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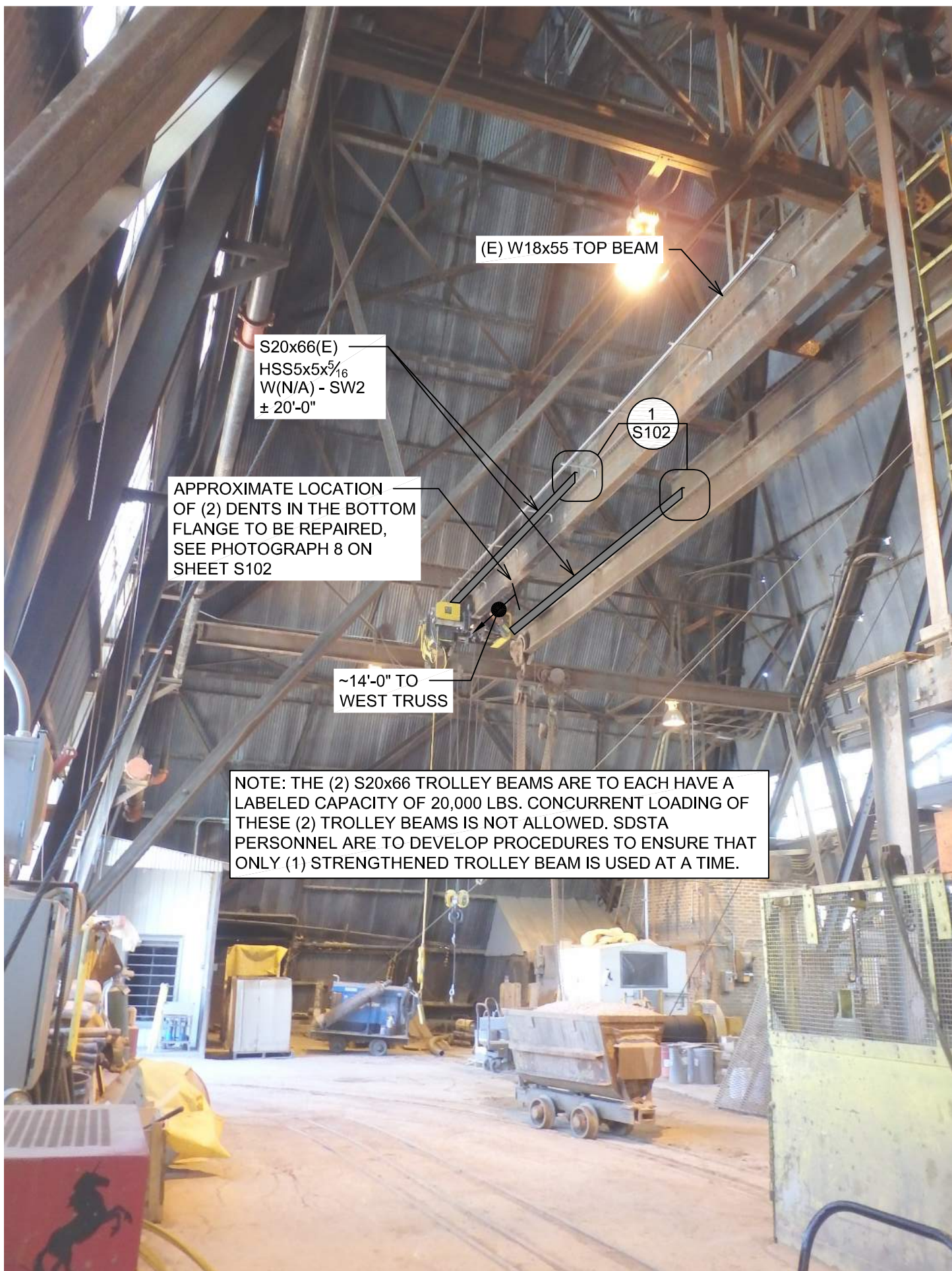
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