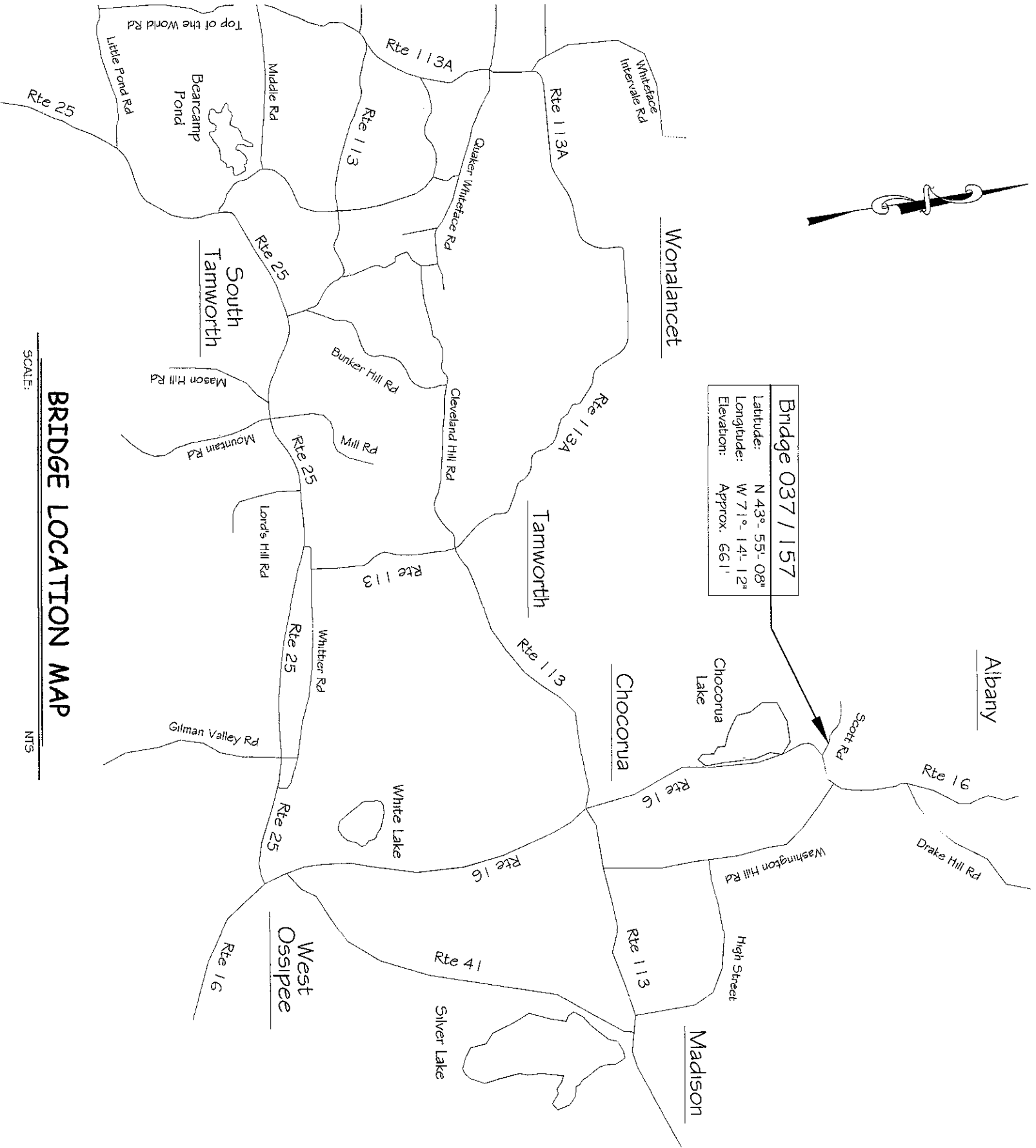




**Bridge 037 / 157**  
 Latitude: N 43° 55' 08"  
 Longitude: W 71° 14' 12"  
 Elevation: Approx. 661'

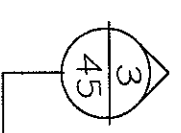


**BRIDGE LOCATION MAP**

SCALE: \_\_\_\_\_ NTS

**INDEX TO DRAWINGS**

50	Location Map
51	General Notes & Supplemental Specifications
52	Existing Culvert & Roadway Approach Site Plan
53	Existing Roadway & Channel Profiles
54	Proposed Traffic Control Plan (TCP) ~ Phase 1
55 - 56	TCP Roadway Cross-Sections ~ Phases 1 & 2
57	TCP Roadway Cross-Sections ~ S.O.E.
58	Proposed Bridge & Roadway Approach Plan
59	Proposed Bridge & Roadway Profile
60	Proposed Bridge Elevations
61	Typical Bridge Deck & Roadway Sections
62	Westerly Abutment Masonry Plan
63	Easterly Abutment Masonry Plan
64	Westerly Abutment Resteel Plan
65	Easterly Abutment Resteel Plan
66	Proposed Details & Sections
67	Bridge Bearing Assemblies
68	Structural Steel Framing Plan
69	Structural Steel Details & Sections
70	Typical Girder-Camber Diagram
71	Structural Timber Deck Plan
72	Structural Timber Sections & Details
73 - 75	Proposed Prosecution of the Work
76 - 77	Existing Roadway Cross-Sections ~ Not Included with RFP Drawing Set.
NHDOT Standard Detail Drawings for Road & Bridge Guardrails: ~ Not Used	



Detail No. \_\_\_\_\_  
 Sheet No. \_\_\_\_\_

**PROPOSED BRIDGE REPLACEMENT**  
**SCOTT ROAD over CHOCORUA RIVER ~ TAMWORTH, NEW HAMPSHIRE**

REV	DATE	BY	DESCRIPTION
5	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)
4	1.23.23	BK	RELEASED FOR CLIENT REVIEW ~ 90% DESIGN
3	12.17.22	BK	RELEASED FOR CLIENT REVIEW ~ 75% DESIGN
2	11.20.22	BK	RELEASED FOR TEAM COORDINATION
1	9.1.22	BK	CHANGE TO PRECAST CONCRETE STRUCTURE
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW

PREPARED BY  
**KNOX ASSOCIATES**  
 ENGINEERING CONSULTANTS  
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 120 Smith Road, Palmyra, ME 04965  
 312 Main Street, Pittsfield, ME 04967  
 knoxassociates@yahoo.com  
 (603) 662-5644  
 ARCHITECTURAL - CIVIL - STRUCTURAL

PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
 84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
 SCOTT RD BRIDGE REPLACEMENT OF CHOCORUA RIVER  
 TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
 BRIDGE LOCATION MAP & INDEX TO DRAWINGS

DESIGNER: B. KNOX	SHEET: 50
DATE: _____	JOB: 220417
DRAWN: B. KNOX	
CHECK: 4.17.22	
CAD FILE: Scott Rd Bridge.dwg	

**GENERAL NOTES:**

- This Project involves Replacement of an Existing Corrugated Steel Pipe-Arch Culvert carrying Scott Road over Chocoma River in Tamworth, NH. The Constructor is advised that NO subsurface explorations have been performed, and the presence of ledge is unknown, but assumed to be unlikely. The Constructor is encouraged to familiarize themselves with Division 100 "General Provisions" of NHDOT Standard Specifications for Road & Bridge Construction, latest edition, with emphasis on section 102.05 "Examination of Plans, Specifications, Proposal and Project Site". In general, Prosecution of the Work shall consist of replacing the existing Corrugated Steel Pipe-Arch Culvert with a New Bridge, while maintaining the existing Roadway Approach Profile. At present, it is anticipated that Construction will commence on or about August 7, 2023, with a Substantial Completion Date of September 29, 2023. Scott Road must remain OPEN TO TRAFFIC during Construction of this Project. Construction must be performed in Phases, Off-Alignment, within the existing R.O.W., using a Single Lane Alternating Traffic Pattern consistent with the Manual on Uniform Traffic Control Devices, (MUTCD) Part 6, Temporary Traffic Control.
- Bid Proposals shall be due to the Town by Monday, March 13, 2023, at 4:00 pm EST. At such time, said Proposals shall be read Publicly. Contract Award and the issuance of a Notice to Proceed (NTP) will be dependent upon Town Approval and subsequent Funding Appropriations during the Annual Meeting in March of 2023.
- The Contractor shall notify and coordinate implementation of the Temporary Detour by providing times and dates to Town Officials five (5) Business Days prior to. Officials represent Local Town Officials, Emergency Services, Schools, Delivery and Mailing Agencies. The Contractor's proposed Construction Schedule shall be submitted to the Town two commencing the Work, and the Town will in turn notify Property Owners and Road / Bridge users of the ensuing Activities prior to.
- These Drawings do not represent a Boundary Survey, a Right-of-Way of any kind, nor an Environmental Assessment / Permit Application Plan of any sort. Contractor shall coordinate and work with the Town in securing Temporary Easements, prior to construction. Ultimately, the Town shall be responsible for securing any and all necessary Environmental Permits and Easements.
- The Town will be submitting application for the necessary Environmental Permits, and anticipates receiving Approvals from the New Hampshire Department of Environmental Services (NHDES) prior to Construction.
- The Constructor shall install Temporary Erosion Control Measures as needed to prevent silts and or debris from entering the River during Excavation and Removal of the Existing Culvert & Appurtenances. Additional requirements may also be prescribed in the pending Conditions outlined in a NHDES Permit(s). The Constructor may also be required to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP), item 645.71, which may further require the need for a Qualified Person to Monitor and Record the Installation and Maintenance of various Temporary Erosion Control Measures (TECM), and De-Watering systems.
- Furnish and place all supports, temporary and permanent, whether shoring, bracing, or underpinning, necessary to brace existing structures, so that no horizontal or vertical settlement will occur. Temporary supports shall be maintained in place until permanent supports are installed, and or Construction thereof is complete.
- The Constructor shall verify all dimensions and conditions in the field prior to commencing work. Where dimensions and elevations of existing conditions could affect the new construction, it's the Constructor's responsibility to make field measurements in time for their incorporation into Shop Drawings. The Engineer shall be notified of any discrepancies that may exist.
- All materials, construction, and workmanship shall comply with the New Hampshire Department of Transportation (NHDOT) Standard Specification for Road & Bridge Construction, latest edition.
- Structural drawings may represent construction with a referenced scale. Due to the inherent process of drawing development and presentation, not all work may be shown "exact" in scale. Do not "scale" drawings to obtain any missing information or to interpret any information not specifically dimensioned for "exact" detailing or construction purposes.

**GENERAL DESIGN INTENT & CONSTRUCTION APPROACH:**

- The Design Approach has been to minimize impacts to jurisdictional wetlands, while the Intent is to increase the Channel Opening for two purposes: 1) Minimize Scour Events from reoccurring at the Outlet by Reducing the Energy Exerted thru the Channel Opening, and; 2) Restore the Stream Bed beneath the Roadway to its Original Condition.
- In order to avoid having to increase Wingwall Elevations, and subsequent Toes of Slopes on the Upstream side of the Proposed Bridge and Roadway Approaches, the Design Intent is to minimize raising the Roadway Approach Profile. Thus, the proposed Finish Bridge Deck elevation shall remain as close as possible to the existing Gravel Roadway elevation. The chosen concept is to utilize Structural Steel Girders resting on Pre-Fabricated Bearing Plate Assemblies, anchored to New Reinforced Concrete Abutments. The Structural Steel Framework shall be positioned as closely as practical to the existing Upstream Construction Joint of the Pipe Arch Culvert. The existing Upper Portion of the Upstream Section of the Pipe Arch Culvert shall be Removed by field cutting as closely as possible to the Remaining Downstream Section without jeopardizing the Structural Integrity of the Remaining Culvert.
- Traffic will be Shifted to a single lane Temporary Detour located at the Downstream portion of the existing Pipe-Arch Culvert. Item 670.045 Construct and Remove Detour, will be used for this Activity
- Drawings 73 thru 75 "Proposed Prosecution of the Work" have been provided to illustrate the assumed Means and Methods for Constructing this Project. The Sequences shown are merely recommendations and may be altered by the Contractor as deemed necessary to effectively and safely accomplish the Work.

**DESIGN CRITERIA:**

- This Bridge Structure has been design using HL-93 Loading, as described in the American Association of State Highway Transportation Officials (AASHTO) LRFD Bridge Design Specifications, Article 3.6.1.2 "Design Vehicular Live Load", 17th edition, United States Department of Agriculture (USDA) Forestry Overload Vehicles U80 Loading, (figure 6-5), New Hampshire Department of Transportation (NHDOT) Standard Specifications for Road & Bridge Construction, 2016 edition, NHDOT Bridge Design Manual, NHDOT Bridge Design Detail Sheets, and American Institute of Steel Construction (AISC), 14th edition.
- The Foundation Design is based upon an assumed Bearing Capacity of 2.0 Tons per Square Foot (T/ssf), as NO Geotechnical data has been obtained during development of this project. The Contractor shall familiarize himself with all necessary subsurface conditions, and be fully aware of the limitations contained herein these drawings.
- Design Speed is 10 MPH. Curb & Rail Impact Load is 500 PLF per AASHTO 3.14.2. Snow Load not applicable per AASHTO 3.3.2. However, Snow Pack has considered at 3' PCF. Impact Factor considered to be zero (0) due to use of Timber Deck.
- Installation of the Timber Deck & Curb shall be consistent with the latest edition of the Standard Specifications for Construction of Roads & Bridges on Federal Highway Projects, FP-03, Sections 557.
- The Structural Steel Girders shall be adequately Cambered to compensate for all Dead Load and Design Lane Load. Design Deflection has been limited to L/360, which includes all Factored Loads. Design method is Allowable Stress Design (ASD), unless noted otherwise.
- Structural Fill to be placed beneath the Proposed Reinforced Concrete Abutments shall be consistent with Section 508 of the NHDOT Standard Specifications for Road & Bridge Construction, latest edition.
- Horizontal Live Load assumed to be 10% of Live Load in the Longitudinal Direction, and 5% of Live Load in the Transverse Direction.

**SUMMARY OF QUANTITIES**

Item No.	Item Description	Quantity
201.21	Removing Small Trees	By Others
209.201	Granular Backfill - Bridge (Re-Use Existing Material)	39 CY
214.	Fine Grading	1 Unit
304.3	Crushed Gravel - Roadway (Town Supplied)	55 CY
304.35	Temporary Crushed Gravel - Detour (Town Supplied)	75 CY
502.	Removal of Existing Pipe-Arch Culvert Structure	1 Unit
503.201	Temporary Cofferdams & De-Watering	2 Units
503.202	Shoring of Excavation (S.O.E.)	1 Unit
504.1	Common Bridge Excavation	73 CY
504.2	Rock Bridge Excavation (Existing Headwalls)	30 CY
508.	Structural Fill ( 1 1/2" Stone )	22 Tons
520.12	Concrete Class A, Above Footing	15 CY
520.21	Concrete Class B, Footings	18 CY
530.3	Waterproofing Concrete Surfaces (F)	232 SF
544.	Reinforcing Steel (F)	4,440 lbs
550.101	Structural Steel (F)	17,810 lbs
550.201	Bridge Shoes (Expansion)	4 Ea
550.202	Bridge Shoes (Fixed)	4 Ea
550.568	Anchor Plates for Timber Deck	28 Ea
563.3	Bridge Rail (F)	104 LF
568.	Structural Timber Bridge Deck (F)	6,000 BF
585.4	Stone Fill, Class D (De-Watering Ops)	20 Tons
587.1	Keyed Stone Fill, (Bridges)	172 CY
593.220	Geotextile, Stabilization Cl. 2, Contractors Option	260 SY
606.122	Straight 48" Flare FLEAT-SP Terminal Unit TL-3	2 Units
606.1471	Beam Guardrail Terminal Unit G-2 (40' R) 32 L	1 Unit
606.1472	Beam Guardrail Terminal Unit G-2 (40' R) 18 L	1 Unit
606.417	Portable Concrete Barrier for Traffic Control	360 LF
615.	Permanent Traffic Signs	By Others
619.1	Maintenance of Traffic & Construction Signs	1 Unit
645.531	Silt Fence	400 LF
645.71	Stormwater Pollution Prevention Plan & Monitoring	1 Unit
646.41	Turf Establishment w/ Mulch, Tack. & Humus (F)	250 SY
670.045	Construct & Remove Detour	1 Unit
692.	Mobilization	1 Unit
1008.1	Alteration & Addition as Needed - Utility Relocations.	By Others

\* Quantities shown are approximate.

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 knoxassociates@yahoo.com  
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 ARCHITECTURAL - CIVIL - STRUCTURAL

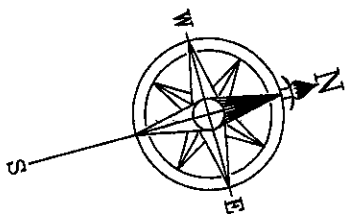
PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
 84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
 MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK  
 SOUTH TAMWORTH, NEW HAMPSHIRE

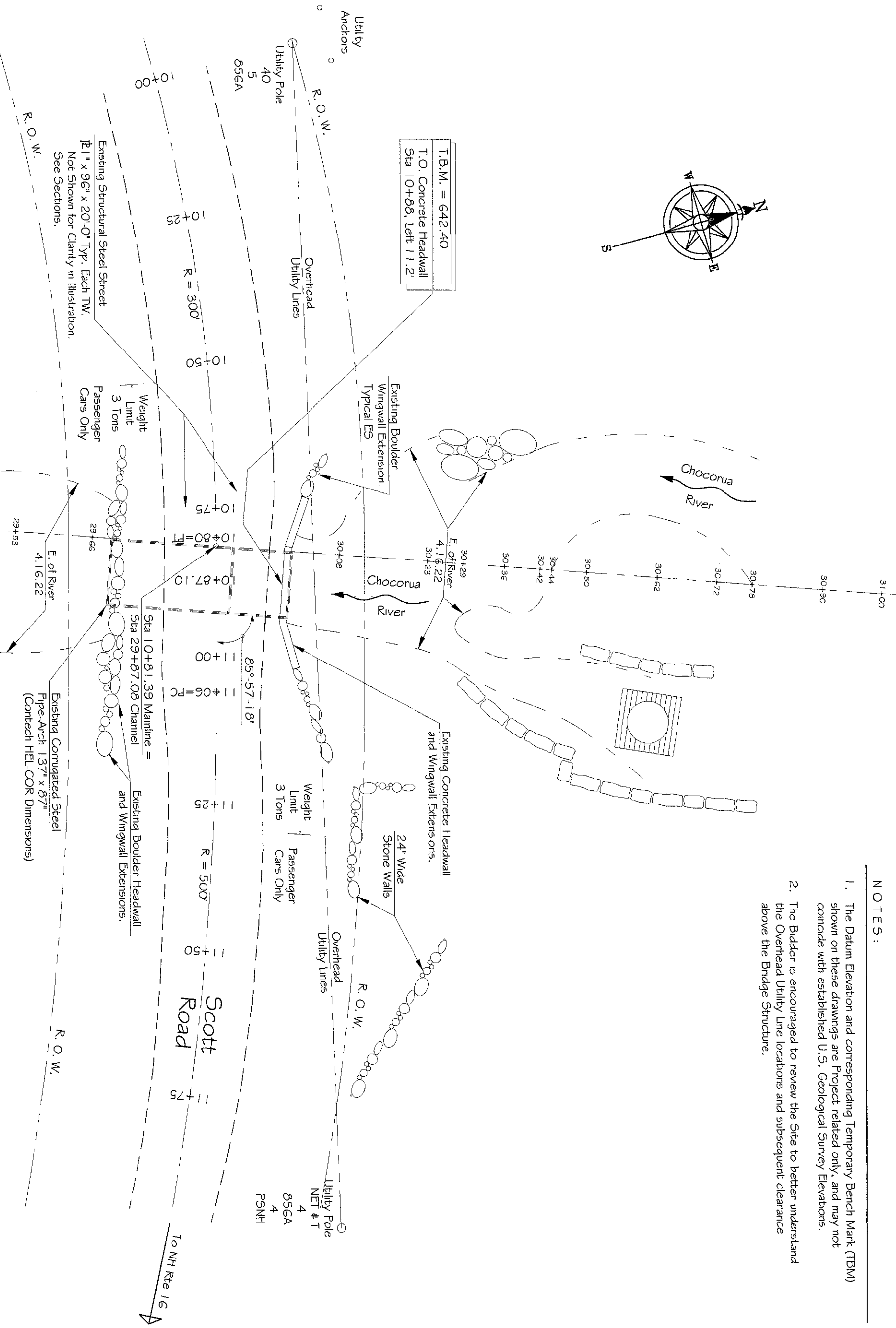
SHEET DESCRIPTION  
 GEN. NOTES, DESIGN CRITERIA & SUM. OF QUANTITIES

DESIGN: B. KNOX  
 DATE: 4.2.20  
 DRAWN: B. KNOX  
 CHECK: [ ]

SHEET  
 51  
 200402



T.B.M. = 642.40  
 T.O. Concrete Headwall  
 Sta 10+88, Left 11.2'



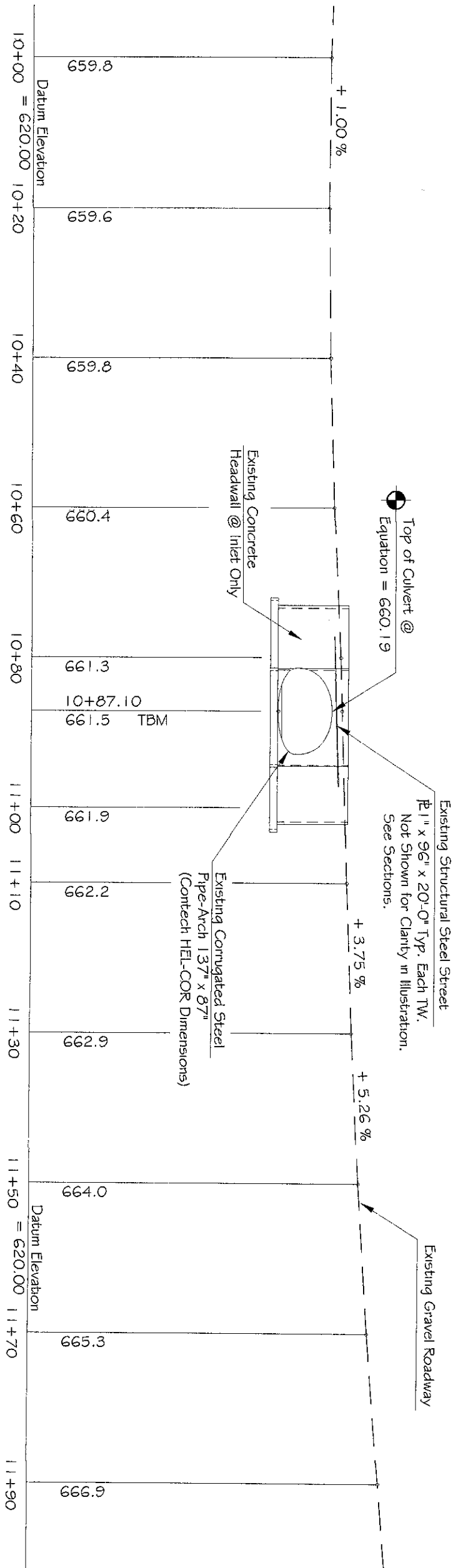
- NOTES:
1. The Datum Elevation and corresponding Temporary Bench Mark (TBM) shown on these drawings are Project related only, and may not coincide with established U.S. Geological Survey Elevations.
  2. The Bidder is encouraged to review the Site to better understand the Overhead Utility Line locations and subsequent clearance above the Bridge Structure.

