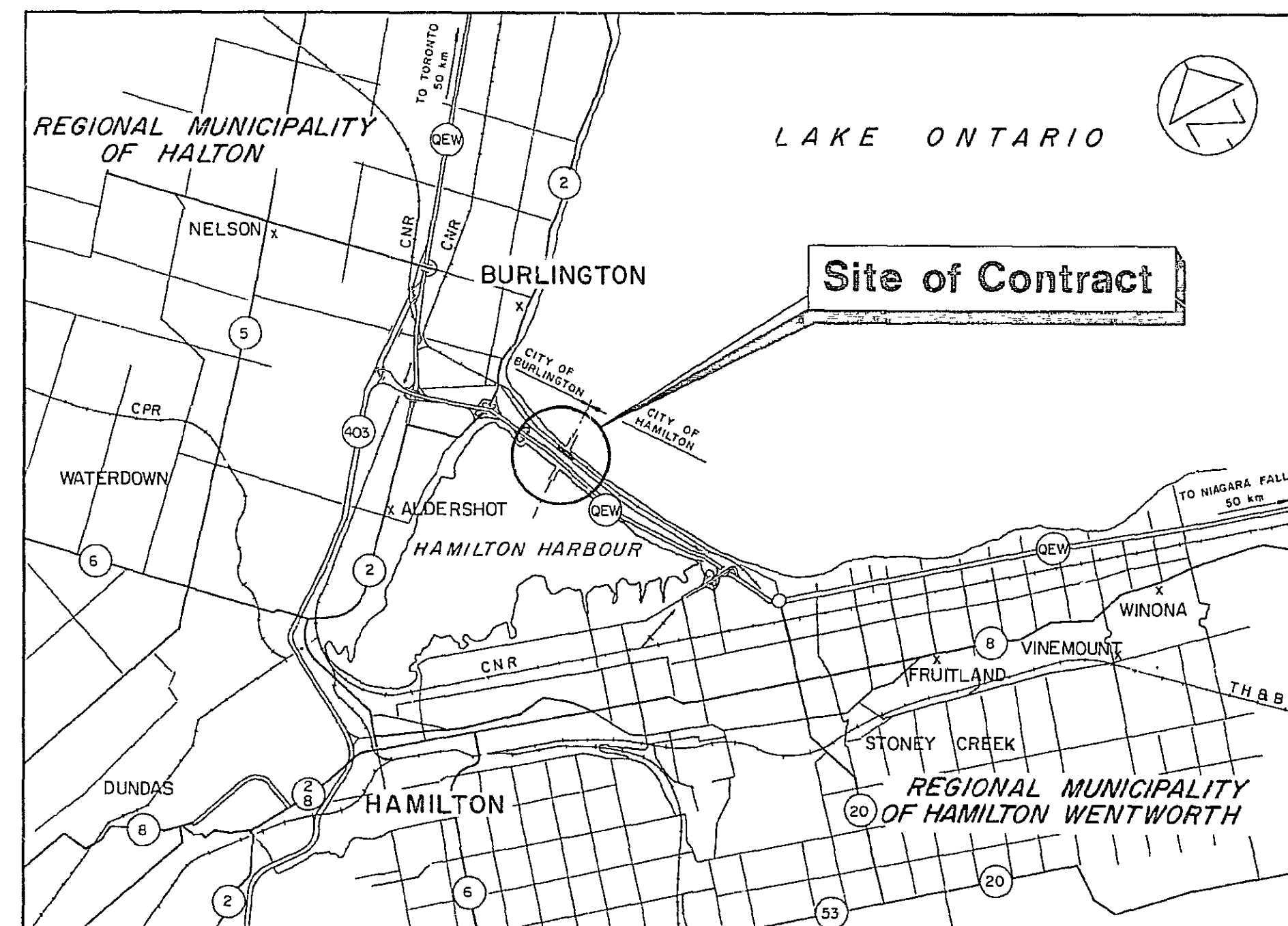


Public Works Canada

Ontario Region



Key Plan

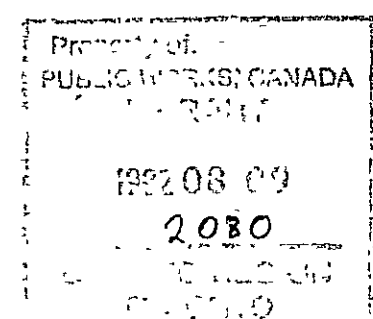


GENERAL DRAWING INDEX	
NO.	TITLE
H-1 to H-11	ROADWAY
E-1 to E-7	ELECTRICAL
B-1 to B-16	STRUCTURE

Modifications of Burlington Channel Vertical Lift Bridge and Approaches

M.T.C. W.P. No. 152-75-02

Project No. 041412



ABBREVIATIONS

Aban Abandon (ed)
 Abut Abutment
 Ac Acre
 ACR Algoma Central (Hudson Bay) Railway
 Allow Allowance
 Alt Alternate
 AWG American Wire Gauge
 AADT Annual Average Daily Traffic
 Asph Asphalt
 AC Asphalt Coated or Asphalt Curb
 ACAP Asphalt Coated, Asbestos Protected
 ACAPPI Asphalt Coated, Asbestos Protected, Paved Invert
 ACPI Asphalt Coated and Paved Invert
 ACBG Asphalt Curb and Gutter
 AG Asphalt Gutter
 AW Asphalt Sidewalk
 Ave Avenue
 Av Average
 Az Azimuth

Bfl Backfill
 BS Beginning of Superelevation or Bottom of Slope
 BWF Barbed Wire Fence
 B/L Base Line
 Brg Bearing (s)
 DC Beginning of Curve
 BFS Beginning of Full Superelevation
 BVC Beginning of Vertical Curve
 Bell Can Bell Canada
 BCUM Bell Cable Underground Marker
 Blk Block
 BF Board Fence
 Bot Bottom
 Bld(y) Boulder (y)
 Blvd Boulevard
 BBGR Box Beam Guide Rail
 Br Brick
 Bldg (s) Building (s)

CGR Cable Guide Rail
 CNR Canadian National Railway
 CPR Canadian Pacific Railway
 CSA Canadian Standards Association
 CB Catch Basin
 CBMH Catch Basin—Manhole
 C/C Centre to Centre
 C/L or C/L Centreline
 Chkd Checked
 Circ Circular
 CS Circular Curve to Spiral
 CIP Clay Pipe
 Coll Collector
 Com S Commercial Sign
 Con Concession
 Concr or C Concrete
 CC Concrete Curb
 CC & G Concrete Curb and Gutter
 C & G Concrete Gutter
 CP Concrete Pipe
 CW Concrete Sidewalk
 Conn Connection or Connecting
 Const Construction
 Cont Contract
 CAH Controlled Access Highway
 Coord Coordinate
 CSP Corrugated Steel Pipe
 CSPA Corrugated Steel Pipe Arch
 Co County
 Cr Creek or Crushed
 Culv Culvert

Def Deflection
 Deg Degree (s)
 DHO Department of Highways Ontario
 DPW Department of Public Works
 Desc Described, Description
 V Design Speed
 D3 Detour Number Three
 Dev Development
 Dia Diameter
 Dist District
 D Ditch
 DI Ditch Inlet
 DICB Ditch Inlet Catch Basin
 Div Division
 Dwg Drawing

ea Each
 EC Earth Cut or End of Curve
 EF Earth Fill or Electric Fence
 ED Earth Ditching
 E East (ing)
 EB Eastbound
 EBL Eastbound Lane
 EP Edge of Pavement
 ES Edge of Shoulder
 EMH Electrical Manhole
 Elev Elevation
 EFS End of Full Superelevation
 ES End of Superelevation
 EVC End of Vertical Curve
 Ent Entrance
 Eqn Equation
 Exc Excavation
 Expy Expressway
 Extn Extension
 Es External Distance of a Spiralled Curve

FL Fence Line
 Ftg Footing
 FS Foresight
 Fd Found
 Fdn Foundation
 Fr Frame
 FP Flexible Pipe
 Galv Galvanized
 Ga Gauge
 GP Grade Point
 G Grading
 GC Grading and Culverts
 GD Grading and Drainage
 Gran Granular
 GBFI Granular Backfill
 GB Granular Base
 GBC Granular Base Course
 GSB Granular Sub Base
 Gr Gravel (ly)
 GL Ground Level

Hw Headwall
 Ht Height
 HI Height of Instrument
 HT High Tension
 HTL High Tension Line
 HWL High Water Level
 HWM High Water Mark
 Hwy Highway
 Hor Horizontal
 HCR Horizontal Curve Reading
 HM Hot Mix
 HOC Hub on Curve
 HOST Hub on Subtangent
 HOT Hub on Tangent

IL Ice Level
 Incl Include (ing) (sive)
 ID Inside Diameter
 IF Inside Face
 Inst Instrument
 IS Intermediate Sight
 Int Internal
 Inv Elev Invert Elevation
 IB Iron Bar
 IF Iron Fence
 IP Iron Pipe

Jt Joint
 Lat Latitude
 Lt Left or Light
 LH Left Hand
 L Length
 Lo Length of Spiral between Circular Curve
 L Length of Curve
 Ls Length of Spiral Curve
 LVC Length of Vertical Curve
 LT Long Tangent
 Long Longitude
 Longl Longitudinal
 LWL Low Water Level

Matl Material
 Max Maximum
 Med Median
 Min Minimum
 MTC Ministry of Transportation and Communications, Ontario
 Mon Monument
 Mun Municipal (ity)
 Musk Muskeg
 MBE Muskeg Backfill with Earth
 MBR Muskeg Backfill with Rock
 ME Muskeg Excavation

NC Normal Crown
 N North (ing)
 NB Northbound
 NBL Northbound Lane
 No Number

OC On Centre
 ONR Ontario Northland Railway
 Org M Organic Matter
 Orig Original
 OG Original Ground
 OD Outside Diameter
 OF Outside Face
 Opass Overpass

Pavt Pavement
 Perf Perforated
 PF Picket Fence
 PG Plain Galvanized or Profile Grade
 Pld Planted
 PI Point of Intersection
 PRC Point of Reserve Curve
 PVT Point on Vertical Tangent
 PCC Point of Compound Curve
 POC Point on Curve
 PVC Point on Vertical Curve
 Prof Profile
 PC Profile Control
 PL Property Line
 PR Property Request
 PS Property Sale
 Prop Proposed

R Radius
 RF Rail Fence or Rock Fill
 Rwy Railway
 RP Reference Point or Registered Plan
 Reg Region (al)
 Reinf Reinforced
 Reqd Required
 Resurf Resurfacing
 RW Retaining Wall
 Rev Revision
 Rt Right
 RH Right Hand
 ROW Right of Way
 RS Ripple Strip
 RR Rip—Rap (all types)
 Rd Road
 Rk Rock
 RC Rock Cut
 R Exc Rock Excavation
 RU Rock Excavation for Ditches
 EG Rod Reading on various parts of Gutter
 EN Rod Reading for Cross—Section of Side Entrances
 Rnd Rounding

Sa Sand
 SA School Area
 SS School Section
 Sec Second(s) (ary)
 Serv Rd Service Road
 Sh Shatter
 Sh Rk Shot Rock
 Sh Shoulder
 SD Side Ditch
 SR Sideroad
 SWorW Sidewalk
 SS Slope Stake
 S South
 S Superelevation, Rate of

SB Southbound
 SBL Southbound Lane
 SP Special Provision
 SD Special Highway Design Standard
 Spec Specification
 G Specific Gravity
 SC Spiral to Circular Curve
 ST Spiral to Tangent or Short Tangent
 Sq Square (s)
 Std Standard
 Sta Station
 SBGR Steel Beam Guide Rail
 Stn (y) Stone (y)
 SF Stone Fence
 Sty Storey
 St Stripping
 Str Structure (al)
 SPCSA Structural Plate Corrugated Steel Arch (with footings)
 SPCSP Structural Plate Corrugated Steel Pipe

SPCSA Structural Plate Corrugated Steel Pipe Arch
 Supp Supplementary
 Surf Surface

TS Tangent to Spiral or Tensile Strength
 Temp Temporary
 TLC Temporary Level Crossing
 TB Top of Bank or Turning Basin
 TG or T/G Top of Grate
 TO Top of Opening
 TP or T/O Top of Pavement or Turning Point
 TR or T/R Top of Rail
 Twp Township
 TCH Trans Canada Highway
 TL Transfer Lanes
 Tr Sec Transition Section
 Trans Transverse or Transferred
 Trav Traversal
 Typ Typical

Upass Underpass
 Ver Verandah
 Vert Vertical
 VC Vertical Curve
 VP Vitrified Pipe
 Vol Volume

WL Water Level
 WT Water Table
 Wt Weight
 W West
 WB Westbound
 WBL Westbound Lane
 WW Wing Wall
 WF Wire Fence
 WMF Wire Mesh Fence
 Wd Wood (y)
 WO Work Order
 WP Work Project
 WIF Wrought Iron Fence

IMPERIAL UNITS

ac Acre
 bbl Barrel
 cu ft Cubic Foot
 cu in Cubic Inch
 cu yd Cubic Yard
 ft Foot or Feet
 fbm Foot Board Measure
 gal Gallon (s)
 cwt Hundred Weight
 in Inch (es)
 lf Linear Foot (Feet)
 mi Mile (s)
 mph Miles Per Hour
 psi Pounds per Square Inch
 lb Pound
 sq ft Square Foot (Feet)
 sq in Square Inch (es)
 sq yd Square Yard (s)

mfbm Thousand Foot Board Measure
 mgal Thousand Gallons
 yd Yard (s)

METRIC UNITS

cm Centimetre
 °C Degree Celsius
 ha Hectare
 kg Kilogram (s)
 km Kilometre (s)
 kN Kilonewton (s)
 kPa Kilopascal (s)
 L Litre (s)
 m Metre (s)
 m² Square metre
 m³ Cubic metre
 mm Millimetre (s)
 t Tonne

ABBREVIATIONS FOR BORING DATA

COLOUR

Blk Black
 Bl Blue
 Br Brown
 DK Dark
 Grn Green
 Gry Grey
 Lt Light
 Ora Orange
 Ye Yellow

MOISTURE

FM(C) Field Moisture Content
 OM(C) Optimum Moisture Content
 Sat Saturated
 WT Water Table

MATERIAL

Asph Asphalt
 BR Bedrock
 Bld (y) Boulder (y)
 Cl Clay
 Cl Sa Clay Sand
 Cl Si Clay Silt
 Conc Concrete
 Cord Corduroy
 Fib Fibrous
 Gran Granular
 Gr Gravel

Matl Material
 Org Organic
 Ob Overburden
 Pen Mac Penetration Macadam
 RF Rock Fill
 Sa Sand
 Sa Cl Sandy Clay
 Sa Si Sandy Silt
 Sh Rk Shot Rock
 Si Silt
 Si Cl Silty Clay
 Si Sa Silty Sand
 Stn (y) Stone (y)
 Tps Topsoil
 Wd Wood (y)

MISCELLANEOUS

Co Coarse
 Contam Contaminated
 Cr Crushed
 Decomp Decomposed
 F Fine
 H Heavy
 WL Liquid Limit
 MDD Maximum Dry Density
 MWD Maximum Wet Density
 M Medium
 Mott Mottled
 NFP No Further Progress
 Occ Occasional
 IP Plasticity Index
 WP Plastic Limit
 Poss Possible
 Reinf Reinforced
 SSM Select Subgrade Material
 Sl (y) Slight (ly)
 Stks Streaks
 Surf Surface
 Varv Varved
 VF Very Fine
 Weath Weathered

BUILDING DESCRIPTIONS

Number of Units	Number of Storeys of the building	Material used in super-structure of building	Name of Building	Basement	Remarks
A number followed by a hyphen for the number of units	A number designating the number of storeys of the building	Letter(s) preceding the name-of-building group	Letter(s) which designate the name of the building	A letter 'B' after name-of-building group denotes basement	All descriptions shall contain a name-of-building group
2 -	11/2 2	B. (Brick) St (Stucco) S (Stone) F (Frame) F (Metal Clad) F (Insulbrick) C (Concrete) CB (Concrete Block) M (Metal)	H (House) A (Apartment) G (Garage) F (Factory) PO (Post Office) ST (Store) O (Office) SS (Service Station) S (Shed)	B (Basement) If no letter appears after the name--the building has no basement	As a general rule, if there is ambiguity in the description, the full abbreviated or long form description must be written out.
If description involves only one building this group is omitted	If description of building involves only one storey this group is omitted	Or combination of letters as a group B&St (Brick & Stucco) B&S (Brick & Stone)	Gr (Greenhouse) W (Warehouse) R (Restaurant) B (Barn) C (Cabin)	Or combinations of these is SS&R (Service Station and Restaurant)	Examples: School Hotel Motel Church Rec Hall Fire Hall Library Arena Building
		All descriptions shall contain this group	SS&R (Service Station and Restaurant)	All descriptions shall contain this group	

LEGEND

REFERENCE POINTS

	Concrete Monument
	Standard Iron Bar
	Short Standard Iron Bar
	Rock Bar
	Rock Post
	Cut Cross
	Wooden Guide Post
	Cut Stone Monument
	Geodetic Surveys of Canada Bench Mark
	Geodetic Bench Mark
	Department of Highways Precise Bench Mark
	Ministry of Transportation and Communications Precise Bench Mark
	Geodetic Survey (1st Order)
	Geodetic Survey Monument (2nd Order)
	Topographical Survey Monument (2nd Order)
	Department of Highways Horizontal Control Monuments (2nd & 3rd Order)
	Ministry of Transportation and Communications Horizontal Control Monuments (2nd & 3rd Order)

RAILWAYS

	400' (1:5000) or 200' (1:2000) Scale Single Track
	400' (1:5000) or 200' (1:2000) Scale Double Track (or more)
	100' (1:1000), 50' (1:500), 40' (1:500) Scale Single Track
	100' (1:1000), 50' (1:500), 40' (1:500) Scale Double Track (or more)
	Gate and Flashing Light
	Gate Flashing Light and Bell
	Flashing Light
	Flashing Light and Bell
	Wig-Wag
	Wig-Wag and Bell
	Railway Crossing Sign

RIGHT OF WAY, FENCES, ETC.

	Fence on Highway Right-of-Way or MTC Property Limit
	Right of Way (Highway MTC Property Limit) ROW no Fence
	Right of Way (All Right-of-Way Limits Excluding Highway ROW) no Fence
	Fences Excluding those Outlining MTC Limits
	Subdivision Lot Lines without Fence
	Limited Interest (Permanent)
	Limited Interest (Temporary)
	Disposals, Transfers, Reversions
	City, Town or Village Limits
	Lot Line and/or Concession Line
	Property Line
	Gate

DRAINAGE

	Manhole, Catch Basin or Ditch Inlet
	Twin Inlet Catch Basin Manhole
	Storm Sewer
	Sub-Drain
	Manhole and Storm Sewer to be removed
	1" = 40' or 50' (1:500) Curb, Gutter or Curb and Gutter
	1" = 100' (1:1000) Curb, Gutter or Curb and Gutter
	1" = 40' or 50' (1:500) 1" = 100' (1:1000) Drop Curb
	1" = 40' or 50' (1:500) Gutter Outlet 90°
	1" = 100' (1:1000) Gutter Outlet 90°
	1" = 40' or 50' (1:500) Gutter Outlet 45°
	1" = 100' (1:1000) Gutter Outlet 45°
	Culvert
	Culvert with Headwall
	Culvert with Steel End Apron
	Ditches 'V' Type
	Ditches, Flat Bottom
	Watercourse(s) 10' (3m) wide and over
	Flow Arrow

CONSTRUCTION SYMBOLS

	Swamp or Muskeg
	Building, Silo
	Pier
	Cut and Fills (Earth or Rock)
	Bush, Hedge etc.
	Trees
	Area to be Cleared
	Area to be Grubbed
	Area to be Cleared and Grubbed

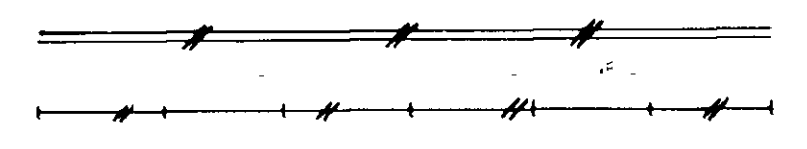
CONSTRUCTION SYMBOLS (CONT'D)

	Area to be Close Cut Cleared
	Area to be Close Cut
	Retaining Wall (with Height)
	Sidewalk
	Guide Rail (Cable, Steel Beam or Box Beam) or Guide Post (s)
	Concrete Section
	Rock Section
	Paved Shoulder
	Bituminous Pavement to be removed
	Concrete Pavement to be removed
	Concrete Pavement with Bituminous Surface to be removed
	Gore Area
	Rip Rap (all types)
	Gabions
	Paved Detours
	Miscellaneous Paving
	Sod (Nursery or Field)
	Inertial Barrier Modules
	Plan Orientation
	Temporary Closed for Construction
	Traffic Flow Arrow

UTILITIES

	Sanitary Sewer
	Gas Main
	Water Main
	Communications Cable (Underground)
	Power Cable (Underground)
	Oil Pipe Line
	Hydro Tower
	Gas Meter
	Gas Valve
	Water Meter
	Water Valve
	Hydro, Bell or Telegraph Poles
	Fire Hydrant
	Vent

TYPICAL ILLUSTRATION FOR REMOVAL



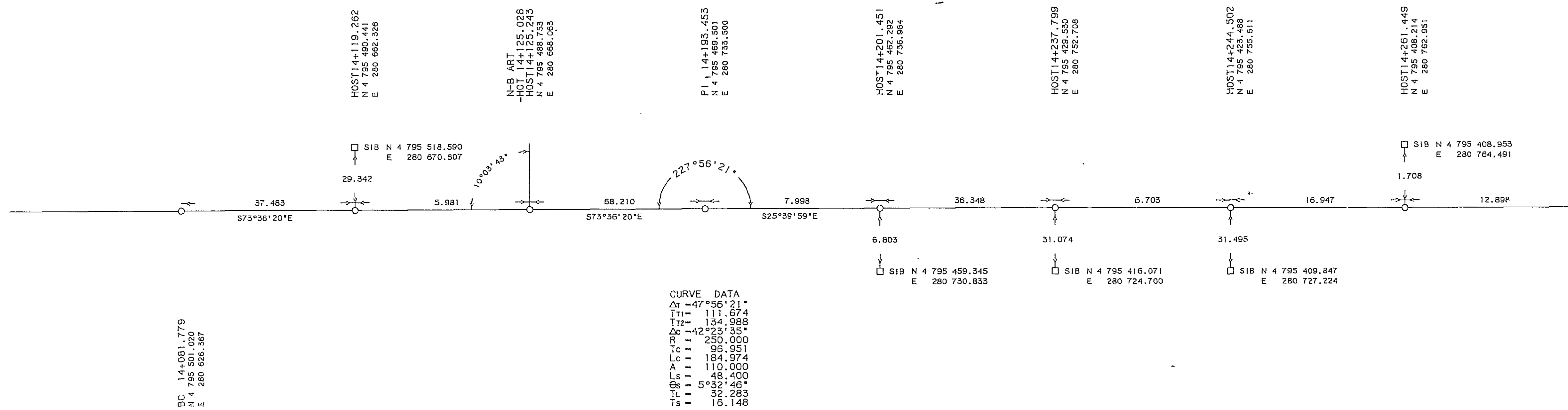
HORIZONTAL & VERTICAL CONTROL

METRIC
DIMENSIONS ARE IN METRES
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UNLESS OTHERWISE SHOWN

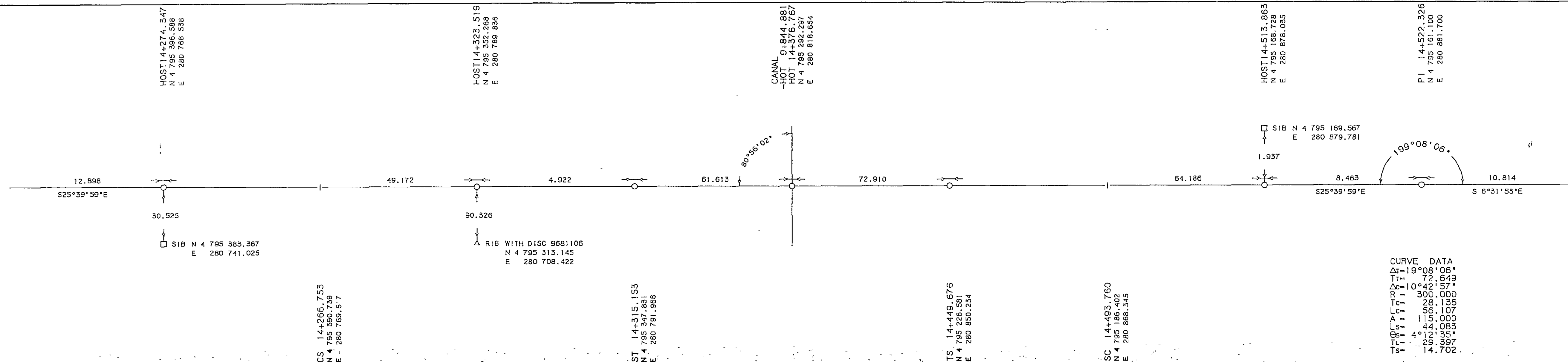
C.C. PARKER CONSULTANTS LIMITED
CONSULTING PROFESSIONAL ENGINEERS
HAMILTON ONTARIO

MODIFICATIONS OF
BURLINGTON CHANNEL
VERTICAL LIFT BRIDGE
AND APPROACHES

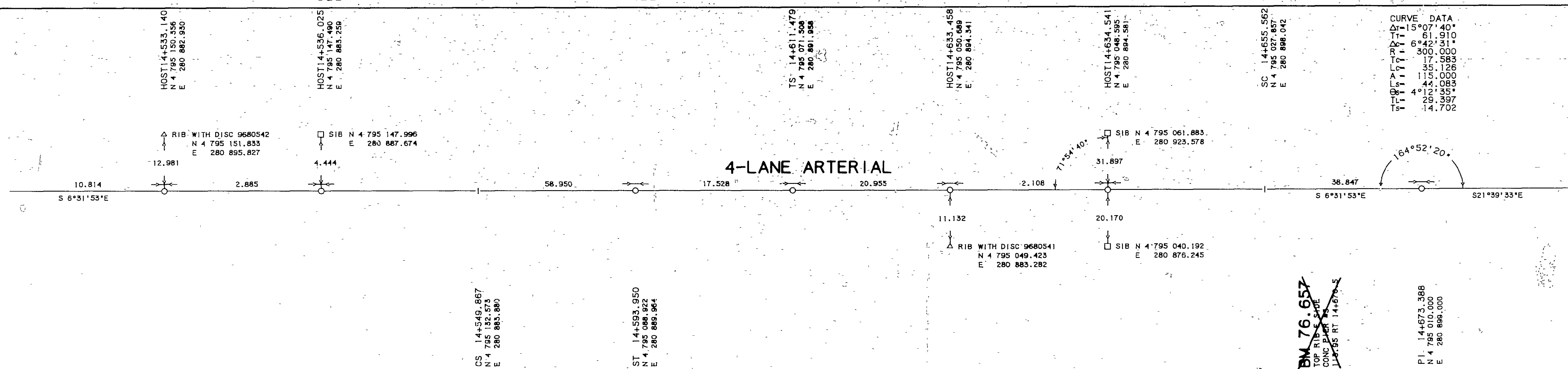
Project no
041412



CURVE DATA
 $\Delta I = 47^{\circ}56'21''$
 $T1 = 111.674$
 $T2 = 134.988$
 $\Delta C = 42^{\circ}23'35''$
 $R = 250.000$
 $Lc = 96.951$
 $A = 184.974$
 $Ls = 110.000$
 $Cs = 48.400$
 $Lt = 5$
 $L = 32.263$
 $Ts = 16.148$



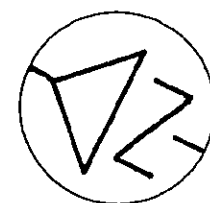
CURVE DATA
 $\Delta I = 19^{\circ}08'06''$
 $T1 = 72.649$
 $T2 = 10^{\circ}42'57''$
 $R = 300.000$
 $Lc = 28.136$
 $A = 56.107$
 $Ls = 115.000$
 $Cs = 44.083$
 $Lt = 4^{\circ}12'35''$
 $L = 29.397$
 $Ts = 14.702$



CURVE DATA
 $\Delta I = 15^{\circ}07'40''$
 $T1 = 61.910$
 $T2 = 6^{\circ}42'31''$
 $R = 300.000$
 $Lc = 17.583$
 $A = 35.126$
 $Ls = 115.000$
 $Cs = 44.083$
 $Lt = 4^{\circ}12'35''$
 $L = 29.397$
 $Ts = 14.702$

4-LANE ARTERIAL

BM 76.657
TOP RIB SIDE
CONC PER 14+675
14+795 RT 14+675



L A K E O N T A R I O

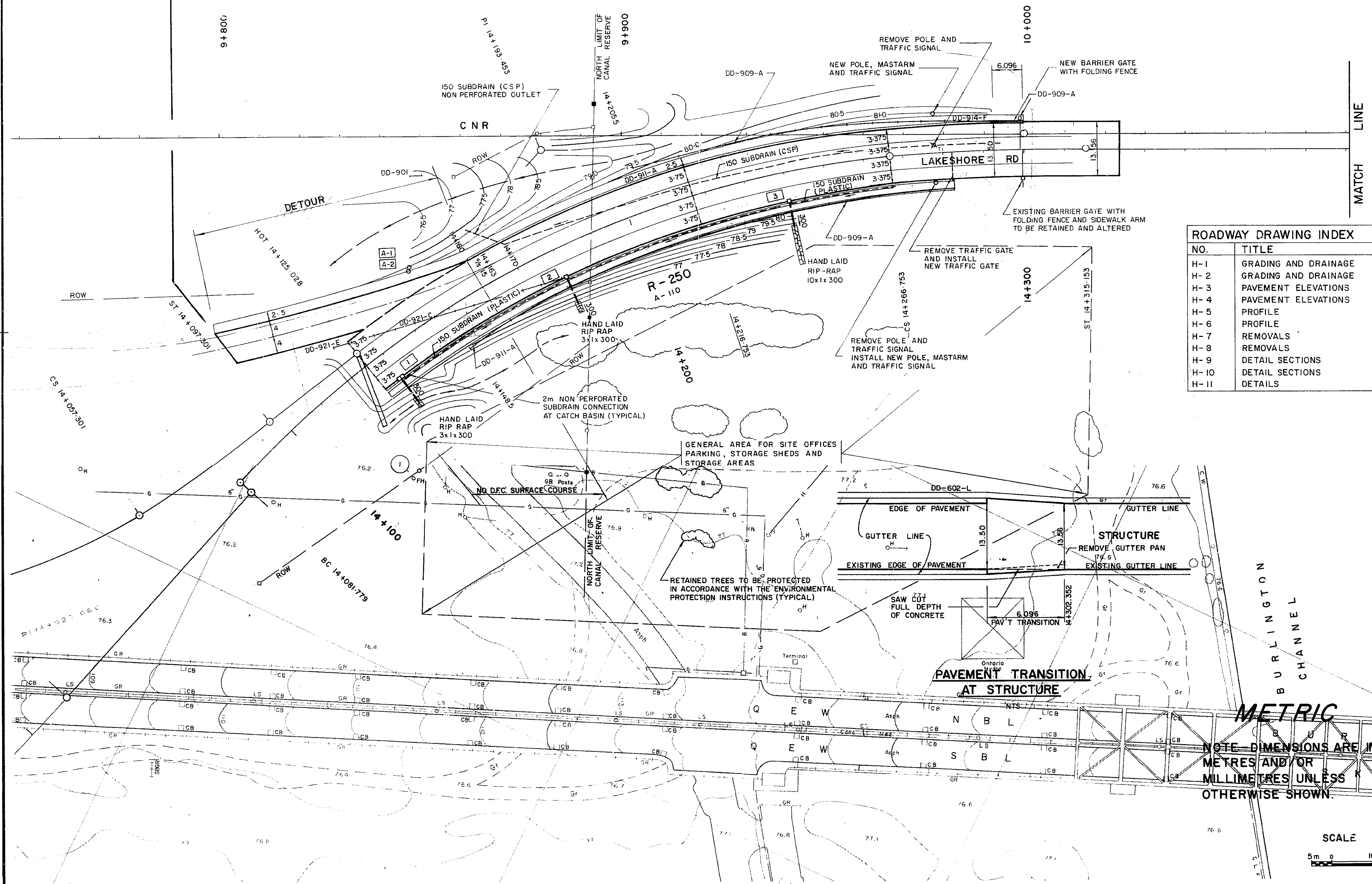
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revisions AS BUILT, FROM FIELD RECORDS date 1983/09/15

ADJACENT CONTRACT
LIMIT OF CONTRACT
STA 14+100.000



ROADWAY DRAWING INDEX

NO.	TITLE
H-1	GRADING AND DRAINAGE
H-2	GRADING AND DRAINAGE
H-3	PAVEMENT ELEVATIONS
H-4	PAVEMENT ELEVATIONS
H-5	PROFILE
H-6	PROFILE
H-7	REMOVALS
H-8	REMOVALS
H-9	DETAIL SECTIONS
H-10	DETAIL SECTIONS
H-11	DETAILS

A	A detail no. - où détail requis
B	B drawing no. - où détail exigé
C	C drawing no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
GRADING AND DRAINAGE

designed by / conçu par **F. E. WILSON**

drawn by / dessiné par **J. P.**

reviewed by / examiné par *F. E. Wilson*

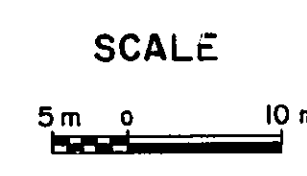
approved by / approuvé par *D. C. Brown*

project date / date du projet **1982-04-23**

project no. / no. du projet **041412**

drawing no. / dessin no. **H-1**

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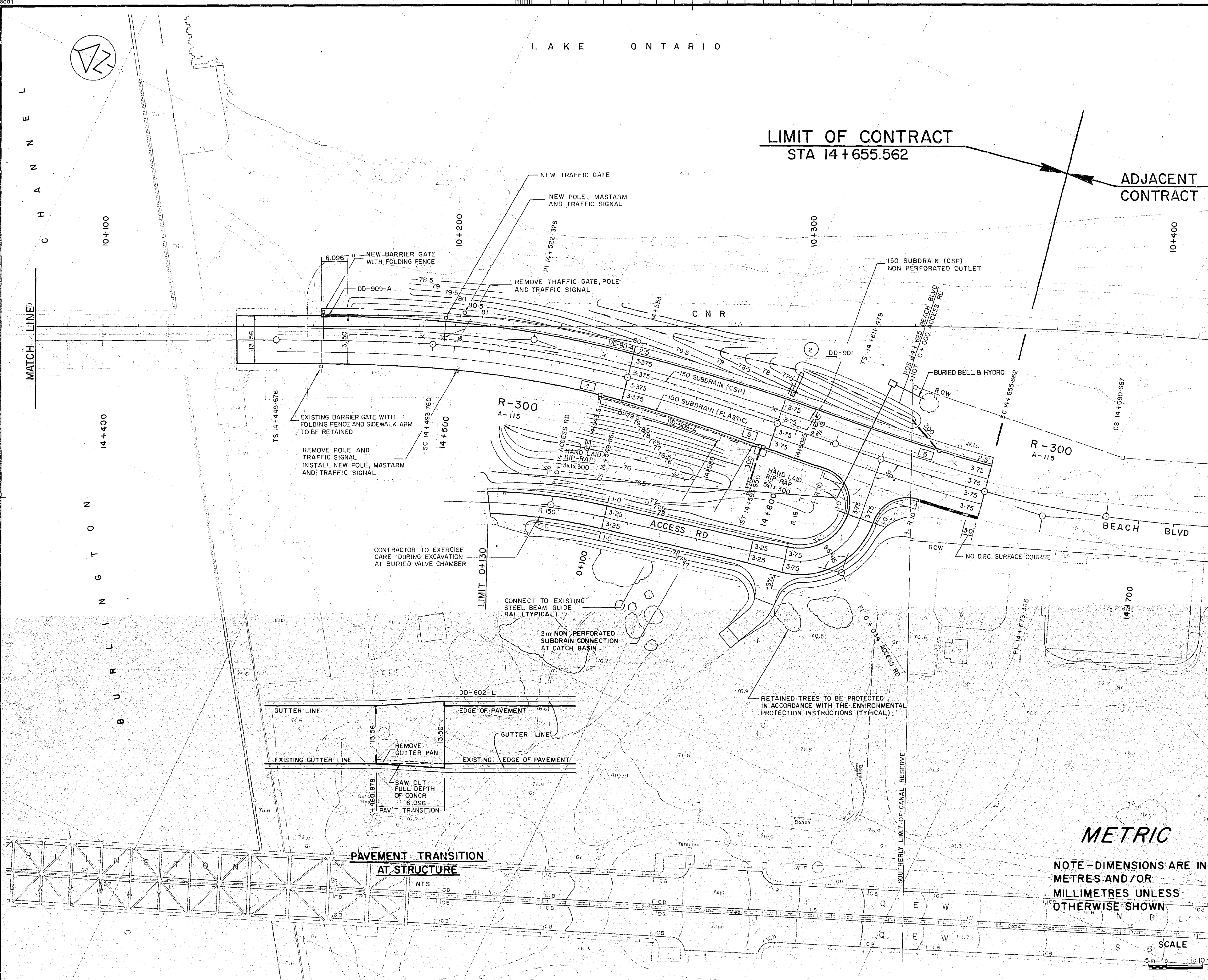
L A K E O N T A R I O

LIMIT OF CONTRACT
STA 14 + 655.562

ADJACENT
CONTRACT

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B drawing no. - where detail required / dessin no. - où détail exigé
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project title / titre du projet

MODIFICATIONS OF
BURLINGTON CHANNEL
VERTICAL LIFT BRIDGE
AND APPROACHES

drawing title / titre du dessin

GRADING AND DRAINAGE

designed by / conçu par
F.E. WILSON

drawn by / dessiné par
J.P.

reviewed by / examiné par
F.E. Wilson

approved by / approuvé par
D.C. Cranwell

project date / date du projet
1982-04-23

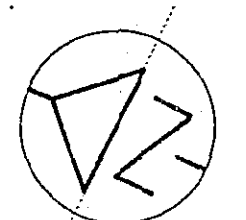
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041412

drawing no. / dessin no.
H-2

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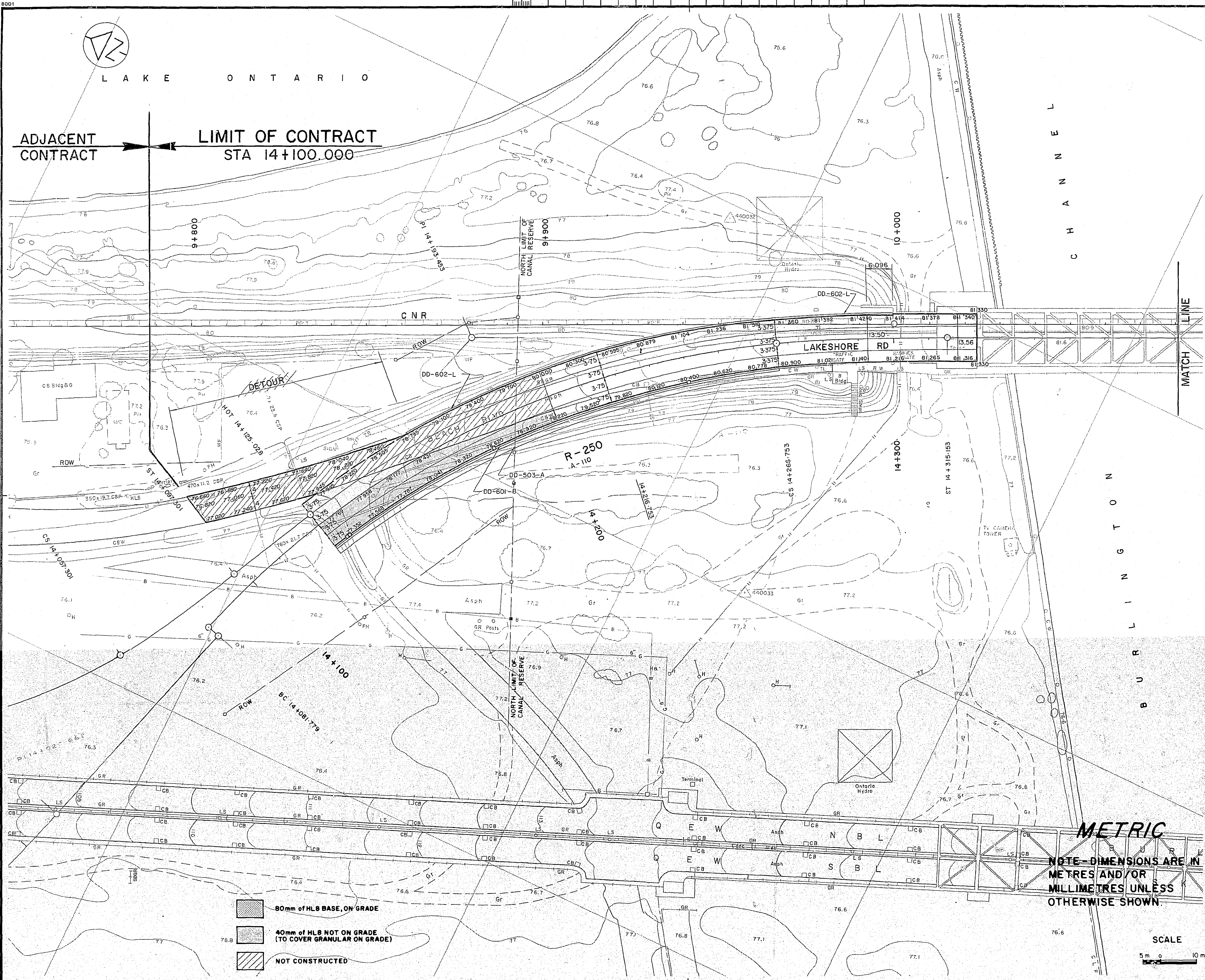
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MILLIMETRES UNLESS
OTHERWISE SHOWN



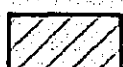
SCALE
5m 10m



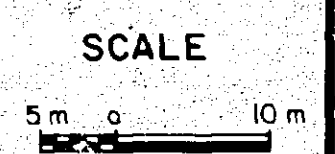
L A K E O N T A R I O

ADJACENT CONTRACT LIMIT OF CONTRACT STA 14+100.000



-  80mm of HLB BASE, ON GRADE
-  40mm of HLB NOT ON GRADE (TO COVER GRANULAR ON GRADE)
-  NOT CONSTRUCTED

METRIC
NOTE - DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN.