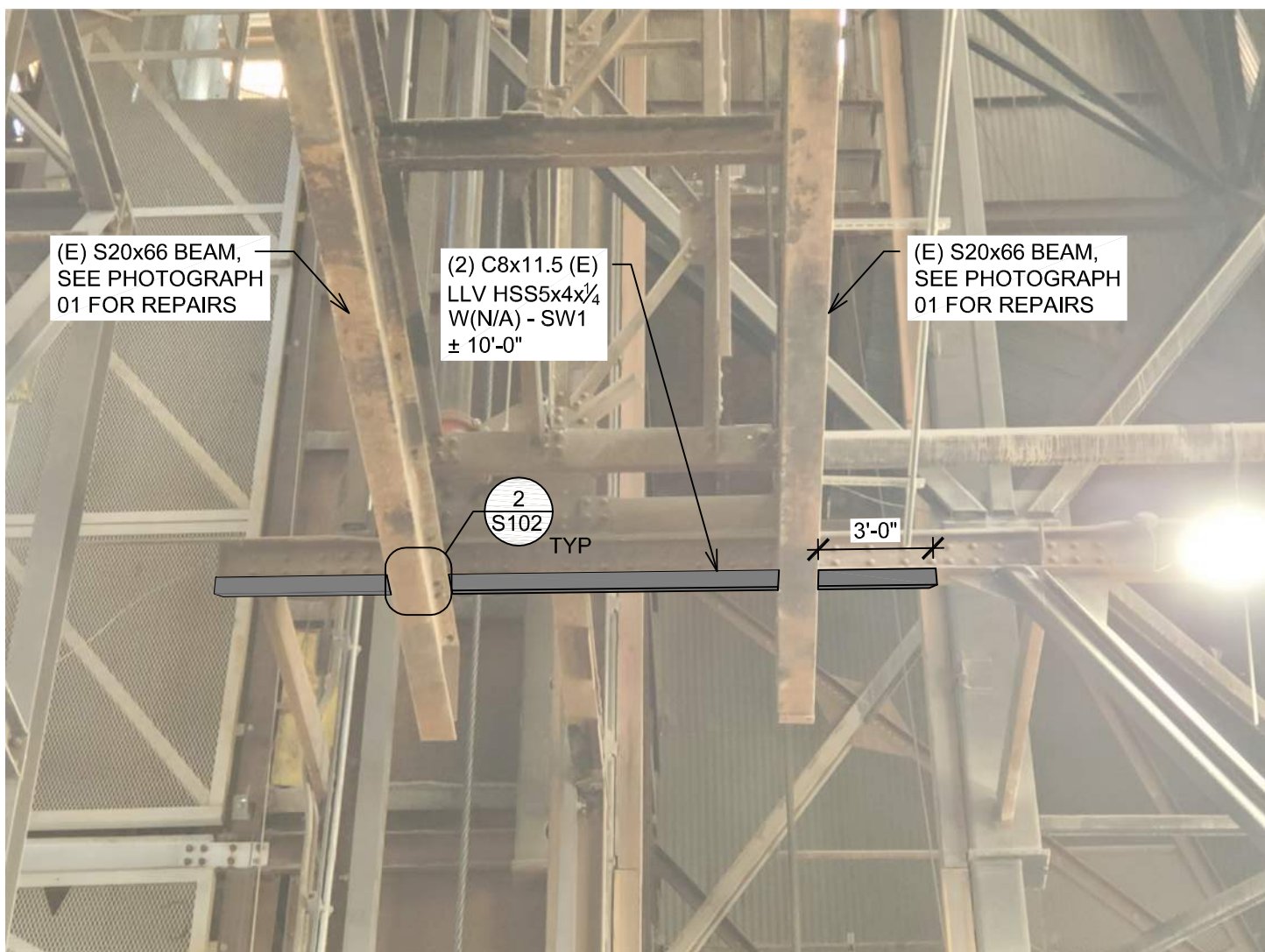
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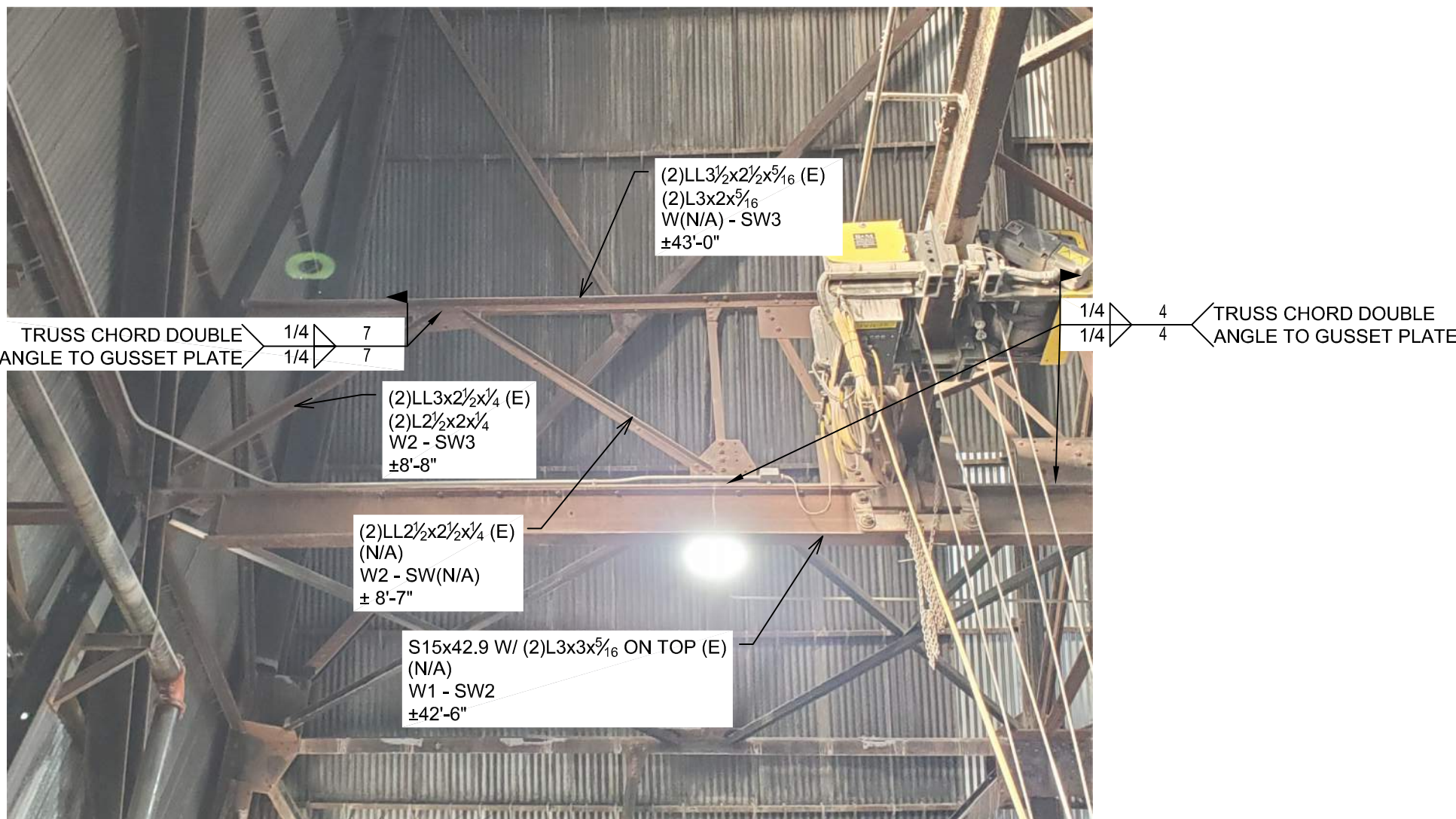
A