EXISTING BRIDGE & ROADWAY APPROACH PLAN

Scale: 1/16" = 1'-0"

QAO FILE: Scott Rd Bridge/rdg

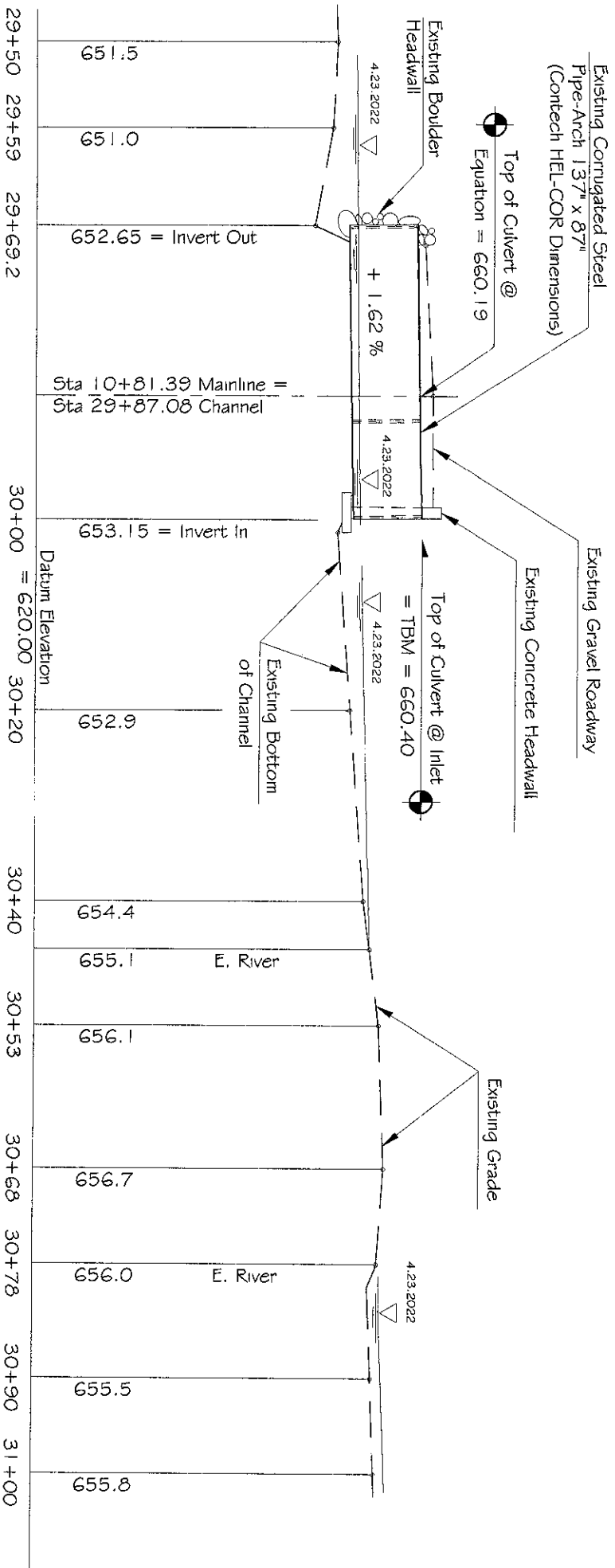
PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>	REV	DATE	BY	DESCRIPTION	2	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
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1	11.20.22	BK	RELEASED FOR TEAM COORDINATION																	
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW																	
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT OF COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION EXISTING BRIDGE & ROADWAY APPROACH PLAN																		
DESIGNER: B. KNOX DATE: 4.17.22 DRAWING: B. KNOX CHECK:	SHEET 52	JOB 220417																		



EXISTING BRIDGE & ROADWAY APPROACH PROFILE

Scale: 1/16" = 1'-0"

1/16" = 1'-0"



EXISTING CHANNEL PROFILE

Scale: 1/16" = 1'-0"

1/16" = 1'-0"

CAD FILE: Scott Rd Bridging.dwg

CHECK: 220417

PREPARED FOR  
TAMWORTH HIGHWAY DEPARTMENT  
84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK  
SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
EXISTING BRIDGE & CHANNEL PROFILES

PREPARED BY  
KNOX ASSOCIATES

ENGINEERING CONSULTANTS  
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ARCHITECTURAL - CIVIL - STRUCTURAL

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0	4.24.22	BK	RELEASED FOR CLIENT REVIEW

DESIGN: B. KNOX  
DATE: 4.17.22

SHEET: 53

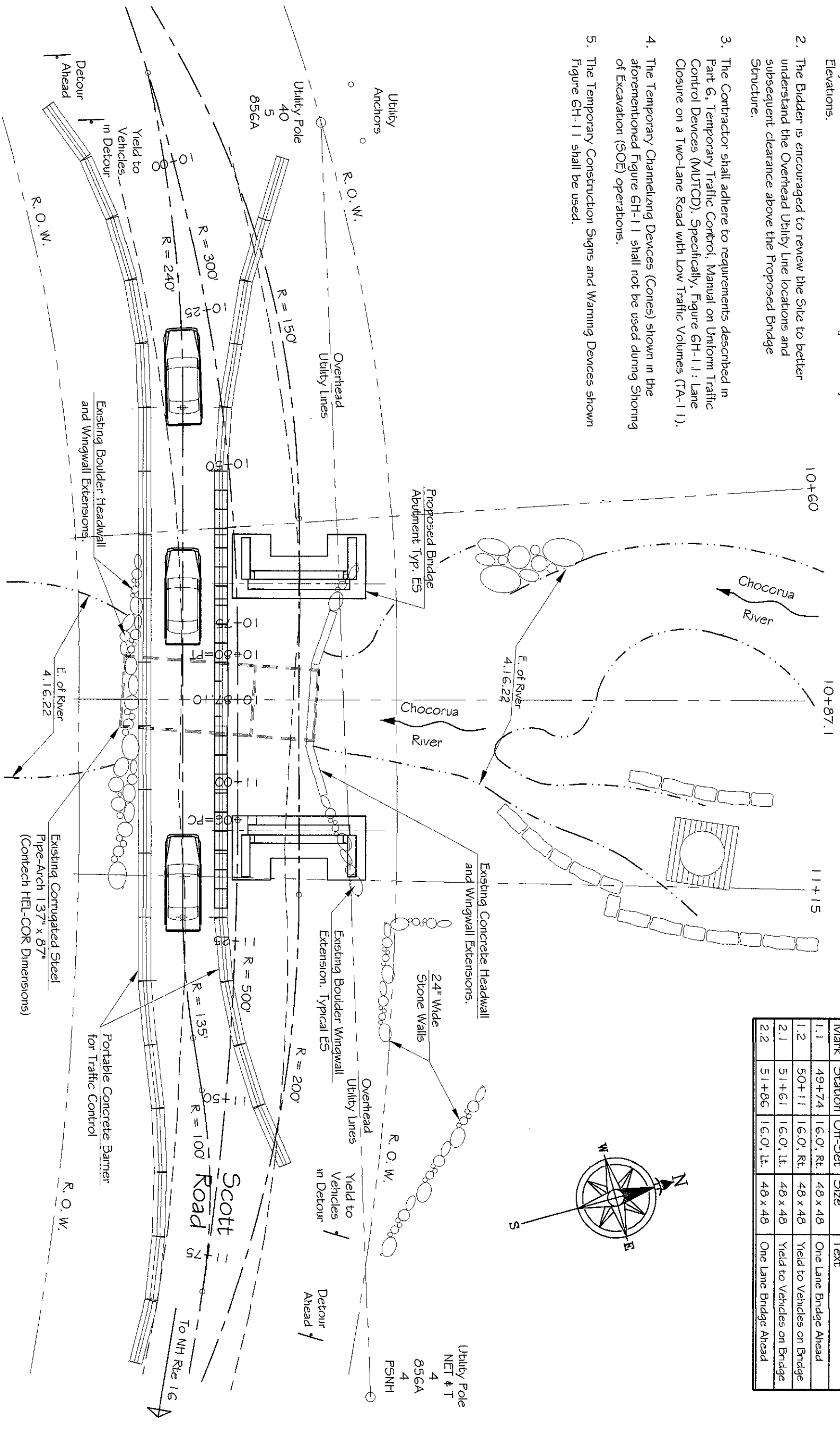
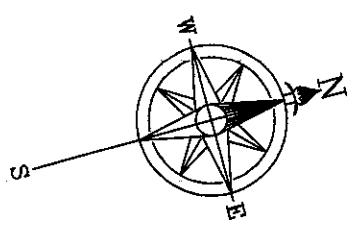
DRAWN: B. KNOX

JOB: 220417

NOTES:

1. The Datum Elevation and corresponding Temporary Bench Mark (TBM) shown on these drawings is Project related only, and may not coincide with established U.S. Geological Survey Elevations.
2. The Bidder is encouraged to review the Site to better understand the Overhead Utility Line locations and subsequent clearance above the Proposed Bridge Structure.
3. The Contractor shall adhere to requirements described in Part 6, Temporary Traffic Control, Manual on Uniform Traffic Control Devices (MUTCD). Specifically, Figure GH-11: Lane Closure on a Two-Lane Road with Low Traffic Volumes (TA-11).
4. The Temporary Channelizing Devices (Cones) shown in the aforementioned Figure GH-11 shall not be used during Shoring of Excavation (SOE) operations.
5. The Temporary Construction Signs and Warning Devices shown Figure GH-11 shall be used.

PERMANENT SIGNAGE SCHEDULE				
Mark	Station	Off-Set	Size	Text
1.1	49+74	16.0', Rt.	48 x 48	One Lane Bridge Ahead
1.2	50+11	16.0', Rt.	48 x 48	Yield to Vehicles on Bridge
2.1	51+61	16.0', Lt.	48 x 48	Yield to Vehicles on Bridge
2.2	51+86	16.0', Lt.	48 x 48	One Lane Bridge Ahead



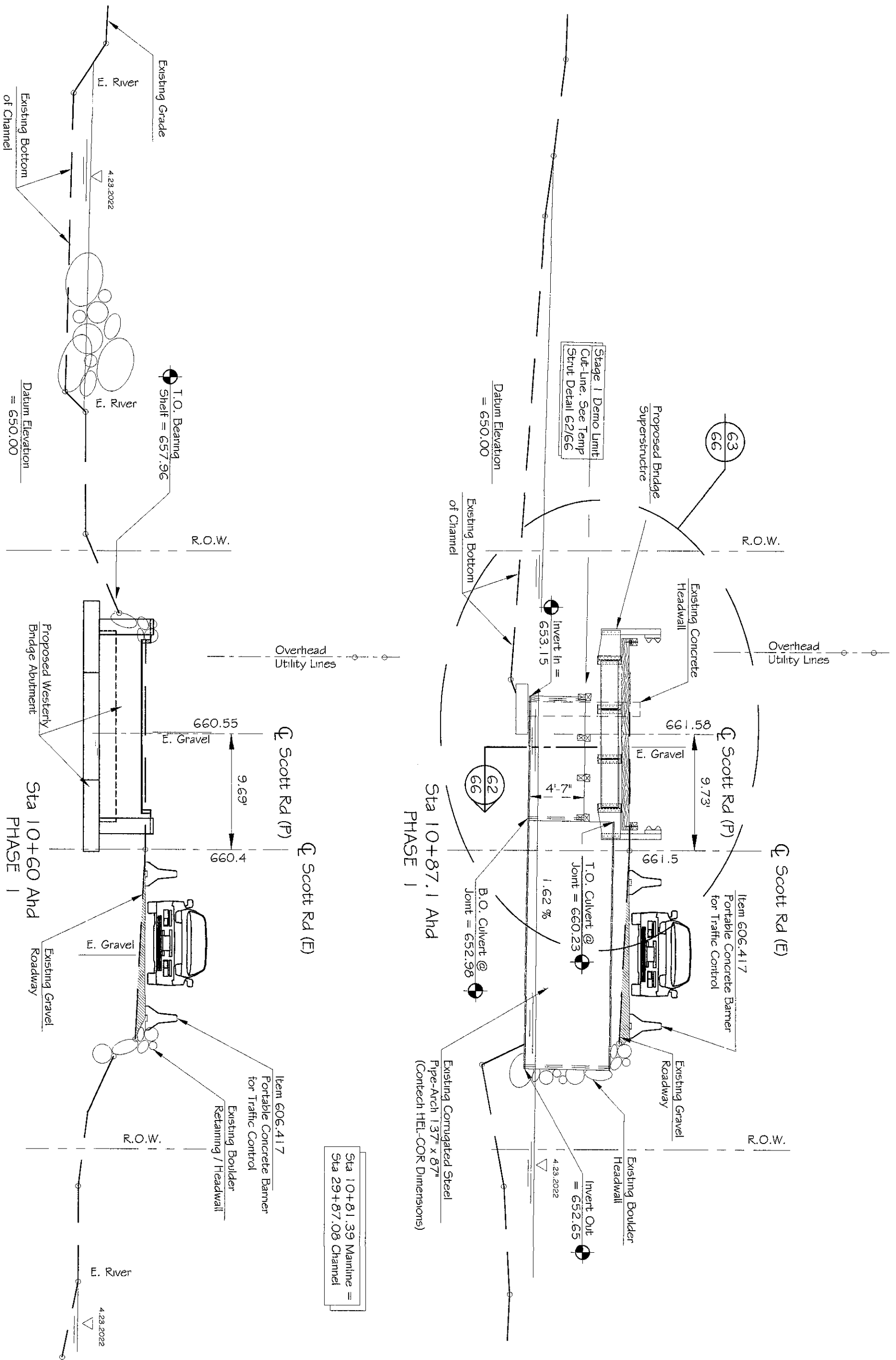
PROPOSED TRAFFIC CONTROL PLAN (TCP) ~ PHASE I

Scale:

1/16" = 1'-0"

CAD FILE: Scott Rd Bridg.dwg

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>2</td> <td>12.17.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW ~ 75% DESIGN</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>	REV	DATE	BY	DESCRIPTION	3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	2	12.17.22	BK	RELEASED FOR CLIENT REVIEW ~ 75% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
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PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED TRAFFIC CONTROL PLAN - PHASE I																						
DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET 54	JOB 2204.17																						



15

TRAFFIC CONTROL PLAN ROADWAY CROSS-SECTIONS ~ PHASE I

Scale: 1/8" = 1'-0"

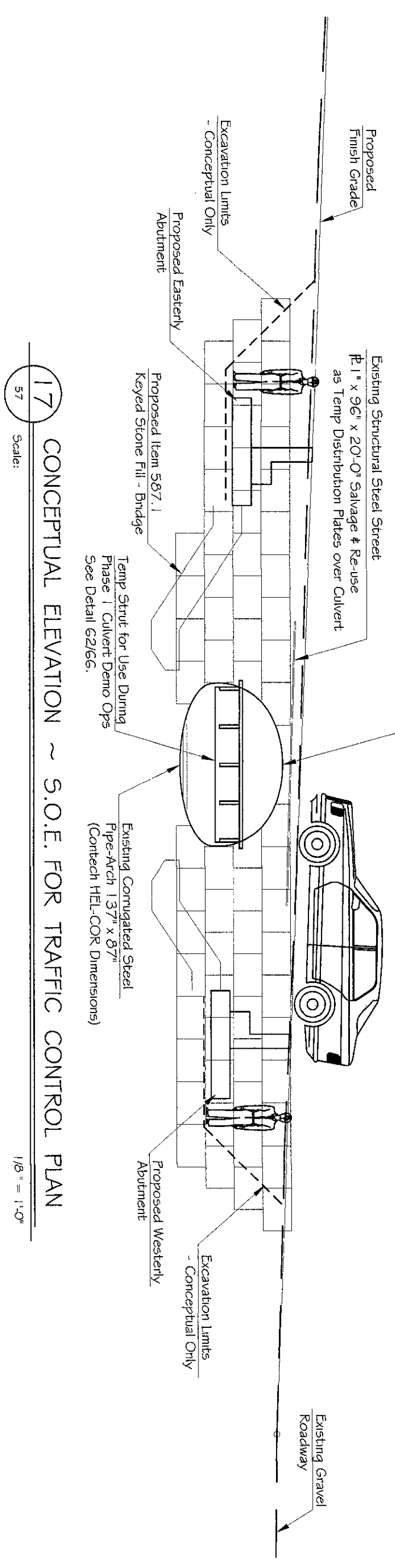
CAD FILE: Scott Rd Bridgework

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL		<table border="1"> <tr><td>4</td><td>2.20.23</td><td>BK</td><td>RELEASED FOR PROPOSALS (RFP)</td></tr> <tr><td>3</td><td>1.23.23</td><td>BK</td><td>RELEASED FOR CLIENT REVIEW ~ 90% DESIGN</td></tr> <tr><td>2</td><td>12.17.22</td><td>BK</td><td>RELEASED FOR CLIENT REVIEW ~ 75% DESIGN</td></tr> <tr><td>1</td><td>11.20.22</td><td>BK</td><td>RELEASED FOR TEAM COORDINATION</td></tr> <tr><td>0</td><td>4.24.22</td><td>BK</td><td>RELEASED FOR CLIENT REVIEW</td></tr> <tr><td>REV</td><td>DATE</td><td>BY</td><td>DESCRIPTION</td></tr> </table>	4	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	3	1.23.23	BK	RELEASED FOR CLIENT REVIEW ~ 90% DESIGN	2	12.17.22	BK	RELEASED FOR CLIENT REVIEW ~ 75% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW	REV	DATE	BY	DESCRIPTION
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DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET 55 JOB 220417																											

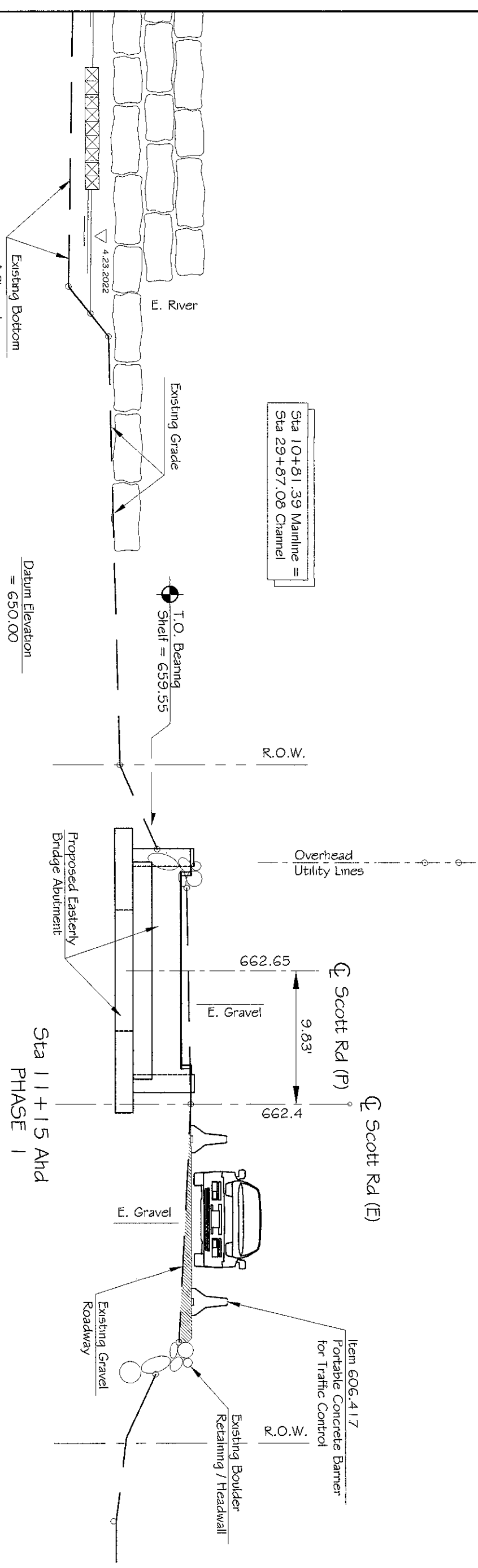
Concrete Barrier Not Shown for Clarity in Illustration

Top of Culvert @ Elevation = 660.19

~ ATTENTION CONTRACTOR ~  
The Shoring of Excavation (SOE) shown is Conceptual Only. The Constructor shall be responsible for the Means, Methods and Design thereof.

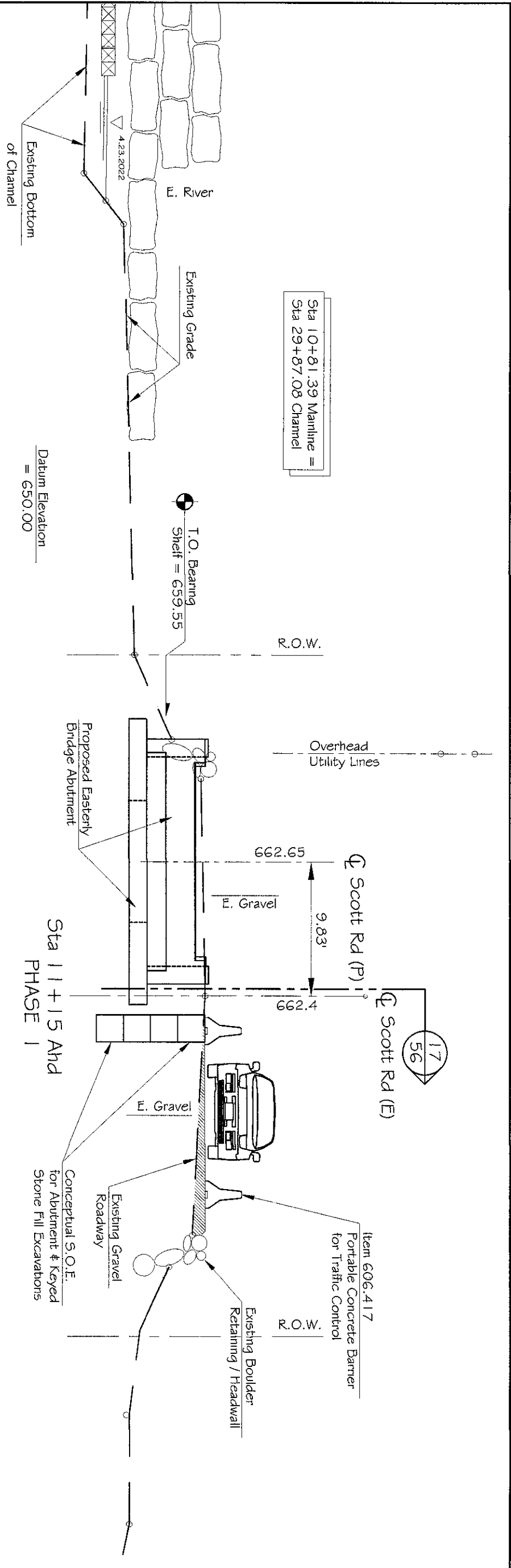


17 CONCEPTUAL ELEVATION ~ S.O.E. FOR TRAFFIC CONTROL PLAN  
Scale: 1/8" = 1'-0"

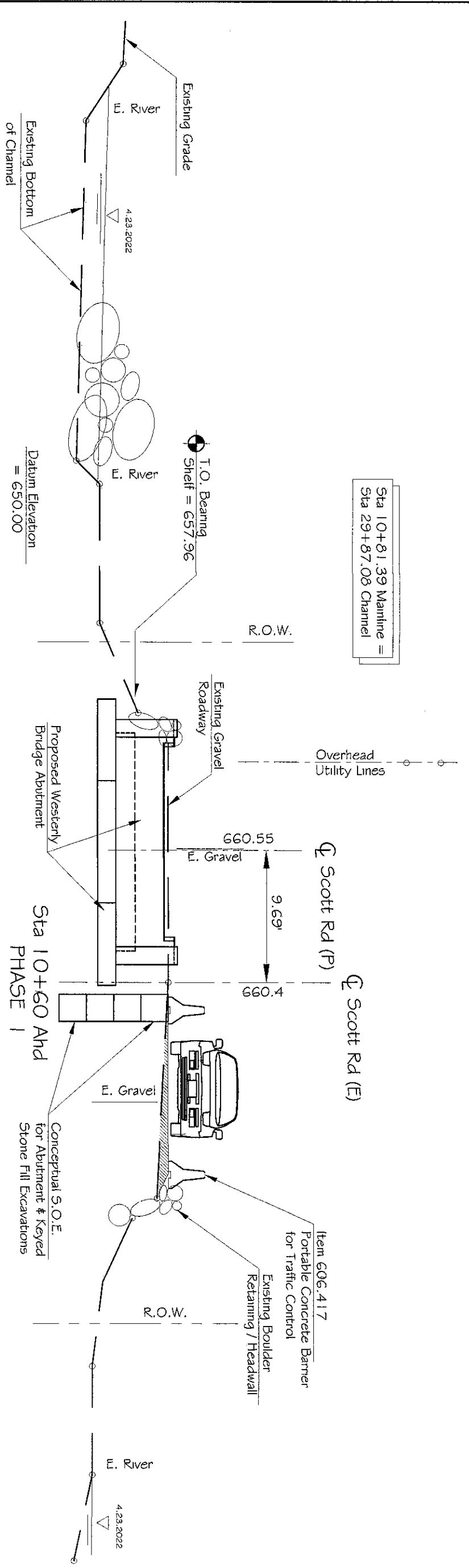


16 TRAFFIC CONTROL PLAN ROADWAY CROSS-SECTIONS ~ PHASE 1  
Scale: 1/8" = 1'-0"

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>3</td> <td>1.23.23</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW ~ 90% DESIGN</td> </tr> <tr> <td>2</td> <td>12.17.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW ~ 75% DESIGN</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>	REV	DATE	BY	DESCRIPTION	4	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	3	1.23.23	BK	RELEASED FOR CLIENT REVIEW ~ 90% DESIGN	2	12.17.22	BK	RELEASED FOR CLIENT REVIEW ~ 75% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
REV	DATE	BY	DESCRIPTION																									
4	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)																									
3	1.23.23	BK	RELEASED FOR CLIENT REVIEW ~ 90% DESIGN																									
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1	11.20.22	BK	RELEASED FOR TEAM COORDINATION																									
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW																									
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION TCP ROADWAY SECTION @ STATION 1+15		SHEET <b>56</b>																								
DESIGN: <b>B. KNOX</b> DATE: <b>4.17.22</b>		DRAWN: <b>B. KNOX</b>		JOB <b>220417</b>																								
CHECK:		OLD FILE: <b>Scott Rd Bridging</b>																										