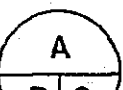

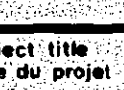


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-  A detail no. - où détail requis
-  B dessin no. - où détail exigé
-  C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
PAVEMENT ELEVATIONS

designed by / conçu par	F. E. WILSON
drawn by / dessiné par	J. P.
reviewed by / examiné par	<i>F. E. Wilson</i>
approved by / approuvé par	<i>D. C. Cramm</i>
project date / date du projet	1982-04-23
project no. / no. du projet	041412
drawing no. / dessin no.	H-3

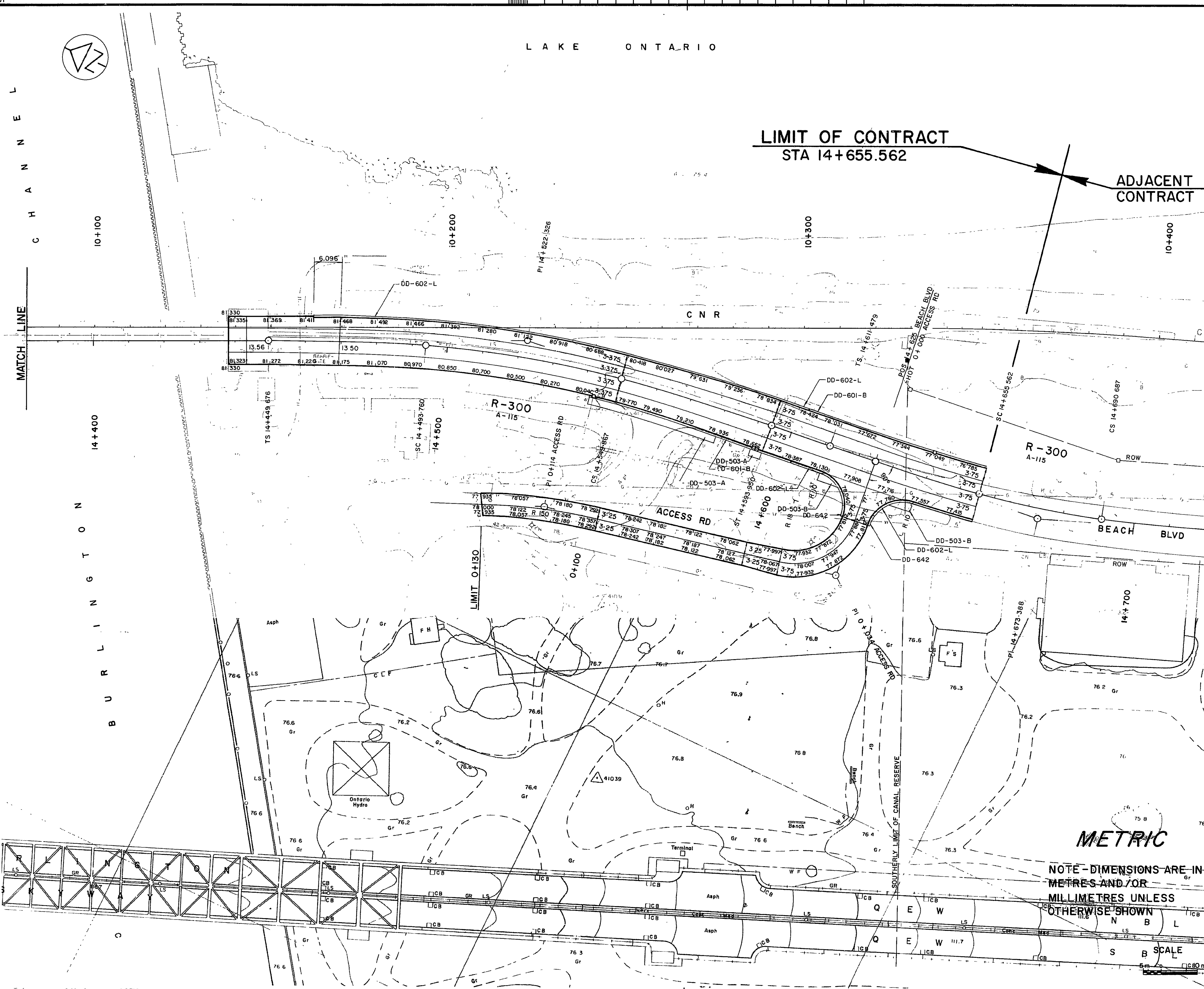
L A K E O N T A R I O

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revisions / AS BUILT, FROM FIELD RECORDS / date / 1983/09/15



ADJACENT CONTRACT

LIMIT OF CONTRACT
STA 14+655.562

MATCH LINE

14+400

B U R L I N G T O N

LIMIT 0+130

METRIC

NOTE - DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN

SCALE 1:100

- A detail no. / no. du détail
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approved by / approuvé par / W. C. Cramm

project date / date du projet / 1982-04-23

project no. / no. du projet / 041412

drawing no. / dessin no. / H-4

METRIC

Public Works Canada / Travaux publics Canada
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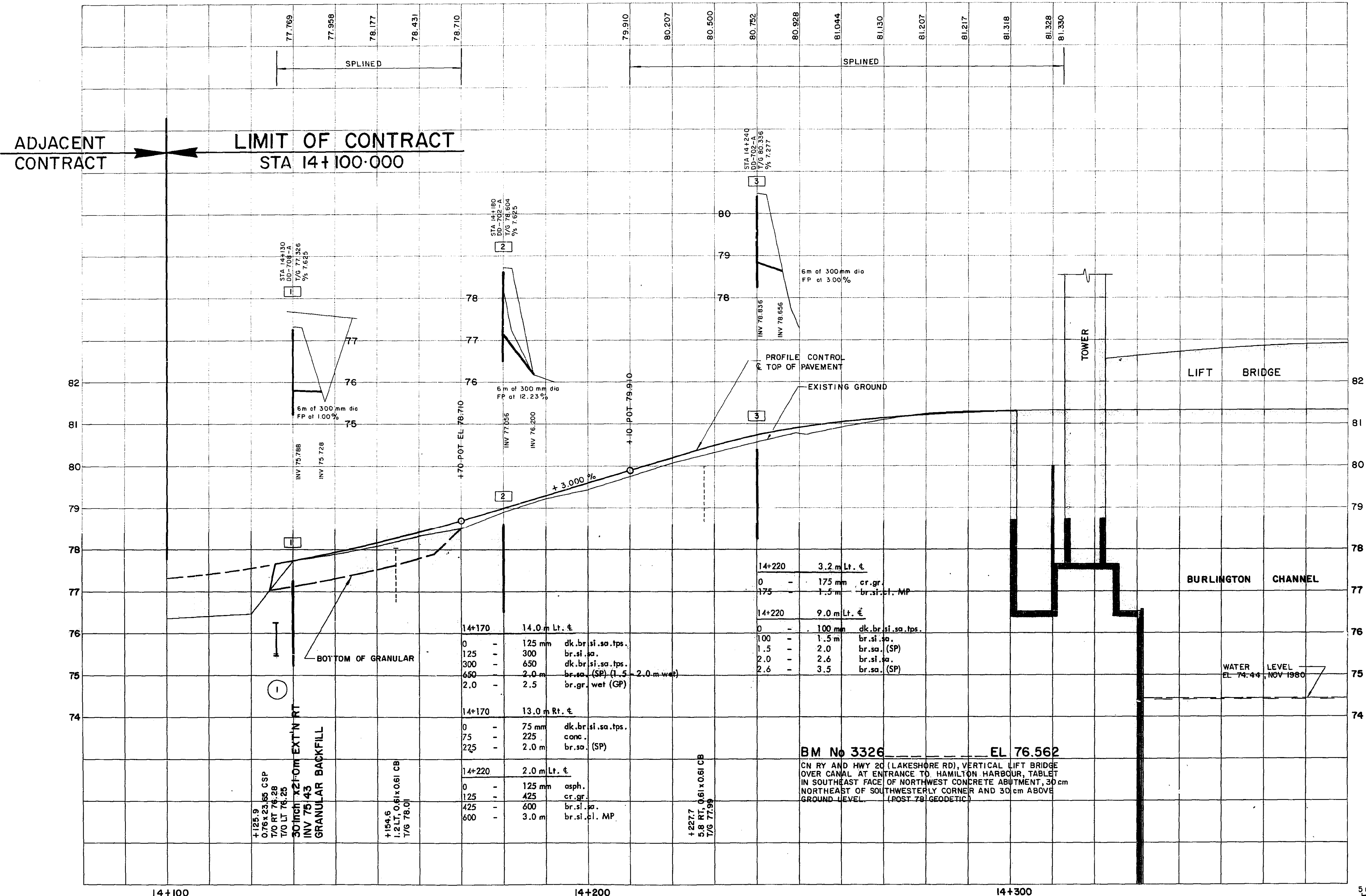
NOTE - DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN.



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HAMILTON ONTARIO

revisions AS BUILT, FROM FIELD RECORDS date 1983/09/15

SOILS SURVEY DATA	
DATE OF SURVEY	TYPE OF SURVEY
JULY 1980	INVESTIGATION POWER AUGER
NOTES	
1. THE MOISTURE AND SURFACE CONDITIONS APPLY ONLY TO THE TIME OF THE SURVEY.	
2. THE BOUNDARIES BETWEEN SOIL STRATA AND ALSO THE EARTH-ROCK CONTACT HAVE BEEN ESTABLISHED ONLY AT BORE HOLE LOCATIONS. BETWEEN BORE HOLES THE BOUNDARIES ARE ASSUMED FROM GEOLOGICAL EVIDENCE AND MAY BE SUBJECT TO ERROR.	



A	detail no. / no. du détail
B	drawing no. - where detail required / dessin no. - où détail exigé
C	drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

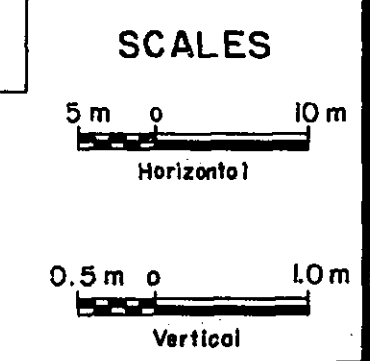
drawing title / titre du dessin
PROFILE

designed by / conçu par: F. E. WILSON
drawn by / dessiné par: J. P.
reviewed by / examiné par: F. E. Wilson
approved by / approuvé par: D. C. Gramm

project date / date du projet: 1982-04-23

project no. / no. du projet: 041412

drawing no. / dessin no.: H-5



METRIC

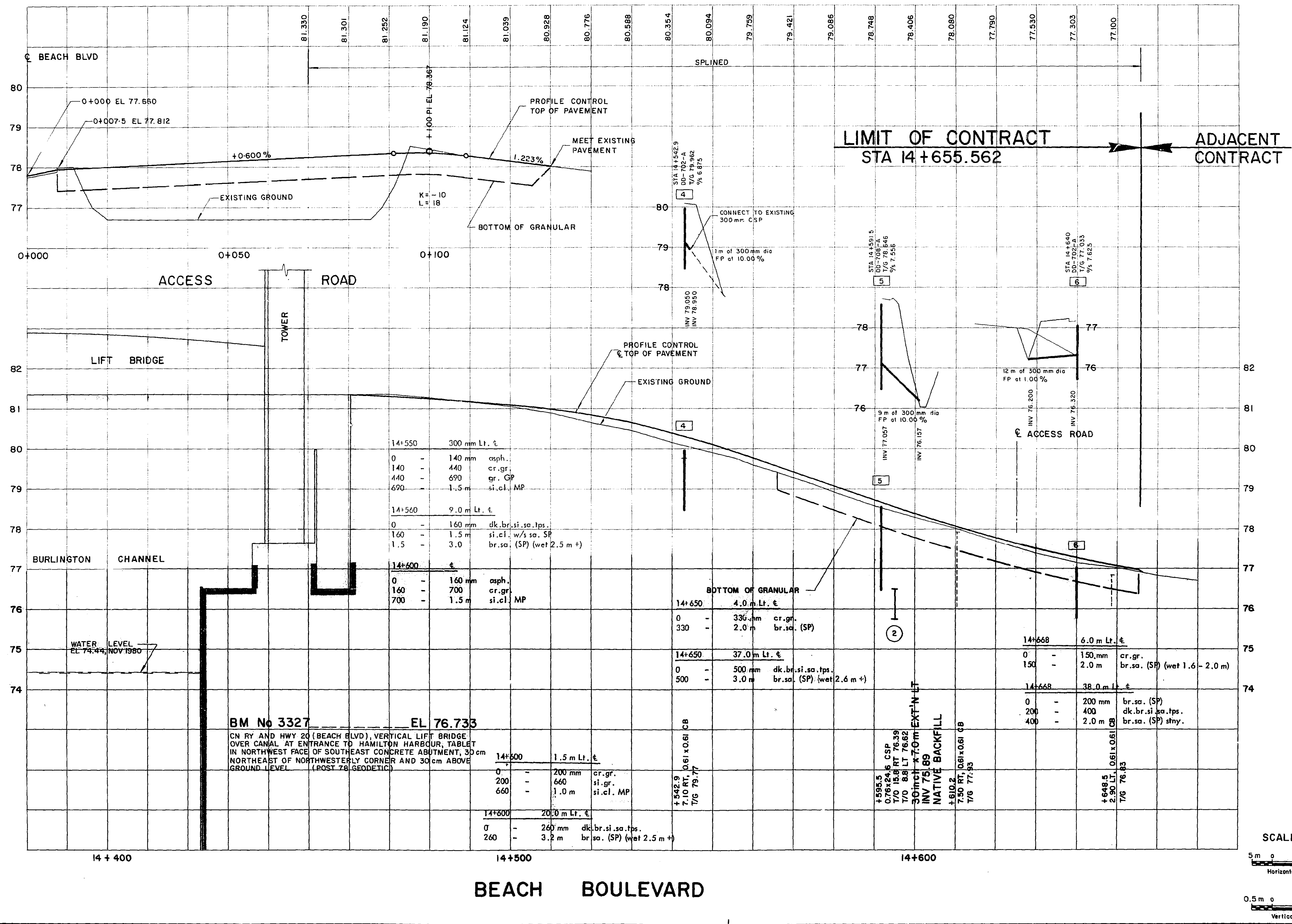
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revisions AS BUILT, FROM FIELD RECORDS 1983/09/15



project title: MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title: PROFILE

designed by: F. E. WILSON

drawn by: J. P.

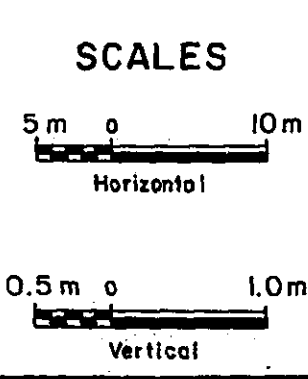
reviewed by: F. E. Wilson

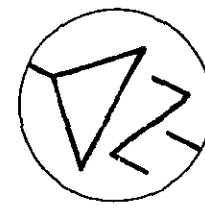
approved by: D. C. Gramm

project date: 1982-04-23

project no.: 041412

drawing no.: H-6

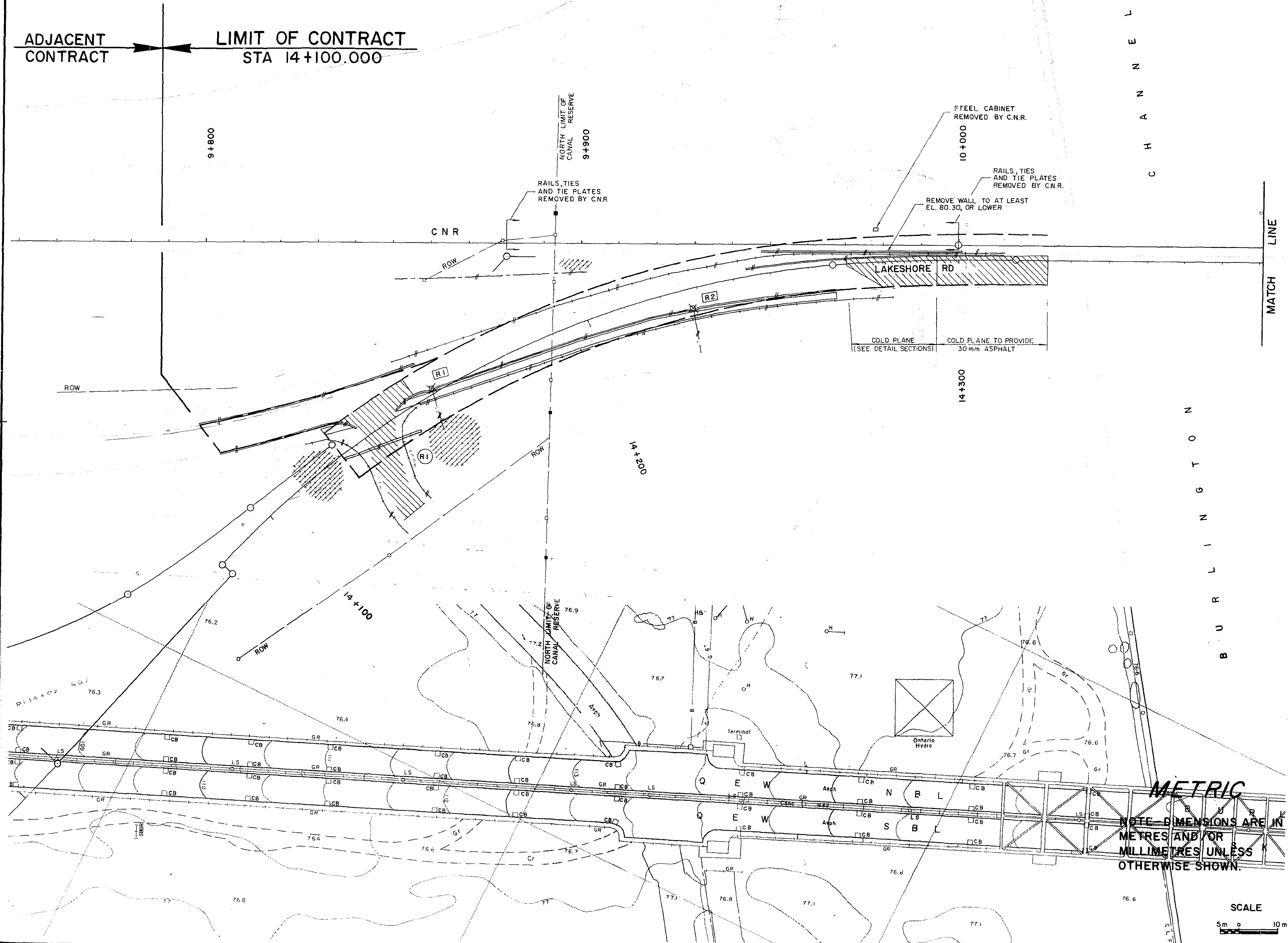




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ADJACENT CONTRACT ← LIMIT OF CONTRACT STA 14+100.000



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HAMILTON ONTARIO

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- A detail no. / no. du détail
- B drawing no. - where detail required / dessin no. - où détail exigé
- C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin

REMOVALS

designed by / conçu par F. E. WILSON

drawn by / dessiné par J. P.

reviewed by / examiné par F. E. Wilson

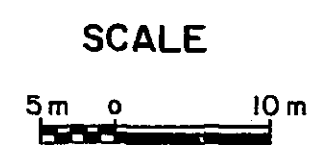
approved by / approuvé par D. C. Cramm

project date / date du projet 1982-04-23

project no. / no. du projet 041412

drawing no. / dessin no. H-7

METRIC
NOTE - DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN.



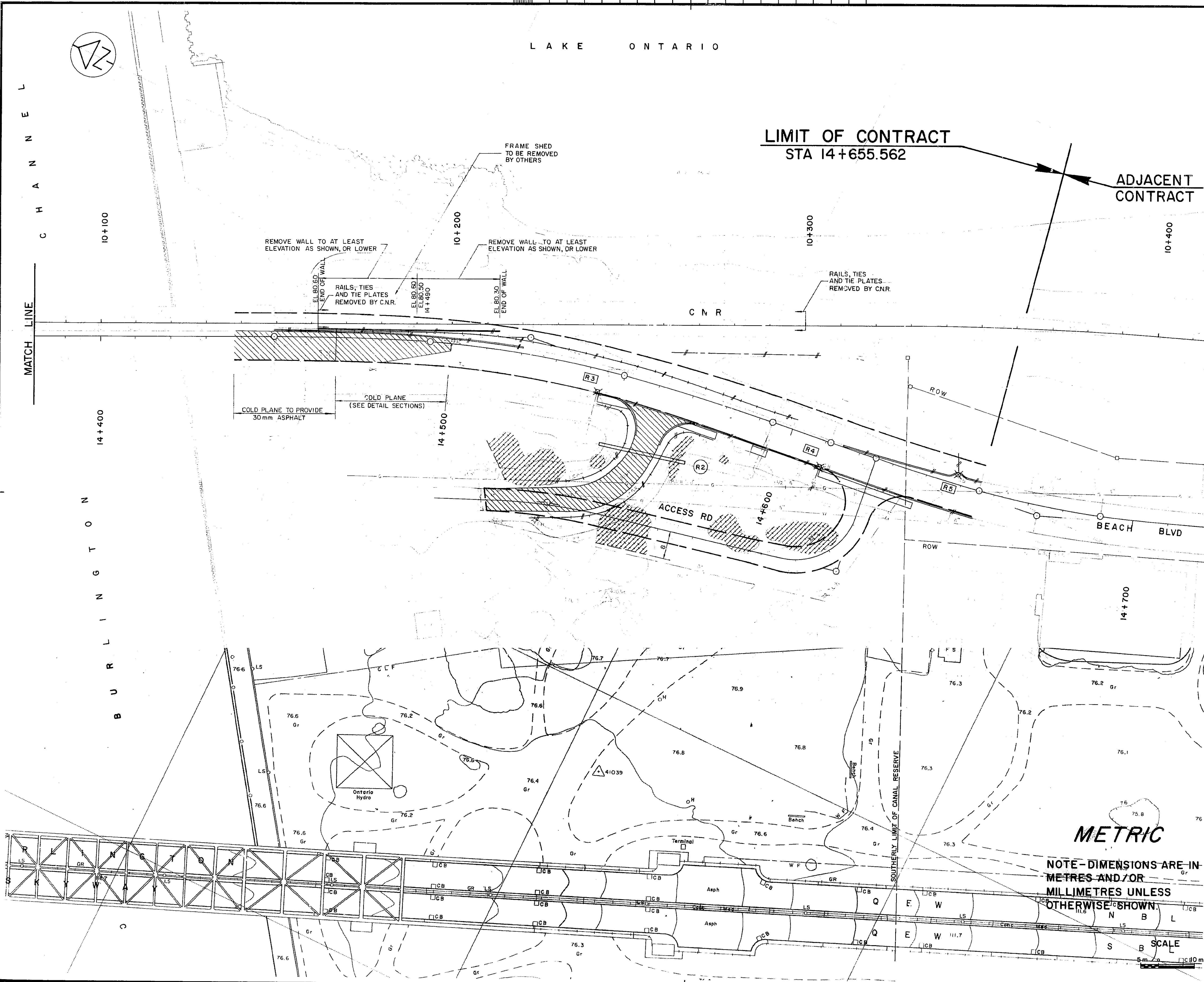
L A K E O N T A R I O

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CONSULTING PROFESSIONAL ENGINEERS
HAMILTON ONTARIO

revisions: 1 AS BUILT, FROM FIELD RECORDS date: 1983/09/15



- A detail no. / no. du détail
- B drawing no. - where detail required / dessin no. - où détail exigé
- C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
REMOVALS

designed by / conçu par
F. E. WILSON

drawn by / dessiné par
J.P.

reviewed by / examiné par
F. E. Wilson

approved by / approuvé par
D. C. Crannell

project date / date du projet
1982-04-23

project no. / no. du projet
041412

drawing no. / dessin no.
H-8

METRIC
NOTE - DIMENSIONS ARE IN METRES AND/OR MILLIMETRES UNLESS OTHERWISE SHOWN.

SCALE
1:100

METRIC

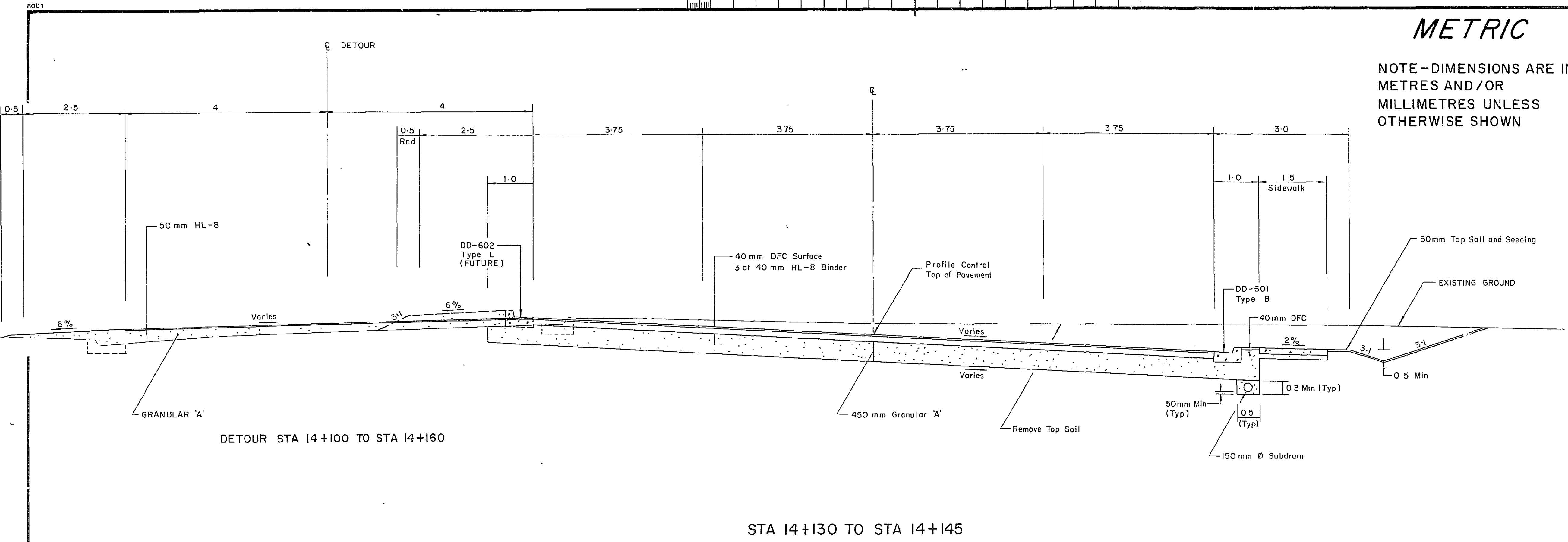
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HAMILTON ONTARIO

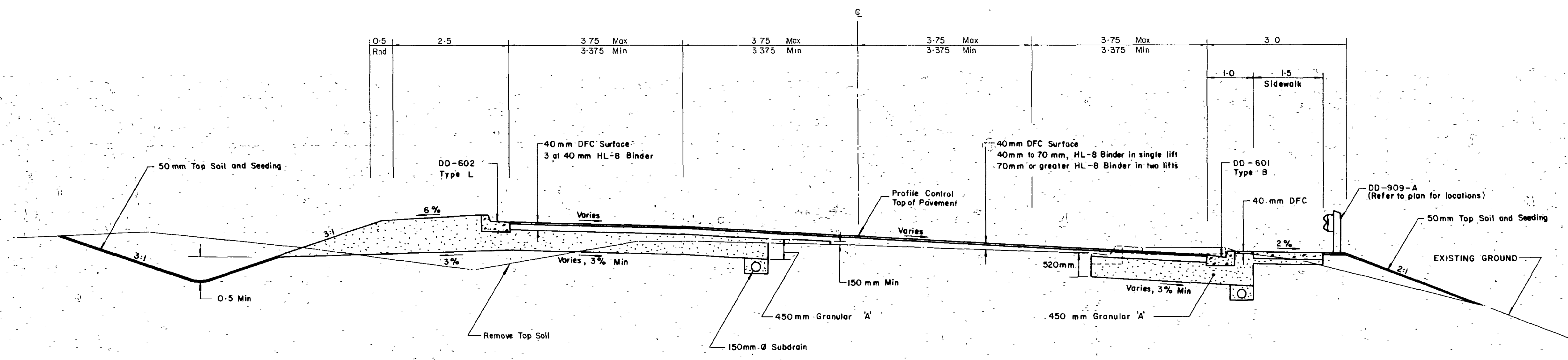
AS BUILT, FROM FIELD RECORDS
1983/09/15



DETOUR STA I4+100 TO STA I4+160

STA I4+130 TO STA I4+145

- NOTES:
- Roadside ditch only where required by the Engineer, its location and cross-section may be altered as directed.
 - Topsoil to be removed for width of cut



STA I4+145 TO STA I4+240 LT
STA I4+520 TO STA I4+650 LT

STA I4+145 TO STA I4+280 RT
STA I4+540 TO STA I4+620 RT

A	detail no. - du détail
B	drawing no. - where detail required
C	drawing no. - where detailed

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
DETAIL SECTIONS

designed by / conçu par
F. E. WILSON

drawn by / dessiné par
J. P.

reviewed by / examiné par
F. E. Wilson

approved by / approuvé par
D. C. Gramm

project date / date du projet
1982-04-23

project no. / no. du projet
041412

drawing no. / dessin no.
H-9

METRIC

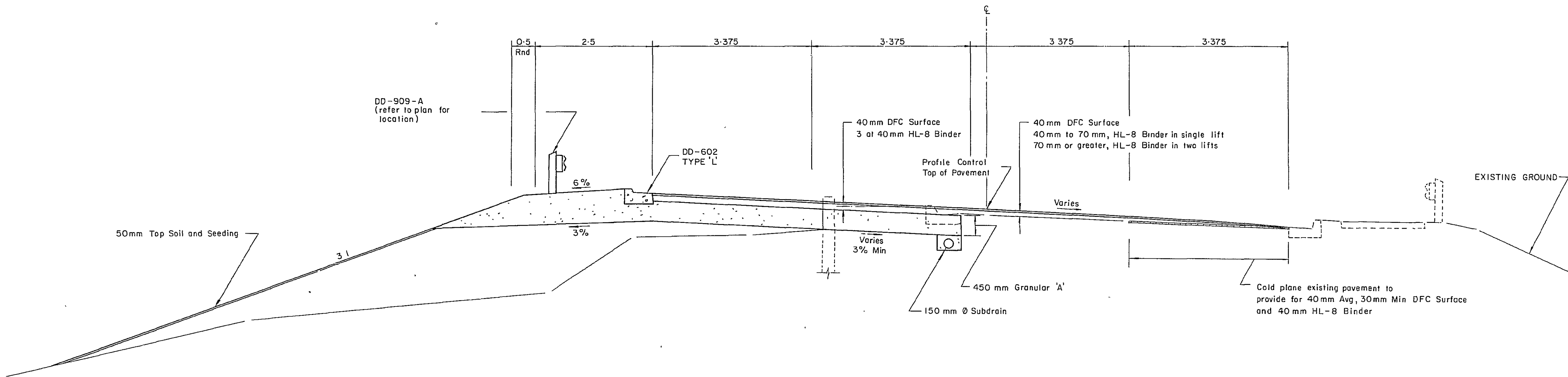
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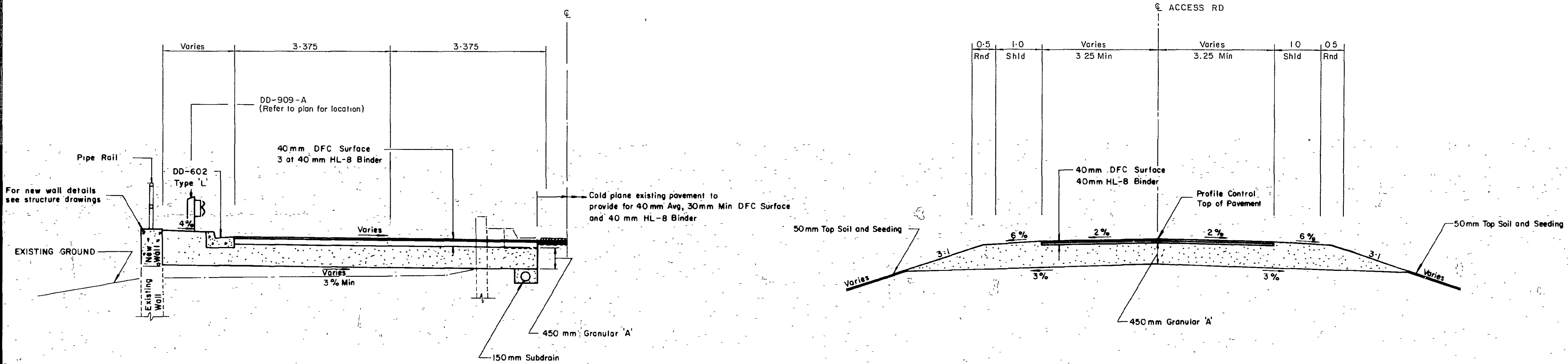
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STA 14+240 TO STA 14+289.8 LT
STA 14+470.9 TO STA 14+520 LT

STA 14+280 TO STRUCTURE
STRUCTURE TO STA 14+540

NOTES:
1. Roadside ditch only where required by the Engineer, its location and cross-section may be altered as directed.
2. Topsoil to be removed for width of cut



STA 14+289.8 TO STRUCTURE
STRUCTURE TO STA 14+470.9

ACCESS ROAD
STA 0+007.5 TO STA 0+130

A detail no. / no du detail
B drawing no. - where detail required / dessin no. - où détail exigé
C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
DETAIL SECTIONS

designed by / conçu par
F. E. WILSON

drawn by / dessiné par
J. P.

reviewed by / examiné par
F. E. Wilson

approved by / approuvé par
W. C. Cranin

project date / date du projet
1982-04-23

project no. / no. du projet
041412

drawing no. / dessin no.
H-10

METRIC

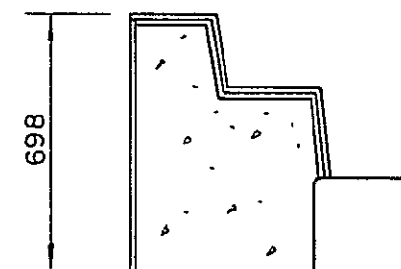
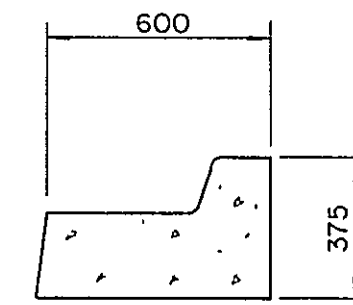
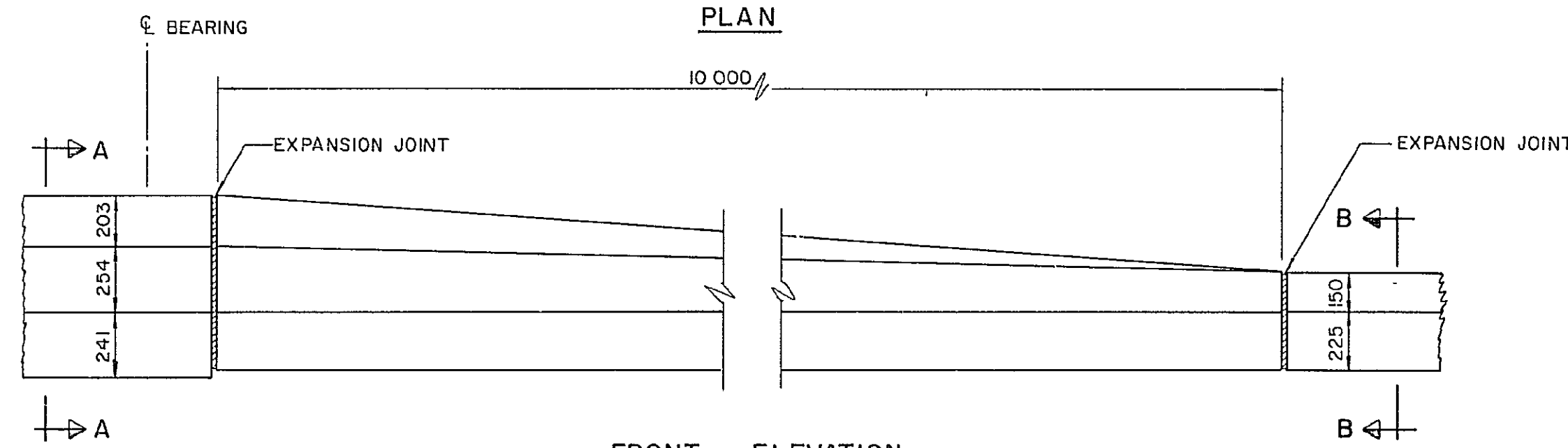
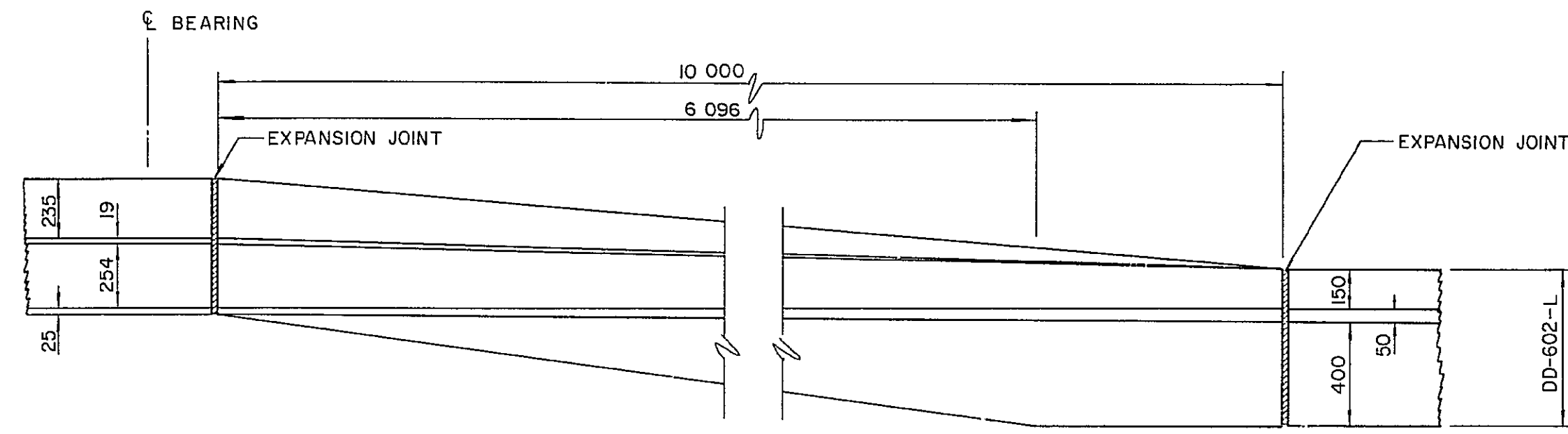
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SECTION A-A
SEE STRUCTURE DRAWINGS

FRONT ELEVATION

SECTION B-B
DD-602-L

CURB AND GUTTER TRANSITION
AT STRUCTURE

SCALE 1:20

- A detail no. / no. du détail
- B drawing no. - where detail required / dessin no. - où détail exigé
- C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet

MODIFICATIONS OF
BURLINGTON CHANNEL
VERTICAL LIFT BRIDGE
AND APPROACHES

drawing title / titre du dessin

DETAILS

Designed by / conçu par F. E. WILSON

Drawn by / dessiné par J. P.