PHOTOGRAPH 01



PHOTOGRAPH 02



PHOTOGRAPH 03



PHOTOGRAPH 04



PHOTOGRAPH 05

SHEET NOTES

NOTE: SIGNIFICANT UNDERGROUND PREPARATION AND ON-GOING IMPROVEMENT ACTIVITIES ARE AND WILL BE OCCURRING WITHIN AND AROUND THE ROSS HEADFRAME. FOR THE ENTIRETY OF THE CONSTRUCTION PERIOD FOR THIS WORK, RESTRICTIONS ON ALLOWED PROJECT-SPECIFIC WORK ACTIVITIES, TIMING AND COORDINATION OF SUCH ACTIVITIES IS REQUIRED. THE SDSTA TO DIRECT THE CONTRACTOR AS TO THE COORDINATION REQUIREMENTS INCLUDING ALL PROJECT SPECIFIC ACTIVITY LIMITATION AND SAFETY REQUIREMENTS THAT THE CONTRACTOR MUST ADHERE TO. SPECIFYING THE LIMITATIONS IS OUTSIDE THE SCOPE OF THESE CONSTRUCTION DOCUMENTS AND SHALL COME DIRECTLY FROM THE SDSTA.

TROLLEY BEAM PHOTOGRAPH NOTES

- SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES.
- VERIFY ALL DIMENSIONS AND ELEVATIONS W/ FIELD CONDITIONS BEFORE CONSTRUCTION COMMENCES.
- ELEVATIONS ON THE STRUCTURAL DRAWINGS REFER TO THE TOP OF THE EXISTING CONCRETE PRESENT AT THE COLLAR WITH A REFERENCE ELEVATION SET AT 100'-0".
- SHEET ABBREVIATIONS:
 - (N) - NEW
 - (E) - EXISTING
- THE TYPICAL REPAIR CALLOUT IS LISTED BELOW WITH A DESCRIPTION OF EACH ITEM:

W12x40 (E)	[1]
C12x30	[2]
W# - SW#	[3] - [4]
± 20'-1"	[5]
- - ITEM [1]: THE EXISTING STRUCTURAL MEMBER
 - ITEM [2]: THE REPAIR SHAPE TO BE INSTALLED (IF NEEDED)
 - ITEM [3]: THE END WELD REPAIR REQUIREMENTS. SEE THE END WELD SCHEDULE BELOW
 - ITEM [4]: THE LONGITUDINAL STITCH WELD REQUIREMENT BETWEEN EXISTING & REPAIR STEEL MEMBERS. SEE STITCH WELD SCHEDULE BELOW
 - ITEM [5]: THE APPROXIMATE LENGTH OF STRUCTURAL MEMBER. FIELD VERIFY
 - (N/A): CERTAIN MEMBERS REQUIRING REPAIRS DO NOT NEED ALL OF THE REPAIR CALLOUT ITEMS. THUS ITEMS NOT NEEDED ARE LISTED WITH AN "N/A" DESIGNATION.
- THE REPAIRS SHOWN HAVE LISTED THE NOMINAL LENGTHS FOR THE REPAIR SECTIONS. AT THE CONTRACTOR'S DISCRETION, THE REPAIR SECTIONS MAY BE CUT INTO SMALLER LENGTHS AND INSTALLED SEPARATELY. THE SMALLER SECTIONS SHALL BE INSTALLED WITH FULL END BEARING BETWEEN THE PIECES. THE SHORTER SECTIONS SHALL BE WELDED TOGETHER WITH FULL PENETRATION BUTT WELDS. THE SHORTED CUT LENGTH SHALL NOT BE SHORTER THAN 3'-0", UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL REMOVE ALL PAINT, DIRT, GREASE, DEBRIS, AND SURFACE CORROSION FROM THE PERTINENT STEEL SURFACES PRIOR TO THE INSTALLATION OF STEEL REPAIRS. SUBCONTRACTOR SHALL ENSURE ALL CONNECTIONS OF REPAIRED MEMBERS ARE UNCOVERED AND INSPECTED TO DETECT FOR SECTION LOSS OR LOOSE RIVETS PRIOR TO THE INSTALLATION OF THE REPAIRS.
- FOR DOUBLE ANGLE STRENGTHENING, SEE DETAIL 3 ON SHEET S501.
- THE TWO STRENGTHENED TROLLEY BEAMS SHOWN IN PHOTOGRAPH 1 ARE EACH TO HAVE A RATED LOAD CAPACITY OF 20,000 LBS. **CONCURRENT USE OF THE TROLLEY BEAMS IS NOT ALLOWED.**

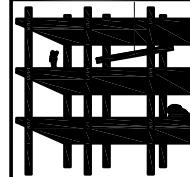
SHEET SCHEDULES

LONGITUDINAL STITCH WELD			
DESIGNATION	WELD TYPE	WELD SIZE	LENGTH - PITCH
SW1	FILLET	1/4"	4" - 12"
SW2	FILLET	3/16"	3" - 12"
SW3	FILLET	3/16"	1 1/2" - 12"

END WELD

DESIGNATION	FILLET SIZE	TOTAL WELD LENGTH (L _T)
W1	1/4"	$L_T = L_{1F} + L_{1R} + L_{2F} + L_{2R} \geq 8"$
W2	1/4"	$L_T = L_{1F} + L_{1R} + L_{2F} + L_{2R} \geq 10"$

NOTE: SEE DOUBLE ANGLE END WELD DETAIL ON SHEET S501.