18 TRAFFIC CONTROL PLAN ROADWAY CROSS-SECTIONS ~ S.O.E.  
Scale: 1/8" = 1'-0"



19 TRAFFIC CONTROL PLAN ROADWAY CROSS-SECTIONS ~ S.O.E.  
Scale: 1/8" = 1'-0"

REV	DATE	BY	DESCRIPTION
4	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)
3	1.23.23	BK	RELEASED FOR CLIENT REVIEW ~ 80% DESIGN
2	12.17.22	BK	RELEASED FOR CLIENT REVIEW ~ 75% DESIGN
1	11.20.22	BK	RELEASED FOR TEAM COORDINATION
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW

PREPARED BY  
**KNOX ASSOCIATES**  
ENGINEERING CONSULTANTS  
134 Country Way No. Berwick, ME 03906  
120 Smith Road, Palmyra, ME 04965  
312 Main Street, Pittsfield, ME 04967  
knoxassociates@yahoo.com  
(603) 662-5644  
ARCHITECTURAL - CIVIL - STRUCTURAL

PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK  
SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
TCP SECTIONS - SHORING OF EXCAVATION (SOE)

DESIGN: B. KNOX  
DATE: 4.17.22  
DRAWN: B. KNOX  
CHECK: [ ]  
SHEET: 57  
JOB: 220417  
CADD FILE: Scott Rd Bridge.dwg

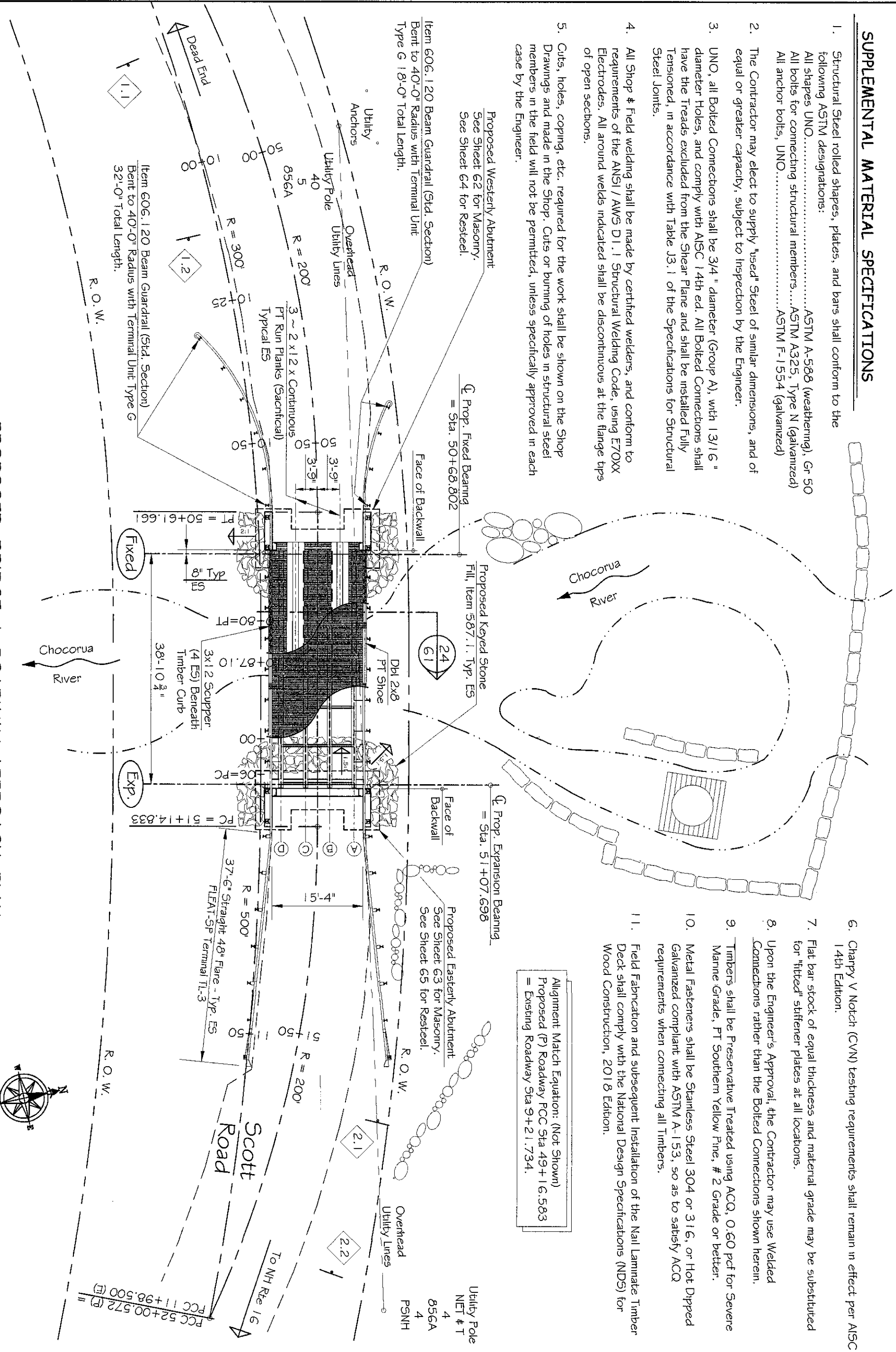


**SUPPLEMENTAL MATERIAL SPECIFICATIONS**

1. Structural Steel rolled shapes, plates, and bars shall conform to the following ASTM designations:  
 All shapes UNO.....ASTM A-588 (weathering), Gr 50  
 All bolts for connecting structural members.....ASTM A325, Type N (galvanized)  
 All anchor bolts, UNO.....ASTM F-1554 (galvanized)
2. The Contractor may elect to supply "used" Steel of similar dimensions, and of equal or greater capacity, subject to inspection by the Engineer.
3. UNO, all Bolted Connections shall be 3/4" diameter (Group A), with 1 3/16" diameter Holes, and comply with AISC 14th ed. All Bolted Connections shall have the Treads excluded from the Shear Plane and shall be installed Fully Tensioned, in accordance with Table J3.1 of the Specifications for Structural Steel Joints.
4. All Shop & Field welding shall be made by certified welders, and conform to requirements of the ANSI / AWS D1.1 Structural Welding Code, using E70XX Electrodes. All around welds indicated shall be discontinuous at the flange tips of open sections.
5. Cuts, holes, coping, etc. required for the work shall be shown on the Shop Drawings and made in the Shop. Cuts or burning of holes in structural steel members in the field will not be permitted, unless specifically approved in each case by the Engineer.

6. Charpy V Notch (CVN) testing requirements shall remain in effect per AISC 14th Edition.
7. Flat bar stock of equal thickness and material grade may be substituted for "fitted" stiffener plates at all locations.
8. Upon the Engineer's Approval, the Contractor may use Welded Connections rather than the Bolted Connections shown herein.
9. Timbers shall be Preservative Treated using ACO, 0.60 pcf for Severe Marine Grade, PT Southern Yellow Pine, # 2 Grade or better.
10. Metal Fasteners shall be Stainless Steel 304 or 316, or Hot Dipped Galvanized compliant with ASTM A-153, so as to satisfy ACO requirements when connecting all Timbers.
11. Field Fabrication and subsequent installation of the Nail Laminate Timber Deck shall comply with the National Design Specifications (NDS) for Wood Construction, 2018 Edition.

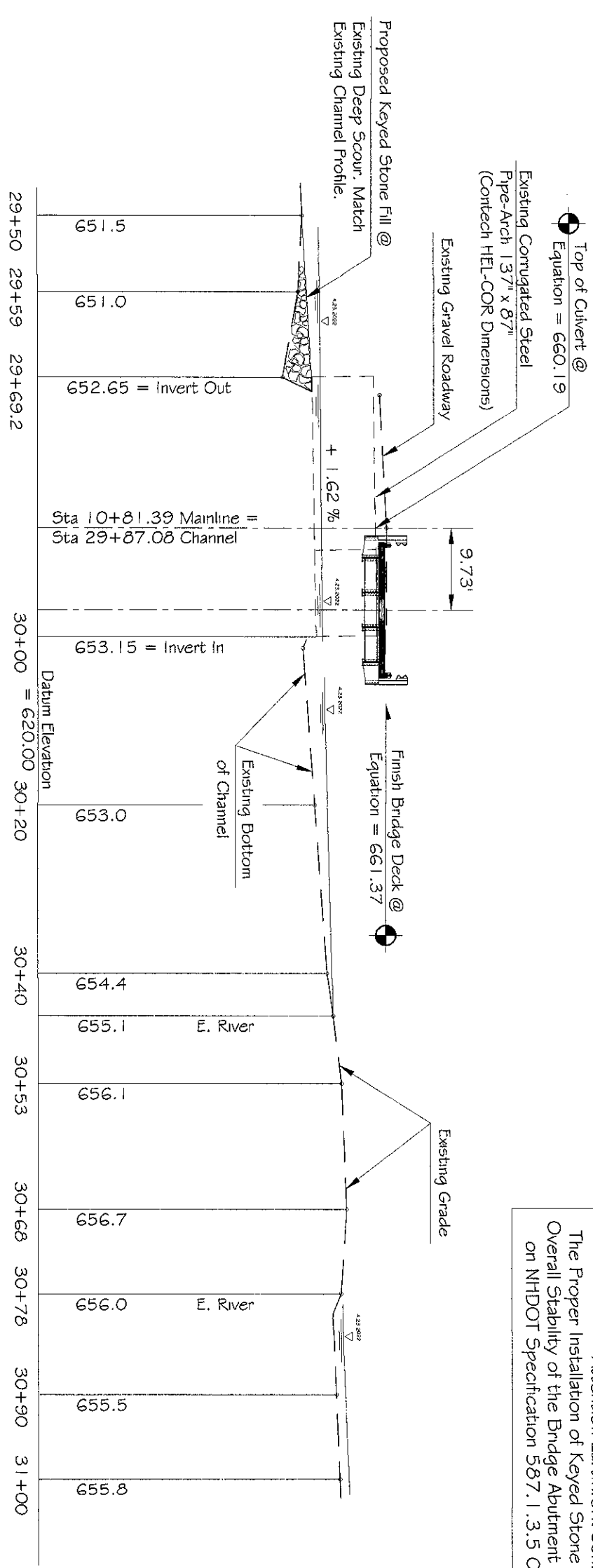
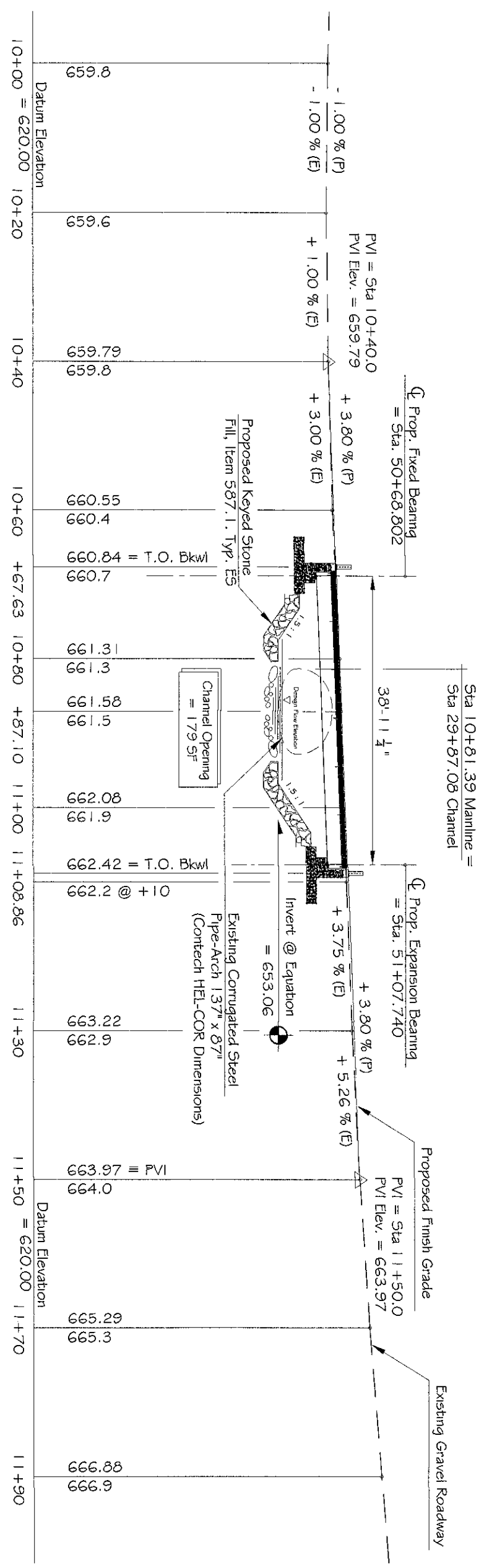
Alignment Match Equation: (Not Shown)  
 Proposed (P) Roadway FCC Sta 49+16.583  
 = Existing Roadway Sta 9+21.734.



**PROPOSED BRIDGE & ROADWAY APPROACH PLAN**

Scale: 1/16" = 1'-0"

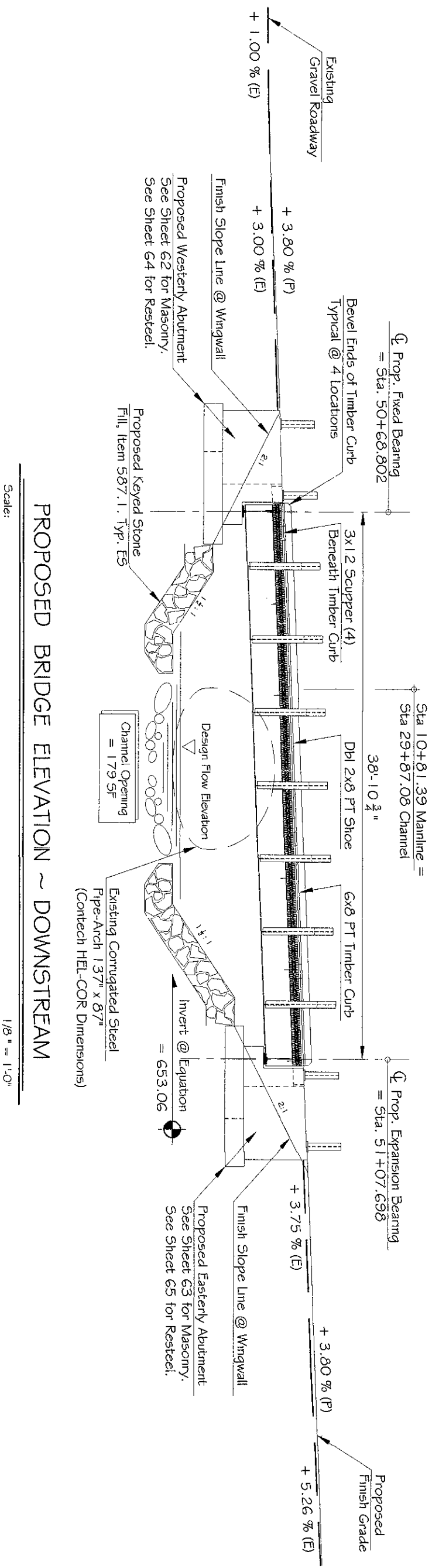
PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL	
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED BRIDGE PLAN	
DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET 58	JOB 2204.17	CAD FILE: Scott Rd Bridge.dwg
REV	DATE	BY	DESCRIPTION
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2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 90% DESIGN
1	11.20.22	BK	RELEASED FOR TEAM COORDINATION
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW



~ Attention Earthwork Contractor ~  
 The Proper Installation of Keyed Stone Fill is Essential to the Overall Stability of the Bridge Abutment Foundations. Emphasis on NHDOT Specification 587.1.3.5 Compacting & Keying.

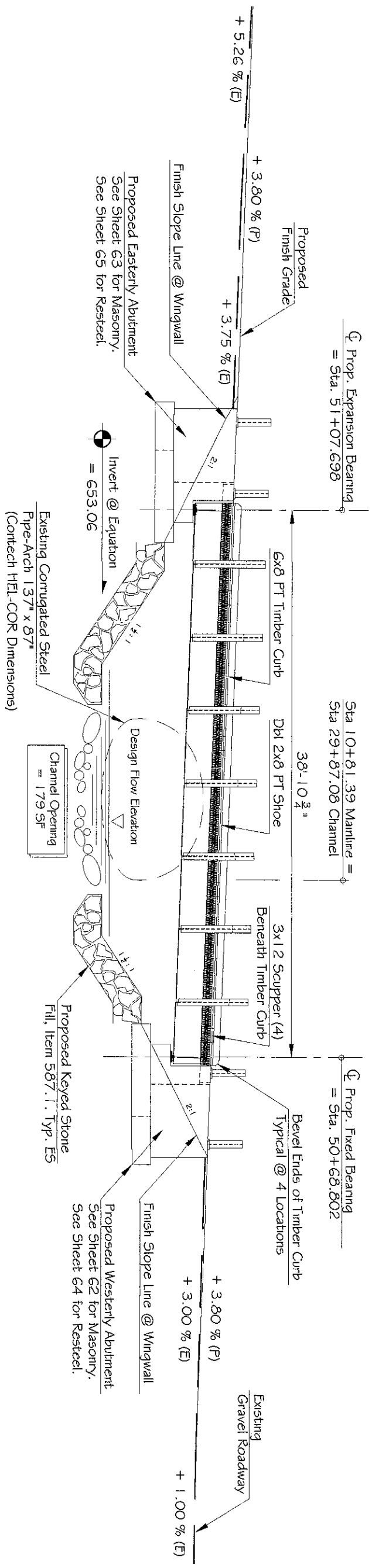
PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 kioxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL	
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED BRIDGE & ROADWAY PROFILE	
DESIGNER: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET: 59 JOB: 220417	REV 2 DATE 2.20.23 BY BK	DESCRIPTION RELEASED FOR PROPOSALS (RFP)
		REV 1 DATE 1.23.23 BY BK	DESCRIPTION RELEASED FOR CLIENT REVIEW - 90% DESIGN
		REV 0 DATE 4.24.22 BY BK	DESCRIPTION RELEASED FOR CLIENT REVIEW

QAD FILE: Scott Rd Bridgework



~ Attention Earthwork Contractor ~  
 The Proper Installation of Keyed Stone Fill is Essential to the Overall Stability of the Bridge Abutment Foundations. Emphasis on NHDOT Specification 587.1.3.5 Compacting & Keying.

PROPOSED BRIDGE ELEVATION ~ DOWNSTREAM  
 Scale: 1/8" = 1'-0"



PROPOSED BRIDGE ELEVATION ~ UPSTREAM  
 Scale: 1/8" = 1'-0"

REV	DATE	BY	DESCRIPTION
3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)
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 ARCHITECTURAL - CIVIL - STRUCTURAL

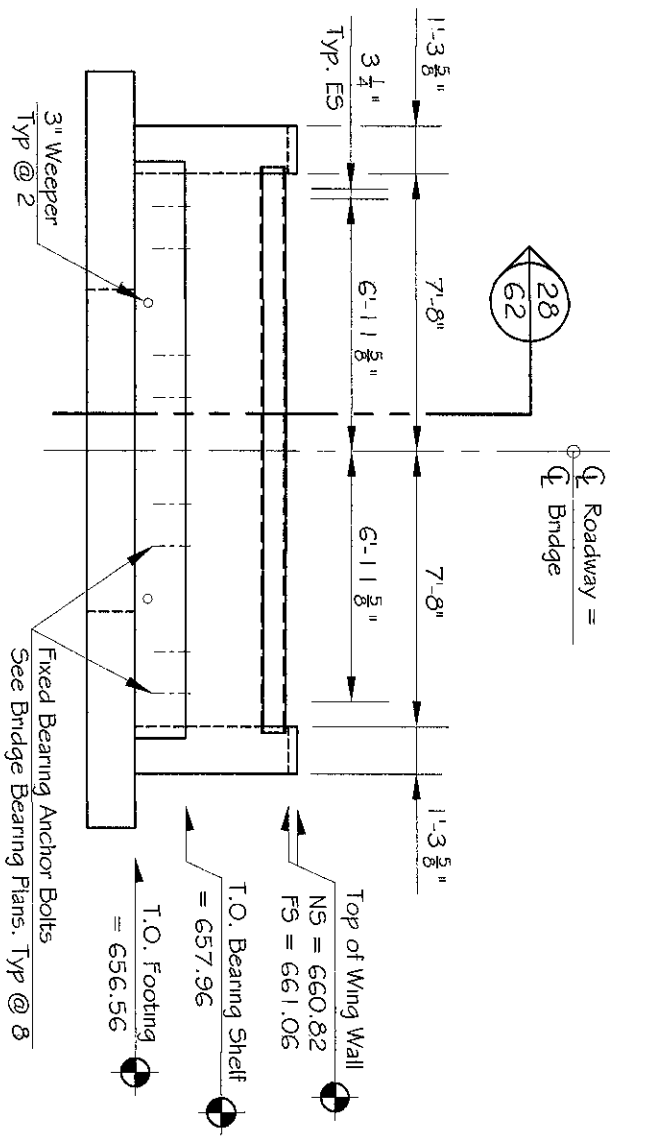
PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
 84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
 MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK  
 SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
 PROPOSED BRIDGE ELEVATION

DESIGN: B. KNOX  
 DATE: 4.17.22  
 DRAWN: B. KNOX  
 CHECK: [Blank]  
 SHEET: 60  
 JOB: 220417  
 CWD FILE: Scott Rd Bridge.dwg

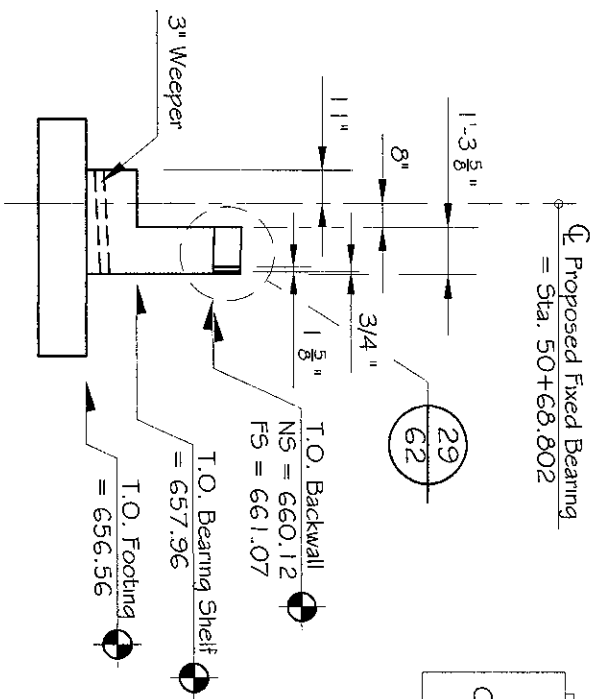




27 WESTERLY ABUTMENT MASONRY ELEVATION

Scale: 3/16" = 1'-0"

3/16" = 1'-0"

