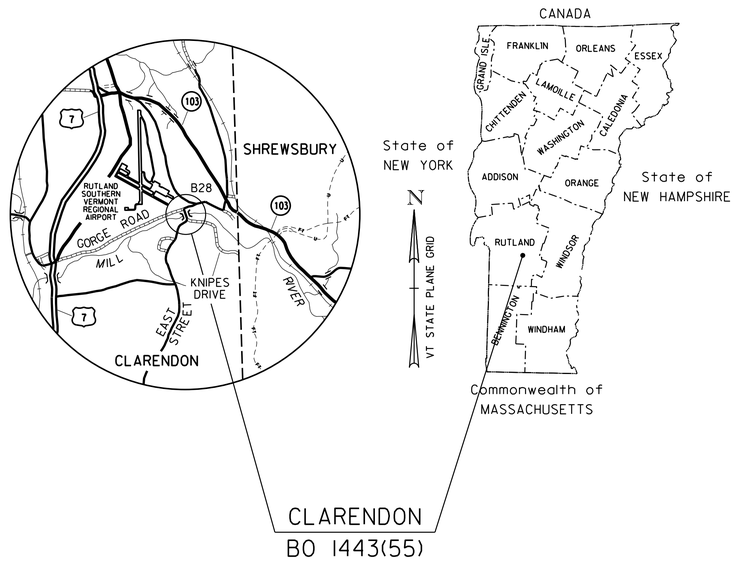
STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
BRIDGE PROJECT

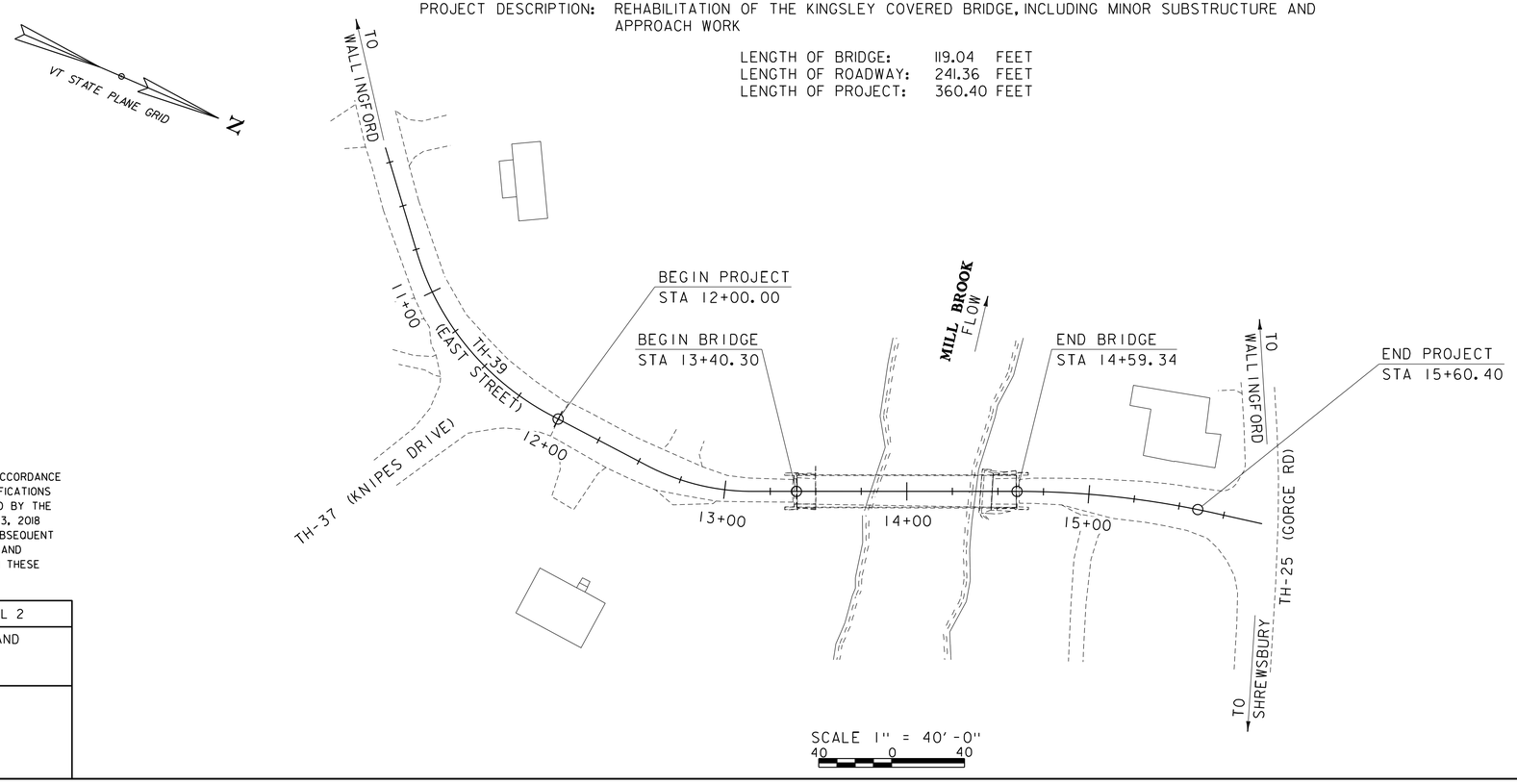
TOWN OF CLARENDON
COUNTY OF RUTLAND

ROUTE NO: TOWN HIGHWAY 39 (EAST STREET) (LOCAL ROAD, CLASS 3) BRIDGE NO: 28

PROJECT LOCATION: BEGINNING AT THE INTERSECTION OF GORGE ROAD AND EAST STREET APPROXIMATELY 1.4 MILES EAST OF VT ROUTE 7 AND EXTENDING SOUTHERLY ALONG EAST STREET (TH-39) FOR APPROXIMATELY 0.08 MILES

PROJECT DESCRIPTION: REHABILITATION OF THE KINGSLEY COVERED BRIDGE, INCLUDING MINOR SUBSTRUCTURE AND APPROACH WORK

LENGTH OF BRIDGE: 119.04 FEET
LENGTH OF ROADWAY: 241.36 FEET
LENGTH OF PROJECT: 360.40 FEET



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2018, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON APRIL 13, 2018 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 2	
SURVEYED BY :	G. HITCHCOCK AND B. HORBAL
SURVEYED DATE :	9/12/2019
DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (11)

FINAL PLANS
8/19/2022

HIGHWAY DIVISION, CHIEF ENGINEER

APPROVED _____ DATE _____

PROJECT MANAGER : JAMES B. McCARTHY

PROJECT NAME : CLARENDON
PROJECT NUMBER : BO 1443(55)

SHEET 1 OF 52 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET (BRIDGE)

Version
ASD

INDEX OF SHEETS

PLAN SHEETS

STANDARDS LIST

C-10	CURBING	02-11-2008
D-4	VARIOUS DRAINAGE DETAILS	08-13-2007
E-10	ROLLED EROSION CONTROL PRODUCT, TYPE I	04-07-2020
E-11	CHECK DAM, TYPE I	04-07-2020
E-12	STABILIZED CONSTRUCTION ENTRANCE	04-07-2020
E-15	SILT FENCE	04-07-2020
E-121	STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD	08-08-1995
E-146	REGULATORY SIGN DETAILS	09-20-1995
E-193	PAVEMENT MARKING DETAILS	08-18-1995
J-3	MAIL BOX SUPPORT DETAILS	08-07-1995
T-1	TRAFFIC CONTROL GENERAL NOTES	04-25-2016
T-10	CONVENTIONAL ROADS CONSTRUCTION APPROACH SIGNING	08-06-2012
T-28	CONSTRUCTION SIGN DETAILS	08-06-2012
T-30	CONSTRUCTION SIGN DETAILS	08-06-2012
T-40	DELINEATORS AND MILEPOSTS	01-02-2013
T-45	SQUARE TUBE SIGN POST AND ANCHOR	01-02-2013
T-70	VERMONT REGULATORY SIGN DETAILS	04-25-2016

DETAIL SHEETS

HSD - 400.01	SAFETY EDGE DETAILS	1/5/2018

FINAL HYDRAULIC REPORT

NOT REQUIRED FOR THIS PROJECT

WORKING STRESS LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A STR.	4A STR.	5A SEM
TONNAGE	12	-	36	66	30	34.5	38
INVENTORY	12	-					
POSTING	12	-	-		-	-	-
OPERATING		-	-	-	-	-	
COMMENTS:							

TRAFFIC MAINTENANCE NOTES

1. MAINTAIN TRAFFIC ON AN OFF SITE DETOUR.
2. TRAFFIC SIGNALS ARE NOT NECESSARY.
3. SIDEWALKS ARE NOT NECESSARY.

DESIGN VALUES

1.	DESIGN LIVE LOAD		H-12
2.	FUTURE PAVEMENT	d_p:	---
3.	DESIGN SPAN	L:	119.00 FT
4.	MIN. MID-SPAN POS. CAMBER @ RELEASE (PRESTRESSED UNITS)	Δ:	---
5.	PRESTRESSING STRAND	f_y:	---
6.	PRESTRESSED CONCRETE STRENGTH	f'_c:	---
7.	PRESTRESSED CONCRETE RELEASE STRENGTH	f'_{ci}:	---
8.	HIGH PERFORMANCE CONCRETE, CLASS PCD	f'_c:	---
9.	HIGH PERFORMANCE CONCRETE, CLASS PCS	f'_c:	3.5 KSI
10.	CONCRETE HIGH PERFORMANCE, CLASS SCC	f'_c:	---
11.	CONCRETE, CLASS C	f'_c:	---
12.	REINFORCING STEEL	f_y:	60 KSI
13.	STRUCTURAL STEEL AASHTO M270	f_y:	---
14.	NOMINAL BEARING RESISTANCE OF SOIL	q_n:	---
15.	SOIL BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
16.	NOMINAL BEARING RESISTANCE OF ROCK	q_n:	---
17.	ROCK BEARING RESISTANCE FACTOR (REFER TO AASHTO LRFD)	ϕ:	---
18.	PILE RESISTANCE FACTOR	ϕ:	---
19.	LATERAL PILE DEFLECTION	Δ:	---
20.	BASIC WIND SPEED	V_{3s}:	---
21.	MINIMUM GROUND SNOW LOAD	p_g:	---
22.	SEISMIC DATA — PGA: ---	S_s:	---
		S_1:	---
23.			
24.			---
25.			---
26.			---

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2024	720	110	62	8.1	60
2044	780	120	62	10.4	80

20 year ESAL for flexible pavement from 2024 to 2044 : 156000

40 year ESAL for flexible pavement from 2024 to 2064 : 320000

Design Speed : 20 mph

AS BUILT "REBAR" DETAIL

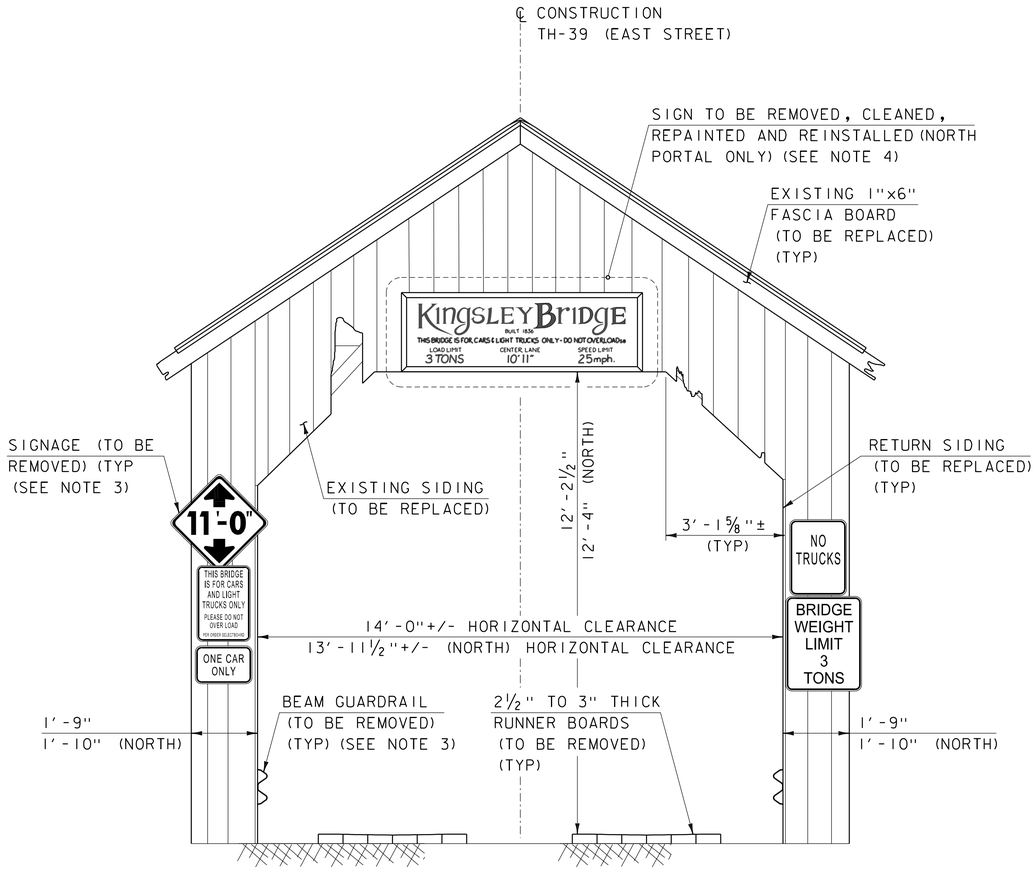
LEVEL I	LEVEL II	LEVEL III
TYPE:	TYPE:	TYPE:
GRADE:	GRADE:	GRADE:

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

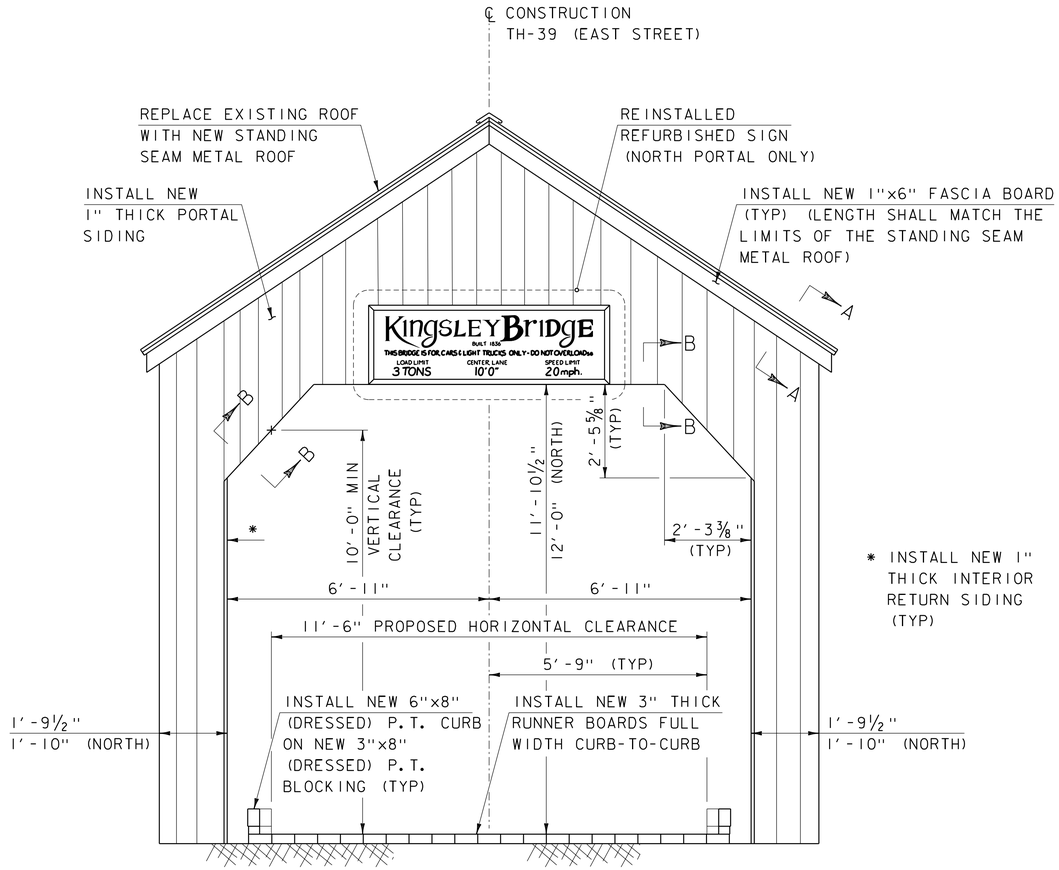
FILE NAME: z19j228pi.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
PRELIMINARY INFORMATION SHEET

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 2 OF 52



EXISTING PORTAL ELEVATION

(SOUTH PORTAL SHOWN, NORTH PORTAL SIMILAR)
SCALE: ½" = 1'-0"



PROPOSED PORTAL ELEVATION

(SOUTH PORTAL SHOWN, NORTH PORTAL SIMILAR)
SCALE: ½" = 1'-0"

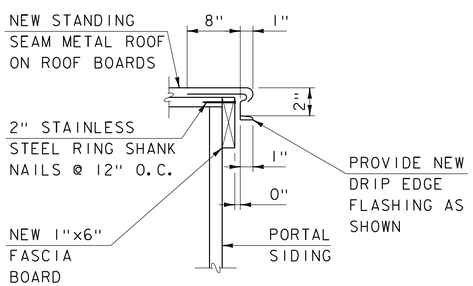
NOTES

1. DIMENSIONS SHOWN ON THE EXISTING PORTAL ELEVATION SHALL BE MAINTAINED EXCEPT WHERE NOTED OTHERWISE ON THE PROPOSED PORTAL ELEVATIONS.

2. APPLY FIRE RETARDANT AND TERMITICIDE/INSECTICIDE FUNGICIDE TO WOODEN BRIDGE MEMBERS IN ACCORDANCE WITH SPECIAL PROVISIONS, SECTION 900. APPLICATION TO NEW AND REUSED MEMBERS SHALL OCCUR OUTSIDE OF SURFACE WATERS OR WETLANDS.

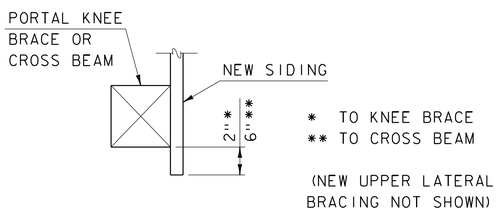
3. THE EXISTING W-BEAM RAIL AND SIGNS ON EACH END OF BRIDGE SHALL BE REMOVED AND DELIVERED TO THE TOWN ON CLARENDON GARAGE LOCATED AT 1628 VT-7B NORTH CLARENDON, VT 05759. CONTACT ROAD COMMISSIONER AT (802)-345-2193 A MINIMUM OF ONE WEEK PRIOR TO DELIVERY. REMOVAL OF SIGNS WILL BE PAID UNDER ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE.

4. REMOVE "KINGSLEY BRIDGE" SIGN AND DELIVER TO RON EVANS OF GRIST MILL (802)-855-0588 TO MODIFY AND RESTORE THE SIGN.



SECTION A-A

NOT TO SCALE



SECTION B-B

NOT TO SCALE

LEGEND

P.T. PRESSURE TREATED

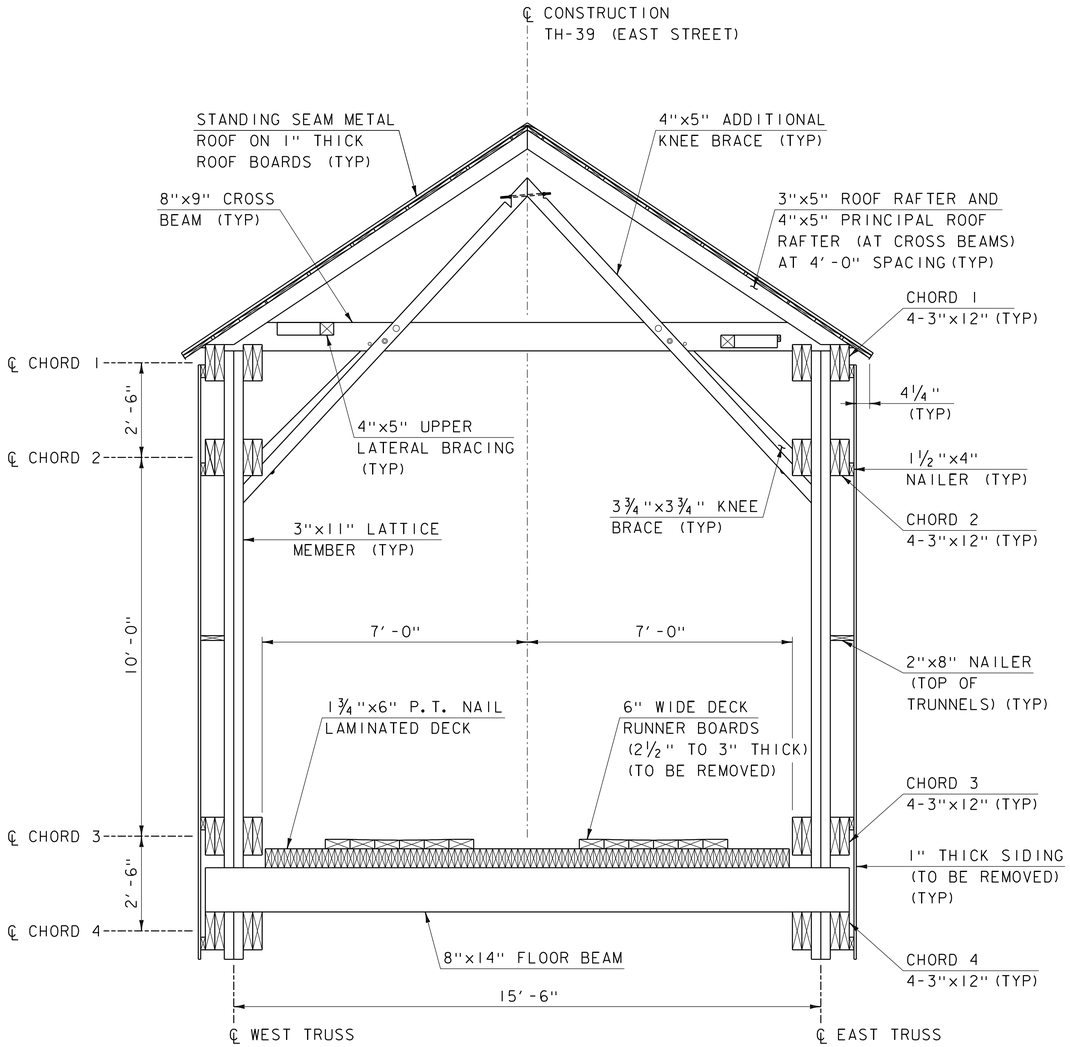
DIMENSIONS OF TIMBER AND LUMBER MEMBERS SHOWN ON THE PLANS ARE THE ACTUAL SIZES UNLESS NOTED OTHERWISE.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

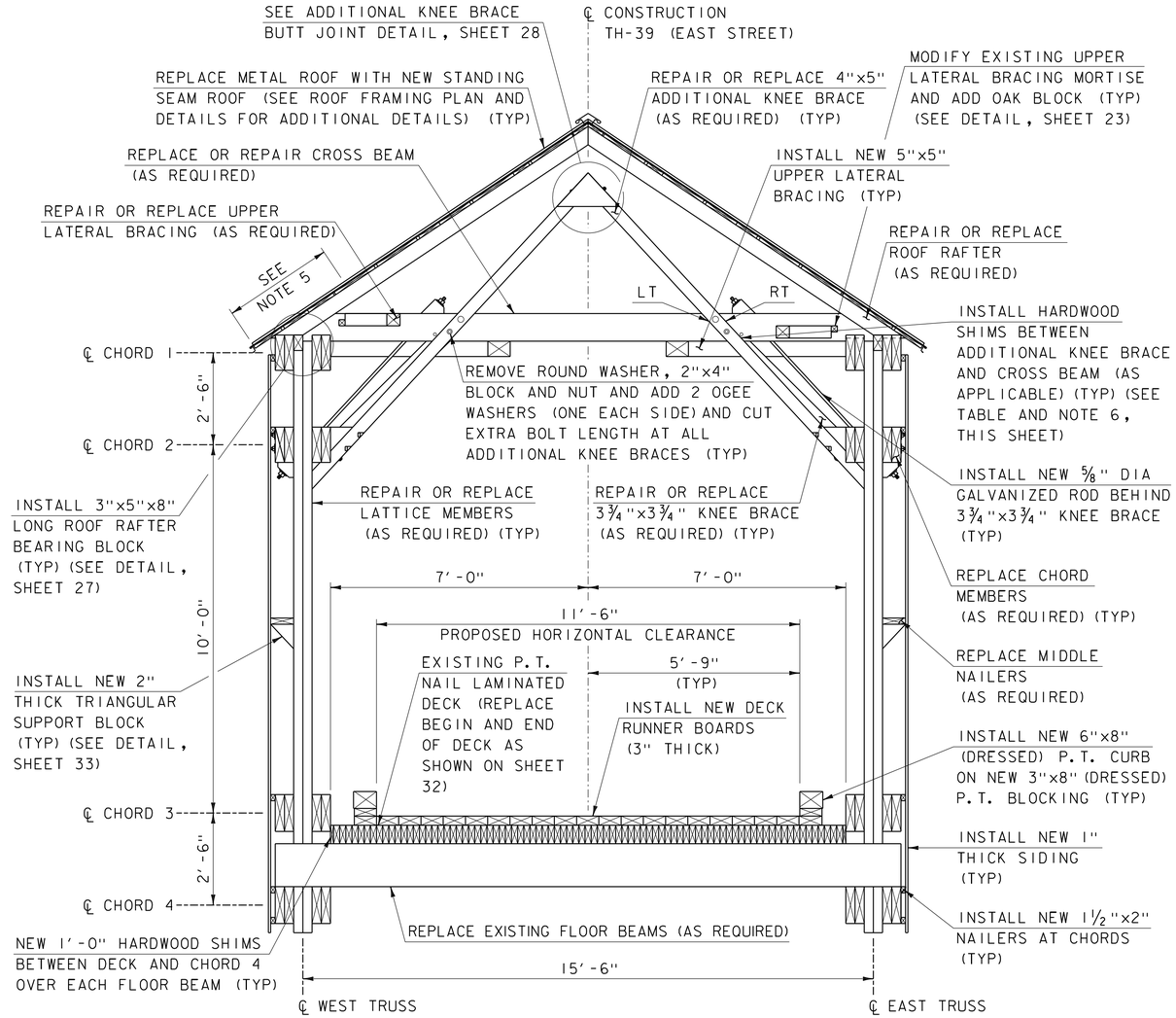
FILE NAME: z19j228supl.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA

EXISTING AND PROPOSED PORTAL ELEVATIONS SHEET 3 OF 52



EXISTING BRIDGE SECTION

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



PROPOSED BRIDGE SECTION

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

NOTES

1. APPLY FIRE RETARDANT AND TERMITICIDE/INSECTICIDE FUNGICIDE TO WOODEN BRIDGE MEMBERS IN ACCORDANCE WITH SPECIAL PROVISIONS, SECTION 900. APPLICATION TO NEW AND REUSED MEMBERS SHALL OCCUR OUTSIDE OF SURFACE WATERS OR WETLANDS.
2. SIDING BOARDS SHALL CONSIST OF SINGLE VERTICAL PIECES AT ALL LOCATIONS AND AS SHOWN ON THE PLANS. HORIZONTAL JOINTS IN THE SIDING WILL NOT BE ALLOWED.
3. REFER TO SHEET 33 FOR SIDING CONNECTION DETAILS.
4. SEE SHEET 8 FOR ESTIMATED LUMBER AND TIMBER QUANTITIES.
5. REMOVE, STORE (SEE NOTE G-8 ON SHEET 7), AND RE-SET (SEE NOTE W-6 ON SHEET 7) 3' +/- OF ROOF BOARDS ALONG EACH EAVE FOR TRUSS REPAIRS.
6. THE COST TO SHIM ALL GAPS BETWEEN EXISTING MEMBERS TO REMAIN IS PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

CROSS BEAM NOTCH GAP AT ADDITIONAL KNEE BRACES

NODE NO.	WEST TRUSS		EAST TRUSS	
	LT	RT	LT	RT
4/5	0"	1/8"	1/16"	0"
7/8	3/8"	1/8"	0"	0"
10/11	1/8"	1/8"	0"	0"
13/14	1/8"	3/8"	0"	0"
16/17	1/16"	3/8"	0"	0"
19/20	1/4"	0"	0"	0"
22/23	0"	1/8"	1/8"	0"
25/26	1/4"	0"	1/16"	0"
28/29	3/8"	1 1/8"	1/8"	1/8"

DIMENSIONS OF TIMBER AND LUMBER MEMBERS SHOWN ON THE PLANS ARE THE ACTUAL SIZES UNLESS NOTED OTHERWISE.

LEGEND

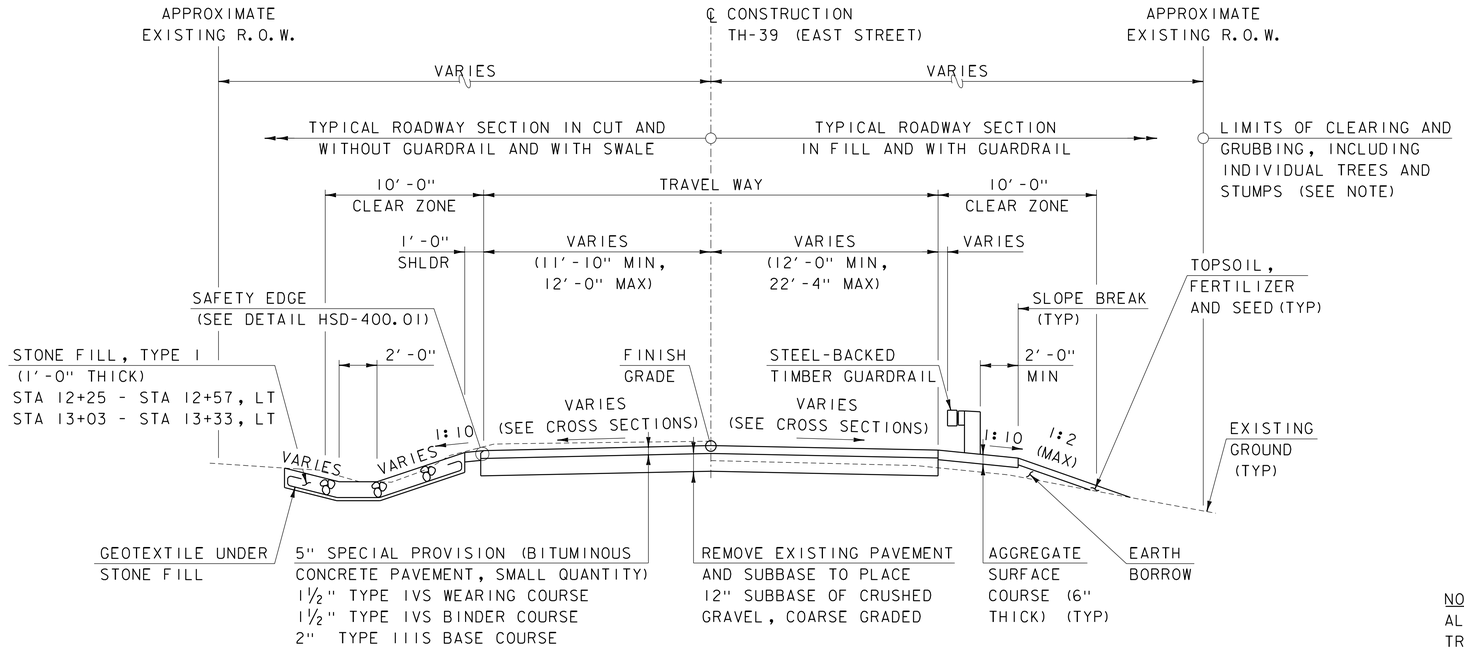
P.T. PRESSURE TREATED

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228sup2.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
EXISTING AND PROPOSED BRIDGE SECTIONS

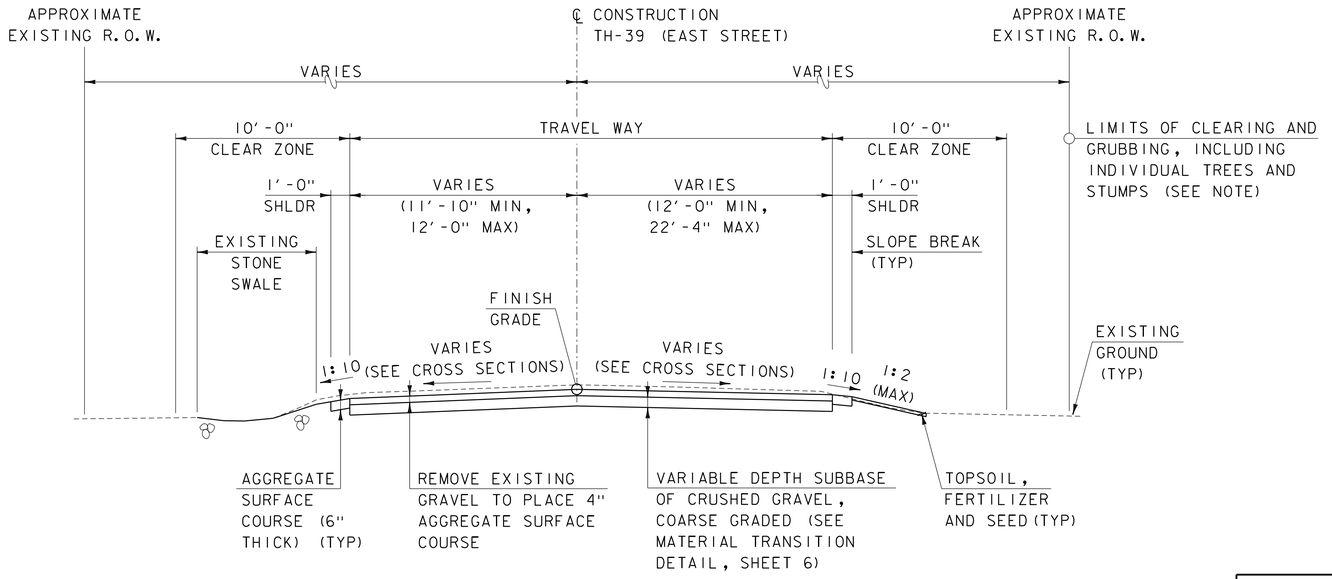
PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 4 OF 52



TYPICAL PAVED ROADWAY SECTION

STA 12+00.00 - STA 13+40.30
STA 14+59.34 - STA 15+60.40
SCALE: ¼" = 1'-0"

NOTE
ALL TREE LIMBS THAT EXTEND FROM TRUNKS BEYOND THE RIGHT OF WAY SHALL BE CUT ALONG THE RIGHT OF WAY LINE UNLESS NOTED OTHERWISE. ALL COSTS INCIDENTAL TO LIMITS OF CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS.



TYPICAL UNPAVED ROADWAY SECTION

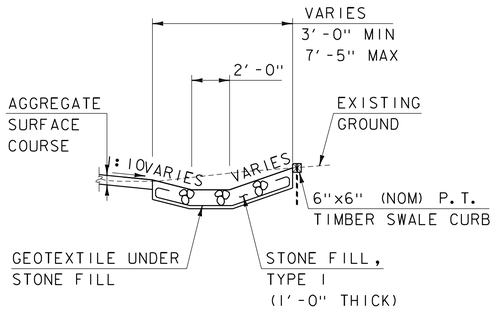
STA 11+75.00 - STA 12+00.00
SCALE: ¼" = 1'-0"

MATERIAL TOLERANCES

SURFACE	
- PAVEMENT (TOTAL THICKNESS)	+/- ¼"
- AGGREGATE SURFACE COURSE	+/- ½"
SUBBASE	+/- 1"

HOYLE TANNER

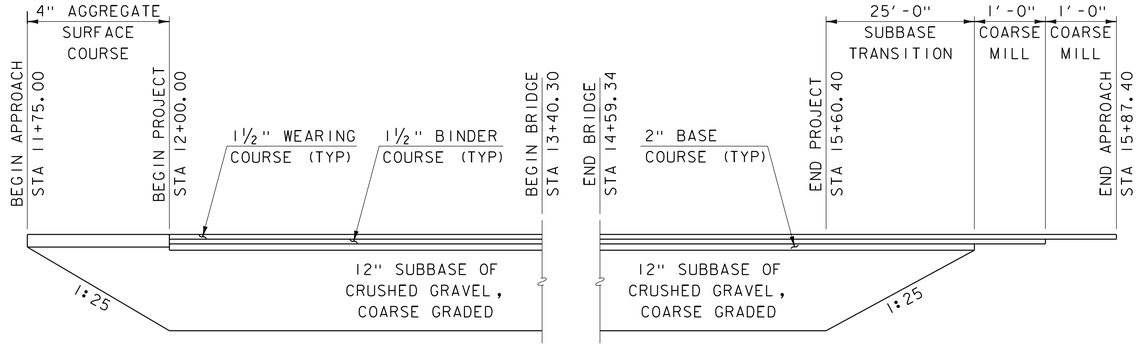
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228typ.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
TYPICAL SECTIONS 1	SHEET 5 OF 52



NOTE
SEE CROSS SECTIONS FOR WIDTH AND ELEVATIONS.
SLOPES VARY TO MATCH INTO EXISTING GROUND.
FOR LT STONE LINED SWALE, SEE SHEET 5.

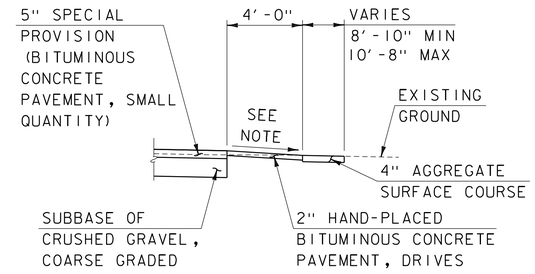
TYPICAL STONE LINED SWALE SECTION

STA 12+60 - STA 13+33, RT (W/O TIMBER SWALE CURB)
STA 15+44 - STA 15+93, RT (W/ TIMBER SWALE CURB)
SCALE: 1/4" = 1'-0"



TH-39 (EAST STREET) MATERIAL TRANSITION DETAIL

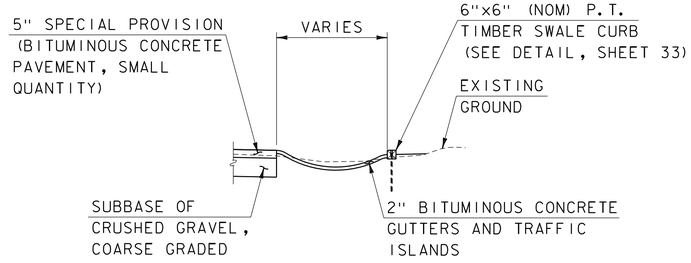
NOT TO SCALE



NOTE
SLOPE VARIES (SEE CROSS SECTIONS).

PAVED DRIVE SECTION (IN FILL)

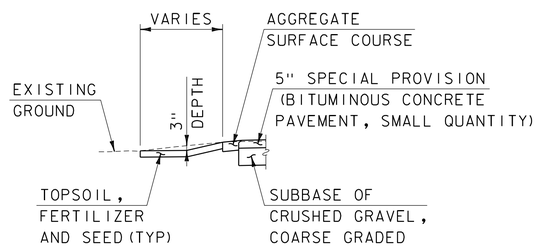
STA 12+55 - STA 12+87, LT
STA 14+85 - STA 15+15, RT
SCALE: 1/4" = 1'-0"



NOTE
SEE CROSS SECTIONS FOR WIDTH AND ELEVATIONS.

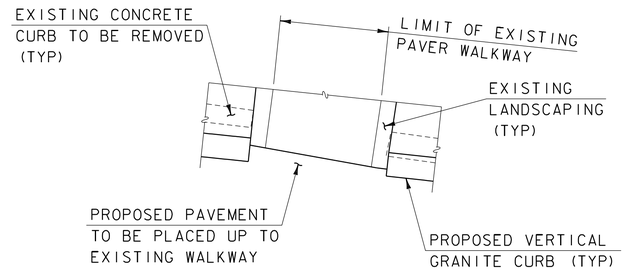
TYPICAL PAVED SWALE SECTION

STA 15+07 - STA 15+44, RT
SCALE: 1/4" = 1'-0"



TYPICAL GRASS SWALE SECTION

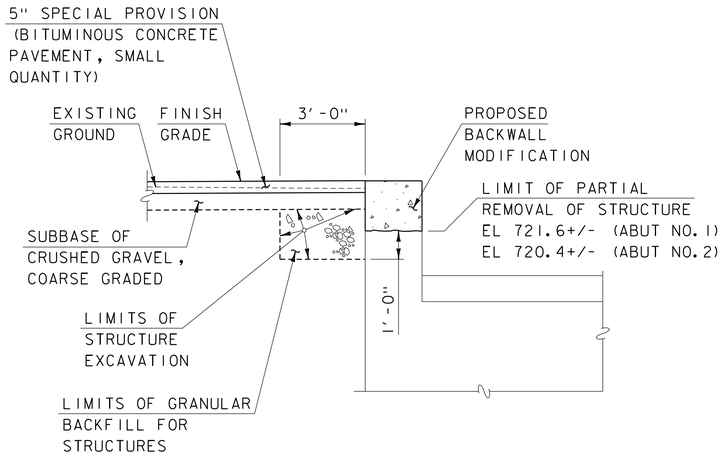
STA 15+03 - STA 15+14, LT
SCALE: 1/4" = 1'-0"



NOTE
ANY AND ALL LANDSCAPING DISTURBED SHALL BE RESTORED TO PRECONSTRUCTION CONDITIONS. THE PAVER WALKWAY SHALL NOT BE DISTURBED.