Albertson Engineering Inc.
3202 W. MAIN, SUITE C
RAPID CITY, SD 57702

605.343.9606

CONSULTANT

PROJECT IDEN:

ROSS HEADFRAME TROLLEY BEAM STRENGTHENING

SANFORD UNDERGROUND
RESEARCH FACILITY
LEAD, SOUTH DAKOTA

ISSUE BLOCK:

[illegible]

MANAGEMENT:

PROJECT NO: 2024-253.5

DRAWN BY: SNO

CHECKED BY: S.JK

SHEET TITLE:

TROLLEY BEAM
PHOTOGRAPHS

SHEET IDENTIFICATION:

S101

2 OF 4

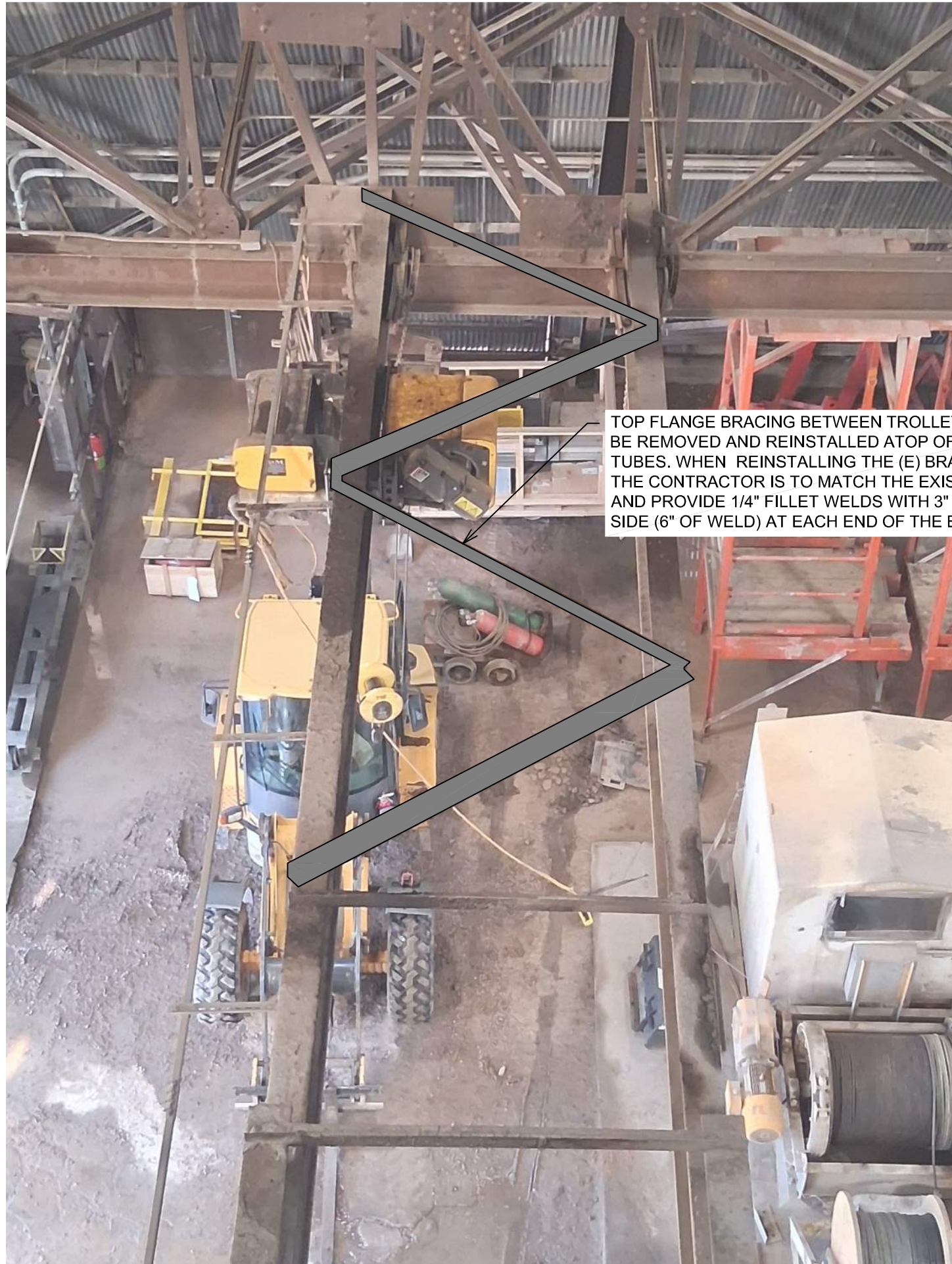
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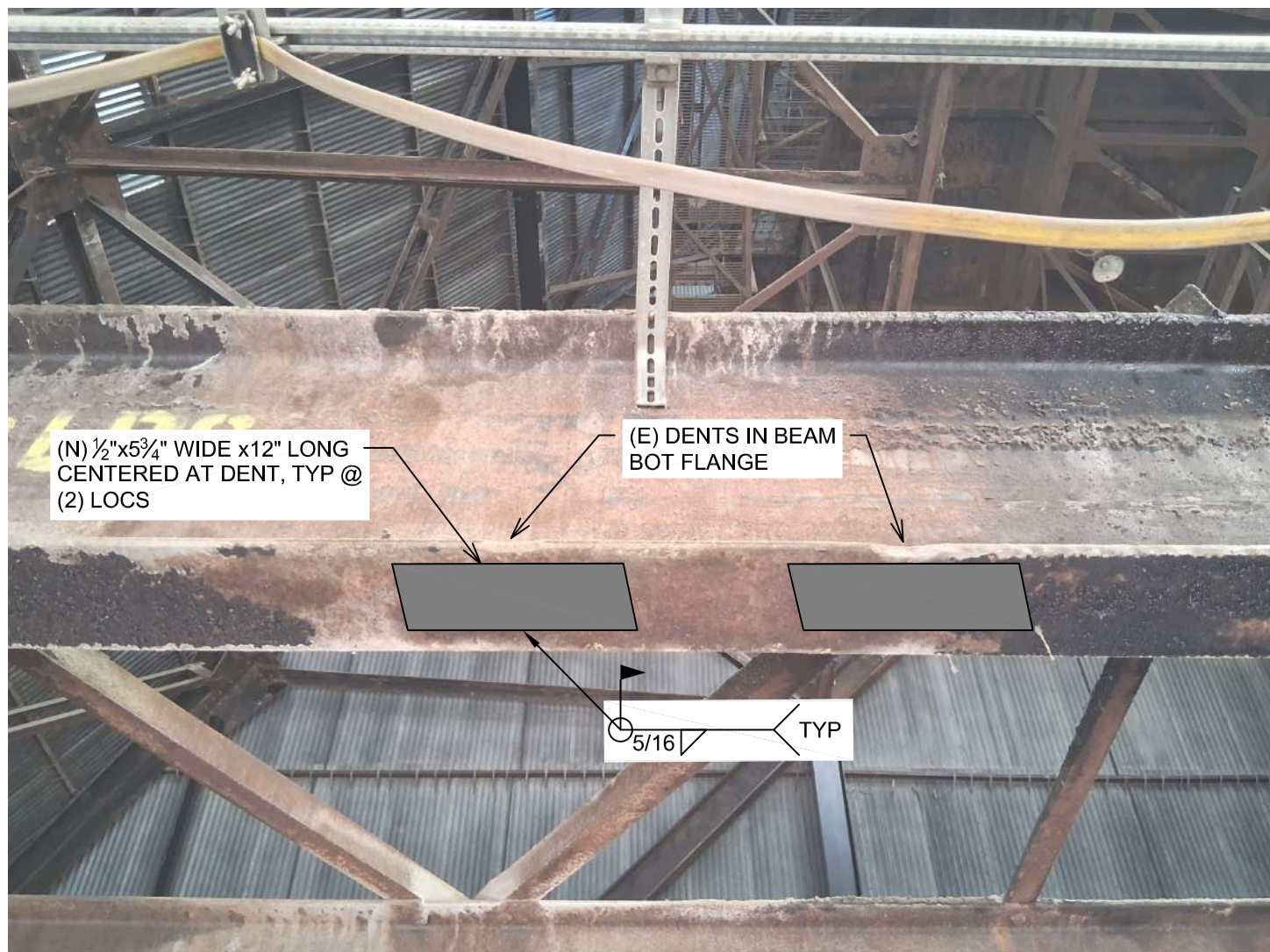
PHOTOGRAPH 06

