMUM CLEARANCE AROUND ALL TIE REINFORCEMENT BARS. PATCH WITH CONCRETE REPAIR MORTAR CONFORMING TO SECTION 9-20 OF THE PROJECT SPECIFICATIONS.
2. IF IT IS DETERMINED THAT THE UNSOUND CONCRETE EXTENDS FURTHER THAN 3/4" BEYOND THE EXPOSED TIE REINFORCEMENT, SEE TYPE 3 REPAIR.
3. IF TIE REINFORCEMENT BAR HAS GREATER THAN 20% SECTION LOSS, REMOVE CONCRETE A MINIMUM OF 2'-6" ON EACH SIDE OF SECTION LOSS, AND PLACE A NEW SUPPLEMENTARY TIE REINFORCEMENT BAR, OF THE SAME CROSS-SECTIONAL AREA AS THE ORIGINAL ADJACENT AND PARALLEL TO THE DEFICIENT BAR, EXTENDING 2'-3" BEYOND EACH END OF THE SECTION HAVING 20% SECTION LOSS. IF THE REQUIRED REMOVAL AREA IS BEYOND THE CORNER OF THE MEMBER, THE CONCRETE ON THE ADJACENT SIDE SHALL BE REMOVED AND THE NEW SUPPLEMENTARY BAR SHALL BE BENT 90°.

**LEGEND**



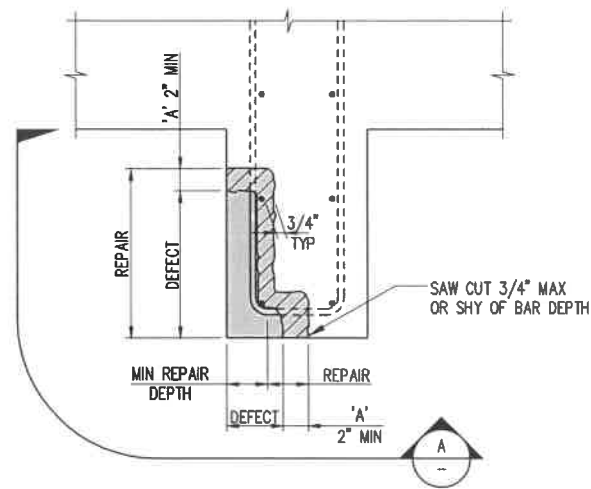
**NOTES FOR TYPE 3 REPAIR**

1. DELAMINATION OR SPALL EXTENDS FURTHER THAN TYPE 2 REMOVE ALL CONCRETE 3/4" MINIMUM CLEARANCE AROUND ALL LONGITUDINAL REINFORCEMENT BARS. PATCH WITH CONCRETE REPAIR MORTAR CONFORMING TO SECTION 9-20 OF THE PROJECT SPECIFICATIONS.
2. IF IT IS DETERMINED THAT THE UNSOUND CONCRETE EXTENDS FURTHER THAN 3/4" BEYOND THE EXPOSED LONGITUDINAL REINFORCEMENT, THE CONTRACTOR SHALL HALT THE WORK AT THAT LOCATION AND NOTIFY THE ENGINEER. THE ENGINEER WILL REVIEW THE SPECIFIC LOCATION WITH THE CONTRACTOR AND DETERMINE HOW TO PROCEED. THE CONTRACTOR SHALL NOT PROCEED WITH FURTHER REMOVAL AT THE SPECIFIC LOCATION WITHOUT WRITTEN DIRECTION FROM THE ENGINEER.
3. IF LONGITUDINAL REINFORCEMENT BAR HAS GREATER THAN 20% SECTION LOSS, REMOVE CONCRETE A MINIMUM OF 3'-6" ON EACH SIDE OF SECTION LOSS, AND PLACE (2) SUPPLEMENTARY LONGITUDINAL REINFORCEMENT BARS, OF THE SAME CROSS-SECTIONAL AREA AS THE ORIGINAL ADJACENT AND PARALLEL TO THE DEFICIENT BARS, EXTENDING 3'-0" BEYOND EACH END HAVING 20% SECTION LOSS, MECHANICAL SPLICES MAY BE USED TO FACILITATE PLACEMENT. ALSO PERFORM REPAIRS AS DESCRIBED IN TYPE 2 REPAIR.