Reviewed by / examiné par F. E. Wilson

Approved by / approuvé par D. C. Cramm

Project date / date du projet 1982-04-23

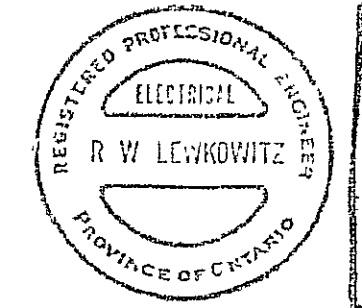
Project no. / no. du projet 041412

Drawing no. / dessin no. H-11

ELECTRICAL DRAWING INDEX

Nº	TITLE
E-1	LEGEND, NOTES AND SUMMARY
E-2	LAYOUT PLAN - LIGHTING, SIGNALS AND GATES STA 14+125 TO BRIDGE CENTRE
E-3	LAYOUT PLAN - LIGHTING, SIGNALS AND GATES BRIDGE CENTRE TO STA. 14+655.562
E-4	ELECTRICAL SCHEMATIC 1
E-5	ELECTRICAL SCHEMATIC 2 AND DETAILS
E-6	CIRCUIT AND BLOCK DIAGRAMS
E-7	COMMUNICATIONS INTERFACE SYSTEM
E-8	CONTROL - LAYOUT DIAGRAM
	TRAFFIC SIGNAL - YELLOW FLASH

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LEGEND

- L—L— CABLE, SECONDARY, IN CONDUIT, EXISTING
- ==== CABLE, SECONDARY, IN NEW RIGID DUCTS OR CONDUITS
- ==== CABLE, SECONDARY, IN EXISTING RIGID DUCTS OR CONDUITS
- ==== CONDUIT - FLEXIBLE POLYETHYLENE, DIRECT BURIED
- ③ UNDERGROUND RIGID DUCTS OR CONDUITS (UNDERPAVEMENT CROSSINGS OR DUCTS AS SPECIFIED) WITH IDENTIFICATION NUMBER.
- ⊙ JUNCTION BOX - CONCRETE
- _{JB} JUNCTION BOX - EXISTING
- JUNCTION BOX - WEATHERPROOF
- ⊕ POLL - STEEL, FRANGIBLE BASE, 12m, BASE MOUNTED
- POLE - SPUN CONCRETE, 14.0m, DIRECT BURIED
- POLE - STEEL, NON FRANGIBLE, 12 m, BASE MOUNTED
- _{TS} POLE - ALUMINUM, NON FRANGIBLE, 5.8m, BASE MOUNTED
- _{LS} POLE, EXISTING LIGHTING
- ⊗ POLE - WOOD
- ⊣ TRAFFIC SIGNAL HEAD - "HIGHWAY TYPE" (12" RED) WITH BACKBOARD, COMPLETE WITH 2.4 m TAPERED ALUMINUM BRACKET
- ⊣ TRAFFIC SIGNAL HEAD - "HIGHWAY TYPE" (12" RED) WITH BACKBOARD, COMPLETE WITH 5.5m TAPERED ALUMINUM BRACKET
- ⊣ TRAFFIC SIGNAL HEAD - "PEDESTRIAN TYPE" COMPLETE WITH MOUNTING BRACKET
- JB1 JUNCTION BOX IDENTIFICATION NUMBER
- CL POLE NUMBER ('C' INDICATES CONSTRUCTION)
- EI POLE NUMBER ('E' INDICATES EXISTING)
- ⊣ GROUND ROD WITH THERMIT WELD GROUND CONNECTOR
- G1 BARRIER GATE IDENTIFICATION NUMBER
- ⊙ LUMINAIRE - 400 W HIGH PRESSURE SODIUM, TYPE III MEDIUM DISTRIBUTION CUTOFF C/W CLEAR LAMP; 250 W, 575 V INTEGRAL BALLAST.
- ⊙ LUMINAIRE - 400 W HIGH PRESSURE SODIUM, TYPE III MEDIUM DISTRIBUTION CUTOFF C/W CLEAR LAMP; 250 W, 120 V INTEGRAL BALLAST AND 2.4 m ALUMINUM TAPERED ELLIPTICAL BRACKET; SEE NOTE 4, DWG. E-6
- ⊙ LUMINAIRE - HIGH PRESSURE SODIUM, 250 W, 575 V, STRUCTURE MOUNTED.
- C CONTROL CABINET - TYPE 2

GENERAL NOTES

- LAYOUT DRAWINGS ARE SCHEMATIC ONLY LOCATE POLES, CABLES UNDERPAVEMENT CROSSINGS AND JUNCTION BOXES IN ACCORDANCE WITH DETAILS AND SUMMARY SHEETS.
- ALL CONDUCTORS TO BE STRANDED 1000V TWU INSULATED COPPER.
- Nº 6 BARE STRANDED COPPER GROUND WIRE TO BE RUN CONTINUOUS THROUGHOUT SYSTEM
- CONDUCTOR SPLICING IS PERMITTED ONLY WHERE INDICATED.
- FLEXIBLE CONDUIT WITH SECONDARY WIRING SHALL BE EXTENDED THROUGH UNDERPAVEMENT CROSSINGS.
- UNDERPAVEMENT CROSSINGS SHALL EXTEND A MINIMUM OF 1m BEYOND BACK OF CURB, 1m BEYOND EDGE OF PAVEMENT OR TO BACK EDGE OF GRAVEL SHOULDER.
- BRADY CABLE IDENTIFICATION MARKERS OR EQUAL WITH DESIGNATION CORRESPONDING TO THAT USED ON WIRING DIAGRAMS SHALL BE ADDED AT EACH POLE HANDHOLE AND JUNCTION BOX.
- OFFSET DIMENSION IS FROM EDGE OF PAVEMENT TO CENTER OF POLE, CONDUIT OR JUNCTION BOX.
- WHEN PLACING SECONDARY CABLES IN TRENCHES, THE CONTRACTOR MUST ENSURE THAT THEY ARE LOCATED A SAFE DISTANCE FROM THE SPECIFIED GUIDE RAIL LOCATIONS IN ORDER TO PREVENT DISTURBANCE OR DAMAGE TO CABLES WHEN GUIDE RAIL POSTS ARE BEING INSTALLED.
- PARALLEL CONDUIT RUNS SHALL RUN IN COMMON TRENCH.
- ALL SURFACE MOUNTED CONDUITS SHALL BE OF GALVANIZED STEEL DIRECT BURIED CONDUIT SHALL BE OF POLYETHYLENE EXCEPT AS NOTED

SUMMARY OF ELECTRICAL ITEMS

	ITEM Nº	LOCATION	STATION	OFFSET (NOTE 8)	LENGTH	REMARKS
SIGNAL & LIGHTING POLES	C1	LAKESHORE RD. Rt.	14 + 125.20	5.00		NO LUMINAIRE, GROUND ROD
	C2	-II- Lt.	14 + 161.70	5.00		GROUND ROD
	C3	-II- Rt.	14 + 192.60	3.80		
	C4	-II- Lt.	14 + 218.90	5.00		
	C5	-II- Rt.	14 + 241.40	3.80		
	C6	-II- Lt.	14 + 258.50	3.60		
	C7	-II- Rt.	14 + 271.30	3.80		GROUND ROD
	C8	-II- Lt.	14 + 290.45	ON RETAINING WALL 1.76		GROUND ROD
	C9	BEACH BLVD. Lt.	14 + 464.00	ON RETAINING WALL 1.76		GROUND ROD
	C10	-II- Rt.	14 + 480.80	4.00		GROUND ROD
	C11	-II- Lt.	14 + 502.20	2.80		
	C12	-II- Rt.	14 + 528.00	4.00		
	C13	-II- Lt.	14 + 559.10	5.00		
	C14	LAKESHORE RD. Rt.	14 + 278.20	AS EXISTING		NEW BASE
	C15	-II- Lt.	14 + 278.20	2.50		
	C16	BEACH BLVD Rt.	14 + 502.00	AS EXISTING		NEW BASE
	C17	-II- Lt.	14 + 594.60	3.50		1-GROUND ROD
C18	-II- Lt.	14 + 634.60	5.00		NEW BASE, 2-GROUND ROD	
BRIDGE LUMINAIRES	L1	NORTH TOWER	AS SHOWN	ROAD CENTER		STRUCTURE MOUNTED
	L2	-II-	-II-	-II-		
	L3	LIFT SPAN	-II-	-II-		
	L13		-II-	-II-		
	L14	SOUTH TOWER	-II-	-II-		
	L15	-II-	-II-	-II-		
UNDERPAVEMENT CROSSINGS	①	LAKESHORE RD.	14 + 164.00		21.50	2-100 mm PVC CONDUIT CONCRETE ENCASED
	②	BEACH BLVD.	AT ACCESS ROAD	5.00	12.00	2-75 mm PVC CONDUIT
	③	BEACH BLVD.	14 + 655.10		20.80	1-100 mm PVC CONDUIT CONCRETE ENCASED
JUNCTION BOXES	JB1	LAKESHORE RD. Lt.	14 + 164.00	3.80		
	JB2	NORTH UNDERPASS		AS SHOWN		
	JB3	NORTH UNDERPASS		AS SHOWN		
	JB4	SOUTH UNDERPASS		AS SHOWN		
	JB5	SOUTH UNDERPASS		AS SHOWN		
	JB6	BEACH BLVD. Rt.	14 + 655.10	4.20		
	JB7	-II- Lt.	14 + 655.10	3.00		
	JB8	LAKESHORE RD. Lt.	AS SHOWN	3.00		
EXISTING LIGHTING POLES	E1	LAKESHORE RD. Rt.	EXISTING	AS SHOWN		REPLACE LUMINAIRE
	E2	-II-	-II-	-II-		-II-
	E3	-II-	-II-	-II-		-II-
	E4	LAKESHORE RD. Lt.	-II-	-II-		TEMPORARY POWER SUPPLY POINT
	E7	LAKESHORE RD. Lt.	EXISTING	AS SHOWN		
BARRIER GATES	G1	LAKESHORE RD. Rt.	AS SHOWN	AS SHOWN		EXISTING
	G2	-II- Lt.	-II-	ON ABUTMENT WALL I-13		GROUND ROD
	G3	BEACH BLVD. Lt.	-II-	-II-		-II-
	G4	-II- Rt.	-II-	ON ABUTMENT WALL I-13		GROUND ROD
TRAFFIC GATES	G5	LAKESHORE RD. Lt.	AS SHOWN	AS EXISTING		NEW BASE
	G6	BEACH BLVD. Rt.	14 + 497.50	0.80		GROUND ROD

revisions AS BUILT, FROM FIELD RECORDS date 1983/08/31

A detail no. where detail required
B drawing no. - where detail exists
C drawing no. - where detailed design no. - or detail

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES.

LEGEND, NOTES AND SUMMARY.

designed by R.W.L.
conçu par

drawn by J.W.
dessiné par

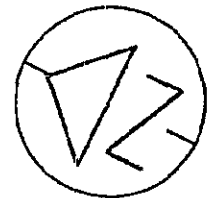
reviewed by R. W. Lewkowitz
examiné par

approved by D. C. Crahan
approuvé par

project date APRIL 23, 1982
date du projet

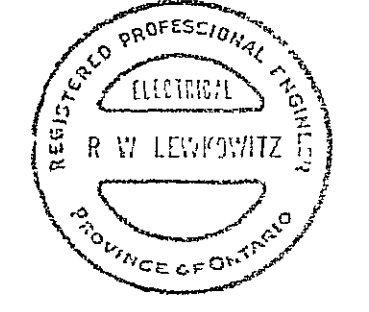
project no. 041412
no. du projet

drawing no. E-1
dessin no.



L A K E O N T A R I O

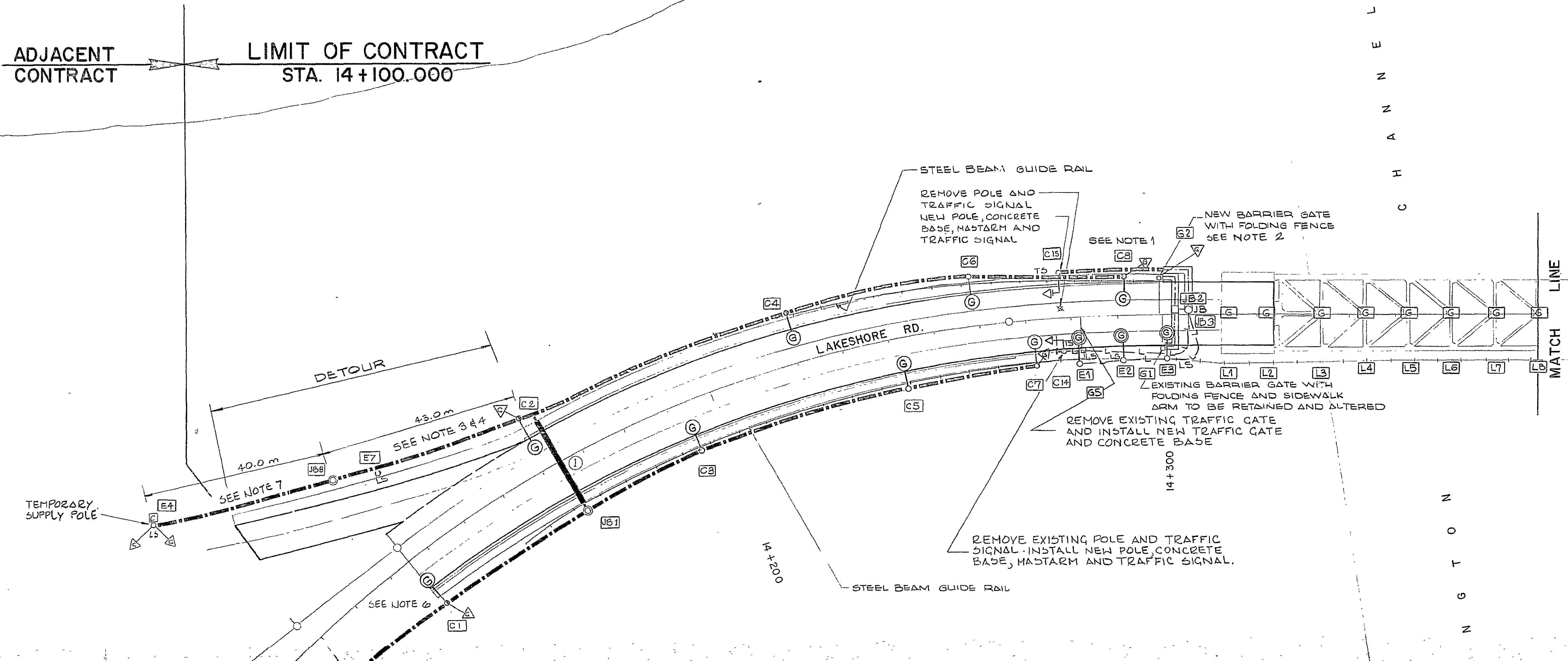
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C.C. PARKER CONSULTANTS LIMITED
CONSULTING PROFESSIONAL ENGINEERS
HAMILTON ONTARIO

revisions: 1 AS BUILT, FROM FIELD RECORDS
date: 1983/08/31

ADJACENT CONTRACT
LIMIT OF CONTRACT STA. 14+100.000



- NOTES:**
1. FOR ANCHORAGE OF RETAINING WALL MOUNTED LIGHTING POLE SEE DWG. B-15
 2. FOR ANCHORAGE OF BARRIER GATE SEE DWG. B-14
 3. MOUNT CONTROL CABINET ON E-4 AND WIRE TO IT FROM C-2 CONNECTION FROM CONTROL CABINET TO LIGHTING LINE AT E-4 BY BURLINGTON HYDRO POLYETHYLENE CONDUIT FROM C-2 TO EXISTING LIGHTING POLE FOR TEMPORARY USE ONLY.
 4. REMOVAL OF EXISTING LIGHTING POLES BY BURLINGTON H.E.C. AT 2 WEEKS NOTICE.
 5. NO WORKMAN REQUIRED THIS CONTRACT. INSTALL ALUMINUM TAPERED ELLIPTICAL BRACKET AND WIRING ONLY. REMOVE FUSES.
 6. LOCATE EXISTING CABLES BETWEEN EXISTING LIGHTING POLES E4 AND E7 PRIOR TO TRENCHING.
 - 7.

A	detail no. / no. du détail
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C	drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
LAYOUT PLAN - LIGHTING, SIGNALS, AND GATES, STA. 14+125 TO BRIDGE CENTRE

designed by / conçu par
R.W.L.

drawn by / dessiné par
J.M.W.

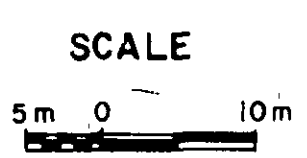
reviewed by / examiné par
R. Stuber

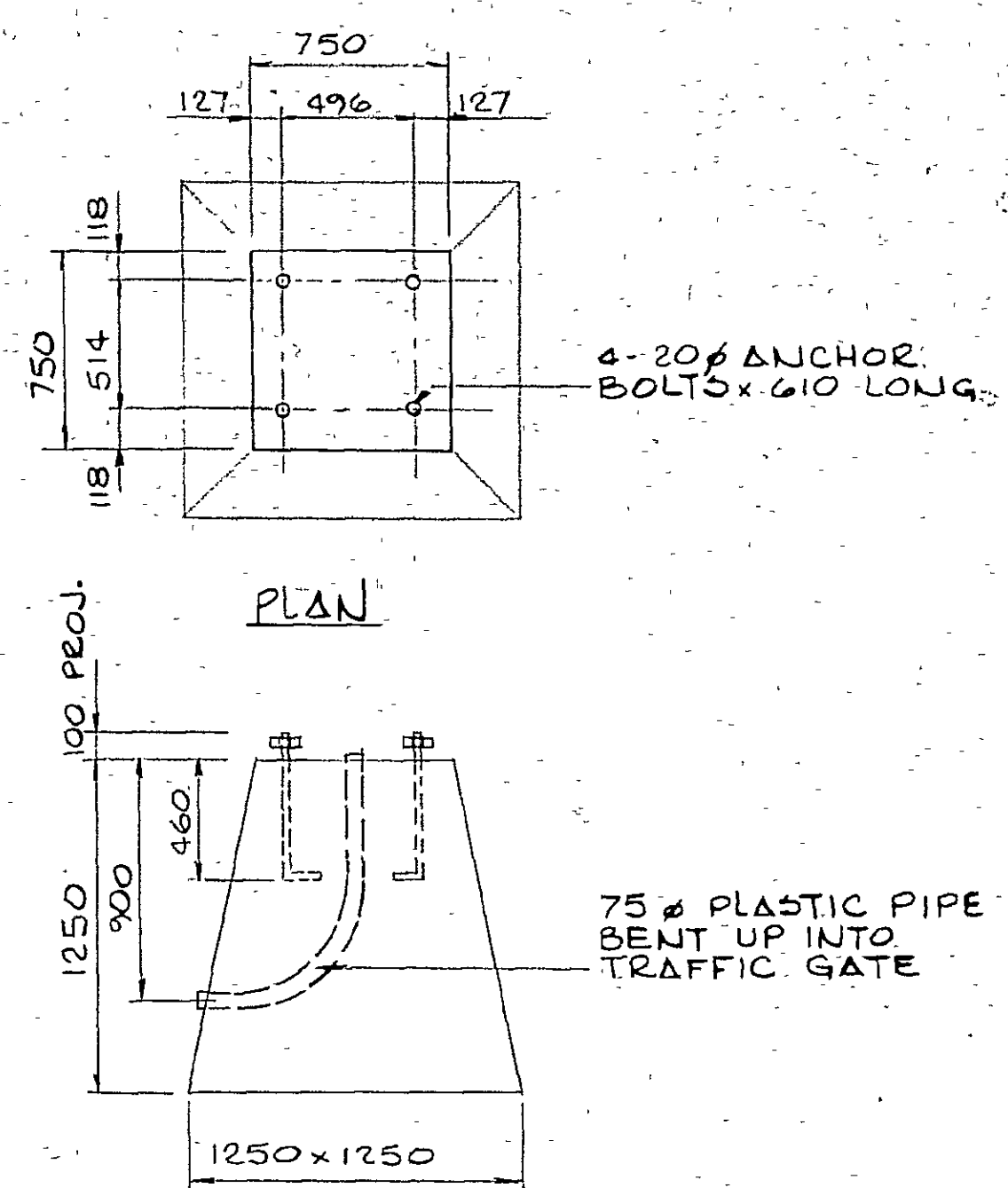
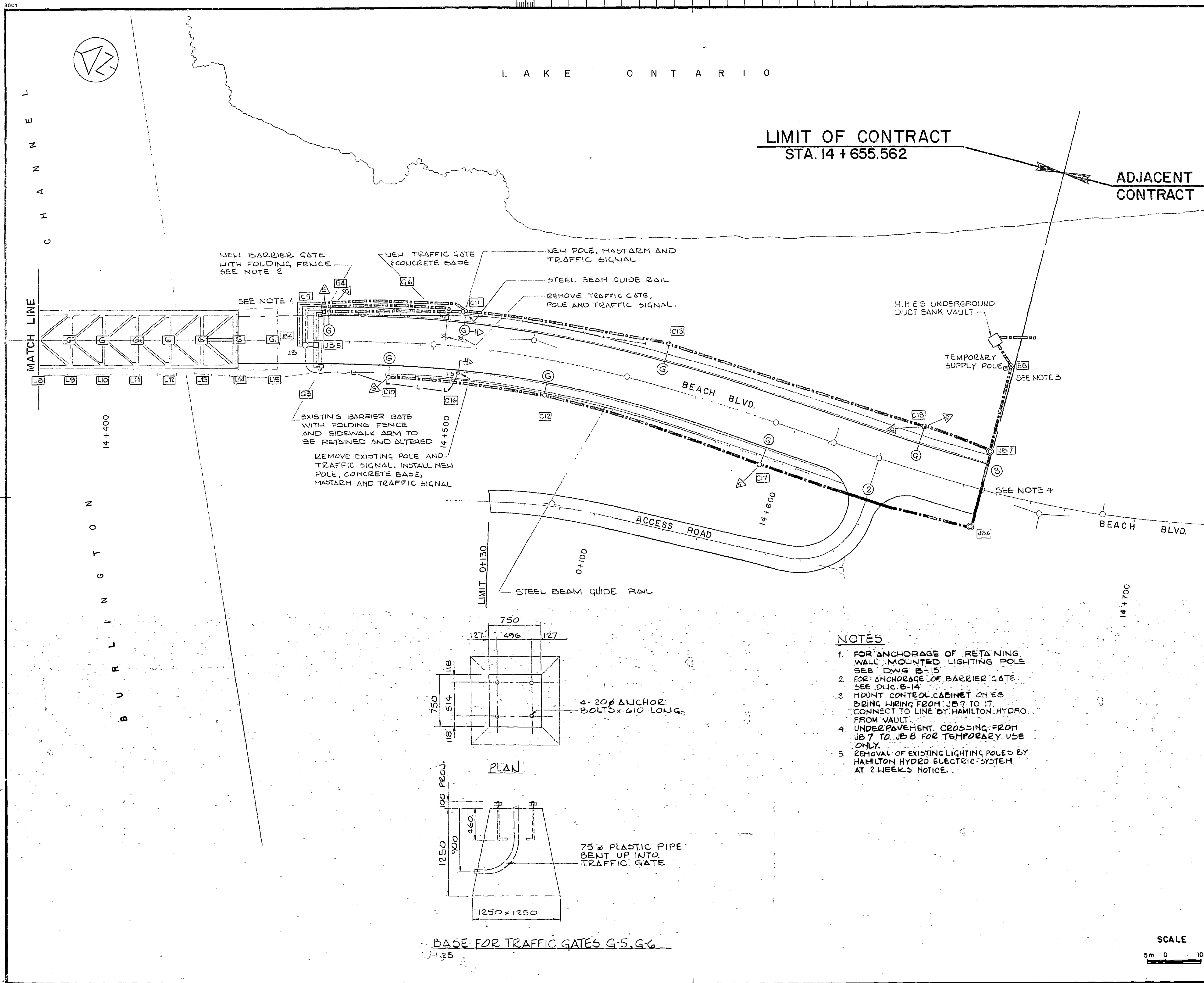
approved by / approuvé par
D.C. Crum

project date / date du projet
APRIL 23, 1982

project no. / no. du projet
041412

drawing no. / dessin no.
E-2

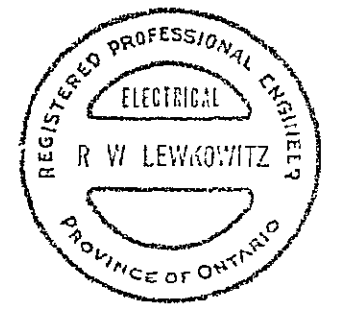




BASE FOR TRAFFIC GATES G-5, G-6

NOTES

1. FOR ANCHORAGE OF RETAINING WALL MOUNTED LIGHTING POLE SEE DWG B-15
2. FOR ANCHORAGE OF BARRIER GATE SEE Dwg. B-14
3. MOUNT CONTROL CABINET ON E8 BRING WIRING FROM JB 7 TO IT. CONNECT TO LINE BY HAMILTON HYDRO FROM VAULT
4. UNDERPAVEMENT CROSSING FROM JB 7 TO JB 8 FOR TEMPORARY USE ONLY.
5. REMOVAL OF EXISTING LIGHTING POLES BY HAMILTON HYDRO ELECTRIC SYSTEM AT 2 WEEKS NOTICE.



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HAMILTON ONTARIO

AS BUILT, FROM FIELD RECORDS
1983/08/31

A detail no.
B drawing no. - where detail required
C drawing no. - where detailed

project title
titre du projet

**MODIFICATIONS OF
BURLINGTON CHANNEL
VERTICAL LIFT BRIDGE
AND APPROACHES**

drawing title
titre du dessin

**LAYOUT PLAN -
LIGHTING, SIGNALS AND
GATES, BRIDGE CENTRE TO
STA. 14+655.562**

designed by
conçu par R.W.L.

drawn by
dessiné par J.M.W.

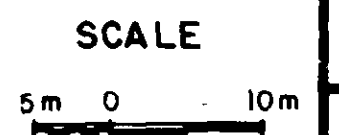
reviewed by
examiné par *R. L. Lewis*

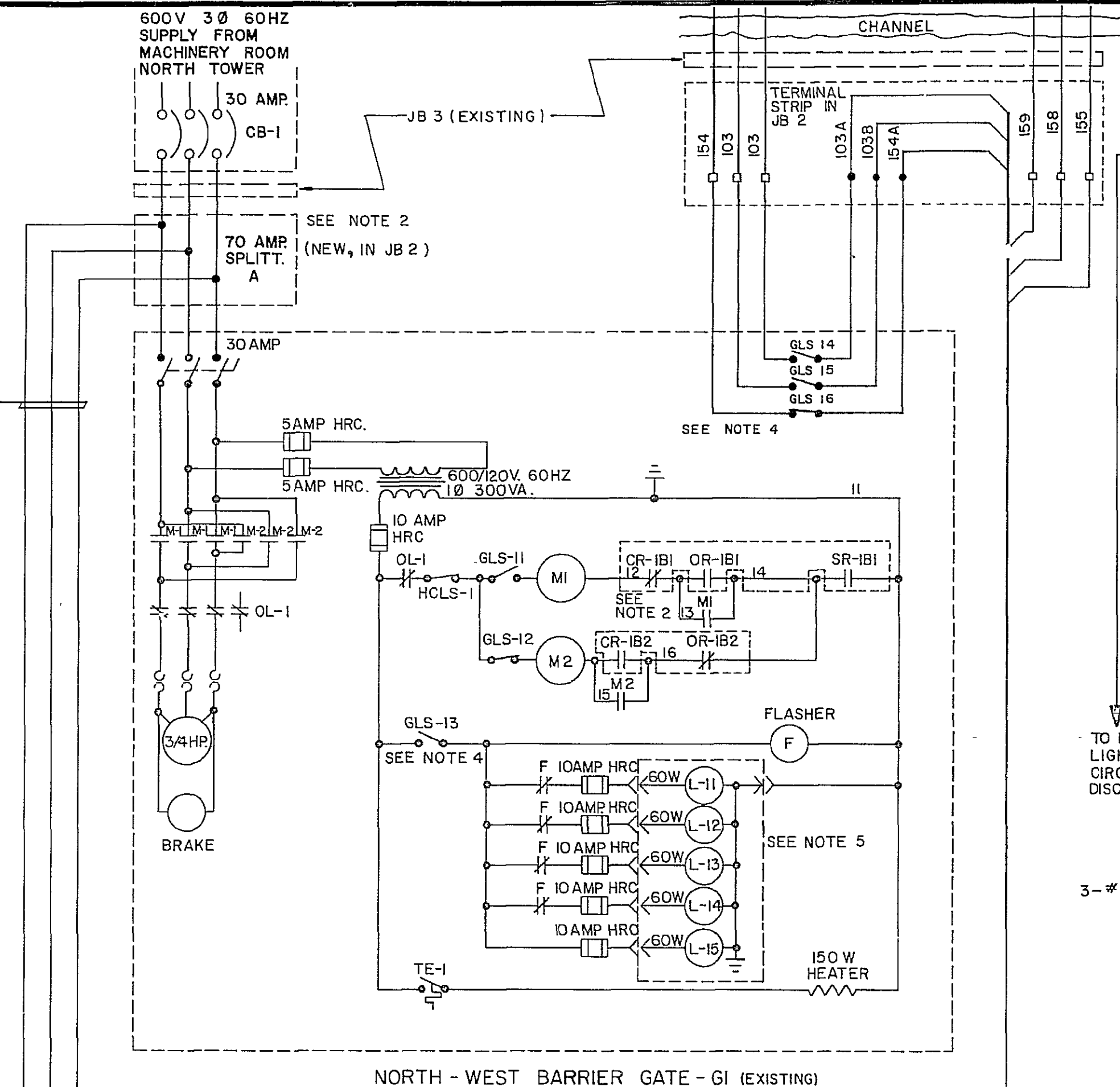
approved by
approuvé par *D.C. Cranmer*

project date
date du projet APRIL 23, 1982.

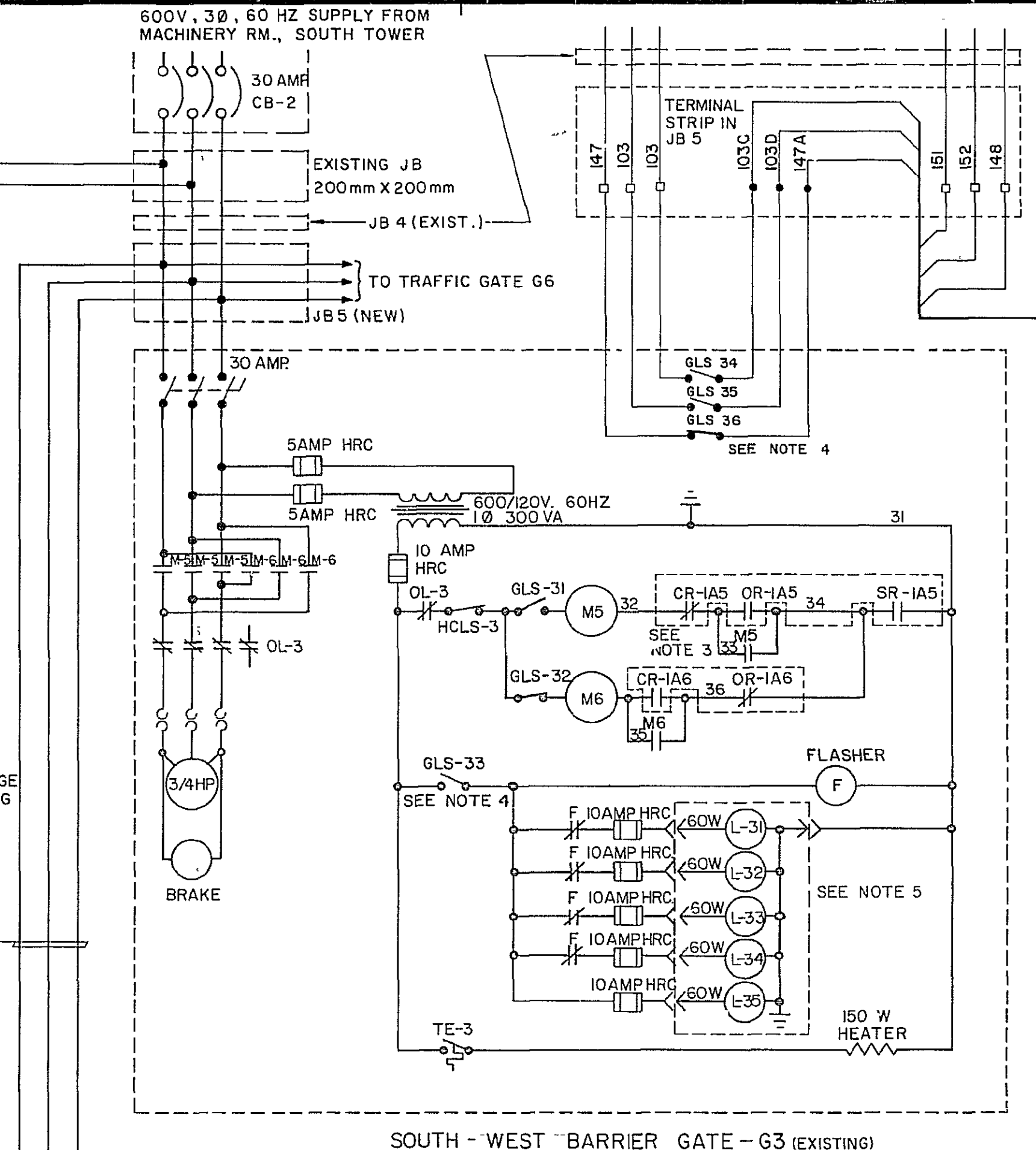
project no.
no. du projet 041412

drawing no.
dessin no. E-3

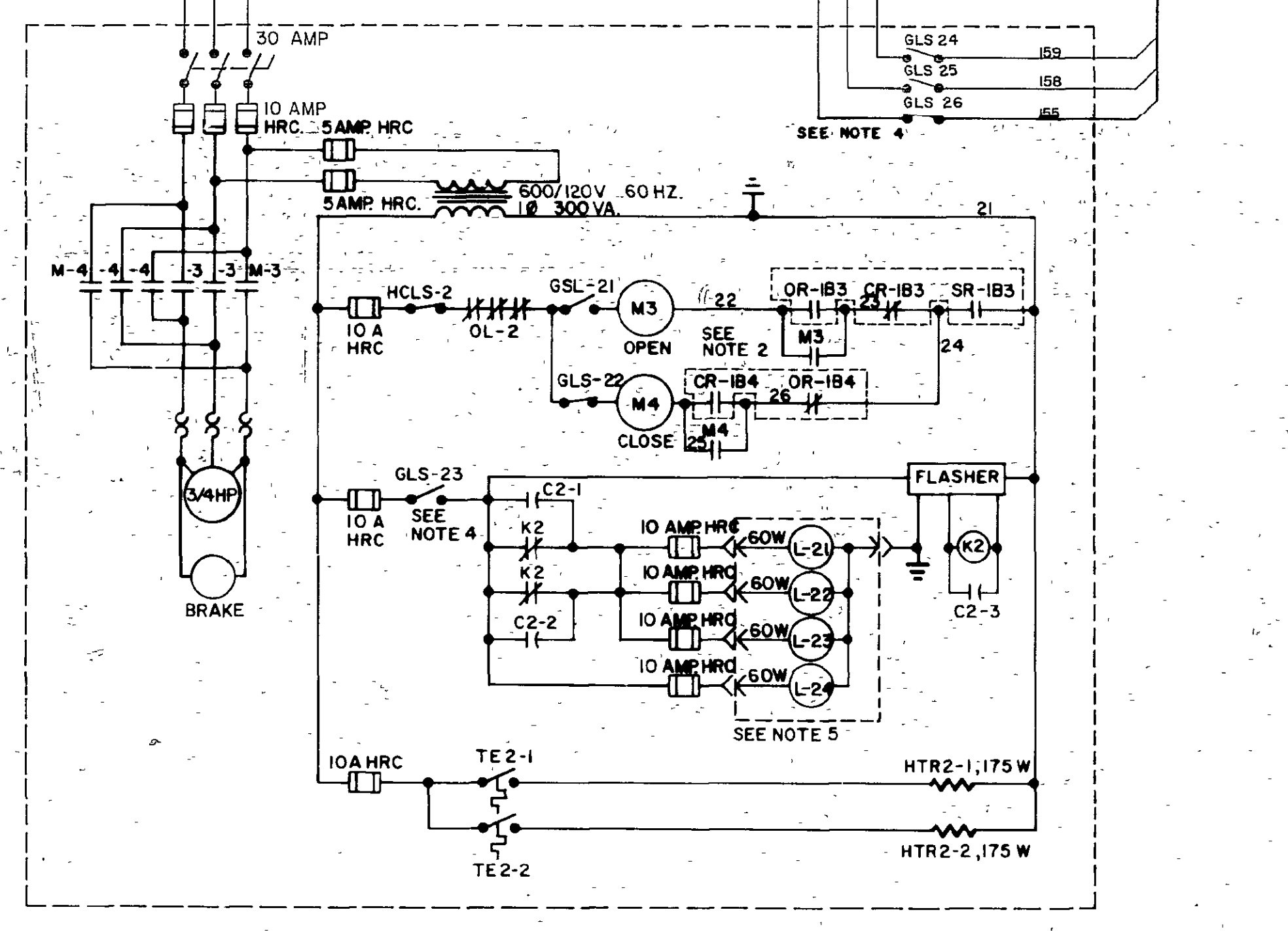




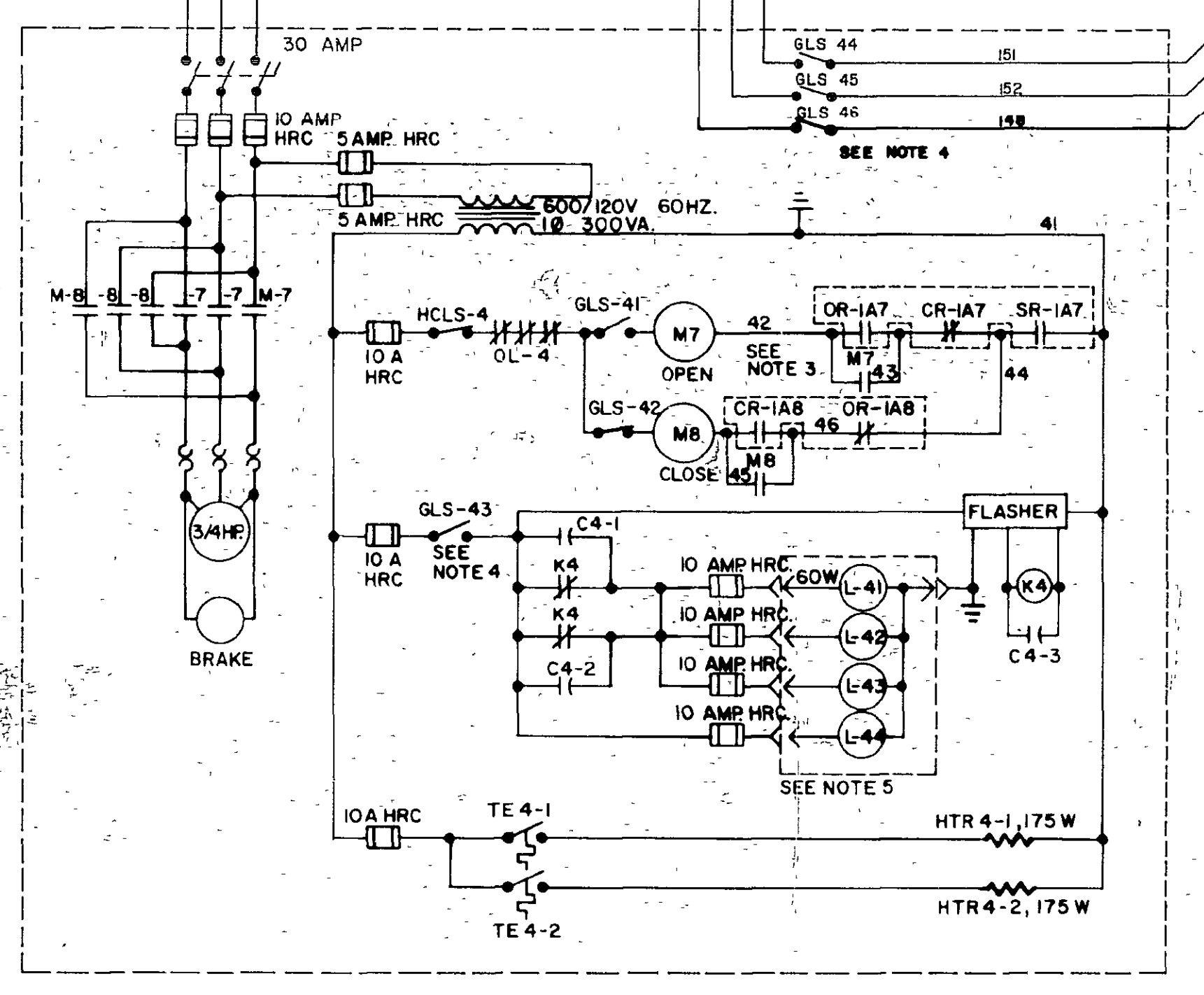
NORTH - WEST BARRIER GATE - G1 (EXISTING)



SOUTH - WEST BARRIER GATE - G3 (EXISTING)



NORTH - EAST BARRIER GATE - G2



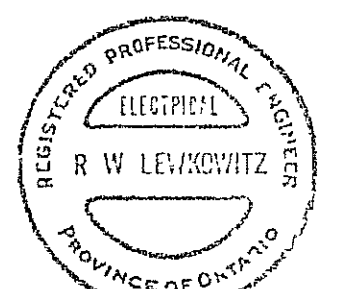
SOUTH - EAST BARRIER GATE - G4

LEGEND

- DISCONNECTING MEANS
- FUSE
- CIRCUIT BREAKER
- TERMINAL BLOCK FOR REMOTE CONNECTION
- SWITCH
- HCLS HAND CRANK LIMIT SWITCH
- GLS GATE LIMIT SWITCH
- N/O CONTACT
- N/C CONTACT
- THERMOSTAT
- TRANSFORMER
- GROUND CONNECT
- OVERLOAD HEATER
- RELAY
- CAPACITOR

- NOTES**
- 3 DIGIT WIRE NUMBERS REFER TO EXISTING WIRING
 - CR-1B, OR-1B, SR-1B AND SPLIT. A LOCATED IN JB 2 IN NORTH UNDERPASS
 - CR-1A, OR-1A, SR-1A LOCATED IN TRAFFIC CONTROL DESK.
 - POSITION OF LIMIT SWITCHES SHOWN WITH BARRIER GATE OPEN.
 - 4 LIGHTS ON ROADWAY ARM; 1 LIGHT ON SIDEWALK ARM - G1 & G3 ONLY. NONFLASHING LIGHT, NEAR TIP OF ROADWAY ARM

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Ontario Region / Région de l'Ontario