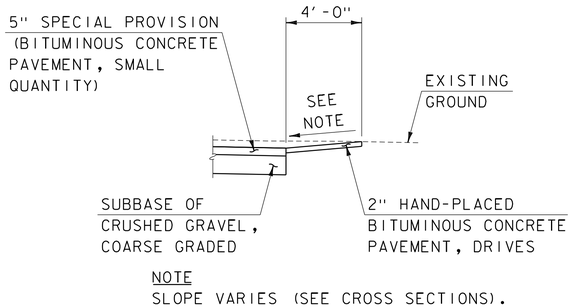
WALKWAY DETAIL

STA 15+50, LT
SCALE: 1/4" = 1'-0"



TYPICAL ABUTMENT EARTHWORK SECTION

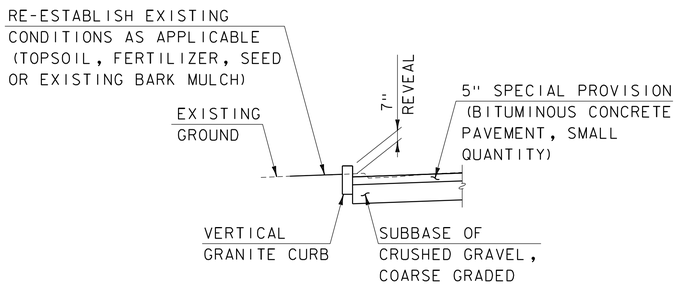
ABUTMENT NO. 1 SHOWN, ABUTMENT NO. 2 SIMILAR
NOT TO SCALE



NOTE
SLOPE VARIES (SEE CROSS SECTIONS).

PAVED DRIVE SECTION (IN CUT)

STA 12+04 - STA 12+38, RT
SCALE: 1/4" = 1'-0"



TYPICAL CURB SECTION

STA 15+16.73 - STA 15+49.44, LT
STA 15+51.82 - STA 15+80.18, LT
SCALE: 1/4" = 1'-0"

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228typ.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
TYPICAL SECTIONS 2	SHEET 6 OF 52

GENERAL NOTES

G-1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, DATED 2018, AND ITS LATEST REVISIONS AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, DATED 2002, AND ITS LATEST REVISIONS. ALL WOOD CONSTRUCTION SHALL COMPLY WITH THE LATEST AASHTO SPECIFICATIONS, THE NATIONAL DESIGN SPECIFICATION (NDS) AND SUPPLEMENT FOR WOOD CONSTRUCTION.

G-2. DESIGN OF THE REHABILITATED STRUCTURE IS FOR AN AASHTO H12 LIVE LOAD.

G-3. THE CONTRACTOR SHALL TAKE SPECIAL CARE AND PRECAUTION TO ENSURE THAT NO DEBRIS OR COATING FALLS, DRIPS, SPATTERS, OR BLOWS INTO MILL BROOK DURING CONSTRUCTION. ALL MATERIAL FALLING IN THE AREA BELOW AND ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE STATE.

G-4. ALL WORK SHALL BE COMPLETED WITHIN THE EXISTING R.O.W SHOWN IN THESE PLANS. SHOULD THE CONTRACTOR REQUIRE ANY EASEMENTS TO SUIT THEIR MEANS AND METHODS OF CONSTRUCTION. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL EASEMENTS, AND BEAR THE COSTS OF SUCH EASEMENTS WITHOUT FURTHER COMPENSATION FROM THE STATE.

G-5. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTIONS AND OTHER INFORMATION FROM THE STATE. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE CHECKED BY THE CONTRACTOR IN THE FIELD PRIOR TO COMMENCING THE WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE DIMENSIONS AND DETAILS OF EXISTING BRIDGE FEATURES AND COMPONENTS PRIOR TO THE FABRICATION OF NEW BRIDGE COMPONENTS. ACTUAL WORK SHALL MATCH FIELD CONDITIONS UNLESS NOTED OTHERWISE. ANY DISCREPANCIES IN DIMENSIONS, CHARACTER OR EXTENT OF THE EXISTING FEATURES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

G-6. BRIDGE NO. 28 WILL CLOSED FOR THE DURATION OF CONSTRUCTION AND TRAFFIC WILL BE DETOURED AROUND THE SITE. THE TOWN OF CLARENDON IS RESPONSIBLE FOR SIGNING AND MAINTAINING THE DETOUR ROUTE.

G-7. THE COST OF INSTALLING AND MAINTAINING ALL TEMPORARY ON-PROJECT CONSTRUCTION SIGNS WILL BE INCLUDED IN ITEM 641.11, TRAFFIC CONTROL, ALL-INCLUSIVE. THE REMOVAL AND/OR RESETTING OF TRAFFIC SIGNS, AS DEEMED NECESSARY BY THE RESIDENT ENGINEER SHALL ALSO BE INCLUDED IN THE TRAFFIC CONTROL ITEM.

G-8. EXCEPT AS NOTED OTHERWISE, ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE SHALL INCLUDE ANY REMOVAL WORK NECESSARY TO FACILITATE AND ACCOMPLISH THE SCOPE OF PROJECT WORK AS INDICATED BY THE CONTRACT DOCUMENTS AND DIRECTED BY THE ENGINEER; INCLUDING REMOVING AND DISPOSING SUPERSTRUCTURE MEMBERS AND PORTIONS OF MEMBERS; AS WELL AS REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR RE-USE, INCLUDING REMOVING AND STOCKPILING MEMBERS AND PORTIONS OF MEMBERS FOR THE CONTRACTOR'S METHODS OF REHABILITATION.

G-9. ALL MATERIALS TO BE REMOVED SHALL BE DISPOSED OF PROPERLY. THE EXISTING COVERED BRIDGE TIMBERS AND LUMBER MAY CONTAIN HAZARDOUS WOOD PRESERVATIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE STATE, ITS OFFICERS AND EMPLOYEES HARMLESS REGARDING THE CONTRACTOR'S HANDLING OF THESE MATERIALS AND SUBSEQUENT USE, RE-USE, OR DISPOSAL OF THESE MATERIALS.

G-10. SPECIAL CARE SHALL BE TAKEN TO AVOID DAMAGE TO MEMBERS THAT ARE TO REMAIN AND TO AVOID MOVEMENT OF THE TRUSS THAT COULD RESULT IN DISTORTION OR MISALIGNMENT OF THE TRUSS AND ITS JOINTS. MEMBERS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AS DIRECTED BY THE ENGINEER AT CONTRACTOR'S EXPENSE.

G-11. ALL JOINTS IN REPLACED MEMBERS SHALL MATCH THE EXISTING JOINT, INCLUDING ALL NAILS, BOLTS, TRUNNELS OR SCREWS REQUIRED UNLESS NOTED OTHERWISE. SEE TIMBER CONNECTION NOTES FOR ADDITIONAL INFORMATION.

G-12. ALL EXISTING MEMBERS SHOWN TO BE REPLACED ARE TO BE REPLACED "IN-KIND" WITH NEW MEMBERS IDENTICAL IN DIMENSIONS AND CONFIGURATIONS AS THE MEMBERS ORIGINALLY USED IN THE COVERED BRIDGE (INCLUDING JOINTS, MORTISES, TENONS, NOTCHES, HOLES, ETC.) UNLESS NOTED OTHERWISE IN THESE PLANS.

G-13. PRIOR TO COMMENCEMENT OF THE WORK THE CONTRACTOR SHALL SUBMIT ALL REQUIRED SUBMITTALS TO THE RESIDENT ENGINEER IN ACCORDANCE WITH SECTION 105 OF STANDARD SPECIFICATIONS. SEE SPECIAL PROVISIONS FOR OTHER SUBMITTALS REQUIRED FOR THIS PROJECT. THE CONTRACTOR AND FABRICATOR SHALL NOT BEGIN WORK WITHOUT APPROVAL OF THE SUBMITTALS.

G-14. ANY MATERIAL, DEMOLITION OR CONSTRUCTION DEBRIS AND WASTE, MACHINERY OR EQUIPMENT ASSOCIATED WITH THE AUTHORIZED WORK SHOULD BE REMOVED COMPLETELY BY THE CONTRACTOR PRIOR TO THE COMPLETION OF WORK. THIS INCLUDES ALL FALSEWORK, COFFERDAMS, AND APPURTENANT STRUCTURES AND MATERIALS, AND EROSION CONTROLS WITHIN THE CHANNEL AND ON EMBANKMENTS. IN ADDITION, THE CONTRACTOR SHOULD REMOVE ANY PRE-EXISTING CONSTRUCTION DEBRIS AND WASTE FROM THE CHANNEL AND EMBANKMENT WITHIN THE CONTRACT LIMITS OF THE PROJECT. ALL COSTS WILL BE CONSIDERED INCIDENTAL TO ITEM 635.11, MOBILIZATION/DEMOBILIZATION.

TIMBER CONNECTORS NOTES

TC-1. EXCEPT AS SPECIFIED IN THE STRUCTURAL STEEL NOTES, PAYMENT FOR STRUCTURAL LUMBER AND TIMBER AND NON-STRUCTURAL LUMBER QUANTITIES WILL INCLUDE FULL COMPENSATION FOR DETAILING, FURNISHING, TRANSPORTING, HANDLING, PLACING AND INSTALLING NEW TIMBER CONNECTORS (INCLUDING TRUNNELS AND STRENGTHENING TRUNNELS) WHICH ARE USED TO CONNECT NEW LUMBER AND TIMBER MEMBERS WITH NEW AND/OR EXISTING LUMBER AND TIMBER MEMBERS.

TC-2. EXCEPT AS SPECIFIED IN THE STRUCTURAL STEEL NOTES, DETAILING, FURNISHING, TRANSPORTING, HANDLING, AND INSTALLING NEW AND REUSED TIMBER CONNECTORS (INCLUDING TRUNNELS) WHICH ARE USED TO CONNECT EXISTING LUMBER AND TIMBER MEMBERS SHALL BE CONSIDERED INCIDENTAL TO THE WORK REQUIRED FOR ITEM 900.645 SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

WOOD NOTES

W-1. THE MAXIMUM IN PLACE MOISTURE CONTENT OF THE WOOD USED SHALL BE AS FOLLOWS:

MEMBERS LESS THAN 5" THICK	16%
MEMBERS GREATER THAN 5" THICK	19%
TRUNNELS	10%

ALL HARDWOOD 2.5" AND THICKER (INCLUDING BLACK LOCUST) MAY BE GREEN

CONTACT THE VTRANS/MATERIALS LAB IN BERLIN (802) 828-2561 FOR MOISTURE CONTENT TESTING OF ALL NEW LUMBER AND TIMBER BEFORE INCORPORATING INTO THE PROJECT.

W-2. ALL NEW WOOD TRUNNELS SHALL BE MADE OF WHITE OAK. TRUNNELS SHALL BE DRIVEN IN A MANNER WHICH AVOIDS SPLITTING THE TRUNNELS OR THE MEMBER CONNECTED BY THEM. HOLES SHALL BE SIZED 1/16" IN DIAMETER SMALLER THAN THE TRUNNEL TO PROVIDE A FRICTION FIT. TRUNNELS SHALL BE DIPPED IN BOILED LINSEED OIL, MINERAL OIL OR AN APPROVED WAX PRIOR TO DRIVING.

W-3. EACH PIECE OF NEW LUMBER AND TIMBER SHALL BE GRADED, BY A RECOGNIZED LUMBER GRADING AGENCY. INDIVIDUAL PIECES SHALL BE STAMPED WITH A GRADE STAMP AT THE END GRAIN OF THE MEMBERS. MATERIAL CERTIFICATIONS SHALL BE SUBMITTED FOR ALL WOOD (EXCEPT BLACK LOCUST) IN ACCORDANCE WITH SECTION 709.

W-4. THE QUANTITY OF ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED ASSUMES REPLACEMENT OF THE FOLLOWING MEMBERS:

- 2 ADDITIONAL ROOF RAFTERS
- 2 ADDITIONAL PRINCIPAL ROOF RAFTERS
- 1 ADDITIONAL CROSS BEAM
- 2 ADDITIONAL UPPER LATERAL BRACES
- 1 KNEE BRACE, 1 ADDED KNEE BRACE
- 4 ADDITIONAL 28' LONG CHORD 1 PLIES
- 2 ADDITIONAL 28' LONG CHORD 2 PLIES
- 2 ADDITIONAL 28' LONG CHORD 3 PLIES
- 5 ADDITIONAL FULL-LENGTH LATTICE
- 5 ADDITIONAL HALF LENGTH LATTICE
- 1 ADDITIONAL TRUSS VERTICAL
- 25% OF THE EXISTING MIDDLE NAILER

THE QUANTITY OF ITEM 522.25, STRUCTURAL LUMBER AND TIMBER, TREATED ASSUMES REPLACEMENT OF 1 ADDITIONAL FLOOR BEAM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL LUMBER DIMENSIONS AND SIZES REQUIRED FOR CONSTRUCTION.

W-5. THE QUANTITY OF ITEM 522.30, NONSTRUCTURAL LUMBER, UNTREATED ASSUMES REPLACEMENT OF ALL, PORTAL (INCLUDING TRIM BOARDS), END RETURN, UPSTREAM AND DOWNSTREAM SIDING, AND 20% OF THE EXISTING ROOF BOARDS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL LUMBER DIMENSIONS AND SIZES REQUIRED FOR CONSTRUCTION.

W-6. ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE) SHALL INCLUDE ALL COSTS ASSOCIATED WITH RE-INSTALLING STOCKPILED COMPONENTS (FROM ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE) ON THE SUPERSTRUCTURE; ALTERATIONS TO IN-PLACE MEMBERS REQUIRED FOR RE-USE/REHABILITATION OF THE SUPERSTRUCTURE; TEMPORARY FALSEWORK, BRACING AND BLOCKING; ALL LABOR, MATERIALS AND SUBMITTALS REQUIRED FOR THE REHABILITATION WORK (EXCEPT AS SPECIFIED BY OTHER CONTRACT ITEMS); STRAIGHTENING, PLUMBING, AND RE-ALIGNING MEMBERS.

W-7. ALL NUTS, BOLTS, WASHERS, AND SCREWS SHALL CONFORM TO ASTM A307, ALL NAILS AND SPIKES SHALL CONFORM TO ASTM F1667 AND BE DOUBLE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232. STAINLESS STEEL NAILS ARE REQUIRED FOR THE SIDING. SPLIT RING CONNECTORS SHALL BE MANUFACTURED FROM SAE 1010 HOT ROLLED CARBON STEEL AND GALVANIZED IN ACCORDANCE WITH ASTM A153.

W-8. ALL STRUCTURAL LUMBER AND TIMBER NOT SHOWN ON THE WOOD MATERIALS LIST TABLE ON SHEET 8 SHALL BE DOUGLAS FIR NO. 1 OR BETTER. LIKEWISE, ALL HARDWOOD SHALL BE WHITE OAK NO. 1 OR BETTER OR BLACK LOCUST WHERE THE SPECIES IS NOT NOTED.

W-9. ALL FIELD CUTS AND BORINGS OF TREATED WOOD SHALL BE TREATED WITH TWO COATS OF COPPER NAPHTHENATE LIBERALLY APPLIED PER SECTION 522 OF STANDARD SPECIFICATIONS.

W-10. ALL LAG BOLTS AND NUTS FOR THROUGH BOLTS SHALL BE TIGHTENED SNUGLY BUT NOT SO TIGHTLY AS TO CAUSE CRUSHING OF THE WOOD UNDER THE WASHER OR PLATE.

W-11. DIMENSIONS OF ALL LUMBER AND TIMBER MEMBERS SHOWN IN THESE PLANS ARE THE ACTUAL SIZES AFTER SEASONING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.

W-12. PRESERVATIVE TREATMENT FOR ITEM 522.25, STRUCTURAL LUMBER AND TIMBER, TREATED SHALL COMPLY WITH SUBSECTION 726.01 FOR PENTACHLOROPHENOL TYPE CCA.

W-13. AN ADDITIONAL 40 ROTTED MEMBER REPAIRS (AS SHOWN ON "EPOXY REPAIR DETAIL" ON SHEET 27) ARE INCLUDED FOR BIDDING PURPOSES. SEE THE RECOMMENDED REPAIR SEQUENCE NOTES ON SHEET 27 FOR MORE DETAILS AND INFORMATION.

SUBSTRUCTURE REHABILITATION NOTES

SR-1. EXISTING CONCRETE ON ABUTMENTS NO. 1 AND ABUTMENT NO. 2 SHALL BE INSPECTED FOR UNSOUND CONCRETE JOINTLY BY THE ENGINEER AND CONTRACTOR. ALL UNSOUND CONCRETE BEYOND WHAT IS IDENTIFIED IN THE PLANS SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH ITEM 580.14, REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II UNLESS INDICATED OTHERWISE.

SR-2. PRIOR TO PLACING NEW CONCRETE, THE ENTIRE REPAIR AREA SHALL BE BLAST CLEANED AND SATURATED SURFACE-DRY.

SR-3. HOLES DRILLED IN EXISTING CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ITEM 507.16, DRILLING AND GROUTING DOWELS.

STRUCTURAL STEEL NOTES

S-1. EXCEPT AS NOTED OTHERWISE IN THE CONTRACT PLANS, ITEM 506.75, STRUCTURAL STEEL SHALL INCLUDE THE FOLLOWING:

- CARRIAGE BOLTS INCLUDING OGEE WASHERS AND HEAVY SQUARE NUTS FOR UPPER LATERAL BRACING MEMBERS.
- THROUGH BOLTS AND TIE RODS AT ALL KNEE BRACES.
- FLOOR BEAM HOLD DOWN STRAPS.
- FLITCH SLEEPER BEAM ½" THICK X 1'-2" WIDE STEEL PLATES AND CONNECTORS.

FABRICATION DRAWINGS AND ERECTION PLAN SUBMITTALS ARE NOT REQUIRED FOR ITEM 506.75, STRUCTURAL STEEL.

S-2. ALL NEW STRUCTURAL STEEL SHOWN IN THE PLANS INCLUDING PLATES, BOLTS, LAG BOLTS, NUTS, WASHERS, RODS, AND MISCELLANEOUS STEEL, SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH AASHTO M 232M/M 232 EXCEPT FOR PLATES WHICH SHALL BE GALVANIZED PER AASHTO M 111M/ M 111. ALL STEEL PLATES AND RODS SHALL BE ASTM A36.

S-3. EXPOSED SURFACES OF ALL NEW STRUCTURAL STEEL AND HARDWARE SHALL BE COATED WITH 2 COATS OF A-H COAL TAR EPOXY 210 BY ANTI-HYDRO COMPANY, BITUMASTIC 300-M BY CARBOLINE, RUST-OLEUM C957 SYSTEM COAL TAR EPOXY, TARGUARD COAL TAR EPOXY BY SHERWIN WILLIAMS, OR OTHER EQUIVALENT APPROVED EQUAL COAL TAR EPOXY. ALL COST FOR THIS WORK WILL BE CONSIDERED INCIDENTAL TO ITEM 506.75, STRUCTURAL STEEL.

TRAFFIC CONTROL NOTES

S-1. PROPOSED SIGN LOCATIONS SHOWN ON SHEET 19 ARE APPROXIMATE. FINAL LOCATIONS TO BE DETERMINED BY THE RESIDENT ENGINEER IN THE FIELD TO PROVIDE MAXIMUM VISIBILITY AND TO MEET THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST VERSION, REQUIREMENTS.

S-2. ALL COSTS FOR INSTALLING ON-PROJECT TEMPORARY TRAFFIC CONTROL SIGNING AND BARRIERS DURING CONSTRUCTION, AS DIRECTED BY THE RESIDENT ENGINEER, WILL BE PAID FOR UNDER ITEM 621.90, TEMPORARY TRAFFIC BARRIER AND ITEM 641.11, TRAFFIC CONTROL - ALL INCLUSIVE. SIGN LAYOUT SHALL BE IN ACCORDANCE WITH VERMONT STANDARD DETAILS AND MUTCD. ITEM 630.10, UNIFORMED TRAFFIC OFFICERS AND ITEM 630.15, FLAGGERS, SHALL BE USED AS DIRECTED BY THE RESIDENT ENGINEER DURING CONSTRUCTION.

S-3. SEE VTRANS STANDARDS T-1, T-10, T-28, AND T-30 FOR SIGN PLACEMENT AND DETAILS.

S-4. NO CONSTRUCTION SIGNS SHALL BE INSTALLED IN SUCH A WAY AS TO INTERFERE OR OBSTRUCT EXISTING SIGNS, THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE AND/OR CORNER SIGHT DISTANCE FROM EXISTING DRIVES AND HIGHWAYS, SIGN LOCATION TO BE APPROVED BY THE RESIDENT ENGINEER.

S-5. ALL OFF-PROJECT DETOUR SIGNS SHALL BE THE RESPONSIBILITY OF THE TOWN OF CLARENDON.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228nts.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
PROJECT NOTES 1

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA

CONCRETE AND REINFORCING STEEL NOTES

C-1. REINFORCING STEEL SHALL BE LEVEL I AND LEVEL I EPOXY COATED AND CONFORM TO SECTION 507 AND DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE" (CRSI).

C-2. THE KEY IN CONCRETE CONSTRUCTION JOINTS (IF REQUIRED) SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT; ANY DOWNWARD KEY SHALL BE PLACED INTEGRALLY WITH THE CONCRETE ABOVE THE JOINT.

C-3. REINFORCING PLACEMENT TOLERANCES SHALL BE:

SPACING +/- 1"

CLEARANCE +/- $^1/_4$"

C-4. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2 ½" UNLESS NOTED OTHERWISE.

C-5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1" x 1" UNLESS NOTED OTHERWISE.

C-6. THE PROPOSED CONCRETE FOR THE NEW BACKWALLS, FLOOR BEAM PEDESTALS AND DRAINAGE NOTE 2 HEADWALLS SHALL BE CONCRETE CLASS A PAID UNDER ITEM 541.22, CONCRETE, CLASS A.

C-7. ALL NEW AND EXISTING EXPOSED CONCRETE SURFACES SHALL BE SEALED AND STAINED TO ACHIEVE A DARK GRAY APPEARANCE TO MATCH AS CLOSE AS PRACTICABLE THE COLOR OF EXISTING CONCRETE, STONE FILL AND LEDGE. PAYMENT WILL BE MADE UNDER ITEM 900.625, SPECIAL PROVISION (CONCRETE STAINING AND SEALING). SEE SPECIAL PROVISION FOR ACCEPTABLE MATERIAL AND COATING SYSTEMS AND ADDITIONAL REQUIREMENTS.

SUMMARY OF QUANTITIES NOTES

Q-1. THE FOLLOWING MEMBERS ARE INCLUDED IN THE ESTIMATED LUMBER AND TIMBER QUANTITIES OF:

A. ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED:

- RAFTERS (0.341 MFBM)
- RAFTER BEARING BLOCKS (0.050 MFBM)
- KNEE BRACES (0.113 MFBM)
- CROSS BEAMS (0.453 MFBM)
- NEW AND EXISTING UPPER LATERAL BRACING (0.912 MFBM)
- TRUSS CHORDS (3.933 MFBM)
- TRUSS LATTICE (2.376 MFBM)
- TRUSS END VERTICALS (0.240 MFBM)
- DECK RUNNERS (5.000 MFBM)
- HARDWOOD BLOCKS (0.819 MFBM)
- NAILERS (0.643 MFBM)
- ROUNDING (0.620 MFBM)

B. ITEM 522.25, STRUCTURAL LUMBER AND TIMBER, TREATED:

- SLEEPER BEAMS (1.493 MFBM)
- CURBING (1.118 MFBM)
- FLOOR BEAMS (0.980 MFBM)
- DECKING (2.220 MFBM)
- SWALE CURBING (0.294 MFBM)
- ROUNDING (0.415 MFBM)

C.ITEM 522.30, NONSTRUCTURAL LUMBER, UNTREATED:

- ROOF BOARDS (0.532 MFBM)
- SIDING AND CLADDING (4.677 MFBM)
- ROUNDING (0.291 MFBM)

WOOD MATERIALS LIST

COMPONENT	EXISTING AVERAGE SIZE (IN INCHES)	PROPOSED ACTUAL SIZE (IN INCHES)	PROPOSED SPECIES & GRADE	FINISH
BEARING AND HARDWOOD BLOCKS	VARIES	VARIES	WHITE OAK NO. 1 OR BLACK LOCUST	S4S
CROSS BEAMS	8x9	8x9	DOUGLAS FIR SEL. STR.	ROUGH SAWN
CROSS BEAM SUPPLEMENTAL BLOCK	- - -	3X8	WHITE OAK NO. 1 OR BLACK LOCUST	ROUGH SAWN
DECKING (NAIL LAMINATED)	1¾X6	1½X6	P.T. DOUGLAS FIR SEL. STR.	S4S
FLOOR BEAMS	8X14	8X14	P.T. DOUGLAS FIR NO. 1	S1S (NARROW FACE)
KNEE BRACES	3 ¾x3 ¾	3 ¾x3 ¾	DOUGLAS FIR SEL. STR.	ROUGH SAWN
KNEE BRACES (ADDED)	4x5	4x5	DOUGLAS FIR SEL. STR.	ROUGH SAWN
NAILERS/SIDING SUPPORT	1½x4 OR 2x8	1½x2 OR 2x8	EASTERN HEMLOCK NO. 1	ROUGH SAWN
RAFTERS	3x5 OR 4x5	3x5 OR 4x5	DOUGLAS FIR SEL. STR.	ROUGH SAWN
ROOF BOARDS	1" THICK	1" THICK	EASTERN HEMLOCK NO. 1	ROUGH SAWN
RUNNER BOARDS	3" THICK	3" THICK	WHITE OAK NO. 1	S4S
SIDING	1 X 8	1 X 8	EASTERN WHITE PINE COMMON	ROUGH SAWN
SLEEPER BEAMS	- - -	9x14 (PAIR)	P.T. DOUGLAS FIR SEL. STR.	S4S
TIMBER CURB	- - -	5½×7½	P.T. DOUGLAS FIR NO. 1	S4S
TIMBER CURB BLOCKING	- - -	2½×7¼	P.T. DOUGLAS FIR NO. 1	S4S
TRUSS CHORDS *	3x12	3×12	DOUGLAS FIR SEL. STR.	S4S
TRUSS LATTICES AND LATTICE SPLICE BLOCKS*	3x11	3×11	DOUGLAS FIR SEL. STR.	S1S (WIDE FACE)
UPPER LATERAL BRACING (EXISTING)	4x5	4x5	DOUGLAS FIR NO. 1	ROUGH SAWN
UPPER LATERAL BRACING (NEW)	- - -	5x5	DOUGLAS FIR NO. 1	ROUGH SAWN

* LATTICE AND CHORD MEMBERS SHALL BE FREE OF HEART CENTER.

MINIMUM ALLOWABLE WOOD STRESSES

SPECIES	SIZE	GRADE	F_b (psi)	F_t (psi)	F_v (psi)	$F_{c\perp}$ (psi)	F_c (psi)	E ($\times 10^6$ psi)
DOUGLAS FIR	2" - 4" THICK	SEL. STR.	1500	1000	180	625	1700	1.9
DOUGLAS FIR	BEAMS & STRINGERS *	SEL. STR.	1600	950	170	625	1100	1.6
DOUGLAS FIR	POSTS & TIMBERS **	SEL. STR.	1500	1000	170	625	1150	1.6
DOUGLAS FIR	2" - 4" THICK	NO. 1	1000	675	180	625	1500	1.7
DOUGLAS FIR	BEAMS & STRINGERS *	NO. 1	1350	675	170	625	925	1.6
DOUGLAS FIR	POSTS & TIMBERS **	NO. 1	1200	825	170	625	1000	1.6
EASTERN HEMLOCK	2" - 4" THICK	NO. 1	775	350	170	555	1000	1.1
WHITE OAK	2" - 4" THICK	NO. 1	875	500	220	800	900	1.0

* 5" & THICKER AND MORE THAN 2 IN. GREATER THAN THICKNESS (E.G. 12×18)

** 5" & THICKER AND NOT MORE THAN 2 IN. GREATER THAN THICKNESS (E.G. 7×8¾)

HOYLE TANNER

PROJECT NAME: CLARENDON
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FILE NAME: z19j228nts.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
PROJECT NOTES 2

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 8 OF 52

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 1

SUMMARY OF ESTIMATED QUANTITIES				TOTALS		DESCRIPTIONS			
1011 - ROADWAY	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1999 - FULL C.E. ITEMS	GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND
1				1		LS	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	201.10	
410				410		CY	COMMON EXCAVATION	203.15	
2				2		CY	SOLID ROCK EXCAVATION	203.16	
15				15		CY	EARTH BORROW	203.30	
20				20		CY	TRENCH EXCAVATION OF EARTH	204.20	
1				1		CY	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	204.22	
15		6		21		CY	STRUCTURE EXCAVATION	204.25	
10		6		16		CY	GRANULAR BACKFILL FOR STRUCTURES	204.30	
190				190		CY	SUBBASE OF CRUSHED GRAVEL, COARSE GRADED	301.25	
35				35		CY	AGGREGATE SURFACE COURSE	401.10	
6				6		CWT	EMULSIFIED ASPHALT	404.65	
30				30		SY	HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES	406.38	
		1		1		LS	SHORING SUPERSTRUCTURE	502.10	
		1		1		LS	STRUCTURAL STEEL	506.75	
		800		800		LB	REINFORCING STEEL, LEVEL I (EPOXY COATED)	507.11	
		200		200		LB	REINFORCING STEEL, LEVEL I (UNCOATED)	507.11	
		60		60		LF	DRILLING AND GROUTING DOWELS	507.16	
		15.5		15.5		MFBM	STRUCTURAL LUMBER AND TIMBER, UNTREATED	522.20	
		6.5		6.5		MFBM	STRUCTURAL LUMBER AND TIMBER, TREATED	522.25	
		5.5		5.5		MFBM	NONSTRUCTURAL LUMBER, UNTREATED	522.30	
		28		28		LF	JOINT SEALER, POLYURETHANE	524.21	
		1		1		EACH	PARTIAL REMOVAL OF STRUCTURE	529.20	
		22		22		CY	CONCRETE, CLASS A	541.22	
		12		12		SY	REPAIR OF CONCRETE SUBSTRUCTURE SURFACE, CLASS II	580.14	
35				35		LF	15" RCP CLASS IV	601.0811	
19				19		LF	24" RCP CLASS IV	601.0826	
2				2		EACH	15" RCPES CLASS III	601.6810	
	20			20		HR	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	608.25	
1				1		MGAL	DUST CONTROL WITH WATER	609.10	
70				70		CY	STONE FILL, TYPE I	613.10	
70				70		CY	STONE FILL, TYPE II	613.11	
76				76		LF	VERTICAL GRANITE CURB	616.21	
65				65		LF	REMOVAL OF EXISTING CURB	616.41	
5				5		TON	BITUMINOUS CONCRETE GUTTERS AND TRAFFIC ISLANDS	616.47	
2				2		EACH	REMOVE AND RESET MAILBOX, SINGLE SUPPORT	617.10	
158				158		LF	STEEL BACKED TIMBER GUARDRAIL	621.18	
175				175		LF	REMOVAL AND DISPOSAL OF GUARDRAIL	621.80	
40				40		LF	TEMPORARY TRAFFIC BARRIER	621.90	
10				10		HR	UNIFORMED TRAFFIC OFFICERS	630.10	
120				120		HR	FLAGGERS	630.15	

DETAILED SUMMARY OF QUANTITIES

QUANTITIES	UNIT	ITEMS

HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228qty.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
QUANTITY SHEET 1	SHEET 9 OF 52

STATE OF VERMONT
AGENCY OF TRANSPORTATION

QUANTITY SHEET 2

SUMMARY OF ESTIMATED QUANTITIES							TOTALS		DESCRIPTIONS				DETAILED SUMMARY OF QUANTITIES		
1011 - ROADWAY	1051 - EROSION CONTROL	1211 - BRIDGE NO. 1	1999 - FULL C.E. ITEMS				GRAND TOTAL	FINAL	UNIT	ITEMS	ITEM NUMBER	ROUND	QUANTITIES	UNIT	ITEMS
			1				1		LS	FIELD OFFICE, ENGINEERS	631.10				
			1				1		LS	TESTING EQUIPMENT, CONCRETE	631.16				
			1				1		LS	TESTING EQUIPMENT, BITUMINOUS	631.17				
			3000				3000		DL	FIELD OFFICE COMMUNICATIONS (N.A.B.I.)	631.26				
		14					14		EACH	CPM SCHEDULE	633.10				
1							1		LS	MOBILIZATION/DEMOBILIZATION	635.11				
1							1		LS	TRAFFIC CONTROL, ALL-INCLUSIVE	641.11				
538							538		LF	4 INCH WHITE LINE, WATERBORNE PAINT	646.201				
224							224		LF	4 INCH YELLOW LINE, WATERBORNE PAINT	646.2111				
4							4		EACH	LETTER OR SYMBOL, WATERBORNE PAINT	646.301				
12							12		LF	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	646.482				
270							270		SY	GEOTEXTILE UNDER STONE FILL	649.31				
	5						5		LB	SEED	651.15				
	17						17		LB	FERTILIZER	651.18				
	1						1		TON	AGRICULTURAL LIMESTONE	651.20				
	20						20		CY	TOPSOIL	651.35				
	45						45		SY	GRUBBING MATERIAL (12")	651.40				
	1						1		LS	EPSC PLAN	653.01				
	72						72		HR	MONITORING EPSC PLAN	653.02				
	1						1		LU	MAINTENANCE OF EPSC PLAN (N.A.B.I.)	653.03				
	1						1		TON	HAY MULCH	653.10				
	700						700		LF	SILT FENCE, TYPE II	653.476				
	400						400		LF	BARRIER FENCE	653.50				
	300						300		LF	PROJECT DEMARCATION FENCE	653.55				
71							71		SF	TRAFFIC SIGN, TYPE A	675.20				
126							126		LF	SQUARE TUBE SIGN POST AND ANCHOR	675.341				
14							14		EACH	REMOVING SIGNS	675.50				
2							2		EACH	RESETTING SIGNS	675.60				
10							10		EACH	DELINEATOR WITH STEEL POST	676.10				
		193					193		EACH	SPECIAL PROVISION (WOOD EPOXY REPAIRS)	900.620				
		14					14		GAL	SPECIAL PROVISION (CONCRETE STAINING AND SEALING)	900.625				
		1					1		LS	SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)	900.645				
		1					1		LS	SPECIAL PROVISION (TIMBER COATING, ENVIRONMENTAL PROTECTION)	900.645				
		1					1		LS	SPECIAL PROVISION (TIMBER COATING, FIRE RETARDANT)	900.645				
		1					1		LS	SPECIAL PROVISION (TIMBER COATING, TERMITICIDE/INSECTICIDE/FUNGICIDE)	900.645				
1							1		LU	SPECIAL PROVISION (MAT DENSITY PAY ADJUSTMENT, SMALL QUANTITY)(N.A.B.I.)	900.650				
1							1		LU	SPECIAL PROVISION (MIXTURE PAY ADJUSTMENT)(N.A.B.I.)	900.650				
		300					300		SY	SPECIAL PROVISION (METAL ROOFING)	900.675				
185							185		TON	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT, SMALL QUANTITY)	900.680				

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228qty.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
QUANTITY SHEET 2

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 10 OF 52

GENERAL INFORMATION

SYMBOLOGY LEGEND NOTE

THE SYMBOLOGY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLOGY. THE SYMBOLOGY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLOGY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT	CODE	DESCRIPTION
	BF	BARRIER FENCE
	CH	CHANNEL EASEMENT
	CONST	CONSTRUCTION EASEMENT
	CUL	CULVERT EASEMENT
	D&C	DISCONNECT & CONNECT
	DIT	DITCH EASEMENT
	DR	DRAINAGE EASEMENT
	DRIVE	DRIVEWAY EASEMENT
	EC	EROSION CONTROL
	HWY	HIGHWAY EASEMENT
	I&M	INSTALL & MAINTAIN EASEMENT
	LAND	LANDSCAPE EASEMENT
	PDF	PROJECT DEMARCATION FENCE
	R&RES	REMOVE & RESET
	R&REP	REMOVE & REPLACE
	R.T.& I.	RIGHT, TITLE, AND INTEREST
	SR	SLOPE RIGHT
	UE	UTILITY EASEMENT
	(P)	PERMANENT EASEMENT
	(T)	TEMPORARY EASEMENT
■	BNDNS	BOUND SET
⧈	BNDNS	BOUND TO BE SET
◎	IPNF	IRON PIN FOUND
●	IPNS	IRON PIN TO BE SET
⊠	CALC	EXISTING ROW POINT
○	PROW	PROPOSED ROW POINT
[LENGTH]		LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT	CODE	DESCRIPTION
	APL	BOUND APPARENT LOCATION
	BM	BENCHMARK
	BND	BOUND
	CB	CATCH BASIN
	COMB	COMBINATION POLE
	DITHR	DROP INLET THROATED DNC
	EL	ELECTRIC POWER POLE
	FPOLE	FLAGPOLE
	GASFIL	GAS FILLER
	GP	GUIDE POST
	GSO	GAS SHUT OFF
	GUY	GUY POLE
	GUYW	GUY WIRE
	GV	GATE VALVE
	H	TREE HARDWOOD
	HCTRL	CONTROL HORIZONTAL
	HVCTRL	CONTROL HORIZ. & VERTICAL
	HYD	HYDRANT
	IP	IRON PIN
	IPIPE	IRON PIPE
	LI	LIGHT - STREET OR YARD
	MB	MAILBOX
	MH	MANHOLE (MH)
	MM	MILE MARKER
	PM	PARKING METER
	PMK	PROJECT MARKER
	POST	POST STONE/WOOD
	RRSIG	RAILROAD SIGNAL
	RRSL	RAILROAD SWITCH LEVER
	S	TREE SOFTWOOD
	SAT	SATELLITE DISH
	SHRUB	SHRUB
	SIGN	SIGN
	STUMP	STUMP
	TEL	TELEPHONE POLE
	TIE	TIE
	TSIGN	SIGN W/DOUBLE POST
	VCTRL	CONTROL VERTICAL
	WELL	WELL
	WSO	WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADIUS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE
CB	CHORD BEARING

UTILITY SYMBOLOGY

UNDERGROUND UTILITIES

- UGU — UTILITY (GENERIC-UNKNOWN)
- UT — TELEPHONE
- UE — ELECTRIC
- UC — CABLE (TV)
- UEC — ELECTRIC+CABLE
- UET — ELECTRIC+TELEPHONE
- UCT — CABLE+TELEPHONE
- UECT — ELECTRIC+CABLE+TELEPHONE
- G — GAS LINE
- W — WATER LINE
- S — SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

- AGU — UTILITY (GENERIC-UNKNOWN)
- T — TELEPHONE
- E — ELECTRIC
- C — CABLE (TV)
- EC — ELECTRIC+CABLE
- ET — ELECTRIC+TELEPHONE
- AER E&T — ELECTRIC+TELEPHONE
- CT — CABLE+TELEPHONE
- ECT — ELECTRIC+CABLE+TELEPHONE
- UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLOGY

PROJECT DESIGN & LAYOUT SYMBOLOGY

- CZ — CLEAR ZONE
- PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

- TOP OF CUT SLOPE
- TOE OF FILL SLOPE
- STONE FILL
- BOTTOM OF DITCH ℄
- CULVERT PROPOSED
- STRUCTURE SUBSURFACE
- PDF — PDF — PROJECT DEMARCATION FENCE
- BF — BF — BARRIER FENCE
- TREE PROTECTION ZONE (TPZ)
- STRIPING LINE REMOVAL
- SHEET PILES

CONVENTIONAL BOUNDARY SYMBOLOGY

BOUNDARY LINES

- TOWN LINE — TOWN BOUNDARY LINE
- COUNTY LINE — COUNTY BOUNDARY LINE
- STATE LINE — STATE BOUNDARY LINE
- PROPOSED STATE R.O.W. (LIMITED ACCESS)
- PROPOSED STATE R.O.W.
- STATE ROW (LIMITED ACCESS)
- STATE ROW
- TOWN ROW
- PERMANENT EASEMENT LINE (P)
- TEMPORARY EASEMENT LINE (T)
- SURVEY LINE
- P/L — PROPERTY LINE (P/L)
- SR SR SR — SLOPE RIGHTS
- 6f — 6f — 6F PROPERTY BOUNDARY
- 4f — 4f — 4F PROPERTY BOUNDARY
- HAZ — HAZ — HAZARDOUS WASTE

EPSC LAYOUT PLAN SYMBOLOGY

EPSC MEASURES

- FILTER CURTAIN
- SILT FENCE
- SILT FENCE WOVEN WIRE
- CHECK DAM
- DISTURBED AREAS REQUIRING RE-VEGETATION
- EROSION MATTING

SEE EPSC DETAIL SHEETS FOR ADDITIONAL SYMBOLOGY

ENVIRONMENTAL RESOURCES

- WETLAND BOUNDARY
- RIPARIAN BUFFER ZONE
- WETLAND BUFFER ZONE
- SOIL TYPE BOUNDARY
- T&E — THREATENED & ENDANGERED SPECIES
- HAZ — HAZ — HAZARDOUS WASTE AREA
- AG — AGRICULTURAL LAND
- HABITAT — FISH & WILDLIFE HABITAT
- FLOOD PLAIN — FLOOD PLAIN
- OHW — ORDINARY HIGH WATER (OHW)
- STORM WATER
- USDA FOREST SERVICE LANDS
- WILDLIFE HABITAT SUIT/CONN

ARCHEOLOGICAL & HISTORIC

- ARCH — ARCHEOLOGICAL BOUNDARY
- HISTORIC DIST — HISTORIC DISTRICT BOUNDARY
- HISTORIC — HISTORIC AREA
- Ⓗ HISTORIC STRUCTURE

CONVENTIONAL TOPOGRAPHIC SYMBOLOGY

EXISTING FEATURES

- ROAD EDGE PAVEMENT
- ROAD EDGE GRAVEL
- DRIVEWAY EDGE
- DITCH
- FOUNDATION
- FENCE (EXISTING)
- FENCE WOOD POST
- FENCE STEEL POST
- GARDEN
- ROAD GUARDRAIL
- RAILROAD TRACKS
- CULVERT (EXISTING)
- STONE WALL
- WALL
- WOOD LINE
- BRUSH LINE
- HEDGE
- BODY OF WATER EDGE
- LEDGE EXPOSED

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228leg.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
CONVENTIONAL SYMBOLOGY LEGEND	SHEET 11 OF 52

PRIMARY CONTROL

HVCTRL #1

GATE 12 "2014"

NORTH = 375483.2746
EAST = 1519510.5599
ELEV. = 781.1960

CLARENDON, VT.
THE MARK IS SET 2 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT AND IS ABOUT 30 M SOUTH OF THE DRIVE LEADING TO VERMONT WOOD PELLET AND THE STAFFORD DRIVER TRAINING SCHOOL. IT IS 8.3 M SOUTHEAST OF THE CENTERLINE OF VT ROUTE 7B, 6.9 M SOUTHWEST OF THE CENTERLINE OF THE DRIVE FOR GATE 12 ACCESS TO THE RUTLAND COUNTY AIRPORT, 4.3 M SOUTHWEST OF THE SOUTHWEST EDGE OF THE OPENING OF GATE 12, AND 46.9 M NORTHEAST OF THE WEST CORNER OF THE FENCE ENCLOSURE.