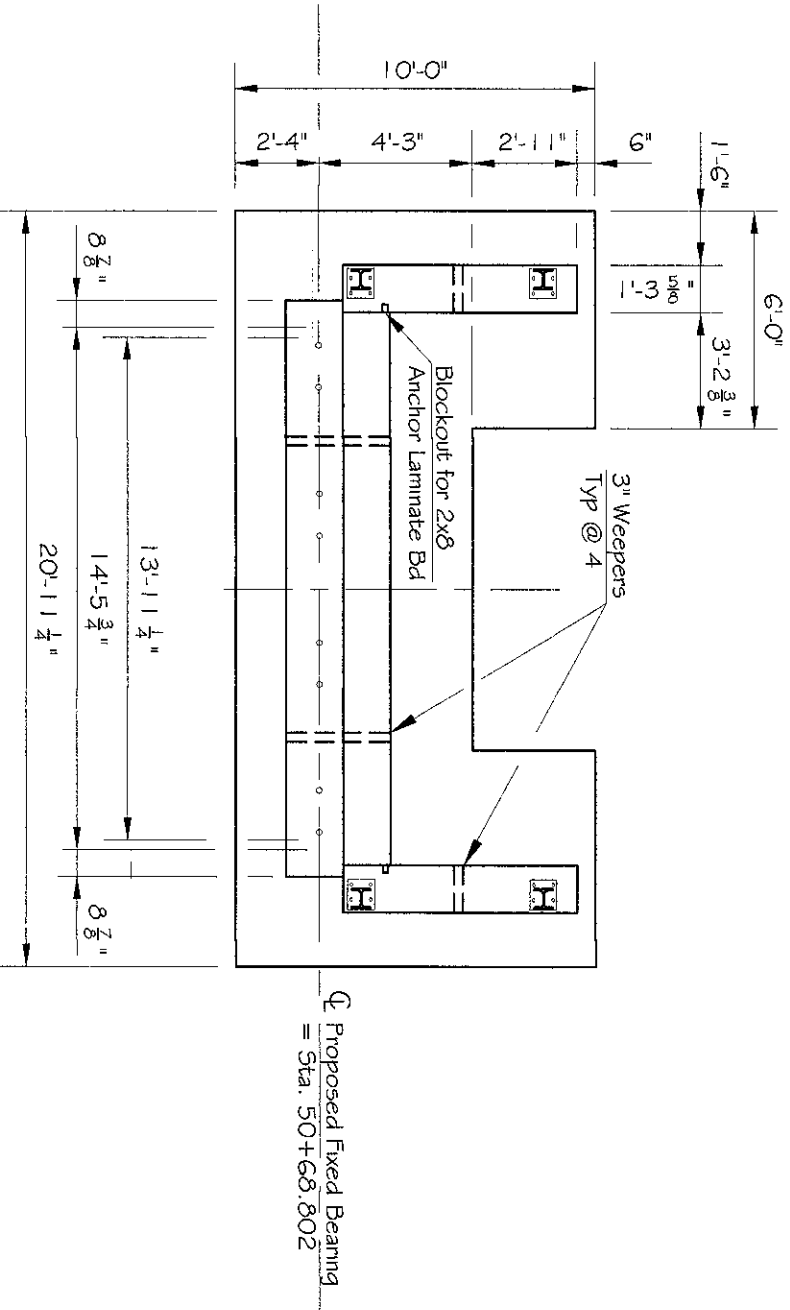


28 SECTION @ WESTERLY ABUTMENT

Scale: 3/8" = 1'-0"

3/8" = 1'-0"

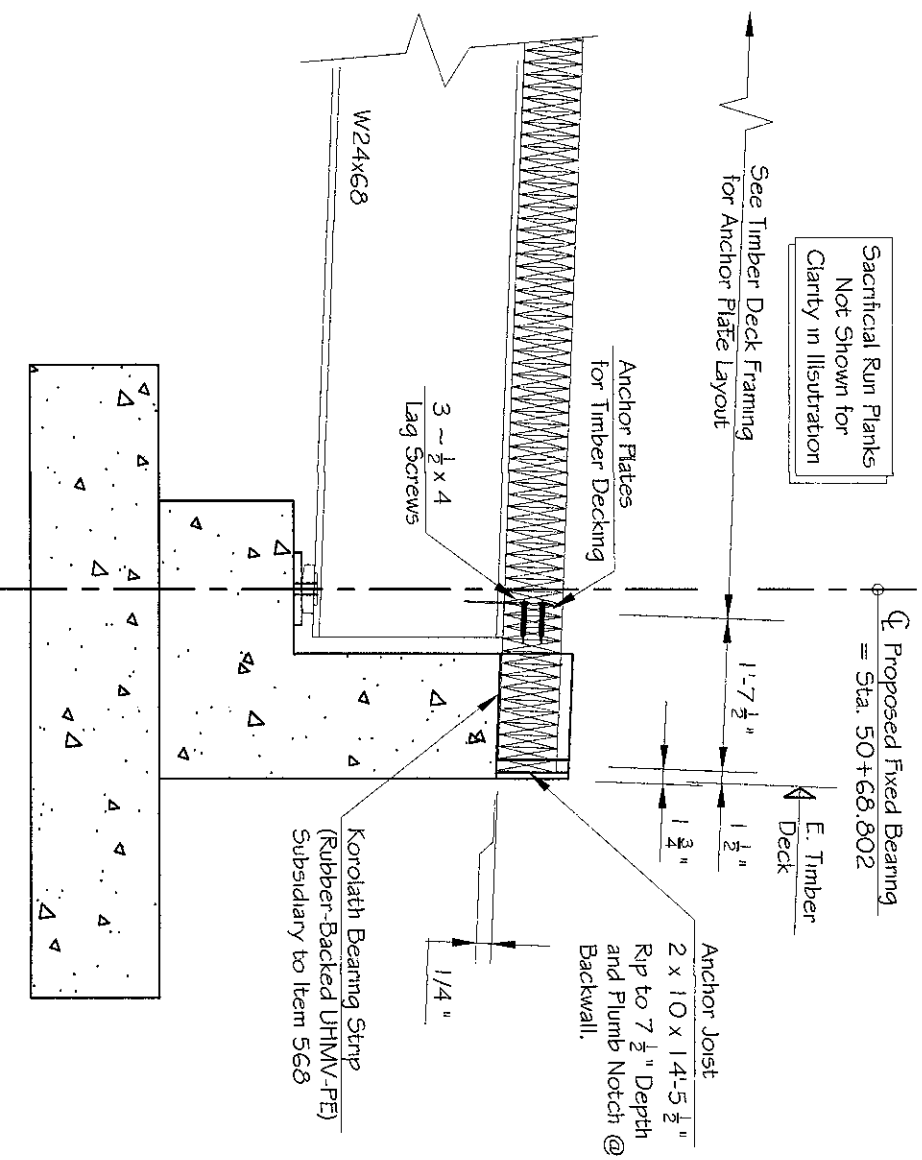
~ Attention Concrete Contractor ~  
 All Exposed Edges of Concrete shall be Chamfered 3/4" per Standard Specification Section 520.



26 WESTERLY ABUTMENT MASONRY PLAN

Scale: 3/16" = 1'-0"

3/16" = 1'-0"



29 SECTION @ WESTERLY ABUTMENT DECK END

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

1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION
3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)
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PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
 84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
 MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK  
 SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
 PROPOSED WESTERLY ABUTMENT MASONRY PLAN

PREPARED BY  
**KNOX ASSOCIATES**

ENGINEERING CONSULTANTS  
 134 Country Way No. Berwick, ME 03906  
 120 Smith Road, Palmyra, ME 04965  
 312 Main Street, Pittsfield, ME 04967  
 knoxassociates@yahoo.com  
 (603) 662-5644

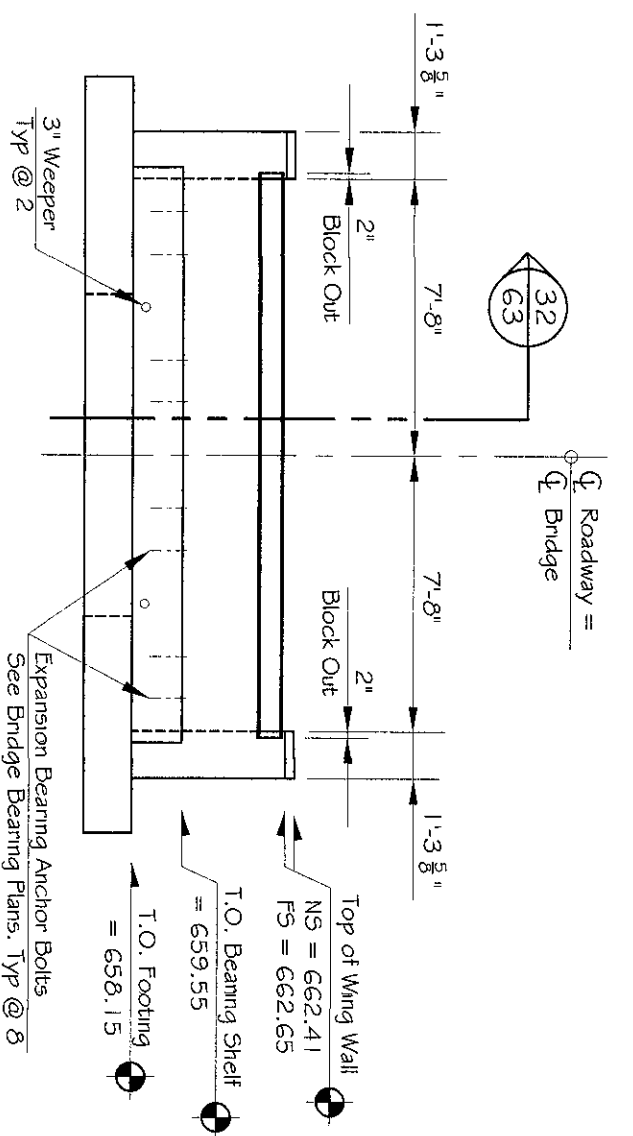
ARCHITECTURAL - CIVIL - STRUCTURAL

DESIGN: B. KNOX  
 DATE: 4.17.22  
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 CHECK: [ ]

SHEET  
 62

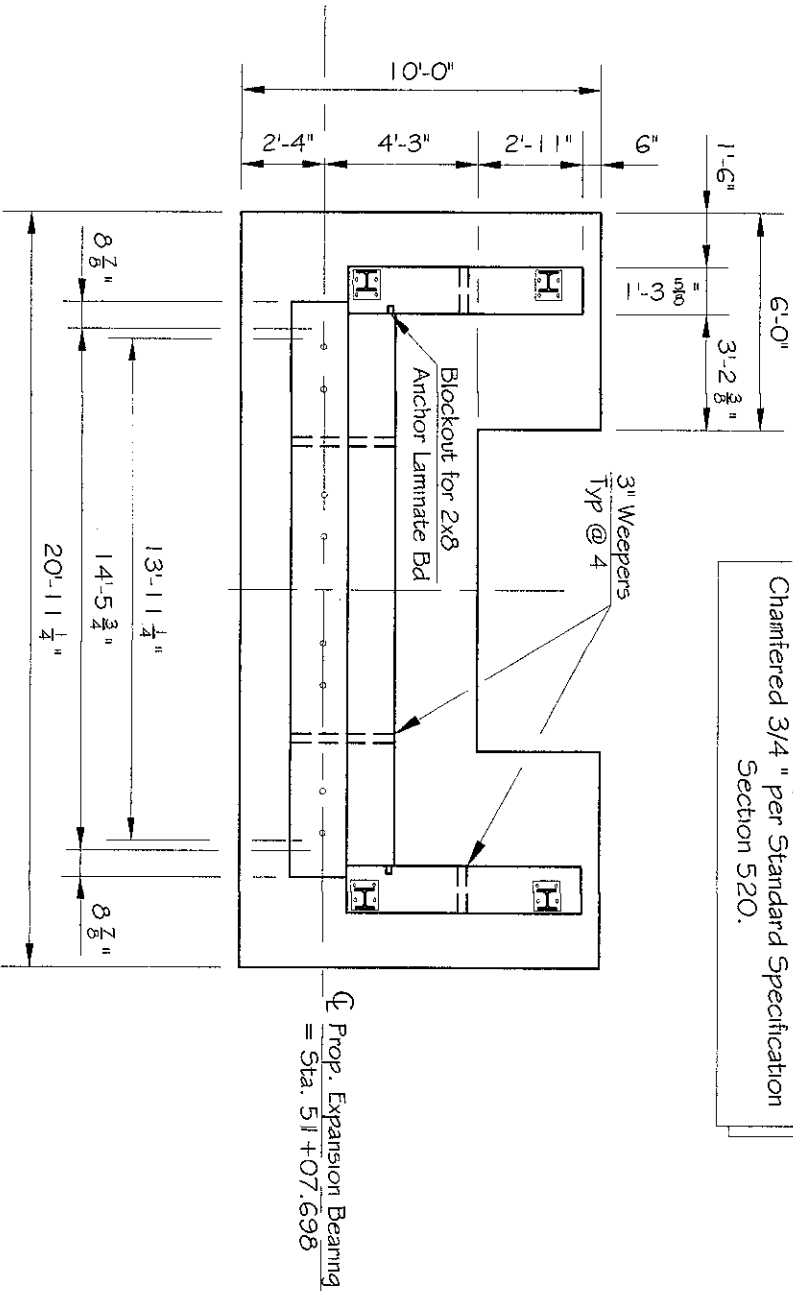
JOB  
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QAD FILE Scott Rd Bridge.dwg

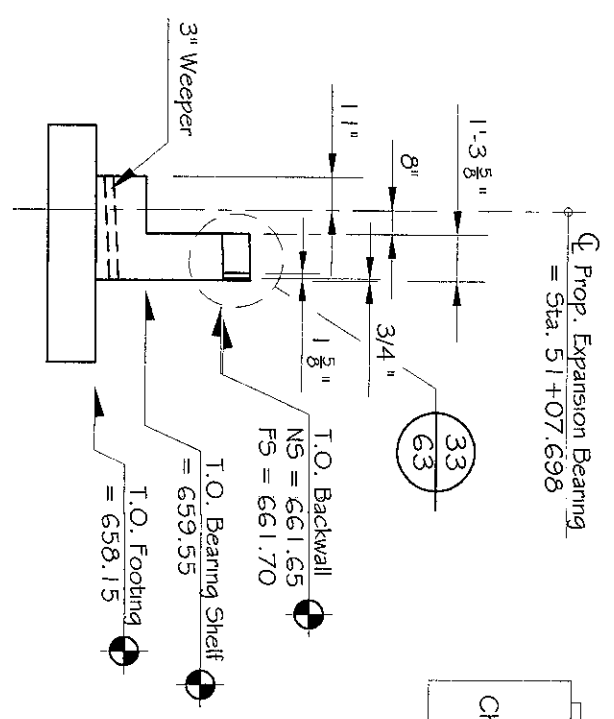


**31** EASTERLY ABUTMENT MASONRY ELEVATION  
Scale: 3/16" = 1'-0"

~ Attention Concrete Contractor ~  
All Exposed Edges of Concrete shall be Chamfered 3/4" per Standard Specification Section 520.

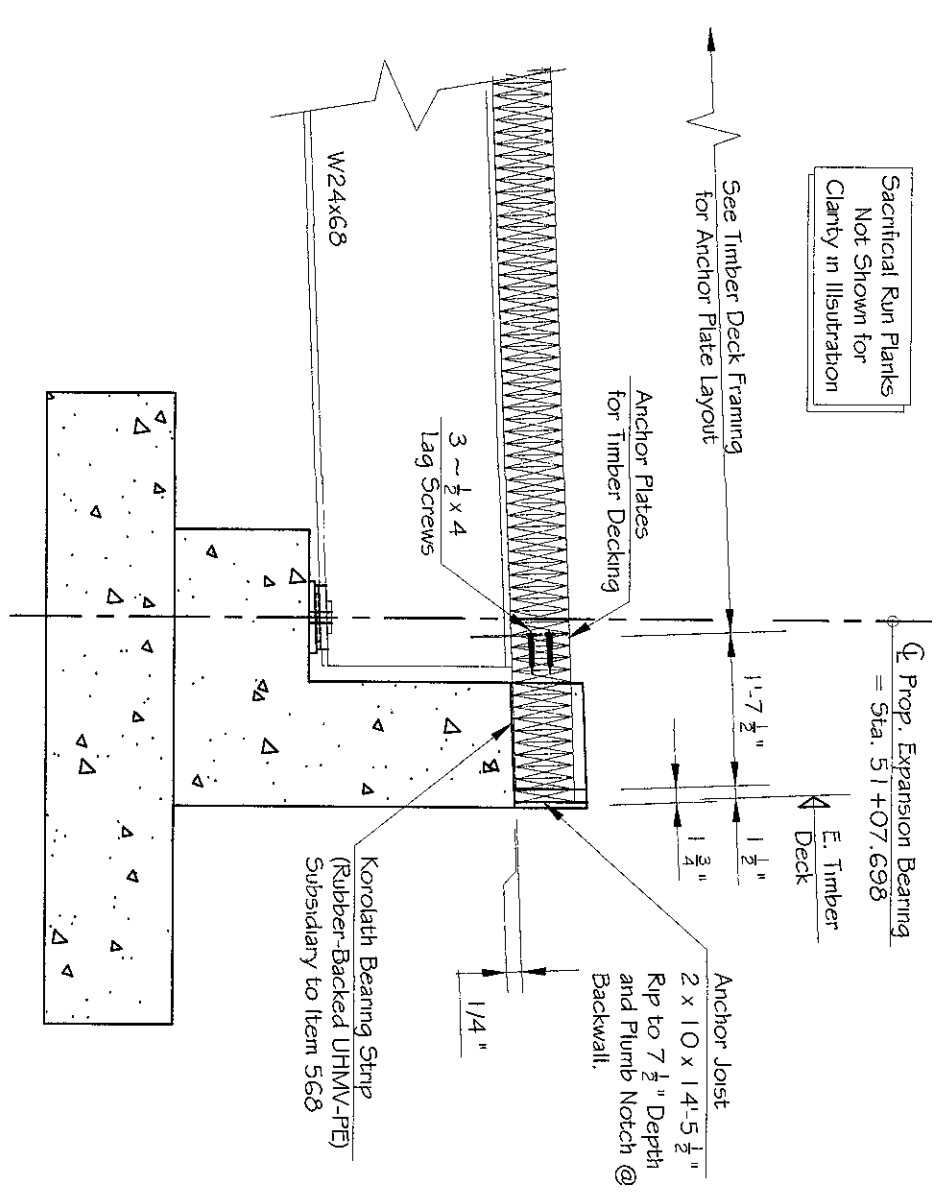


**30** EASTERLY ABUTMENT MASONRY PLAN  
Scale: 3/16" = 1'-0"



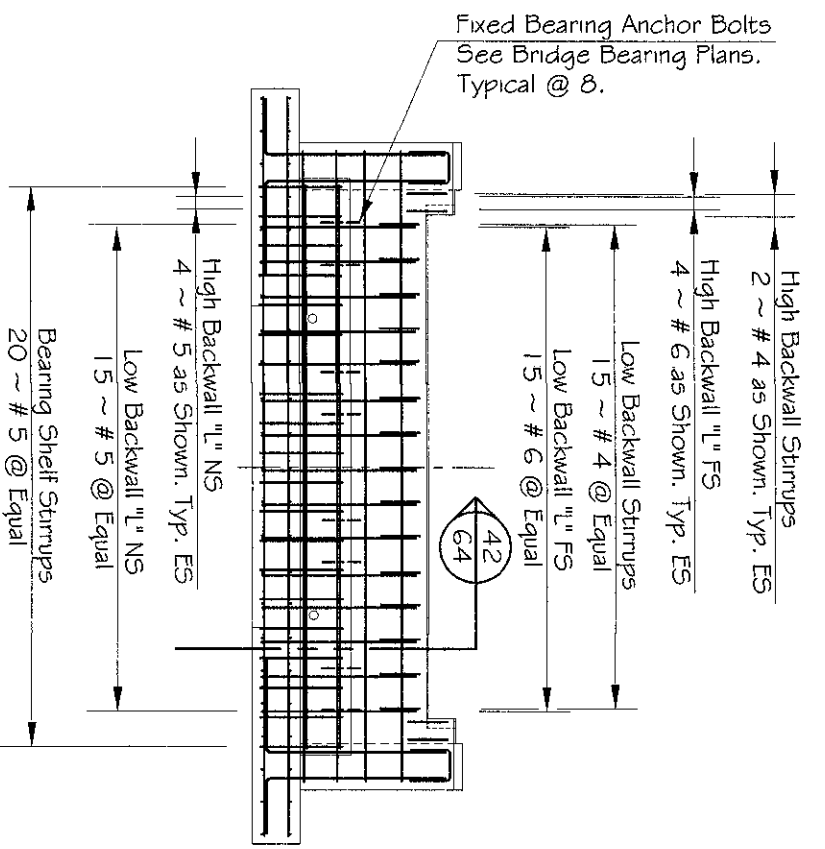
**32** SECTION @ EASTERLY ABUTMENT  
Scale: 3/16" = 1'-0"

~ Attention Concrete Contractor ~  
All Exposed Edges of Concrete shall be Chamfered 3/4" per Standard Specification Section 520.

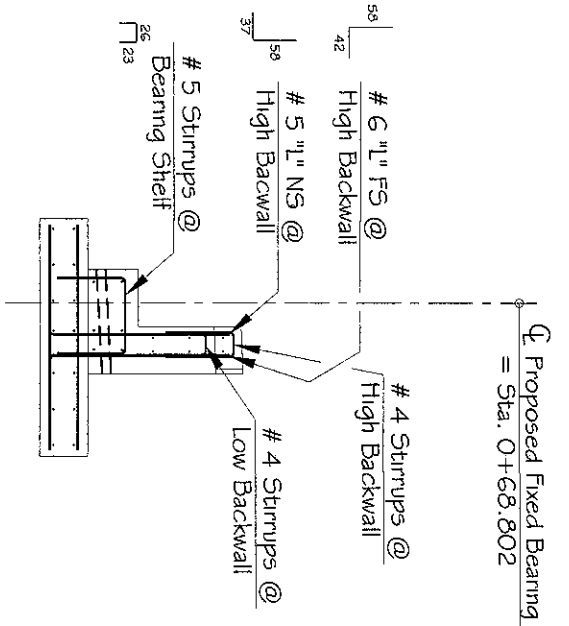


**33** SECTION @ EASTERLY ABUTMENT DECK END  
Scale: 1/2" = 1'-0"

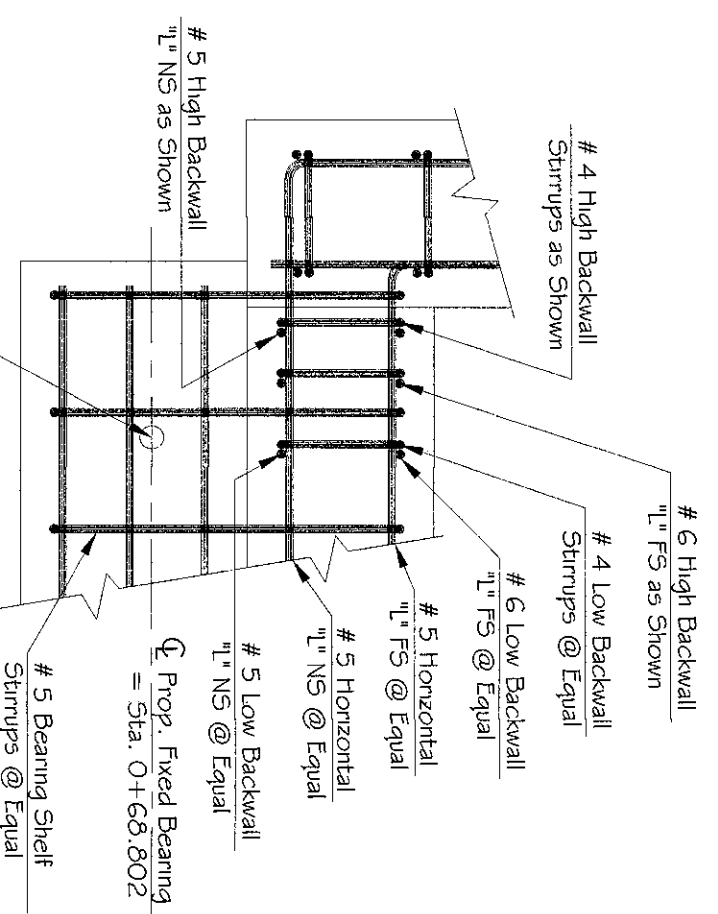
PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL	
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED EASTERLY ABUTMENT MASONRY PLAN	
DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET 63	JOB 220417	CAD FILE: Scott Rd Bridging.dwg
REV	DATE	BY	DESCRIPTION
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2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 90% DESIGN
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0	4.24.22	BK	RELEASED FOR CLIENT REVIEW



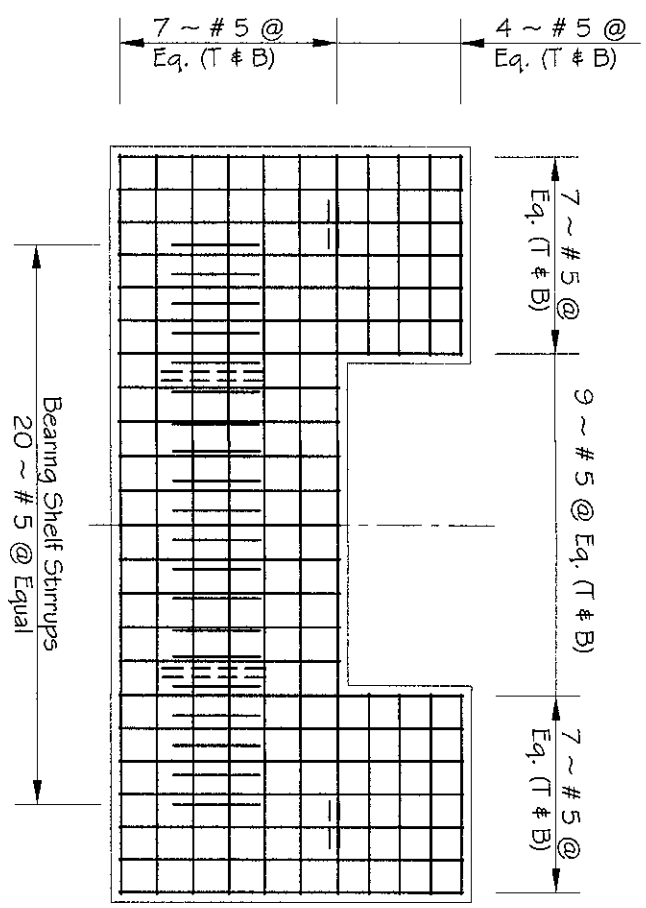
41 WESTERLY ABUTMENT RESTEEL ELEVATION  
Scale: 3/16" = 1'-0"