B



PHOTOGRAPH 07

NOTE: THIS PHOTOGRAPH APPLIES TO THE SOUTH END OF THE FAR EAST TROLLEY BEAM PRESENT WITHIN THE ROSS HEADFRAME. THE CONTRACTOR SHALL BE DIRECTED BY SDSTA TO THIS BEAM'S LOCATION. ONLY THE SOUTH END OF THIS BEAM REQUIRES REPAIRS.



PHOTOGRAPH 08

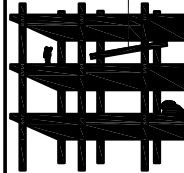
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SHEET NOTES

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TROLLEY BEAM PHOTOGRAPH NOTES

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CONSULTANT

PROJECT IDEN:

ROSS HEADFRAME TROLLEY BEAM STRENGTHENING

SANFORD UNDERGROUND
RESEARCH FACILITY
LEAD, SOUTH DAKOTA

ISSUE BLOCK:

[illegible]

MANAGEMENT:

PROJECT NO: 2024-253.5

DRAWN BY: SNC

CHECKED BY: SJK

SHEET TITLE:

TROLLEY BEAM
PHOTOGRAPHS

SHEET IDENTIFICATION:

S102

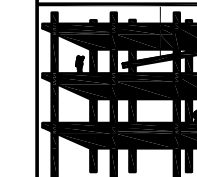
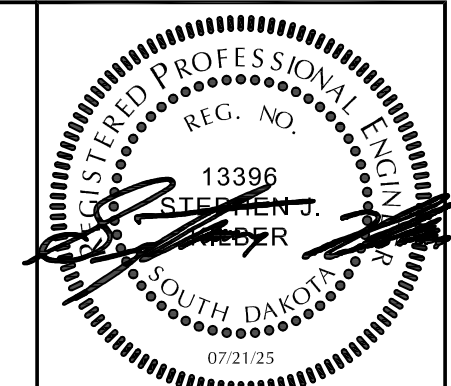
3 OF 4

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LEAD, SOUTH DAKOTA

ISSUE BLOCK:

[illegible]