HVCTRL #2

ACC CEMETERY "2014"

NORTH = 374640.7435
EAST = 1522841.3540
ELEV. = 815.5560

CLARENDON, VT.
THE MARK IS SET 5 CM BELOW GROUND SURFACE IN THE TOP OF A FENO STYLE MONUMENT IN THE LAWN JUST WEST OF THE EAST CLARENDON COMMUNITY CEMETERY. IT IS 9.6 M EAST OF AND 1.0 M HIGHER THAN THE CENTERLINE OF AIRPORT ROAD, 6.9 M WEST OF THE CEMETERY FENCE, 22.2 M SOUTH OF THE CENTERLINE OF THE MAIN ENTRANCE DRIVE TO THE CEMETERY, 17.6 M NORTHWEST OF A 40 CM CEDAR AND 28.7 M NORTH OF THE CENTERLINE OF THE SOUTH ENTRANCE DRIVE TO THE CEMETERY.

SECONDARY CONTROL

HVCTRL #3 — REBAR W/CAP

NORTH = 374264.5477
EAST = 1523030.2259
ELEV. = 799.5010

NOT TIED

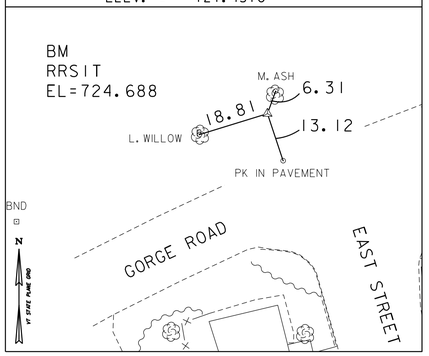
HVCTRL #4 — REBAR W/CAP

NORTH = 373788.1433
EAST = 1523896.6212
ELEV. = 749.1240

NOT TIED

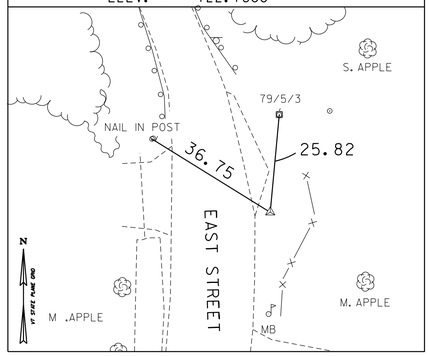
HVCTRL #5 — REBAR W/CAP

NORTH = 373651.5946
EAST = 1523352.4015
ELEV. = 721.4370



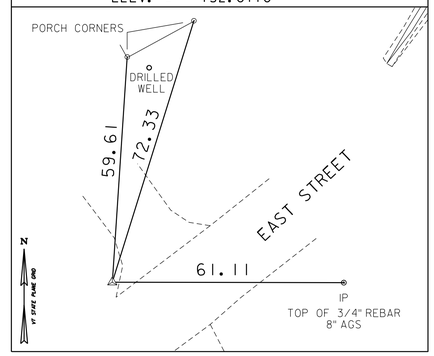
HVCTRL #6 — REBAR W/CAP

NORTH = 373324.7787
EAST = 1523491.9121
ELEV. = 722.7600



HVCTRL #7 — REBAR W/CAP

NORTH = 373114.1587
EAST = 1523352.1881
ELEV. = 732.0170



*TRAVERSE COMPLETED 9/12/2019 BY G. HITCHCOCK & B. HORBAL

DATUM

VERTICAL NAVD 88
HORIZONTAL NAD 83 (11)
ADJUSTMENT COMPASS

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

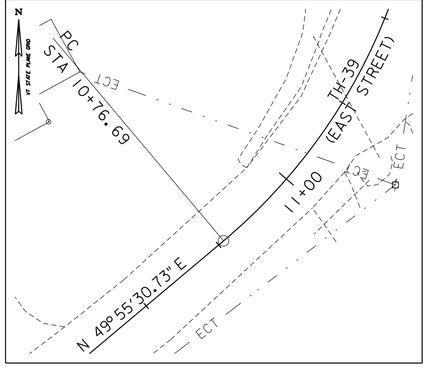
FILE NAME: z19j228ti.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: VTRANS
TIE SHEET 1

PLOT DATE: 8/19/2022
DRAWN BY: C. CYR
CHECKED BY: G.HITCHCOCK
SHEET 12 OF 52

ALIGNMENT TIES

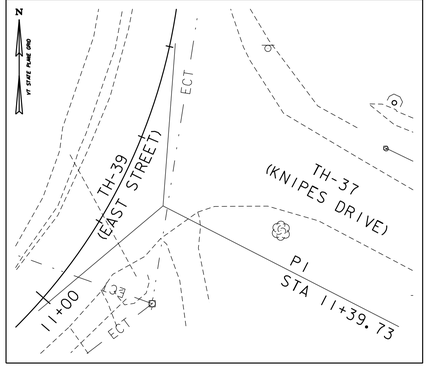
PC STA TH-39 10+76.69

NORTH = 373058.9335
EAST = 1522480.3685



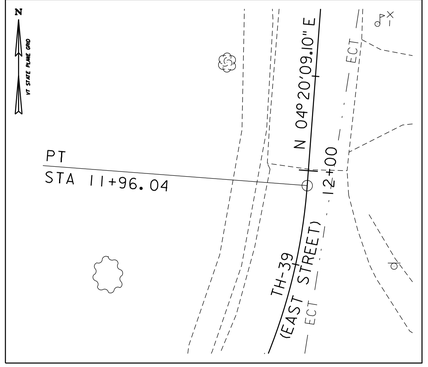
PI STA TH-39 11+39.73

NORTH = 373068.1646
EAST = 1522584.2729



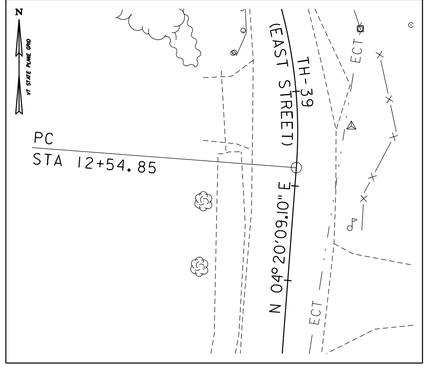
PT STA TH-39 11+96.04

NORTH = 373073.5099
EAST = 1522742.4949



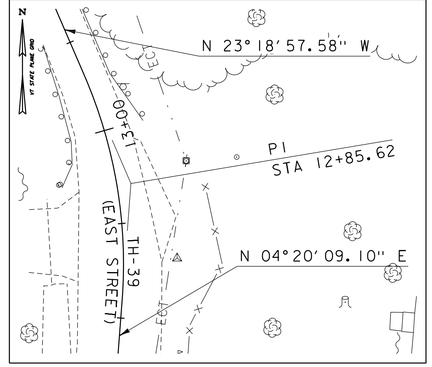
PC STA TH-39 12+54.85

NORTH = 373078.2526
EAST = 1522859.5043



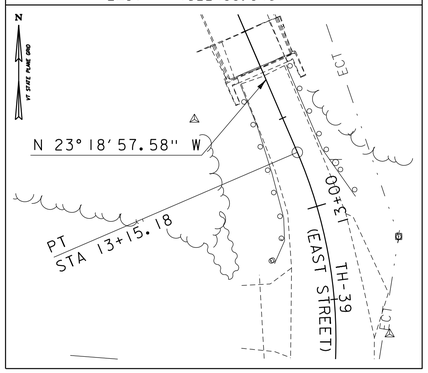
PI STA TH-39 12+85.62

NORTH = 373074.0673
EAST = 1522934.9208



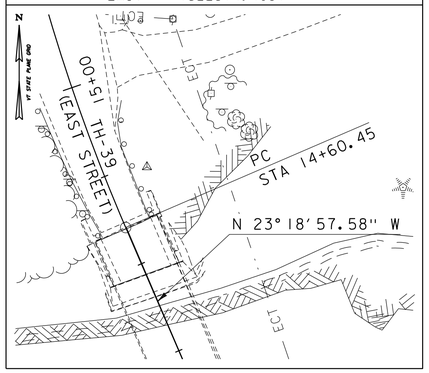
PT STA TH-39 13+15.18

NORTH = 372957.4182
EAST = 1522499.8461



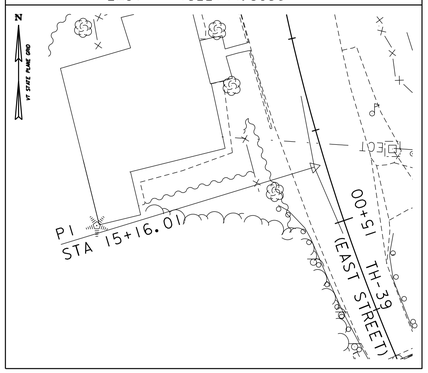
PC STA TH-39 14+60.45

NORTH = 372937.5764
EAST = 1522574.4081



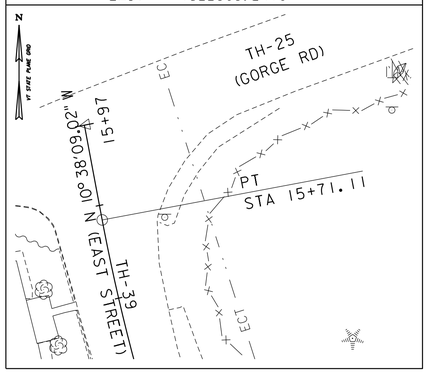
PI STA TH-39 15+16.01

NORTH = 372953.5112
EAST = 1522744.3856



PT STA TH-39 15+71.11

NORTH = 372939.5624
EAST = 1522808.2410

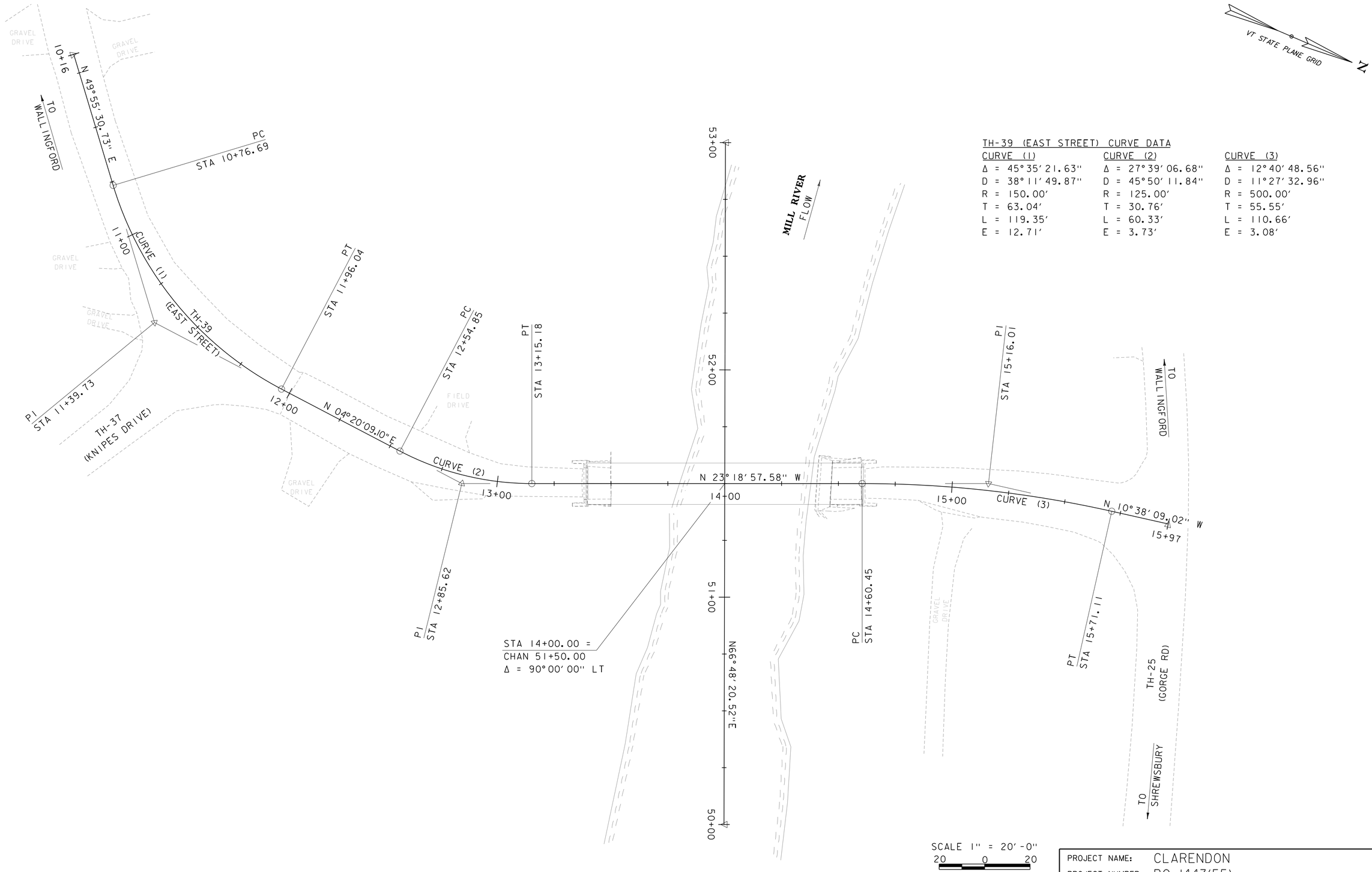


DATUM	
VERTICAL	NAVD 88
HORIZONTAL	NAD 83 (11)
ADJUSTMENT	COMPASS

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228t1.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
TIE SHEET 2	SHEET 13 OF 52



TH-39 (EAST STREET) CURVE DATA

CURVE (1)	CURVE (2)	CURVE (3)
Δ = 45° 35' 21.63"	Δ = 27° 39' 06.68"	Δ = 12° 40' 48.56"
D = 38° 11' 49.87"	D = 45° 50' 11.84"	D = 11° 27' 32.96"
R = 150.00'	R = 125.00'	R = 500.00'
T = 63.04'	T = 30.76'	T = 55.55'
L = 119.35'	L = 60.33'	L = 110.66'
E = 12.71'	E = 3.73'	E = 3.08'

SCALE 1" = 20'-0"
20 0 20

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228bdr_ali.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: P.DUSTIN
ALIGNMENT LAYOUT

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: A.BEAULAC
SHEET 14 OF 52

D1 STA 12+58.46, LT 18.84' TO
STA 12+84.55, LT 18.84'
REMOVE 23 LF x 15" CPEP

D1 STA 12+58.77, LT 18.32' TO
STA 13+00.36, LT 20.87'
CONSTRUCT 35 LF x 15" RCP CLASS IV
CONSTRUCT 15" RCPES CLASS III AT OUTLET
CONSTRUCT 15" RCPES CLASS III AT INLET
OUTLET EL = 719.82
INLET EL = 720.52

D2 STA 13+33.00, LT 16.09 TO
STA 13+51.55, LT 12.00
CONSTRUCT 19 LF x 24" RCP CLASS IV
CONSTRUCT CONCRETE HEADWALL AT INLET
(SEE SHEETS 17 AND 18)
CONSTRUCT CONCRETE HEADWALL AT OUTLET
(SEE SHEETS 17 AND 18)
OUTLET EL = 713.27
INLET EL = 718.59

VT STATE PLANE GRID N

10+16 TO WALLINGFORD
11+00
TH-39 (EAST STREET)
℄ CONSTRUCTION
TH-37 (KNIPES DRIVE)
EXISTING TOWN R.O.W.
IRON PIPE ¾" REBAR 8" AGS
WELL
WELL ABANDONED
GRAVEL DRIVE
HVCTRL 7/99
ECT
COMB 82 84 20-3 20
COMB 79 5 3
GUYWIRE
POLE
BENCHMARK RAILROAD SPIKE IN POLE ELEV. =724.03

BEGIN APPROACH
STA 11+75.00
BEGIN PROJECT
STA 12+00.00
STONE-LINED DRAINAGE SWALE (TYP)
STONE FILL, TYPE I (1'-0" THICK)
DRIVE CULVERT
STONE FILL, TYPE II (THICKNESS VARIES)
BEGIN BRIDGE
STA 13+40.30
CONCRETE, CLASS A C.I.P. GRAVITY HEADWALL
END BRIDGE
STA 14+59.34
TEMPORARY CONSTRUCTION LIMITS (TYP)
DO NOT DISTURB WALKWAY (SEE DETAIL, SHEET 6)
STONE FILL, TYPE II (2'-0" THICK) WITH GRUBBING MATERIAL
GRASS-LINED DRAINAGE SWALE
RETAIN FENCE
VERTICAL GRANITE CURB (TYP)
END APPROACH
STA 15+87.40
TO WALLINGFORD
BENCHMARK RAILROAD SPIKE IN TREE ELEV. =724.69
SAVE
4'-0" PAVED APRON (TYP)
REMOVE AND RESET MAILBOX
DO NOT DISTURB FENCE
STONE FILL, TYPE I (1'-0" THICK)
STONE-LINED DRAINAGE SWALE
STEEL-BACKED TIMBER GUARDRAIL (TYP)
REMOVE AND RESET MAILBOX
6"x6" P.T. TIMBER SWALE CURB (TYP)
STONE FILL, TYPE I (1'-0" THICK)
END PROJECT
STA 15+60.40
STONE-LINED DRAINAGE SWALE
TH-25 (GORGE RD)
TO SHREWSBURY
EXISTING TOWN R.O.W.
MILL RIVER FLOW
N69°48'20.52"E
53+00
52+00
51+00
50+00
12+00
13+00
14+00
15+00
15+97
R=5'
R=7'
R=13'
R=15'
R=40'
CZ
PDF
BF
DI
D2

TIMBER SWALE CURBING
STA 15+06.93 - STA 15+88.81, RT

REMOVAL OF STEEL SUPPORT CABLES
STA 13+45, LT
STA 13+46, RT
STA 13+91, LT
STA 14+56, LT
STA 14+56, RT

REMOVAL AND DISPOSAL OF GUARDRAIL
STA 12+87 - STA 13+38, LT
STA 13+00 - STA 13+38, RT
STA 14+60 - STA 15+09, LT
STA 14+60 - STA 14+92, RT

EXISTING BRIDGE INFORMATION
TOWN LATTICE COVERED BRIDGE
BUILT 1836, RECONSTRUCTED 1987
SINGLE SPAN, 120' TRUSS LENGTH
13'-3" ROADWAY WIDTH
WOODEN DECK WITH RUNNER BOARDS
10'-0" MIN VERTICAL CLEAR
CONCRETE ABUTMENTS

STEEL-BACKED TIMBER GUARDRAIL
(SEE LAYOUT, SHEET 39)
STA 12+96 - STA 13+39, LT
STA 12+99 - STA 13+39, RT
STA 14+61 - STA 15+02, LT
STA 14+61 - STA 14+93, RT

CONSTRUCT 4' PAVED DRIVE APRON
STA 12+04 - STA 12+38, RT
STA 12+55 - STA 12+87, LT
STA 14+85 - STA 15+15, RT

PAVED DRAINAGE SWALE
STA 15+07 - STA 15+44, RT

GRASS-LINED DRAINAGE SWALE
STA 15+03 - STA 15+14, LT

STONE FILL, TYPE II
STA 13+34 - STA 13+49, LT
STA 14+59 - STA 15+00, LT

STONE FILL, TYPE I
STA 12+25 - STA 12+57, LT
STA 12+60 - STA 13+33, RT
STA 13+03 - STA 13+33, LT
STA 15+44 - STA 15+93, RT

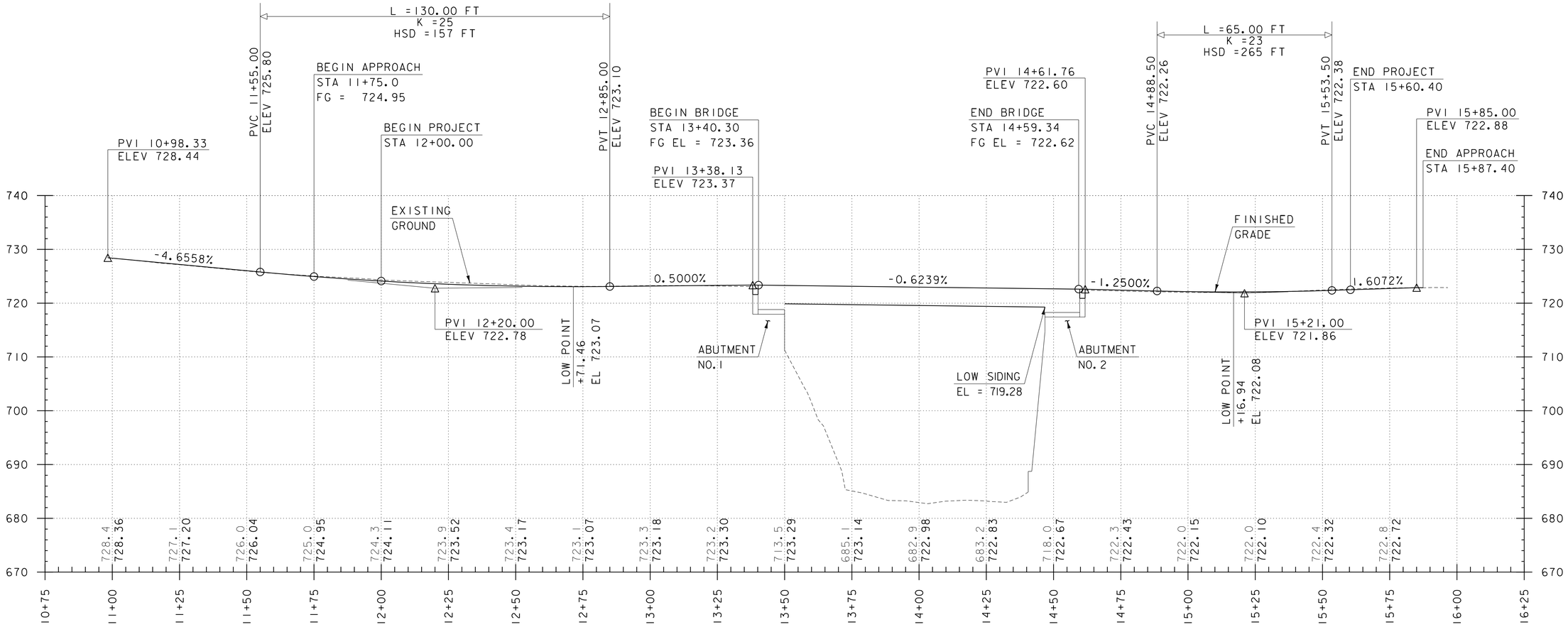
REMOVAL OF CONCRETE CURB
STA 15+16.73 - STA 15+49.38, LT
STA 15+51.75 - STA 15+71.11, LT

VERTICAL GRANITE CURB
STA 15+16.73, LT 8.54' - STA 15+49.44, LT 10.88'
STA 15+51.82, LT 11.06' - STA 15+80.18, LT 31.05' (7" TO 0" REVEAL)

SCALE 1" = 20'-0"
20 0 20

HOYLE TANNER

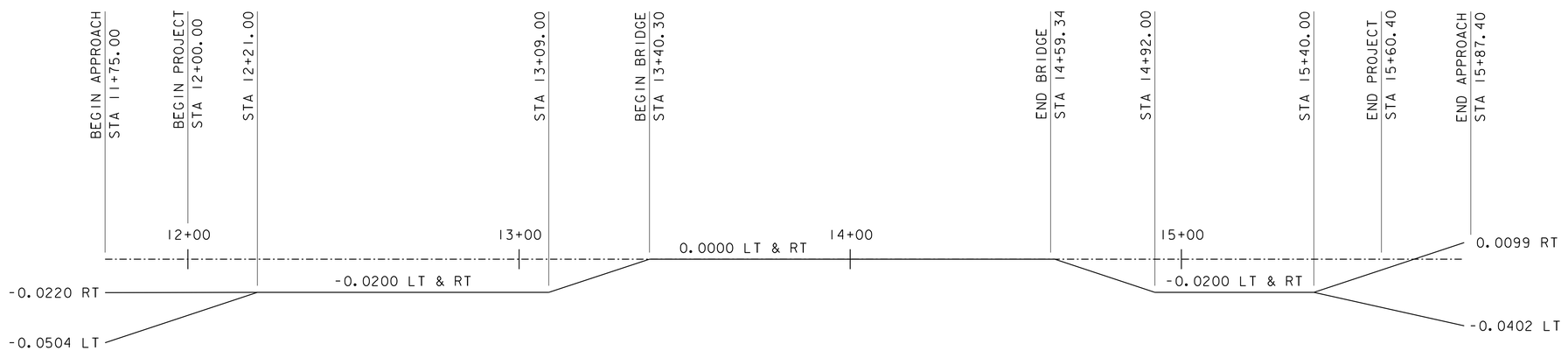
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228bdr_lay.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: P.DUSTIN	CHECKED BY: A.BEAULAC
LAYOUT SHEET	SHEET 15 OF 52



TH-39 (EAST STREET) PROFILE

SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 10'

NOTE
GRADES SHOWN TO THE NEAREST TENTH ARE EXISTING GROUND ALONG ℄
GRADES SHOWN TO THE NEAREST HUNDREDTH ARE FINISH GRADE ALONG ℄

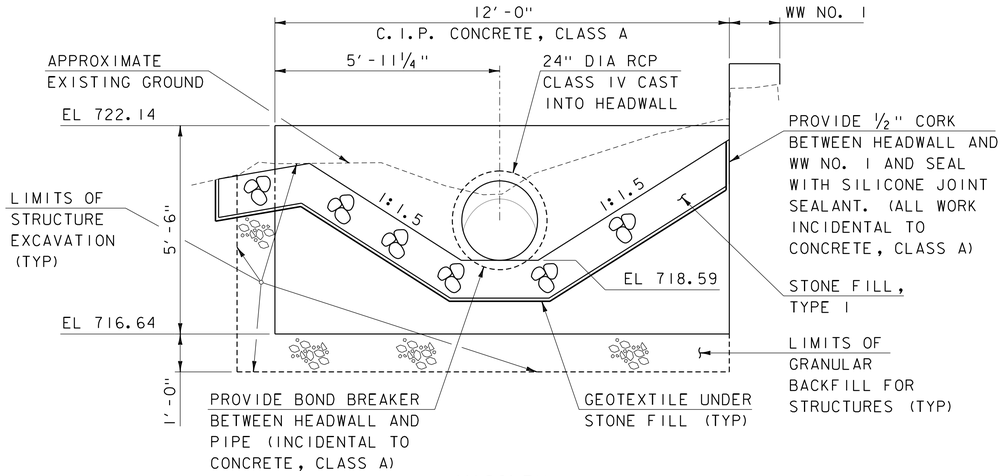


TH-39 (EAST STREET) BANKING DIAGRAM

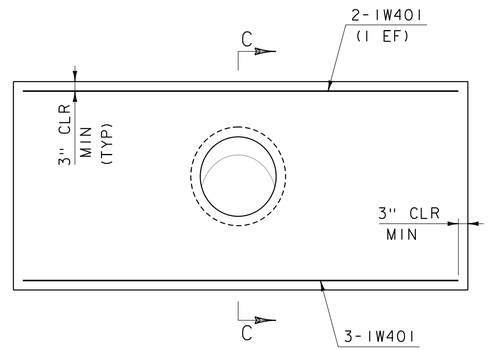
SCALE: HORIZONTAL 1" = 20'
VERTICAL 1" = 0.04'/'

HOYLE TANNER

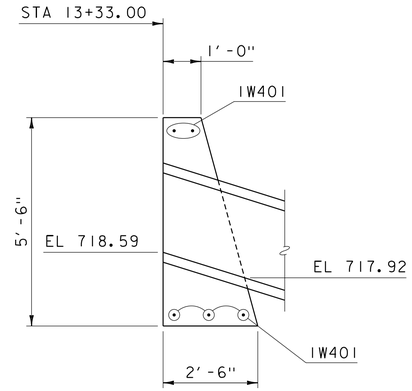
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228pro.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: P.DUSTIN	CHECKED BY: A.BEAULAC
PROFILE SHEET	SHEET 16 OF 52



MASONRY



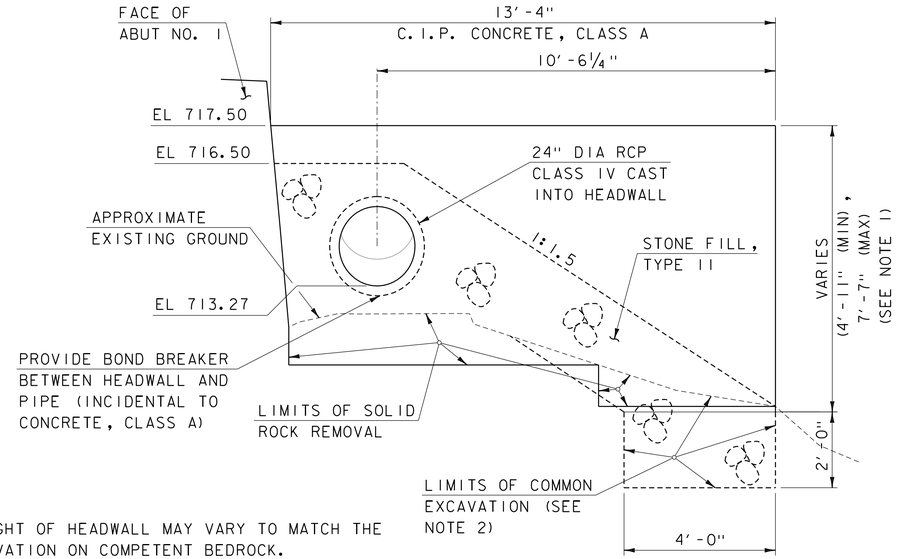
REINFORCING



SECTION C-C

DRAINAGE NOTE 2 INLET HEADWALL

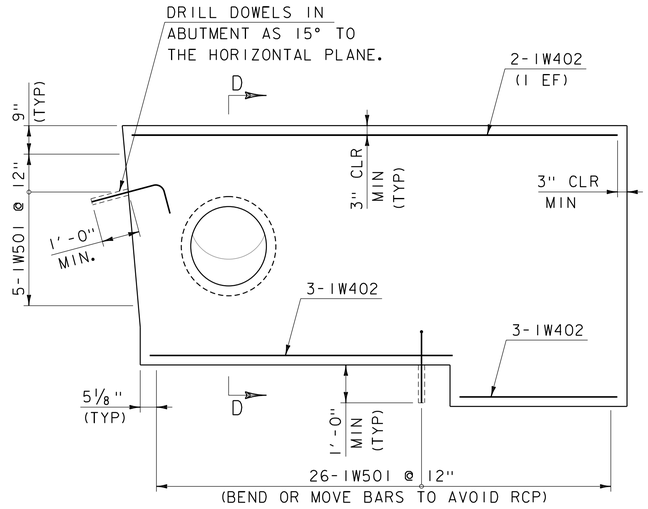
SCALE: ½" = 1'-0"



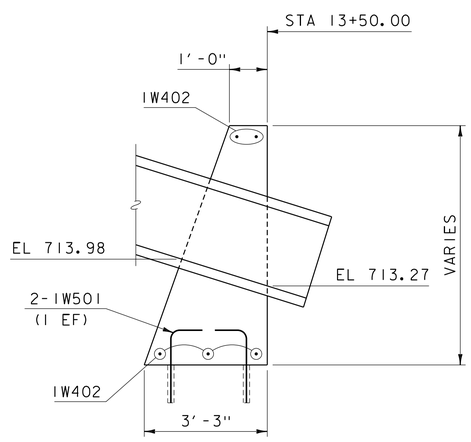
NOTES

1. HEIGHT OF HEADWALL MAY VARY TO MATCH THE ELEVATION ON COMPETENT BEDROCK.
2. BEDROCK (WHERE ENCOUNTERED) SHALL NOT BE EXCAVATED TO INSTALL THE TOE OF THE CLASS II STONE FILL.

MASONRY



REINFORCING



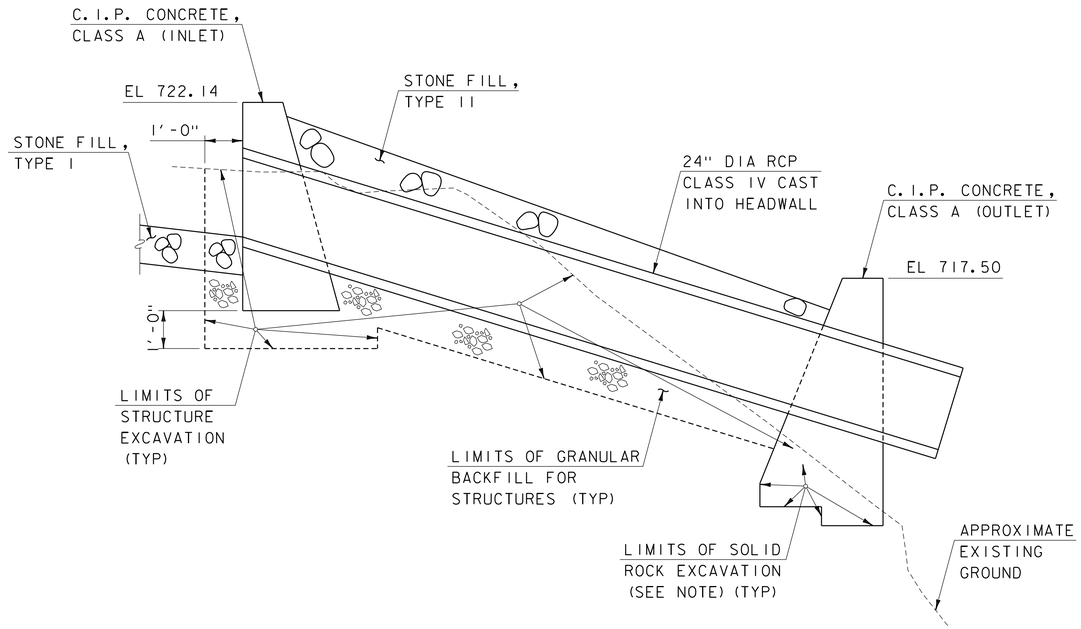
SECTION D-D

DRAINAGE NOTE 2 OUTLET HEADWALL

SCALE: ½" = 1'-0"

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228drd.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
DRAINAGE DETAILS 1	SHEET 17 OF 52

HOYLE TANNER



HEADWALL DRAINAGE LONGITUDINAL SECTION

SCALE: ½" = 1'-0"

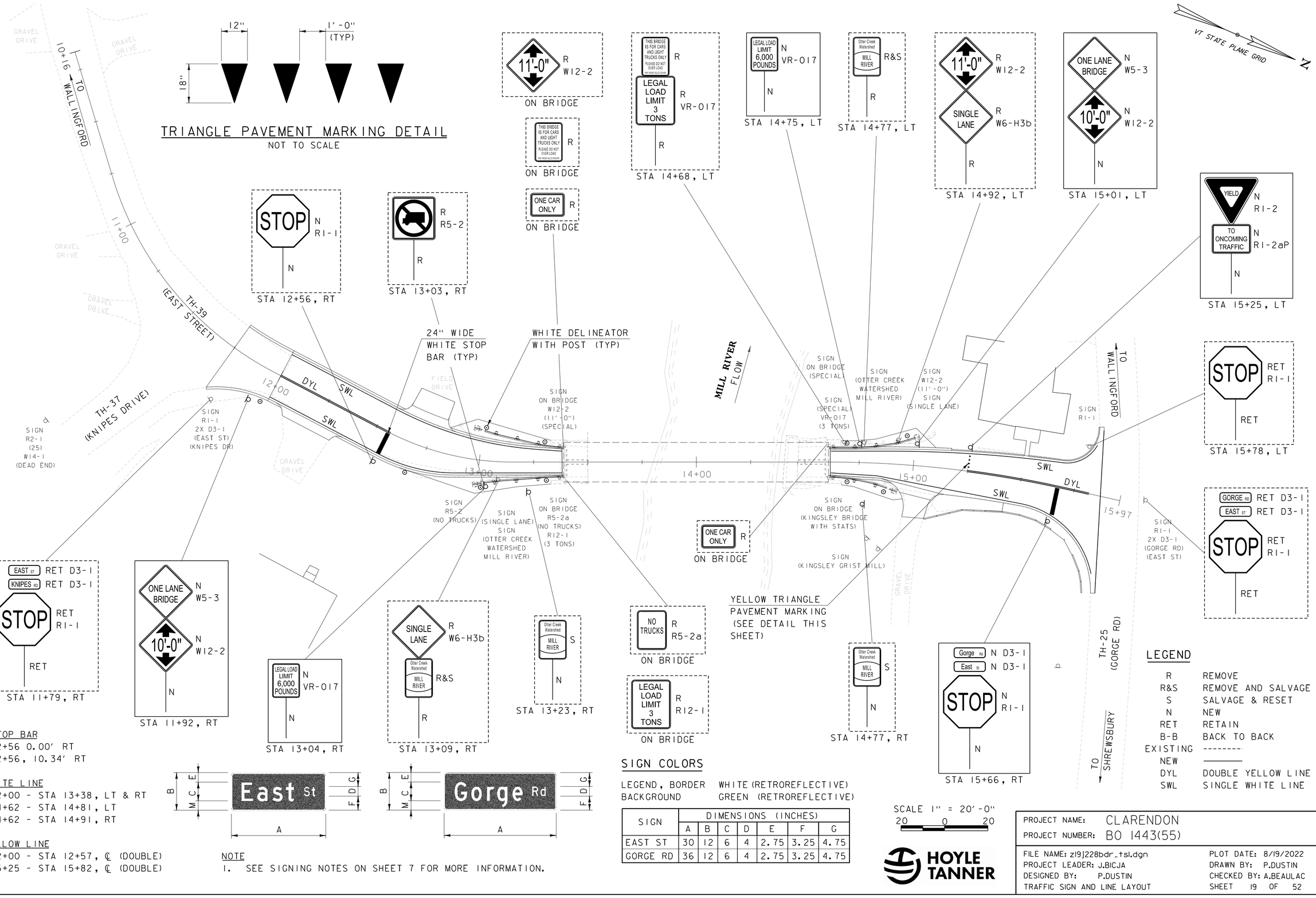
NOTE
CONTRACTOR AND ENGINEER SHALL JOINTLY INSPECT THE EXISTING LEDGE PRIOR TO EXCAVATION TO DETERMINE THE EXTENT OF SOLID ROCK EXCAVATION FOR HEADWALL CONSTRUCTION.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228drd.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
DRAINAGE DETAILS 2

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 18 OF 52



LEGEND

R	REMOVE
R&S	REMOVE AND SALVAGE
S	SALVAGE & RESET
N	NEW
RET	RETAIN
B-B	BACK TO BACK
EXISTING	--------
NEW	———
DYL	DOUBLE YELLOW LINE
SWL	SINGLE WHITE LINE

24" STOP BAR
STA 12+56 0.00' RT
STA 12+56, 10.34' RT

4" WHITE LINE
STA 12+00 - STA 13+38, LT & RT
STA 14+62 - STA 14+81, LT
STA 14+62 - STA 14+91, RT

4" YELLOW LINE
STA 12+00 - STA 12+57, ℄ (DOUBLE)
STA 15+25 - STA 15+82, ℄ (DOUBLE)

NOTE
1. SEE SIGNING NOTES ON SHEET 7 FOR MORE INFORMATION.

SIGN COLORS

LEGEND, BORDER, BACKGROUND — WHITE (RETROREFLECTIVE)
GREEN (RETROREFLECTIVE)

SIGN	DIMENSIONS (INCHES)						
	A	B	C	D	E	F	G
EAST ST	30	12	6	4	2.75	3.25	4.75
GORGE RD	36	12	6	4	2.75	3.25	4.75

SCALE 1" = 20'-0"
20 0 20

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228bdr_tsl.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: P.DUSTIN
TRAFFIC SIGN AND LINE LAYOUT

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: A.BEAULAC

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TRAFFIC SIGN SUMMARY SHEET

MILE MARKER, STATION OR SIGN NUMBER	SIGN LEGEND	SIGN DIMENSIONS			NEW & SALVAGED SIGNS				EXIST POST		NEW SIGN POSTS																						REMARKS	SIGN DETAIL	
		EACH	WIDTH (in)	HEIGHT (in)	"A"	"B"	SALV SIGN	SALV TIS	RETAIN	SALVAGE	NO. OF POST	FLANGED CHANNEL (LB / FT)			SQUARE STEEL (in) (LB / FT)			ANCHOR	SLEEVE	TUBULAR ALUMINUM Ø (IN) (LB / FT)			FOUNDATION	TUBULAR STEEL Ø (IN) (LB / FT)				W-SHAPE STEEL						DETAIL ON SHEET NUMBER	STANDARD SHEET NUMBER
															1.75	2.00	2.50			3.00	4.00	4.0 MOD		3.00	3.50	4.00	5.00	FTG. SIZE		WEIGHT	POST SIZE	SIGN FRAME REQUIRED			
												1.12	2.00	3.00	1.88	2.42	3.35			1.30	1.70	1.70		7.60	9.00	10.80	14.60	24"	30"						
OPTION ITEMS																																			
STA 11+92 RT	ONE LANE BRIDGE	1	36.0	36.0	9.0						1.0						18.0	X	X														MUTCD W5-3		
STA 11+92 RT	LOW CLEARANCE (WITH ARROWS)	1	36.0	36.0	9.0						0.0																						MUTCD W12-2 (10'-0")		
STA 12+56 RT	STOP	1	30.0	30.0	6.3						1.0						12.0	X	X														MUTCD R1-1		
STA 13+04 RT	LEGAL LOAD LIMIT 6,000 POUNDS	1	24.0	30.0	5.0						1.0						12.0	X	X														VR-017		T-70
STA 13+23 RT	OTTER CREEK WATERSHED MILL RIVER	1					X				1.0						12.0	X	X														USE SALVAGED SIGN		
STA 14+75 LT	LEGAL LOAD LIMIT 6,000 POUNDS	1	24.0	30.0	5.0						1.0						12.0	X	X														VR-017		T-70
STA 14+77 RT	OTTER CREEK WATERSHED MILL RIVER	1					X				1.0						12.0	X	X														USE SALVAGED SIGN		
STA 15+01 LT	ONE LANE BRIDGE	1	36.0	36.0	9.0						1.0						18.0	X	X														MUTCD W5-3		
STA 15+01 LT	LOW CLEARANCE (WITH ARROWS)	1	36.0	36.0	9.0						0.0																						MUTCD W12-2 (10'-0")		
STA 15+25 LT	YIELD	1	36.0	36.0	3.9						1.0						15.0	X	X														MUTCD R1-2		E-146
STA 15+25 LT	TO ONCOMING TRAFFIC	1	24.0	18.0	3.0						0.0																						MUTCD R1-2aP		
STA 15+66 RT	STOP	1	30.0	30.0	6.3						1.0						15.0	X	X														MUTCD R1-1		
STA 15+66 RT	GORGE RD	1	36.0	12.0	3.0						0.0																						D3-1		
STA 15+66 RT	EAST ST	1	30.0	12.0	2.5						0.0																						D3-1		
												FT .	FT .	FT .	FT .	FT .	FT 126.	XXXXX XXXXX XXXXX XXXXX	EA .	LB .	LB .	LB .		LB .	LB .	LB .	LB .								
	TOTALS				SF 71.	SF .	EA. .	SF .	XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX			FT .			FT 126.			LB .		EA.	LB .			EA. .	EA. .	LB .									