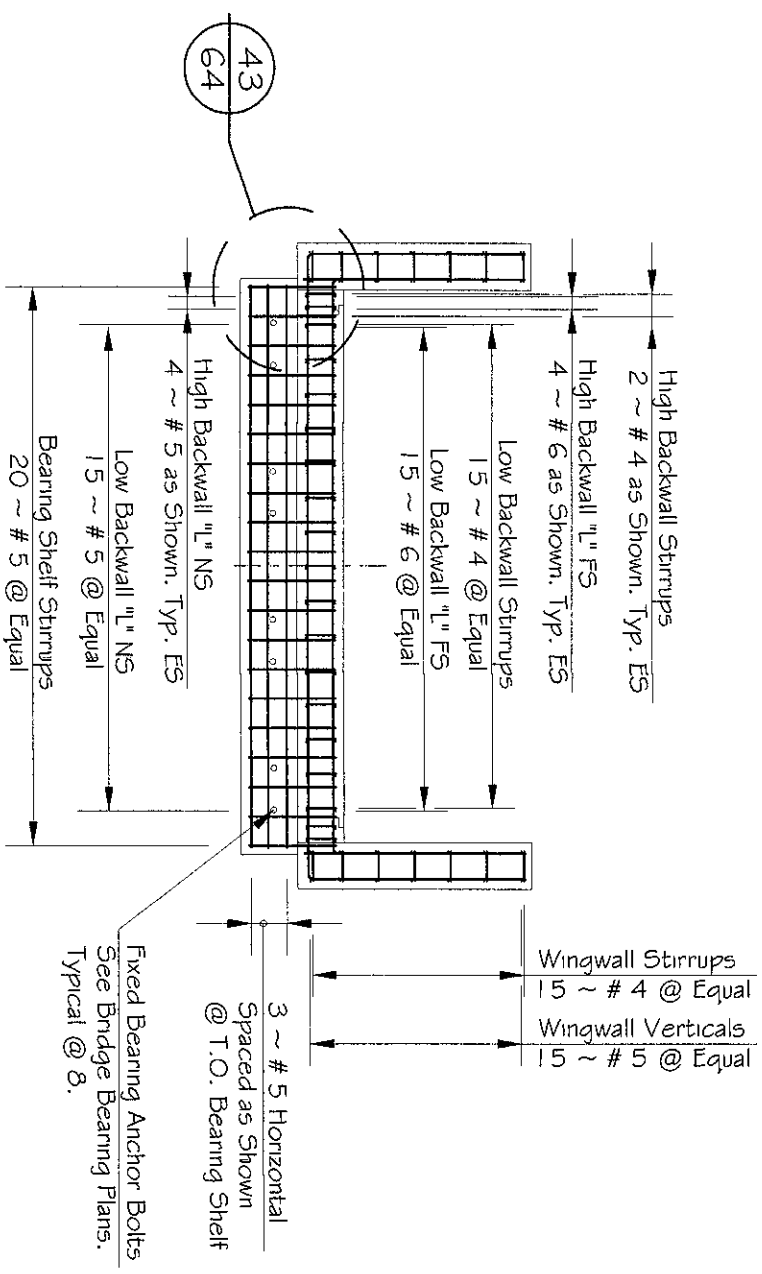
42 SECTION @ ABUTMENT  
Scale: 3/16" = 1'-0"



43 TYP. RESTEEL CORNER PLAN DETAIL  
Scale: 3/4" = 1'-0"



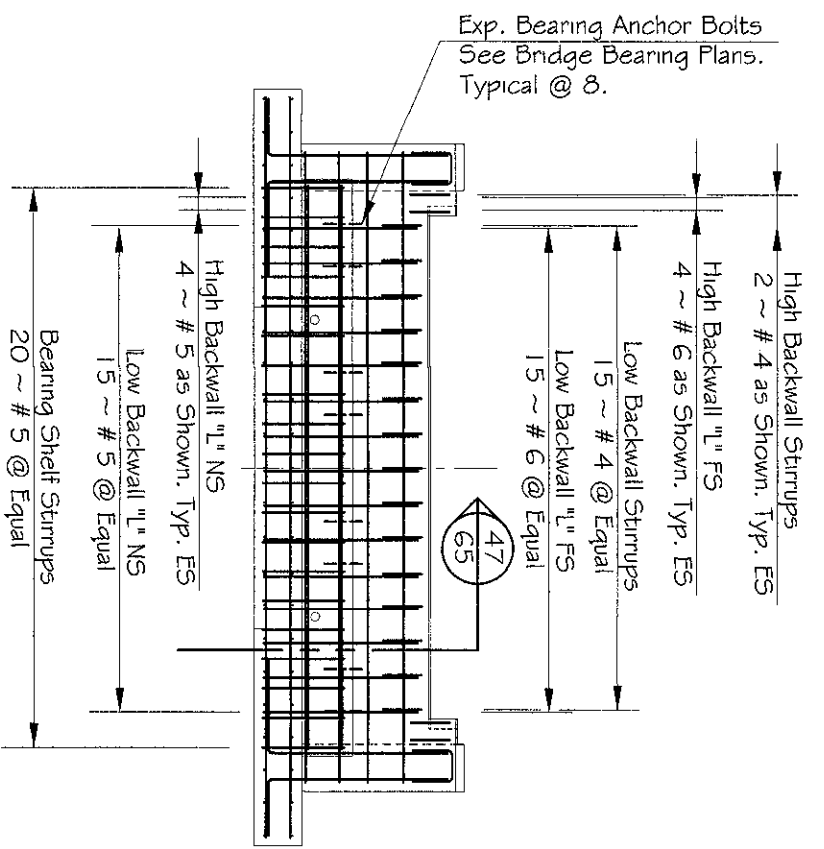
40 WESTERLY ABUTMENT RESTEEL PLAN  
Scale: 3/16" = 1'-0"



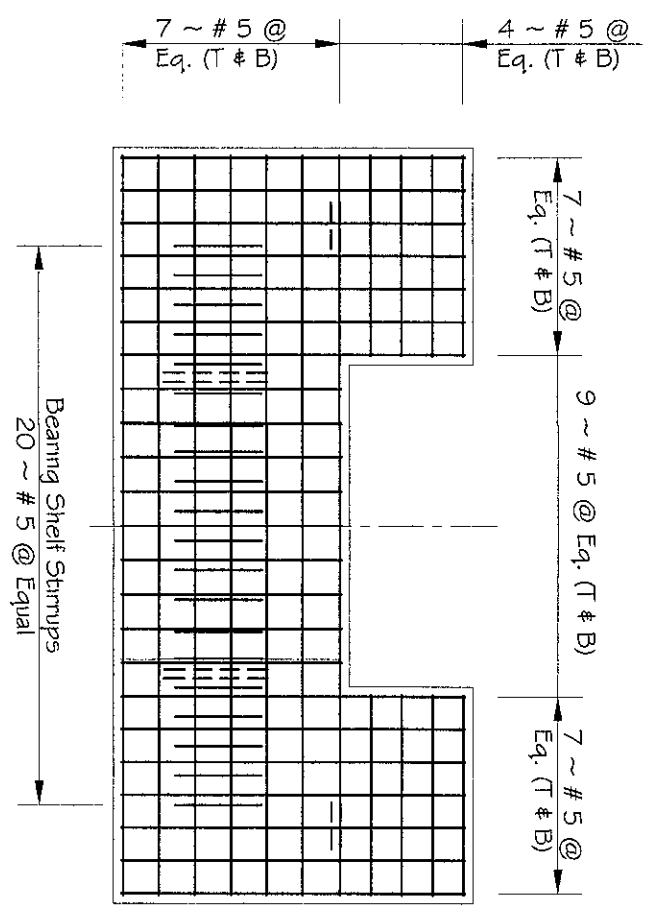
44 SECTION @ WESTERLY ABUTMENT BEARING SHELF & BACKWALL  
Scale: 3/16" = 1'-0"

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL																					
DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE	SHEET 64	SHEET DESCRIPTION PROPOSED WESTERLY ABUTMENT RESTEEL PLAN																				
JOB 220417	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>2</td> <td>1.23.23</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW - 90% DESIGN</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>			REV	DATE	BY	DESCRIPTION	3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 90% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
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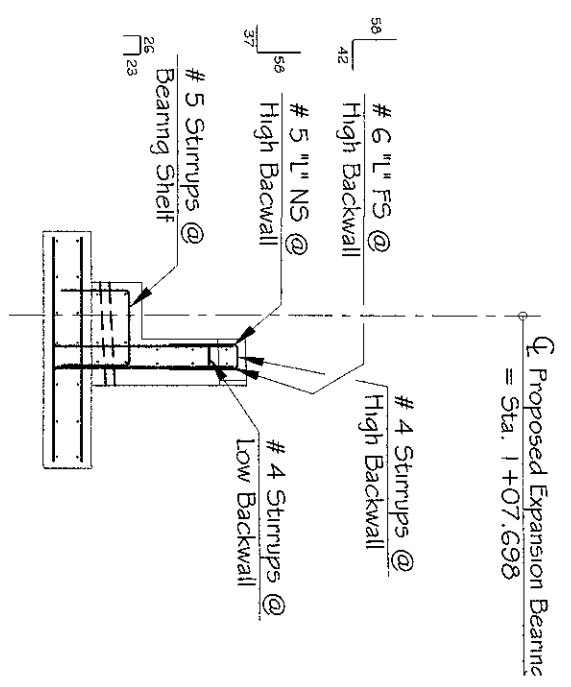
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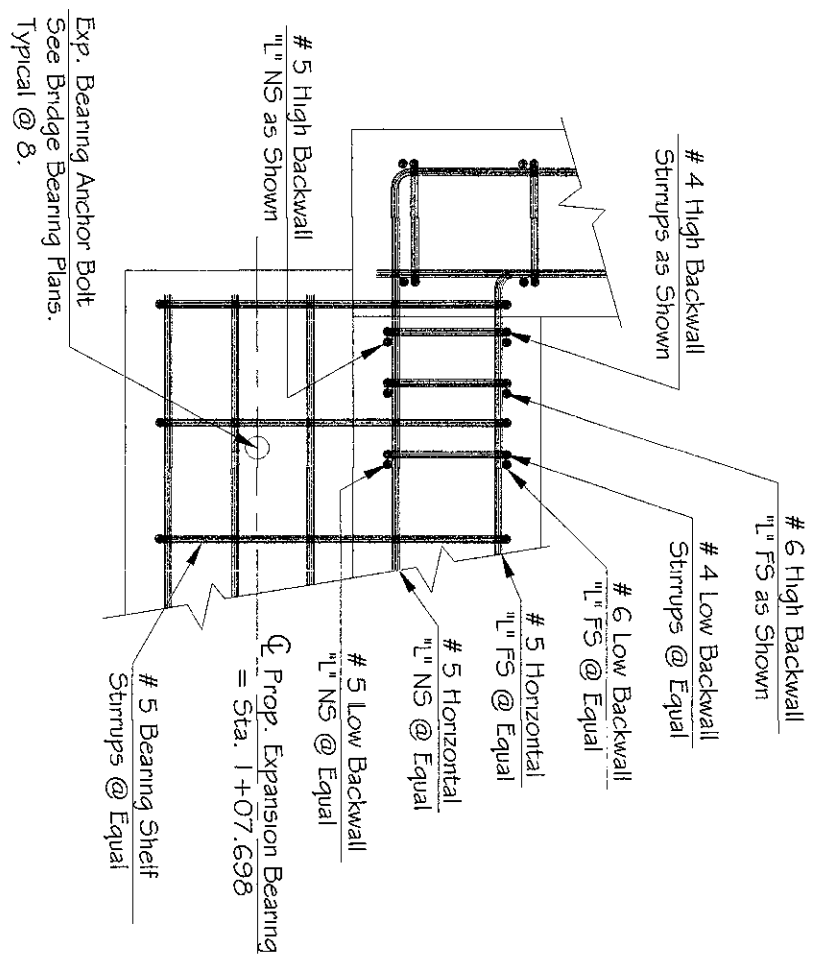
**46** EASTERLY ABUTMENT RESTEEL ELEVATION  
Scale: 3/16" = 1'-0"



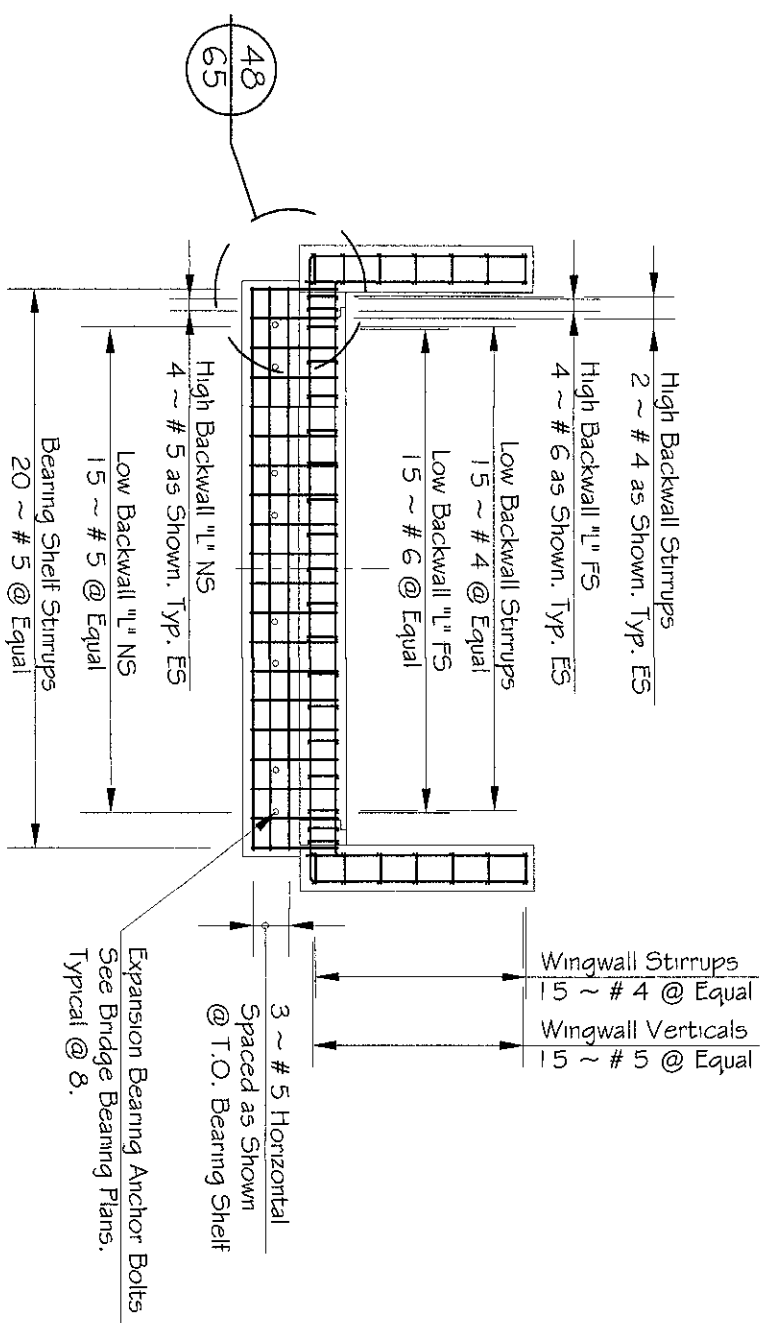
**45** EASTERLY ABUTMENT RESTEEL PLAN  
Scale: 3/16" = 1'-0"



**47** SECTION @ ABUTMENT  
Scale: 3/16" = 1'-0"



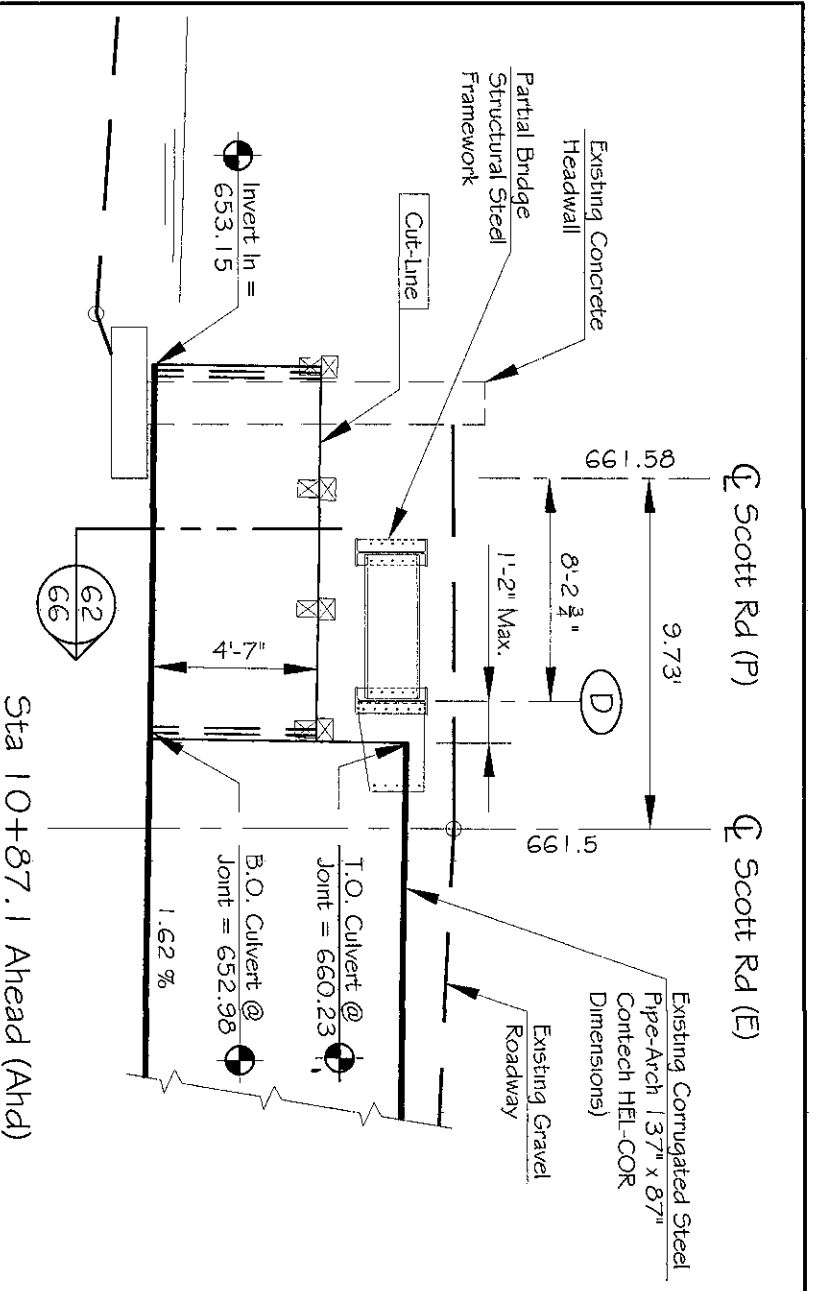
**48** TYP. RESTEEL CORNER PLAN DETAIL  
Scale: 3/4" = 1'-0"



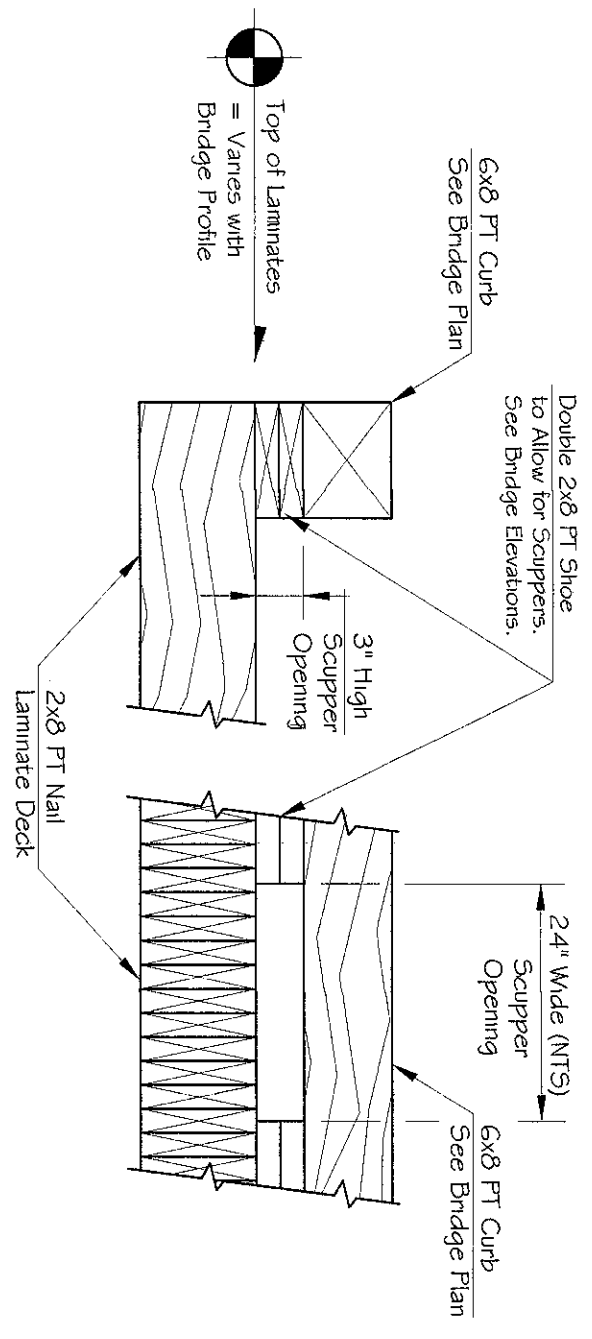
**49** SECTION @ EASTERLY ABUTMENT BEARING SHELF & BACKWALL  
Scale: 3/16" = 1'-0"

DESIGN: B. KNOX		DATE: 4.17.22		SHEET: 65	
DRAWN: B. KNOX		JOB: 220417		JOB: 220417	
CHECK:		CNO FILE: Scott Rd Bridge		JOB: 220417	
PREPARED FOR TAMWORTH HIGHWAY DEPARTMENT 84 MAIN STREET, TAMWORTH, NH 03886			PREPARED BY KNOX ASSOCIATES ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL		
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE			SHEET DESCRIPTION PROPOSED EASTERLY ABUTMENT RESTEEL PLAN		
REV	DATE	BY	DESCRIPTION		
3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)		
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1	11.20.22	BK	RELEASED FOR TEAM COORDINATION		
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW		