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HAMILTON ONTARIO

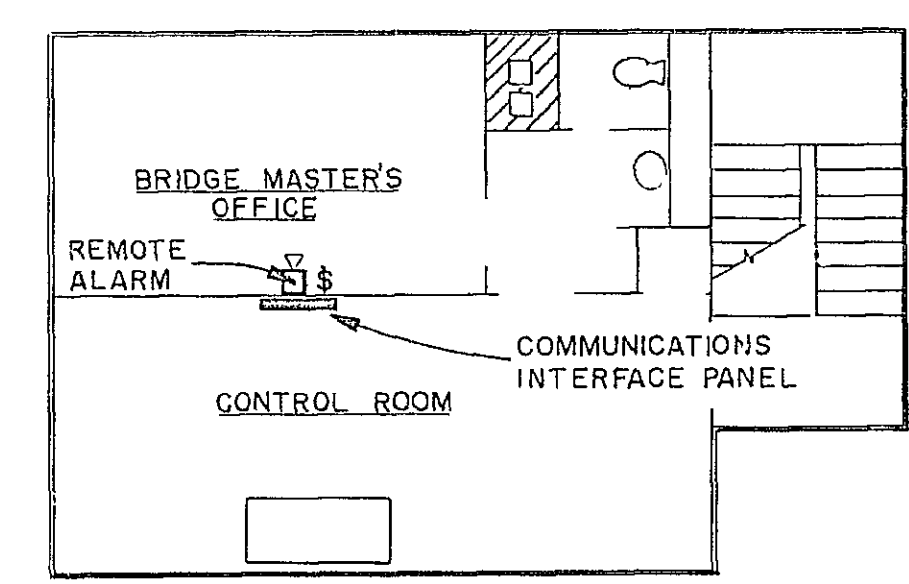
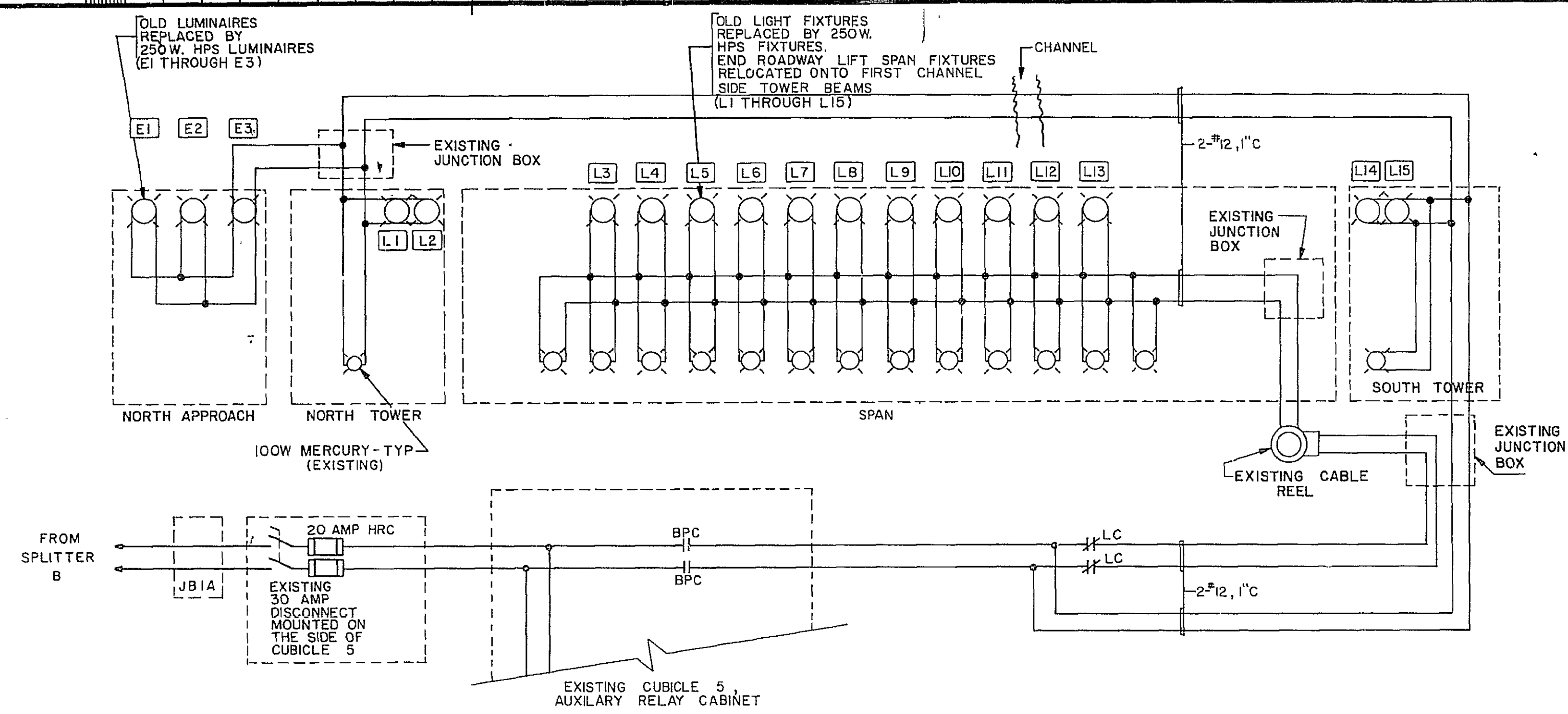
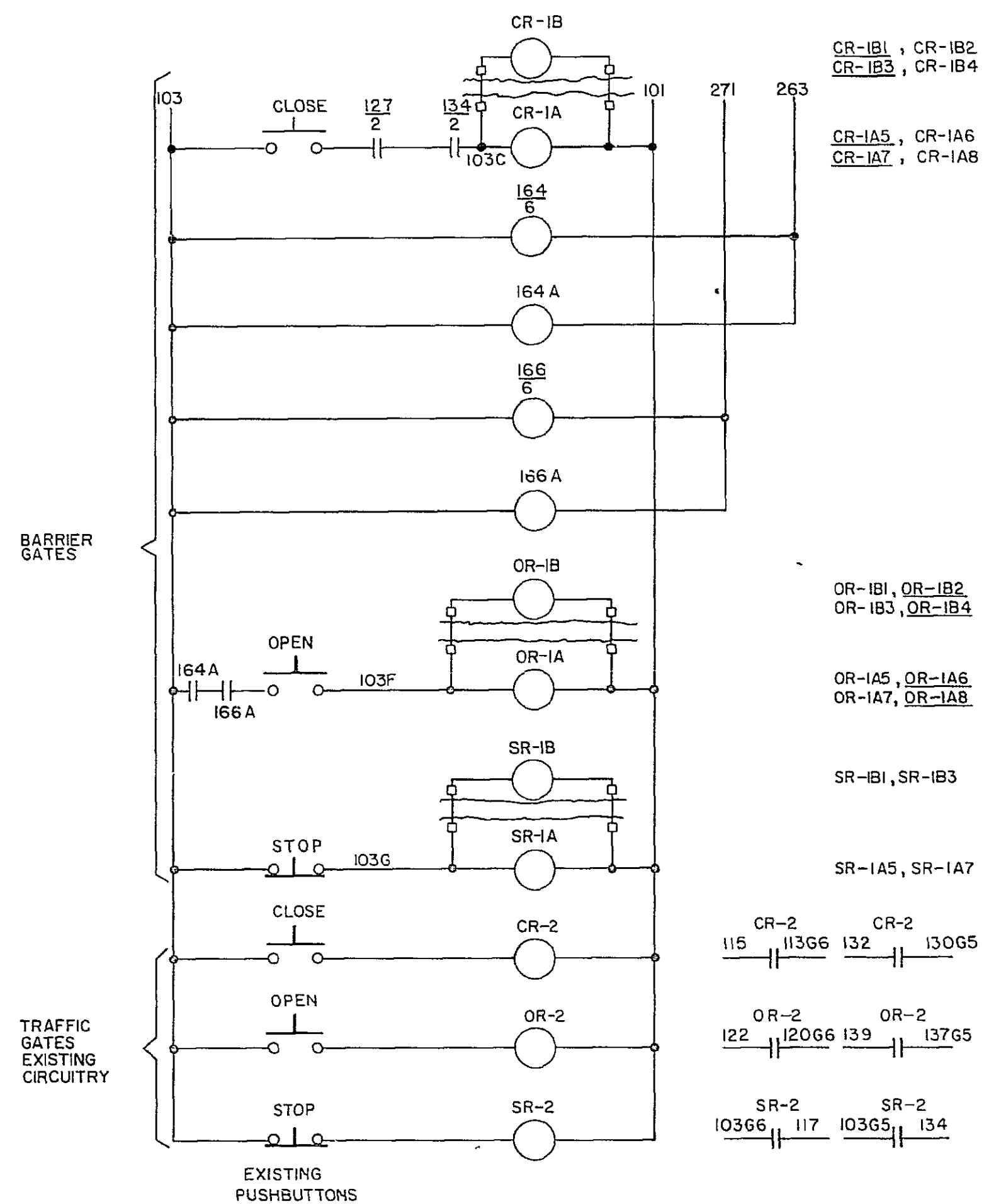
revisions	date
1	JUNCTION BOX INFORMATION ADDED 1982/12/17
2	AS BUILT, FROM FIELD RECORDS 1983/08/31

A	detail no.
B	no. du détail
C	drawing no. - where detail required dessin no. - où détail exigé

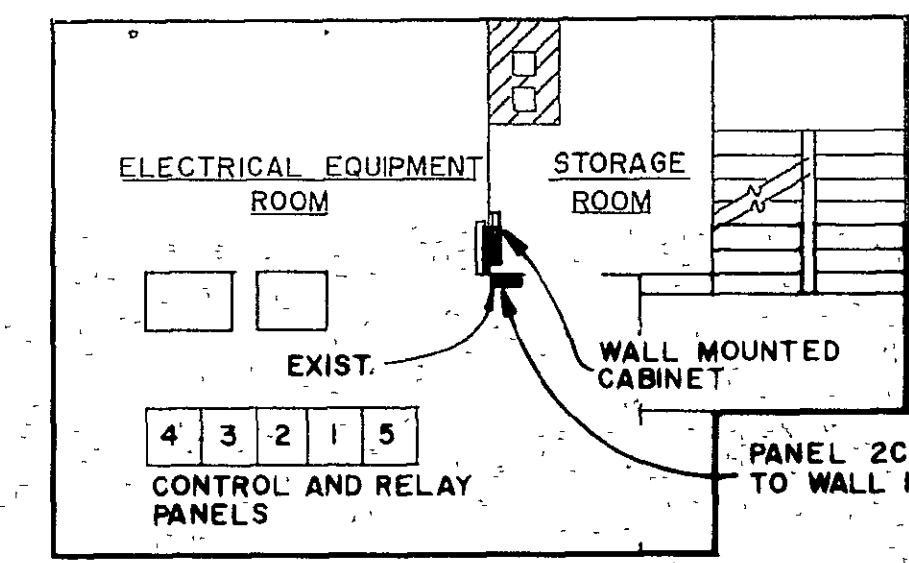
project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
ELECTRICAL SCHEMATIC 1

designed by / conçu par	R.W.L.
drawn by / dessiné par	C.S.
checked by / examiné par	R. Lubowitz
approved by / approuvé par	T.C. Crumm
project date / date du projet	APRIL 23, 1982
project no. / no. du projet	041412
drawing no. / dessin no.	E-4

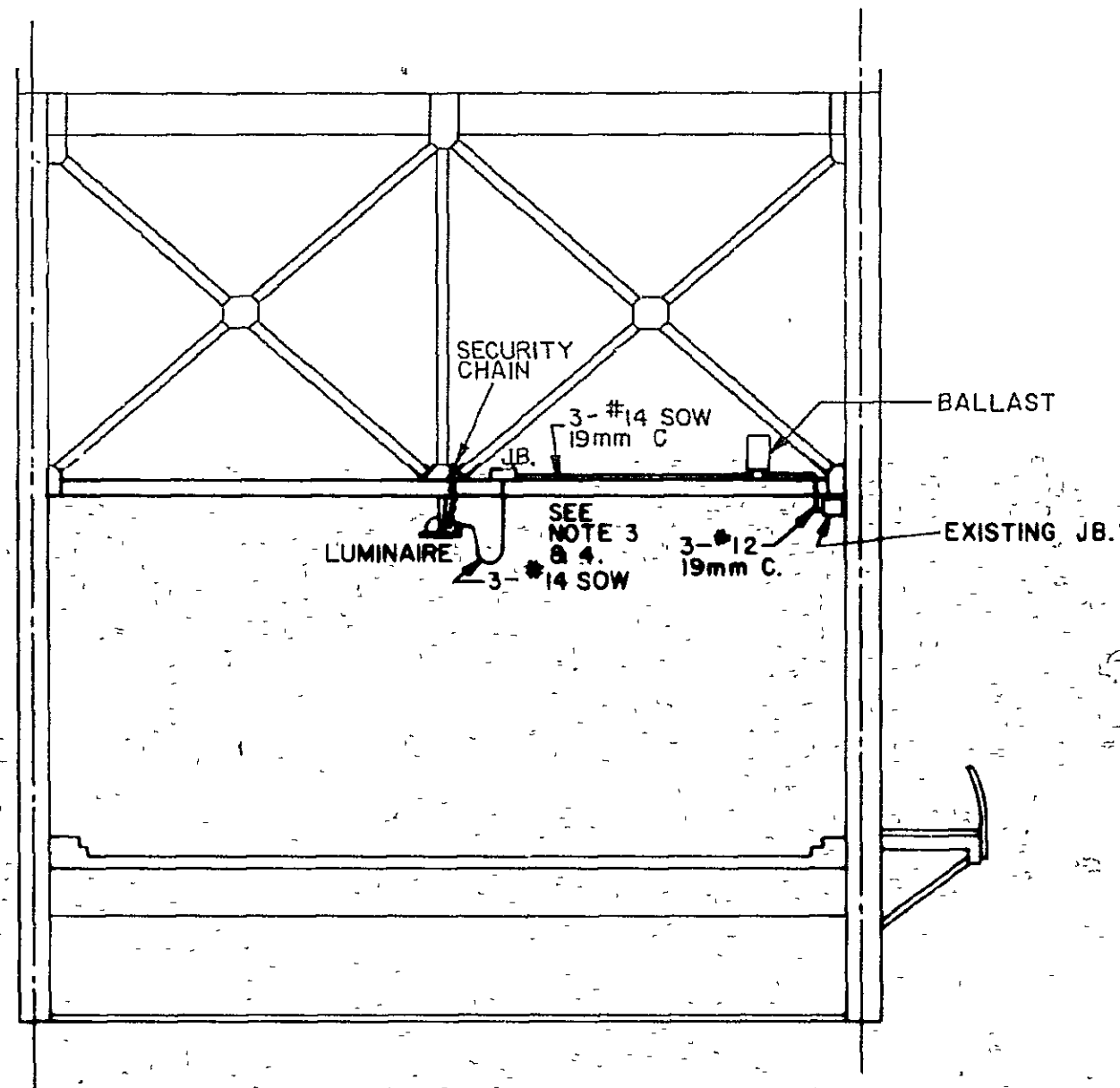


THIRD FLOOR PLAN

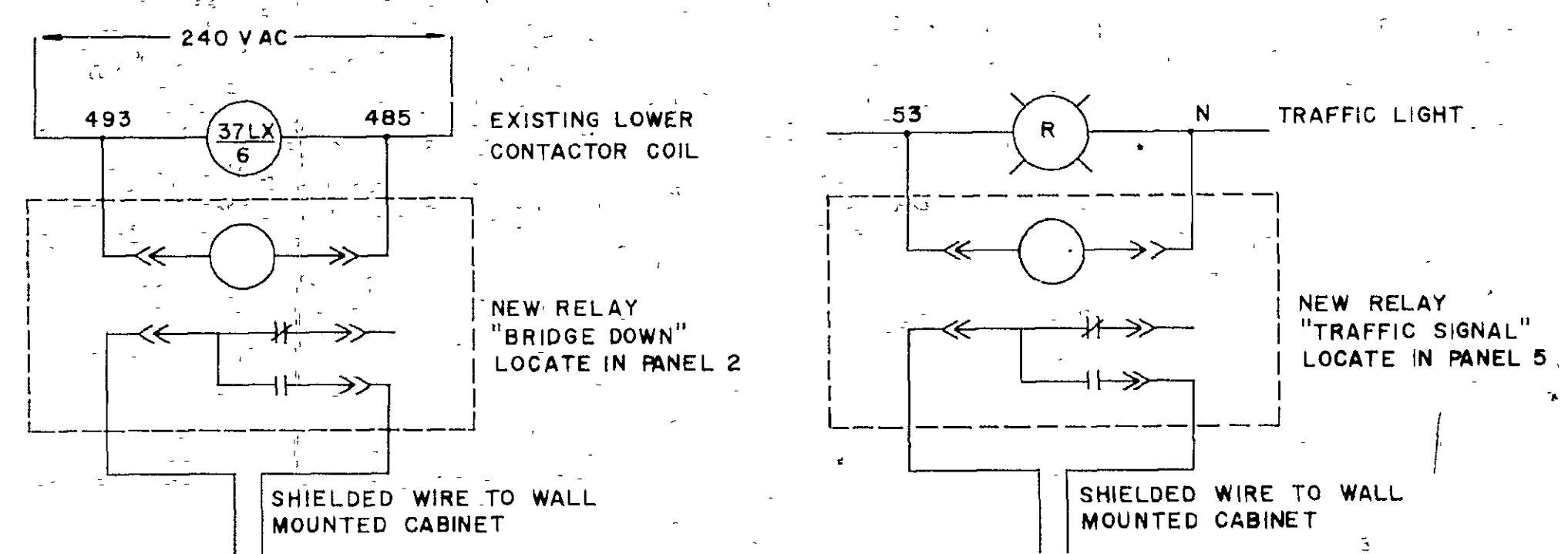


SECOND FLOOR PLAN

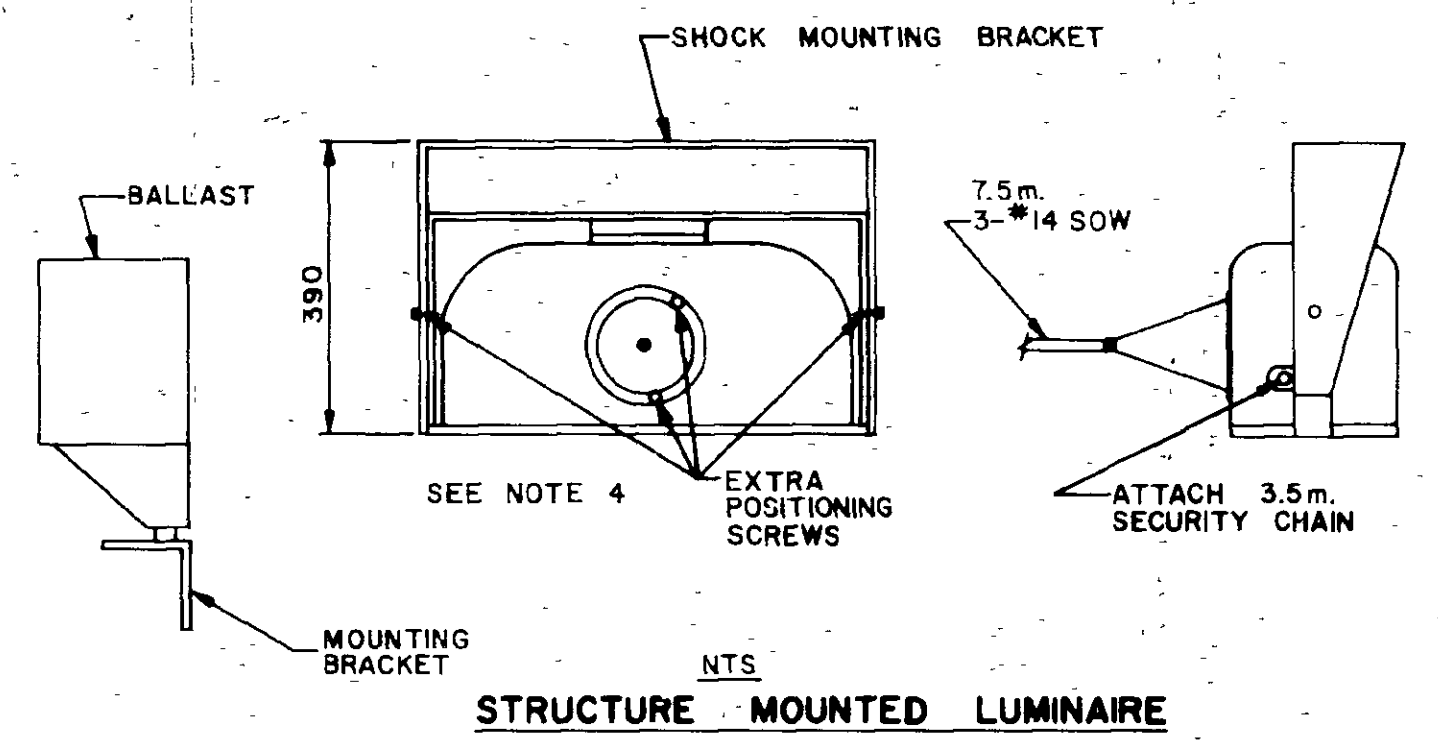
EXISTING CONTROL HOUSE - LAYOUT OF NEW COMMUNICATIONS INTERFACE SYSTEM



LOCATION OF LUMINAIRE AND BALLAST ON STRUCTURE



RELAYS FOR COMMUNICATIONS INTERFACE SYSTEM



STRUCTURE MOUNTED LUMINAIRE

NOTES

- CR-1B, OR-1B, SR-1B ARE NEW RELAYS IN JB 2 AT THE NORTH UNDERPASS.
- DISCONNECT 6 WIRES CROSSING CHANNEL FROM CONTACTS OF CR-1A, OR-1A, SR-1A (PREVIOUSLY SHOWN AS CR-1, OR-1, SR-1, LOCATED IN TRAFFIC CONTROL DESK) USE THESE WIRES TO PARALLEL CR-1A / CR-1B OR-1A / OR-1B; SR-1A / SR-1B. USE AVAILABLE CONTACTS ON CR-1A, OR-1A, SR-1A TO CONTROL 64.
- FOR METHOD OF INSTALLATION OF LUMINAIRE AND BALLAST SEE DRAWING B-12
- USE VIBRATION PROOF WASHERS WITH SCREWS AND NUTS.

CC PARKER CONSULTANTS LIMITED
CONSULTING PROFESSIONAL ENGINEERS
HAMILTON ONTARIO

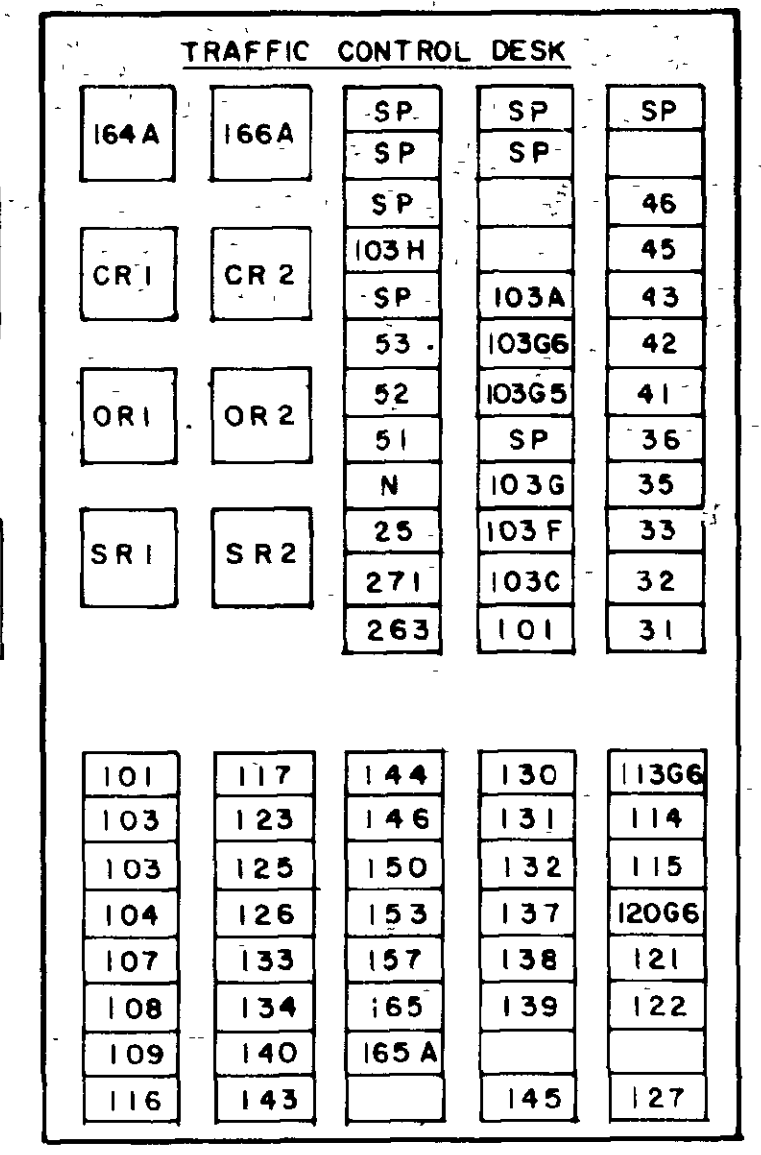
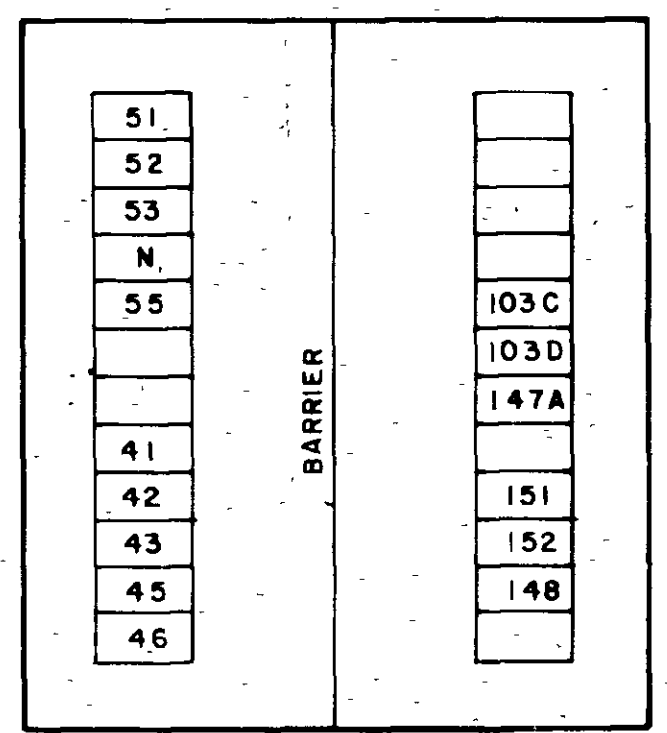
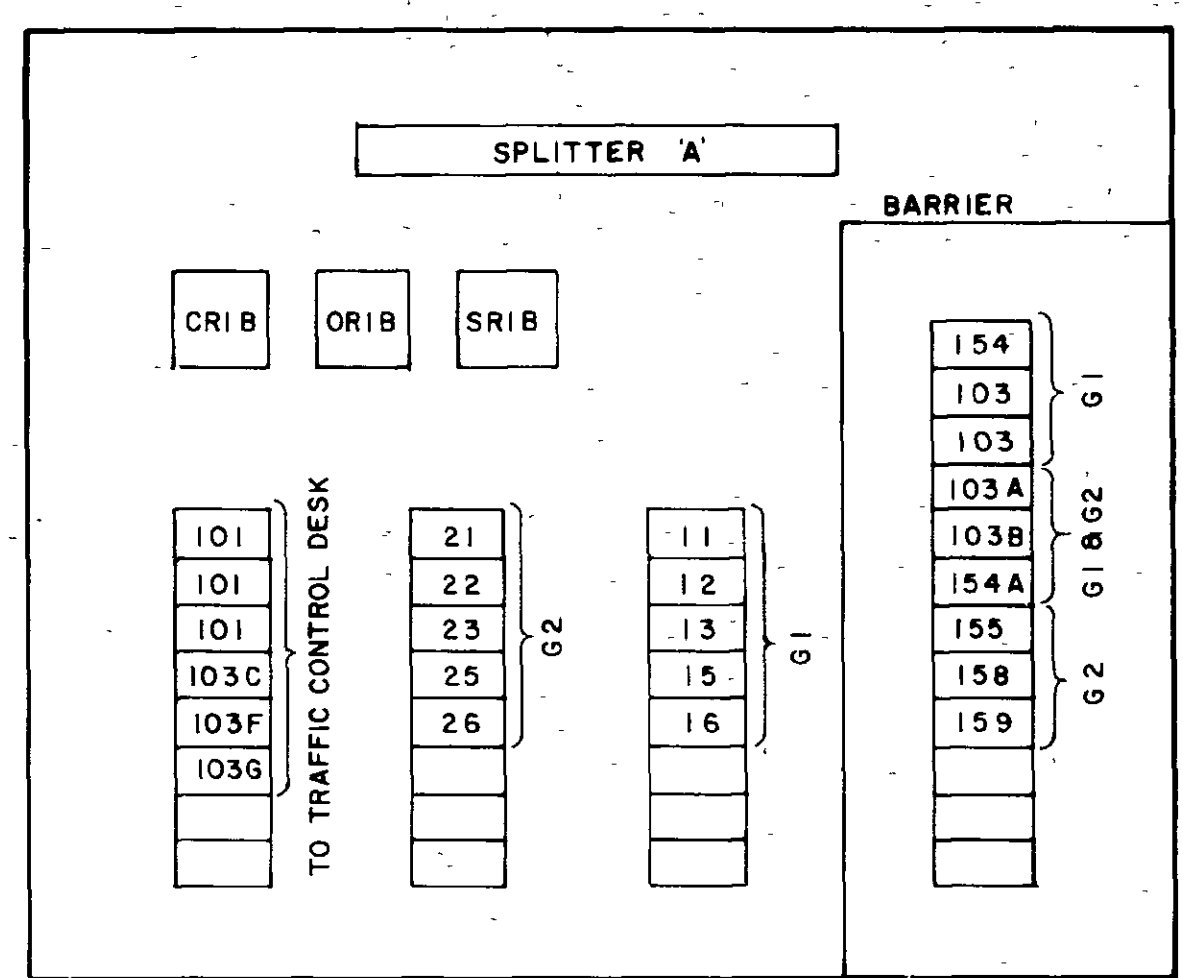
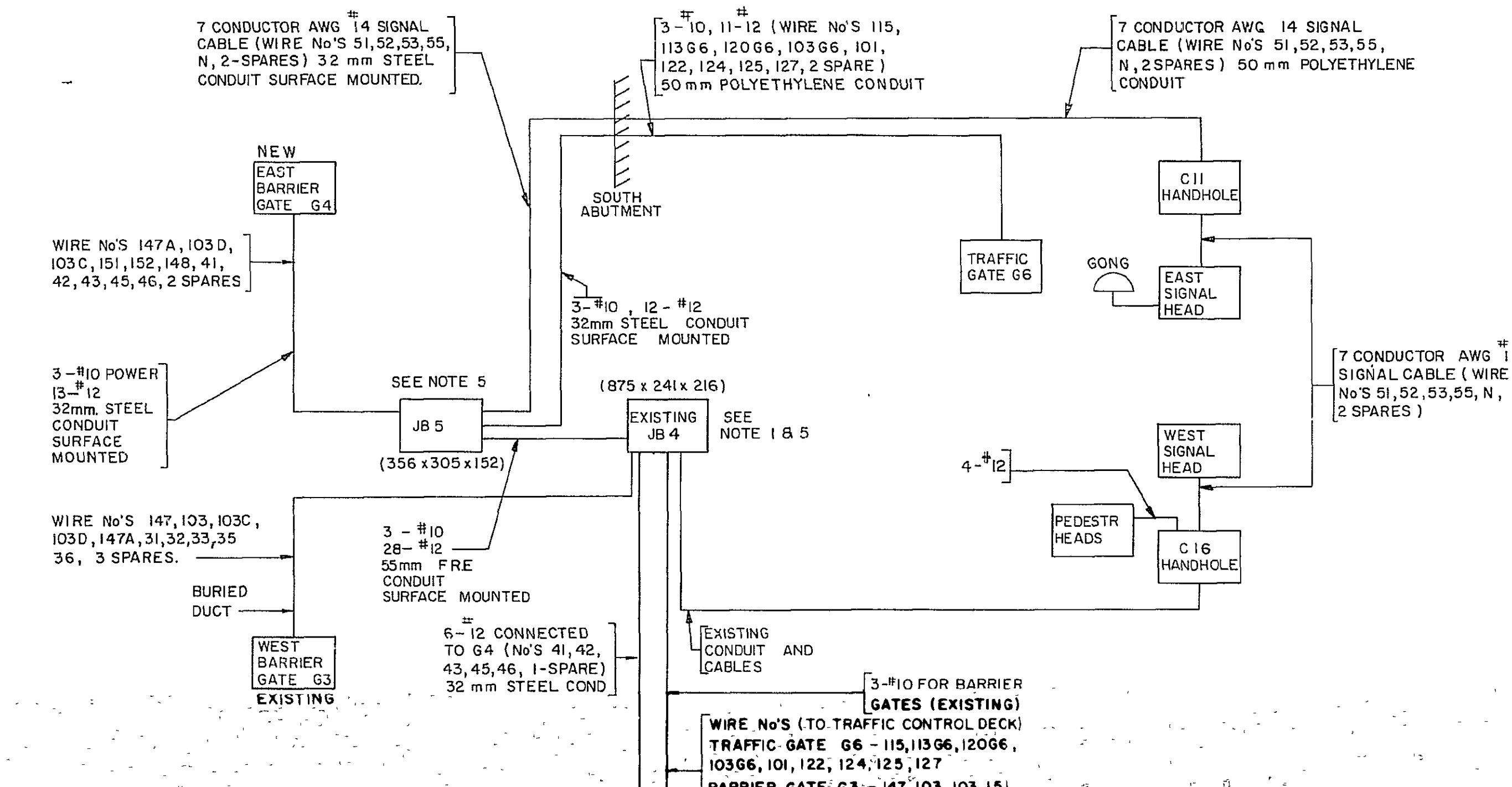
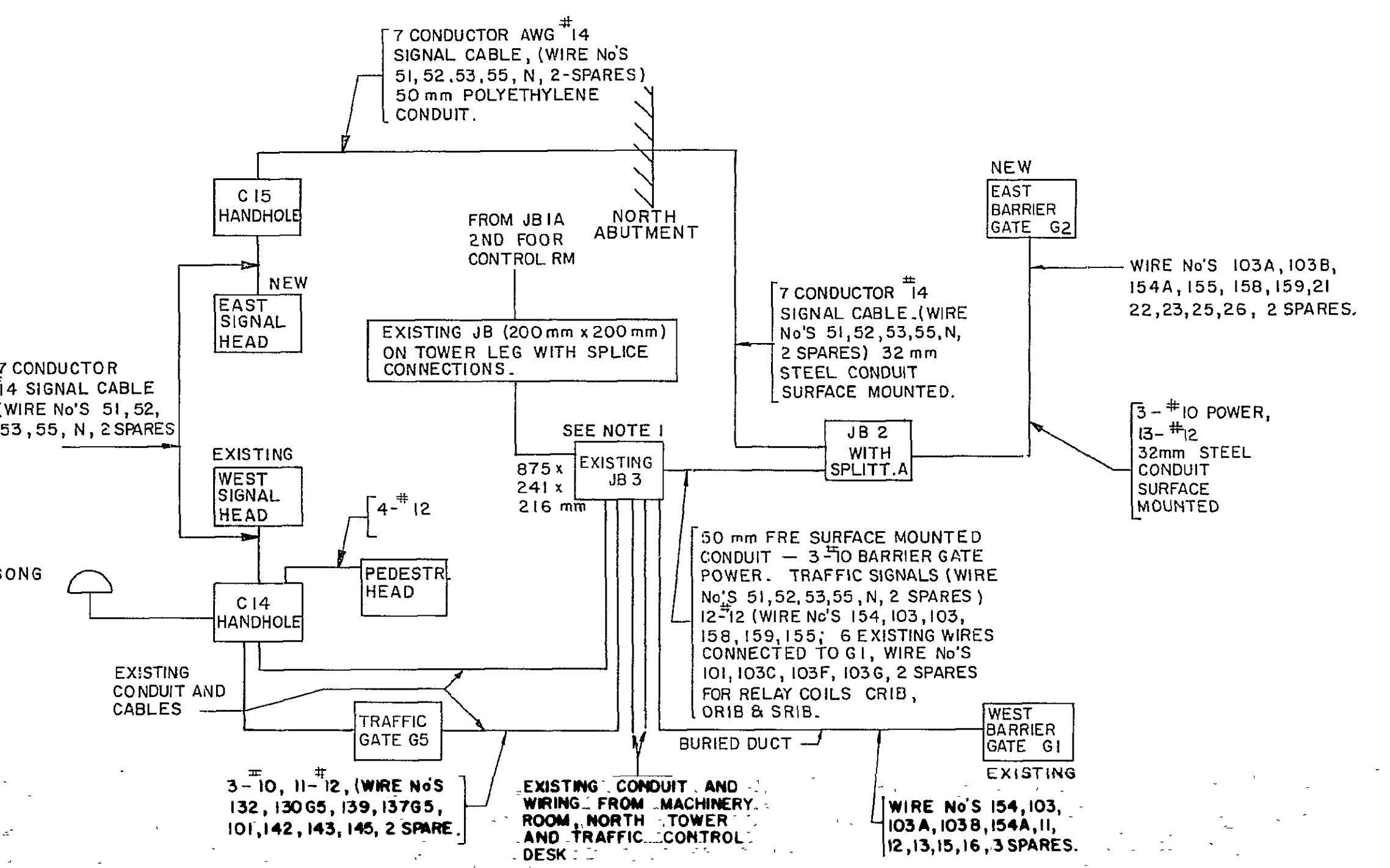
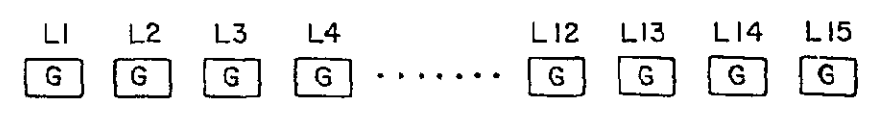
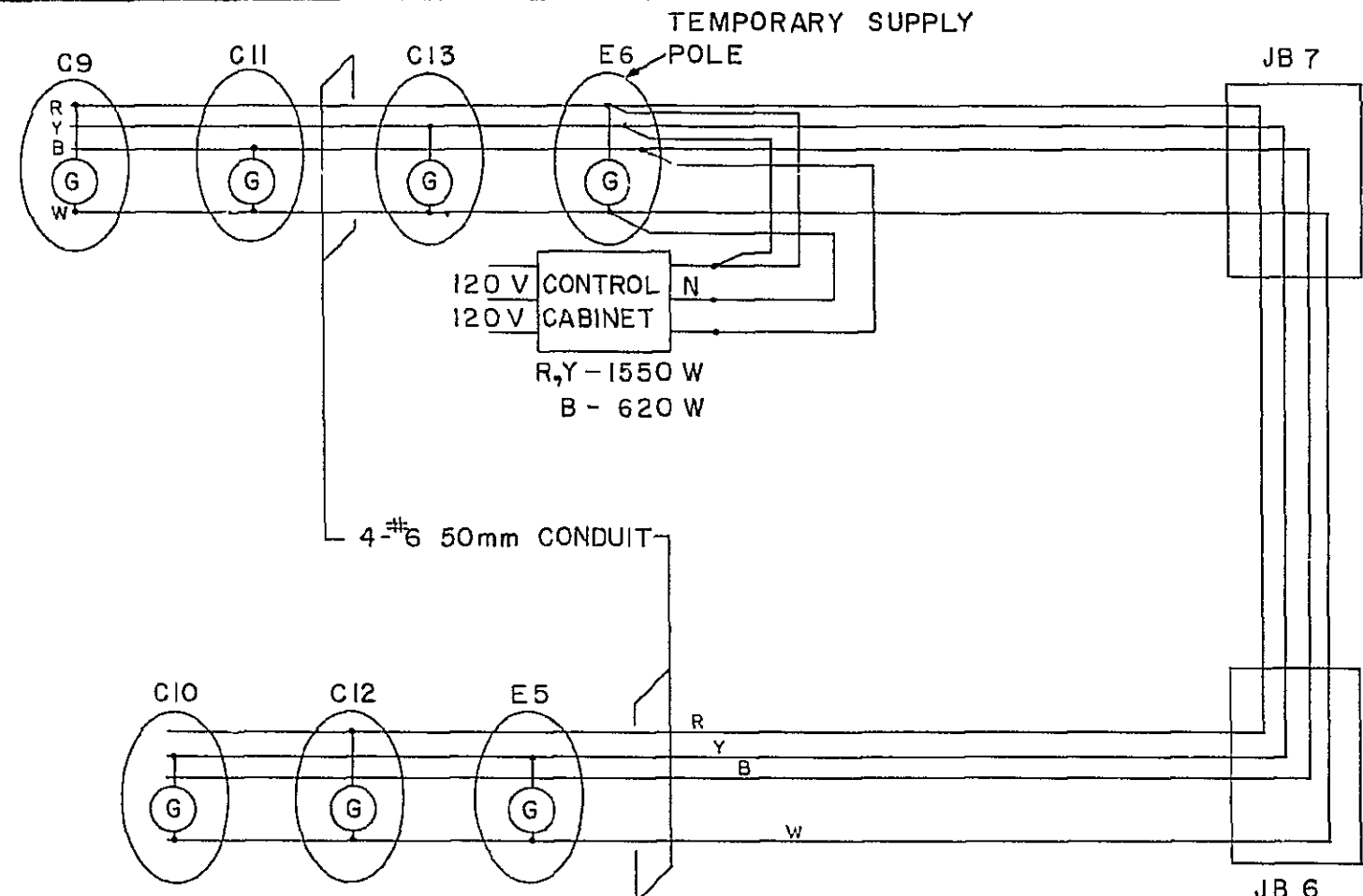
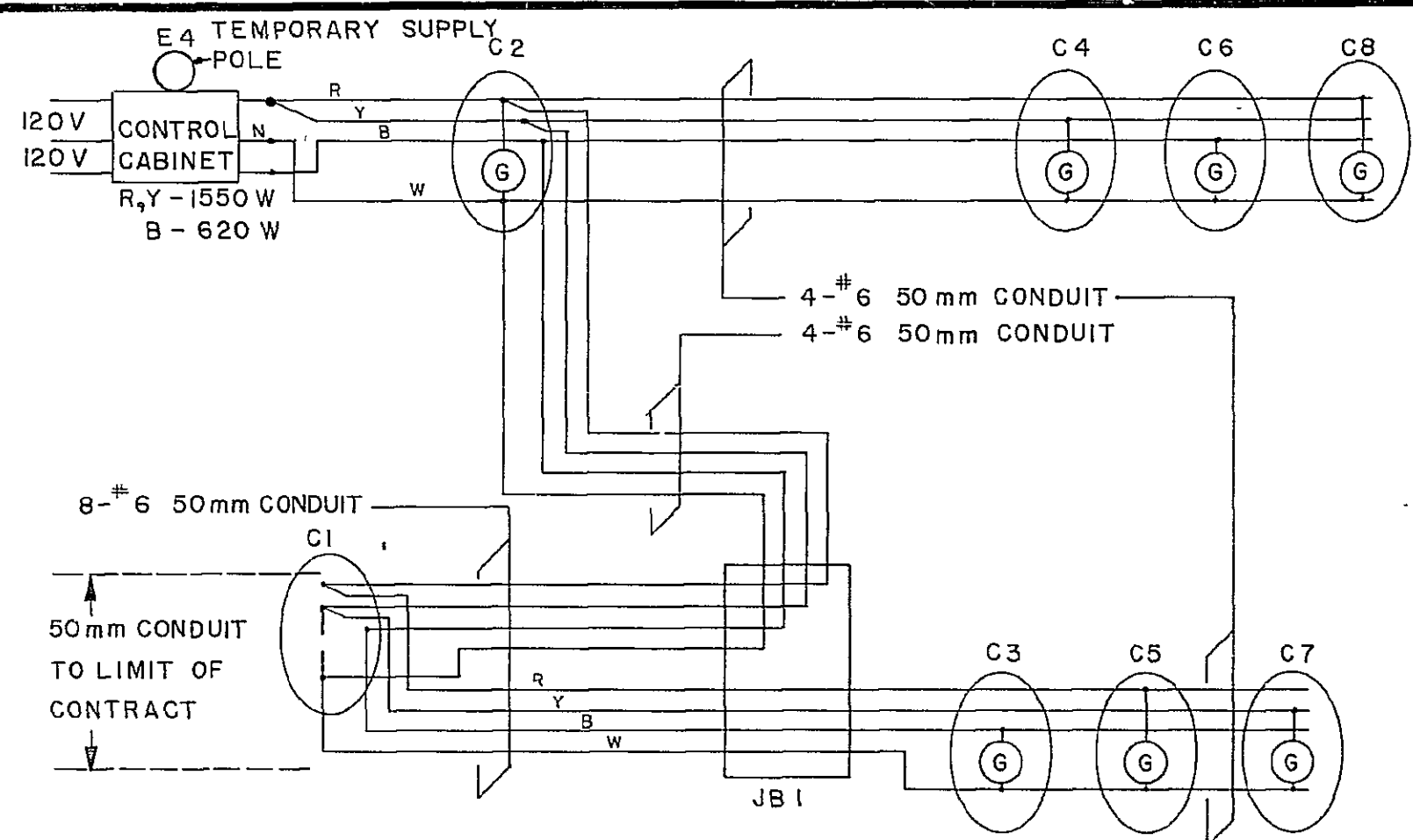
revisions	date
1 WIRE No'S CHANGED	1983/01/14
2 AS BUILT, FROM FIELD RECORDS	1983/08/31

A	detail no.
B	drawing no. - where detail required
C	drawing no. - where detailed

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

ELECTRICAL SCHEMATIC 2 AND DETAILS

designed by / conçu par	R.W.L.
drawn by / dessiné par	C.S.
reviewed by / examiné par	<i>Perkowitz</i>
approved by / approuvé par	<i>D.C. Cranmer</i>
project date / date du projet	APRIL 23, 1982.
project no. / no. du projet	041412
drawing no. / dessin no.	E-5



- NOTES**
- INSTALL .7 BLOCK TERMINAL STRIP FOR SIGNAL HEADS WIRING IN EXISTING JUNCTION BOX.
 - FOR TEMPORARY CONNECTION TO POWER SUPPLY SEE SPEC.
 - FOR CONNECTION OF LUMINAIRES E1, E2, E3 AND L5 STRUCTURE MOUNTED LUMINAIRES L1-L15 SEE DWG. E-5 AND SPEC.
 - LUMINAIRE BALLASTS TO BE FOR 120 V. ALL WIRING TO BE 1000 V RWU 90 (WHEN PERMANENT POWER WILL BE INSTALLED, THE 120 V LUMINAIRES WILL BE REPLACED BY 347 V LUMINAIRES BY OTHERS.)
 - SPLICE G3, G4, AND G6 #10 POWER WIRES.