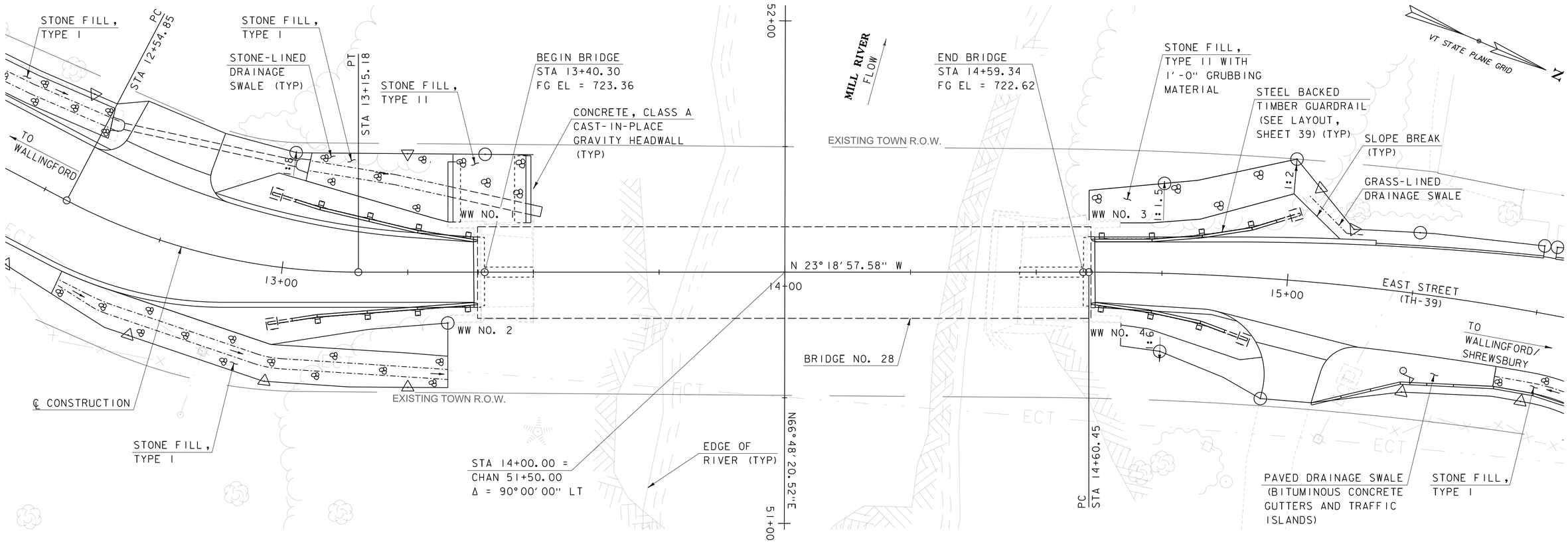
FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE VTRANS "SIGN POST DESIGN GUIDELINE."

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

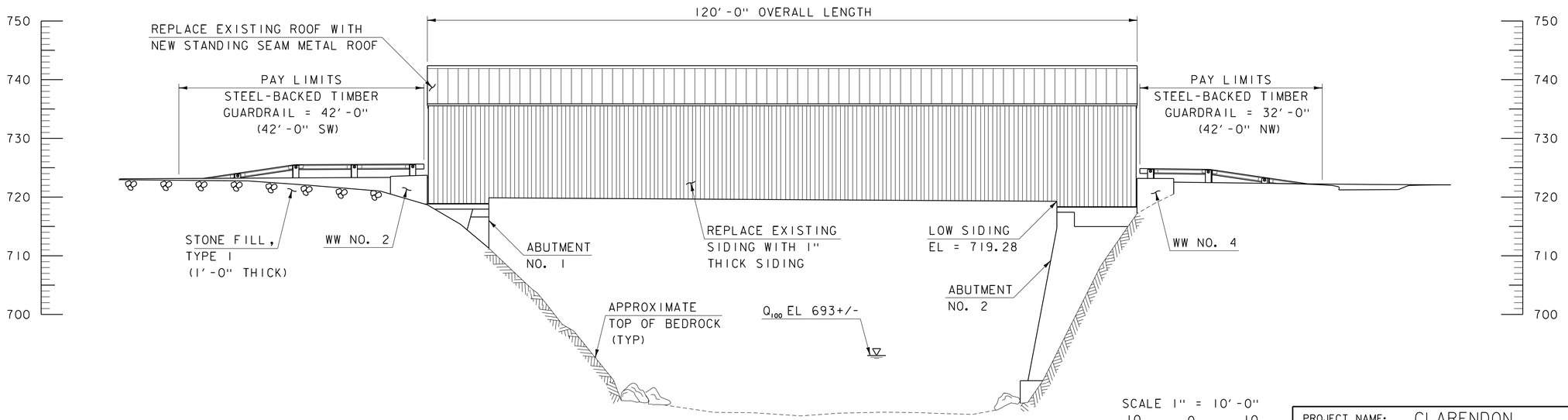
FILE NAME: z19j228tss.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
TRAFFIC SIGN SUMMARY

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 20 OF 52



PLAN

SCALE: 1" = 10'



ELEVATION AT UPSTREAM FASCIA

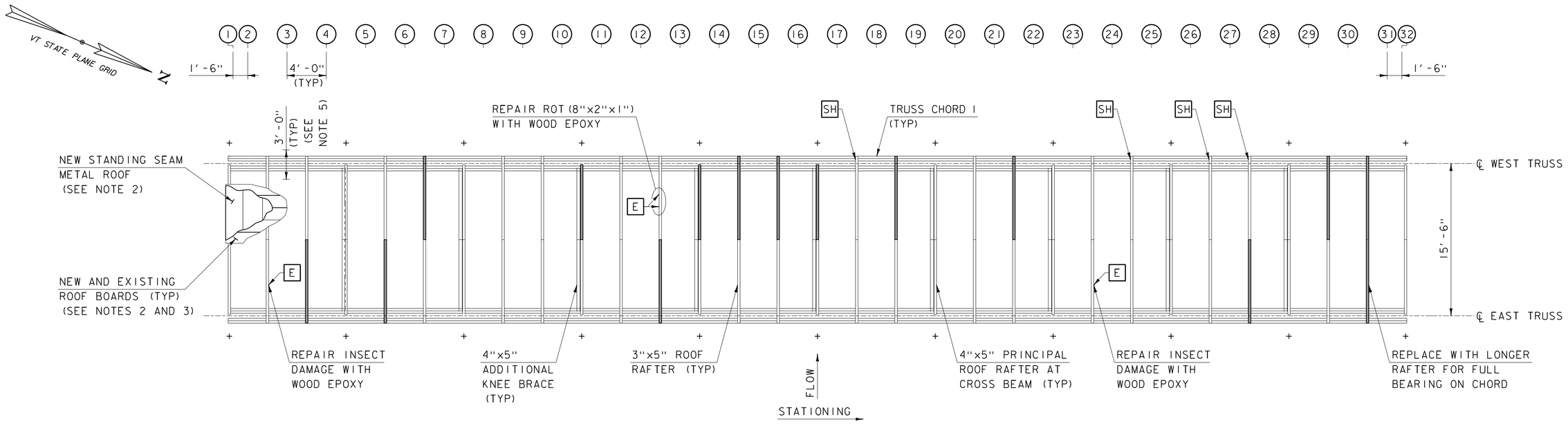
SCALE: 1" = 10'

SCALE 1" = 10'-0"
10 0 10

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228pe.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
PLAN AND ELEVATION	SHEET 21 OF 52



ROOF FRAMING PLAN

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

NOTES

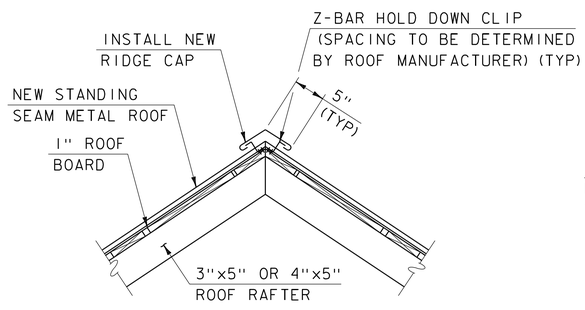
1. SEE SHEET 27 FOR ADDITIONAL DETAILS THAT PERTAIN TO THIS SHEET.

2. METAL ROOF AND ROOF BOARDS ARE PARTIALLY SHOWN FOR CLARITY.

3. INDIVIDUAL ROOF BOARDS IN NEED OF REPLACEMENT HAVE NOT BEEN IDENTIFIED. CONTRACTOR AND ENGINEER SHALL JOINTLY INSPECT AND IDENTIFY ROOF BOARDS IN NEED OF REPLACEMENT. EXISTING 1" THICK ROOF BOARDS VARY FROM 5" WIDE TO 16" WIDE WITH GAPS BETWEEN ADJACENT BOARDS OF 0" TO 1". ALL REPLACEMENT BOARDS SHALL MATCH THE EXISTING WIDTH AND CONFIGURATION AS MUCH AS PRACTICABLE. WHERE EXISTING BOARDS IN NEED OF REPLACEMENT ARE OVER 8" WIDE, MULTIPLE BOARDS MAY BE USED. IN NO CIRCUMSTANCE SHALL THE WIDTH OF A REPLACEMENT BOARD BE LESS THAN 5".

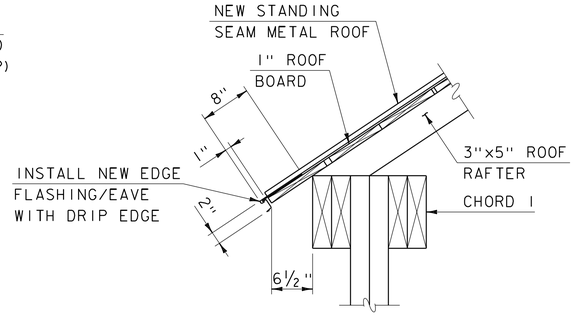
4. EACH FACE OF EXISTING AND REPLACED 3"x5" ROOF RAFTERS SHALL BE TOE NAILED TO PLY "B" OF CHORD 1 WITH ONE 20d GALVANIZED SINKER NAIL. SUCH WORK WILL BE PAID FOR UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

5. REMOVE, STORE AND RE-SET 3'+/- OF ROOF BOARDS ALONG EACH EAVE FOR TRUSS REPAIRS. PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).



ROOF RIDGE CAP DETAIL

SCALE: 1" = 1'-0"



METAL ROOF EAVE DETAIL

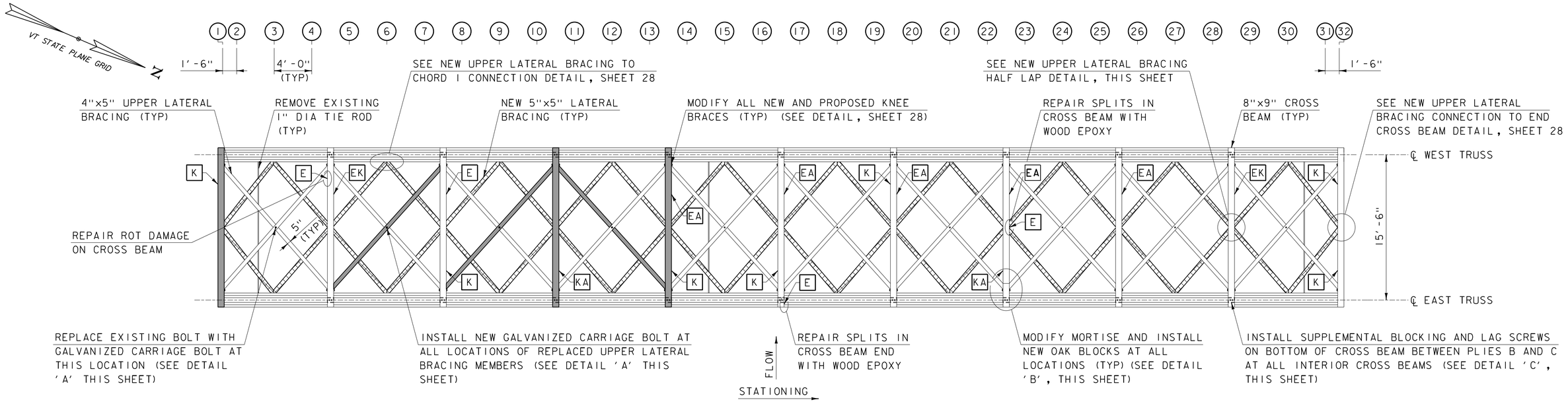
SCALE: 1" = 1'-0"

LEGEND

- PREDETERMINED MEMBER TO BE REPLACED
- (XX) TRUSS NODE LOCATION
- [E] ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [SH] SHIM WITH HARDWOOD BELOW RAFTER (PLY B) ITEM 900.645, SPECIAL PROVISION (REHABILITATE COVERED BRIDGE SUPERSTRUCTURE)
- \+ APPROXIMATE LOCATION OF CROSS BEAM (NOT SHOWN FOR CLARITY)

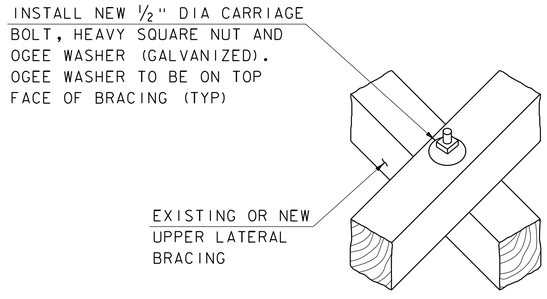
HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228sup3.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
ROOF FRAMING PLAN	SHEET 22 OF 52



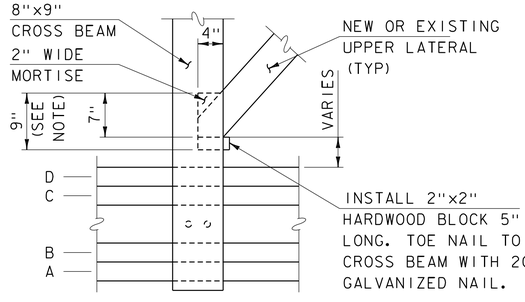
UPPER LATERAL BRACING PLAN

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



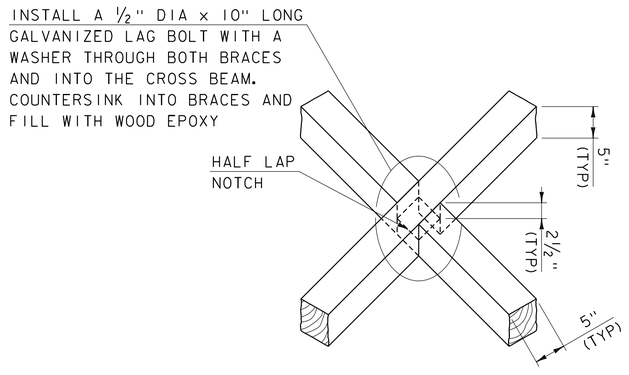
DETAIL 'A'

NOT TO SCALE



NOTE

EXISTING MORTISE POCKETS ARE 8" WIDE (ON AVERAGE). COST TO WIDEN MORTISE POCKET TO ACCEPT NEW OAK BLOCK SHALL BE INCIDENTAL TO ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED FOR NEW MEMBERS AND TO ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE) FOR EXISTING MEMBERS TO REMAIN.

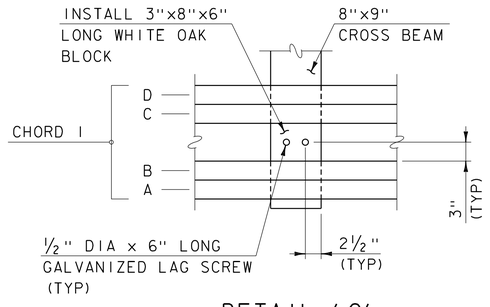


NEW UPPER LATERAL BRACING HALF LAP DETAIL

SCALE: 1" = 1'-0"

DETAIL 'B'

SCALE: 1" = 1'-0"



DETAIL 'C'

(BOTTOM VIEW LOOKING UP)

SCALE: 1" = 1'-0"

NOTES

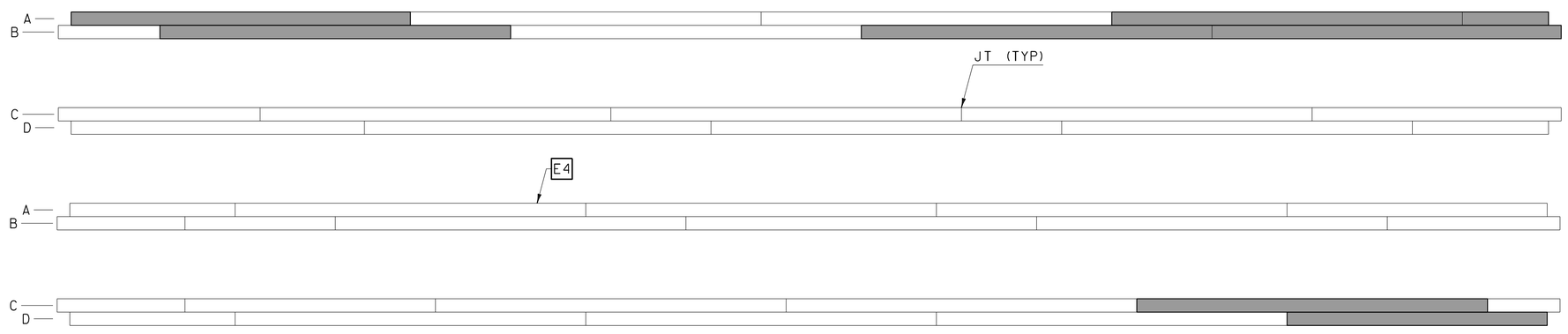
1. SEE SHEET 28 FOR ADDITIONAL DETAILS THAT PERTAIN TO THIS SHEET.

LEGEND

- PREDETERMINED MEMBER TO BE REPLACED
- NEW MEMBER
- (XX) TRUSS NODE LOCATION
- [K] REPLACE EXISTING KNEE BRACE
- [KA] REPLACE EXISTING ADDED KNEE BRACE
- [E] ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS) (CROSS BEAM)
- [EK] ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS) (KNEE BRACE)
- [EA] ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS) (ADDITIONAL KNEE BRACE)

HOYLE TANNER

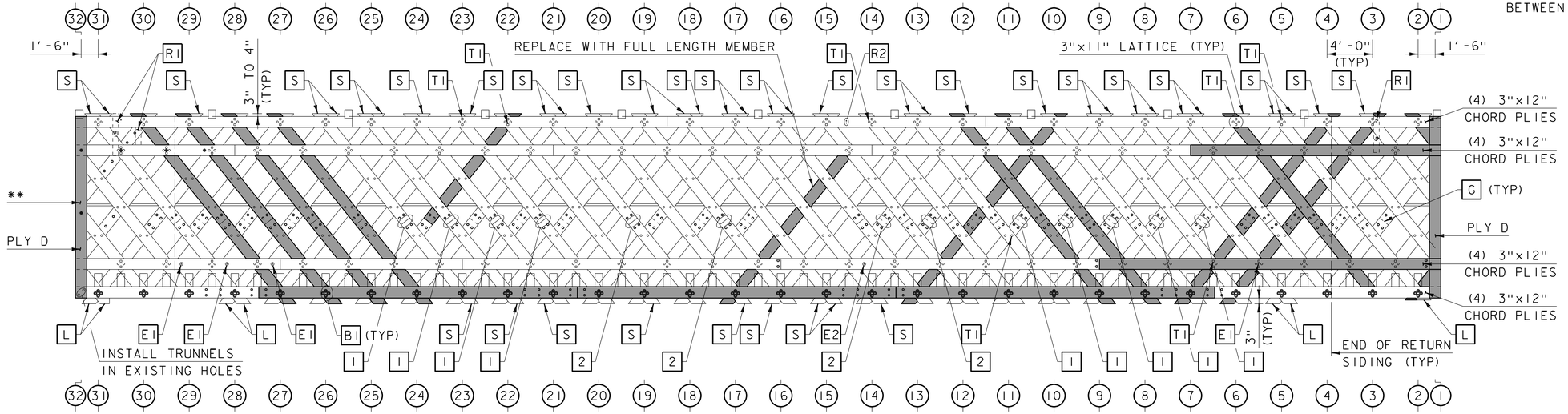
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228sup4.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
UPPER LATERAL BRACING PLAN	SHEET 23 OF 52



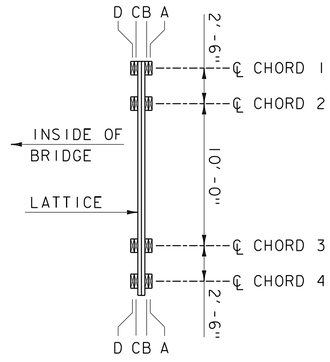
CHORD 1 PLAN
SCALE: 3/16" = 1'-0" (H)
NTS (V)

CHORD 2 PLAN
SCALE: 3/16" = 1'-0" (H)
NTS (V)

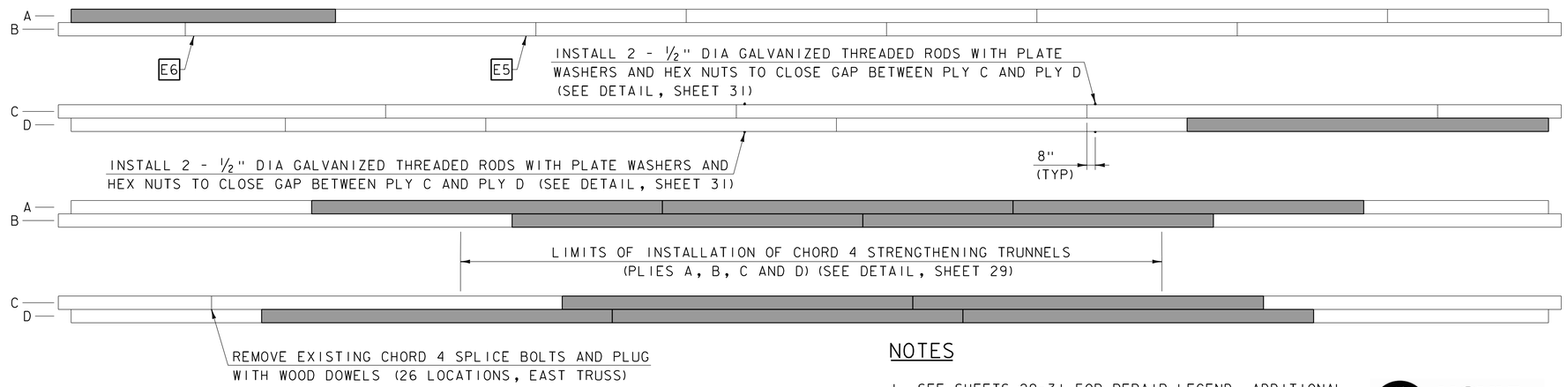
** (4) 3" WIDE x 12" END POST PLIES WITH (2) 3"x12" FILLER BOARDS BETWEEN PLIES B AND C (TYP)



EAST TRUSS (LOOKING EAST/UPSTREAM)
SCALE: 3/16" = 1'-0"



TYPICAL TRUSS SECTION
SCALE: 3/16" = 1'-0"



CHORD 3 PLAN
SCALE: 3/16" = 1'-0" (H)
NTS (V)

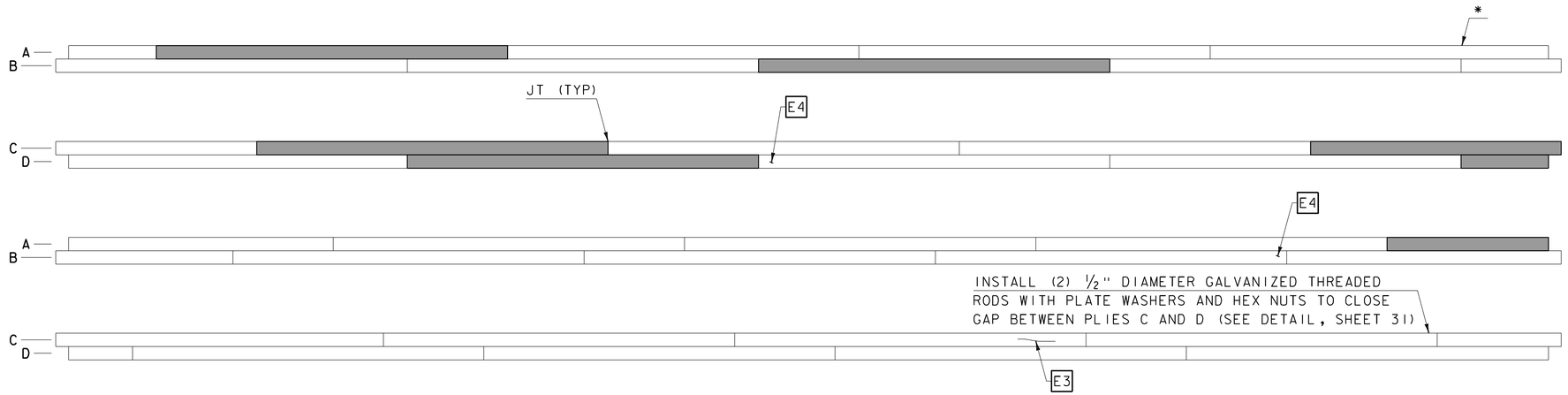
CHORD 4 PLAN
SCALE: 3/16" = 1'-0" (H)
NTS (V)

NOTES

1. SEE SHEETS 29-31 FOR REPAIR LEGEND, ADDITIONAL DETAILS, AND NOTES THAT PERTAIN TO THIS SHEET.

HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228sup5.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
EAST TRUSS PLAN AND ELEVATION	SHEET 24 OF 52



CHORD 1 PLAN

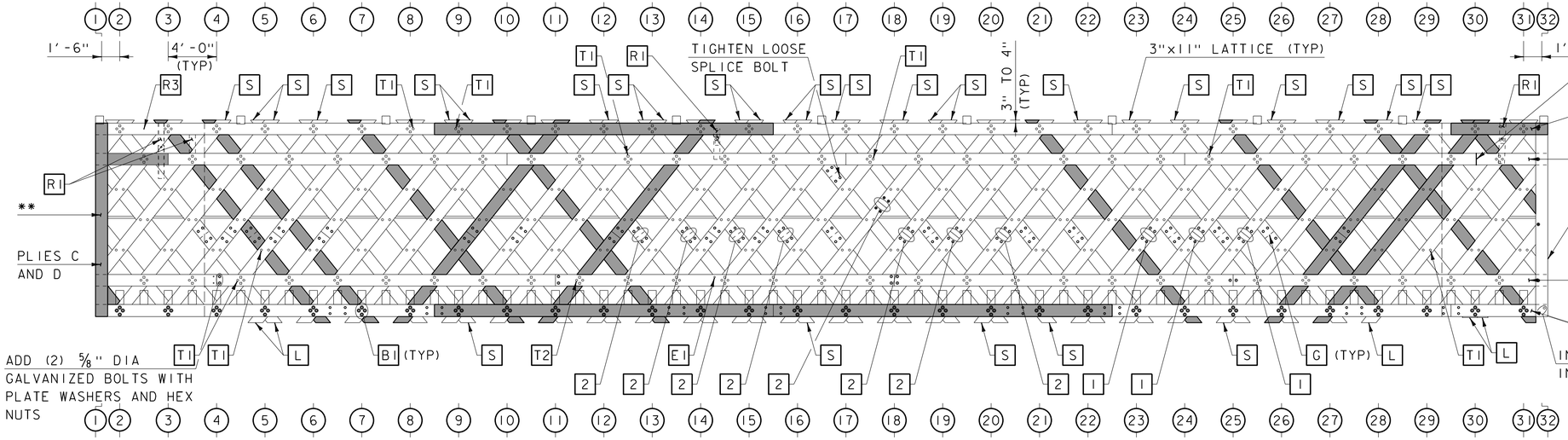
SCALE: 3/16" = 1'-0" (H)
NTS (V)

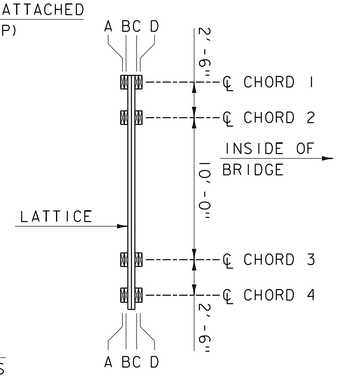
* CONTRACTOR AND ENGINEER SHALL JOINTLY INSPECT THIS PLY AFTER SIDING REMOVAL. IF PARTIAL REPLACEMENT IS REQUIRED, ADD A NEW JOINT A MINIMUM OF 4' FROM JOINTS IN PLY B

CHORD 2 PLAN

SCALE: 3/16" = 1'-0" (H)
NTS (V)

** (4) 3" WIDE x 12" END POST PLIES WITH (2) 3"x12" FILLER BOARDS BETWEEN PLIES B AND C (TYP)





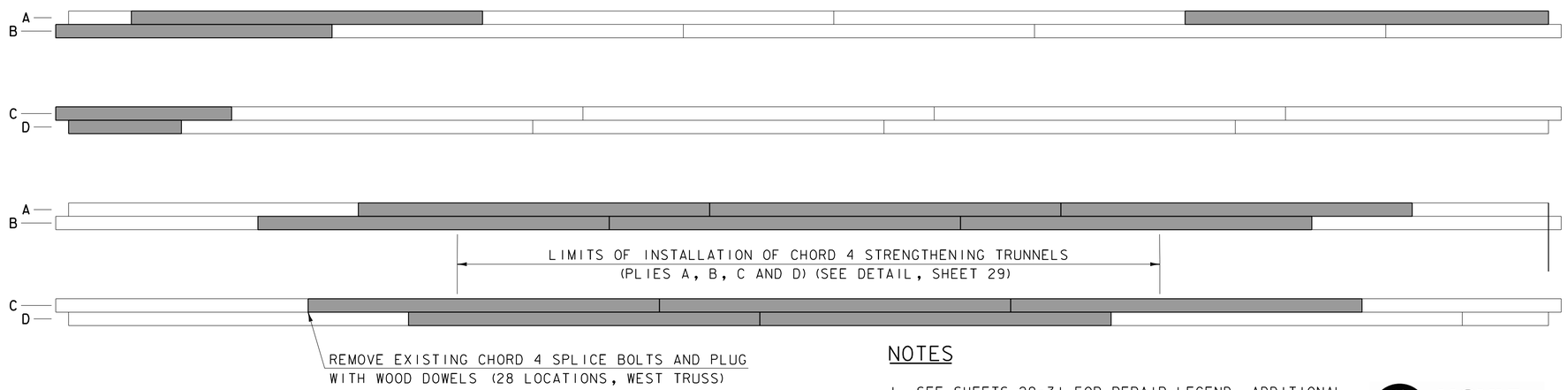
TYPICAL TRUSS SECTION

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

*** INSTALL (4) 1/4"x5" LONG GALVANIZED LAG SCREWS TO CONNECT PLY C TO PLY D. INCIDENTAL TO ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

WEST TRUSS (LOOKING WEST/DOWNSTREAM)

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



CHORD 3 PLAN

SCALE: 3/16" = 1'-0" (H)
NTS (V)

CHORD 4 PLAN

SCALE: 3/16" = 1'-0" (H)
NTS (V)

NOTES

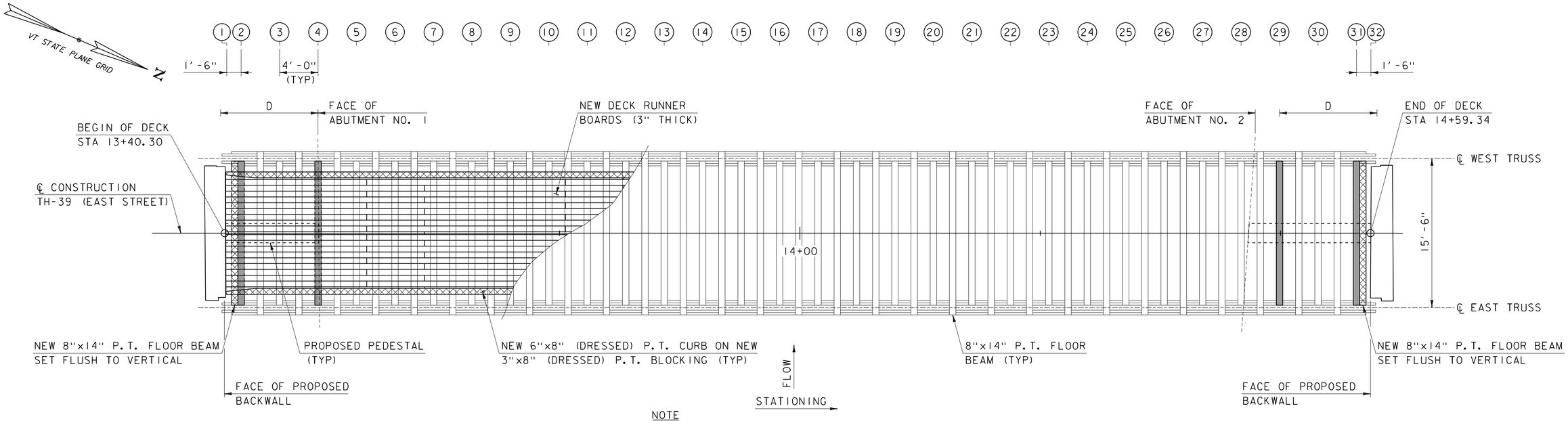
1. SEE SHEETS 29-31 FOR REPAIR LEGEND, ADDITIONAL DETAILS, AND NOTES THAT PERTAIN TO THIS SHEET.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

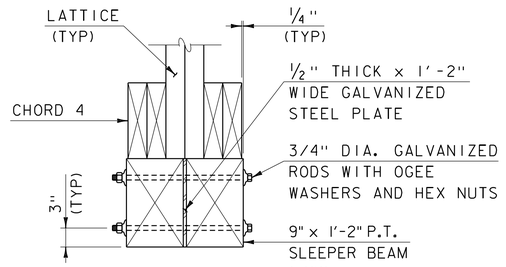
FILE NAME: z19j228sup5.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
WEST TRUSS PLAN AND ELEVATION

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 25 OF 52

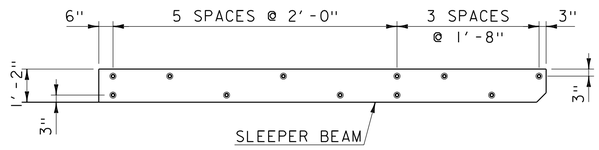


NOTE
NAIL LAMINATED DECK NOT SHOWN FOR CLARITY

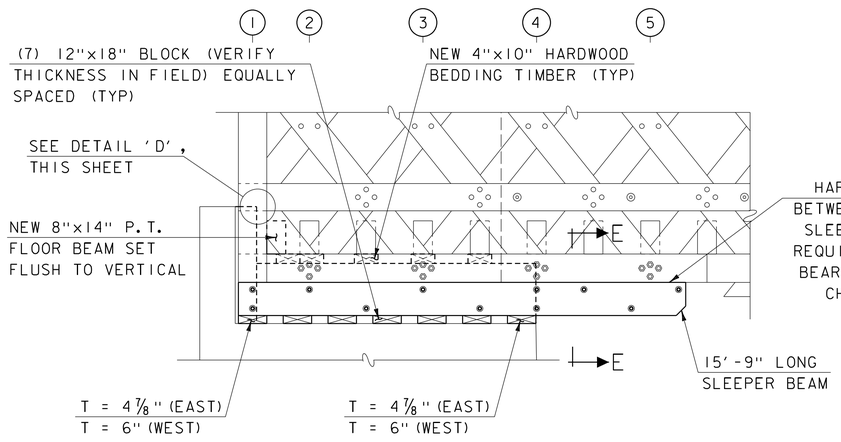
FLOOR FRAMING PLAN
SCALE: 3/16" = 1'-0"



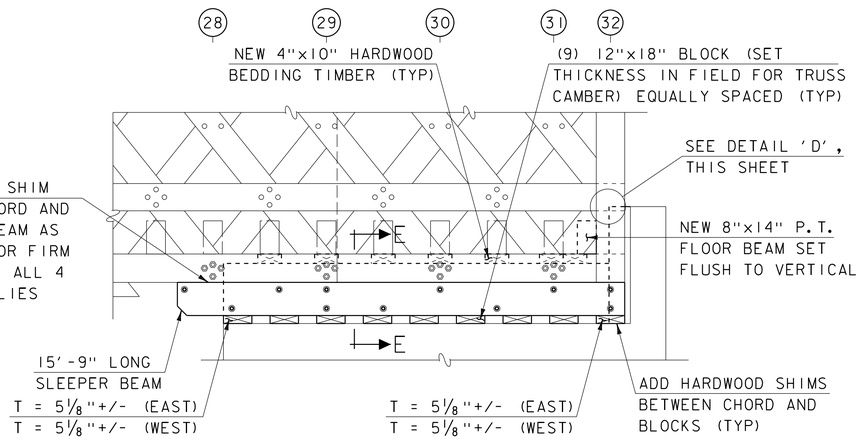
SECTION E-E
SCALE: 1" = 1'-0"



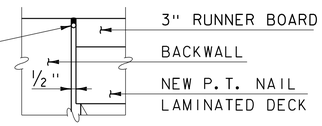
SLEEPER BEAM BOLTING PATTERN
SCALE: 1/2" = 1'-0"



ABUTMENT NO. 1 BEARING
(EAST TRUSS SHOWN, WEST TRUSS SIMILAR)
SCALE: 3/8" = 1'-0"



ABUTMENT NO. 2 BEARING
(EAST TRUSS SHOWN, WEST TRUSS SIMILAR)
SCALE: 3/8" = 1'-0"



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

NOTES

1. SEE SHEET 32 FOR ADDITIONAL DETAILS THAT PERTAIN TO THIS SHEET.
2. END FLOOR BEAMS BEARING ON CONCRETE PEDESTALS SHALL HAVE ONE GALVANIZED STEEL HOLD DOWN STRAP WITH A MINIMUM UPLIFT CAPACITY OF 1,000 LBS PER FLOOR BEAM. ACCEPTABLE MANUFACTURERS INCLUDE SIMPSON STRONG-TIE OR TECO OR APPROVED EQUAL (PAID UNDER ITEM 506.75, STRUCTURAL STEEL).

LEGEND

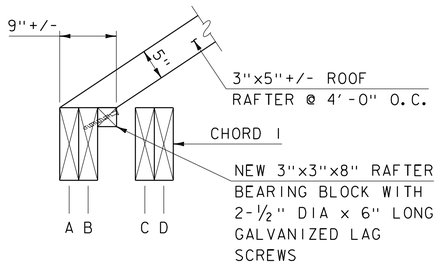
- PREDETERMINED MEMBER TO BE REMOVED
- NEW MEMBER
- P.T. PRESSURE TREATED
- D REMOVE AND REPLACE NAIL LAMINATED DECK (SEE DETAIL, SHEET 32)
- T THICKNESS

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

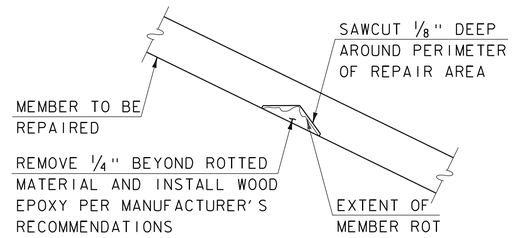
FILE NAME: z19j228sup6.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
FLOOR FRAMING PLAN

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 26 OF 52



TYPICAL RAFTER BEARING DETAIL

SCALE: 1" = 1'-0"



EPOXY REPAIR DETAIL

(ROOF RAFTER OR OTHER MEMBER)
NOT TO SCALE

RECOMMENDED REPAIR SEQUENCE

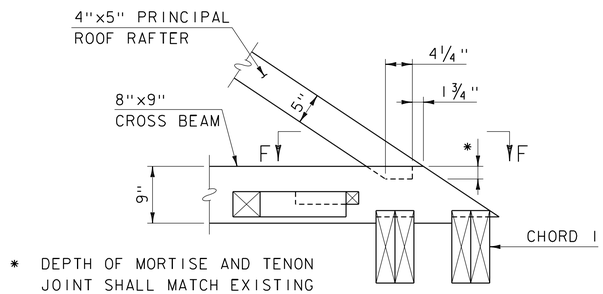
1. IDENTIFIED ROTTED MATERIAL IN LUMBER AND TIMBER MEMBERS, IF LESS THAN OR EQUAL TO 1 INCH IN DEPTH, SHALL BE REPAIRED AS SHOWN ABOVE ON THE "EPOXY REPAIR DETAIL". IF ROT IS GREATER THAN 1 INCH IN DEPTH, THE ENTIRE MEMBER SHALL BE REPLACED AS DIRECTED BY THE RESIDENT ENGINEER.

2. REMOVE ALL ROTTED MATERIAL TO A MINIMUM OF 1/4" BEYOND EXTENT OF ROT. SAWCUT 1/8" DEEP AROUND PERIMETER OF REPAIR AREA.

3. CLEAN EXISTING MEMBER OF ALL DIRT, SAWDUST, ETC. AND PREPARE SURFACE PER MANUFACTURER'S RECOMMENDATIONS.

4. INSTALL/INJECT APPROVED WOOD EPOXY REPAIR MATERIAL PER MANUFACTURER'S RECOMMENDATIONS, (PAID UNDER ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)). COLOR OF REPAIR MATERIAL SHALL MATCH EXISTING WOOD. A COMPLETED TEST SECTION SHALL BE MADE FOR APPROVAL BY THE RESIDENT ENGINEER.