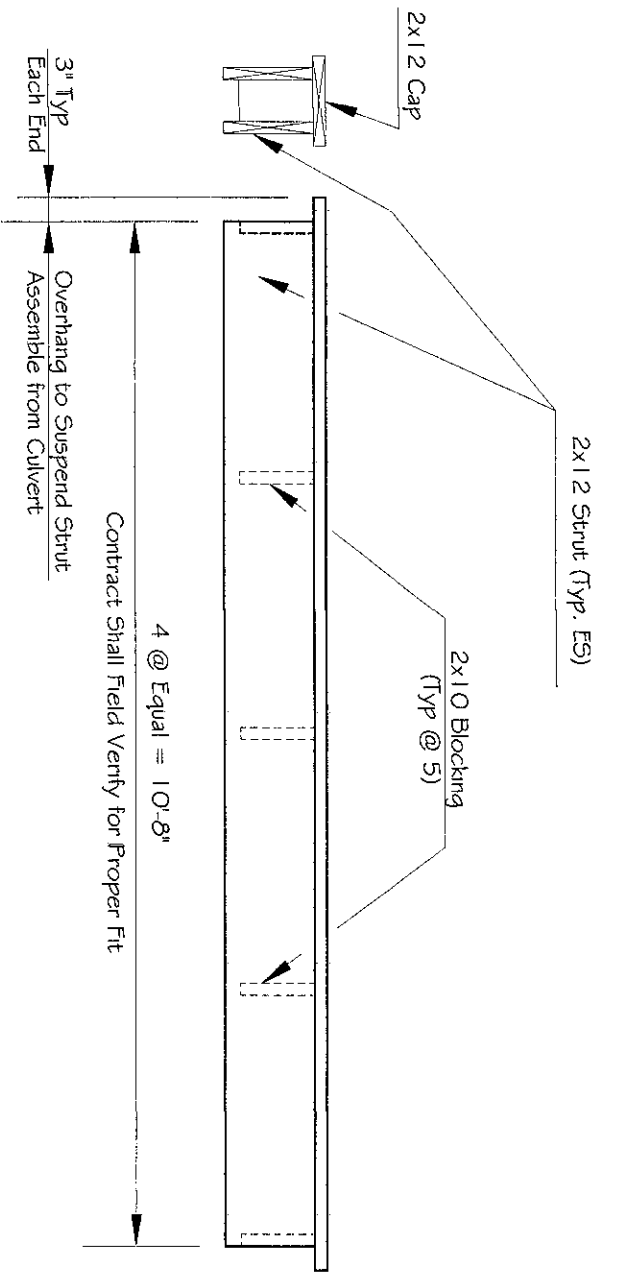




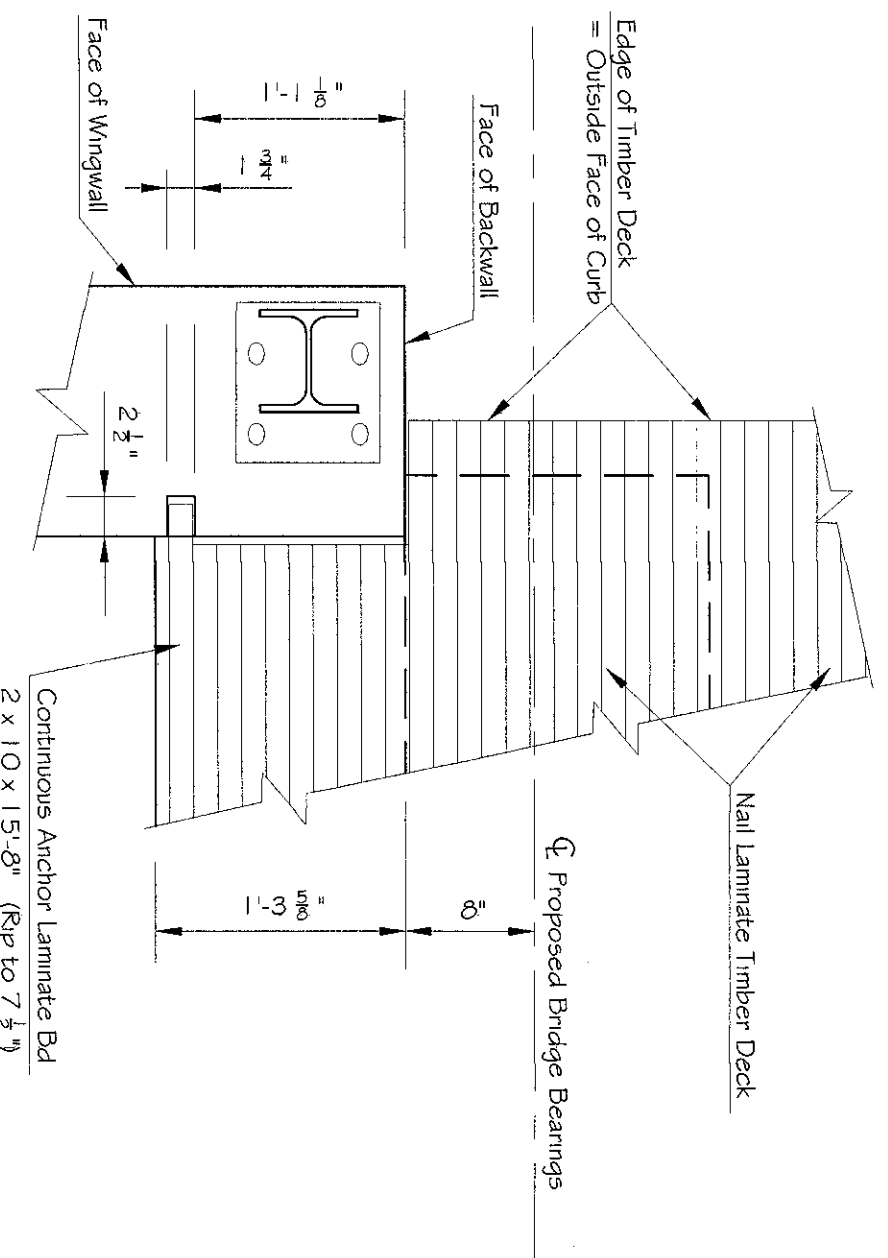
**63** "D" LINE GIRDER INTERFACE WITH CULVERT JOINT  
 Scale: 3/16" = 1'-0"



**68** TYP. SCUPPER OPENING BENEATH TIMBER CURB  
 Scale: 1" = 1'-0"

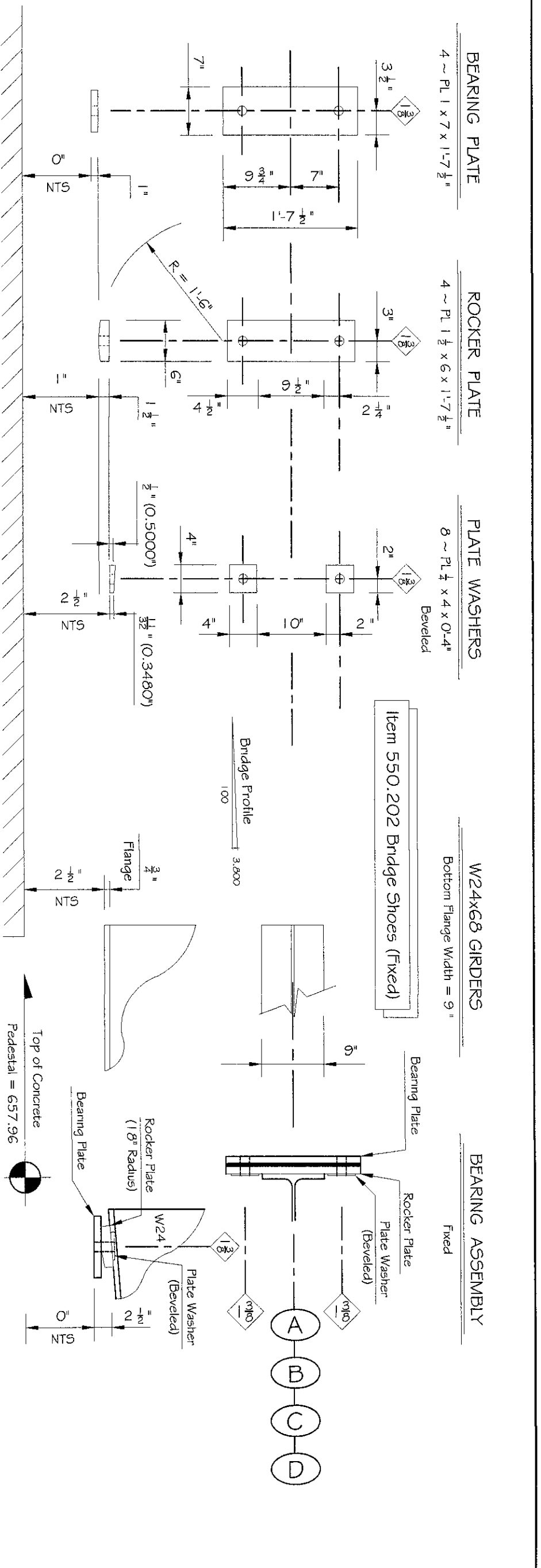


**62** TYP STRUT ASSEMBLY - CULVERT DEMO  
 Scale: 1/2" = 1'-0"

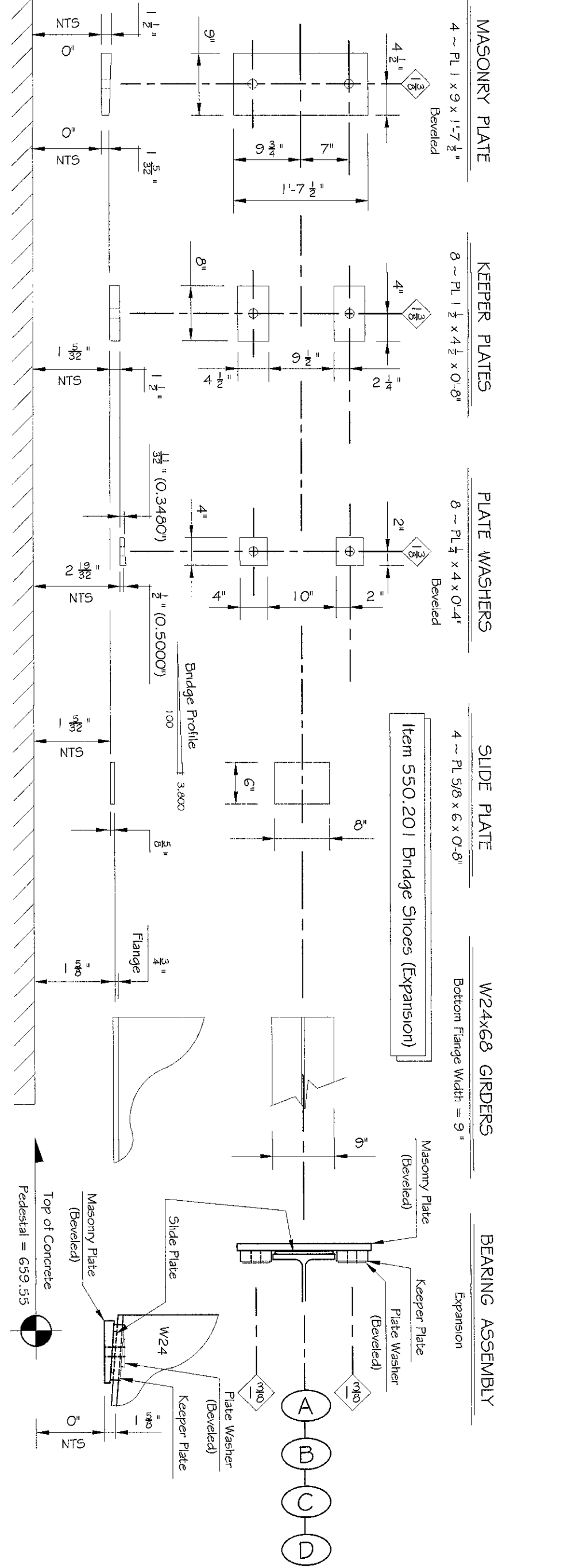


**67** TYP. ANCHOR LAMINATE TO BACKWALL NOTCH  
 Scale: 1" = 1'-0"

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL																					
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED DETAILS & SECTIONS																					
DESIGN: <b>B. KNOX</b> DATE: <b>4.17.22</b>	SHEET <b>66</b>	JOB <b>220417</b>	CHECK:																				
QAO FILE: <b>Scott Rd Bridgework</b>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>2</td> <td>1.23.23</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW - 90% DESIGN</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>			REV	DATE	BY	DESCRIPTION	3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 90% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
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0	4.24.22	BK	RELEASED FOR CLIENT REVIEW

CAD FILE: Scott Rd Bridge.dwg  
 SHEET: 67  
 JOB: 220417

PREPARED FOR  
**TAMWORTH HIGHWAY DEPARTMENT**  
 84 MAIN STREET, TAMWORTH, NH 03886

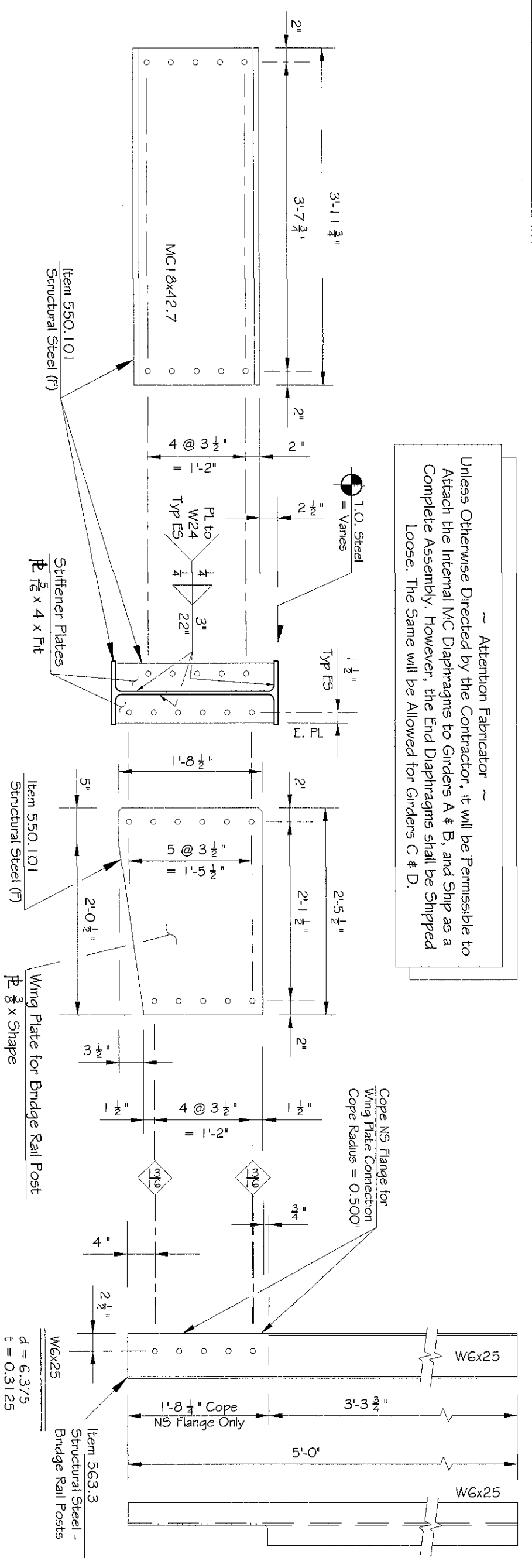
PROJECT  
 MOUNTAIN RD BRIDGE REPLACEMENT OF COLD BROOK  
 SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
 PROPOSED BRIDGE BEARINGS

PREPARED BY  
**KNOX ASSOCIATES**  
 ENGINEERING CONSULTANTS  
 134 Country Way No. Berwick, ME 03906  
 120 Smith Road, Palmyra, ME 04965  
 312 Main Street, Pittsfield, ME 04967  
 knoxassociates@yahoo.com  
 (603) 662-5644  
 ARCHITECTURAL - CIVIL - STRUCTURAL



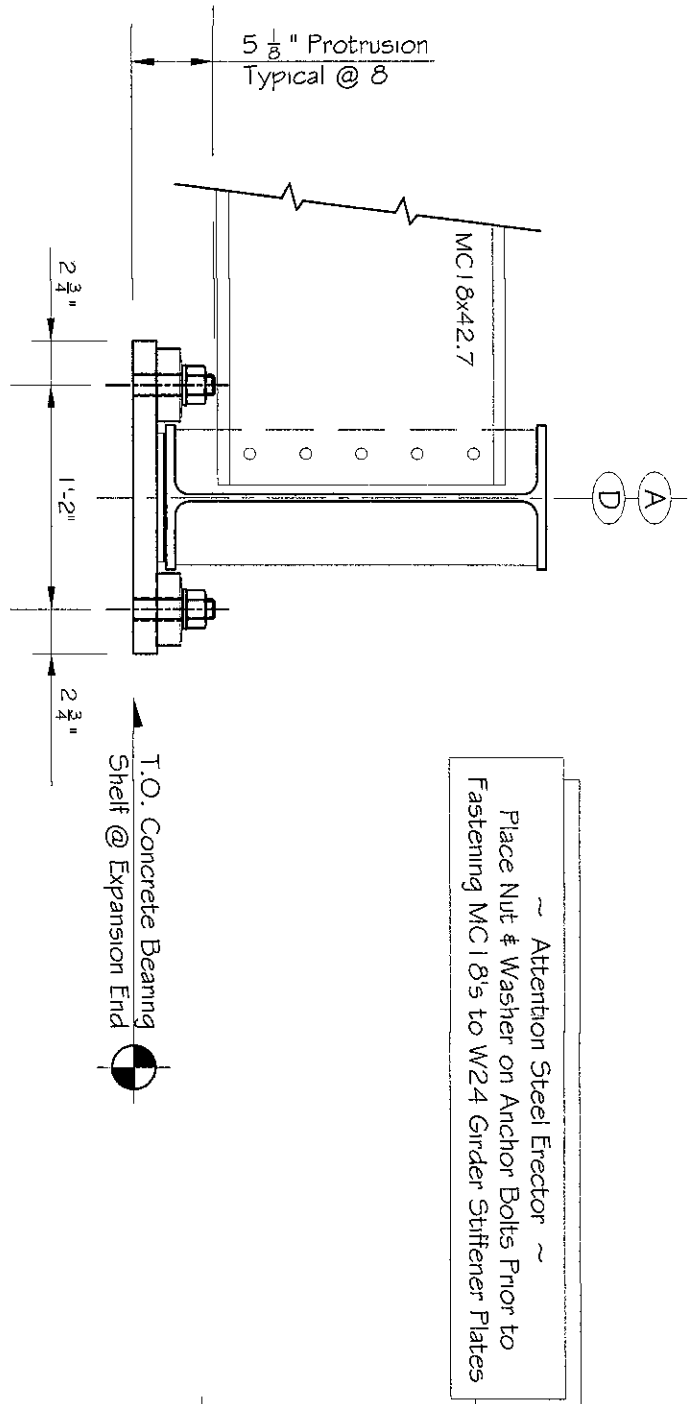
~ Attention Fabricator ~  
 Unless Otherwise Directed by the Contractor, it will be Permissible to Attach the Internal MC Diaphragms to Girders A & B, and Ship as a Complete Assembly. However, the End Diaphragms shall be Shipped Loose. The Same will be Allowed for Girders C & D.



**53** INTERIOR ELEVATION @ DIAPHRAGM TO GIRDER TO WING PLATE CONNECTIONS  
 Scale: 3/4" = 1'-0"

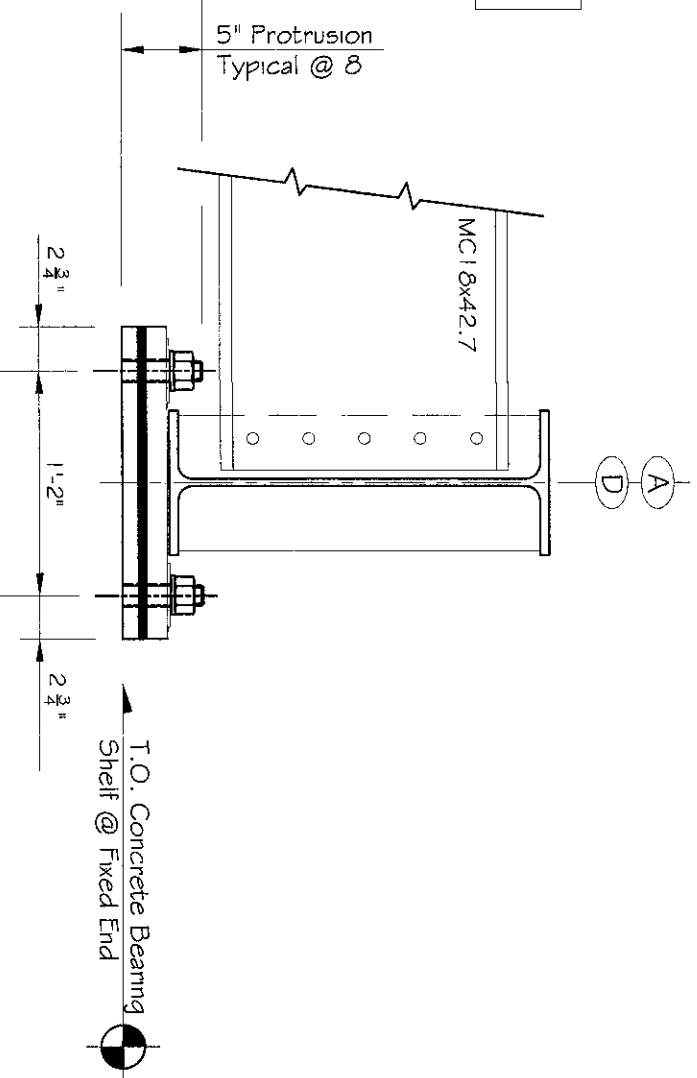
W6x25

d	= 6.375
t	= 0.3125
b	= 6.125
t	= 0.4375
k	= 0.9375
T	= 15.125
Gage	= 3.50



~ Attention Steel Erector ~  
 Place Nut & Washer on Anchor Bolts Prior to Fastening MC18s to W24 Girder Stiffener Plates

**54** BRIDGE BEARING ELEVATION - EXPANSION  
 Scale: 1" = 1'-0"

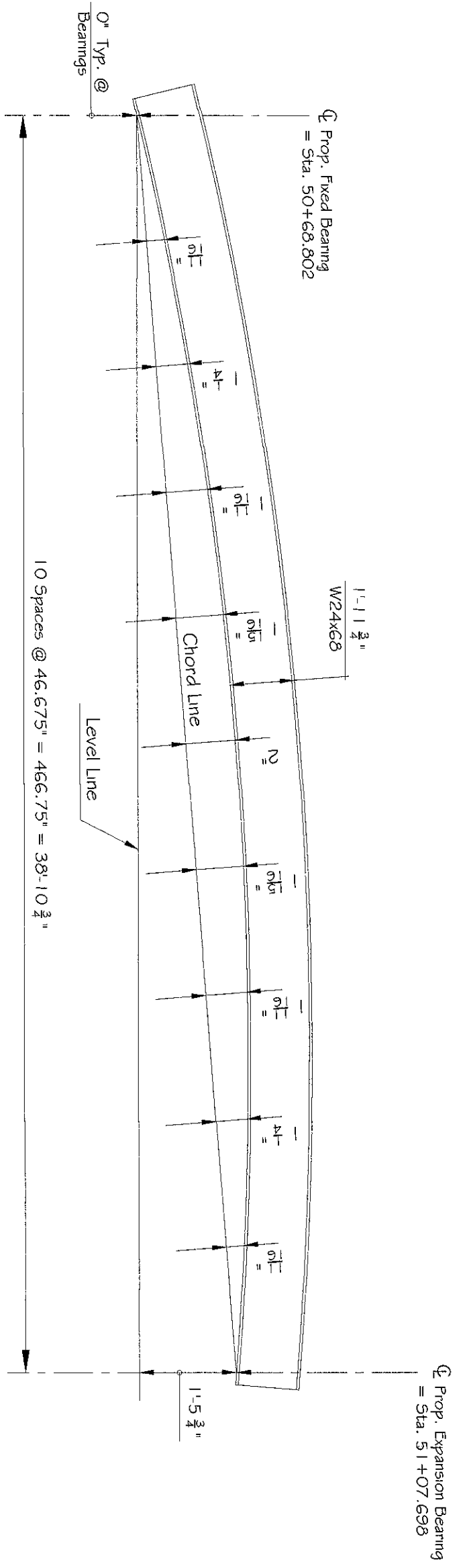


**55** BRIDGE BEARING ELEVATION - FIXED  
 Scale: 1" = 1'-0"

PREPARED FOR <b>TAMWORTH HIGHWAY DEPARTMENT</b> 84 MAIN STREET, TAMWORTH, NH 03886		PREPARED BY <b>KNOX ASSOCIATES</b> ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL																					
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT OF/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET DESCRIPTION PROPOSED STRUCTURAL STEEL SECTIONS & DETAILS																					
DESIGN: B. KNOX DATE: 4.17.22 DRAWN: B. KNOX CHECK:	SHEET <b>69</b>	JOB <b>220417</b>	<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>2.20.23</td> <td>BK</td> <td>RELEASED FOR PROPOSALS (RFP)</td> </tr> <tr> <td>2</td> <td>1.23.23</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW - 90% DESIGN</td> </tr> <tr> <td>1</td> <td>11.20.22</td> <td>BK</td> <td>RELEASED FOR TEAM COORDINATION</td> </tr> <tr> <td>0</td> <td>4.24.22</td> <td>BK</td> <td>RELEASED FOR CLIENT REVIEW</td> </tr> </tbody> </table>	REV	DATE	BY	DESCRIPTION	3	2.20.23	BK	RELEASED FOR PROPOSALS (RFP)	2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 90% DESIGN	1	11.20.22	BK	RELEASED FOR TEAM COORDINATION	0	4.24.22	BK	RELEASED FOR CLIENT REVIEW
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QAD FILE: Scott Rd Bridging