Public Works Canada / Travaux publics Canada
Ontario Region / Région de l'Ontario

REGISTERED PROFESSIONAL ENGINEER
ELECTRICAL
R. W. LEVYKOWITZ
PROVINCE OF ONTARIO

C. C. PARKER CONSULTANTS LIMITED
CONSULTING PROFESSIONAL ENGINEERS
HAMILTON, ONTARIO

revisions: 1. WIRING INFORMATION ADDED. TRAFFIC SIGNAL CONDUCTORS REPLACED WITH MULTICONDUCTOR CABLE. 1982/12/17
2. WIRING NO'S CHANGED. WIRING INFORMATION ADDED. 1983/01/14
3. AS BUILT, FROM FIELD RECORDS. 1983/08/31

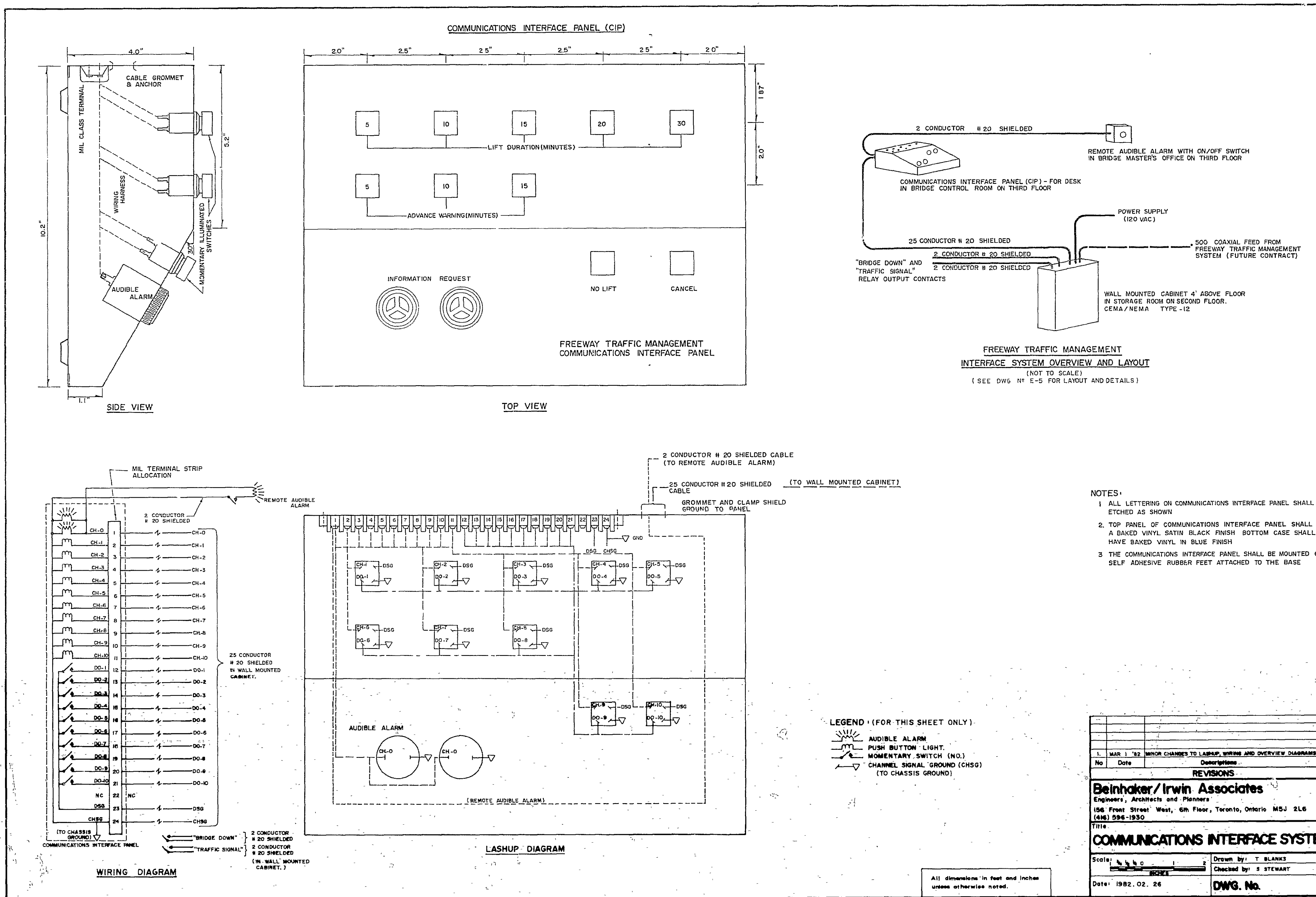
A detail no. - où le détail est requis
B drawing no. - où le détail n'est pas requis
C drawing no. - où le détail n'est pas requis

project title: title du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title: titre du dessin
CIRCUIT AND BLOCK DIAGRAMS

designed by / conçu par: R.W.L.
drawn by / dessiné par: C.S.
revised by / examiné par: R. W. Levykowitz
approved by / approuvé par: C. C. Parker

project date / date du projet: APRIL 23, 1982
project no. / no. du projet: 041412
drawing no. / dessin no.: E-6



AS BUILT, FROM FIELD RECORDS
1983/08/31

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B	drawing no. - where detail required
C	drawing no. - where detailed

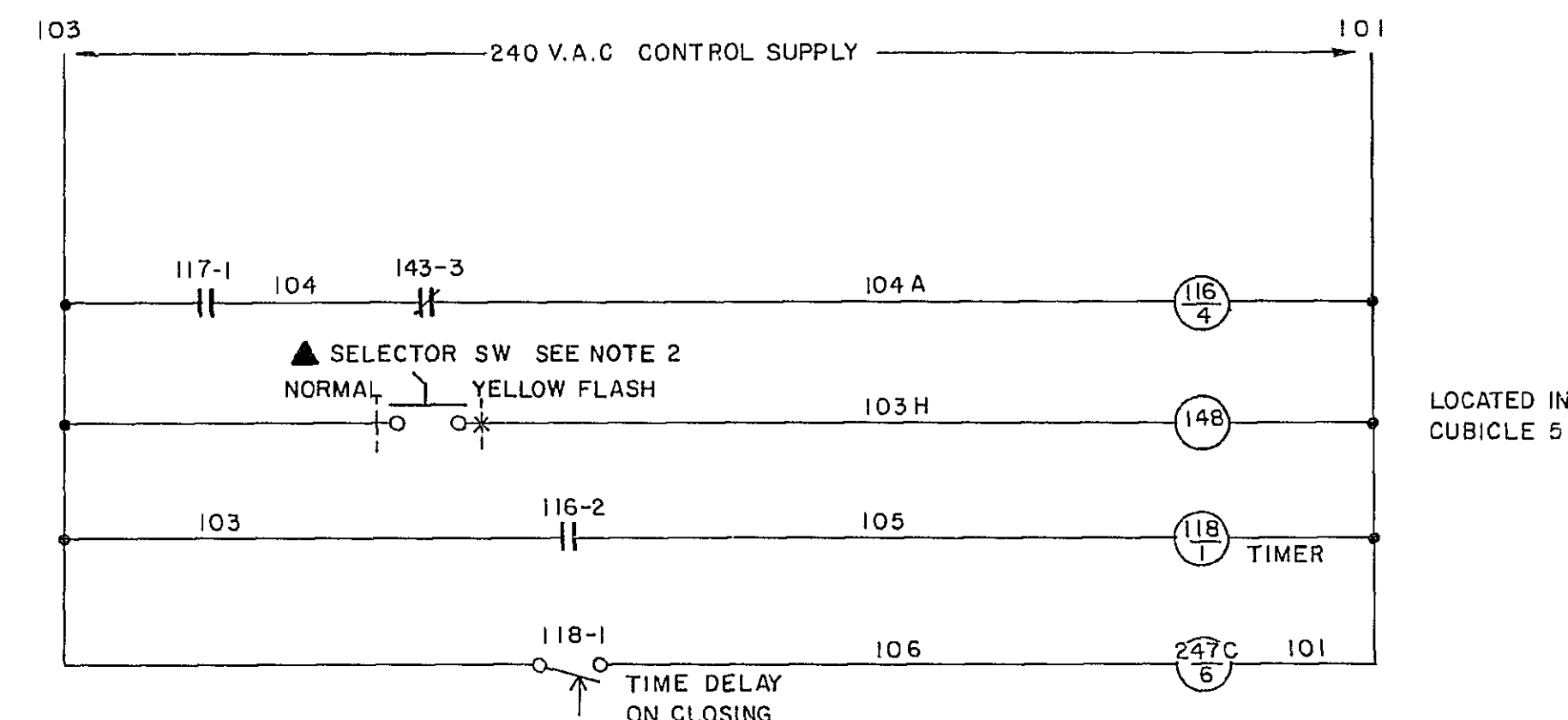
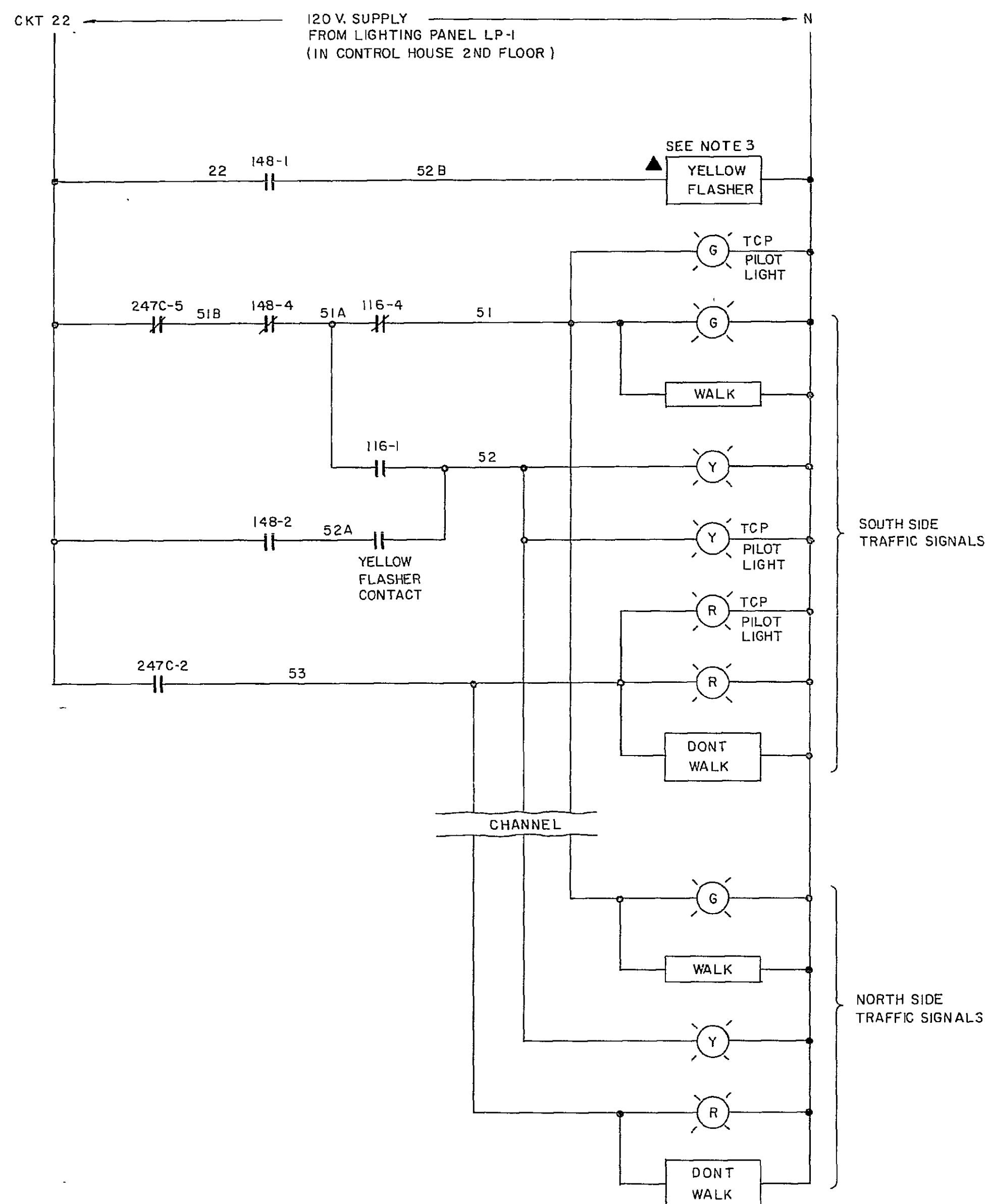
project title
titre du projet

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title
titre du dessin

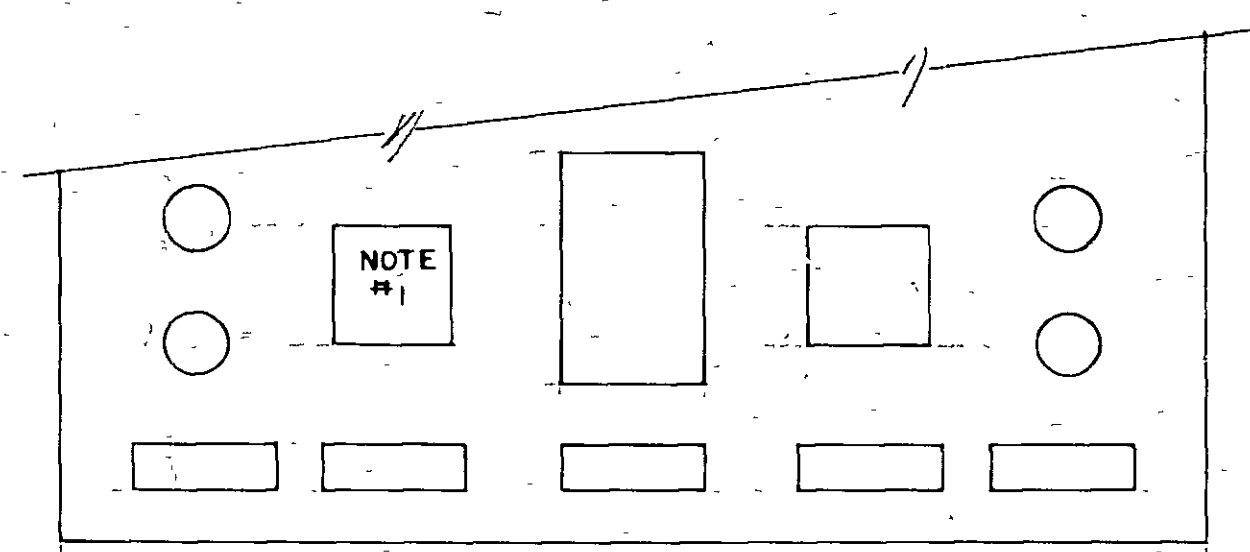
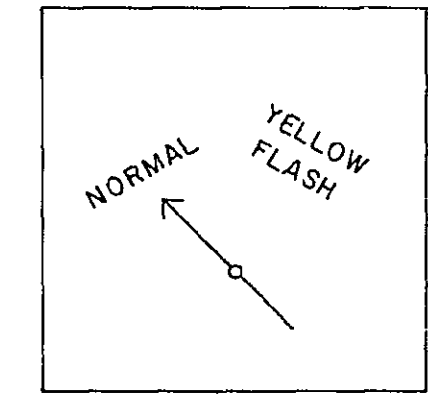
COMMUNICATIONS INTERFACE SYSTEM

designed by conçu par	S. STEWART
drawn by dessiné par	T. BLANKS
reviewed by examiné par	
approved by approuvé par	<i>D.C. Cramm</i>
project date date du projet	1982-04-23
project no. no. du projet	041412
drawing no. dessin no.	E-7



NORMAL / YELLOW FLASH - SELECTOR SWITCH

CONTACT	TERMINAL	POSITION	
		NORMAL	YELLOW FLASH
1	1 - 2		X
2	3 - 4		
3	5 - 6		
4	7 - 8		
5	9 - 10		
6	11 - 12		



EXISTING TRAFFIC CONTROL PANEL

- THE EXISTING 'REMOTE LOCAL' SELECTOR SWITCH IS TO BE REPLACED WITH THE NEW 'NORMAL YELLOW FLASH' SELECTOR SWITCH AS SHOWN ON THIS DWG. THE EXISTING WIRING TO THE EXISTING 'REMOTE LOCAL' SELECTOR SWITCH SHALL BE MODIFIED IN THE FOLLOWING WAY:
WIRES TO BE CONNECTED — 132 TO 133; 115 TO 116; 139 TO 140; 122 TO 123.
WIRES TO BE REMOVED AND TAPED — 103; 131; 138; 114; 121.
- STYLE No. 1530109 WESTINGHOUSE TYPE W WITH PISTOL CRIP HANDLE. DESCRIPTIVE BULLETIN 34-250, FIG. 70, PAGE 21.
CONTACT KEN SMITH OF WESTINGHOUSE INDUSTRIAL SERVICE DEPARTMENT.
- SIGNAL FLASHER, 120 V, CGE CAT. No. 5670562 WITH DOUBLE CONTACT. MOUNT SIGNAL FLASHER IN THE EXISTING CONTROL PANEL.

▲ NEW EQUIPMENT (ALL OTHER EQUIPMENT IS EXISTING)

3342

C C PARKER CONSULTANTS LIMITED
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HAMILTON ONTARIO

revisions date
AS BUILT, FROM FIELD RECORDS 1983/08/31
NOTE: THIS DWG. COPIED FROM SKETCH EDSK-424, DATED 1982/11/23

A detail no. no. du détail
B drawing no. - where detail required dessin no. - où détail exigé
C drawing no. - where detailed C, dessin no. - où détaillé

project title titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title titre du dessin
CONTROL-LAYOUT DIAGRAM TRAFFIC SIGNAL - YELLOW FLASH

designed by conçu par N.E.

drawn by dessiné par P.J.F.H.

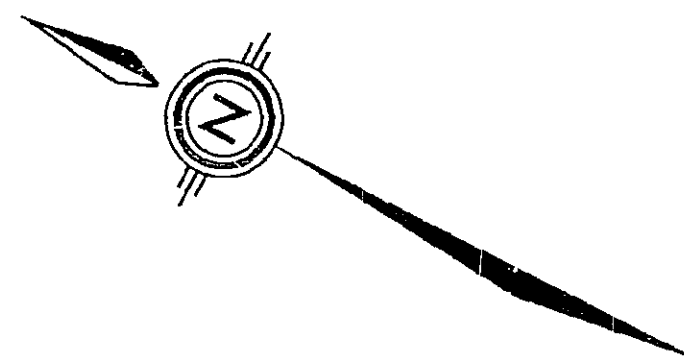
reviewed by examiné par

approved by approuvé par

project date date du projet APRIL 23, 1982.

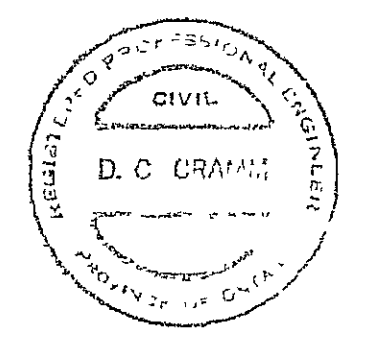
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drawing no. dessin no. E-8



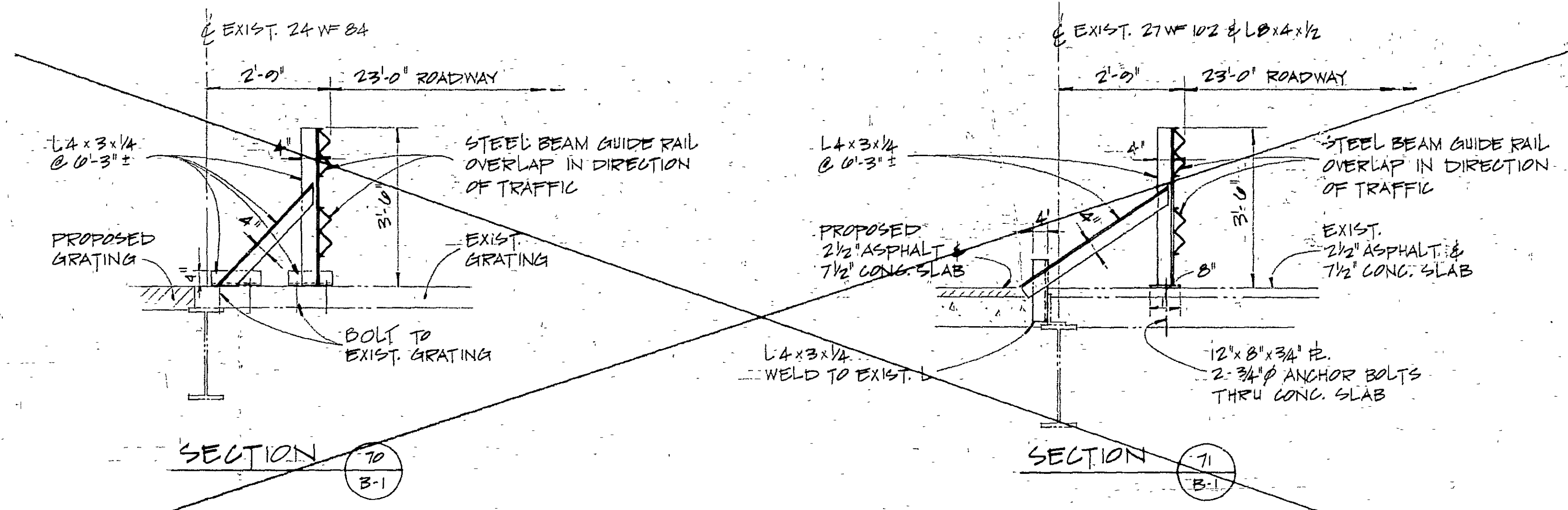
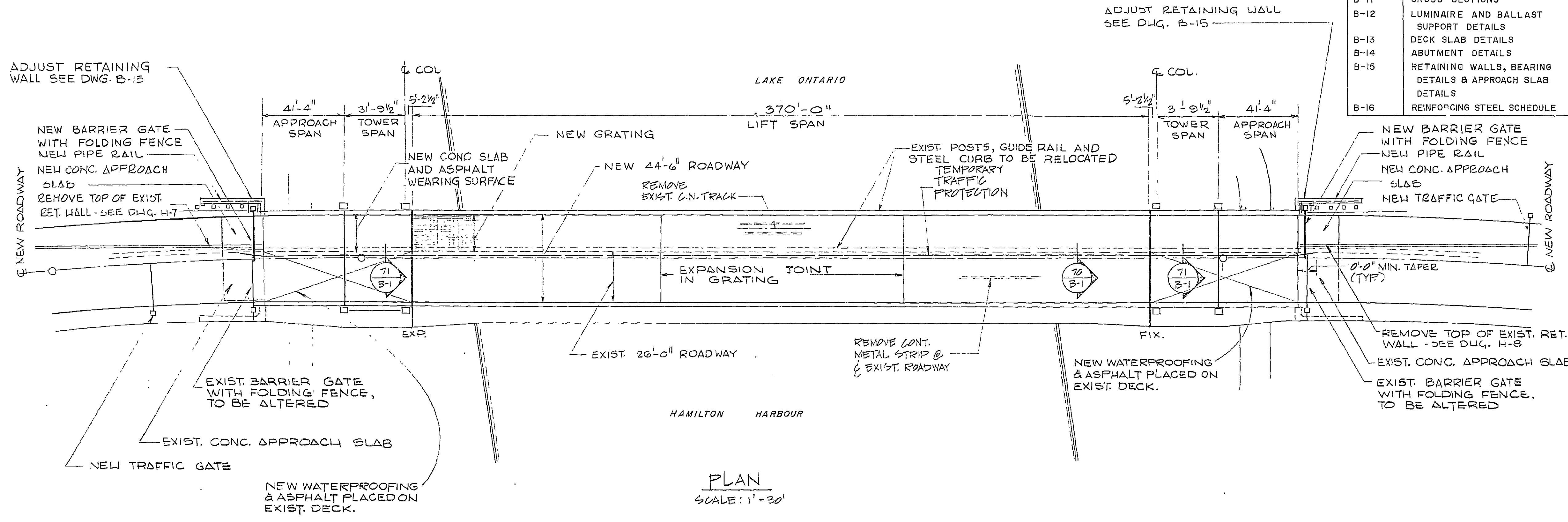
STRUCTURE DRAWING INDEX	
NO.	TITLE
B-1	GENERAL ARRANGEMENT
B-2	EXISTING BRIDGE
B-3	REMOVALS PLAN
B-4	REMOVALS PLAN - APPROACH SPAN & TOWER SPAN
B-5	REMOVALS PLAN - LIFT SPAN
B-6	FRAMING PLAN
B-7	FRAMING PLAN - APPROACH SPAN & TOWER SPAN
B-8	FRAMING PLAN - LIFT SPAN
B-9	TYPICAL SECTIONS
B-10	MISCELLANEOUS DETAILS I
B-11	MISCELLANEOUS DETAILS II
B-12	MISCELLANEOUS DETAILS III
B-13	CROSS SECTIONS
B-14	LUMINAIRE AND BALLAST SUPPORT DETAILS
B-15	DECK SLAB DETAILS
B-16	ABUTMENT DETAILS
B-17	RETAINING WALLS, BEARING DETAILS & APPROACH SLAB DETAILS
B-18	REINFORCING STEEL SCHEDULE

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- GENERAL NOTES
- STRUCTURE MODIFICATIONS DESIGNED TO CSA STANDARD S6-1978M. DESIGN LIVE LOAD AASHTO HS20-44.
 - CONCRETE TO HAVE COMPRESSIVE STRENGTH OF 30 MPa AT 28 DAYS.
 - CLEAR COVER TO REINFORCING STEEL ABUTMENTS, RETAINING WALLS, BALLAST WALLS, WINGWALLS 75 mm
DECK: TOP 50 mm, BOTTOM 35 mm
ALL OTHER SURFACES 50 mm
TO ACHIEVE THE MINIMUM CLEAR COVER OF 50mm SPECIFIED AT TOP OF DECK, THE TOP LAYER OF REINFORCEMENT SHALL BE PLACED PRIOR TO CONCRETING WITH A CLEAR COVER OF 65 ± 15 mm TOLERANCE.
 - REINFORCING STEEL SHALL BE GRADE 400. BARS MARKED WITH SUFFIX C SHALL BE COATED BARS.
 - CONSTRUCTION NOTES
THE CONTRACTOR SHALL FINISH THE BEARING SEATS DEAD LEVEL TO THE SPECIFIED ELEVATIONS TO A TOLERANCE OF ± 3 mm.
ALL EXPOSED CONCRETE EDGES SHALL HAVE 25 mm CHAMFER UNLESS NOTED.

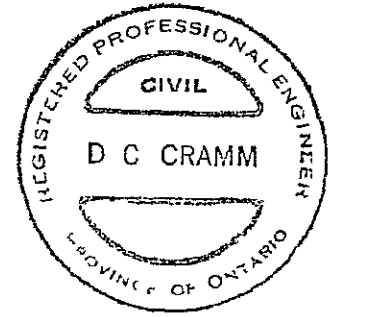
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B	drawing no. - where detail required dessin no. - où détail exigé
C	drawing no. - where detailed dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
GENERAL ARRANGEMENT

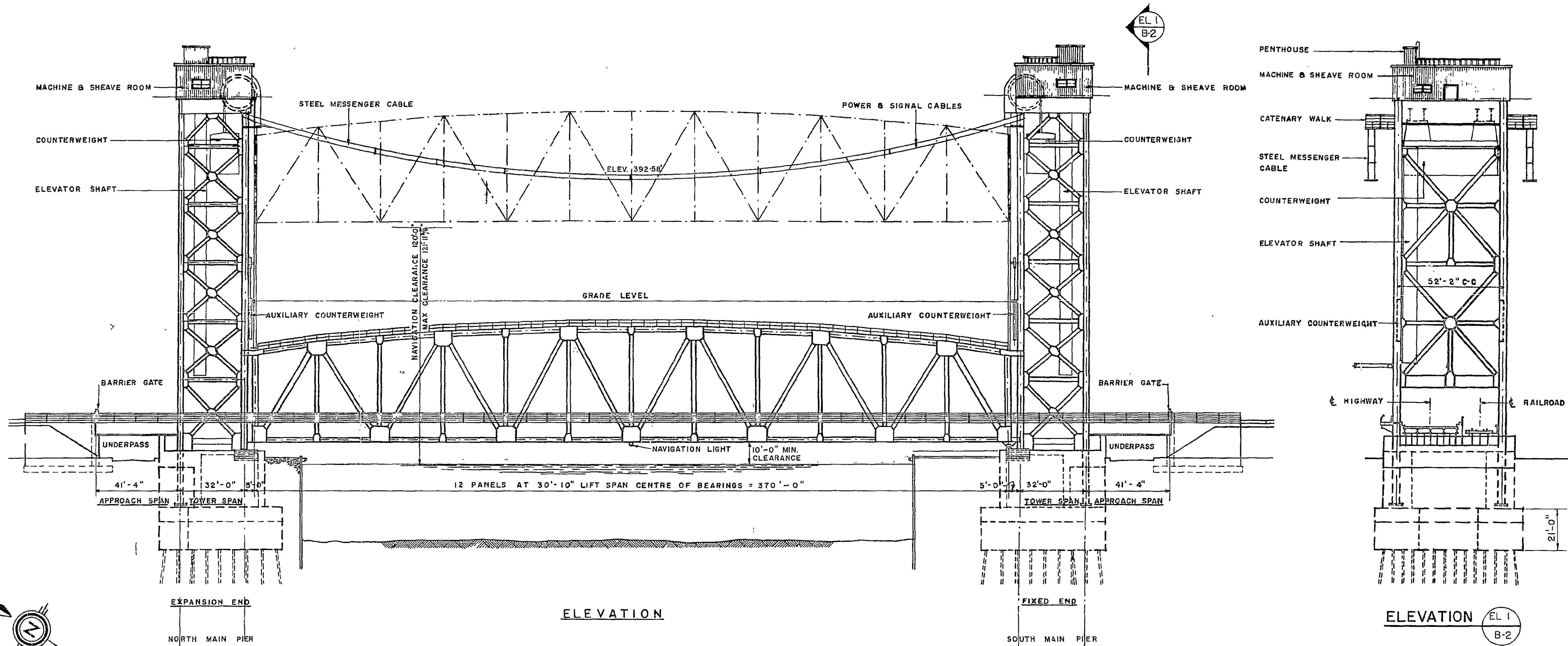
designed by / conçu par	P.K. TANDON
drawn by / dessiné par	W.G.M.
reviewed by / examiné par	<i>[Signature]</i>
approved by / approuvé par	D.C. Gramm
project date / date du projet	APRIL 23, 1982
project no. / no. du projet	041412
drawing no. / dessin no.	B-1

All dimensions in feet and inches unless otherwise noted.



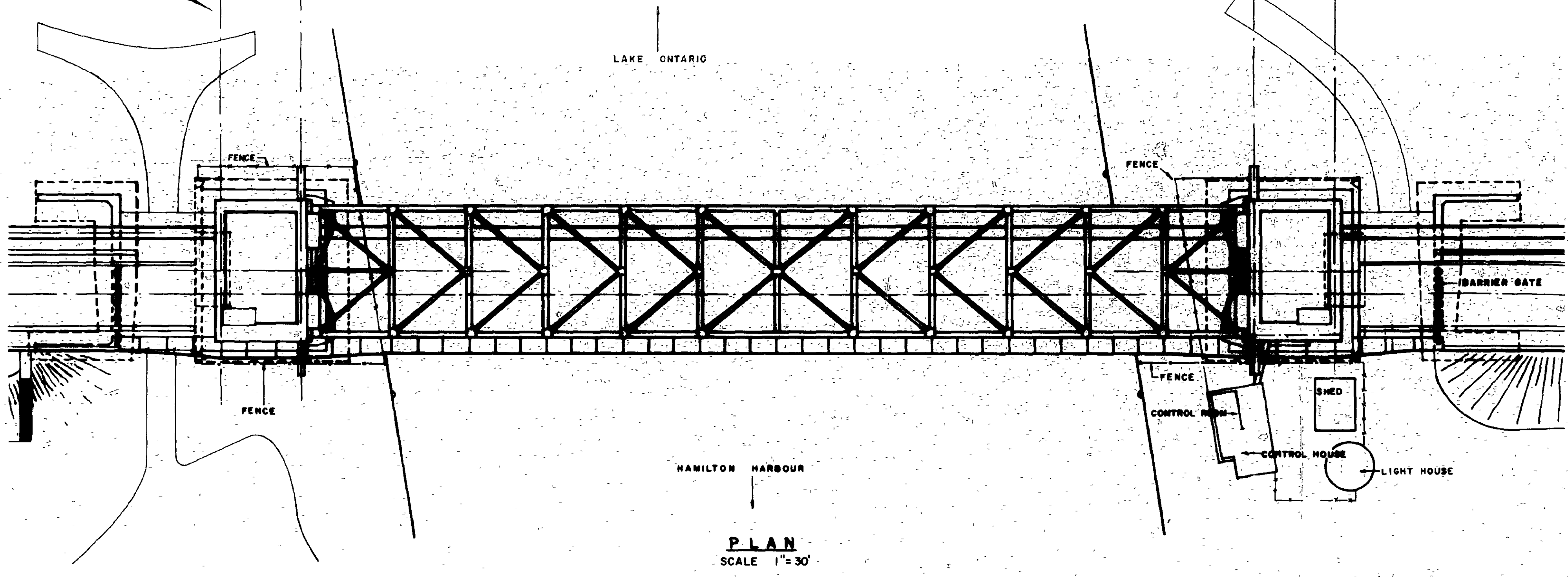
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HAMILTON ONTARIO

revisions: AS BUILT, FROM FIELD RECORDS
date: 1983/09/15



ELEVATION

ELEVATION EL 1 B-2



PLAN SCALE 1" = 30'

- A detail no. / no. du détail
- B drawing no. - where detail required / dessin no. - où détail exigé
- C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
EXISTING BRIDGE - PLAN AND ELEVATION

designed by / conçu par: P. K. TANDON

drawn by / dessiné par: W.G.M.

reviewed by / examiné par: *[Signature]*

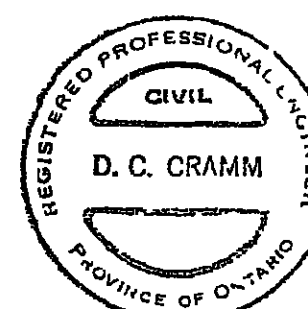
approved by / approuvé par: *[Signature]*

project date / date du projet: APRIL 23, 1982

project no. / no. du projet: 041412

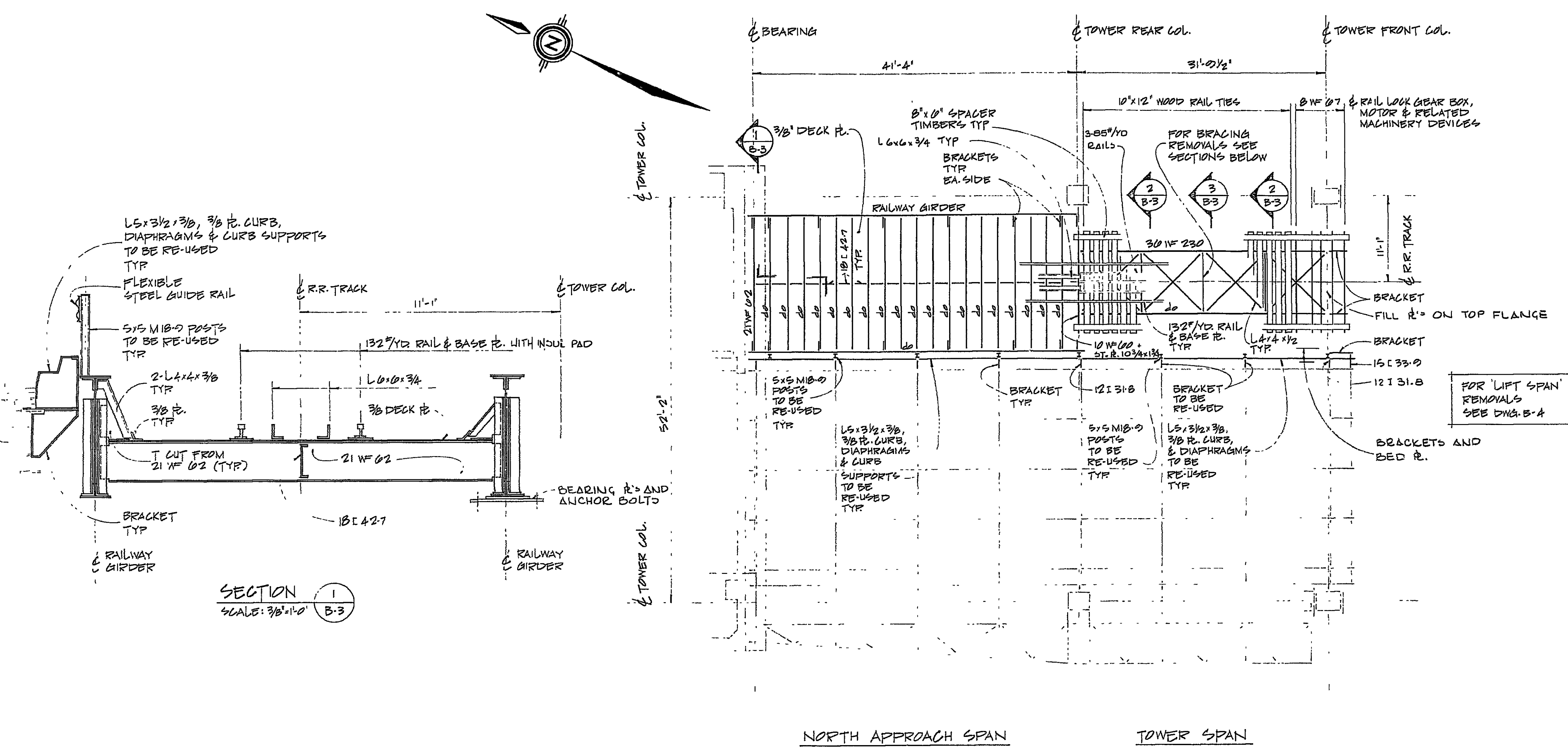
drawing no. / dessin no.: B-2

All dimensions in feet and inches unless otherwise noted.