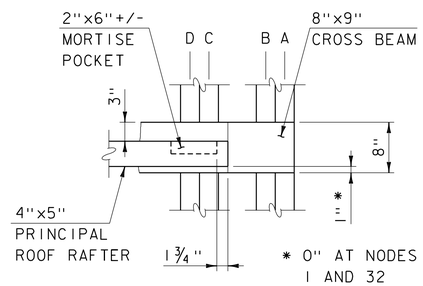
5. FOR ADDITIONAL INFORMATION, SEE NOTE W-13, SHEET 7 .



* DEPTH OF MORTISE AND TENON JOINT SHALL MATCH EXISTING CONDITIONS OF 2"+/-

PRINCIPAL RAFTER DETAIL

SCALE: 1" = 1'-0"



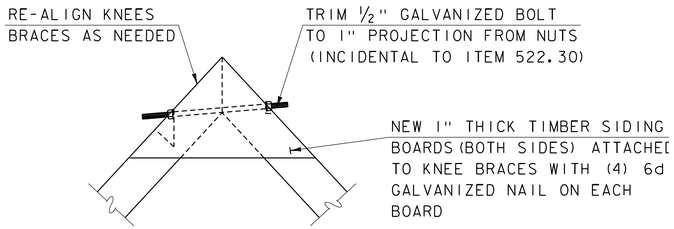
* 0" AT NODES 1 AND 32

SECTION F-F

SCALE: 1" = 1'-0"

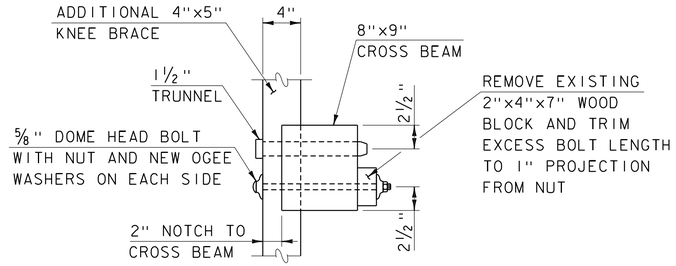
HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228sup7.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
SUPERSTRUCTURE DETAILS 1	SHEET 27 OF 52



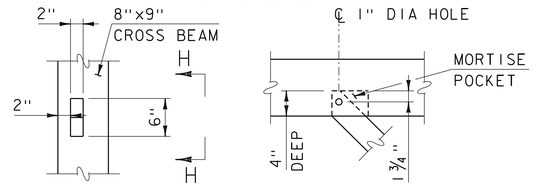
ADDITIONAL KNEE BRACE BUTT JOINT DETAIL

NOT TO SCALE



ADDITIONAL KNEE BRACE TO CROSS BEAM CONNECTION DETAIL

NOT TO SCALE

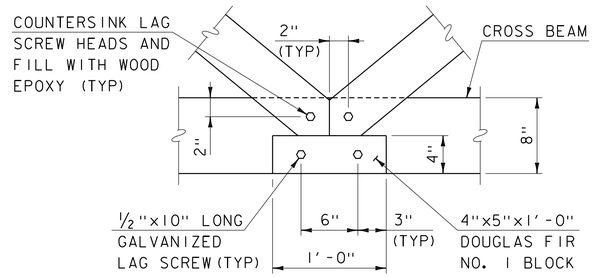


PLAN SECTION H-H

NOTE
SHIM ALL GAPS BETWEEN KNEE BRACE TENON AND CROSS BEAM AND ADD A NEW 1" DIAMETER OAK DOWEL (TYP ALL LOCATIONS). PAID UNDER ITEM 900.45, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

KNEE BRACE TO CROSS BEAM DETAIL

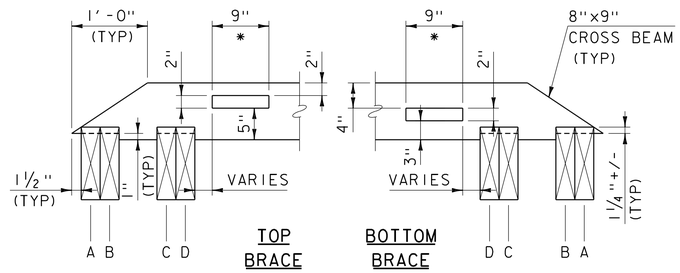
SCALE: 1" = 1'-0"



NOTE
ALL COSTS INCLUDED IN ITEM 522.20, STRUCTURAL LUMBER AND TIMBER, UNTREATED.

NEW UPPER LATERAL BRACING TO CROSS BEAM CONNECTION DETAIL

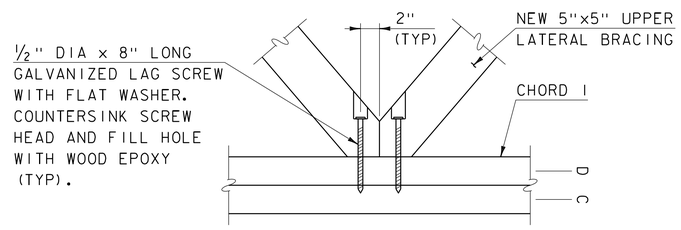
(BOTTOM VIEW LOOKING UP)
SCALE: 1 1/2" = 1'-0"



* EXISTING MORTISE POCKETS ARE 7" WIDE (ON AVERAGE). COST TO WIDEN MORTISE POCKETS TO ACCEPT NEW OAK BLOCKS SHALL BE INCIDENTAL TO ITEM 522.20, STRUCTURAL LUMBER AND TIMBER UNTREATED FOR NEW MEMBERS, AND TO ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE) FOR EXISTING MEMBERS TO REMAIN.

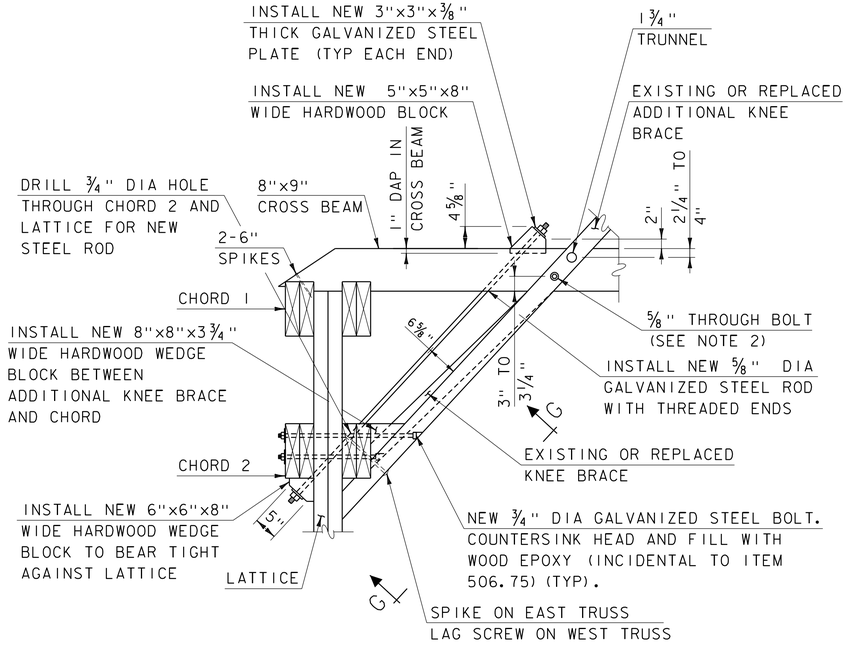
NEW CROSS BEAM DETAIL

SCALE: 1" = 1'-0"



NEW UPPER LATERAL BRACING TO CHORD 1 CONNECTION DETAIL

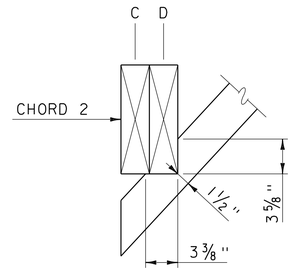
SCALE: 1 1/2" = 1'-0"



NOTES
1. ROOF RAFTERS AND UPPER LATERAL BRACES NOT SHOWN FOR CLARITY.
2. REMOVE EXISTING BLOCK, WASHERS AND NUTS AND ADD NEW OGEE WASHERS, BOTH SIDES. TRIM EXTRA BOLT LENGTH TO BE 1" PROJECTION FROM OGEE WASHERS. PAID UNDER ITEM 900.645 TO SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

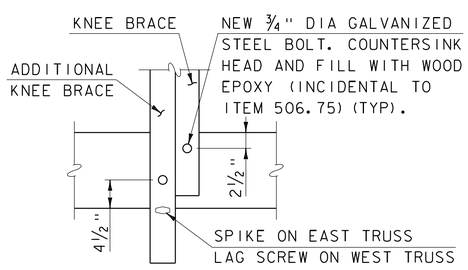
KNEE BRACE MODIFICATION DETAIL

SCALE: 3/4" = 1'-0"



ADDITIONAL KNEE BRACE TO CHORD 2 BIRDSMOUTH DETAIL

NOT TO SCALE



SECTION G-G

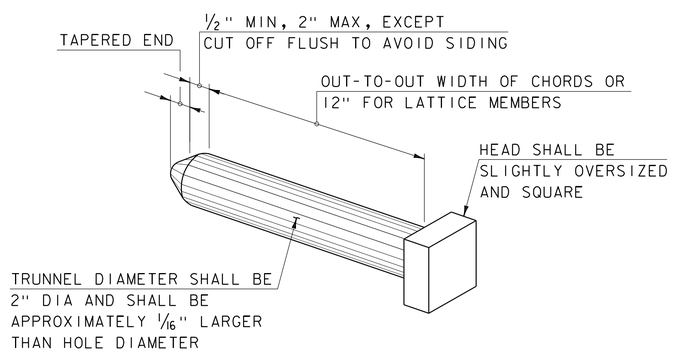
SCALE: 1" = 1'-0"

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228sup8.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
SUPERSTRUCTURE DETAILS 2	SHEET 28 OF 52

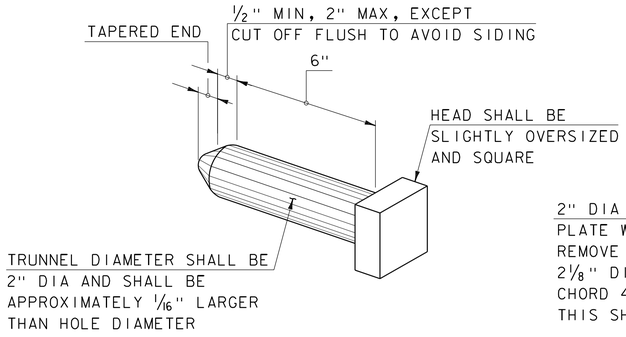
HOYLE TANNER

TRUSS REPAIR LEGEND

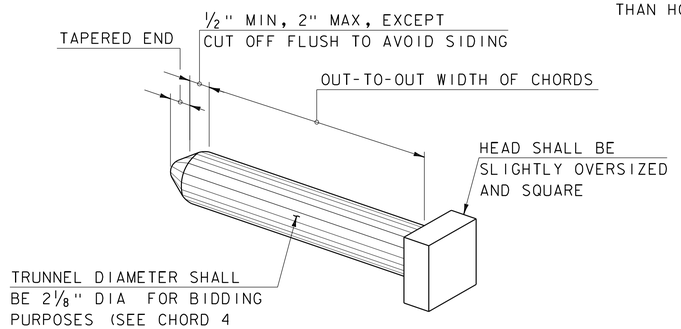
- PREDETERMINED MEMBER TO BE REPLACED
- [I] INSTALL NOTCHED SPLICE BLOCK (SEE DETAIL, SHEET 30)
- [2] INSTALL (2) 4" SPLIT RING CONNECTORS (SEE DETAIL, SHEET 30)
- JT CHORD PLY BUTT JOINT
- (XX) TRUSS NODE LOCATION
- [S] REPAIR SPLIT IN LATTICE (SEE DETAIL, SHEET 31)
- [E1] FILL 1" DIA HOLE WITH EPOXY (PLY D) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [E2] FILL 1½" DIA HOLE WITH EPOXY (ALL 4 PLIES) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [E3] REPAIR SPLIT ON TOP FACE WITH LIQUID WOOD EPOXY. ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [E4] REPAIR CHORD SPLIT (SEE CHORD SPLIT REPAIR, SHEET 30)
- [E5] FILL ¾" DIA HOLE WITH EPOXY (PLY B) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [E6] FILL (2) ¾" DIA HOLE WITH EPOXY (PLYS B, A) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [B1] REMOVE AND REPLACE ALL EXISTING CHORD 4 BOLTS WITH TRUNNELS SEE DETAILS AND NOTES, THIS SHEET
- [R1] REMOVE TIMBER BRACE
- [R2] REMOVE TIE ROD AND FILL (2) 1½" DIA HOLES WITH EPOXY (ALL 4 PLIES) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [R3] REMOVE TIE ROD AND FILL 1" DIA HOLES WITH EPOXY (ALL 4 PLIES) ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [T1] REPLACE TRUNNEL (SEE DETAIL, THIS SHEET)
- [T2] REMOVE TRUNNEL, FILL WITH EPOXY, DRILL FOR CORRECT TRUNNEL DIA, INSTALL NEW TRUNNEL. ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
- [L] CUT LATTICE TAILS FLUSH WITH BOTTOM FACE OF CHORD 4 FOR BEARING ONTO SLEEPER BEAM. 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)
- [G] SHIM ALL GAPS BETWEEN EXISTING LATTICE SPLICES TO REMAIN WITH HARDWOOD SHIMS. 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE)



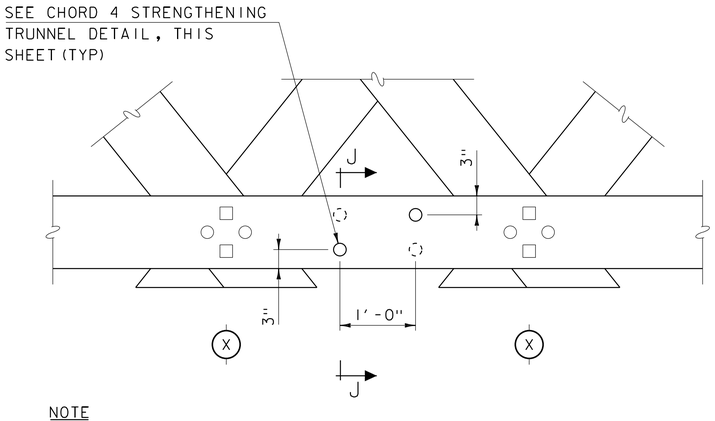
CHORD 1, 2, 3 AND LATTICE TRUNNEL DETAIL
NOT TO SCALE



CHORD 4 STRENGTHENING TRUNNEL DETAIL
NOT TO SCALE

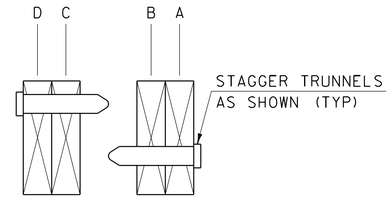


CHORD 4 TRUNNEL DETAIL
NOT TO SCALE

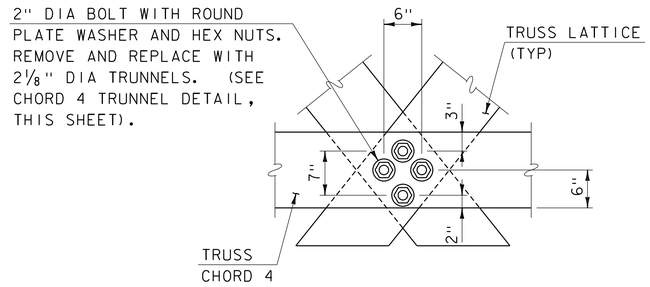


NOTE
INSTALL SUPPLEMENTAL TRUNNELS AS SHOWN BETWEEN NODES 9 AND 24.

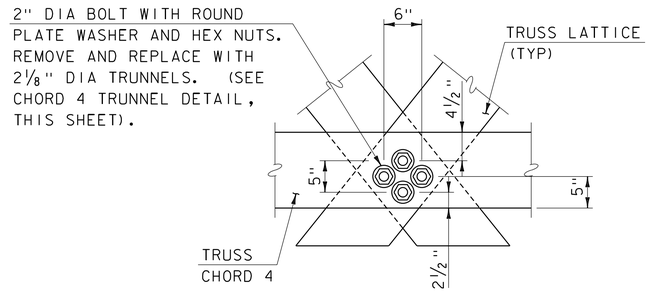
CHORD 4 STRENGTHENING TRUNNEL LAYOUT
SCALE: 1" = 1'-0"



SECTION J-J
SCALE: 1" = 1½'-0"



TYPICAL LATTICE TO CHORD 4 BOLTED CONNECTION
(WEST TRUSS)
SCALE: 1" = 1'-0"



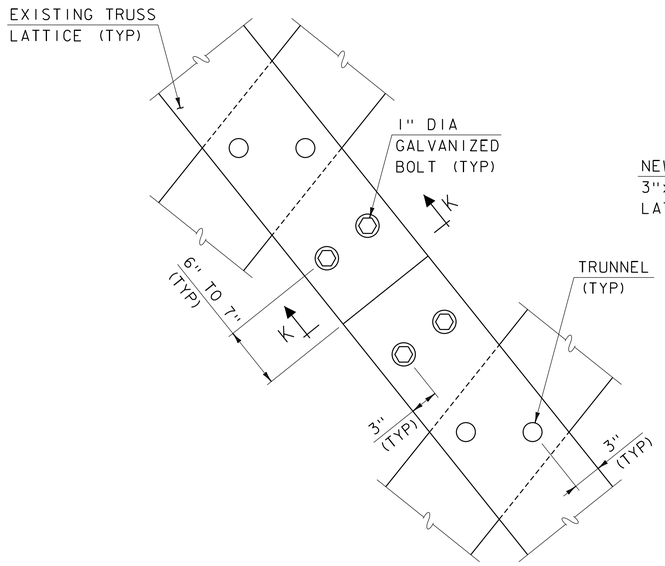
TYPICAL LATTICE TO CHORD 4 BOLTED CONNECTION
(EAST TRUSS)
SCALE: 1" = 1'-0"

CHORD 4 NOTES

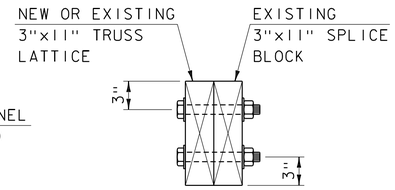
1. ALL EXISTING CHORD 4 BOLTS ARE TO BE REPLACED WITH TRUNNELS. FOR BIDDING PURPOSES, THE TRUNNEL DIAMETER IS TO BE 2⅛" AND SHALL BE VERIFIED IN THE FIELD PRIOR TO TRUNNEL FABRICATION. SEE TRUNNEL DETAILS ON THIS SHEET FOR MORE INFORMATION. PAYMENT FOR TRUNNELS SHALL BE AS SPECIFIED IN THE TIMBER CONNECTORS NOTES ON SHEET 7.
2. ALL EXISTING HOLES IN THE CHORD 4 PLIES AND LATTICE MEMBERS TO REMAIN THAT ARE GREATER THAN 2¼" DIAMETER SHALL BE FILLED WITH A WOOD EPOXY AND RE-DRILLED. EACH HOLE FILLED WITH WOOD EPOXY WILL BE PAID FOR AS ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS). EPOXY REPAIRS TO 10% OF THE LATTICE HOLES AT THE CONNECTION TO CHORD 4 ARE INCLUDED FOR BIDDING PURPOSES. LOWER PORTIONS OF LATTICE MEMBERS AT LOCATIONS WHERE EXISTING HOLES ARE LARGE, HAVE SPLITS, OR IF MULTIPLE HOLES OVERLAP, MAY BE REPLACED IN LIEU OF COMPLETING EPOXY REPAIRS. SEE WOOD NOTES FOR THE NUMBER OF LOWER LATTICE INCLUDED FOR BIDDING PURPOSES.

HOYLE TANNER

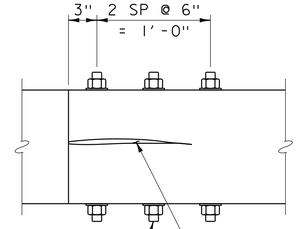
PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228sup9.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
SUPERSTRUCTURE DETAILS 3	SHEET 29 OF 52



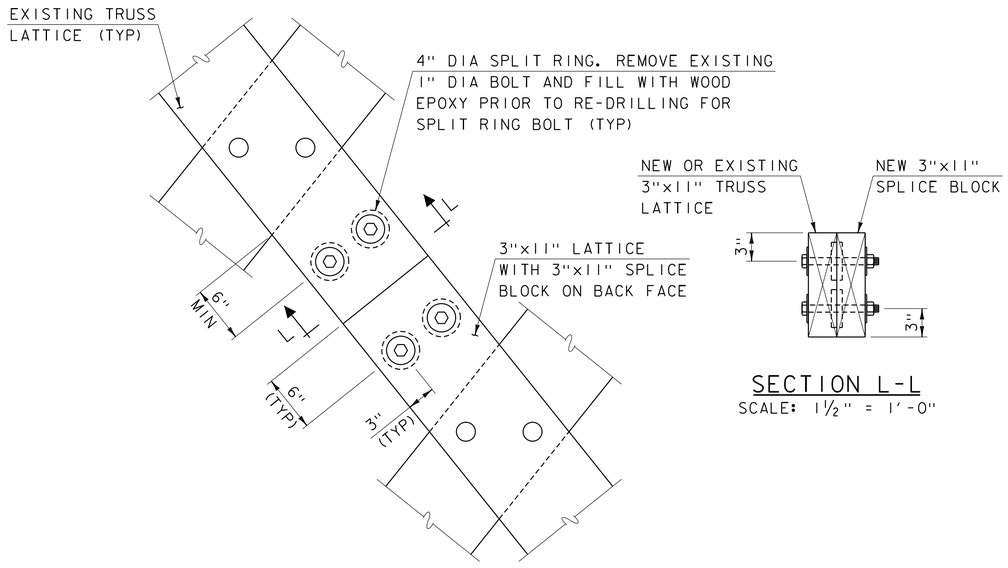
TYPICAL LATTICE SPLICE DETAIL
SCALE: 1½" = 1'-0"



SECTION K-K
SCALE: 1½" = 1'-0"

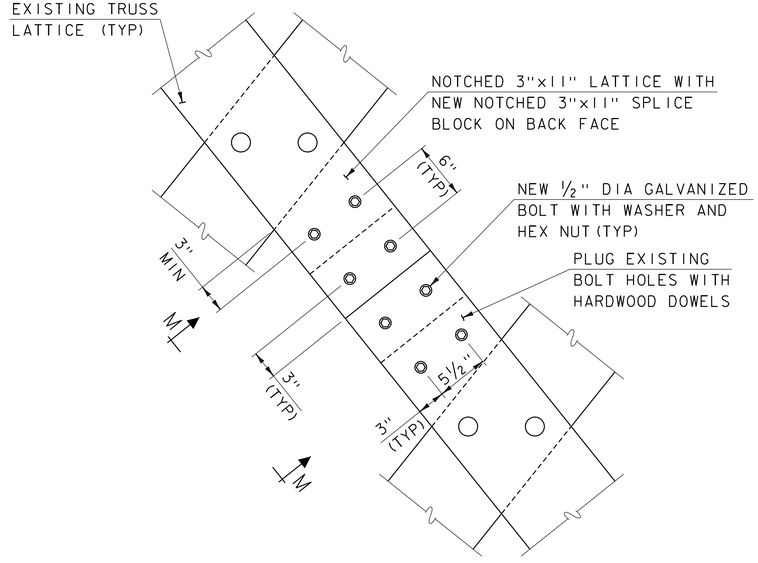


CHORD SPLIT REPAIR DETAIL
PAID AS ITEM 900.620, SPECIAL PROVISION (WOOD EPOXY REPAIRS)
SCALE: 1½" = 1'-0"

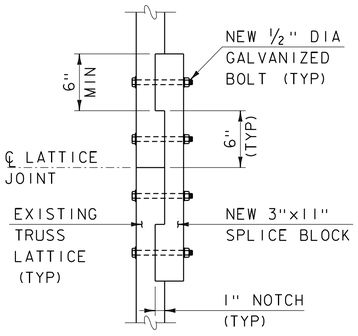


SPLIT RING CONNECTOR LATTICE SPLICE DETAIL
SCALE: 1½" = 1'-0"

SECTION L-L
SCALE: 1½" = 1'-0"



NOTCHED BLOCK LATTICE SPLICE DETAIL
SCALE: 1½" = 1'-0"

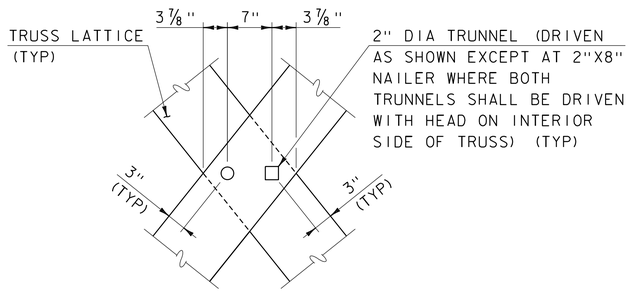


SECTION M-M
SCALE: 1½" = 1'-0"

HOYLE TANNER

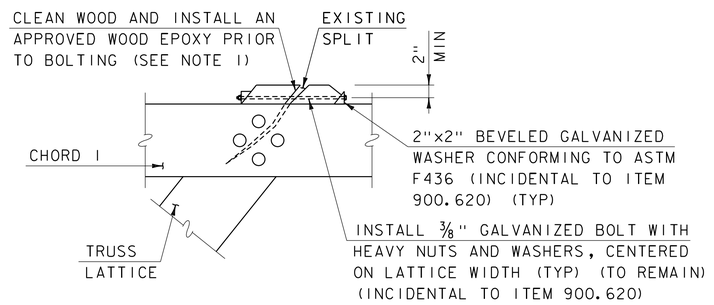
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228sup10.dgn		PLOT DATE: 8/19/2022	
PROJECT LEADER: J.BICJA		DRAWN BY: P.DUSTIN	
DESIGNED BY: J.RIPLEY		CHECKED BY: J.BICJA	
SUPERSTRUCTURE DETAILS 4		SHEET 30 OF 52	



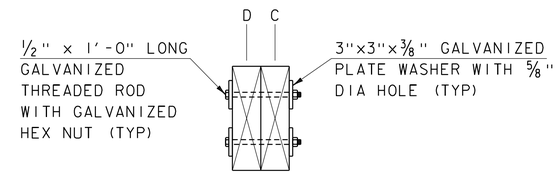
TYPICAL LATTICE TO LATTICE 2 TRUNNEL CONNECTION

SCALE: 1" = 1'-0"



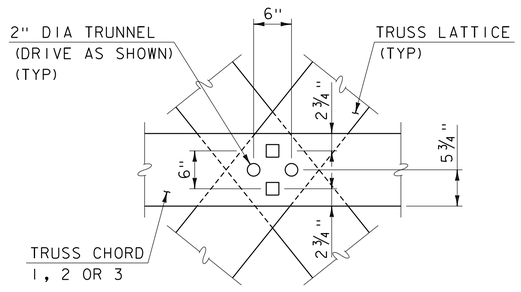
TOP END SPLIT LATTICE REPAIR DETAIL

SCALE: 1" = 1'-0"



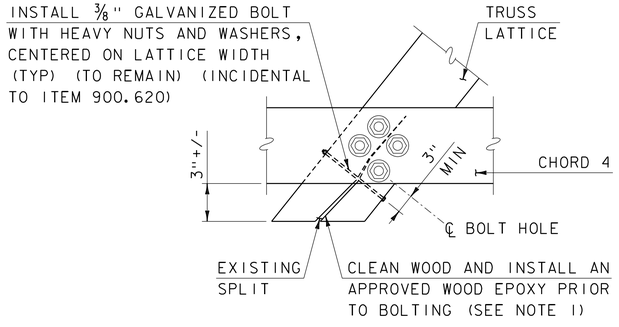
CHORD BOLT DETAIL AT GAPS

(EAST TRUSS CHORD 3 NODE 11 AND 18)
(WEST TRUSS CHORD 2 NODE 29)
SCALE: 1 1/2" = 1'-0"



TYPICAL LATTICE TO CHORD 1, 2 AND 3 TRUNNEL CONNECTION

SCALE: 1" = 1'-0"



BOTTOM END SPLIT LATTICE REPAIR DETAIL

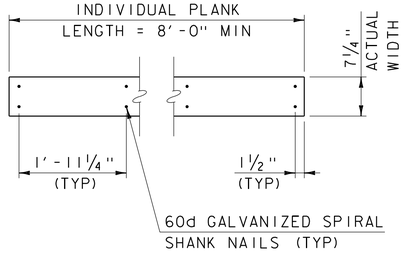
SCALE: 1" = 1'-0"

NOTE

1. THE REPAIR OF SPLITS ON LATTICE AND CHORD MEMBERS, AS SHOWN ON THIS SHEET, ARE PAID UNDER ITEM 900.620, SPECIAL PROVIDSION (WOOD EPOXY REPAIRS). SEE SHEET 27 FOR THE RECOMMENDED REPAIR SEQUENCE.

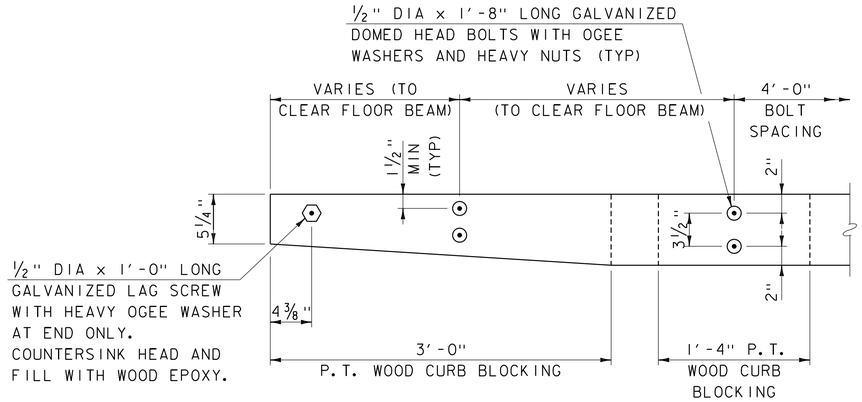
HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228supll.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
SUPERSTRUCTURE DETAILS 5	SHEET 31 OF 52

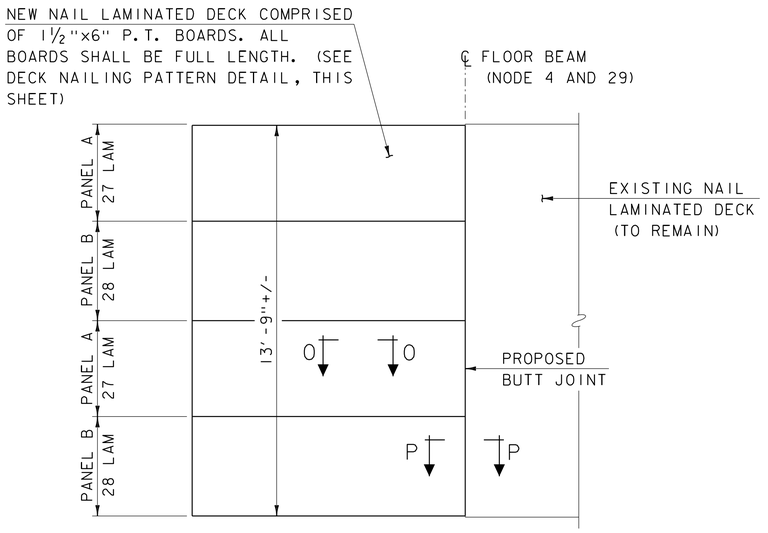


NOTE
STAGGER JOINTS OF ADJACENT PLANKS BY 4'-0".

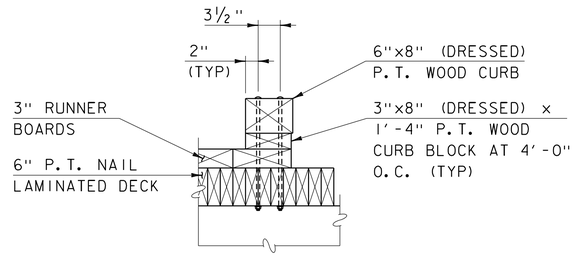
RUNNER BOARDS ATTACHMENT
SCALE: 1" = 1'-0"



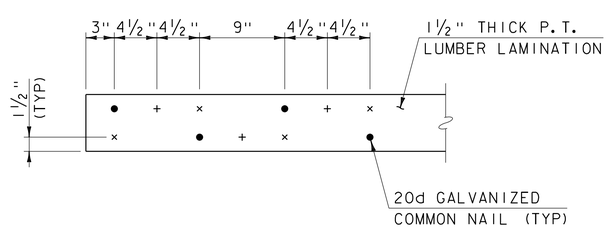
CURB END TAPER
SCALE: 1½" = 1'-0"



DECK END DETAIL
SCALE: ⅜" = 1'-0"

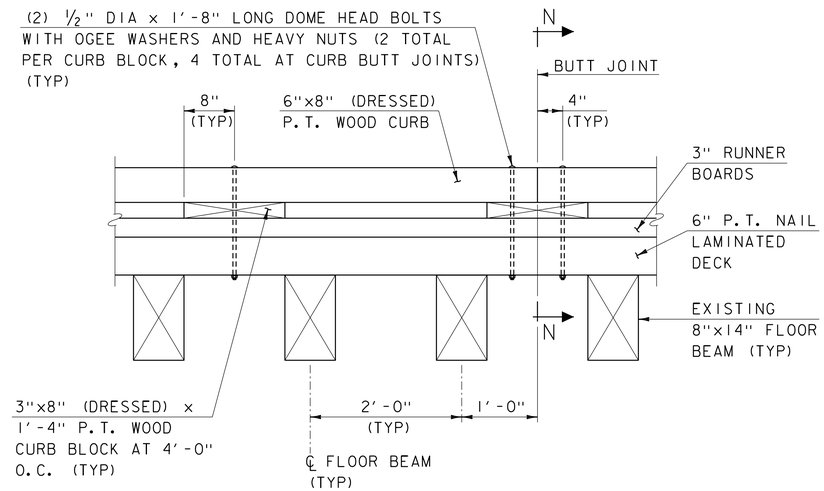


SECTION N-N
SCALE: 1" = 1'-0"



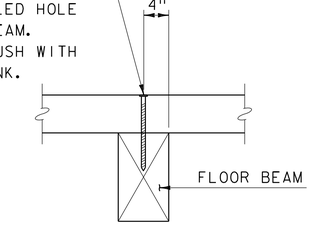
● INDICATES NAILS IN FIRST LAMINATION
+ INDICATES NAILS IN SECOND LAMINATION
× INDICATES NAILS IN THIRD LAMINATION

DECK NAILING PATTERN
SCALE: 1½" = 1'-0"



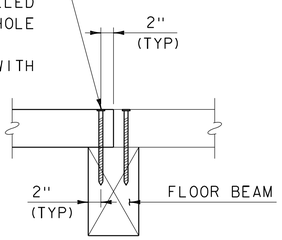
CURB ATTACHMENT DETAIL
SCALE: 1" = 1'-0"

⅝" DIA x 12" LONG GALVANIZED LAG SCREW WITH FLAT WASHER AT 12" ON CENTER. INSTALLED IN 7/16" DIA PRE-DRILLED HOLE CENTERED IN FLOOR BEAM. COUNTERSINK HEAD FLUSH WITH THE TOP OF DECK PLANK.



SECTION O-O
SCALE: 1" = 1'-0"

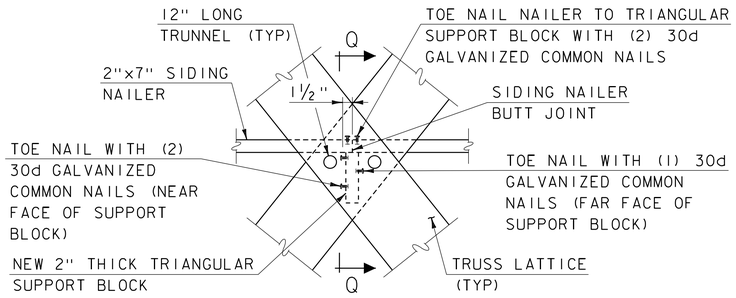
⅝" DIA x 12" LONG GALVANIZED LAG SCREW WITH FLAT WASHER AT 12" ON CENTER. INSTALLED IN 7/16" DIA PRE-DRILLED HOLE CENTERED IN FLOOR BEAM. COUNTERSINK HEAD FLUSH WITH THE TOP OF DECK PLANK.



SECTION P-P
SCALE: 1" = 1'-0"

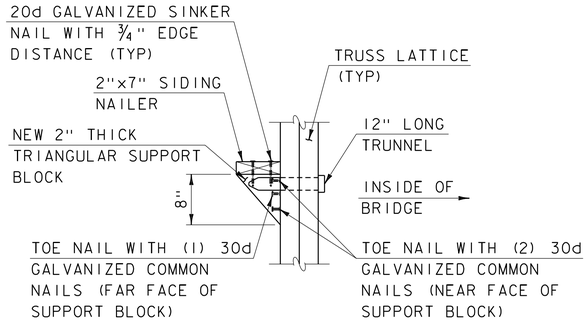
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228supl2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
SUPERSTRUCTURE DETAILS 6	SHEET 32 OF 52



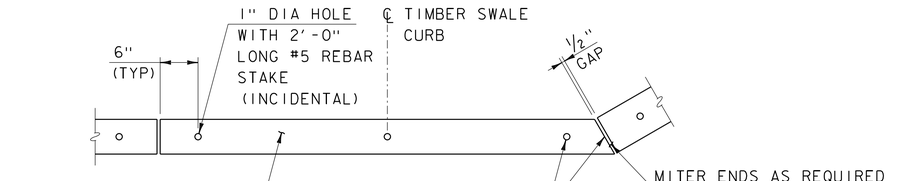
SIDING NAILER JOINT TO LATTICE CONNECTION

SCALE: 1" = 1'-0"



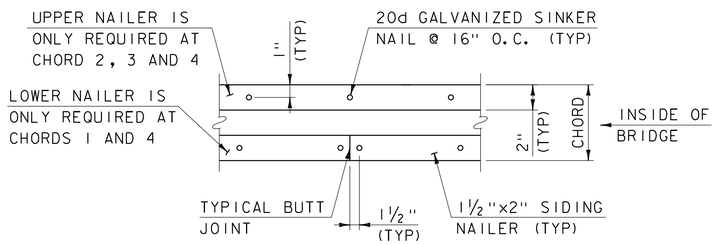
SECTION Q-Q

SCALE: 1" = 1'-0"



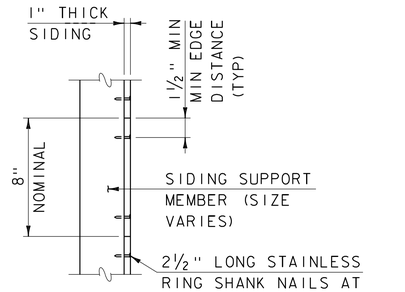
TIMBER SWALE CURBING DETAIL

(STA 15+07 TO STA 15+89, RT)
NOT TO SCALE



SIDING NAILER TO CHORD CONNECTION

NOT TO SCALE



PLAN

SIDING ATTACHMENT DETAIL

NOT TO SCALE

SWEEP AND CAMBER NOTES

1. TRUSS NODES ARE LOCATED AT THE CENTER OF THE INTERSECTION OF LATTICE MEMBERS WITH CHORD 1 AND CHORD 4.

2. ALL VALUES IN THE CAMBER TABLE ARE MEASURED FROM THE REFERENCE LINE THAT IS A STRAIGHT LINE CONNECTING POINTS LOCATED AT THE TOP FACE OF CHORD 3. ALL VALUES WERE OBTAINED IN JUNE 2020 AND MAY 2022 AND ARE APPROXIMATE.

3. THE CONTRACTOR SHALL JACK THE BRIDGE TO A MAXIMUM OF 2" MIDSPAN CAMBER PRIOR TO REPLACING TRUSS MEMBERS. CONTRACTOR SHALL BE AWARE THE MEASURES NOT SHOWN ON THESE PLANS SUCH AS TEMPORARY REMOVAL OF EXISTING TRUSS OR FLOOR SYSTEM MEMBERS MAY BE REQUIRED TO INDUCE POSITIVE CAMBER INTO THE TRUSS. ALL COST OF SUCH WORK IS PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

4. ALL VALUES IN THE SWEEP TABLE ARE MEASURED FROM THE REFERENCE LINE THAT IS A STRAIGHT LINE CONNECTING POINTS LOCATION ALONG THE INTERIOR FACE OF CHORD 1 AND CHORD 3. ALL VALUES WERE OBTAINED IN MAY 2022 AND ARE APPROXIMATE.

5. THE EXISTING COVERED BRIDGE SHALL BE JACKED AND BRACED AS REQUIRED PRIOR TO THE START OF REALIGNMENT OPERATIONS SUCH THAT THE MAXIMUM SWEEP IS 0.5". INSTALLATION OF NEW TRUSS MEMBERS SHALL NOT BEGIN UNTIL REALIGNMENT OPERATIONS ARE COMPLETE. CONTRACTOR SHALL BE AWARE THAT MEASURES NOT SHOWN ON THESE PLANS SUCH AS LOOSENING OF EXISTING CONNECTIONS, MODIFYING EXISTING NOTCHING OR TEMPORARY REMOVAL AND REPLACEMENT OF ROOF, UPPER LATERAL BRACING, TRUSS, OR FLOOR SYSTEM MEMBERS MAY BE REQUIRED TO RE-ALIGN THE EXISTING COVERED BRIDGE. ALL COST OF SUCH WORK IS PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

6. THE CONTRACTOR SHALL PROVIDE TO THE RESIDENT ENGINEER THE MEASUREMENTS OF THE AS-BUILT CAMBER AND SWEEP. ALL COST OF SUCH WORK IS PAID UNDER ITEM 900.645, SPECIAL PROVISION (REHABILITATING COVERED BRIDGE SUPERSTRUCTURE).