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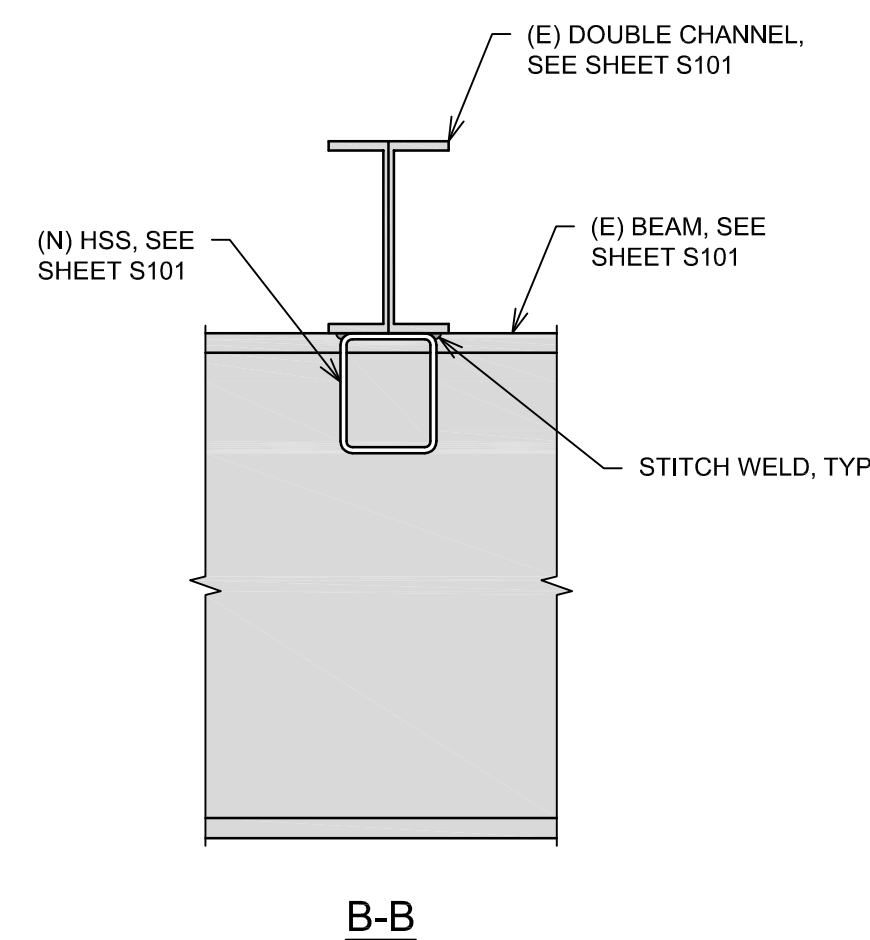
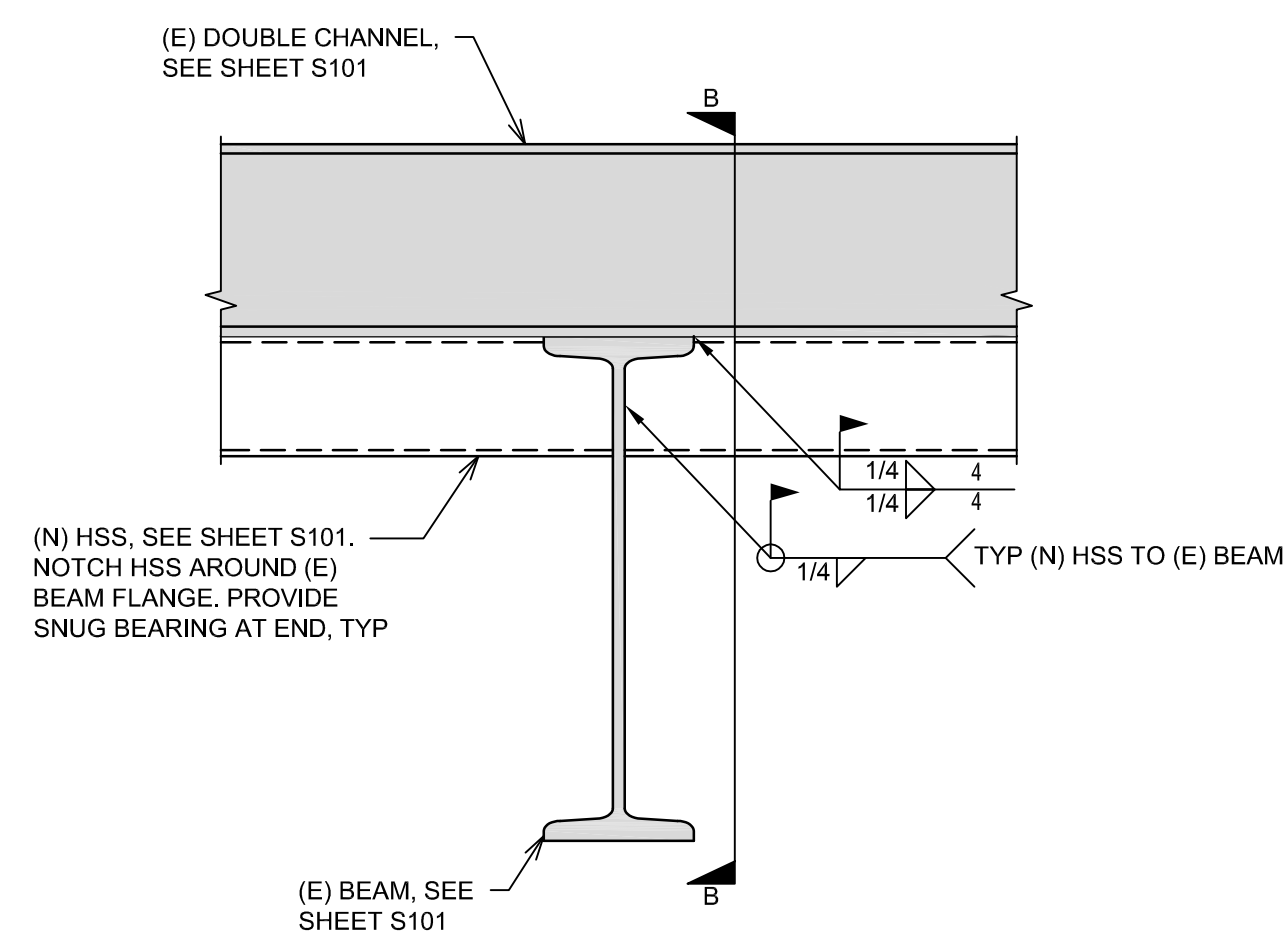