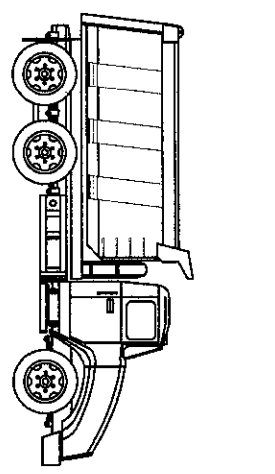
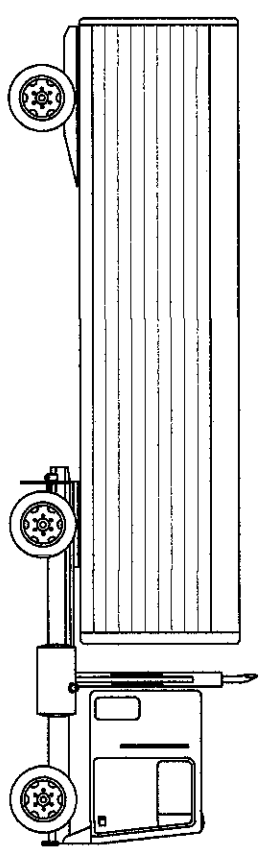
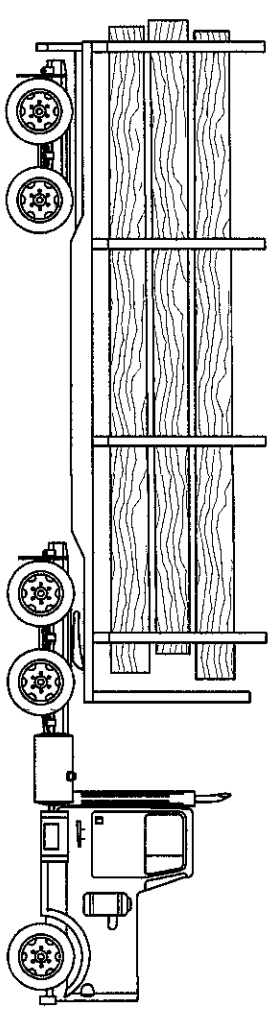
W24x68  
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 t = 0.4375  
 b = 9.000  
 t = 0.5625  
 k = 1.500  
 T = 20.750  
 Gage = 5.500



TYPICAL GIRDER CAMBER DIAGRAM

Scale:

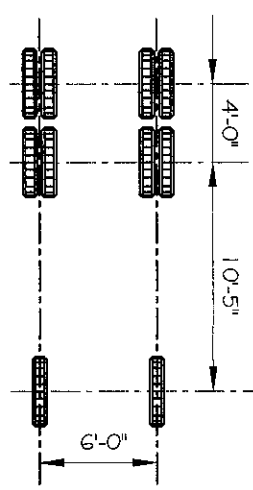
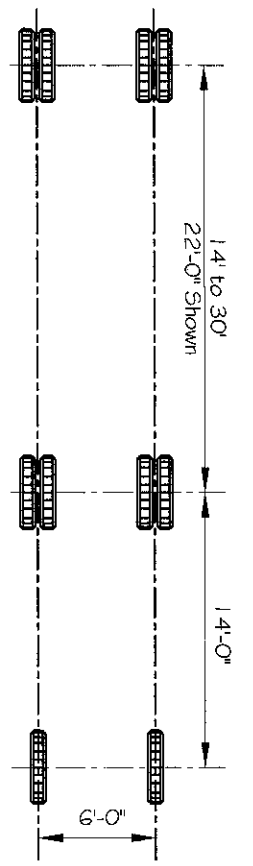
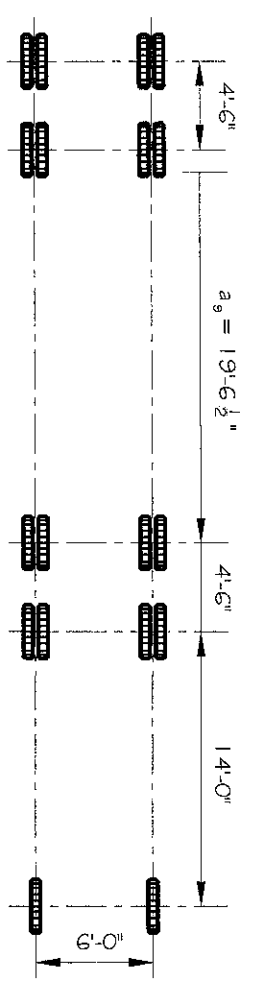
N.T.S.



Designation  
 U80 GVW = 80 Tons  
 (160 kips) Logging Trucks  
 Axle Loads (kips)  
 37 37 12

Designation  
 HS20-44  
 Axle Loads (kips)  
 32 8

Designation  
 HS20 32 32  
 Axle Loads (kips)  
 8



AASHTO DESIGNATIONS & DESIGN AXLE LOADS

Scale:

N.T.S.

CAD FILE: Scott Rd Bridgework

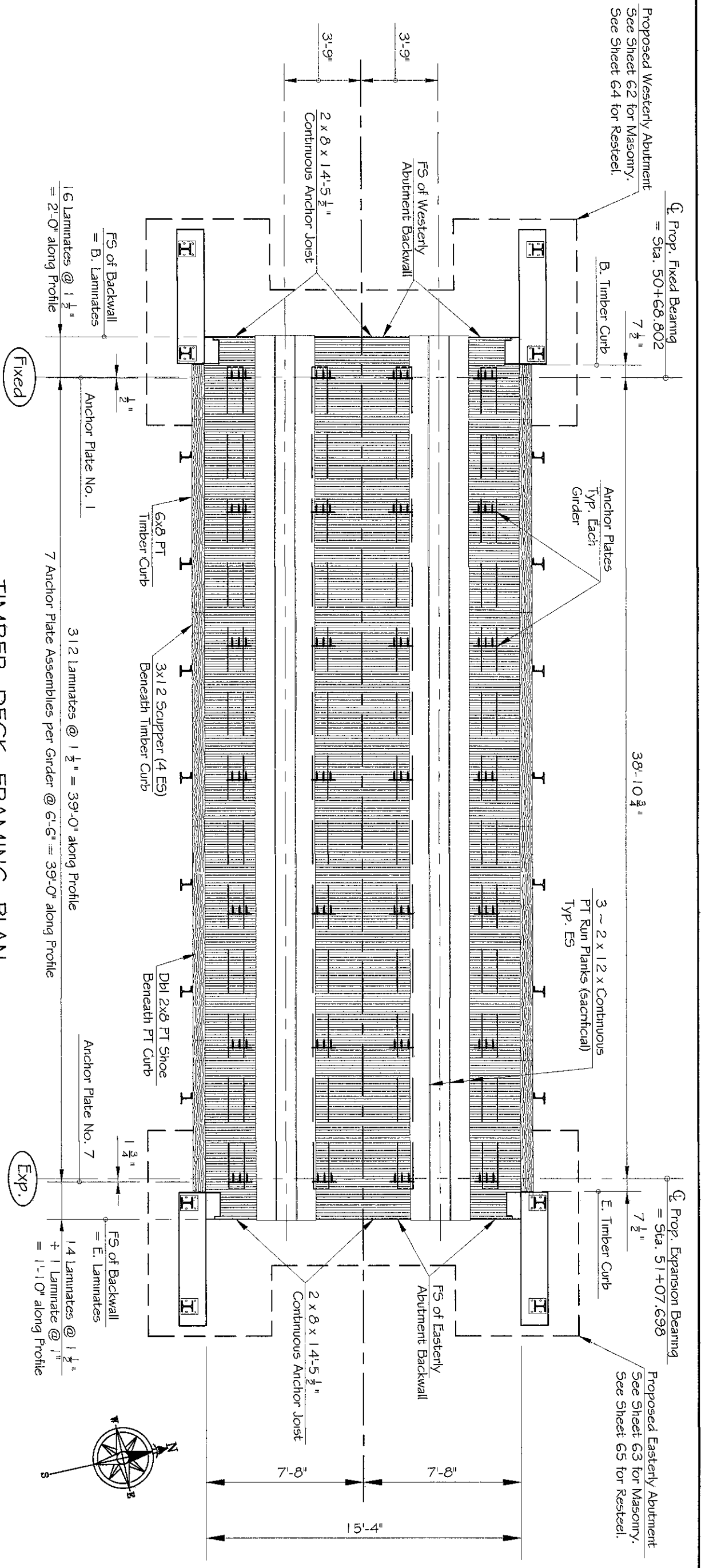
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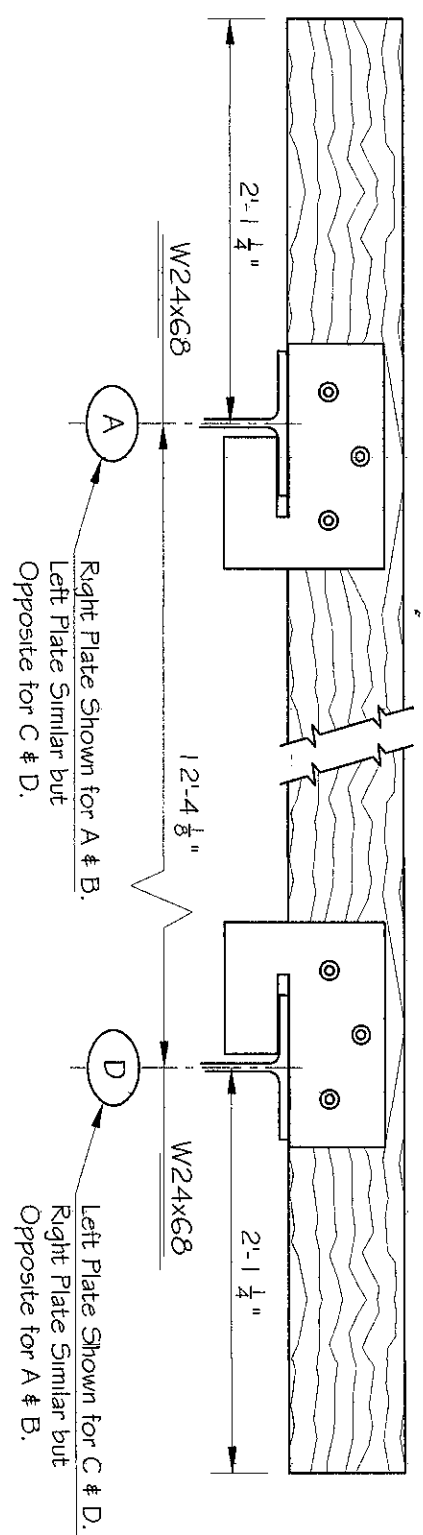
DESIGN: B. KNOX	SHEET: 70
DATE: 4.17.22	JOB: 220417
DRAWN: B. KNOX	CHECK:

PREPARED FOR TAMWORTH HIGHWAY DEPARTMENT 84 MAIN STREET, TAMWORTH, NH 03886	PREPARED BY KNOX ASSOCIATES ENGINEERING CONSULTANTS 134 Country Way No. Berwick, ME 03906 120 Smith Road, Palmyra, ME 04965 312 Main Street, Pittsfield, ME 04967 knoxassociates@yahoo.com (603) 662-5644 ARCHITECTURAL - CIVIL - STRUCTURAL
PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE	SHEET DESCRIPTION PROPOSED STRUCTURAL STEEL CAMBER DIAGRAM



**TIMBER DECK FRAMING PLAN**

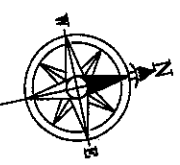


**65**

**TYPICAL TIMBER DECK ANCHOR PLATE ORIENTATION**

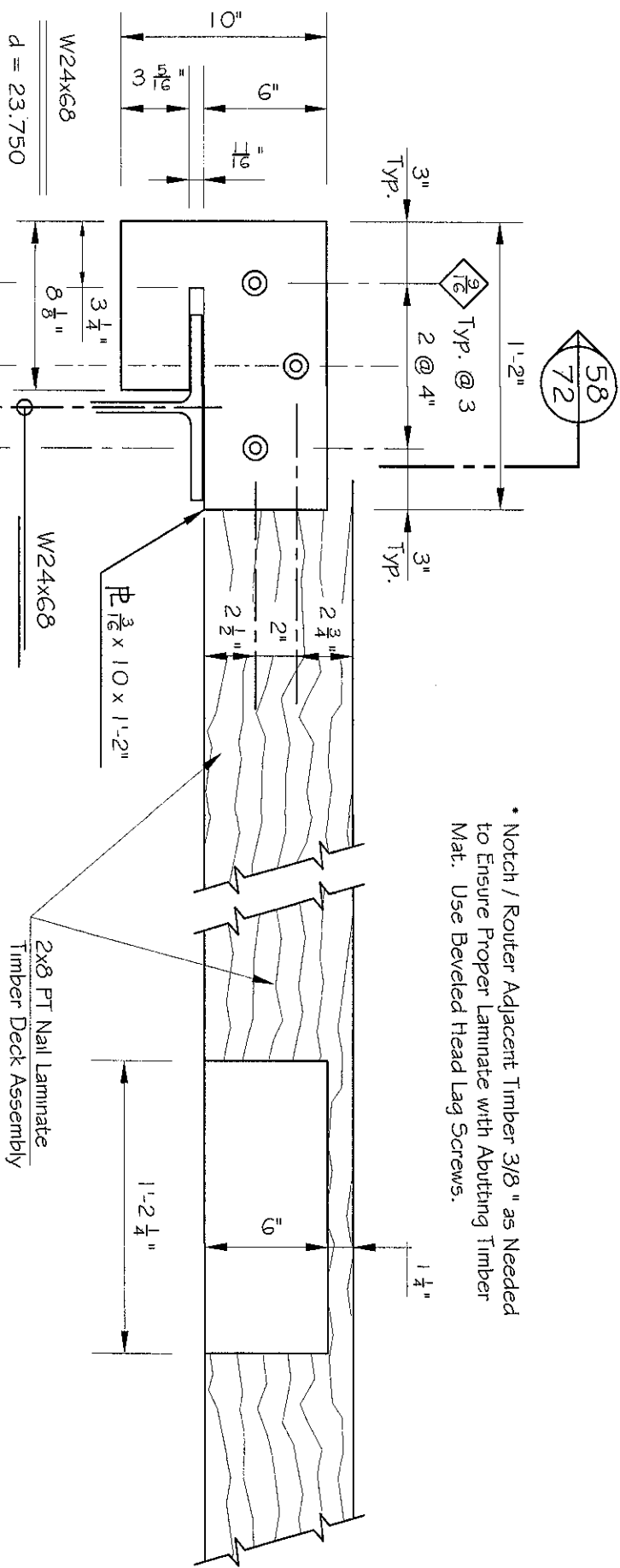
Scale: 1" = 1'-0"

1" = 1'-0"



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PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET <b>71</b>	
SHEET DESCRIPTION PROPOSED TIMBER DECK PLAN		DESIGN: <b>B. KNOX</b> DATE: <b>4.17.22</b> DRAWN: <b>B. KNOX</b> CHECK:	
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\* Notch / Router Adjacent Timber 3/8" as Needed to Ensure Proper Laminate with Abutting Timber Mat. Use Beveled Head Lag Screws.



58 SECTION @ PLATE HOLES  
Scale: 1 1/2" = 1'-0"

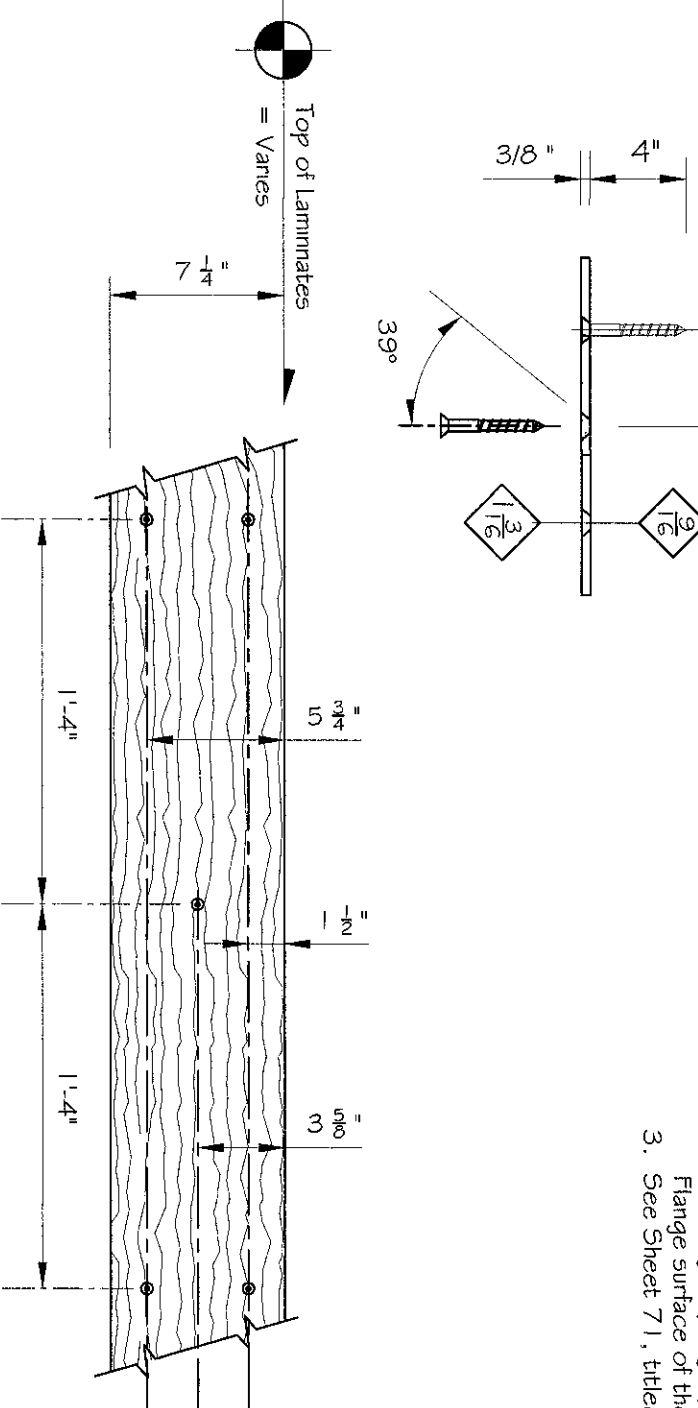
56 TYPICAL TIMBER DECK ANCHOR PLATE ASSEMBLY  
Scale: 1 1/2" = 1'-0"

W24x68  
d = 23.750  
t = 0.4375  
b = 9.000  
t = 0.5625  
k = 1.500  
T = 20.750  
Gage = 5.500

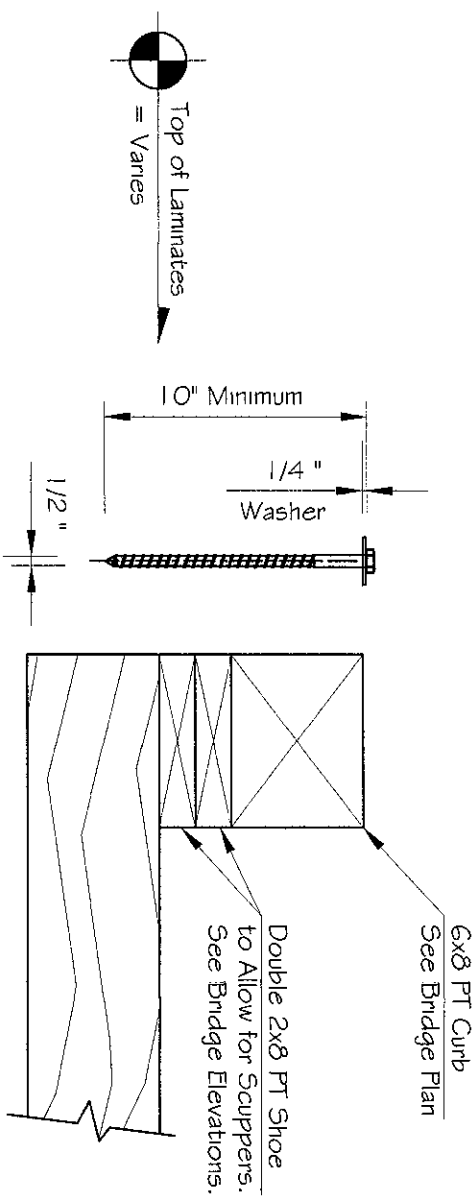
Left Plate Shown for A & B.  
Right Plate Similar but Opposite for C & D.

NOTES:

1. The Plate Opening intended for sliding in / against the Girder Flange has been oversized approximately 1/8" to allow for tolerances and or imperfections in Steel Fabrications.
2. Prior to attaching the Timber Deck Anchor Plate Assembly to the 2x8 PT Laminates, the Installer shall ensure the Plate is brought up tightly against the underside of the corresponding Flange. Assumed method shall be prying off the Top Flange surface of the underlying Steel Girders, and holding in-place until all three (3) Anchor Screws are secured.
3. See Sheet 71, titled "Timber Deck Framing Plan", for Anchor Plate Assembly Layout.



57 TYP. NAILING PATTERN FOR TIMBER LAMINATE DECK  
Scale: 1 1/2" = 1'-0"



59 TYP. ANCHOR SCREW @ TIMBER CURB  
Scale: 1 1/2" = 1'-0"

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ARCHITECTURAL - CIVIL - STRUCTURAL

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SOUTH TAMWORTH, NEW HAMPSHIRE  
SHEET DESCRIPTION  
PROPOSED TIMBER DECK SECTIONS & DETAILS

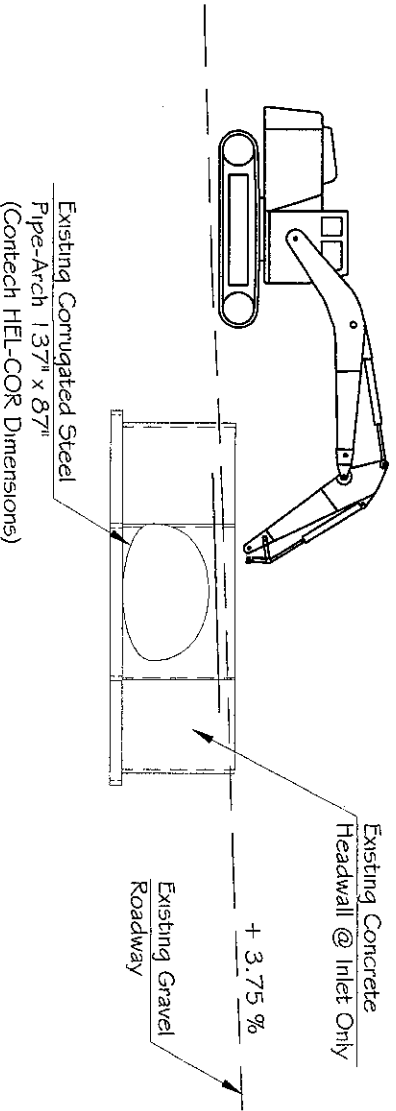
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DATE: 4.17.22  
DRAWN: B. KNOX  
JOB: 220417  
SHEET: 72  
CHECK: 220417

# PHASE 1

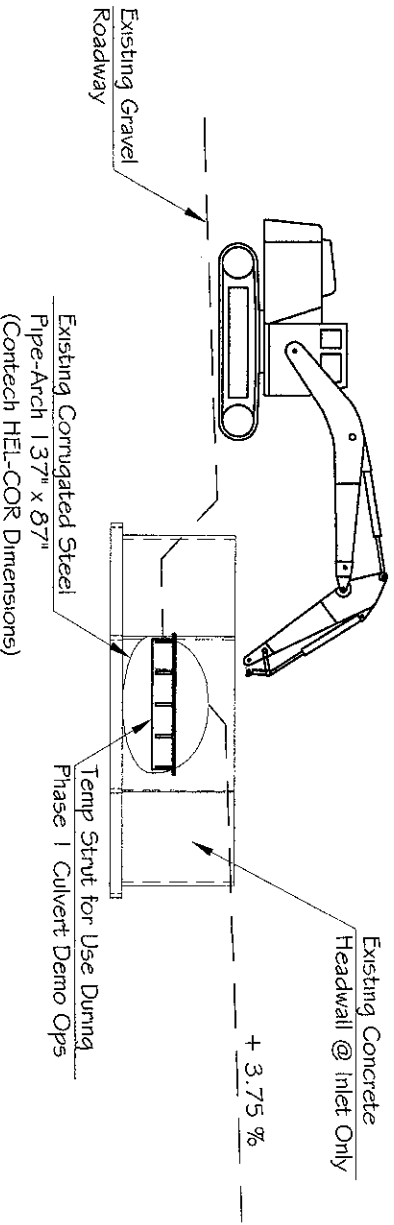
- 1 Install Construction Signs & Warning Devices, and prepare to implement the Temporary Detour - One-Way Alternating Traffic Pattern at the Downstream end of existing Culvert. Install all necessary Temporary Erosion Control Measures and appurtenances, including De-Watering Ponds as needed during Removal of the Existing Culvert. If needed, coordinate protective measures of existing overhead utility lines with appropriate Utility Companies. Specifically, relocate said lines and or provide protective shields around active electrical lines as needed to prevent "Arcing" during various Erections / Construction Activities.