EXISTING AND AS-BUILT SWEEP (INCHES)								
NODE #	(1A)	(1B)	(1C)	(1D)	(2A)	(2B)	(2C)	(2D)
4	-0.13		-1.13		-0.88		-0.50	
6	0.75		-1.00		-1.50		-2.75	
8	0.75		-0.50		-1.38		-3.13	
10	0.88		-0.38		-0.63		-2.88	
12	1.38		-0.50		-1.00		-2.75	
14	1.50		-0.75		-2.25		-2.75	
16	1.50		-0.25		-2.63		-3.00	
18	2.25		-0.50		3.25		-2.00	
20	2.50		0.00		-3.25		-1.75	
22	1.75		-0.50		-2.63		-1.63	
24	1.13		-0.38		-2.50		-1.63	
26	0.63		-0.50		-1.63		-1.00	
28	0.50		-0.38		-0.88		0.50	

* NEGATIVE VALUES INDICATE INWARD SWEEP
(1A) EXISTING SWEEP - EAST TRUSS CHORD 1
(1B) AS-BUILT SWEEP - EAST TRUSS CHORD 1
(1C) EXISTING SWEEP - EAST TRUSS CHORD 3
(1D) AS-BUILT SWEEP - EAST TRUSS CHORD 3
(2A) EXISTING SWEEP - WEST TRUSS CHORD 1
(2B) AS-BUILT SWEEP - WEST TRUSS CHORD 1
(2C) EXISTING SWEEP - WEST TRUSS CHORD 3
(2D) AS-BUILT SWEEP - WEST TRUSS CHORD 3

EXISTING AND AS-BUILT CAMBER (INCHES)*				
NODE #	(1A)	(1B)	(2A)	(2B)
4	0.00		0.00	
6	-0.66		-1.05	
8	-1.20		-1.02	
10	-1.02		-1.71	
12	-1.08		-0.84	
14	-0.90		-1.05	
16	-0.48		-0.78	
18	-0.66		-0.75	
20	-0.60		-0.72	
22	-1.02		-0.69	
24	-1.20		-0.54	
26	-0.78		-0.03	
28	0.00		0.00	

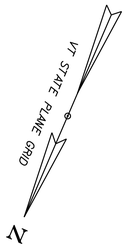
* NEGATIVE VALUES INDICATE SAG
(1A) EXISTING CAMBER - EAST TRUSS
(1B) AS-BUILT CAMBER - EAST TRUSS
(2A) EXISTING CAMBER - WEST TRUSS
(2B) AS-BUILT CAMBER - WEST TRUSS

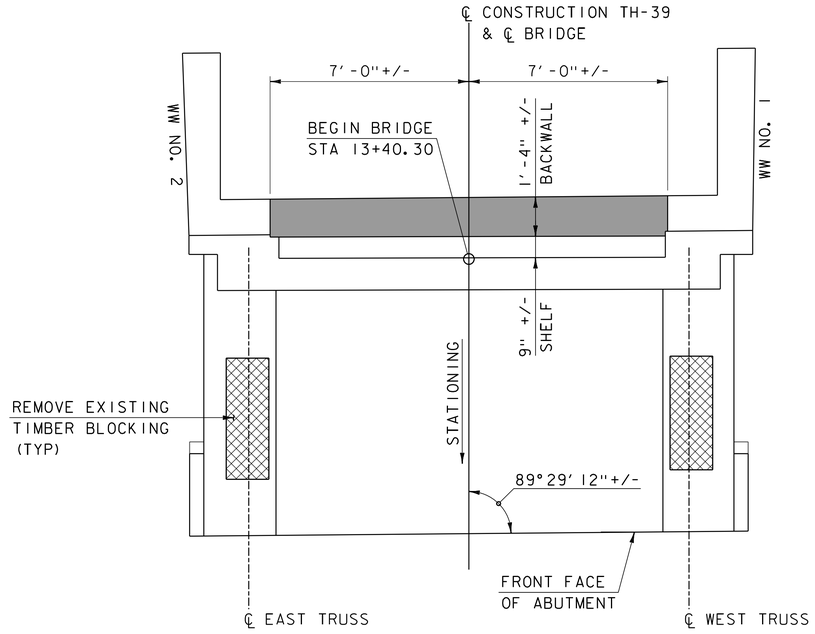
HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228supl3.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
SUPERSTRUCTURE DETAILS 7

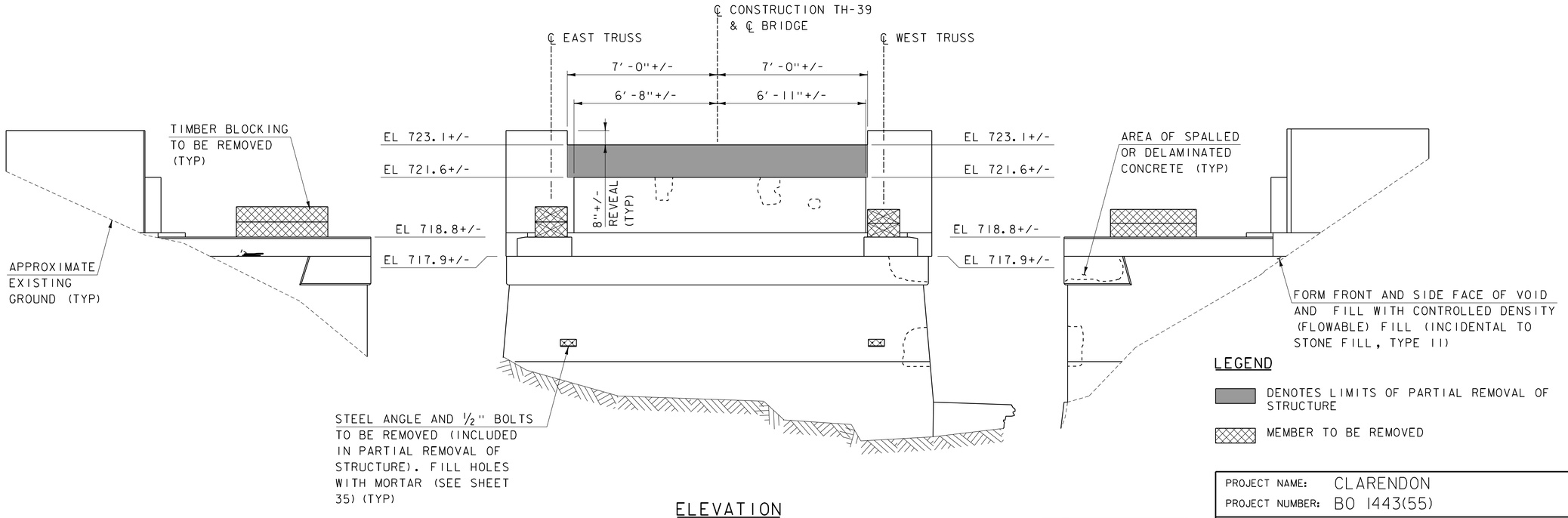
PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA





PLAN

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



ELEVATION

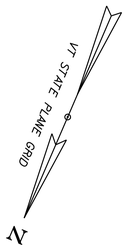
SCALE: 3/8" = 1'-0"

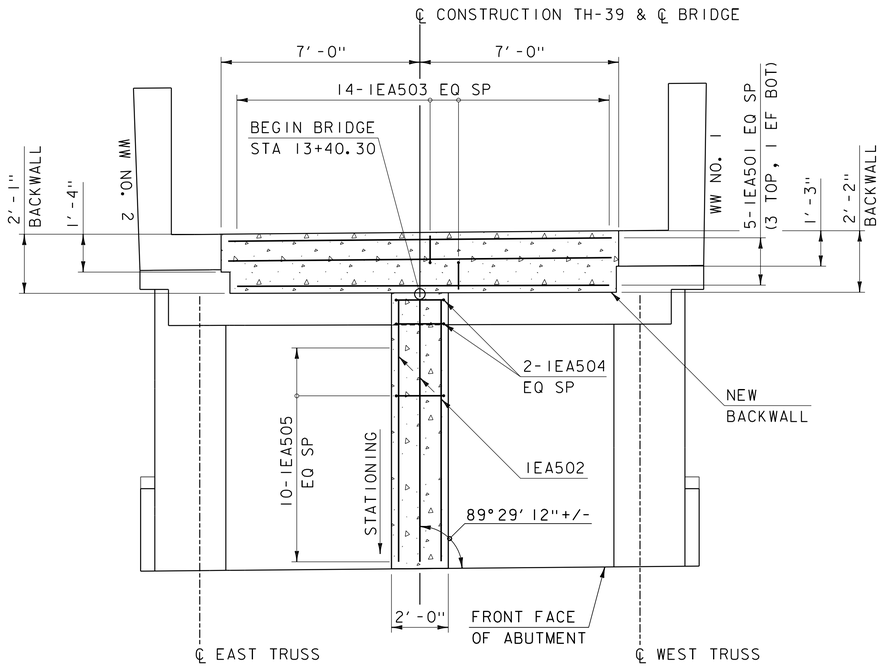
LEGEND

- DENOTES LIMITS OF PARTIAL REMOVAL OF STRUCTURE
- MEMBER TO BE REMOVED

HOYLE TANNER

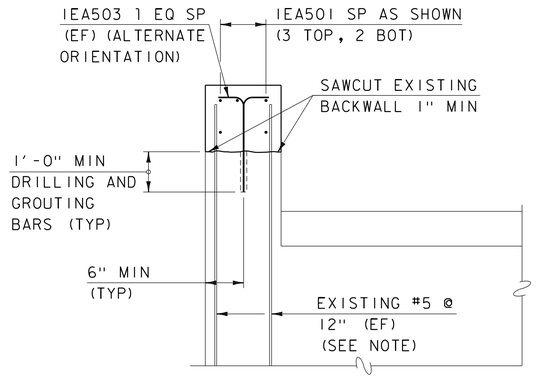
PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228subl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
EXISTING ABUTMENT NO.1	SHEET 34 OF 52





PLAN

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

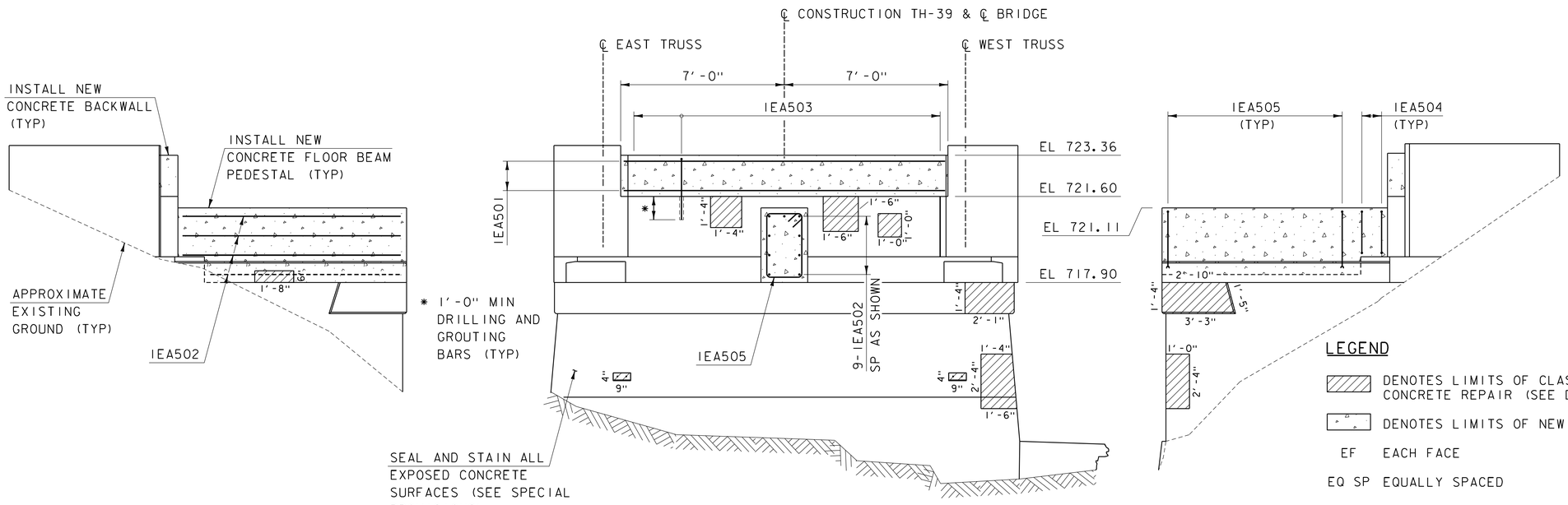


NOTE

EXISTING REBAR SHALL BE CLEANED OF RUST, DEBRIS, GREASE, OR ANY OTHER INJURIOUS MATERIAL PRIOR TO POURING NEW CONCRETE.

TYPICAL BACKWALL REINFORCING SECTION

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



ELEVATION

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

LEGEND

DENOTES LIMITS OF CLASS II SUBSTRUCTURE CONCRETE REPAIR (SEE DETAIL, SHEET 38)

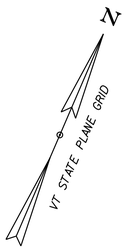
DENOTES LIMITS OF NEW CONCRETE

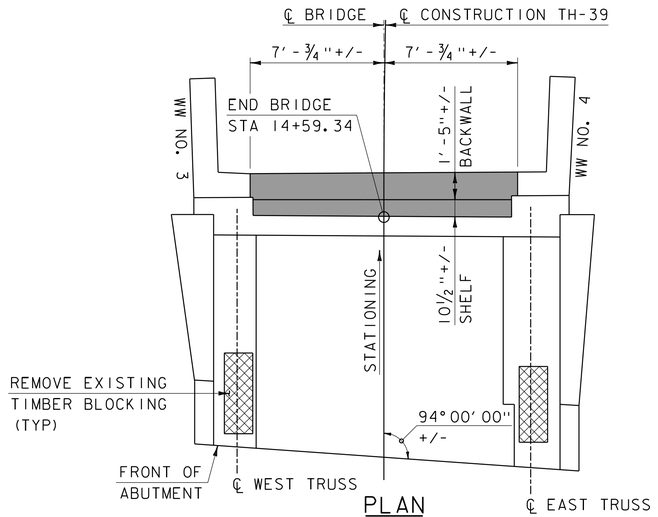
EF EACH FACE

EQ SP EQUALLY SPACED

HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228sub2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
PROPOSED ABUTMENT NO.1	SHEET 35 OF 52



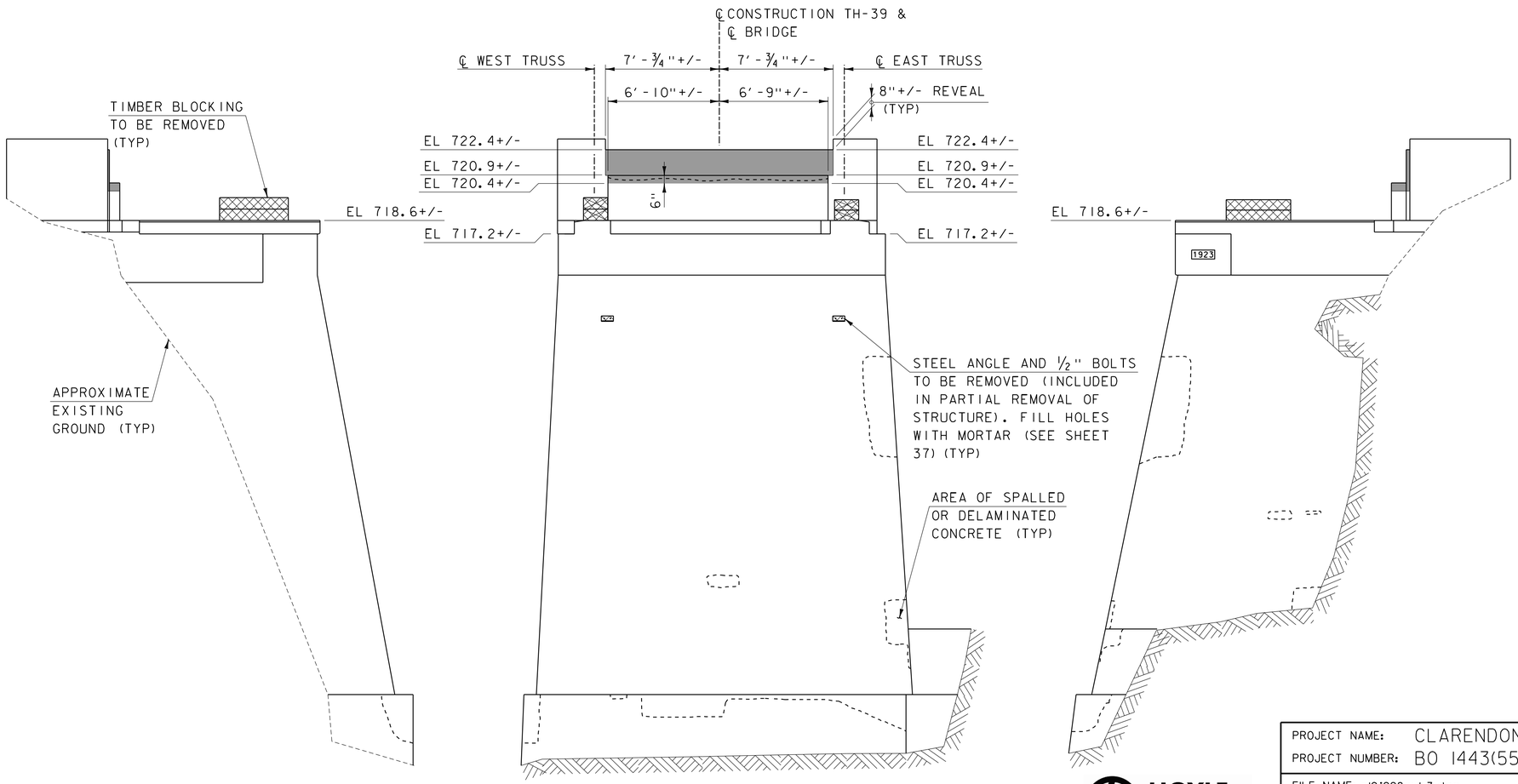


PLAN

SCALE: ¼" = 1'-0"

LEGEND

- DENOTES LIMITS OF PARTIAL REMOVAL OF STRUCTURE
- MEMBER TO BE REMOVED



ELEVATION

SCALE: ¼" = 1'-0"

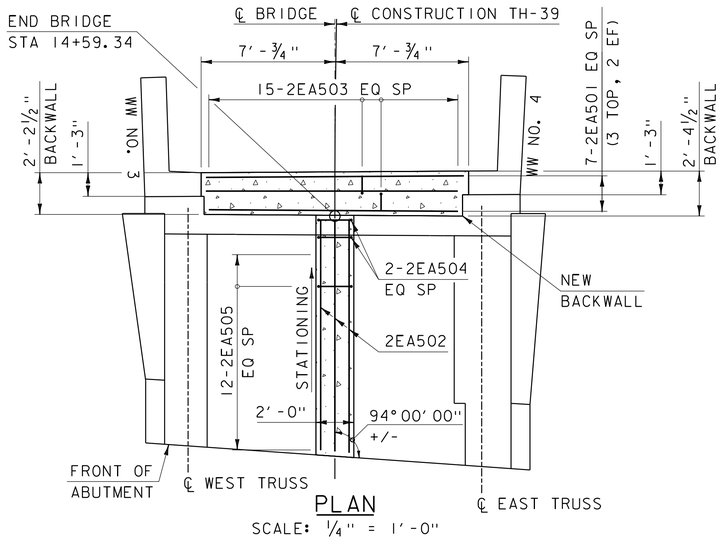
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228sub3.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
EXISTING ABUTMENT NO. 2	SHEET 36 OF 52

N

VT STATE PLANE GRID



PLAN

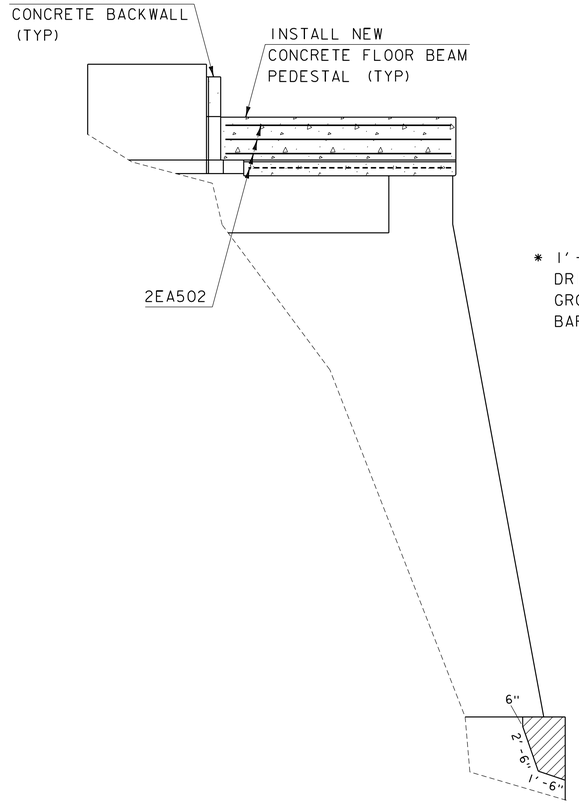
SCALE: ¼" = 1'-0"

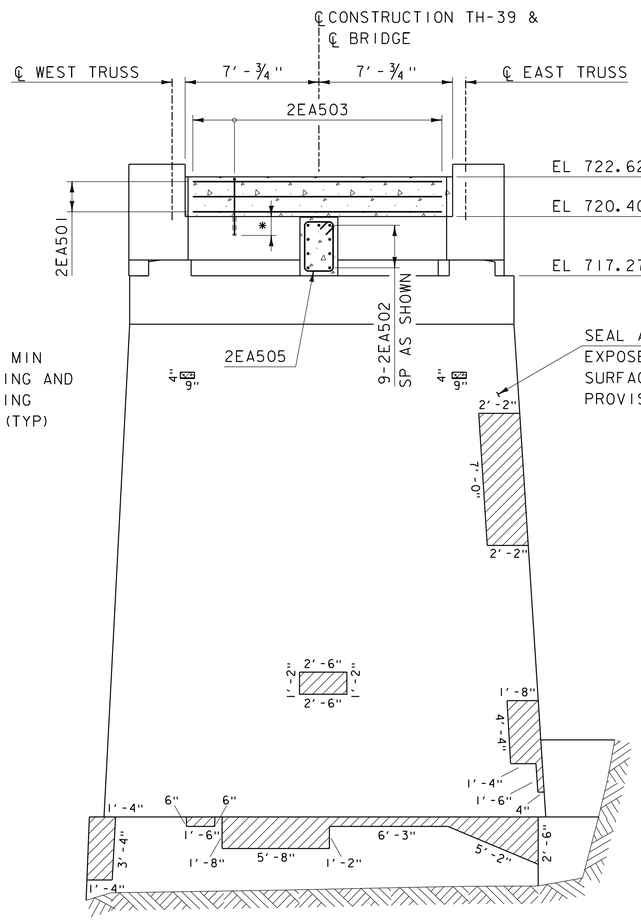
LEGEND

- DENOTES LIMITS OF CLASS II SUBSTRUCTURE CONCRETE REPAIR (SEE DETAIL, SHEET 38)
- DENOTES LIMITS OF NEW CONCRETE
- EF EACH FACE
- EQ SP EQUALLY SPACED

NOTE

1. FOR TYPICAL BACKWALL REINFORCING SECTION, SEE SHEET 35.

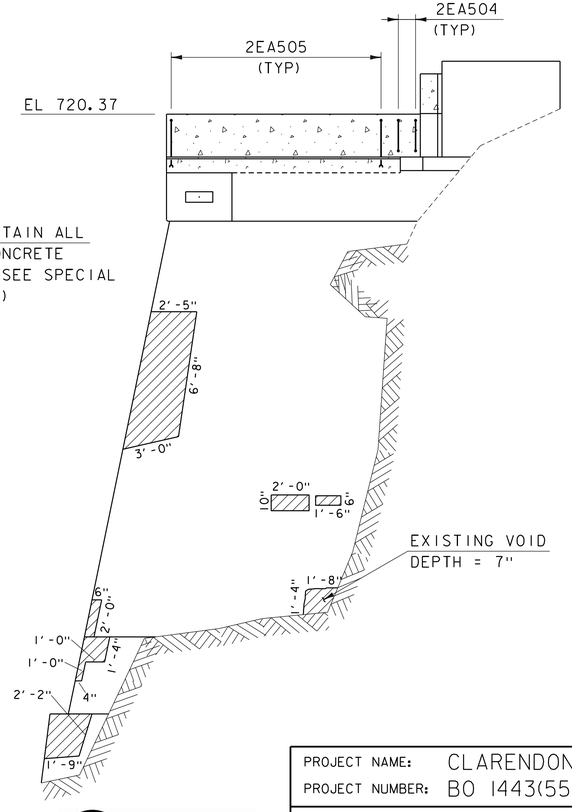




* 1'-0" MIN DRILLING AND GROUTING BARS (TYP)

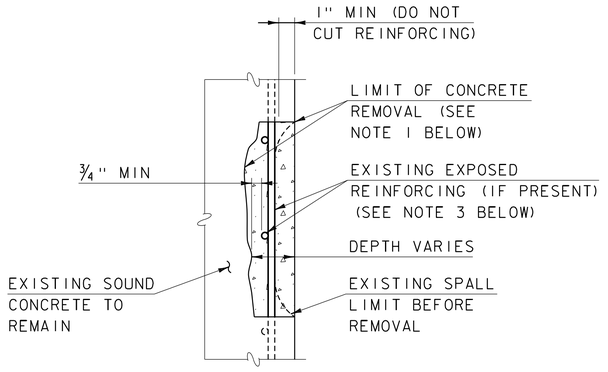
ELEVATION

SCALE: ¼" = 1'-0"



HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228sub4.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: P.DUSTIN
DESIGNED BY: J.RIPLEY	CHECKED BY: J.BICJA
PROPOSED ABUTMENT NO. 2	SHEET 37 OF 52



CLASS II VERTICAL CONCRETE REPAIR DETAIL

NOT TO SCALE

CLASS II VERTICAL CONCRETE REPAIR NOTES

1. PREPARE SPALLED AREA BY REMOVAL OF ALL DETERIORATED CONCRETE TO A MINIMUM DEPTH OF 3/4" BEHIND THE INSIDE FACE OF THE FIRST MAT OF REINFORCING STEEL (IF PRESENT) AND TO SOUND CONCRETE BY SQUARE CUTTING REPAIR AREA (PAID UNDER ITEM 580.14). FEATHERED REMOVAL EDGES WILL NOT BE PERMITTED.

2. USE OF CHIPPING HAMMERS HEAVIER THAN NOMINAL 15 POUND CLASS IS NOT PERMITTED.

3. AFTER CONCRETE REMOVAL, THE REPAIR SURFACE AND EXISTING REINFORCING BARS SHALL BE THOROUGHLY CLEANED OF INJURIOUS RUST, CONCRETE, DIRT, GREASE, OR ANY OTHER BOND-INHIBITING MATERIALS. APPLY ONE COAT OF CONPROCO CORPORATION ECB (ELECTRO-CHEMICAL BARRIER), FERROSEAL BY ISOMAT, MAPEFER BY MAPEI OR APPROVED EQUAL TO ANY EXPOSED REINFORCING.

4. PATCH REPAIR AREA WITH CONCRETE CLASS AA (PAID UNDER ITEM 580.14). A HIGH RANGE WATER REDUCING ADMIXTURE CONFORMING TO THE REQUIREMENTS OF SUBSECTION 725.02(h) SHALL BE USED FOR THE CONCRETE. DOSAGE SHALL BE AS RECOMMENDED BY THE MANUFACTURER TO PRODUCE A SLUMP OF 6-8 INCHES.

5. APPLY A PENETRATING, CORROSION-INHIBITING IMPREGNATION COATING, SIKA FERROGARD 903, CORTEC CORPORATION MCI-2020 V/O, GRACE CONSTRUCTION PRODUCTS POSTRITE OR APPROVED EQUAL FOR A DISTANCE OF 3' BEYOND THE EDGE OF THE CONCRETE REPAIR 7 DAYS AFTER APPLYING REPAIR MATERIAL.

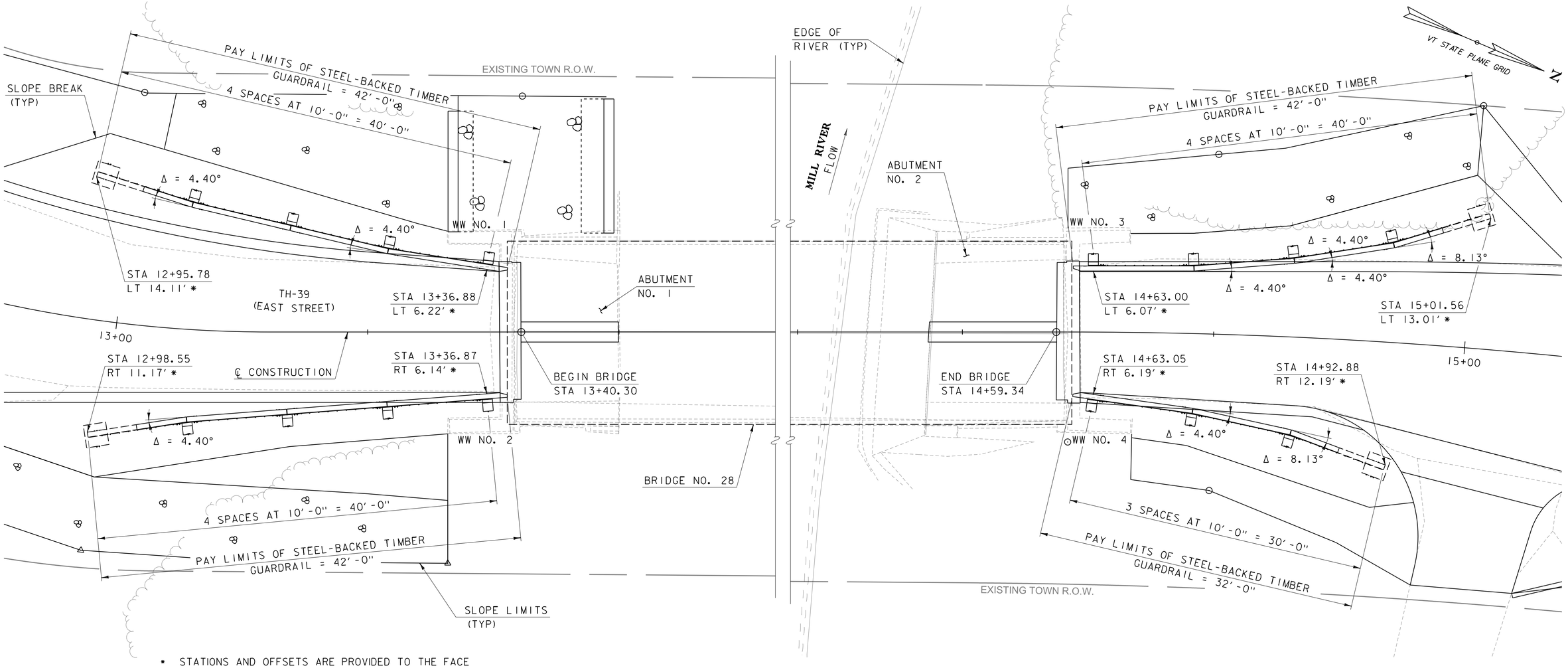
6. ALL WORK AND MATERIALS REQUIRED FOR CONCRETE REPAIRS DESCRIBED IN NOTES 1-5 ABOVE WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 580.14.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

FILE NAME: z19j228sub5.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
SUBSTRUCTURE DETAILS

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 38 OF 52



* STATIONS AND OFFSETS ARE PROVIDED TO THE FACE OF RAIL AT THE CENTERLINE OF POST (WHERE POST EXISTS) OR END OF RAIL AT ANCHOR CONCRETE BLOCK.

NOTES

1. IF AN IMPENETRABLE HOLE IS ENCOUNTERED WHILE PLACING GUARDRAIL POSTS, ENLARGE THE HOLE TO PROVIDE NOT LESS THAN 6" CLEARING ON ALL SIDES, AND TO A MINIMUM DEPTH OF 2'-6". SET THE POSTS IN CONCRETE TO WITHIN 6" FROM THE TOP OF THE HOLE. BACKFILL AND COMPACT 6" WITH CRUSHED GRAVEL. ALL SUCH WORK IS CONSIDERED INCIDENTAL TO ITEM 621.18, STEEL BACKED TIMBER GUARDRAIL.

2. DO NOT CONNECT THE GUARDRAIL TO THE CONCRETE ANCHORS UNTIL THE CONCRETE HAS CURED FOR A MINIMUM OF SEVEN DAYS.

3. FIELD CUT TIMBER RAILS TO PRODUCE A CLOSE FIT AT ALL JOINTS. SEE NOTE W-9, SHEET 7.

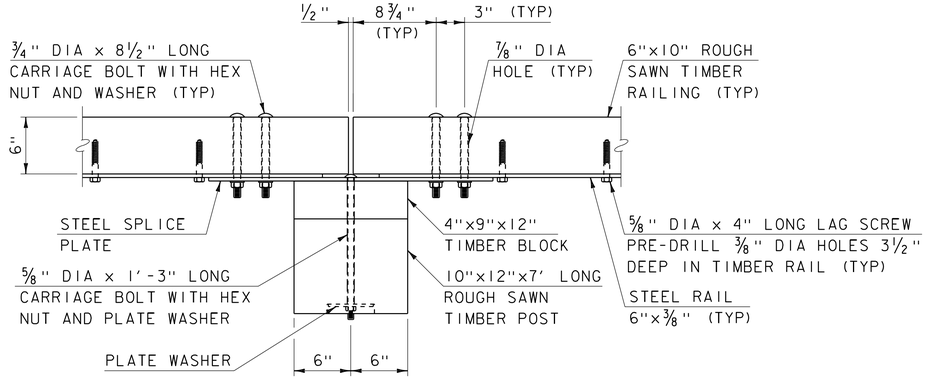
SCALE 1" = 5'-0"
5 0 5

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

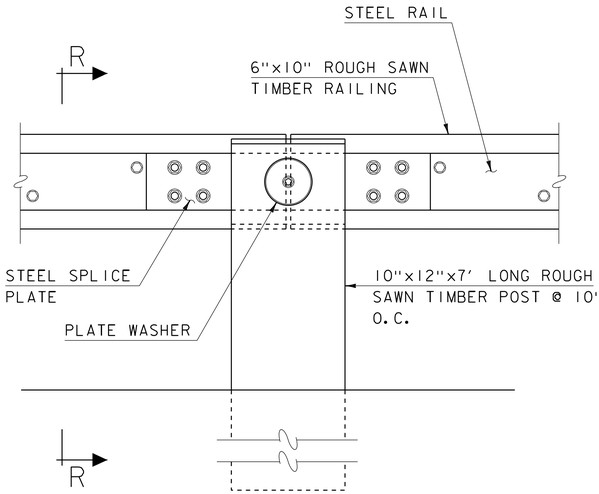
FILE NAME: z19j228bdr_apr.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
APPROACH RAIL LAYOUT

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 39 OF 52

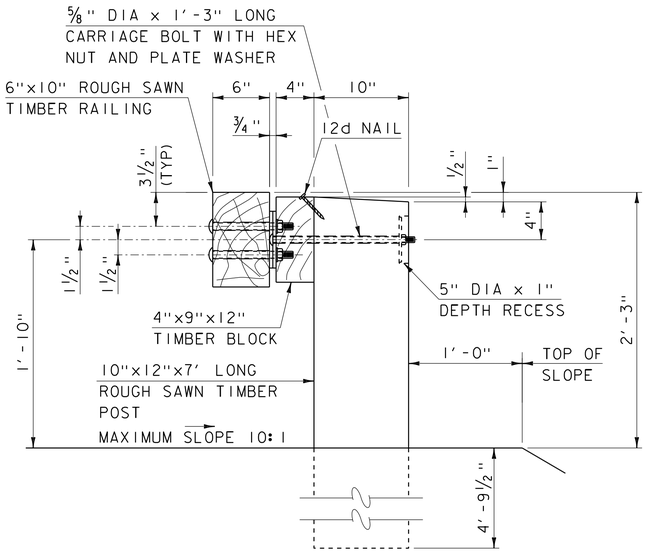


POST CONNECTION PLAN

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



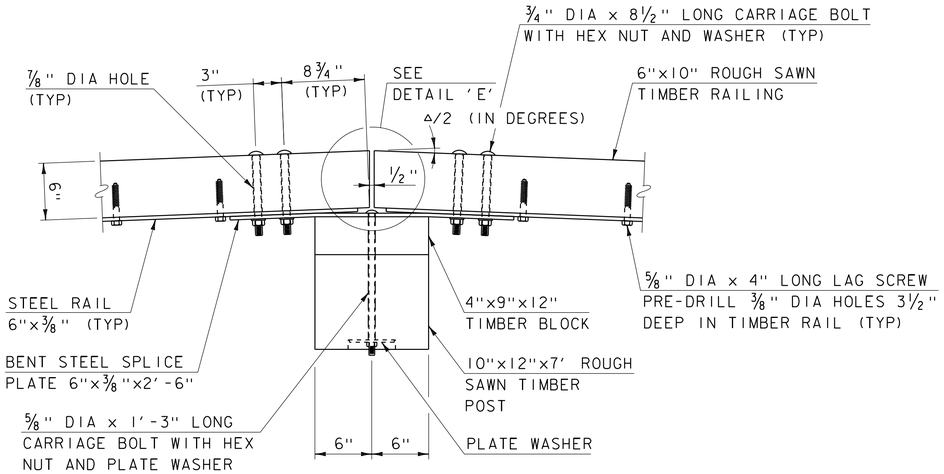
ELEVATION



SECTION R-R

POST CONNECTION DETAIL

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



ANGLE POINT POST CONNECTION PLAN

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

BEND AND END CUT TABLE		
Radius R ft	Δ/2 degrees	d in
20	7.18	3/4
25	5.74	5/8
30	4.78	1/2
35	4.10	7/16
40	3.58	3/8
45	3.18	1/3
50	2.87	5/16
55	2.61	1/4
60	2.39	1/4
65	2.20	1/4
70	2.05	1/4
over 70	flat	0

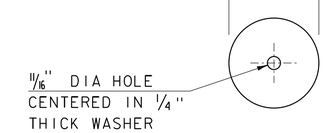
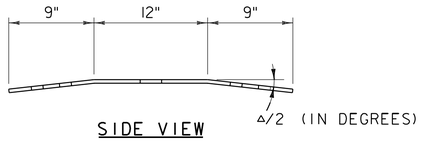
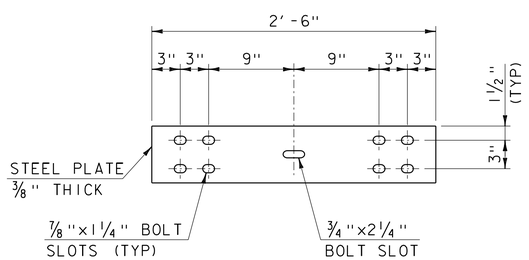


PLATE WASHER DETAIL

SCALE: 3" = 1'-0"

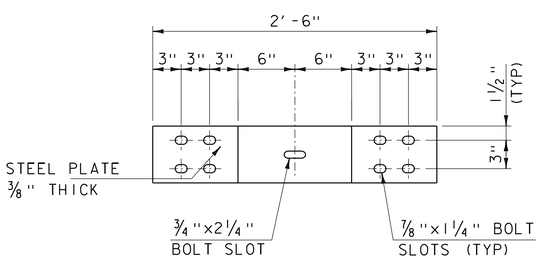


SIDE VIEW



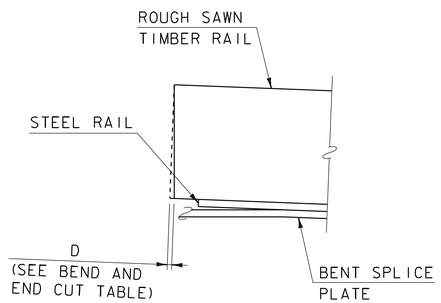
STEEL SPLICE PLATE DETAIL

6"x3/8"x2'-6" GALVANIZED
SCALE: 1 1/2" = 1'-0"



BENT STEEL SPLICE PLATE DETAIL

6"x3/8"x2'-6" GALVANIZED
SCALE: 1 1/2" = 1'-0"



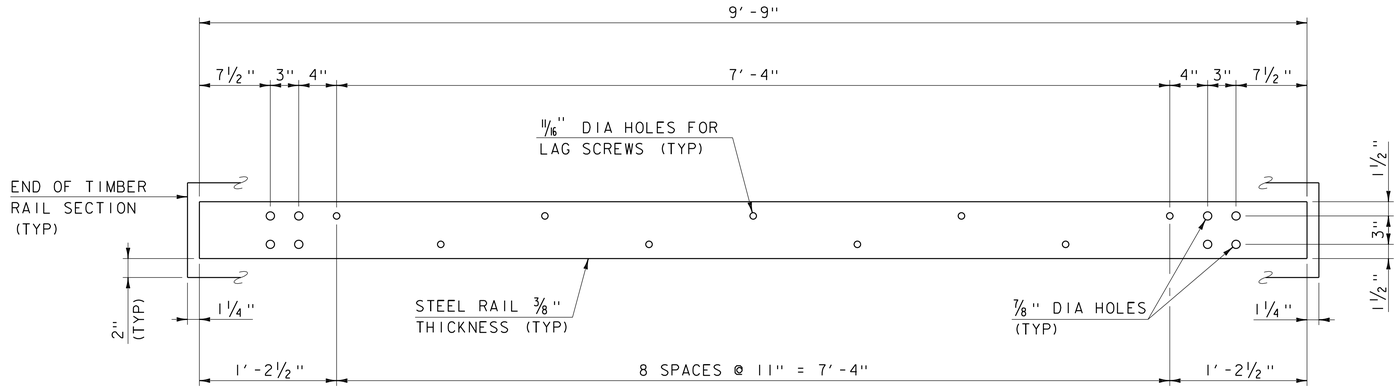
DETAIL 'E'

SCALE: 3" = 1'-0"