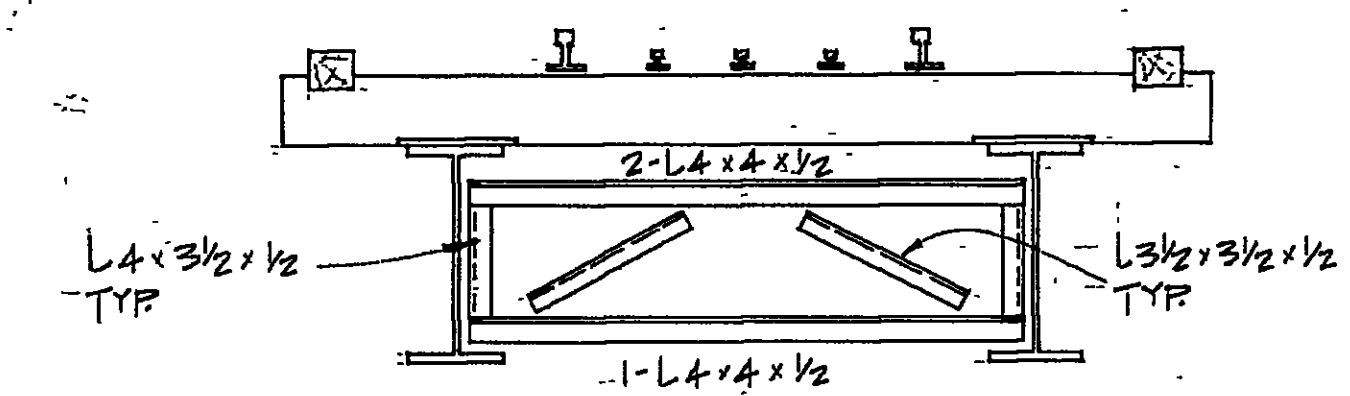
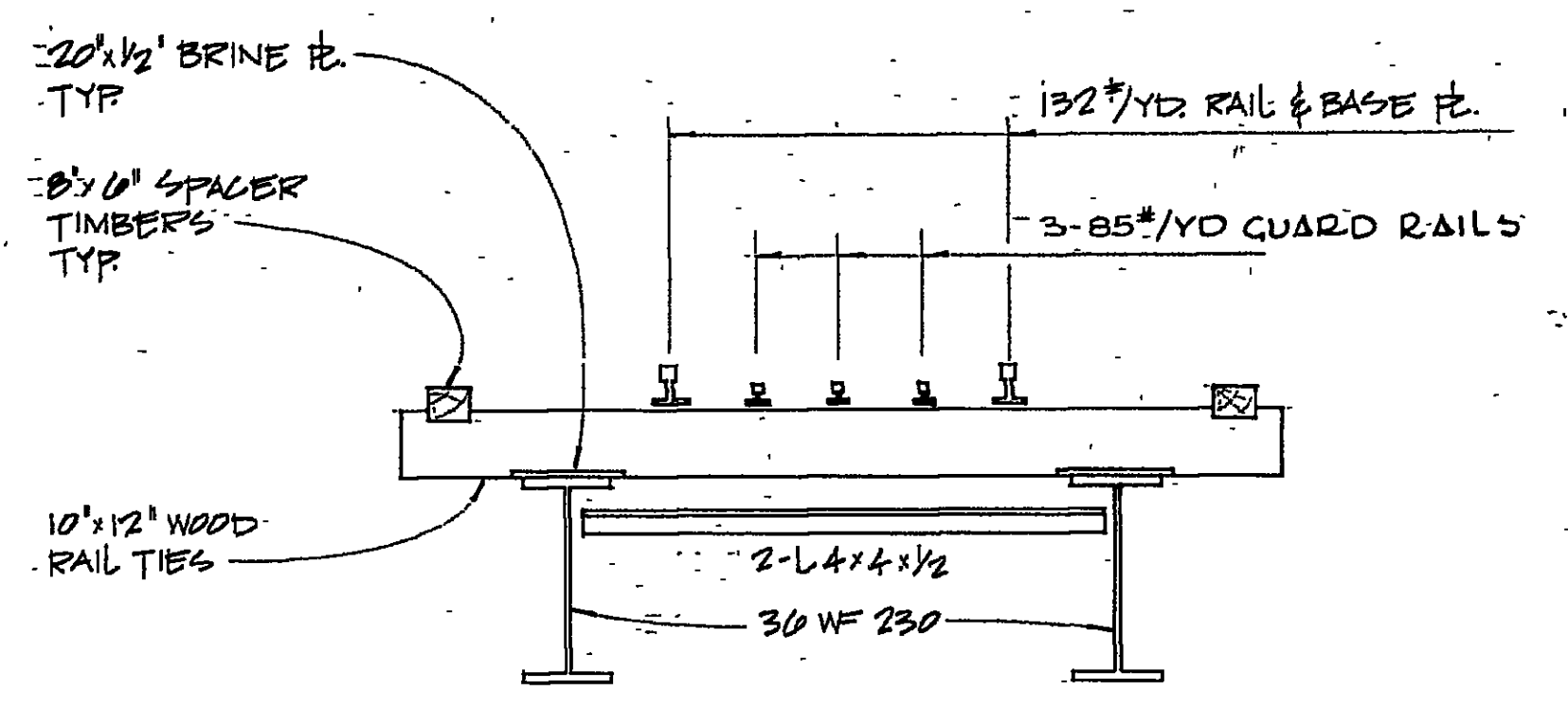
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 CONSULTING PROFESSIONAL ENGINEERS
 HAMILTON ONTARIO

REVISIONS
 AS BUILT, FROM FIELD RECORDS
 1983/09/15



NOTE: REMOVE ALL GUSSET P.L.'S, RIVETS, CONNECTION L'S, ETC. ASSOCIATED WITH REMOVAL OF STRUCT. STEEL

NOTE: MATERIAL NOTED ON THIS DRAWING IS TO BE REMOVED AND DISPOSED OF, OR REMOVED AND RE-USED AS INDICATED



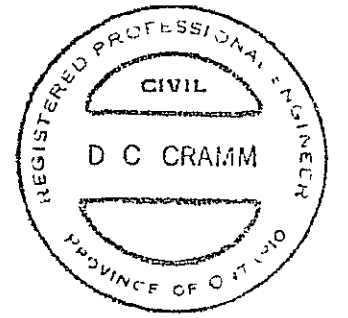
A detail no. no. du détail
 B drawing no. - where detail required dessin no. - ou détail exigé
 C drawing no. - where detailed dessin no. - ou détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
REMOVALS PLAN APPROACH SPAN AND TOWER SPAN

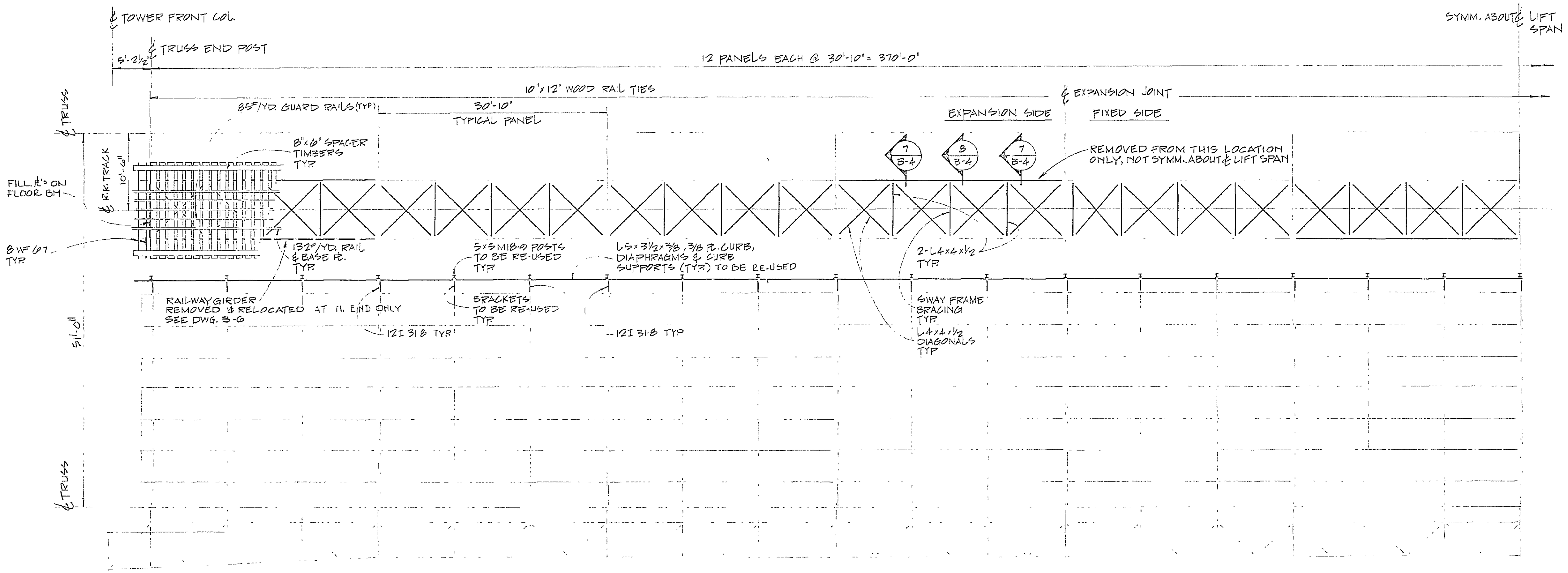
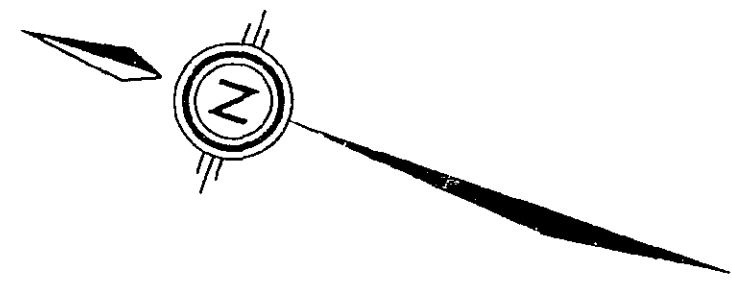
designed by / conçu par: P. K. TANDON
 drawn by / dessiné par: D.J.
 reviewed by / examiné par: [Signature]
 approved by / approuvé par: D. C. Gramm
 project date / date du projet: APRIL 23, 1982
 project no. / no. du projet: 041412
 drawing no. / dessin no.: B-3

All dimensions in feet and inches unless otherwise noted.



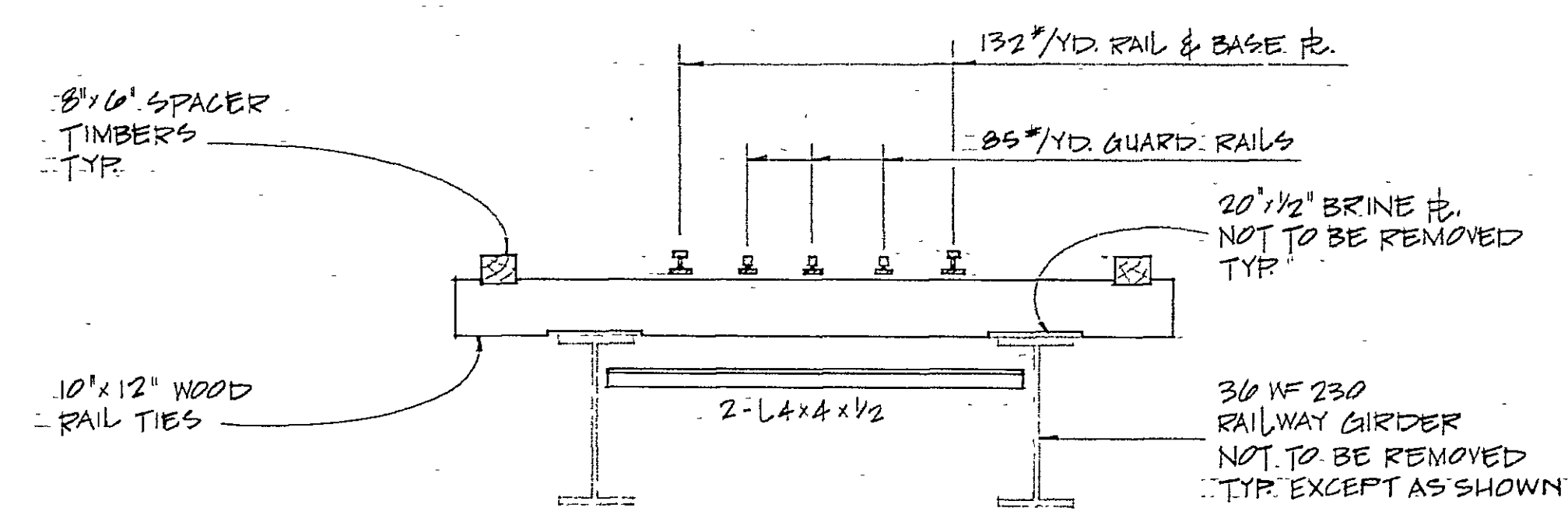
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HAMILTON ONTARIO

revisions / AS BUILT, FROM FIELD RECORDS / date / 1983/09/15

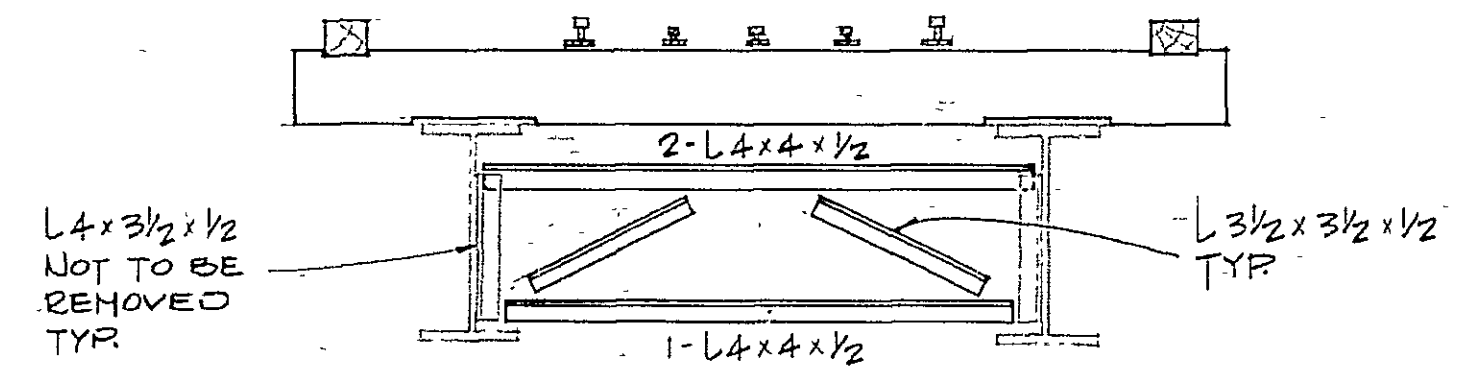


LIFT SPAN
REMOVALS PLAN
SCALE: 1/8"=1'-0"

NOTE: MATERIAL NOTED ON THIS DRAWING IS TO BE REMOVED AND DISPOSED OF, OR REMOVED AND RE-USED AS INDICATED.



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



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

NOTE: REMOVE ALL GUSSET PLS, RIVETS, CONNECTION L'S, ETC. ASSOCIATED WITH REMOVAL OF STRUCT. STEEL.

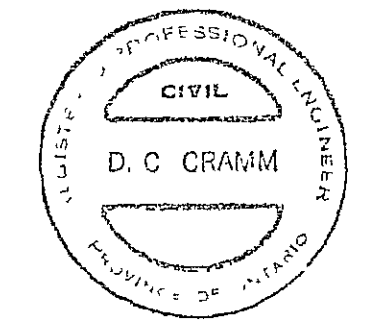
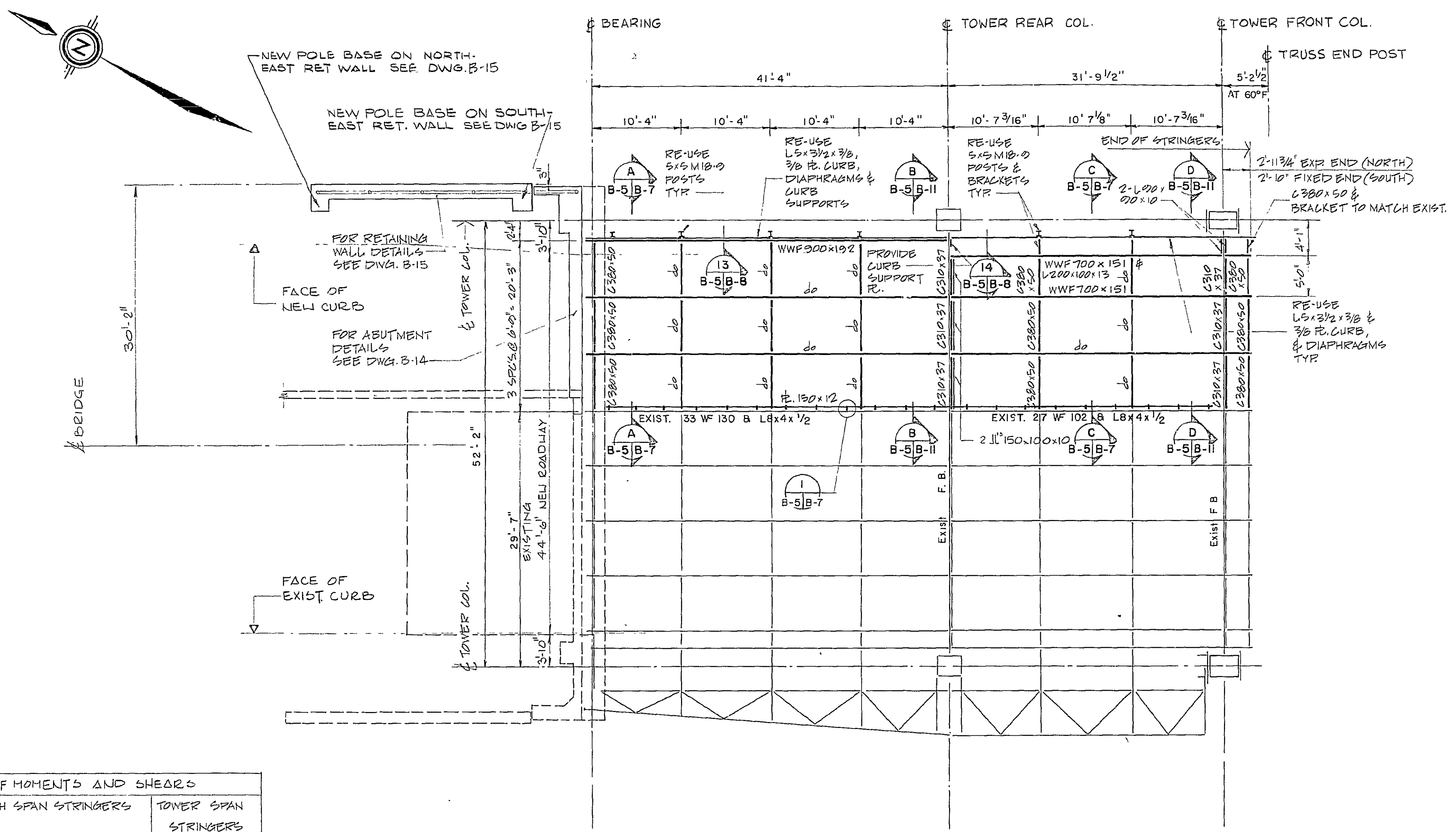
All dimensions in feet and inches unless otherwise noted.

Table with 3 columns: Detail No., Drawing No., Drawing No. (where detailed).

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

REMOVALS PLAN - LIFT SPAN

Table with 2 columns: Field (designed by, drawn by, reviewed by, approved by, project date, project no., drawing no.) and Value (P.K. TANDON, D.J., [Signature], D.C. Cramm, APRIL 23, 1982, 041412, B-4).



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TABLE OF MOMENTS AND SHEARS				
	APPROACH SPAN STRINGERS		TOWER SPAN STRINGERS	
	SHEAR ^k	MOM ^{1k}	SHEAR ^k	MOM ^{1k}
DEAD LOAD	26	267	10	125
LIVE LOAD	33	282	34	189
IMPACT	10	85	11	57
TOTAL	69	634	61	371

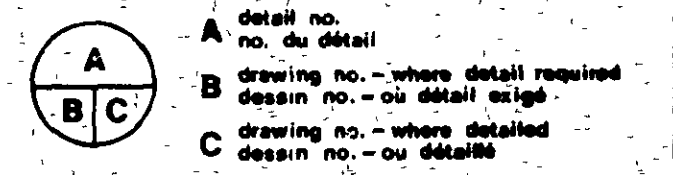
NORTH APPROACH SPAN TOWER SPAN

SCALE 1/8" = 1'-0"
(SOUTH APPROACH SPAN AND TOWER SPAN OPPOSITE HAND)

NOTES FOR STRUCTURAL STEEL

- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA STANDARD G40.21-M81, GRADE 350 W UNLESS NOTED.
STEEL FOR NEW STRINGERS SHALL BE GRADE 350 WT, CATEGORY 1.
STEEL FOR GRATING SHALL BE GRADE 350 AT, CATEGORY 1.
- BOLTS SHALL BE ASTM A325, 22 mm OR 7/8 IN. DIA. OR TO MATCH EXISTING CONNECTIONS. CONNECTIONS SHALL BE FRICTION TYPE.
- INACCESSIBLE SURFACES OF STEEL AT THE ABUTMENTS SHALL BE PAINTED WITH TWO COATS KOPPERS BITUMASTIC NO. 50 OR EQUAL IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- UNLESS NOTED OTHERWISE, MINIMUM FILLET WELD SIZES SHALL BE AS FOLLOWS:

THICKNESS OF THICKER PART JOINED	WELD SIZE
TO 12 mm INCL.	5 mm
OVER 12 mm TO 19 mm	6 mm
OVER 19 mm	8 mm
- STUD SHEAR CONNECTORS SHALL BE 22 mm DIAMETER NELWELD, KSM OR EQUAL.



project title / titre du projet

MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

FRAMING PLAN - APPROACH SPAN AND TOWER SPAN

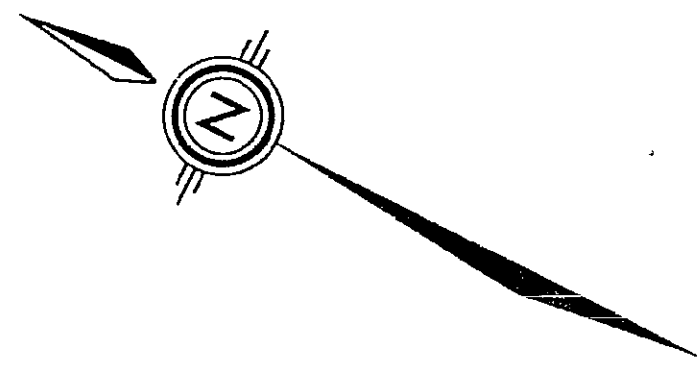
designed by / conçu par: P.K. TANDON
drawn by / dessiné par: W.G.M.
reviewed by / examiné par: [Signature]
approved by / approuvé par: D.C. Cramm

project date / date du projet: APRIL 23, 1982

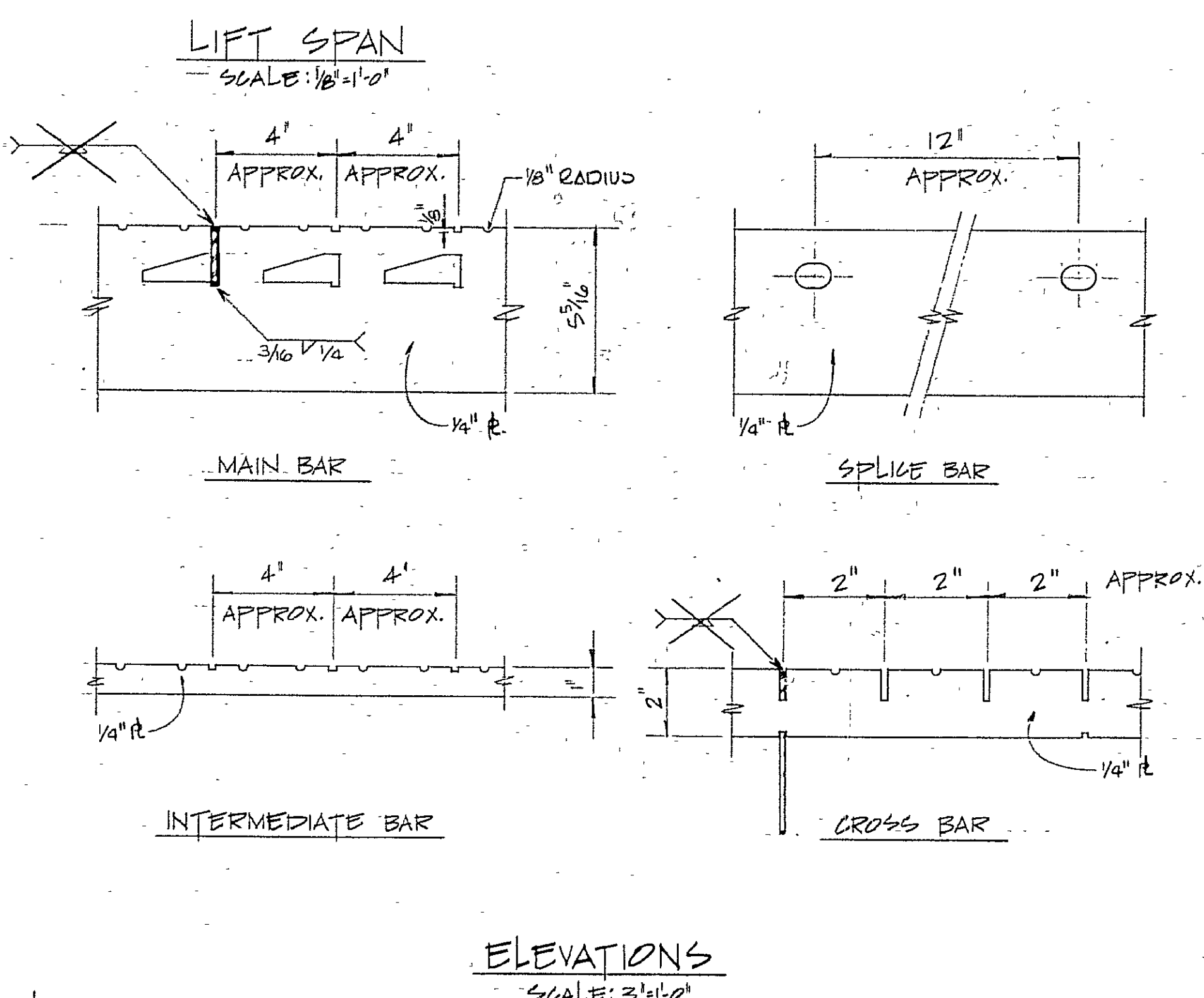
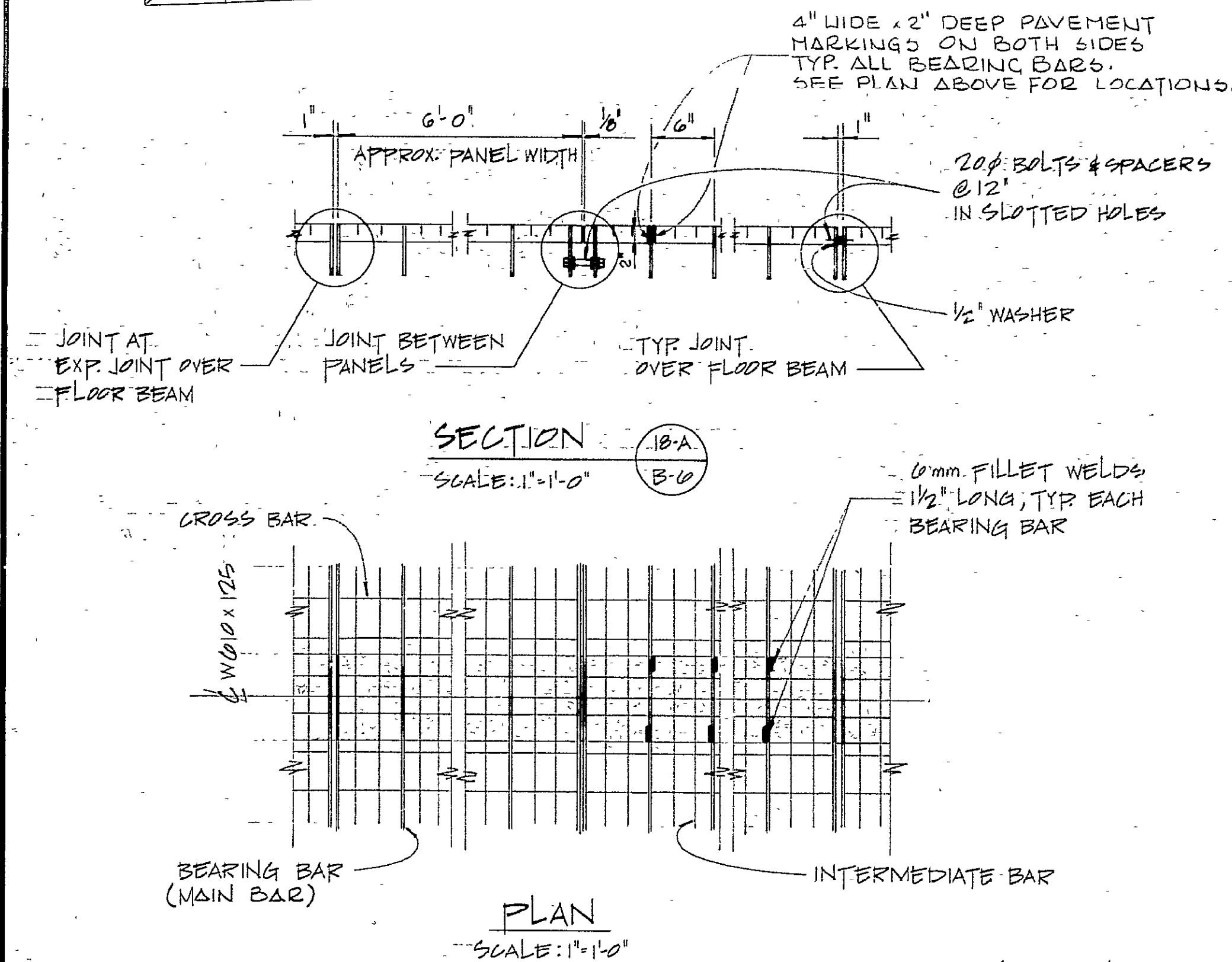
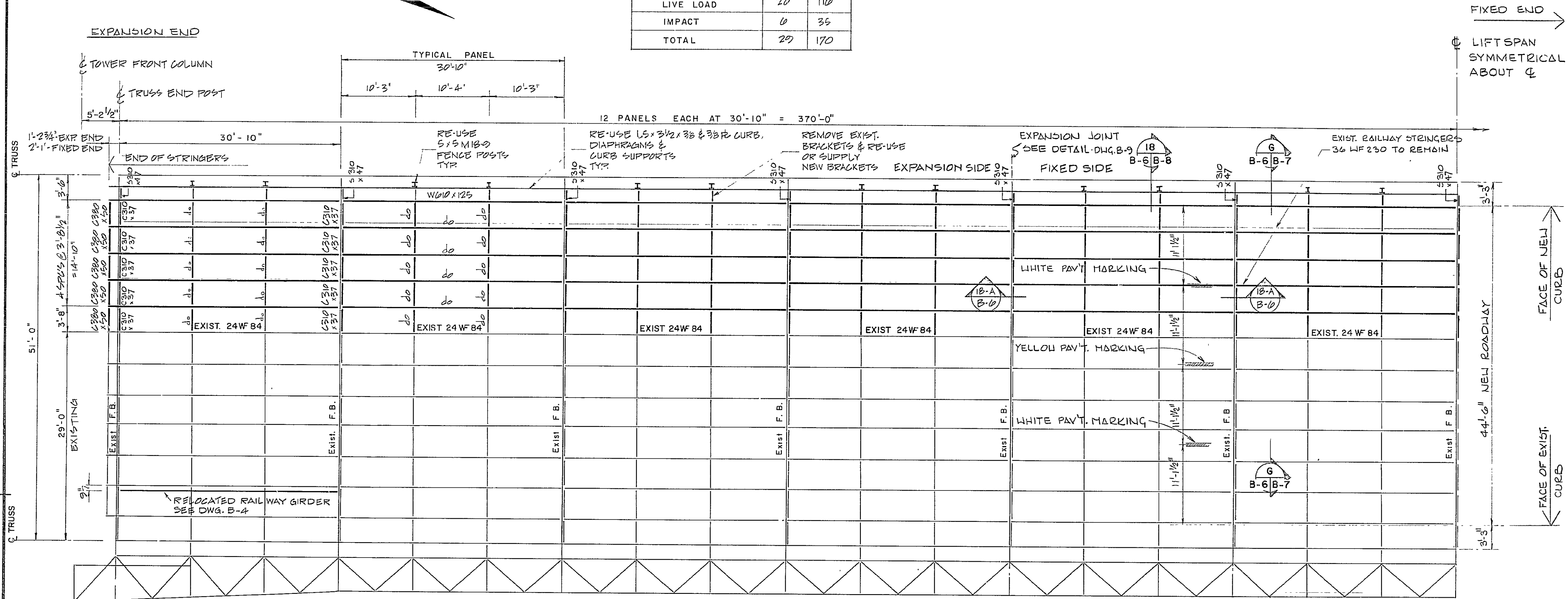
project no. / no. du projet: 041412

drawing no. / dessin no.: B-5

All dimensions in feet and inches unless otherwise noted.



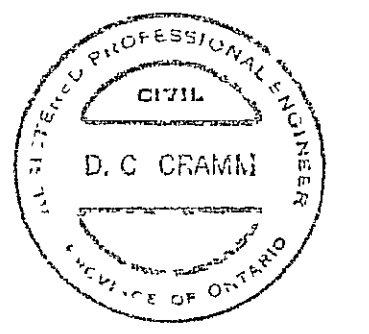
LIFT SPAN STRINGERS	SHEAR ^K	MOM. ^{IK}
DEAD LOAD	3	19
LIVE LOAD	20	110
IMPACT	0	35
TOTAL	23	170



- STEEL GRATING NOTES**
1. WHEEL LOAD DISTRIBUTION ACCORDING TO AASHTO INTERIM SPEC., 1981.
 2. ALL BARS SHALL BE SECURELY INTERLOCKED & WELDED AT THEIR INTERSECTIONS.
 3. TOP SURFACE OF GRATING SHALL BE ALL IN ONE PLANE.
 4. FOR ADDITIONAL DETAILS SEE DNG. B-B.
 5. PLUG WELD AT ALL INTERSECTIONS OF 1/2" BARS.
 6. BARS AT INTERSECTION TO BE NOTCHED 1/2".
 7. WELDS TO BE APPROXIMATELY FLUSH WITH TOP OF BARS.

GRATING DETAILS
FOR EXACT DETAILS SEE SHOP DRAWINGS
1 & 2 OF WELDED GRATING LIMITED.

All dimensions in feet and inches unless otherwise noted.