# PHASE 2

- 3 Maintaining Stream Flow thru the existing Culvert, Excavate for, and Expose the Upper Portion ONLY of the Upstream Construction Joint at the existing Culvert. Exercise caution when unloading one-side of the Culvert; minimize unbalanced lateral loading.

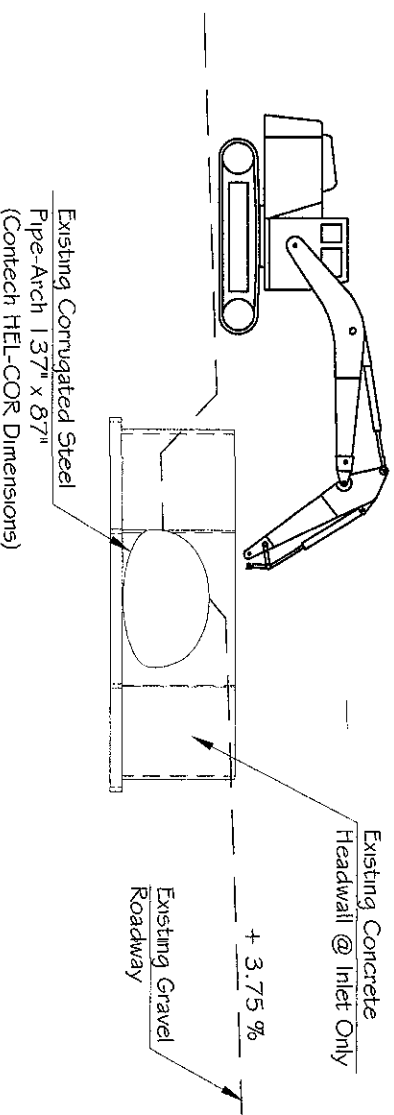


- 5 Cut and Remove the Upper Portion ONLY of the existing Culvert. Temporarily Brace the Remaining Lower Portion of the remaining Culvert using a Strut Assembly.

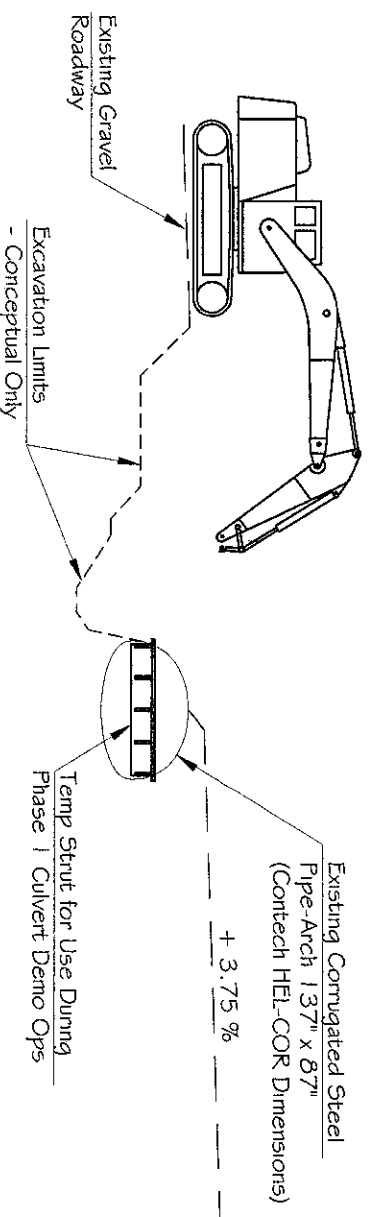


- 2 Remove existing Precast Concrete Blocks and the Structural Steel Street Plates. Stockpile Concrete Blocks and the Upstream Street Plate on-site for Town Pick-Up. Coordinate and Load said items onto Town Trucks, as directed by the Road Agent. Stockpile the Downstream Street Plate for re-use as Load Distribution beneath the Temporary Detour. Operations will require a Temporary Lane Closure. Utilize MUTCD for establishment of a One-Way Alternating Traffic Pattern.

- 4 Remove all existing Backfill Material from said Joint to the the Inlet End of the Culvert, and Stockpile for Re-Use as Granular Backfill at the Proposed Bridge Abutments.



- 6 Install Sandbag Cofferdam immediately upstream of existing Concrete Headwall, for both sides of the Culvert. Remove existing Headwall, Excavate Slope to Proposed Template, as needed for Subgrade prior to installing Geotextile, and Keyed Stone Fill (Bridge), as shown on Drawings. Anchor as needed should Fabric become buoyant.



DESIGN: B. KNOX	SHEET: 73
DATE: 4.17.22	JOB: 220417
DRAWN: B. KNOX	CHECK:

PREPARED FOR  
TAMWORTH HIGHWAY DEPARTMENT  
84 MAIN STREET, TAMWORTH, NH 03886

PROJECT  
MOUNTAIN RD BRIDGE REPLACEMENT OF COLD BROOK  
SOUTH TAMWORTH, NEW HAMPSHIRE

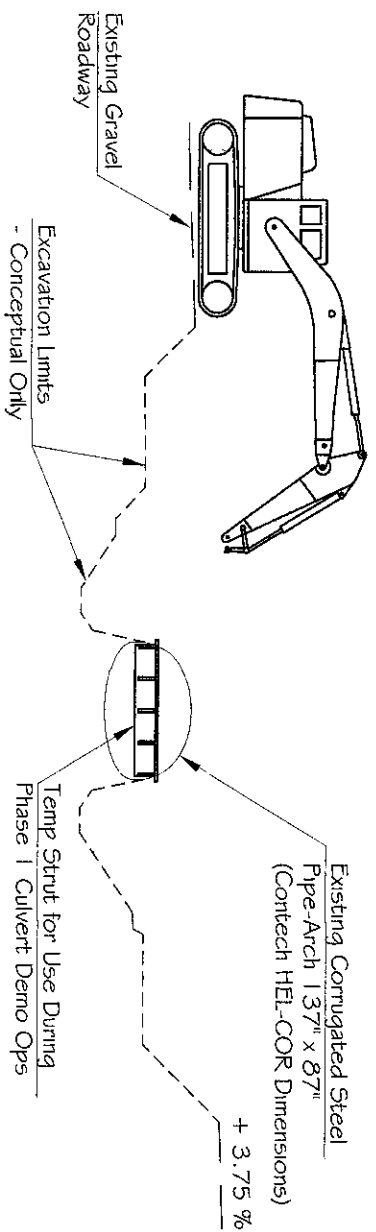
SHEET DESCRIPTION  
PROPOSED PROSECUTION OF THE WORK

PREPARED BY KNOX ASSOCIATES
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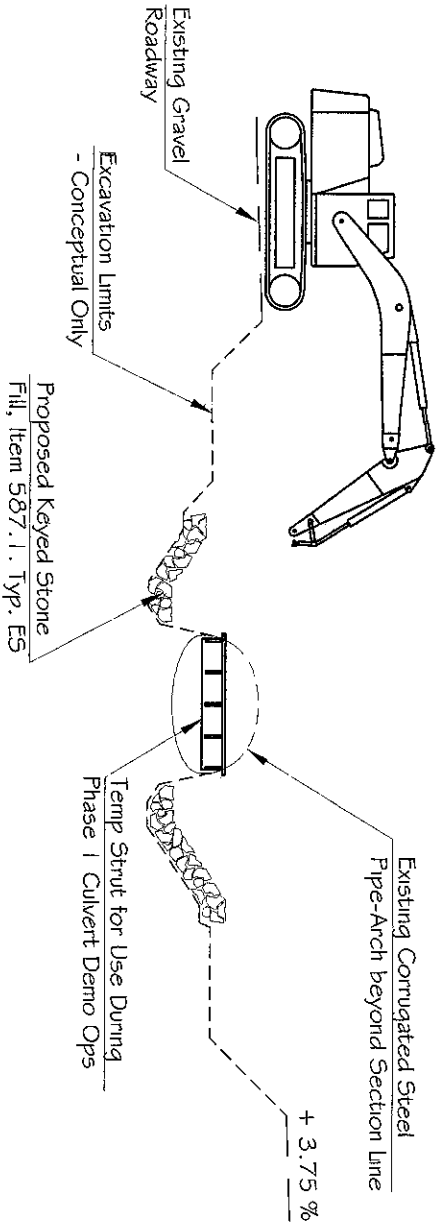
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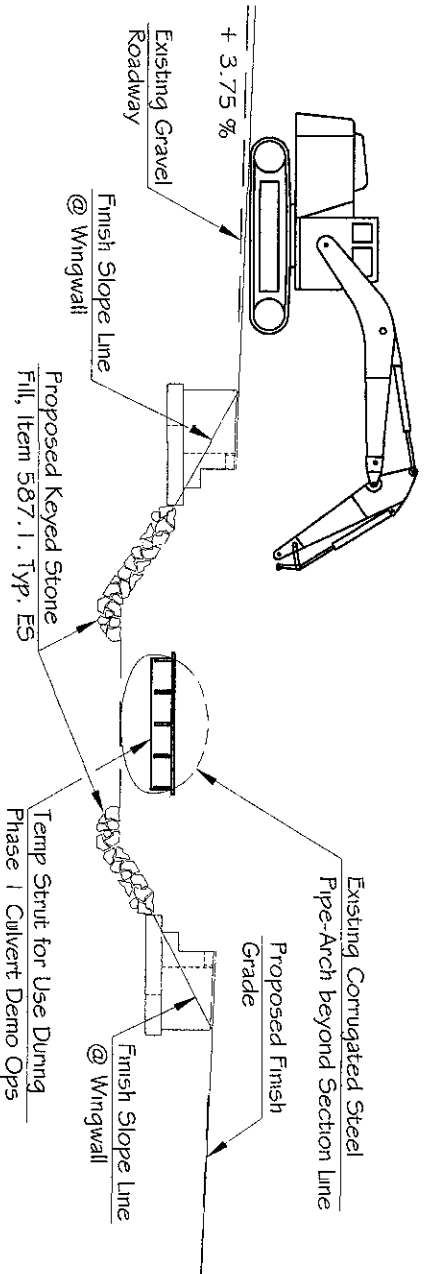
7 Cease operations when reaching the Temporary Detour Excavation Limits. Repeat process for both sides of the Culvert. Maintain balance in lateral loading for each side of Culvert.



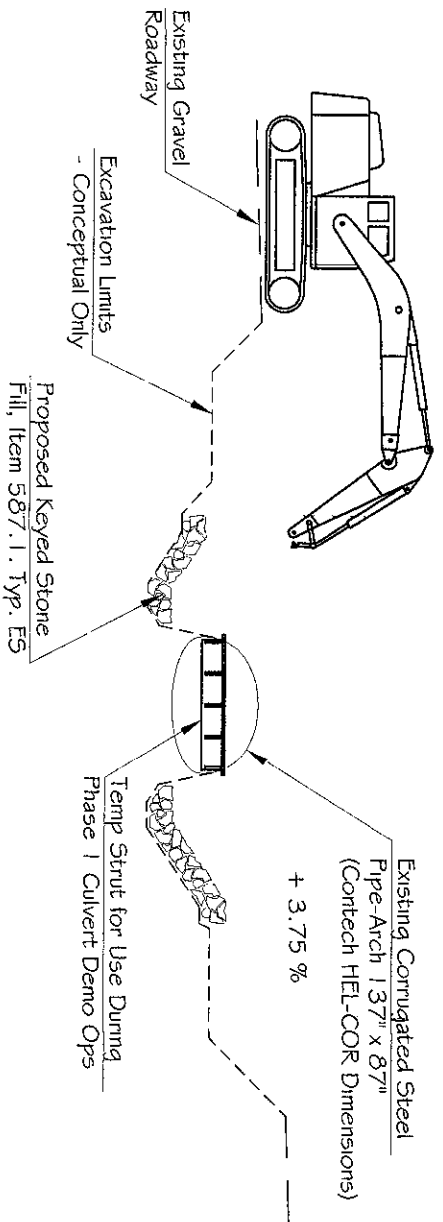
9 Using the Downstream Portions of the existing Culvert and Backfill as an Anchor, Remove the Upstream Portion ONLY of the Culvert. Continue maintaining Stream Flow thru the existing Culvert, and the newly developed Keyed Stone Fill Channel Section. Maintain the Upstream Sandbag Cofferdam and De-Watering Ops as needed.



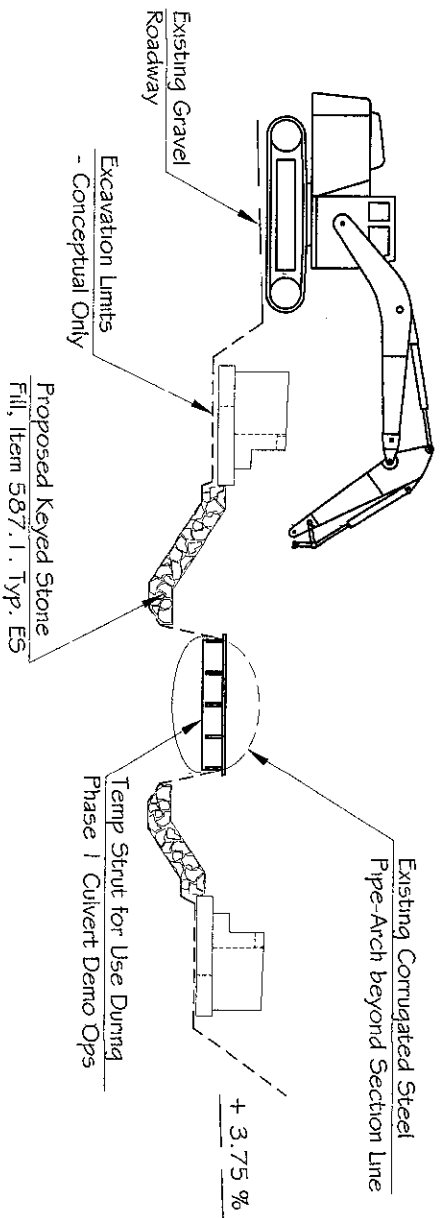
11 Backfill the Abutment and Wingwalls. Finalize Stone Fill ops upward to Edge of Finish Roadway, Wingwalls, and Top of Footing, as shown on Drawings.



8 Continue Keyed Stone Fill operations in a downstream direction. Cease operations when reaching the Temporary Detour Limits. Repeat process for both sides of the Culvert.

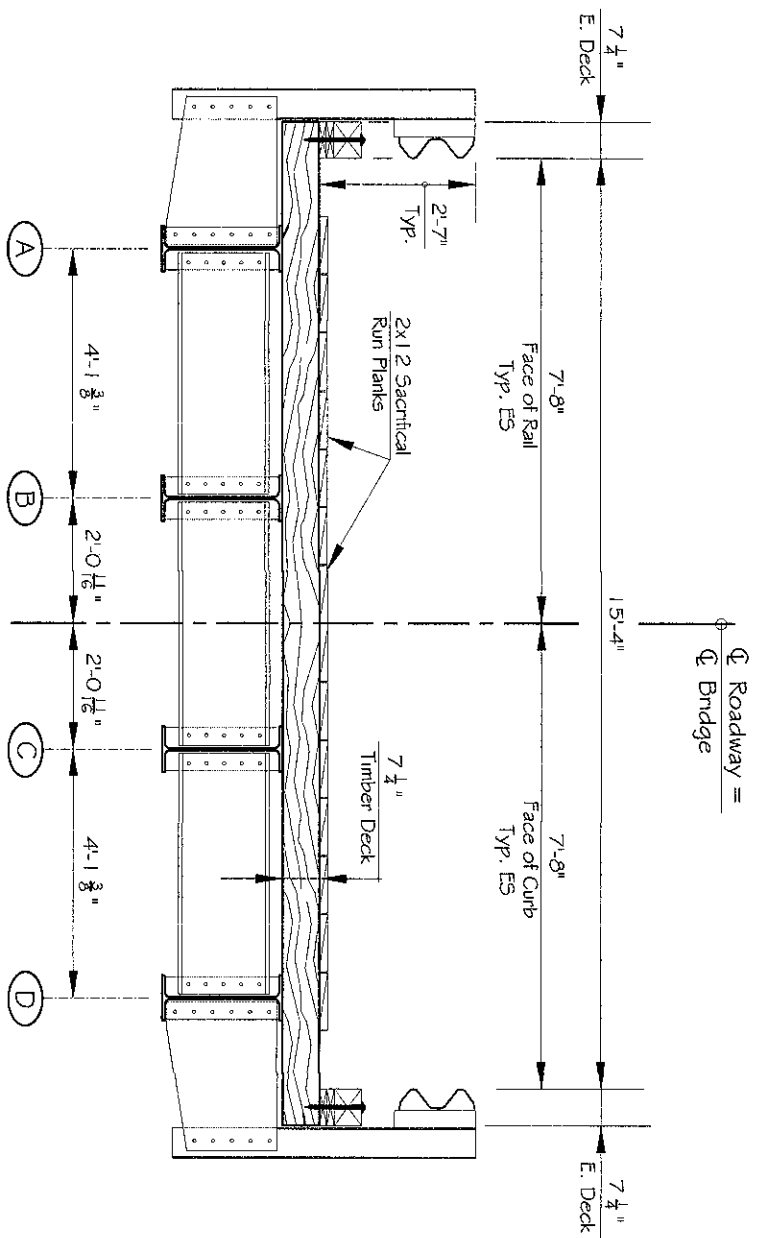
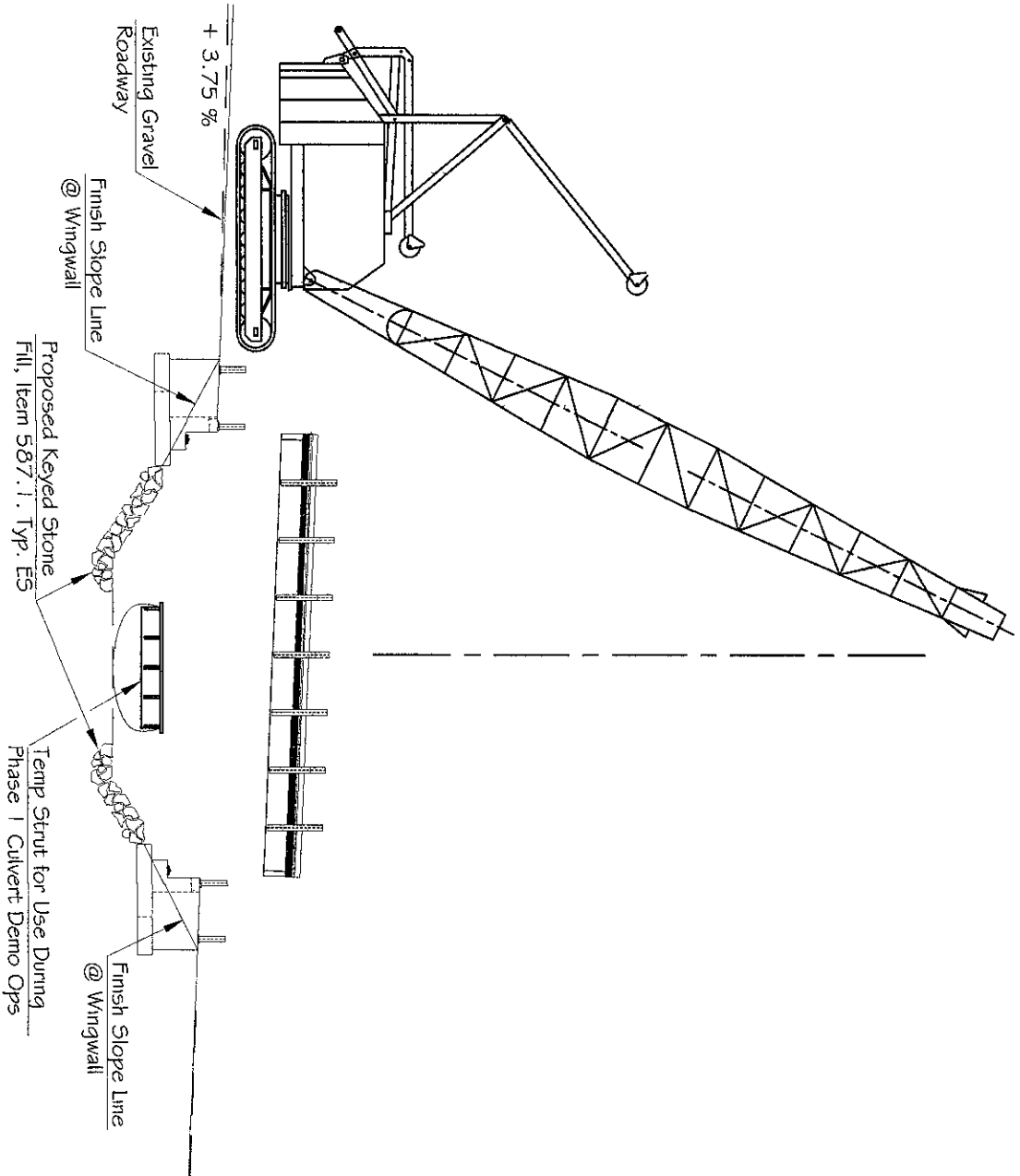


10 Working behind / atop the proposed Abutment location, Place Structural Fill, and then Construct the Reinforced Concrete Abutment Footing, Backwall, and Wingwalls.



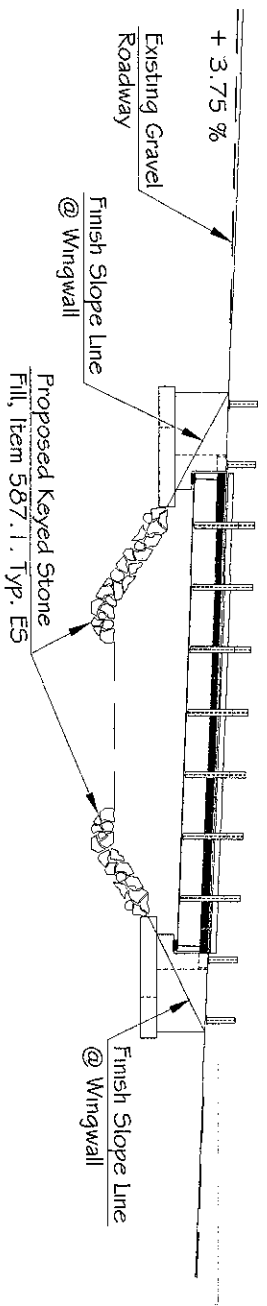
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PROJECT MOUNTAIN RD BRIDGE REPLACEMENT O/ COLD BROOK SOUTH TAMWORTH, NEW HAMPSHIRE		SHEET 74		SHEET DESCRIPTION PROPOSED PROSECUTION OF THE WORK																	
DESIGN: B. KNOX DATE: 4.17.22		DRAWN: B. KNOX JOB: 220417		CHECK:																	

- 12 Upon completion of all Stone Fill ops and adjacent Upstream / Westbound Roadway Slope Stabilization and or Turf Establishments, place Bridge Bearing, erect Structural Steel Framework, place Timber Deck, Bridge Rail, Approach Rail, and Permanent Signage. Coordinate installation of Eastbound Approach Rail with removal of the Temporary Portable Concrete Barriers for Traffic Control, and switch Traffic to New Bridge / Final Alignment.



- 13 Working behind, or adjacent to the Eastbound Approach Rail, install Sandbag Cofferdam immediately downstream of existing Boulder Headwall, for both sides of the Culvert. Remove Temporary Detour, existing Boulder Headwall, S.O.E., Excavate Slope to Proposed Template, as needed for Subgrade prior to installing Geotextile, and Keyed Stone Fill, as shown on Drawings. Anchor as needed should Fabric become buoyant. Finalize Stone Fill operations.

- 14 Remove the remaining Downstream portions of the existing Culvert. Install all Permanent Signage. Remove any remaining Protective Shielding placed at any Overhead Utility Lines.



REV	DATE	BY	DESCRIPTION
2	1.23.23	BK	RELEASED FOR CLIENT REVIEW - 80% DESIGN
1	11.20.22	BK	RELEASED FOR TEAM COORDINATION
0	4.24.22	BK	RELEASED FOR CLIENT REVIEW

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PROJECT  
 MOUNTAIN RD BRIDGE REPLACEMENT OF COLD BROOK  
 SOUTH TAMWORTH, NEW HAMPSHIRE

SHEET DESCRIPTION  
 PROPOSED PROSECUTION OF THE WORK

DESIGN: B. KNOX  
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 CHECK:

SHEET  
 75

JOB  
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