HOYLE TANNER

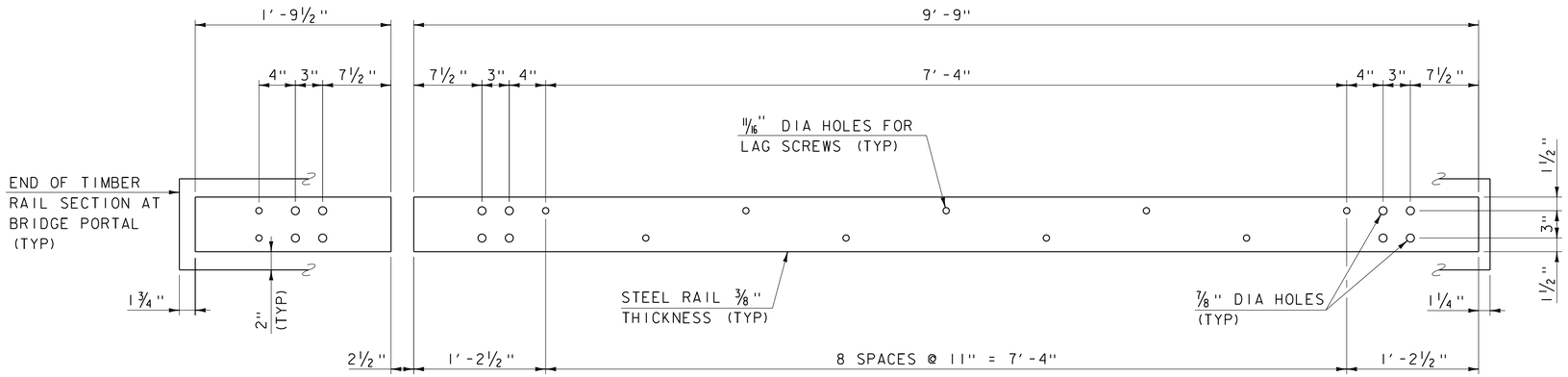
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z191228grd.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: T.GELINAS
DESIGNED BY: P.DUSTIN	CHECKED BY: J.BICJA
APPROACH RAIL DETAILS I	SHEET 40 OF 52



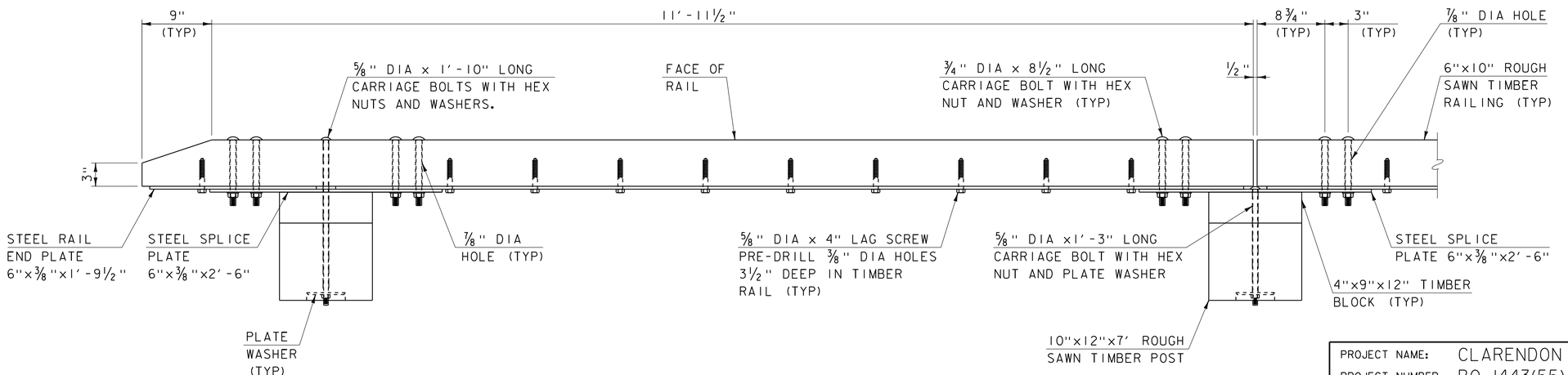
STEEL RAIL DETAIL

6"x⅜"x9'-9" GALVANIZED
SCALE: 1½" = 1'-0"



STEEL RAIL END DETAIL

6"x⅜"x1'-9½" GALVANIZED AND 6"x⅜"x9'-9" GALVANIZED
SCALE: 1½" = 1'-0"

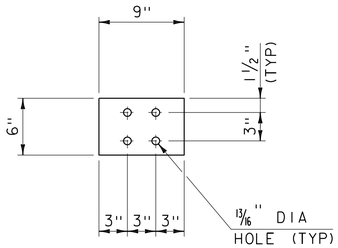


RAIL END DETAIL

SCALE: 1½" = 1'-0"

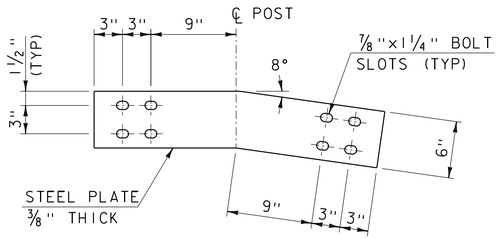
HOYLE TANNER

PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228grd.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: T.GELINAS
DESIGNED BY: P.DUSTIN	CHECKED BY: J.BICJA
APPROACH RAIL DETAILS 2	SHEET 41 OF 52



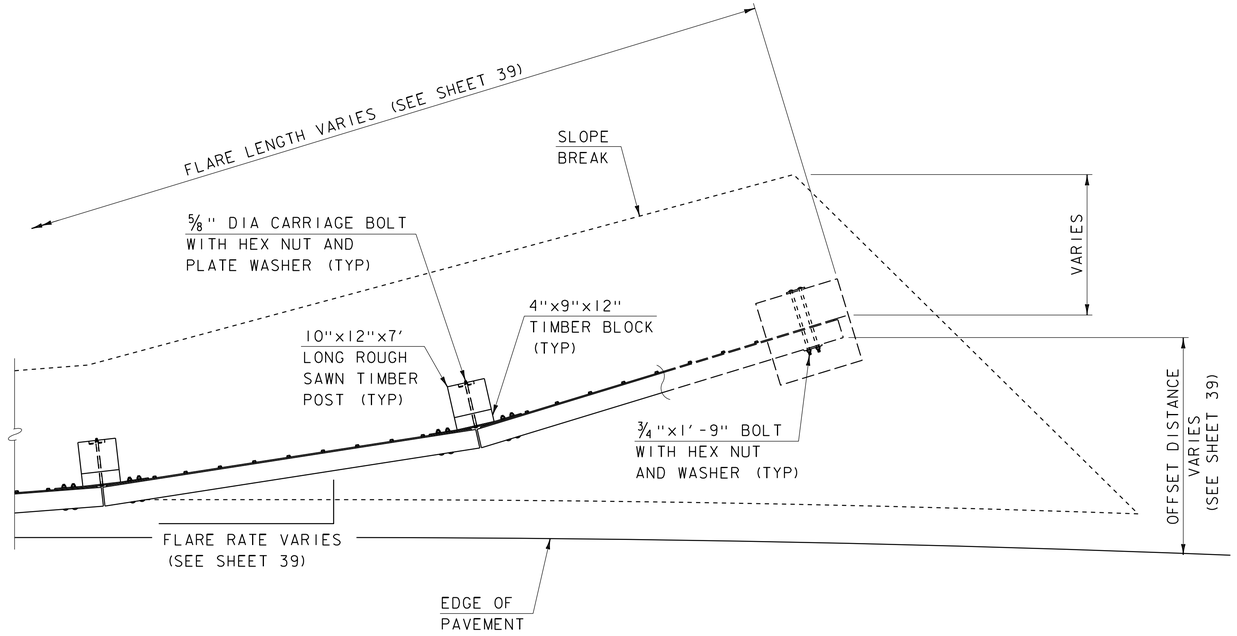
STEEL BEARING PLATE DETAIL

6"x½"x9" GALVANIZED
SCALE: 3" = 1'-0"



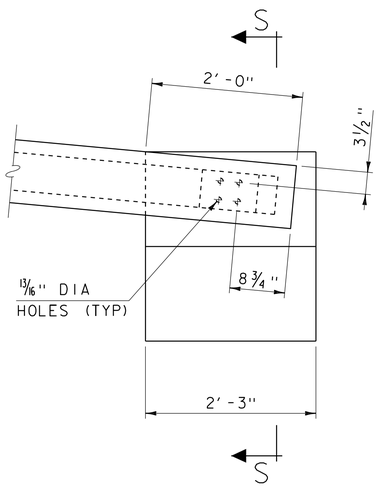
ANGLED STEEL SPLICE PLATE DETAIL

6"x⅜"x2'-6" GALVANIZED
SCALE: 3" = 1'-0"



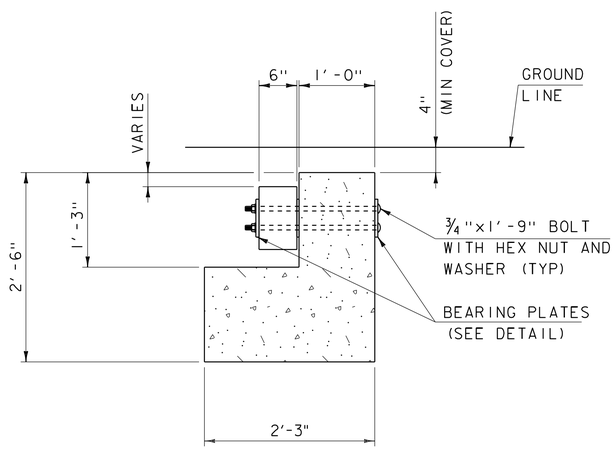
GUARDRAIL END TERMINAL PLAN

SCALE: ½" = 1'-0"



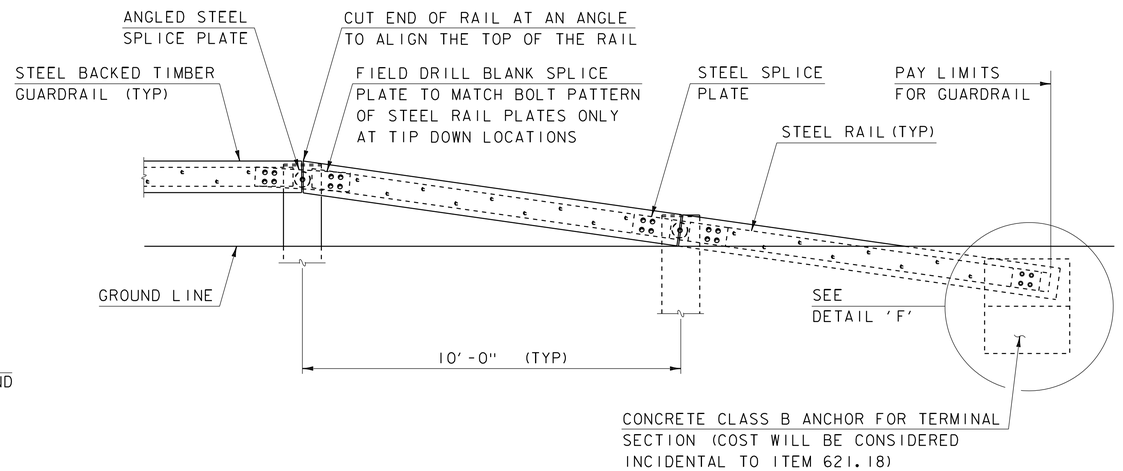
DETAIL 'F'

SCALE: 1" = 1'-0"



SECTION S-S

SCALE: 1" = 1'-0"



GUARDRAIL END TERMINAL ELEVATION

SCALE: ½" = 1'-0"

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228grd.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: T.GELINAS
DESIGNED BY: P.DUSTIN	CHECKED BY: J.BICJA
APPROACH RAIL DETAILS 3	SHEET 42 OF 52

STATE OF VERMONT
AGENCY OF TRANSPORTATION

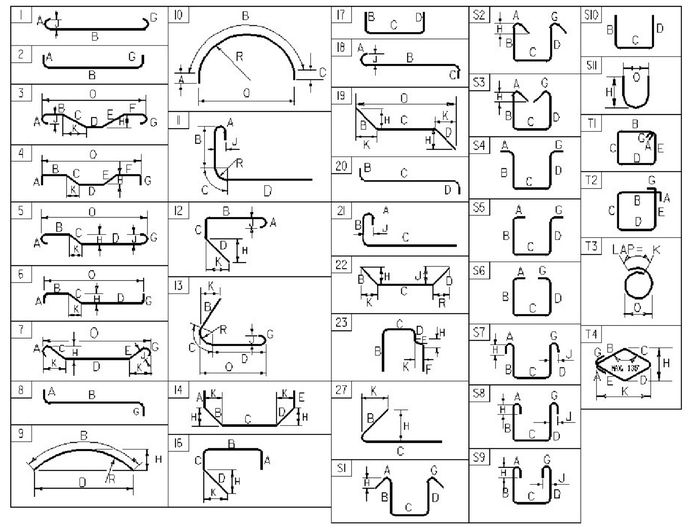
REINFORCING STEEL SCHEDULE

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O
ABUTMENT NO. 1																	
▲	5	5	13'- 7"	1EA501	STR												
△ ▲	11	5	9'- 3"	1EA502	STR												
	14	5	3'- 5"	1EA503	2	0'- 10"	2'- 7"					0'- 0"					
	2	5	7'- 4"	1EA504	T1	0'- 6"	1'- 7"	1'- 7"	1'- 7"	1'- 7"		0'- 6"					
	10	5	9'- 6"	1EA505	T1	0'- 6"	1'- 7"	2'- 8"	1'- 7"	2'- 8"		0'- 6"					
ABUTMENT NO. 2																	
▲	7	5	13'- 8"	2EA501	STR												
△ ▲	11	5	12'- 4"	2EA502	STR												
	15	5	3'- 10"	2EA503	2	0'- 10"	3'- 0"					0'- 0"					
	2	5	7'- 8"	2EA504	T1	0'- 6"	1'- 7"	1'- 9"	1'- 7"	1'- 9"		0'- 6"					
	12	5	9'- 4"	2EA505	T1	0'- 6"	1'- 7"	2'- 7"	1'- 7"	2'- 7"		0'- 6"					
DRAINAGE NOTE 2 INLET HEADWALL																	
	6	4	11'- 6"	1W401	STR												
DRAINAGE NOTE 2 OUTLET HEADWALL																	
▲	6	4	12'- 10"	1W402	STR												
	31	5	2'- 10"	1W501	27		0'- 10"	2'- 0"					0'- 10"				

ITEM	EACH	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F	G	H	J	K	R	O

~ NOTES ~

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING NO. 18 SHALL CONFORM TO THE REQUIREMENTS OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31 (ASTM A 615-SI). ALL BARS SHALL BE GRADE 60, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS TO BE SHOWN ONLY WHEN NECESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. ✳ DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. E IN BAR MARK PREFIX DENOTES EPOXY COATED REINFORCING STEEL.



ASTM STANDARD REINFORCING BARS

BAR SIZE DESIGNATION	WEIGHT POUNDS PER FOOT	NOMINAL DIMENSIONS ROUND SECTION DIAMETER INCHES	AREA INCHES2	PERIMETER INCHES
#3	0.376	0.375	0.11	1.178
#4	0.668	0.500	0.20	1.571
#5	1.043	0.625	0.31	1.963
#6	1.502	0.750	0.44	2.356
#7	2.04	0.875	0.60	2.749
#8	2.670	1.000	0.79	3.14
#9	3.400	1.13	1.00	3.54
#10	4.3	1.270	1.27	3.990
#11	5.31	1.410	1.56	4.430
#14	7.65	1.69	2.25	5.32
#18	13.60	2.26	4.00	7.09

~ REINFORCING STEEL CORROSION RESISTANCE LEVEL ~

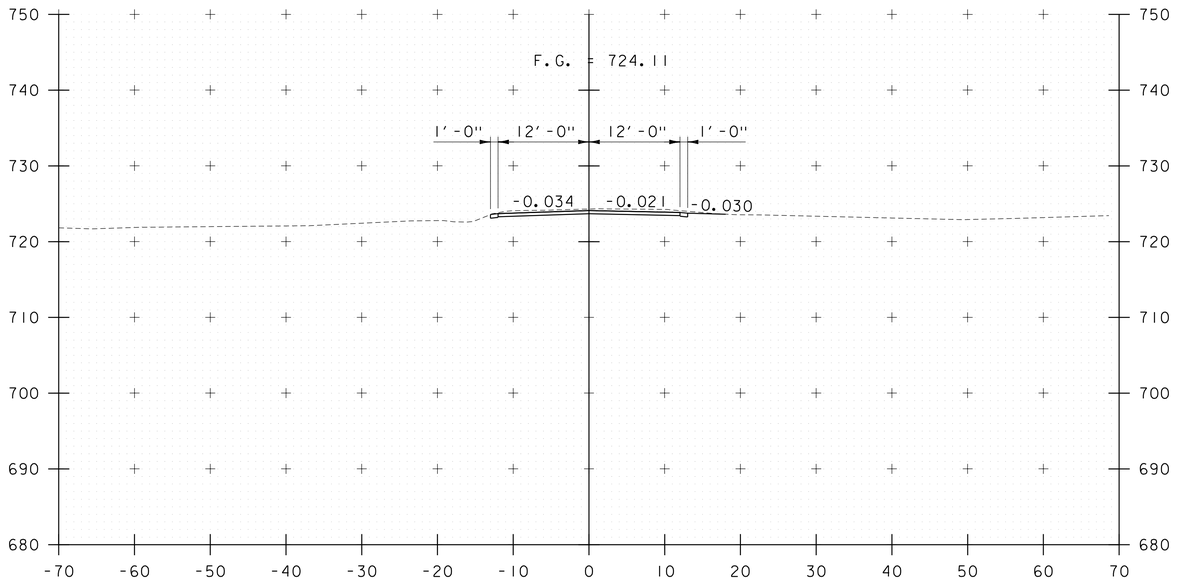
THE REINFORCING STEEL MARKS IN THIS SCHEDULE INDICATE THE REQUIRED BAR CORROSION RESISTANCE LEVEL. CORROSION RESISTANCE LEVEL IS DENOTED WITH A .2 FOR LEVEL TWO SUFFIX OR .3 FOR LEVEL THREE SUFFIX, .1 FOR LEVEL ONE IS TO BE OMITTED. THE BAR MATERIAL TYPE AND BAR STEEL GRADE PROVIDED FOR EACH CORROSION LEVEL WILL BE RECORDED ON THE PLAN SET PI SHEET FOR AS-BUILT RECORD PLAN ARCHIVES.

HOYLE TANNER

PROJECT NAME: CLARENDON
PROJECT NUMBER: BO 1443(55)

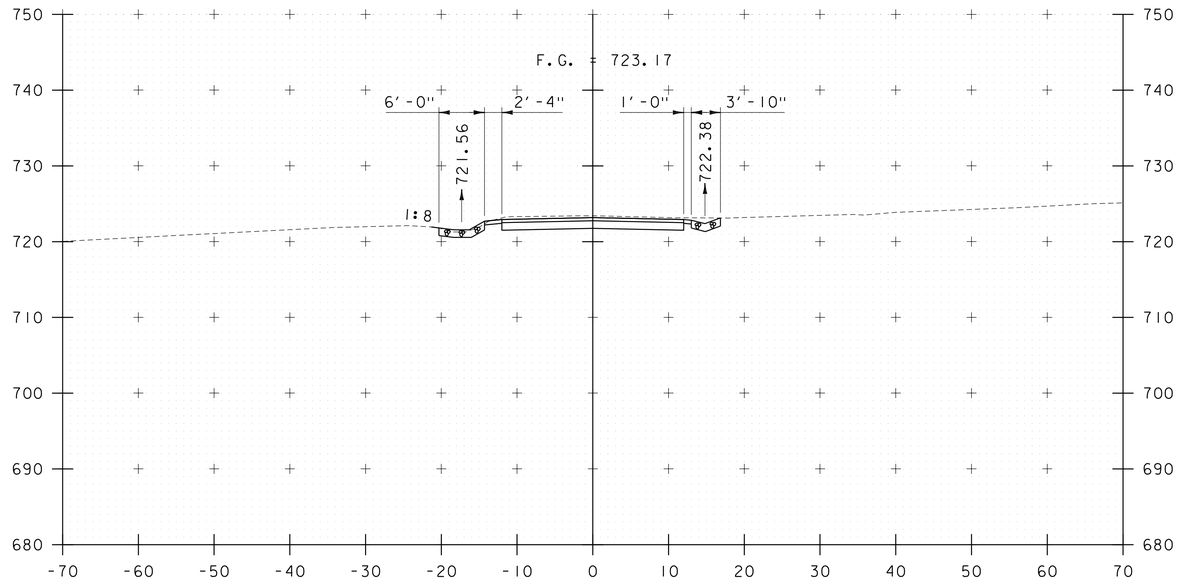
FILE NAME: z19j228reinf.dgn
PROJECT LEADER: J.BICJA
DESIGNED BY: J.RIPLEY
REINFORCING STEEL SCHEDULE

PLOT DATE: 8/19/2022
DRAWN BY: P.DUSTIN
CHECKED BY: J.BICJA
SHEET 43 OF 52

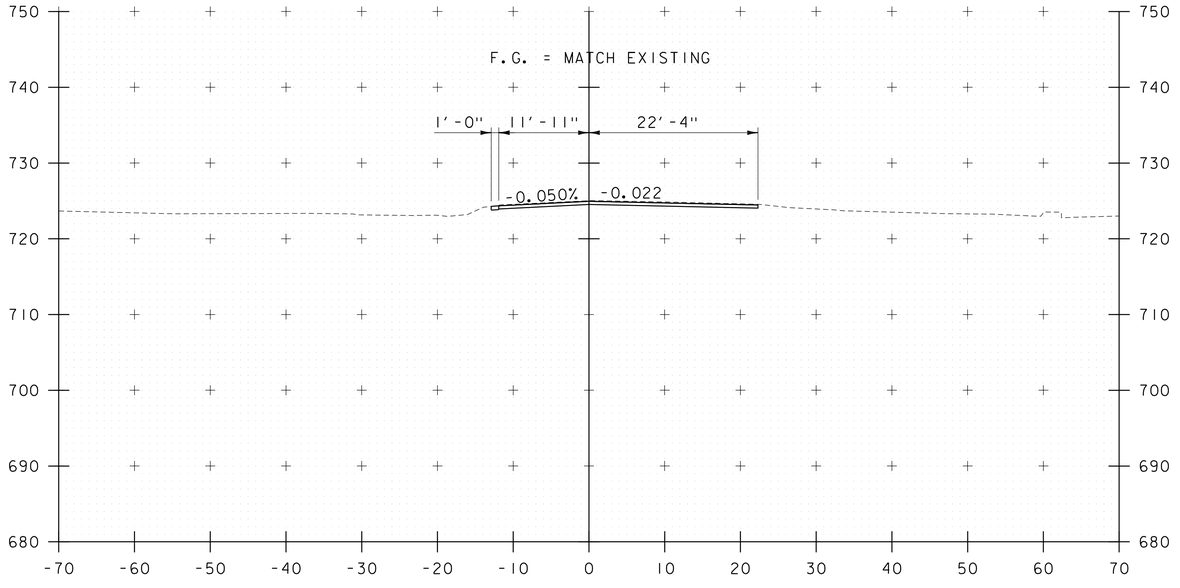


12+00

BEGIN PROJECT
STA 12+00.00

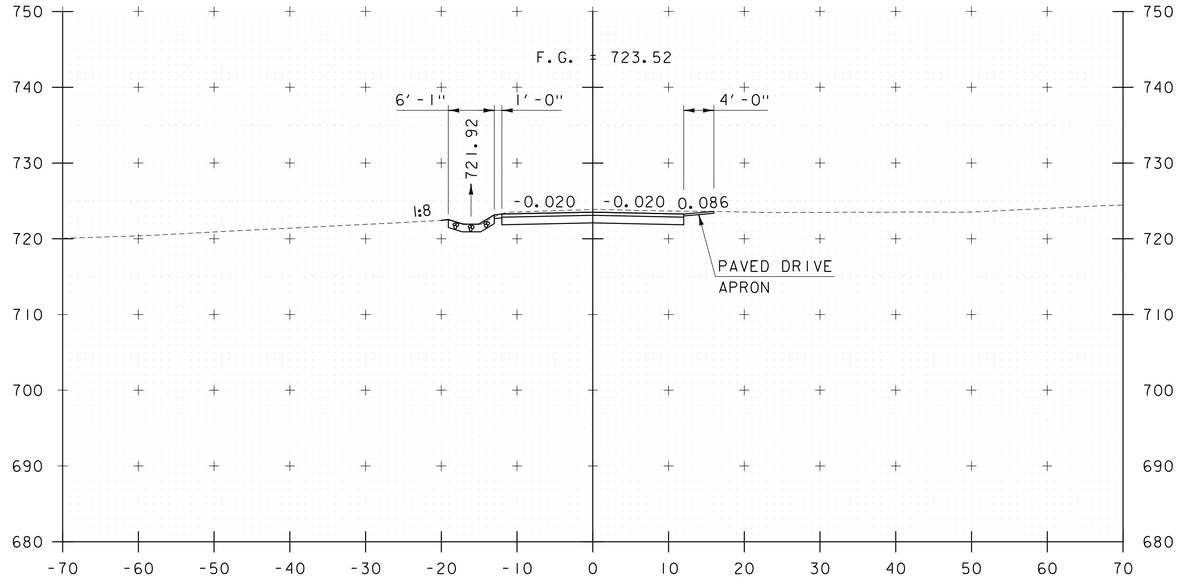


12+50



11+75

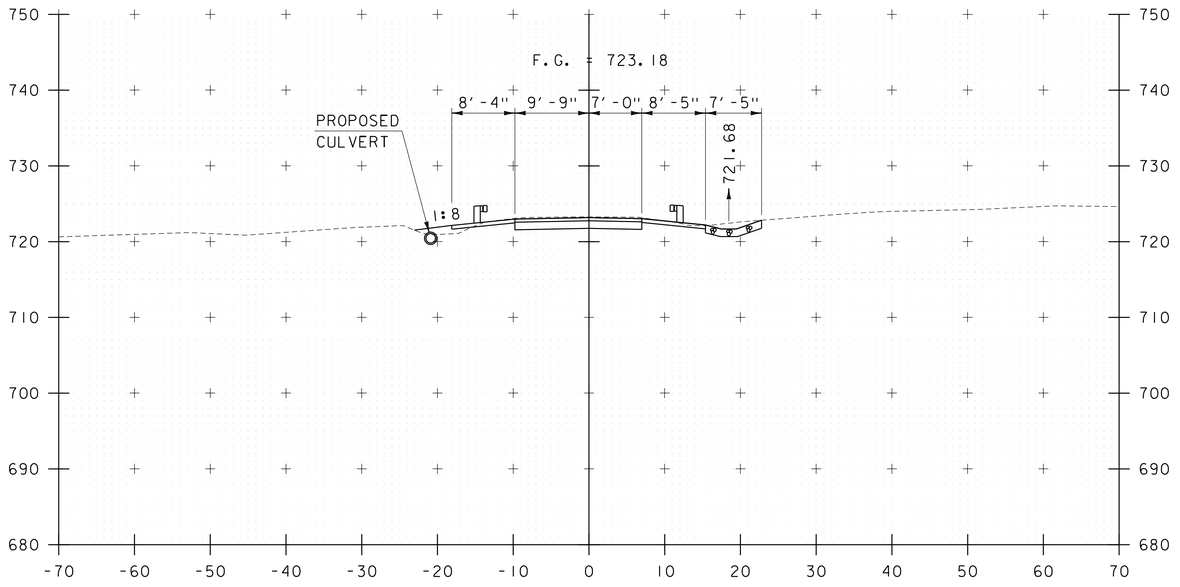
BEGIN APPROACH
STA 11+75.00
MATCH EXISTING



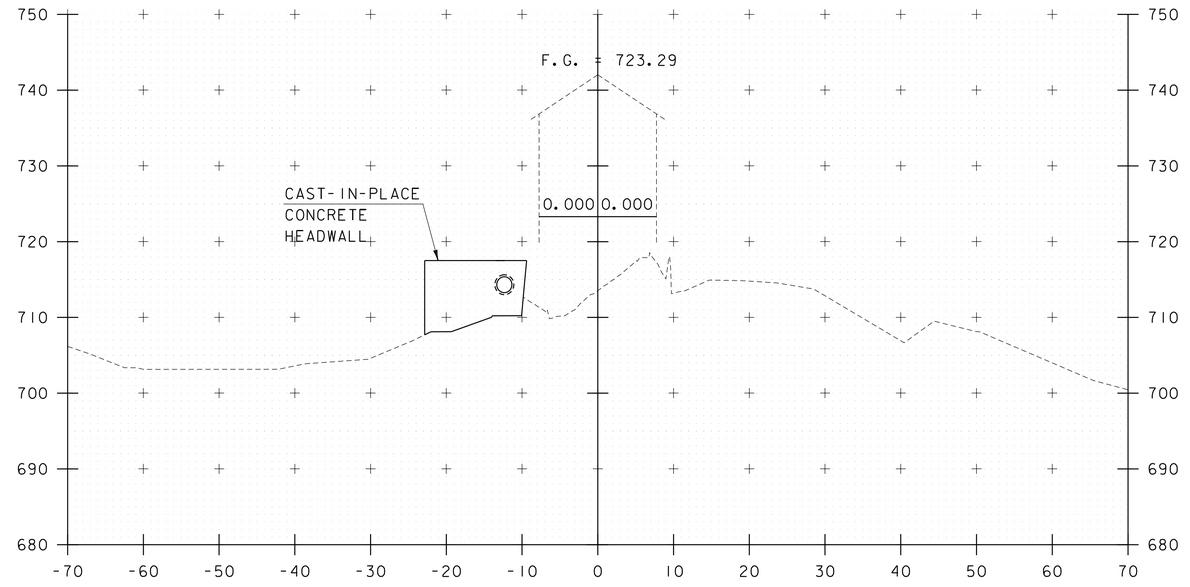
12+25

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228xsl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
ROADWAY CROSS SECTIONS 1	SHEET 44 OF 52

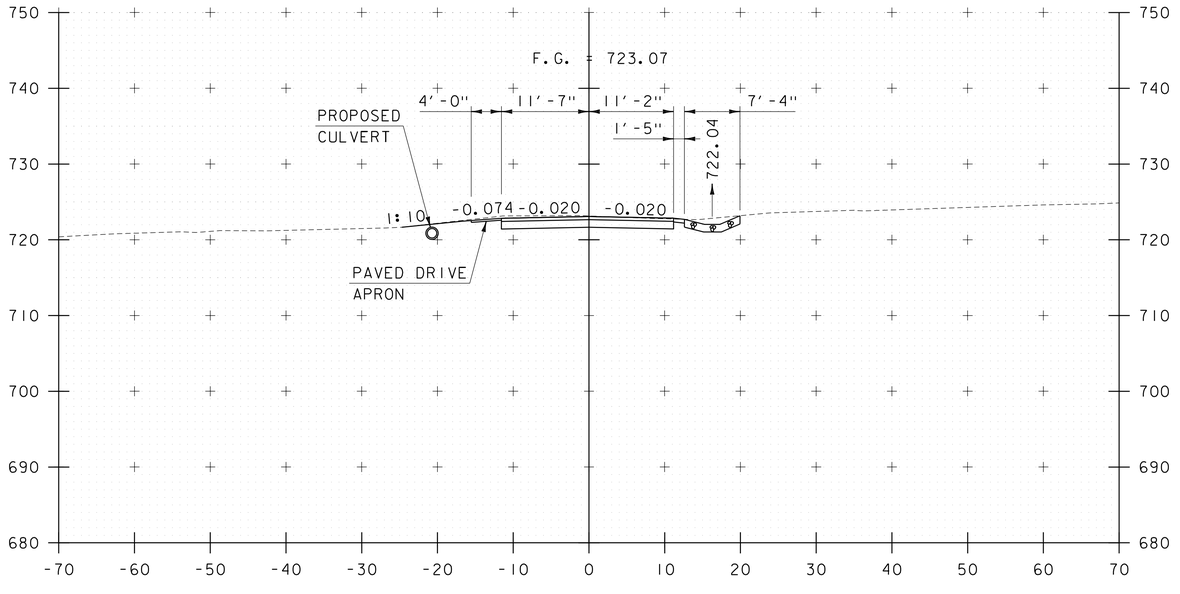


13+00

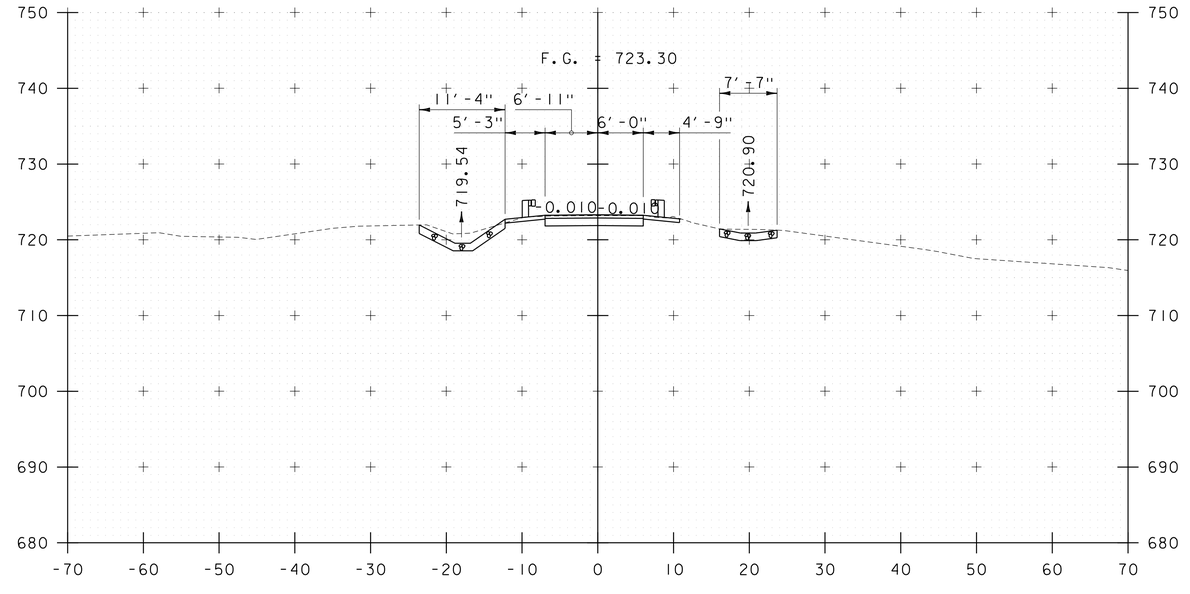


13+50

BEGIN BRIDGE
STA 13+40.30



12+75

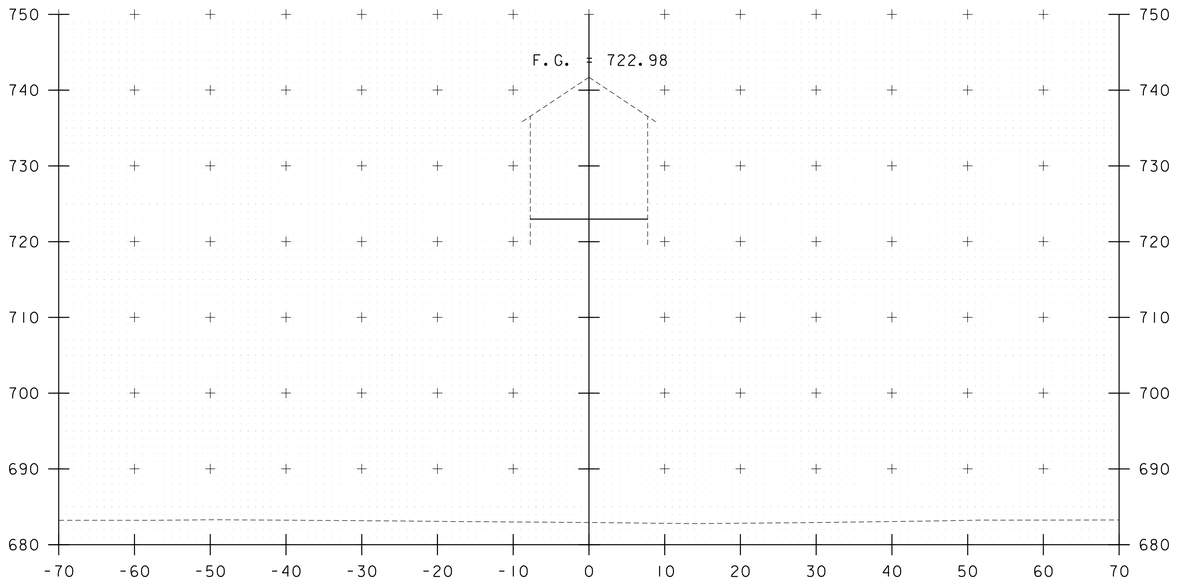


13+25

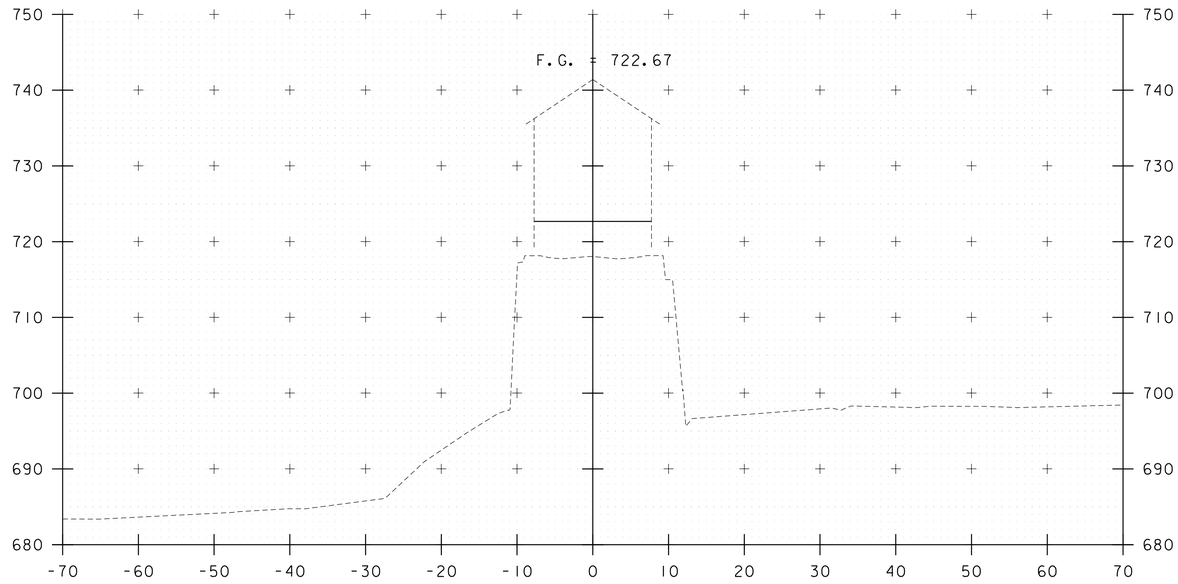
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

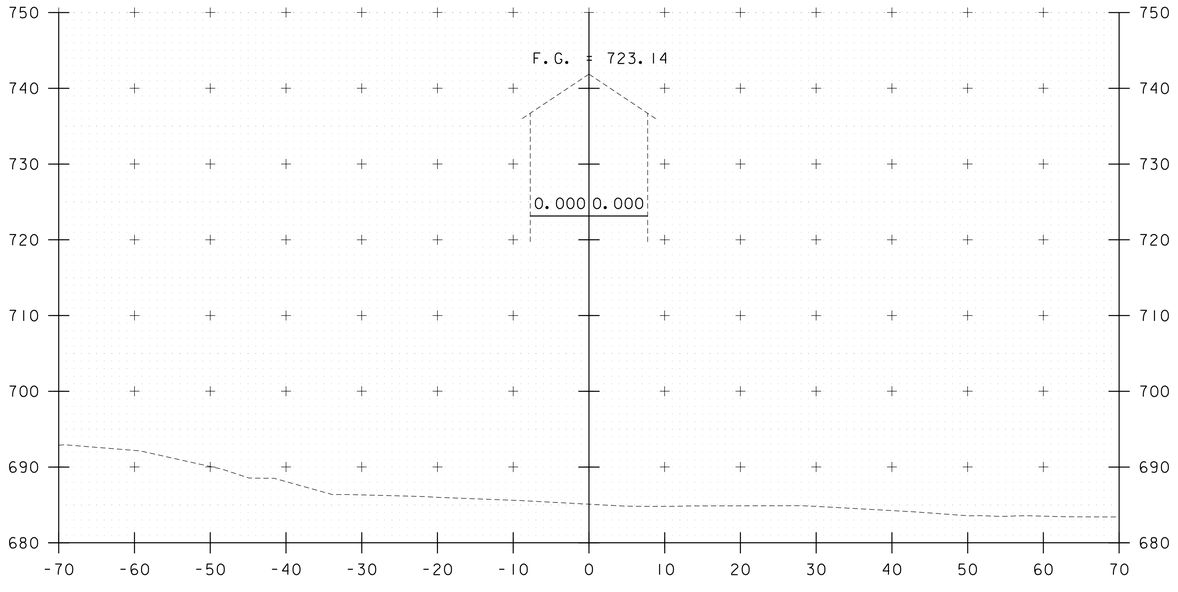
FILE NAME: z19j228xsl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
ROADWAY CROSS SECTIONS 2	SHEET 45 OF 52