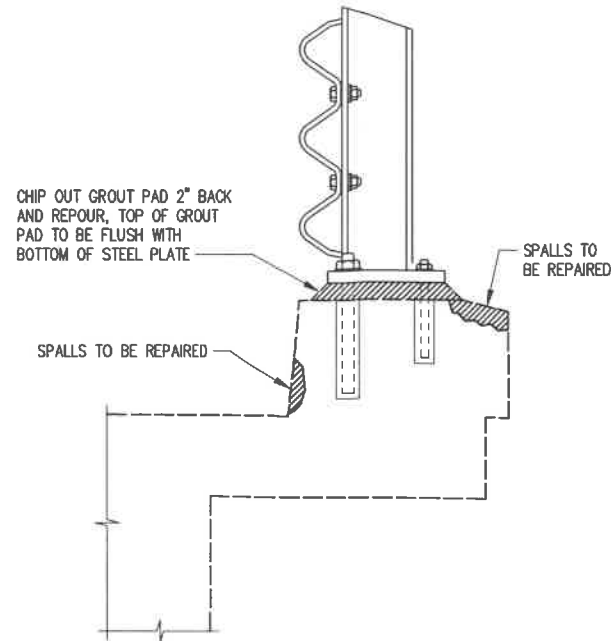
**100% SUBMITTAL - NOT FOR CONSTRUCTION**

|                                 |                                       |  |  |  |  |  |                   |
|---------------------------------|---------------------------------------|--|--|--|--|--|-------------------|
| FILE NAME: NTB-S1               | FEDERAL AID PROJECT NO. BHS-J191(004) | <br>1601 5th Avenue, Suite 1600<br>Seattle, WA 98101<br>206.622.5822<br>www.kpff.com | <br>DEPARTMENT OF PUBLIC WORKS<br>FROM THE CASCADES... TO THE COASTLINE<br>KITTITAS COUNTY<br>411 N. RUBY ST., ELLENSBURG WA 98926<br>(509) 982-7525 www.co.kittitas.wa.us | <br>GREGORY HEAS<br>STATE OF WASHINGTON<br>PROFESSIONAL ENGINEER | <br>Know what's below.<br>Call before you dig. | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB | PLAN REF NO<br>S8 |
| DATE: 11/12/2021                | DESIGNED BY: A. GASTINEAU             |  |  |  |  | Kittitas County, Washington              | 9<br>OF           |
| ENTERED BY: S. QAYOOMI          | REVISION                              | DATE   | BY   |  |  | REPAIR DETAILS 2                         | 11                |
| COUNTY ENGINEER: J. FREDRICKSON |                                       |  |  |  |  |  |                   |
| P. W. DIRECTOR: M. COOK         |                                       |  |  |  |  |  |                   |

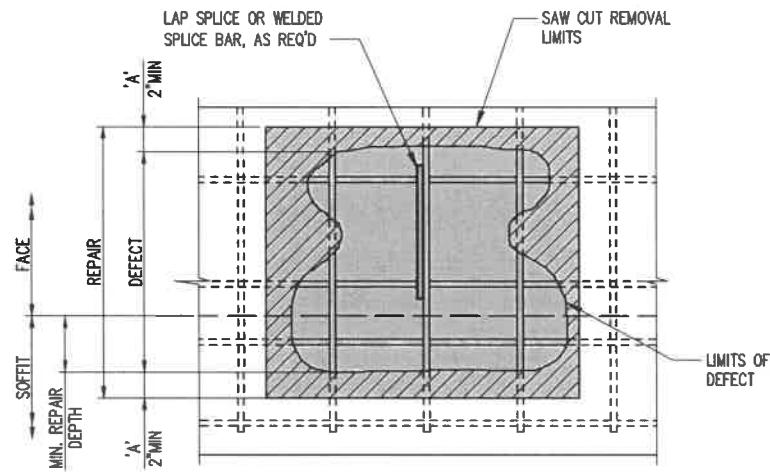
Name: tauniep Date: Nov 12, 2021-02:39:09pm File: V:\2000701 (North Thorp Highway Bridge Rehab)\02\_Design (v2019)\NTB-S9.dwg