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date: 1983/09/15

A detail no. / no. du détail
B drawing no. - where detail required / dessin no. - où détail exigé
C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

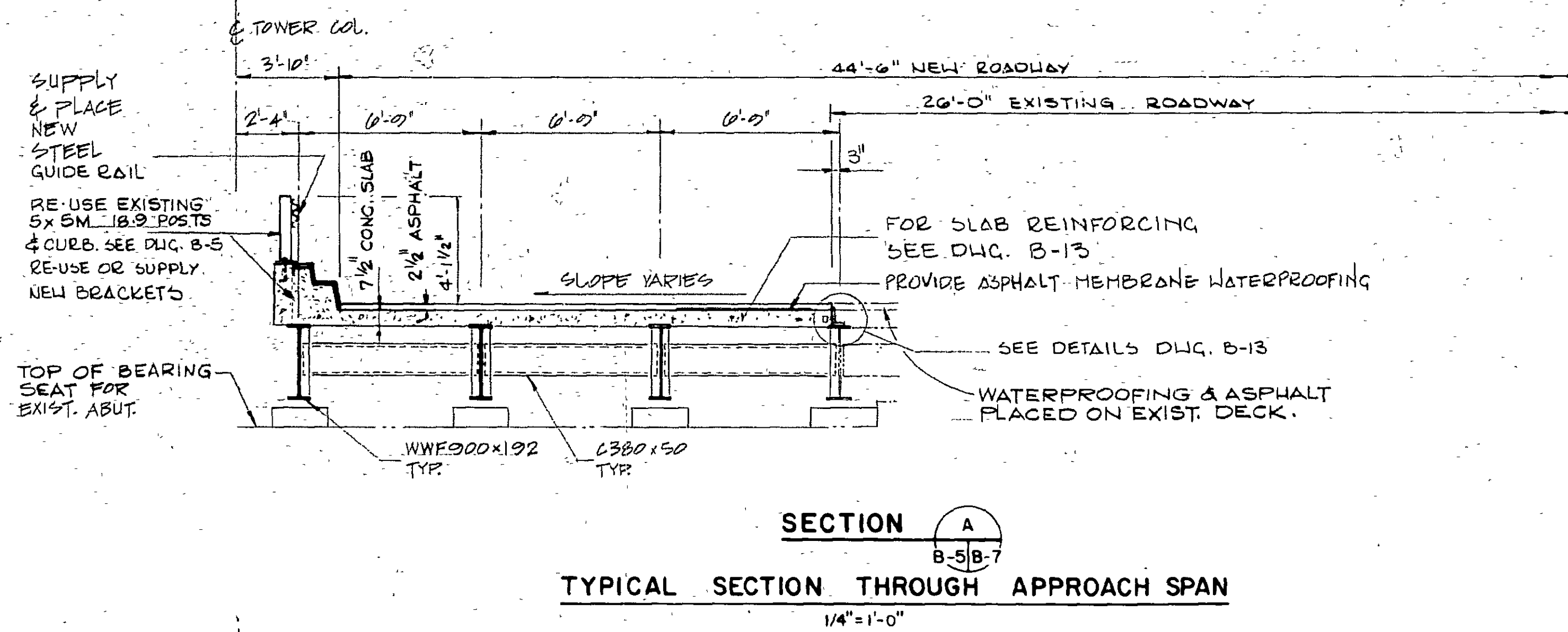
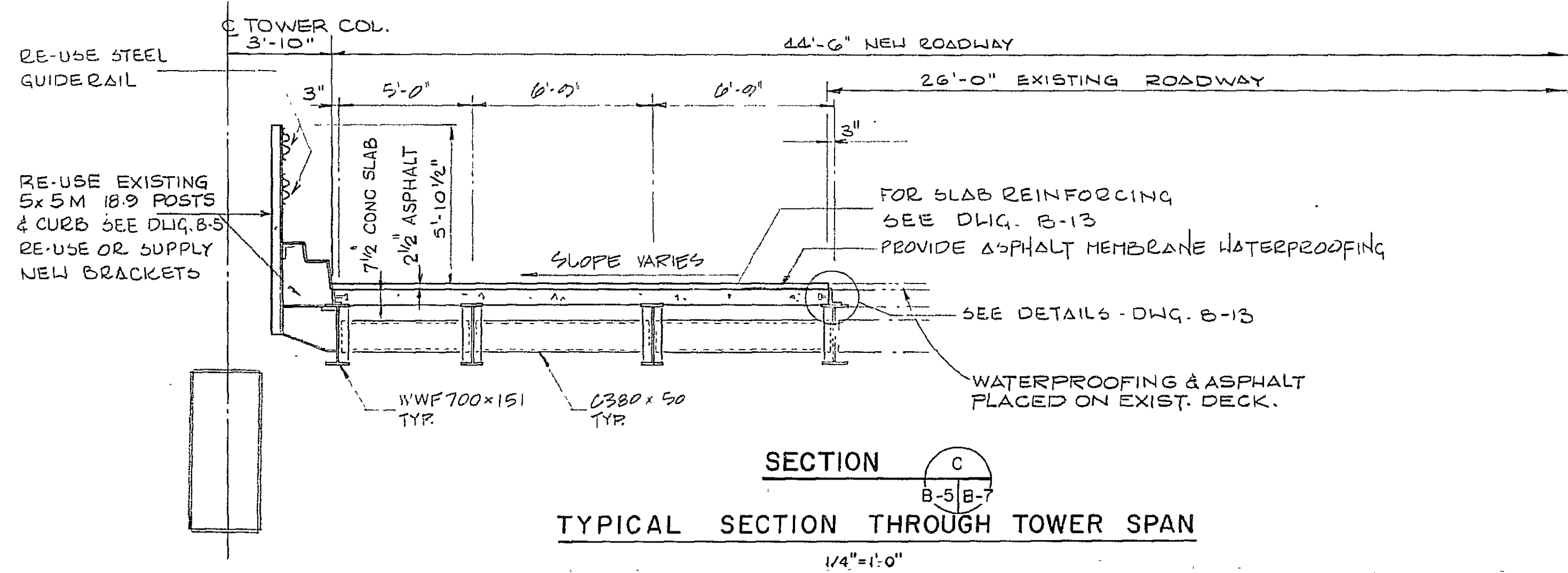
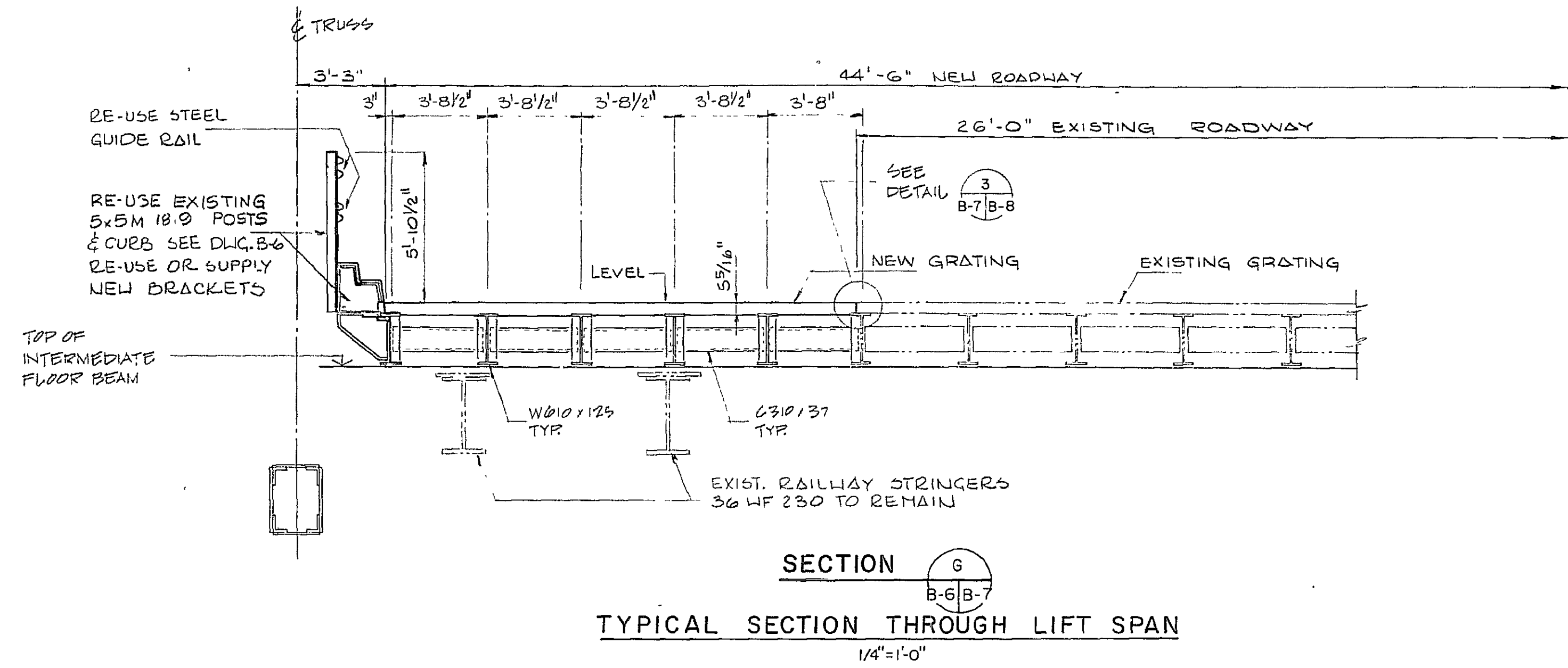
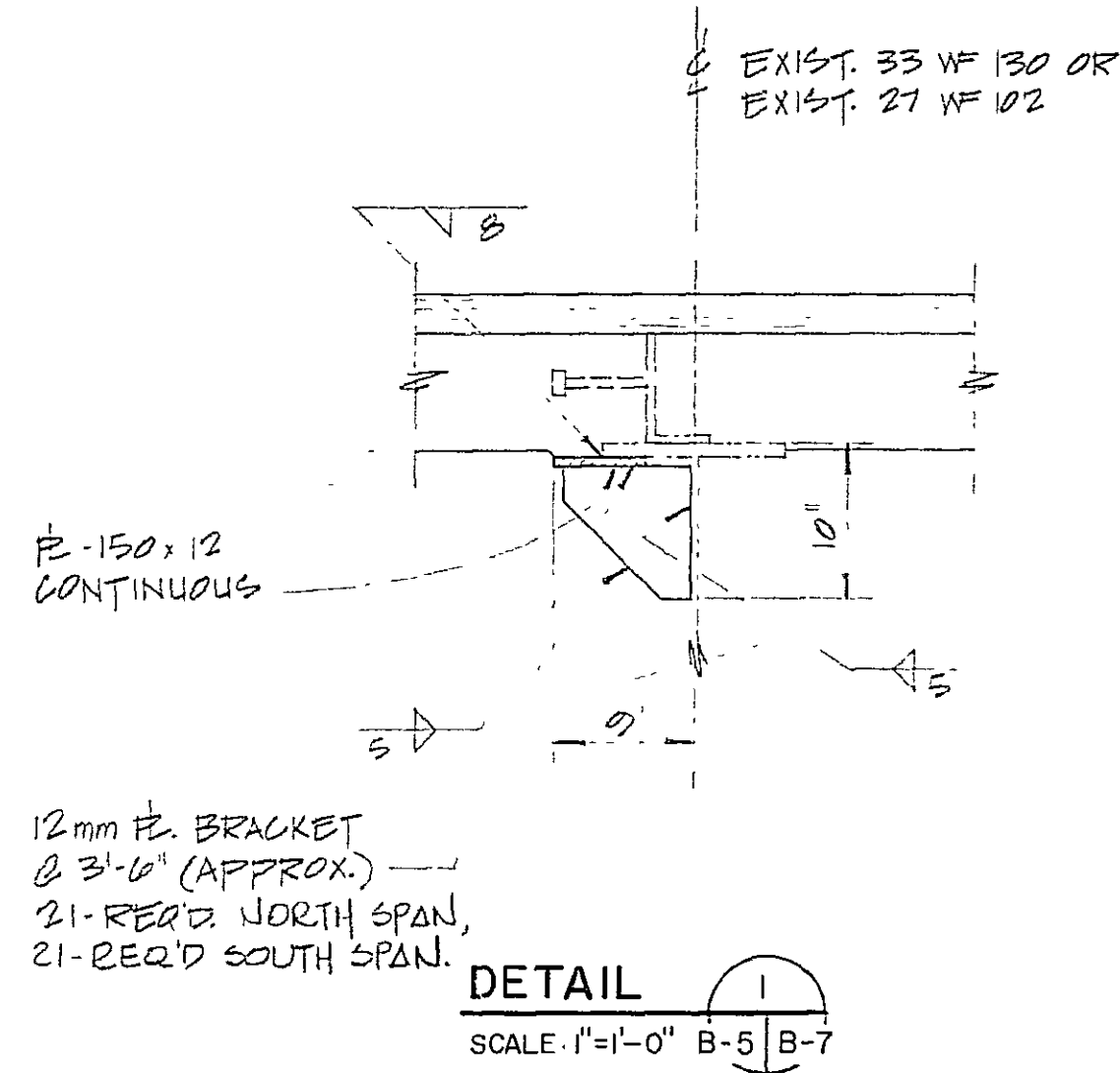
drawing title / titre du dessin
FRAMING PLAN - LIFT SPAN

designed by / conçu par: P. K. TANDON
drawn by / dessiné par: W.G.M.
reviewed by / examiné par: [Signature]
approved by / approuvé par: D. C. Cramm
project date / date du projet: APRIL 23, 1982
project no. / no. du projet: 041412
drawing no. / dessin no.: B-6



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revisions: 1 AS BUILT, FROM FIELD RECORDS
 date: 1983/09/15



A detail no. / no. du détail
 B drawing no. - where detail required / dessin no. - ou détail exigé
 C drawing no. - where detailed / dessin no. - ou détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES.

drawing title / titre du dessin
TYPICAL SECTIONS

designed by / conçu par
 P.K. TANDON

drawn by / dessiné par
 W.G.M.

reviewed by / examiné par
 [Signature]

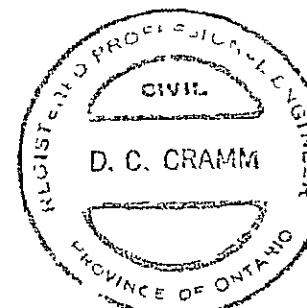
approved by / approuvé par
 D.C. Gramm

project date / date du projet
 APRIL 23, 1982

project no. / no. du projet
 041412

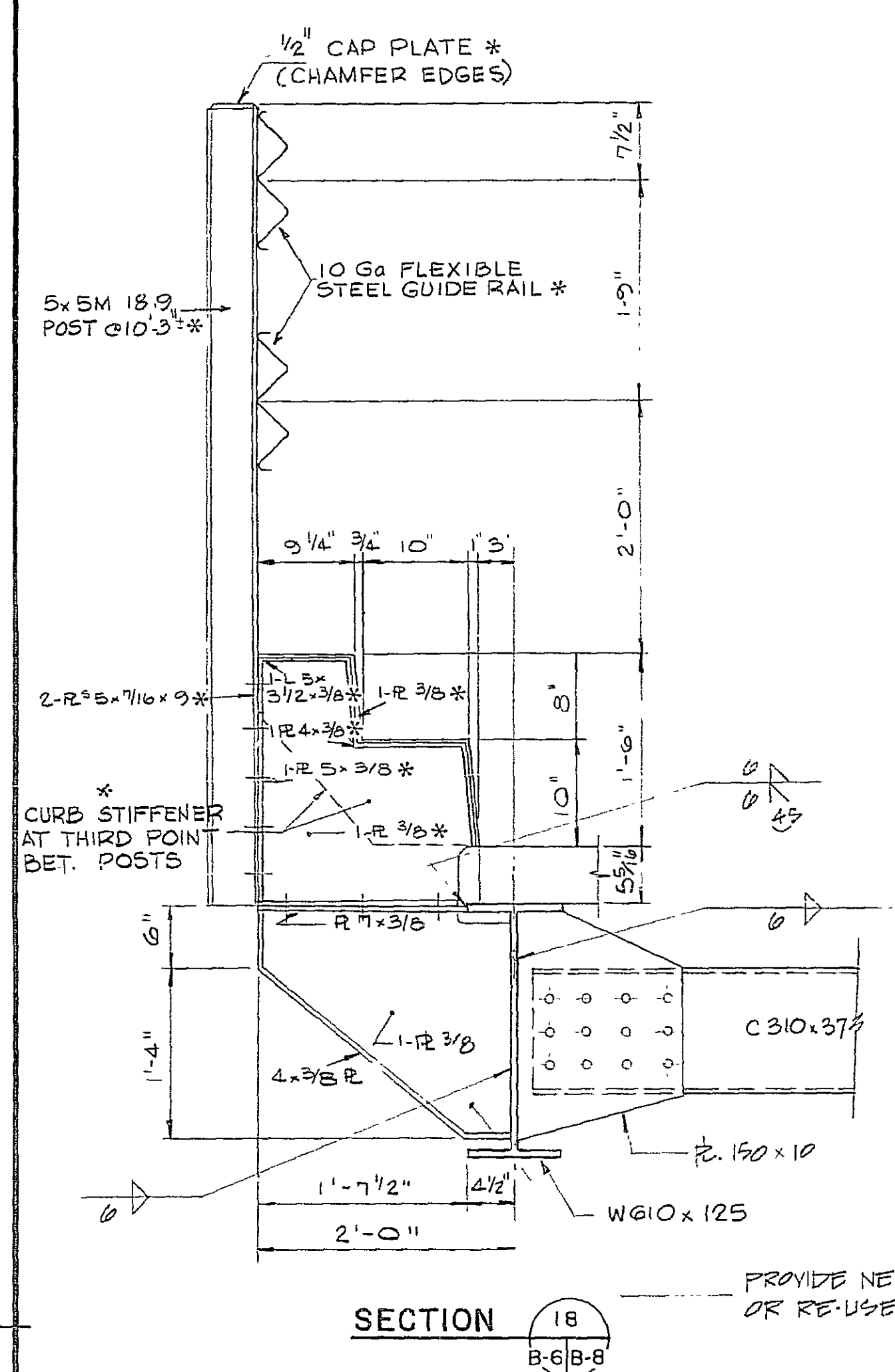
drawing no. / dessin no.
 B-7

All dimensions in feet and inches unless otherwise noted.

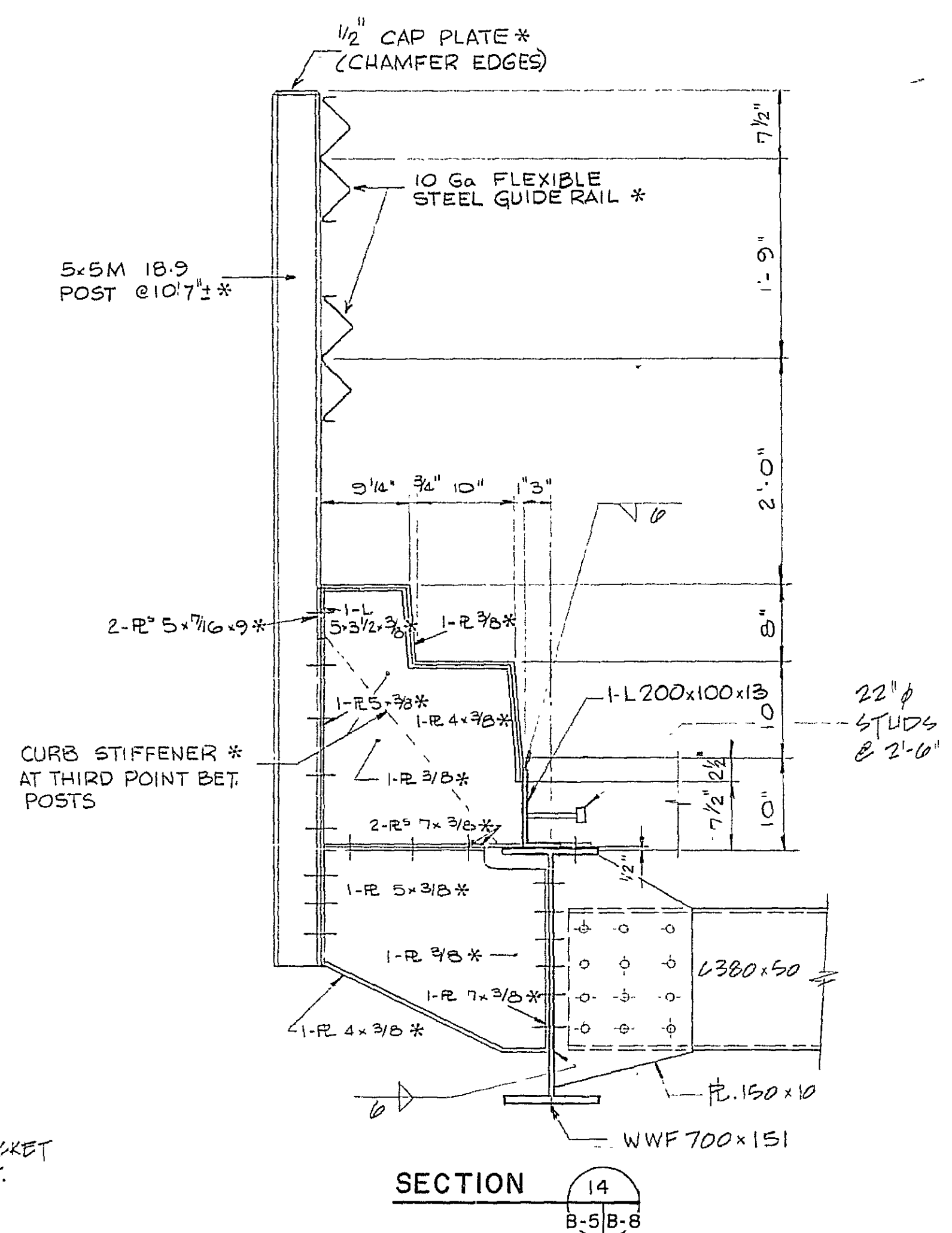


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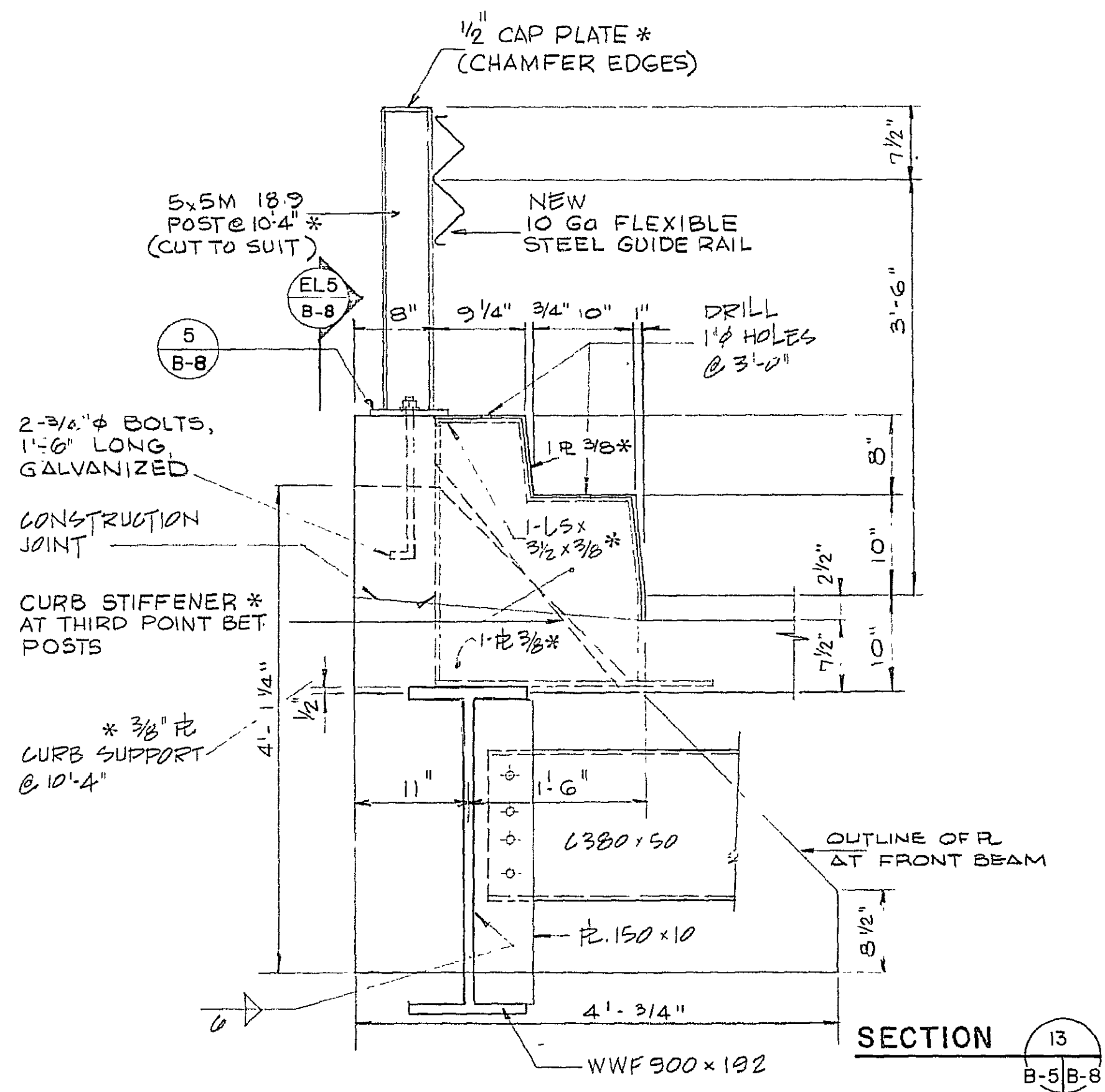
AS BUILT, FROM FIELD RECORDS
1983/09/15



SECTION 18
B-6/B-8
TYPICAL CURB SECTION AT LIFT SPAN
1" = 1'-0"



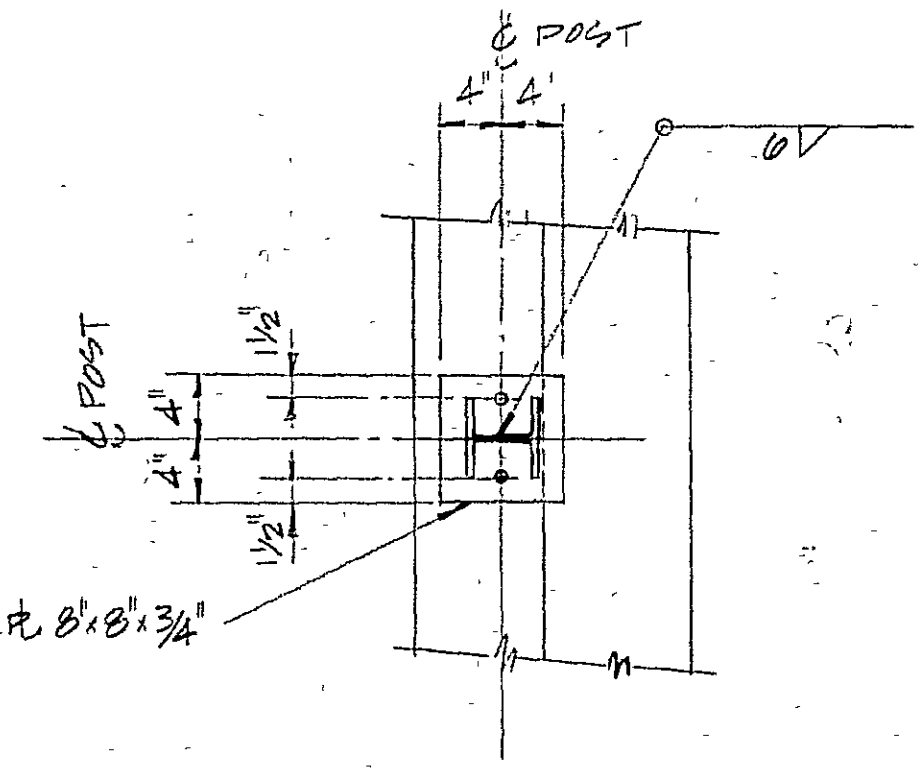
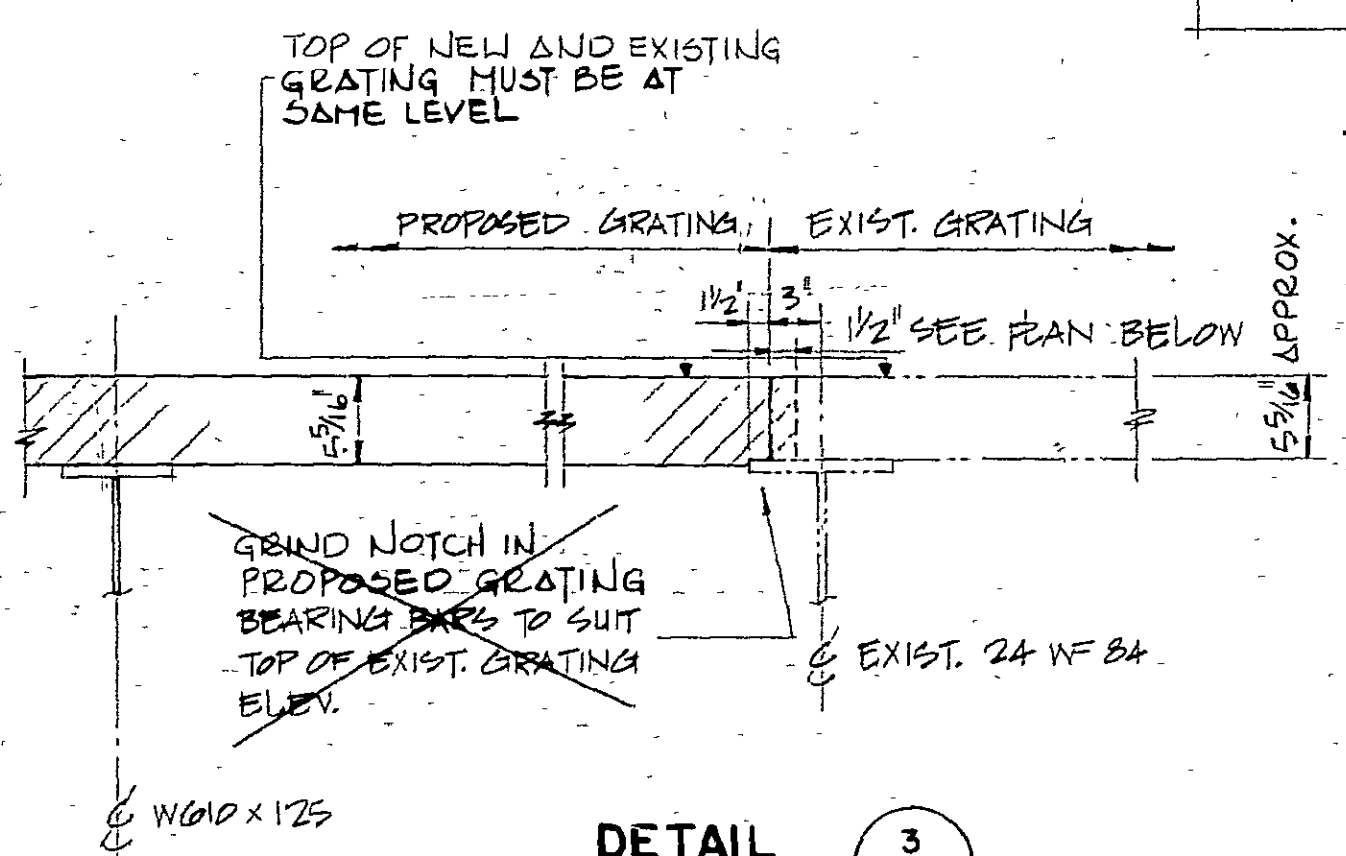
SECTION 14
B-5/B-8
TYPICAL CURB SECTION AT TOWER SPAN
1" = 1'-0"



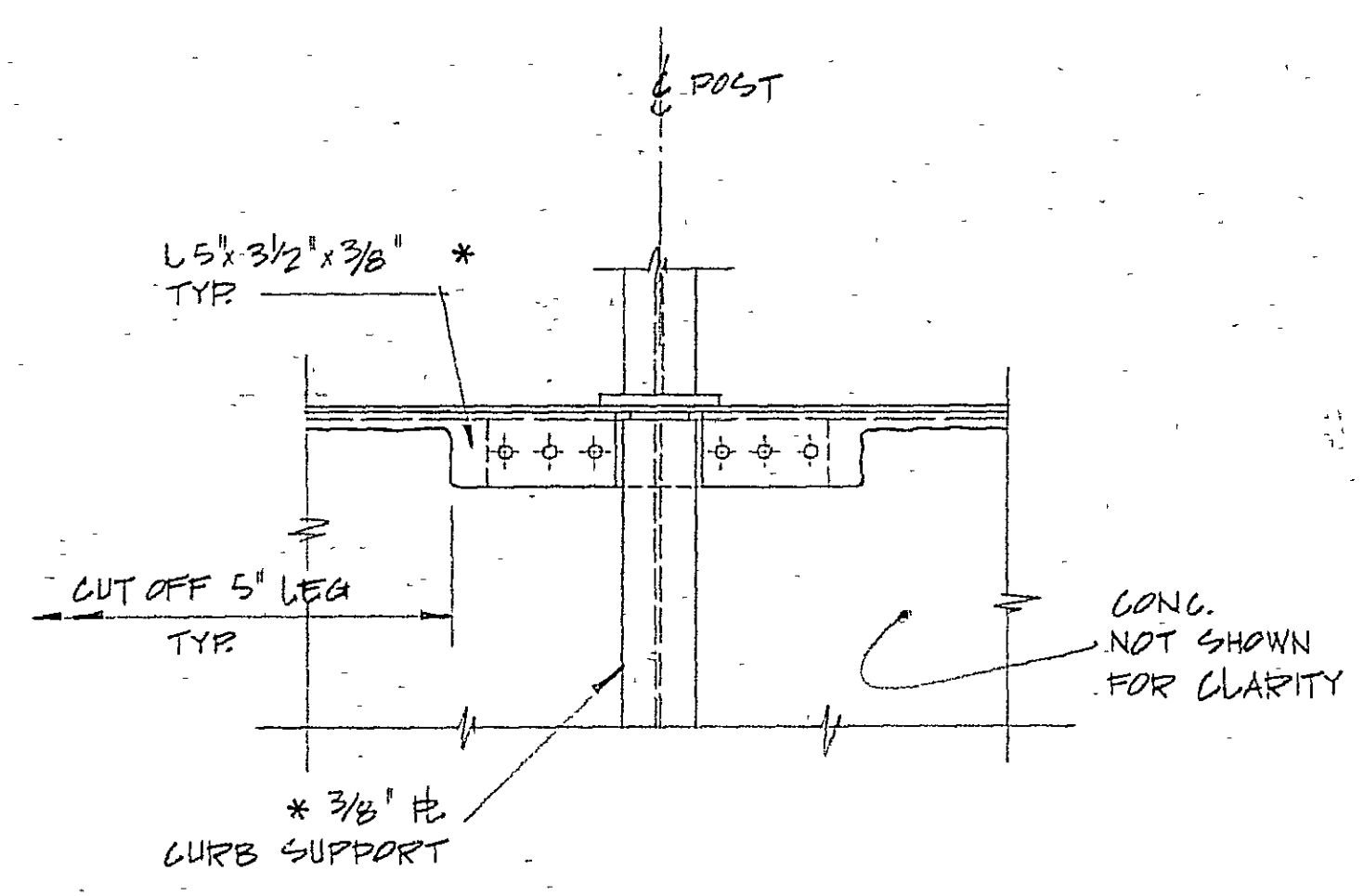
SECTION 13
B-5/B-8
TYPICAL CURB SECTION AT APPROACH SPAN
1" = 1'-0"

PROVIDE NEW BRACKET OR RE-USE EXIST.

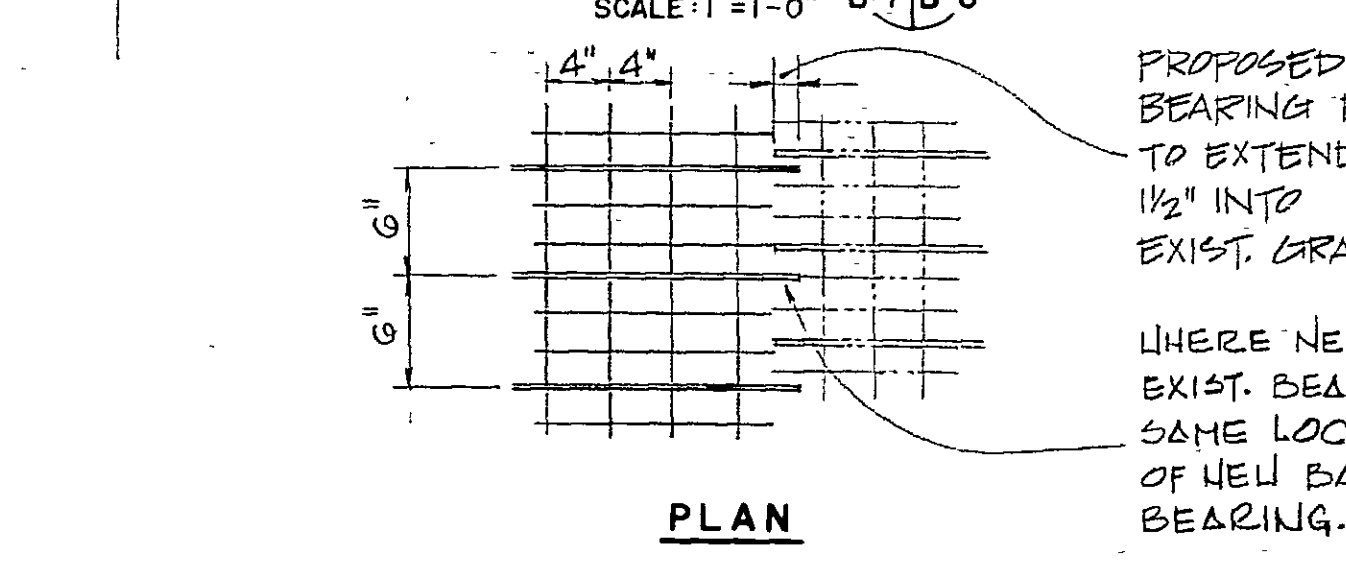
* DENOTES EXIST. STEEL TO BE RE-USED



DETAIL 5
SCALE 1" = 1'-0"
B-8



ELEVATION EL 5
SCALE 1" = 1'-0"
B-8



DETAIL 3
SCALE 1" = 1'-0"
B-7/B-8

PLAN

PROPOSED GRATING BEARING BARS TO EXTEND 1/2" INTO EXIST. GRATING
WHERE NEW BEARING BAR AND EXIST. BEARING BAR ARE IN SAME LOCATION, CUT OFF END OF NEW BAR TO LEAVE 1/2" BEARING.

All dimensions in feet and inches unless otherwise noted.

A detail no. no. du detail
B drawing no. - where detail required dessin no. - ou détail exigé
C drawing no. - where detailed dessin no. - ou détaillé

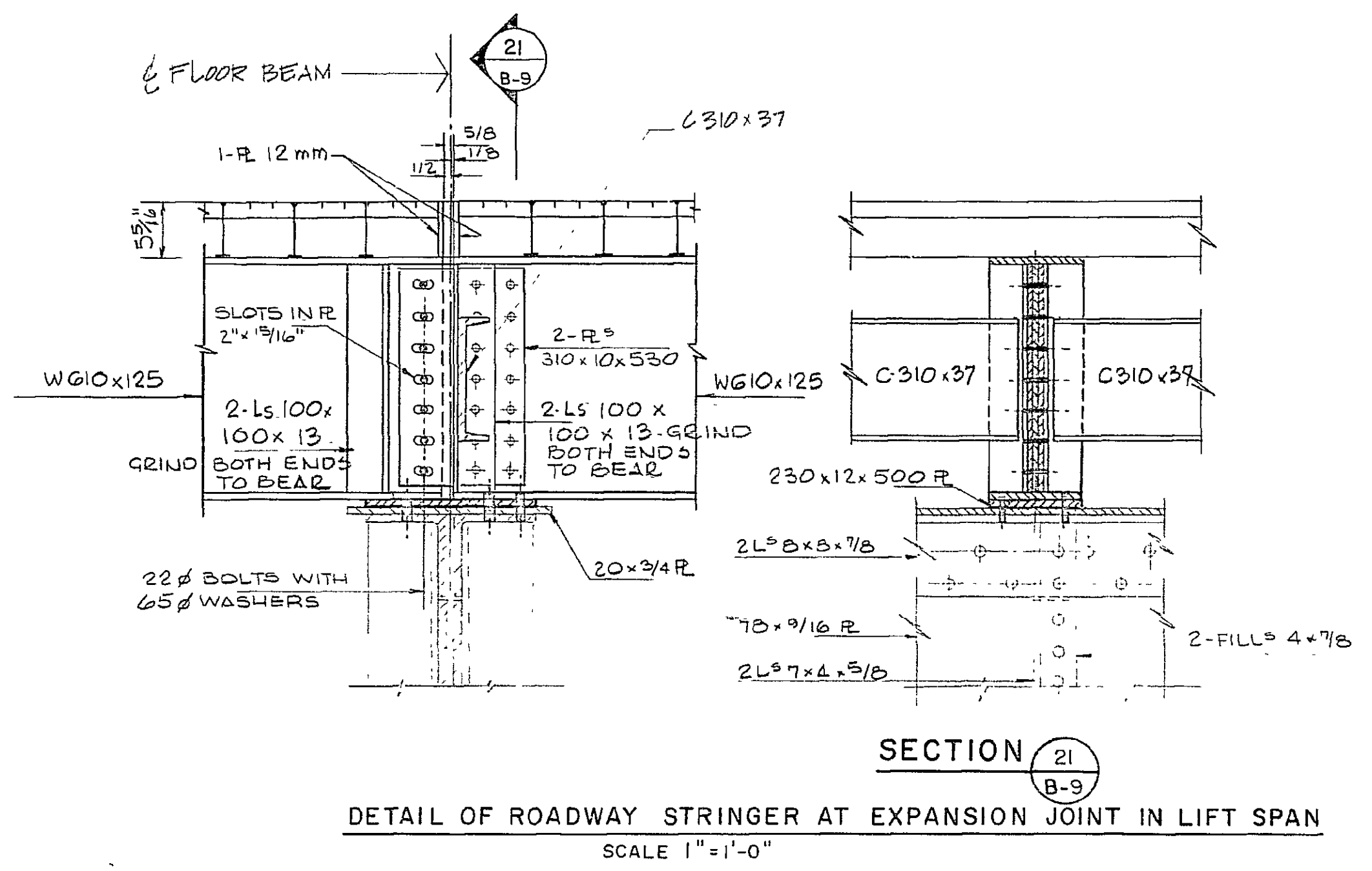
project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES
drawing title / titre du dessin
MISCELLANEOUS DETAILS I

designed by / conçu par: J.C. LOW
drawn by / dessiné par: W.G.M.
reviewed by / examiné par: [Signature]
approved by / approuvé par: D.C. Gramm
project date / date du projet: APRIL 23, 1982
project no. / no. du projet: 041412
drawing no. / dessin no.: B-8

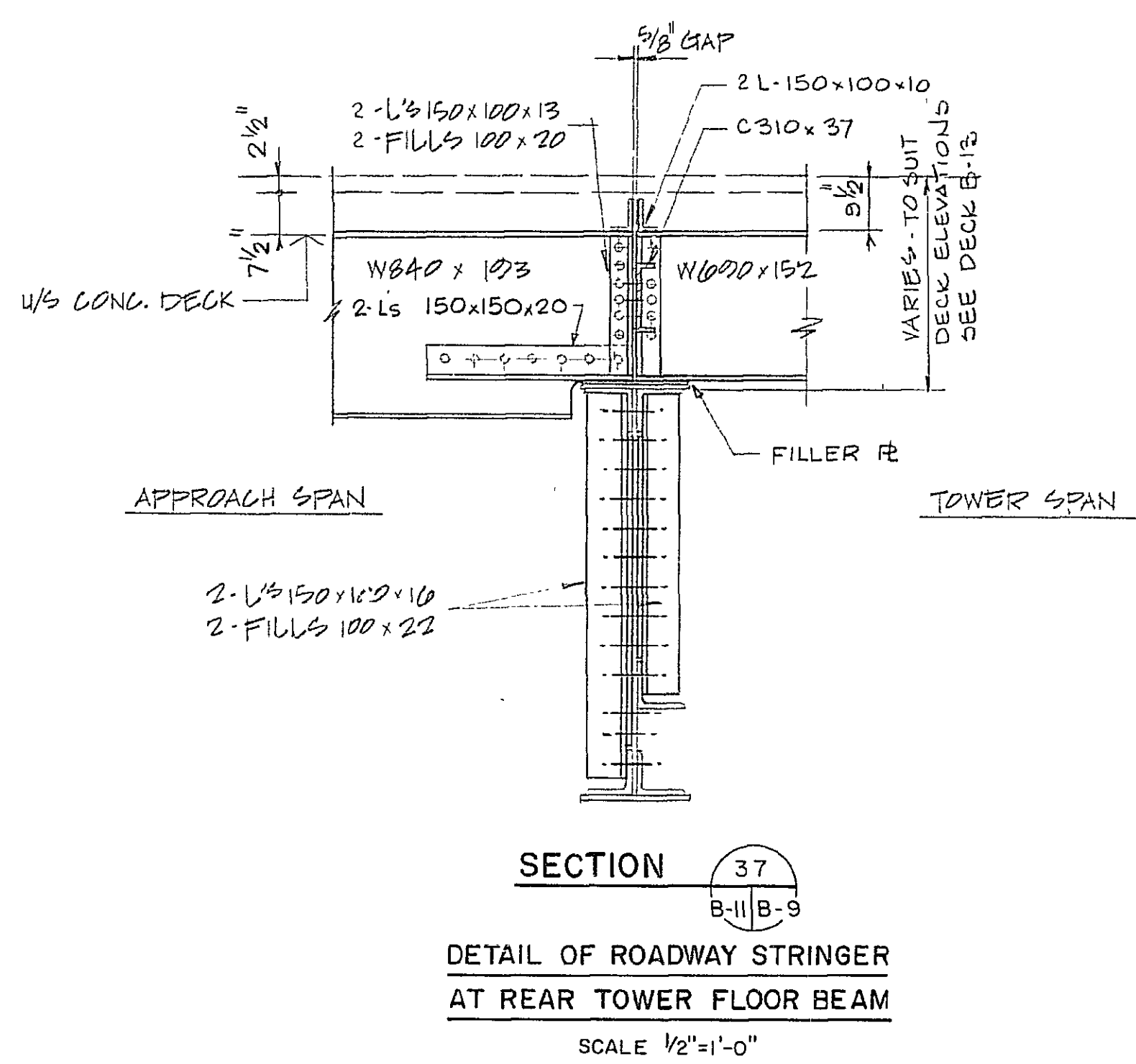


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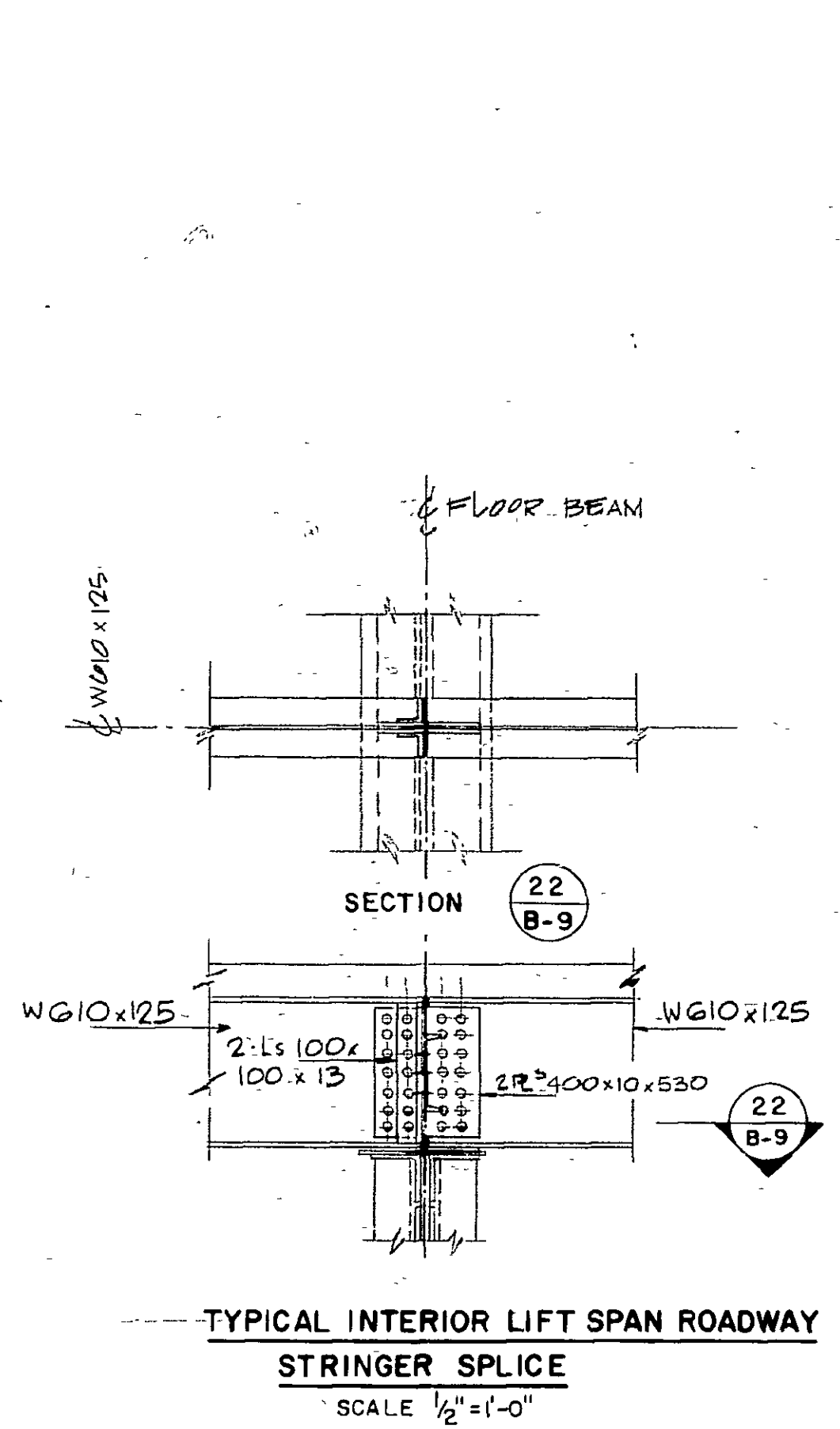
AS BUILT, FROM FIELD RECORDS
1983/09/15