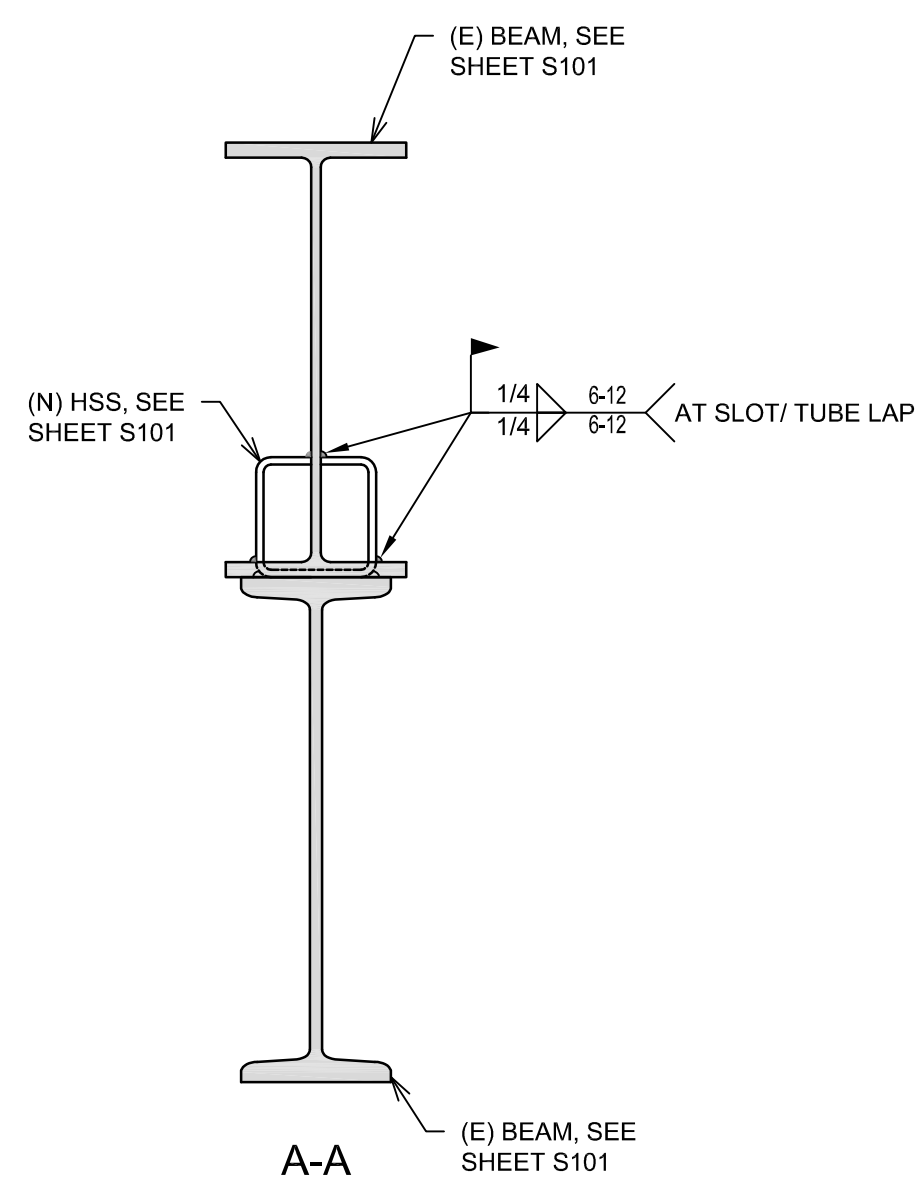
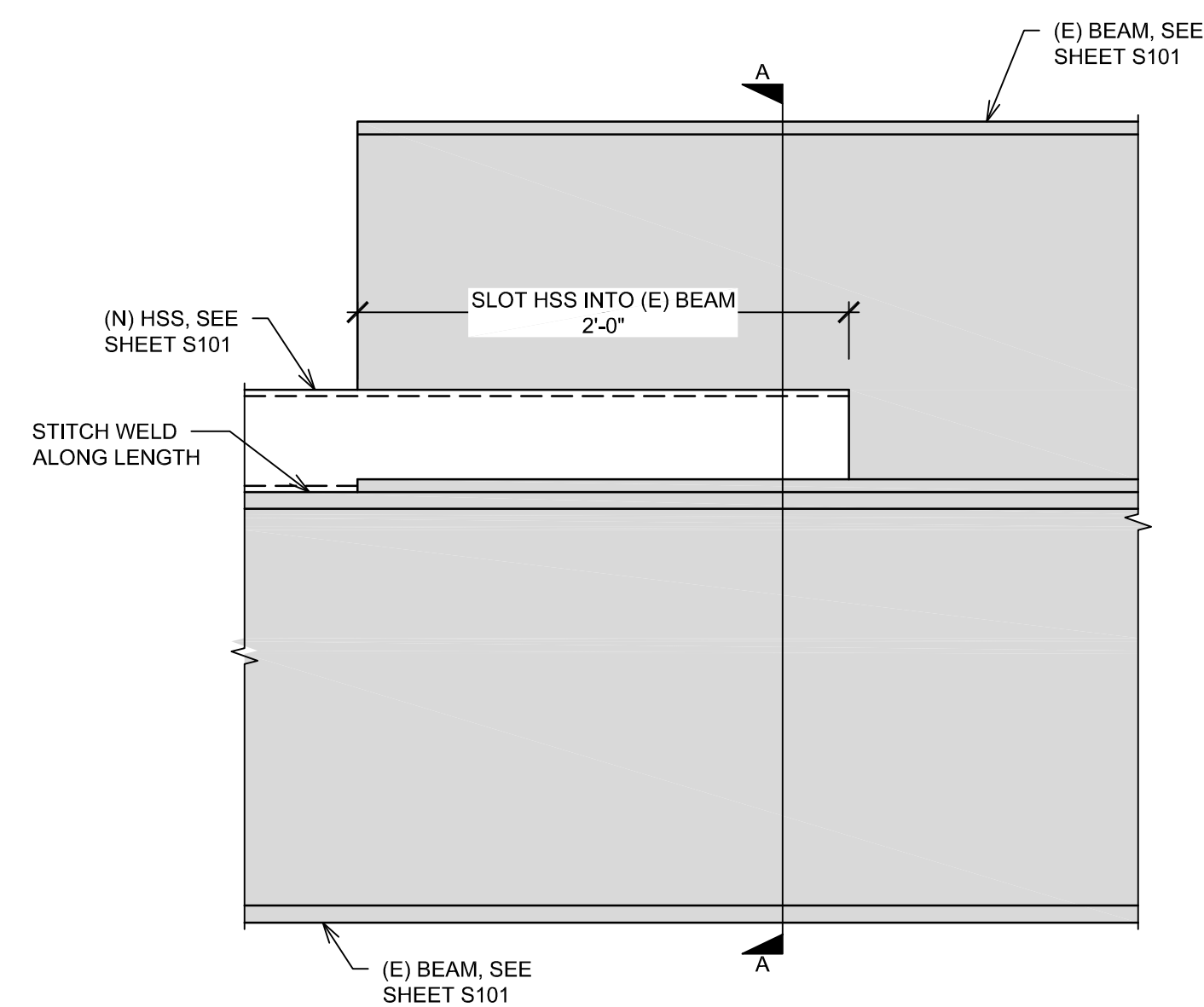
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DETAILS