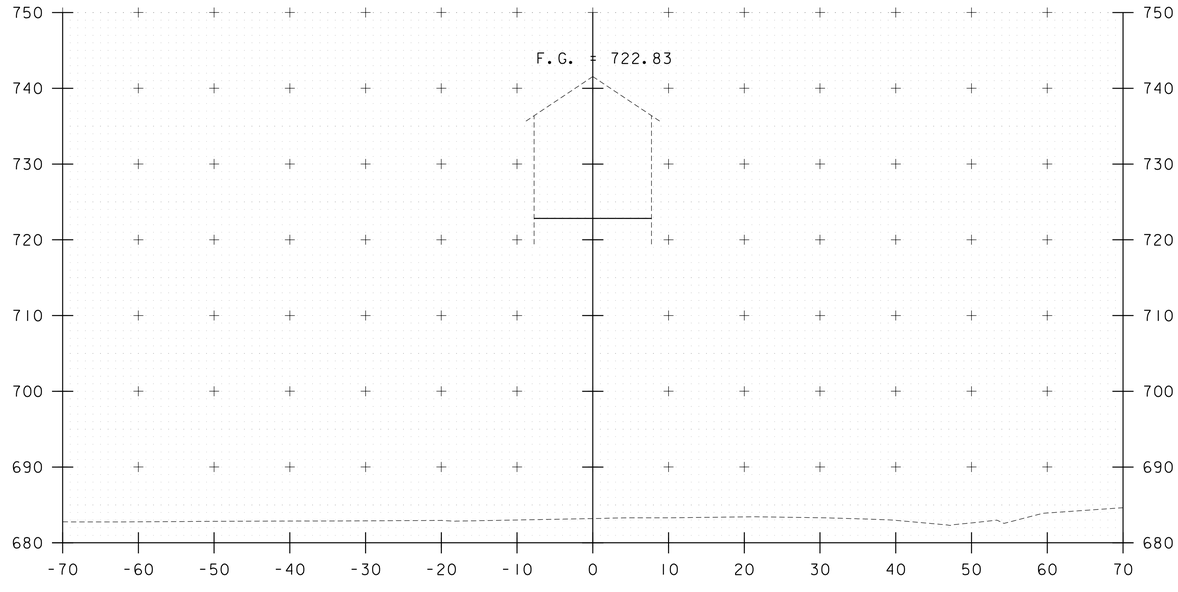
14+00



14+50



13+75

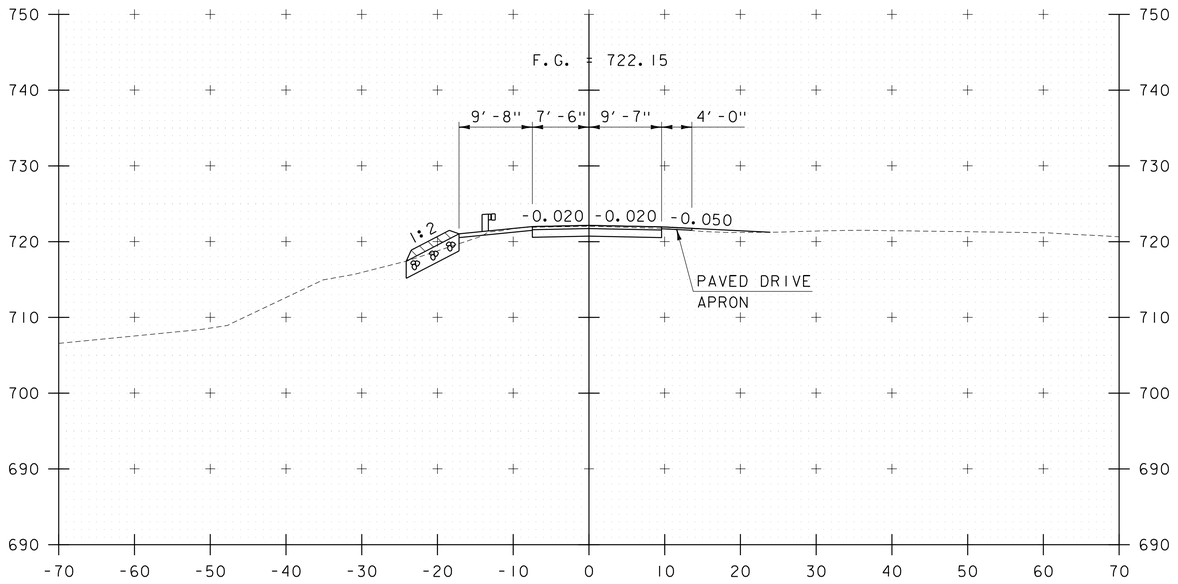


14+25

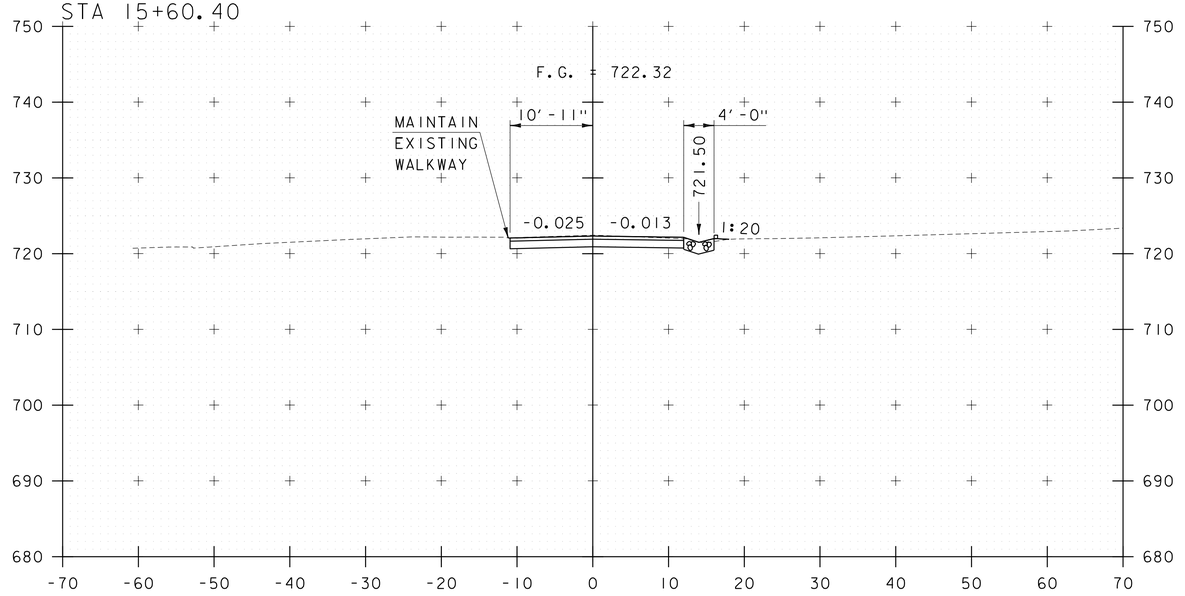
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228xsl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
ROADWAY CROSS SECTIONS 3	SHEET 46 OF 52

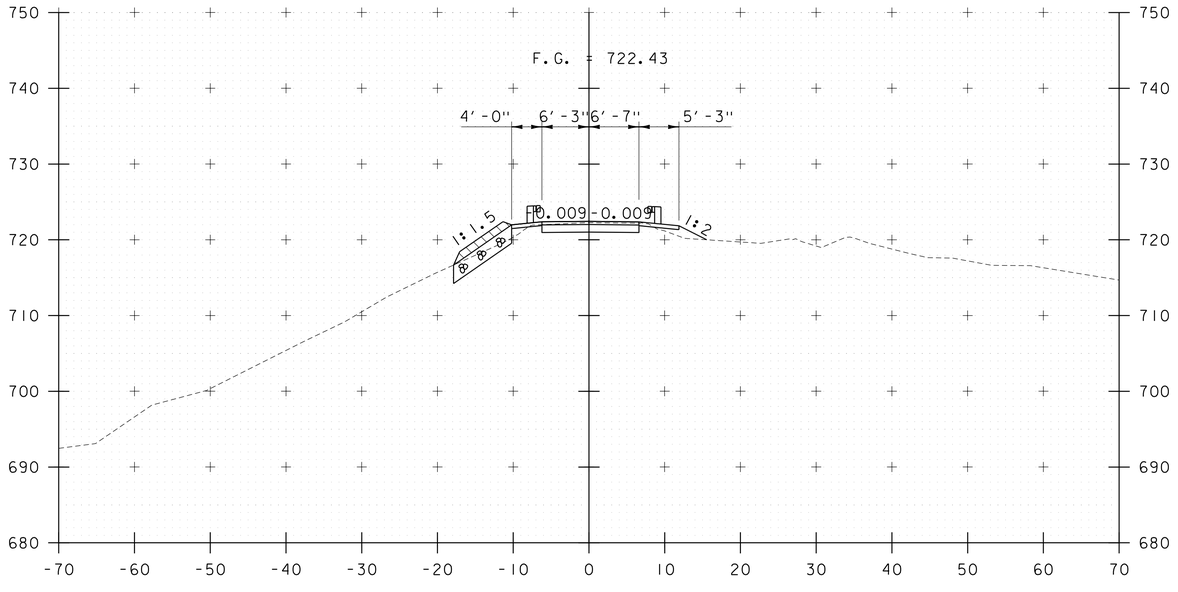
END PROJECT
STA 15+60.40



15+00

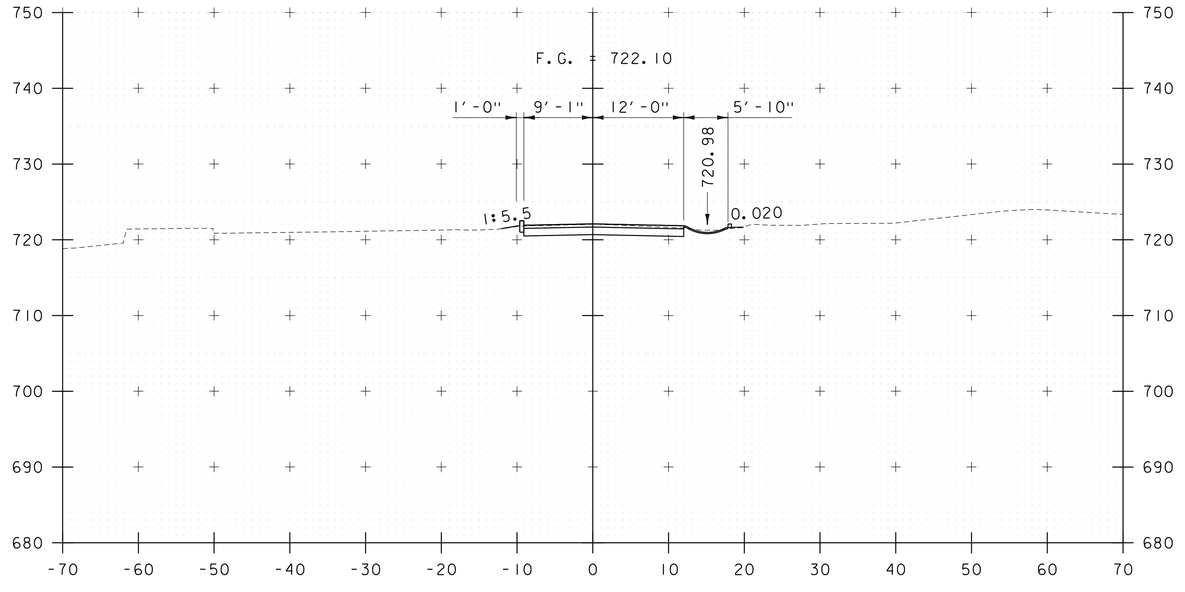


15+50



14+75

END BRIDGE
STA 14+59.34

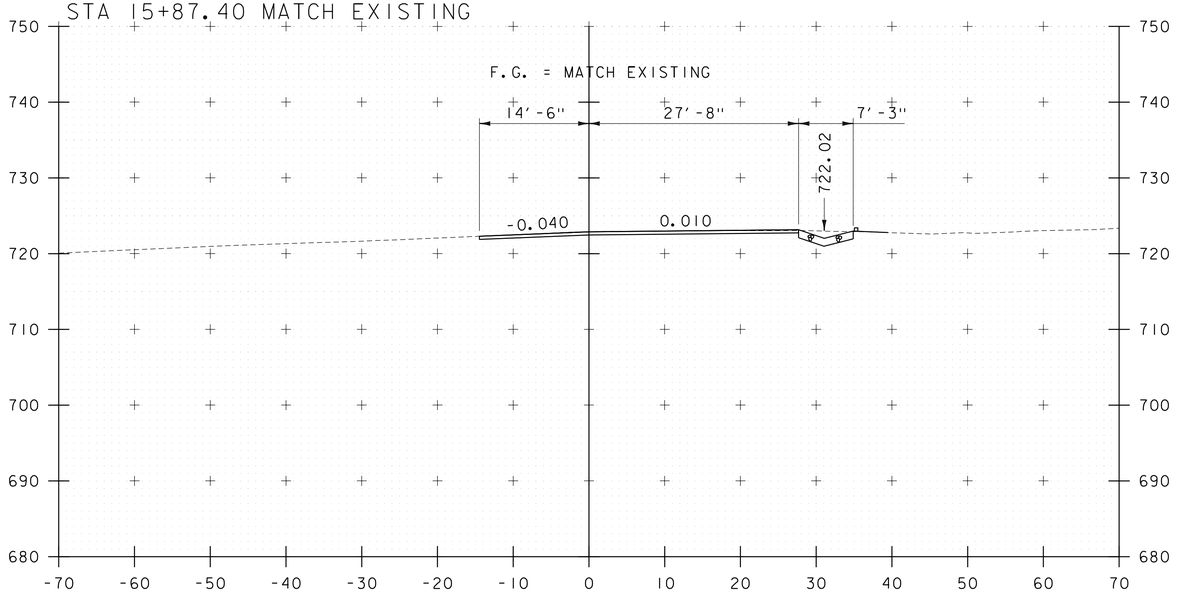


15+25

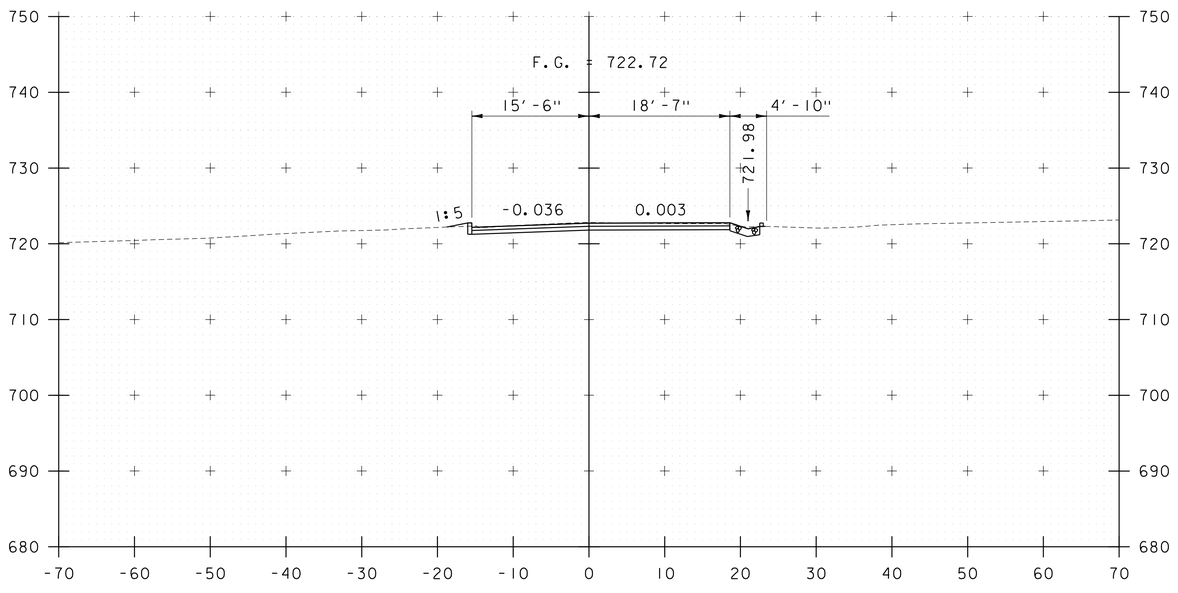
PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)
FILE NAME: z19j228xsl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
ROADWAY CROSS SECTIONS 4	SHEET 47 OF 52

HOYLE TANNER

END APPROACH
STA 15+87.40 MATCH EXISTING



15+85

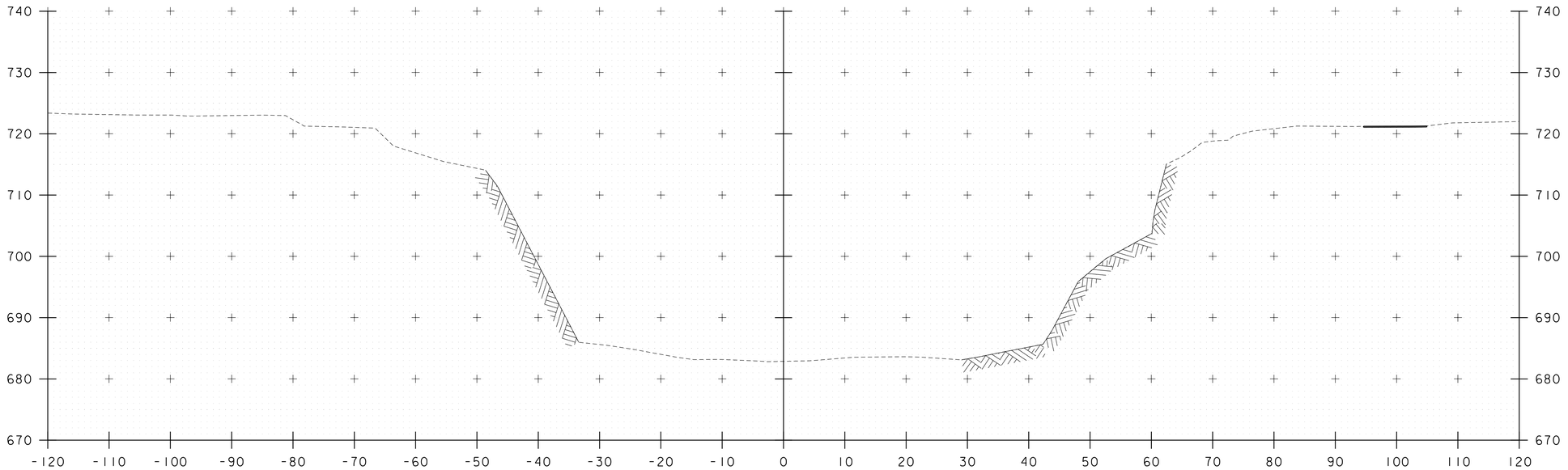


15+75

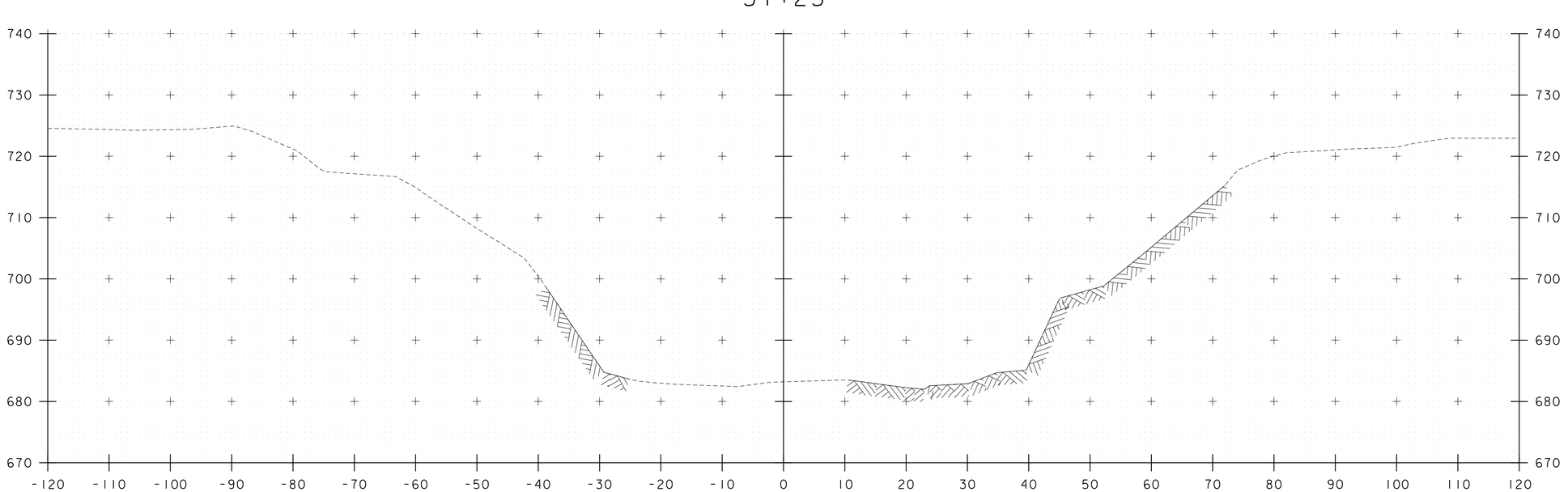
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228xsl.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
ROADWAY CROSS SECTIONS 5	SHEET 48 OF 52



51+25

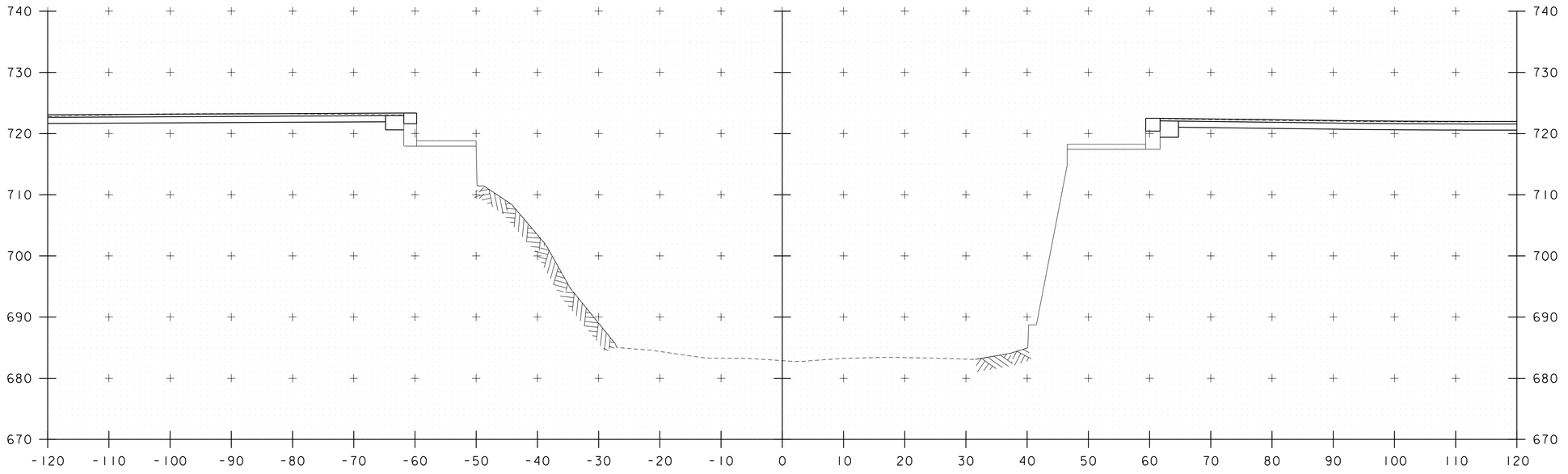


51+00

HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

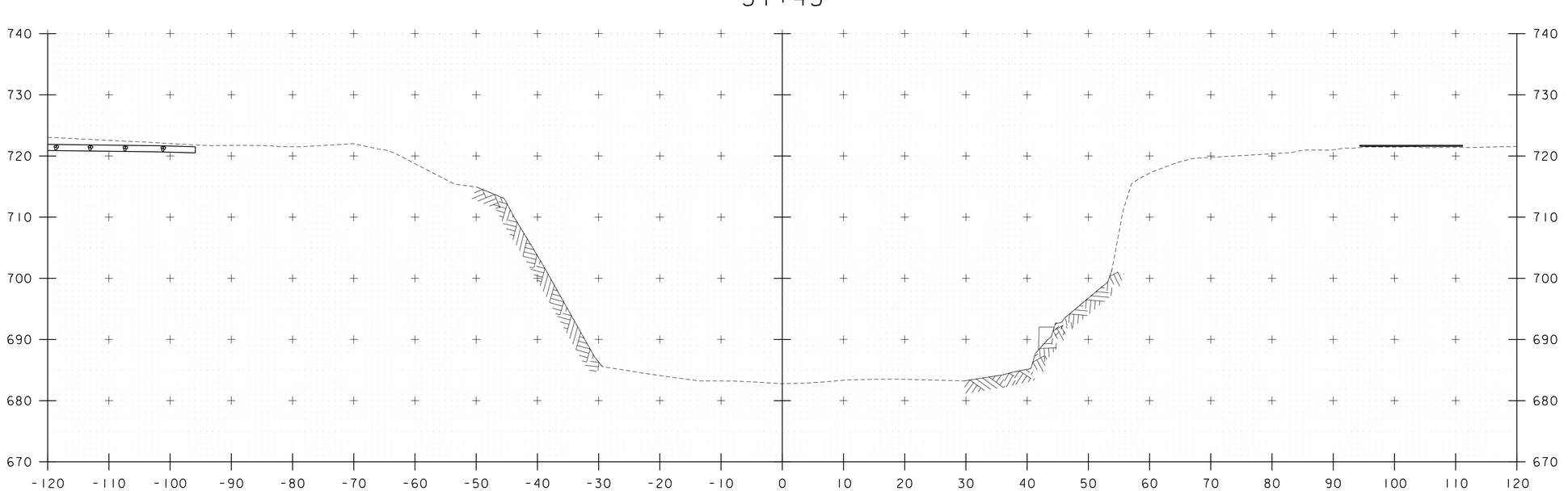
FILE NAME: z19j228xs2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
CHANNEL CROSS SECTIONS 1	SHEET 49 OF 52



STA 51+43, BEGIN GRANULAR BACKFILL FOR STRUCTURES, LT

STA 51+43, BEGIN GRANULAR BACKFILL FOR STRUCTURES, RT

51+45



STA 51+33, END STONE FILL, TYPE 1, LT
END GEOTEXTILE UNDER STONE FILL, LT

STA 51+27, BEGIN STONE FILL, TYPE 1, LT
BEGIN GEOTEXTILE UNDER STONE FILL, LT

51+35

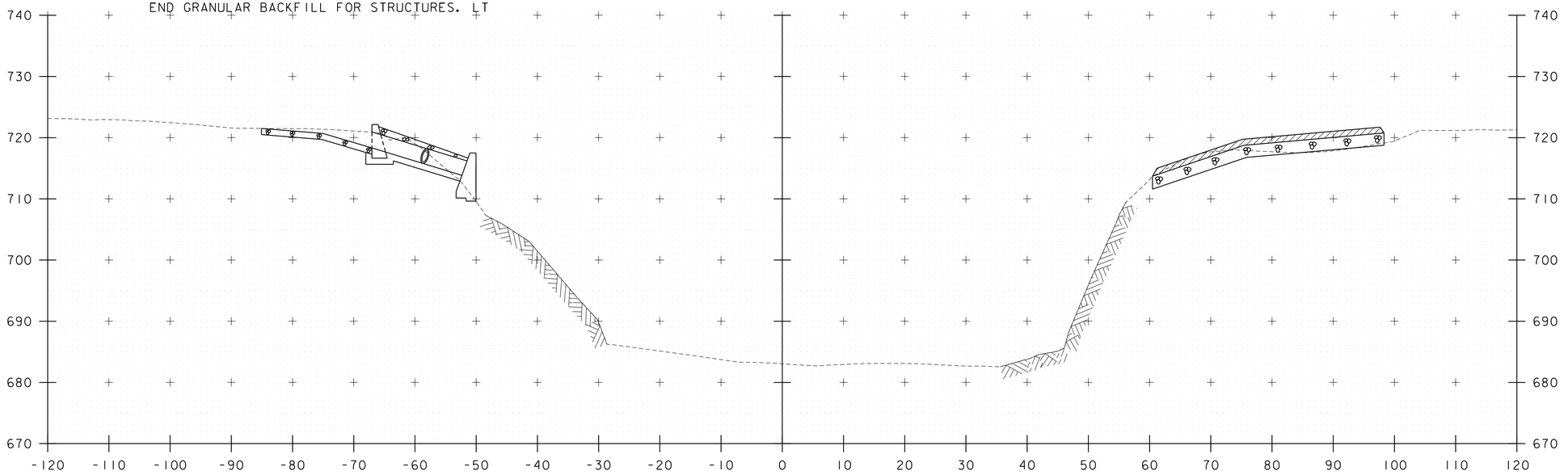
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228xs2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
CHANNEL CROSS SECTIONS 2	SHEET 50 OF 52

STA 51+73, END STONE FILL, TYPE I, LT
END STONE FILL, TYPE II, LT
END GEOTEXTILE UNDER STONE FILL, LT
END GRANULAR BACKFILL FOR STRUCTURES. LT

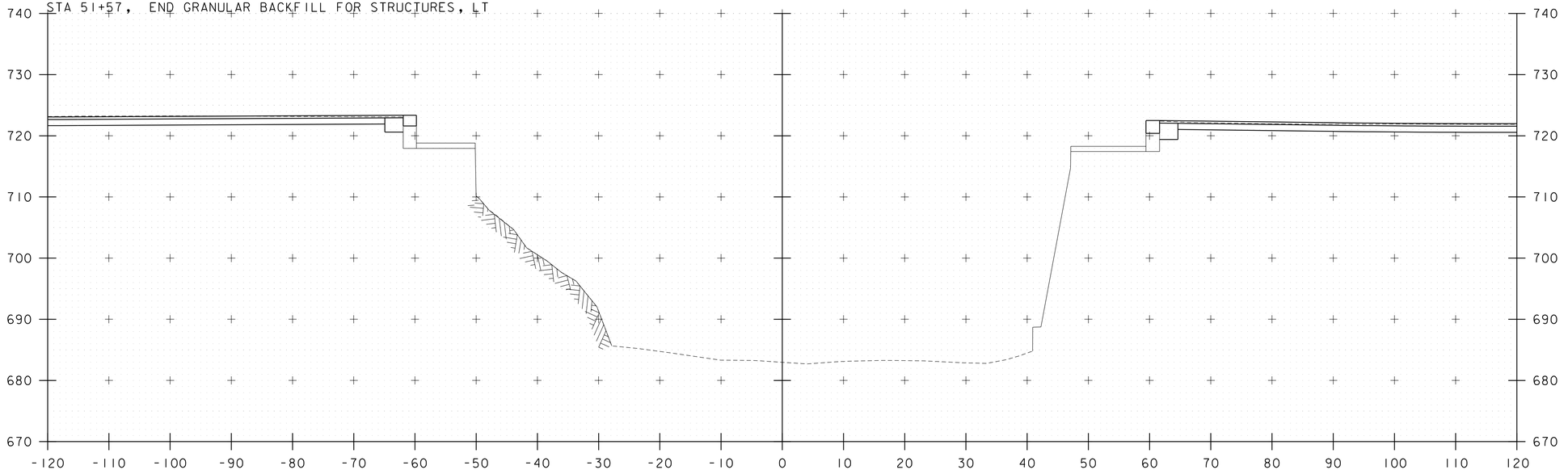
STA 51+73, END STONE FILL, TYPE II, RT
END GRUBBING MATERIAL, RT
END GEOTEXTILE UNDER STONE FILL, RT



STA 51+60, BEGIN STONE FILL, TYPE I, LT
BEGIN STONE FILL, TYPE II, LT
BEGIN GEOTEXTILE UNDER STONE FILL, LT
BEGIN GRANULAR BACKFILL FOR STRUCTURES, LT
STA 51+57, END GRANULAR BACKFILL FOR STRUCTURES, LT

51+65

STA 51+60, BEGIN STONE FILL, TYPE II, RT
BEGIN GRUBBING MATERIAL, RT
BEGIN GEOTEXTILE UNDER STONE FILL, RT
STA 51+57, END GRANULAR BACKFILL FOR STRUCTURES, RT

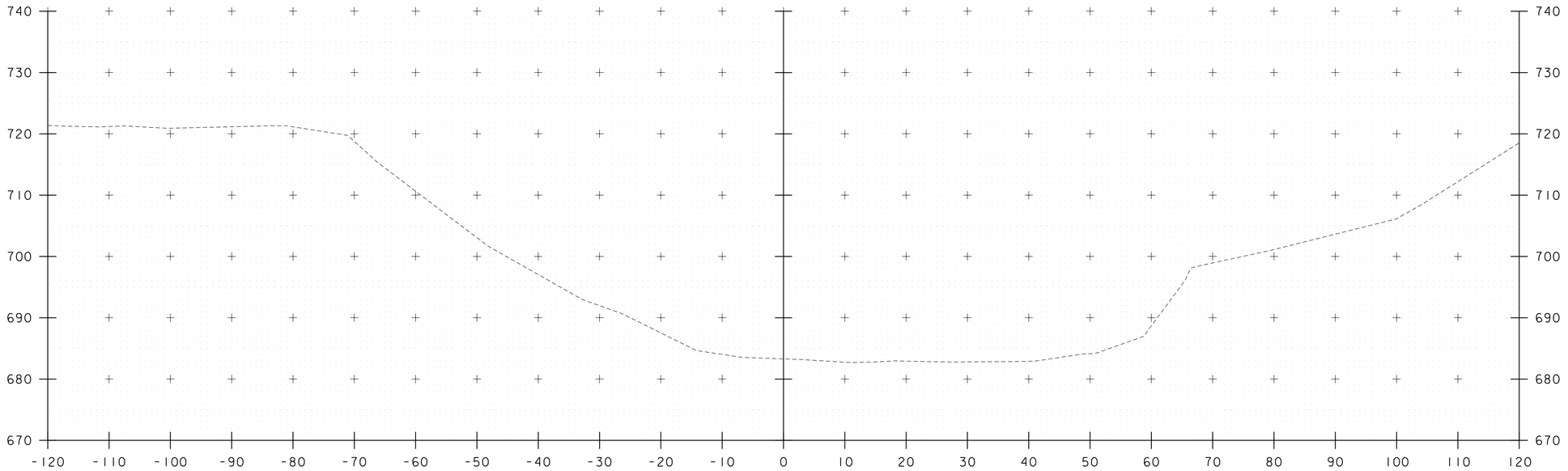


51+55

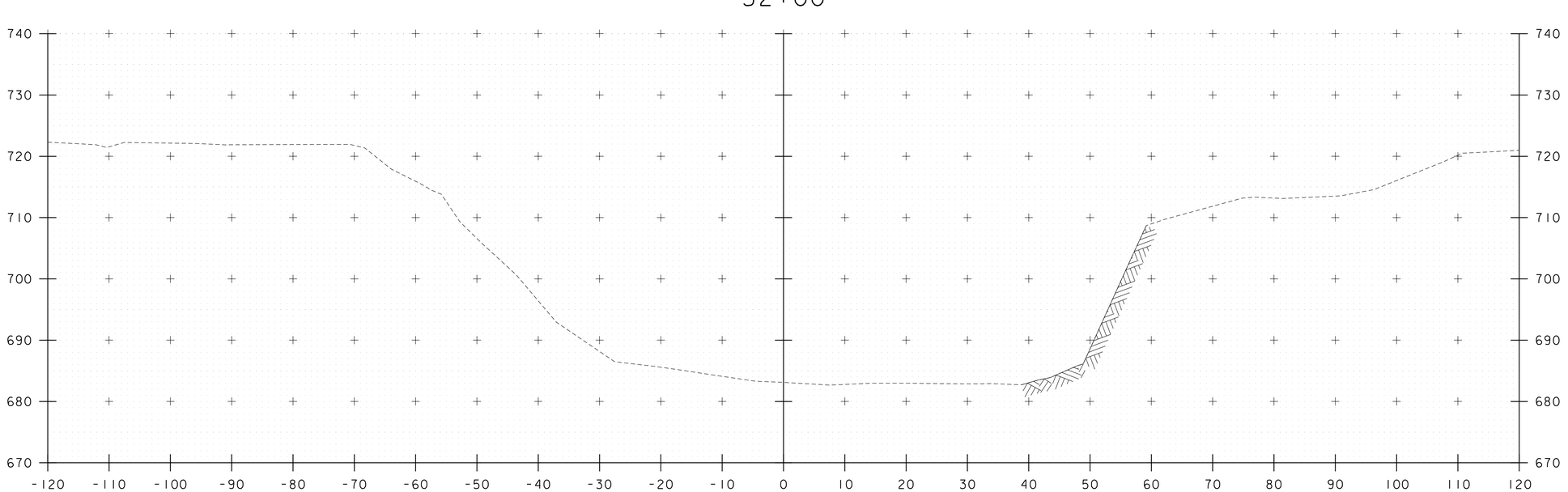
HOYLE TANNER

PROJECT NAME:	CLARENDON
PROJECT NUMBER:	BO 1443(55)

FILE NAME: z19j228xs2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
CHANNEL CROSS SECTIONS 3	SHEET 51 OF 52



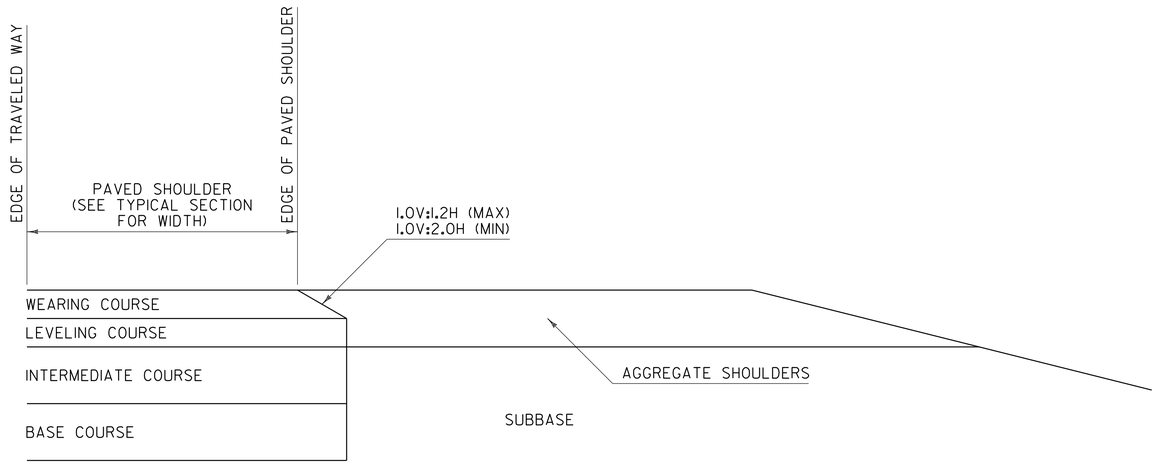
52+00



51+75

HOYLE TANNER

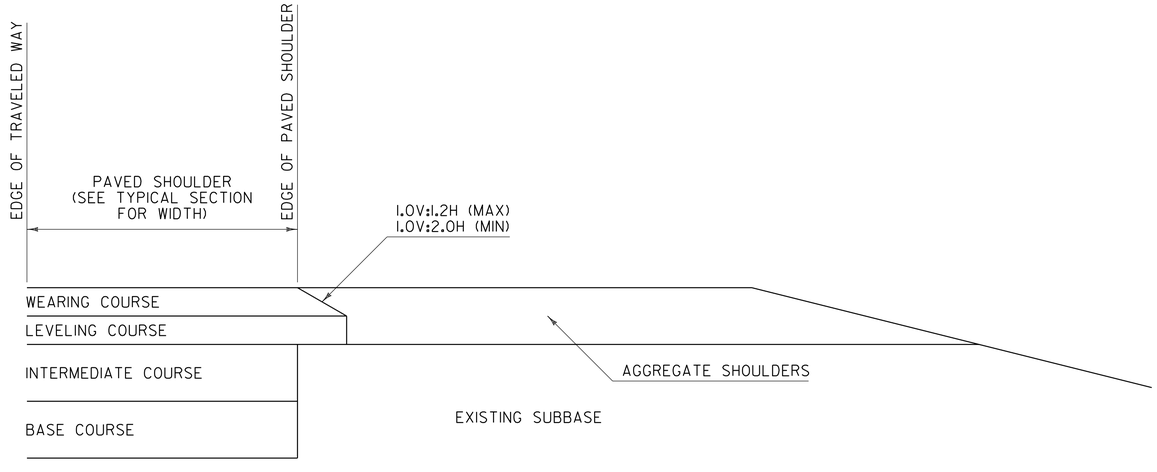
PROJECT NAME: CLARENDON	
PROJECT NUMBER: BO 1443(55)	
FILE NAME: z19j228xs2.dgn	PLOT DATE: 8/19/2022
PROJECT LEADER: J.BICJA	DRAWN BY: K.WELCH
DESIGNED BY: K.WELCH	CHECKED BY: J.BICJA
CHANNEL CROSS SECTIONS 4	SHEET 52 OF 52



SAFETY EDGE DETAIL
FOR PAVING BELOW WEARING COURSE

NOTES:

1. THIS DETAIL IS INTENDED FOR WHEN PAVING EXTENDS BELOW THE WEARING COURSE.
2. PRIOR TO PLACEMENT OF THE LEVELING AND/OR WEARING COURSE, THE SUBBASE LOCATED BENEATH THE AGGREGATE SHOULDERS SHALL BE PREPARED FLUSH WITH THE BOTTOM OF THE LEVELING COURSE.
3. BASE COURSE LIMITS MAY VARY, SEE TYPICAL SECTIONS FOR WIDTH.



SAFETY EDGE DETAIL
FOR PAVING WEARING COURSE ONLY

NOTES:

1. THIS DETAIL IS INTENDED FOR WHEN ONLY THE LEVELING AND/OR WEARING COURSE IS TO BE PLACED.
2. PAVEMENT COURSES MAY VARY, SEE TYPICAL SECTIONS FOR ACTUAL PAVEMENT COURSES REQUIRED.

SAFETY EDGE WIDTH BASED ON WEARING COURSE THICKNESS AND A 1V:1.6H SLOPE	
WEARING COURSE THICKNESS (INCHES)	NOMINAL SAFETY EDGE WIDTH (INCHES)
1.25	2.000
1.50	2.375
1.75	2.750
2.00	3.125
2.25	3.500
2.50	4.000

GENERAL NOTES:

1. PLACEMENT OF THE WEARING COURSE SHALL INCLUDE THE SAFETY EDGE, UNLESS THE FOLLOWING APPLIES:
   - A. THE ADJACENT SLOPE IS STEEPER THAN THE SAFETY EDGE.
   - B. THE EDGE OF PAVEMENT BEING PLACED ABUTS BOUND MATERIAL.
   - C. VEHICLES ARE RESTRICTED FROM LEAVING THE PAVED SURFACE (EXAMPLE: GUARDRAIL).
2. THE SAFETY EDGE SHALL BE FORMED IN SUCH A WAY THAT THE BITUMINOUS CONCRETE PAVEMENT IS EXTRUDED OR COMPRESSED TO FORM THE SLOPE. DEVICES THAT SIMPLY STRIKE-OFF THE MIX WITHOUT PROVIDING ANY COMPACTIVE EFFORT WILL NOT BE ALLOWED.
3. THE SAFETY EDGE SHALL NOT BE CONSIDERED PART OF THE PAVED SHOULDER.
4. THIS WORK SHALL BE INCIDENTAL TO THE RESPECTIVE BITUMINOUS CONCRETE PAVEMENT ITEM.

REV.	DATE	DESCRIPTION
0	MAR. 29, 2016	ORIGINAL APPROVAL
1	JAN. 5, 2018	ANNOTATION CORRECTIONS

OTHER DETAILS REQUIRED: NONE

DETAILS APPROVED FOR USE BY HIGHWAY SAFETY & DESIGN

SAFETY EDGE DETAILS

VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

HIGHWAY SAFETY & DESIGN DETAIL

HSD-400.01