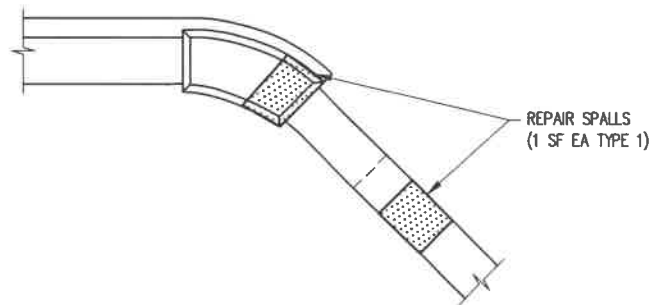
**DETAIL - MULTIFACE SPALL REPAIR 1**  
SCALE: NTS



**DETAIL - APPROACH SPAN BARRIER GROUT PAD AND CURB REPAIR 2**  
SCALE: NTS



**SECTION - MULTIFACE SPALL REPAIR A**  
SCALE: NTS



**DETAIL - WINGWALL REPAIR 3**  
SCALE: NTS

**NOTE:**  
FOR TYPE 1 REPAIRS WHERE BAR IS NOT EXPOSED, FOLLOW DETAILS ABOVE BUT DO NOT CHIP DEEPER TO EXPOSE BAR.

**LEGEND:**

- CONCRETE TO BE REMOVED
- REPAIR MATERIAL

**100% SUBMITTAL - NOT FOR CONSTRUCTION**

|  |          |  |  |  |   |  |  |                          |
|--|----------|--|--|--|---|--|--|--------------------------|
| FILE NAME: <b>NTB-S1</b>               |          | FEDERAL AID PROJECT NO. <b>BHS-J191(004)</b> | <b>kpff</b>  | DEPARTMENT OF PUBLIC WORKS<br><small>FROM THE CASCADES... TO THE COASTLINE</small>           |   | <b>811</b><br>Know what's below.<br>Call before you dig. | NORTH THORP HIGHWAY<br>THORP TRUSS REHAB | PLAN REF NO<br><b>S9</b> |
| DATE: <b>11/12/2021</b>                |          |  | <small>1601 5th Avenue, Suite 1600<br/>Seattle, WA 98101<br/>206.622.5822<br/>www.kpff.com</small> | <small>411 N. RUBY ST., ELLENSBURG WA 98926<br/>(509) 962-7523 www.co.kittitas.wa.us</small> | <small>GREGORY ALESSI<br/>STATE OF WASHINGTON<br/>48877<br/>PROFESSIONAL ENGINEER</small> | <small>DATE</small>                                      | Kittitas County, Washington              | 10<br>OF                 |
| DESIGNED BY: <b>A. GASTINEAU</b>       |          |  |  |  |   |  | REPAIR DETAILS 3                         | 11                       |
| ENTERED BY: <b>S. QAYOOMI</b>          |          |  |  |  |   |  |  |                          |
| COUNTY ENGINEER: <b>J. FREDRICKSON</b> |          |  |  |  |   |  |  |                          |
| P. W. DIRECTOR: <b>M. COOK</b>         |          |  |  |  |   |  |  |                          |
|  | REVISION | DATE   | BY   |  |   |  |  |                          |