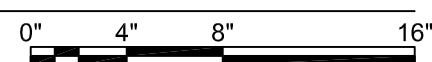
SHEET IDENTIFICATION:

S501

4 OF 4



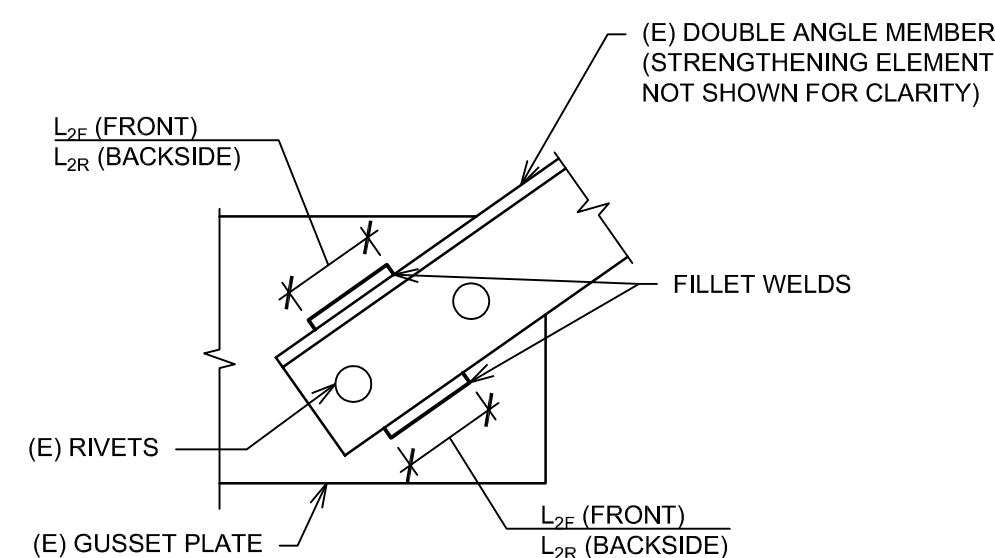
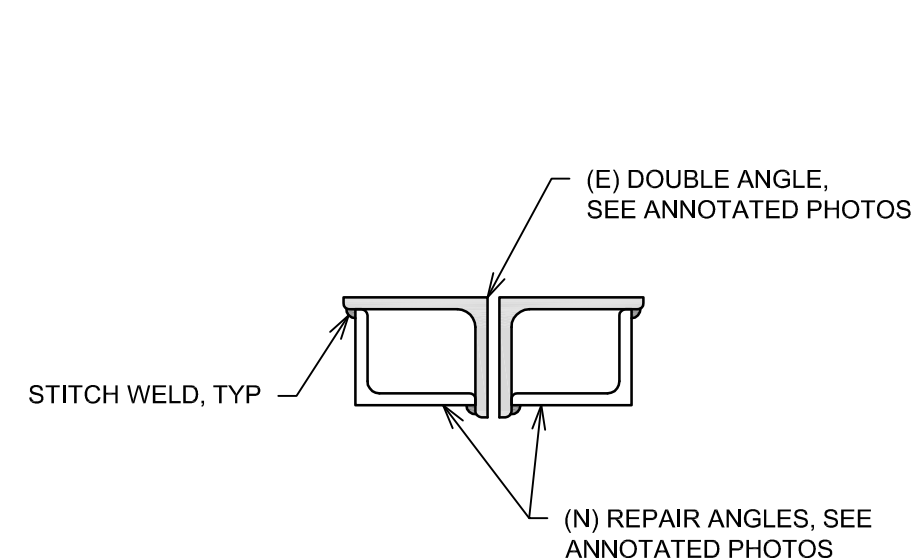
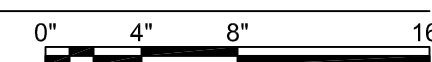
1 TROLLEY BEAM STRENGTHENING DETAIL
S101 SCALE: 1½"=1'-0"



2
S101

BEAM STRENGTHENING DETAIL

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

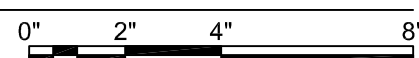


3
S501

DOUBLE ANGLE REPAIR DETAIL

SCALE: 3"=1'-0"

0" 2" 4"



DOUBLE ANGLE END WELD TYPICAL DETAIL