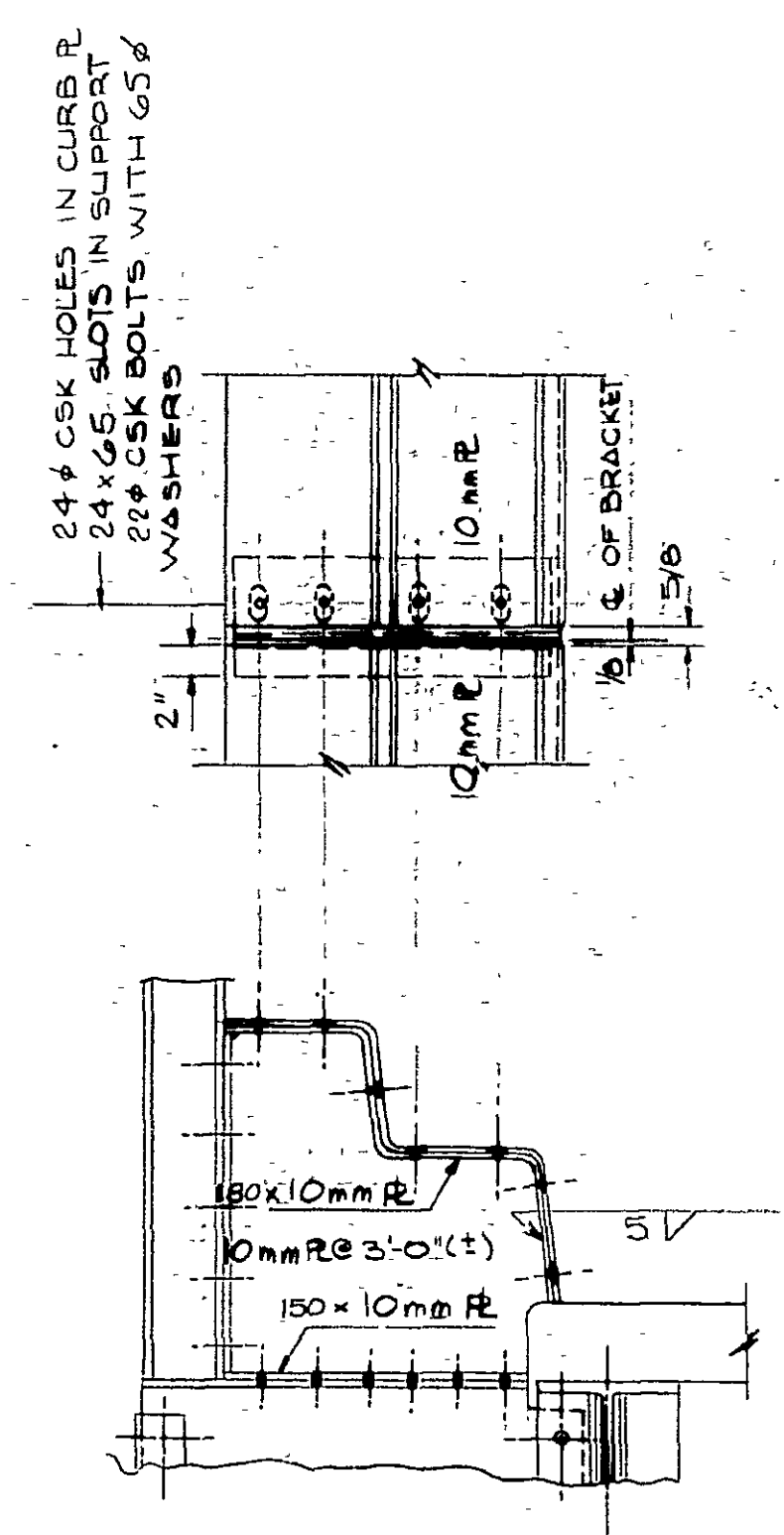
SECTION 21
DETAIL OF ROADWAY STRINGER AT EXPANSION JOINT IN LIFT SPAN
SCALE 1"=1'-0"



SECTION 37
DETAIL OF ROADWAY STRINGER AT REAR TOWER FLOOR BEAM
SCALE 1/2"=1'-0"



SECTION 22
TYPICAL INTERIOR LIFT SPAN ROADWAY STRINGER SPLICE
SCALE 1/2"=1'-0"



TYPICAL DETAIL OF CURB AT EXPANSION JOINT IN LIFT SPAN
SCALE 1"=1'-0"

A detail no. / no. du détail
B drawing no. - where detail required / dessin no. - où détail exigé
C drawing no. - where detailed / dessin no. - où détaillé

project title / titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title / titre du dessin
MISCELLANEOUS DETAILS II

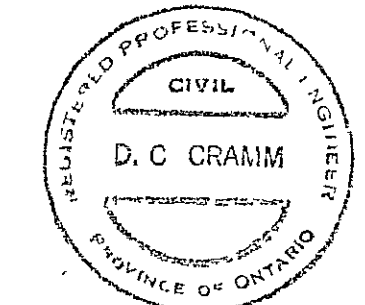
designed by / conçu par: J.C. LOW
drawn by / dessiné par: W.G.M.
reviewed by / examiné par: [Signature]
approved by / approuvé par: [Signature]

project date / date du projet: APRIL 23, 1982

project no. / no. du projet: 041412

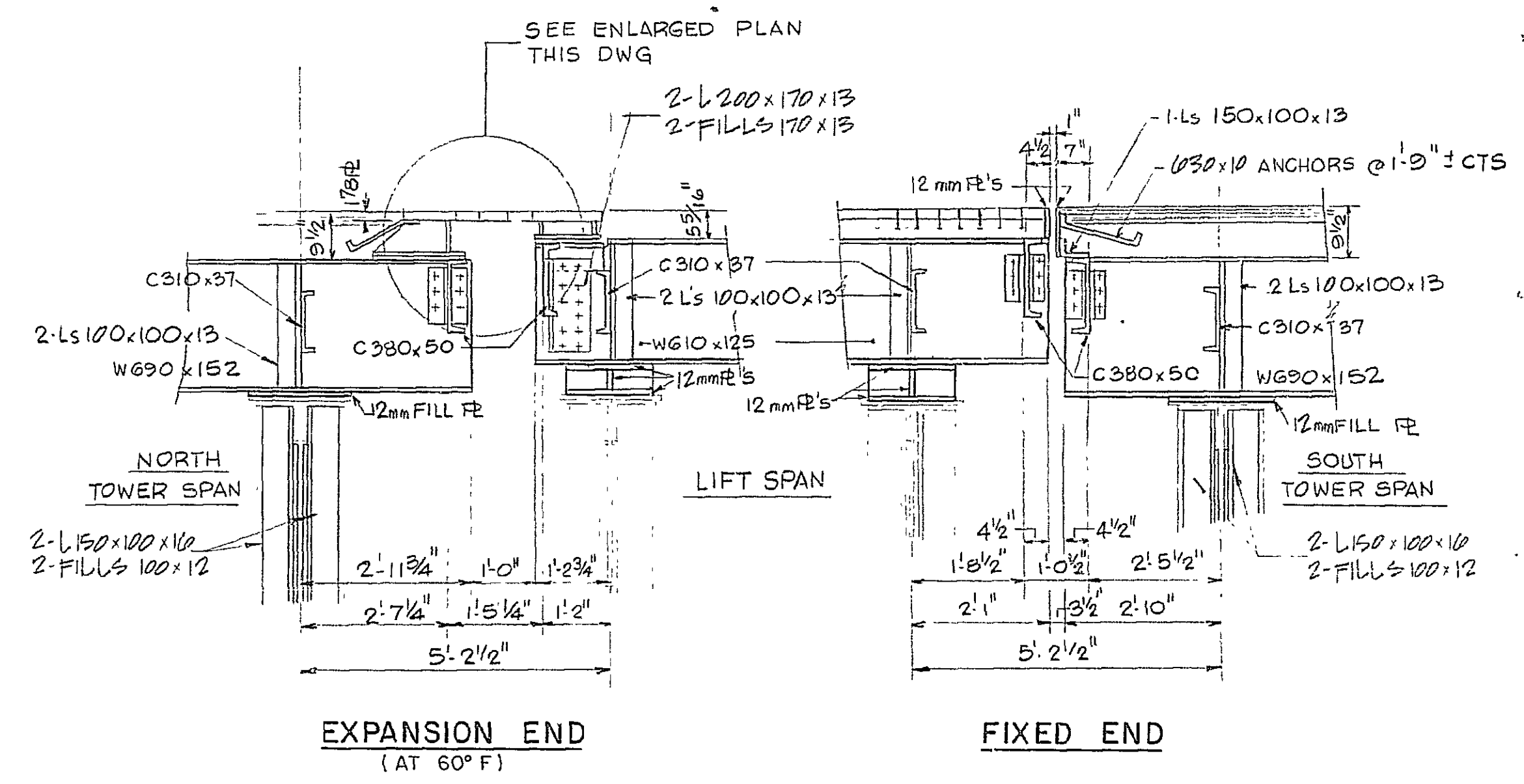
drawing no. / dessin no.: B-9

All dimensions in feet and inches unless otherwise noted.



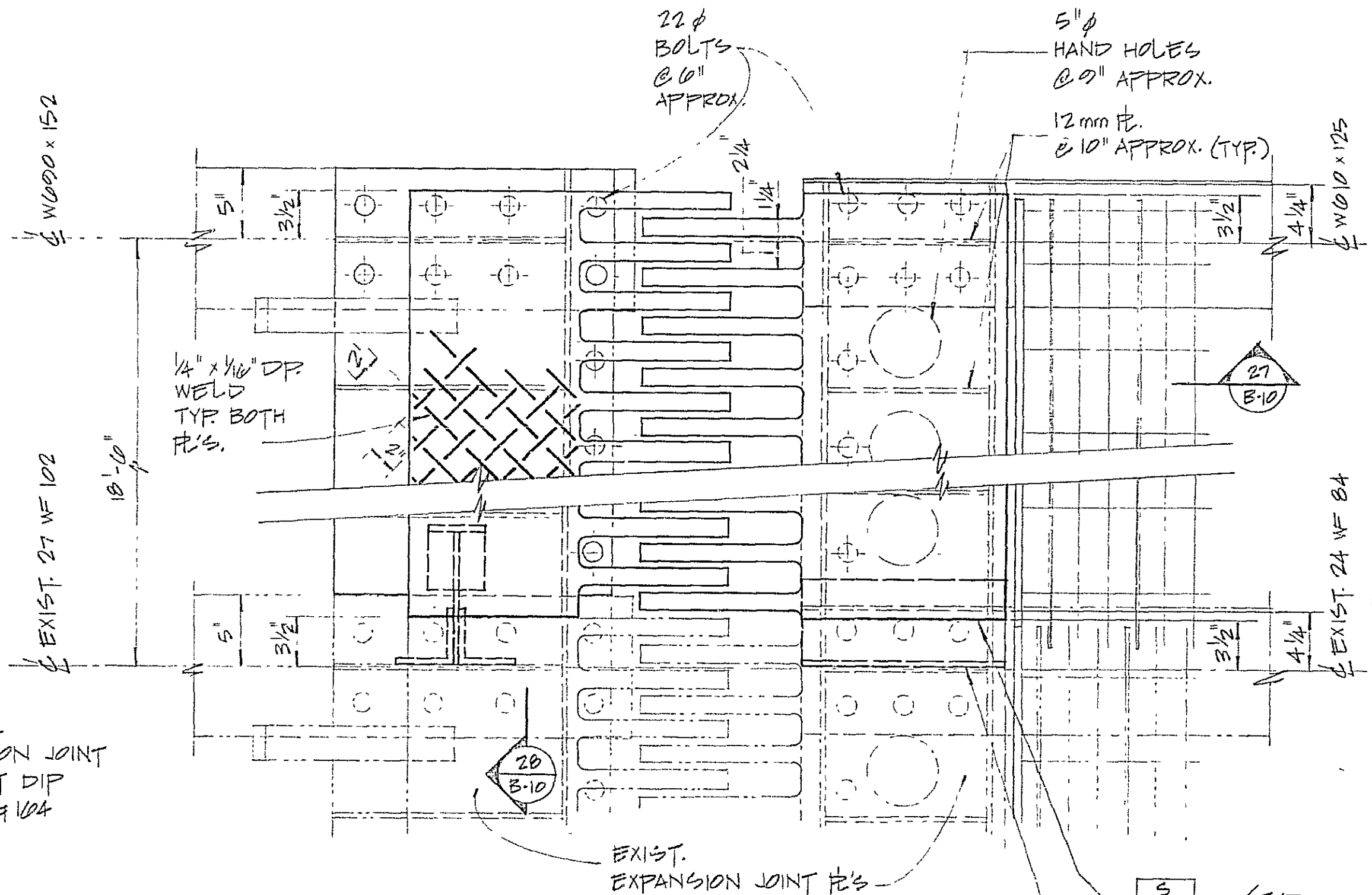
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revisions AS BUILT, FROM FIELD RECORDS date 1983/09/15

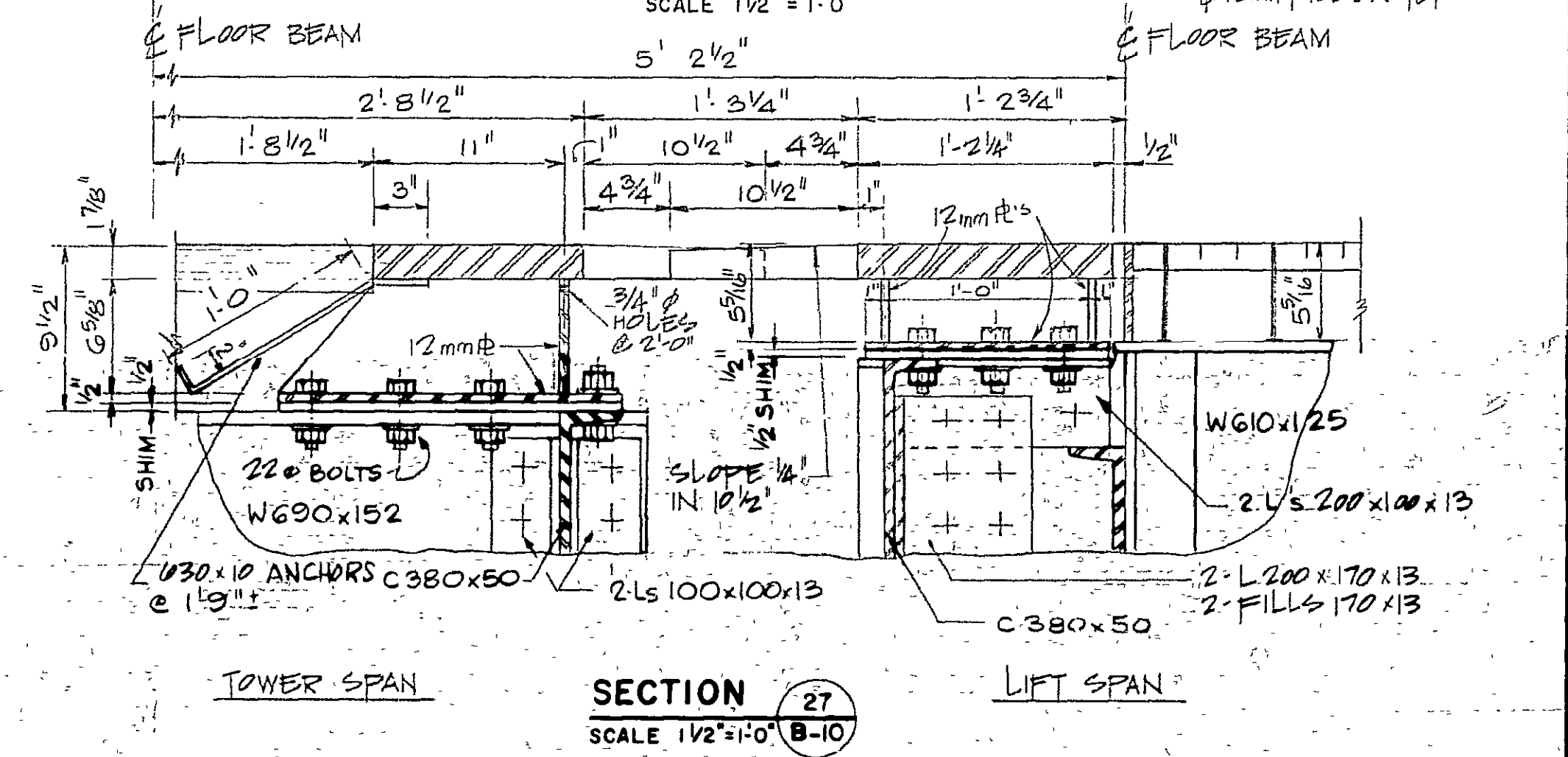


SECTION 35
B-11, B-13, B-10
AT ROADWAY STRINGER
SCALE 1/2" = 1'-0"

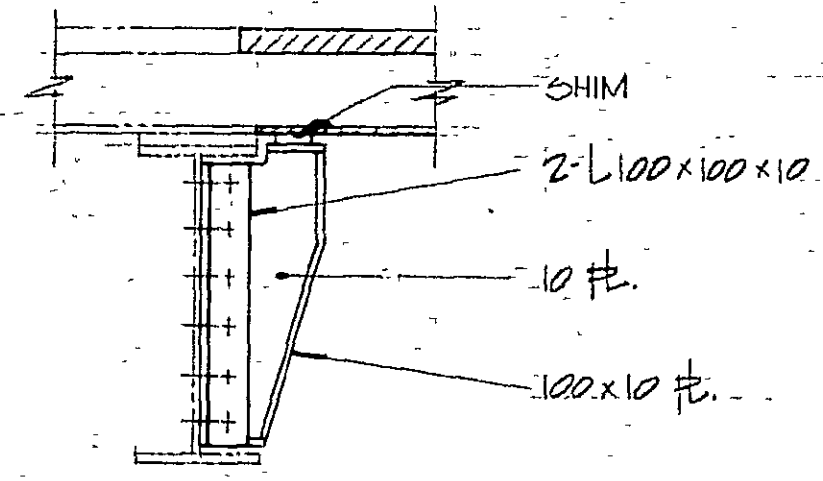
NOTE:
ALL EXPOSED STEEL SURFACES OF EXPANSION JOINT & SUPPORTS TO BE HOT DIP GALVANIZED TO C.S.A. G 104 OR ZINC METALLIZED TO C.S.A. G 189.



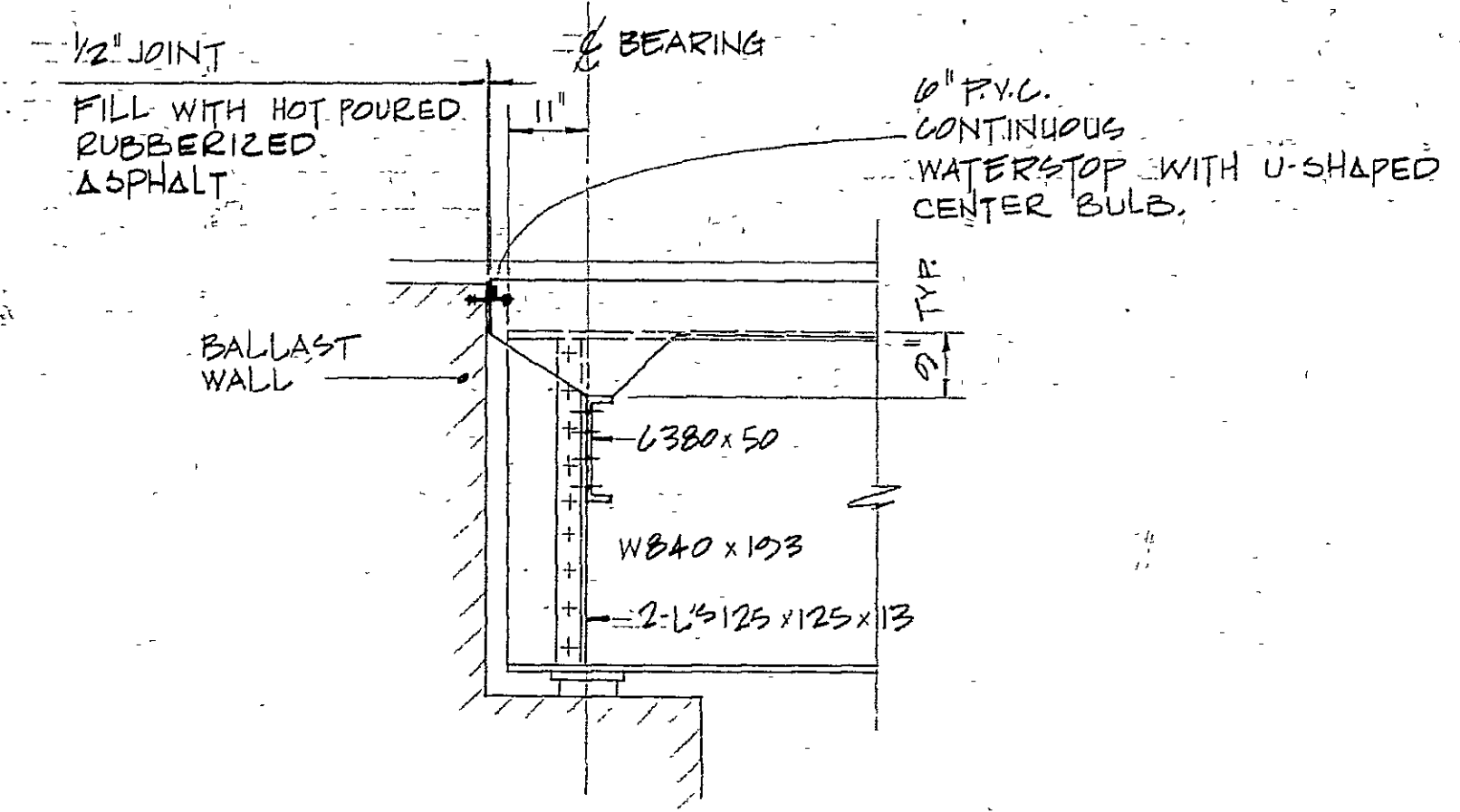
ENLARGED PLAN AT EXPANSION JOINT BETWEEN TOWER & LIFT SPAN (AT 60° F)
SCALE 1/2" = 1'-0"



SECTION 27
SCALE 1/2" = 1'-0"



SECTION 28
SCALE 3/4" = 1'-0"



DETAIL OF ROADWAY STRINGER AT ABUTMENT
SCALE 1/2" = 1'-0"

All dimensions in feet and inches unless otherwise noted.

Table with 3 columns: Detail No., Drawing No., and Where Detailed. Includes entries A, B, and C.

Project title: MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

Project title: MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

Project title: MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

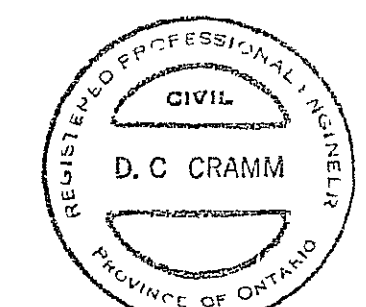
MISCELLANEOUS DETAILS III

Designed by: J.C. LOW
Drawn by: W.G.M.
Reviewed by: [Signature]
Approved by: D.C. Gramm

Project date: APRIL 23, 1982

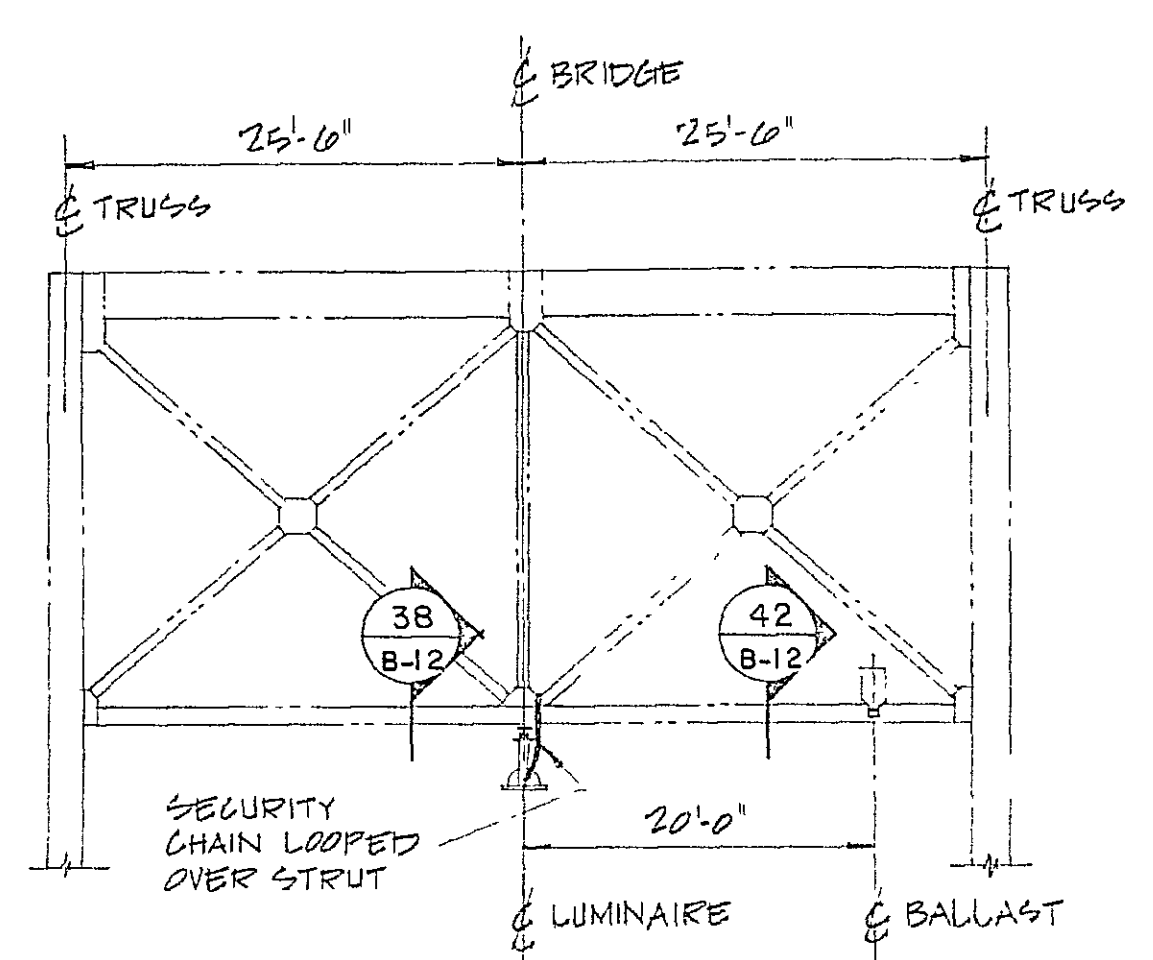
Project no.: 041412

Drawing no.: B-10

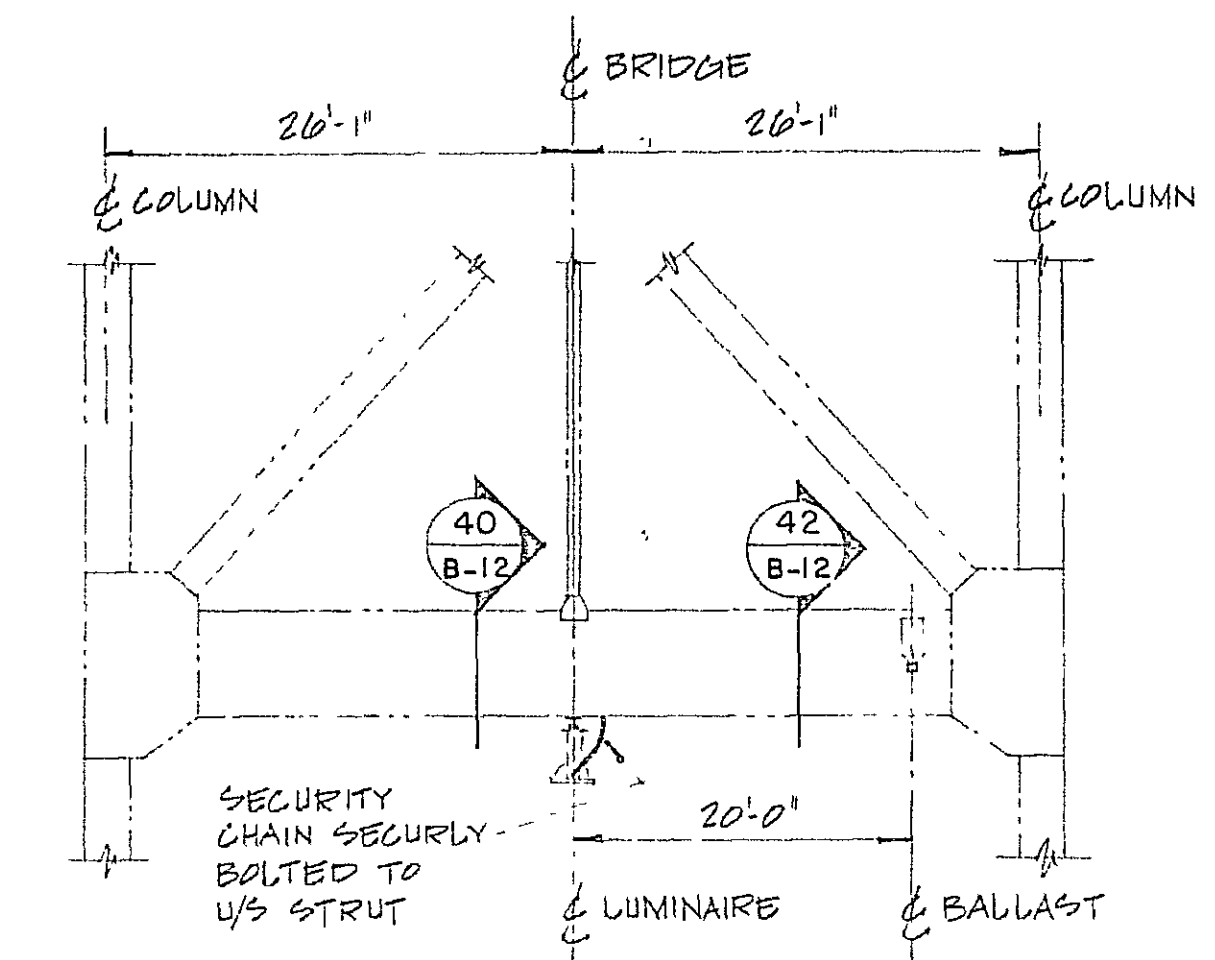


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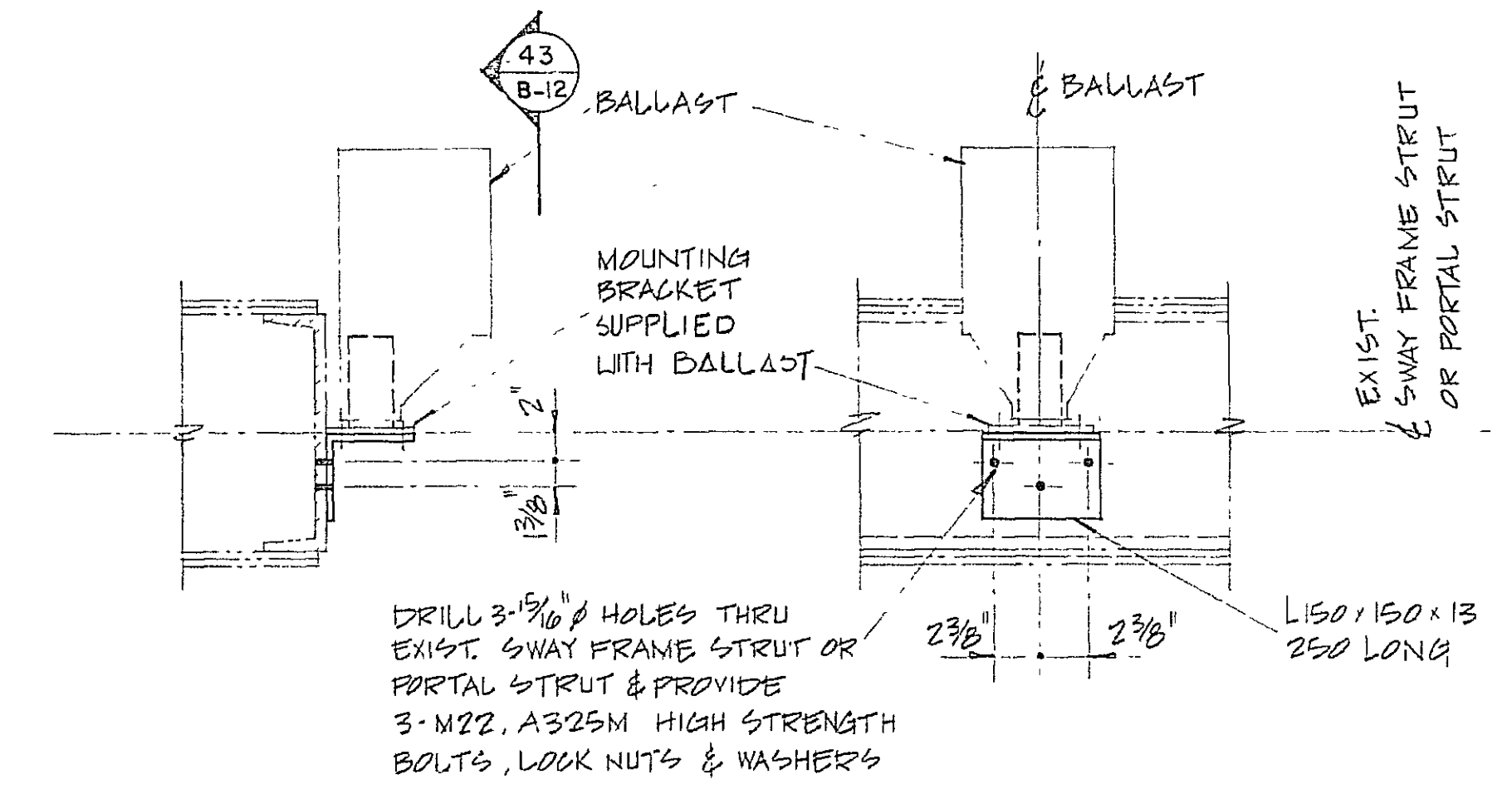
revisions	AS BUILT, FROM FIELD RECORDS	date	1983/09/15
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AT SWAY FRAME STRUTS (11 REQD.)



AT PORTAL STRUTS (4 REQD.)



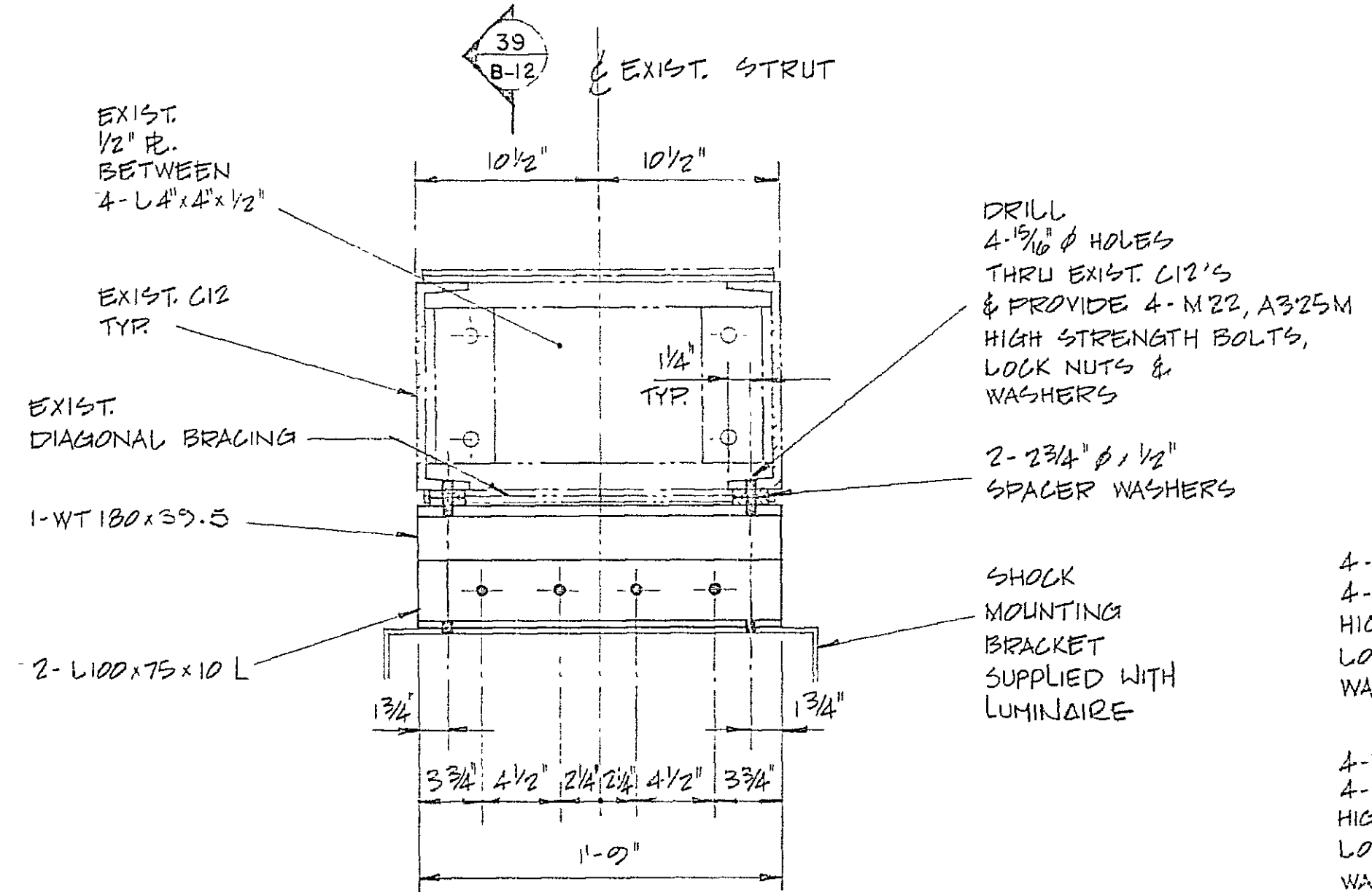
SECTION 42
 SCALE: 1/2" = 1'-0" B-12

SECTION 43
 SCALE: 1/2" = 1'-0" B-12

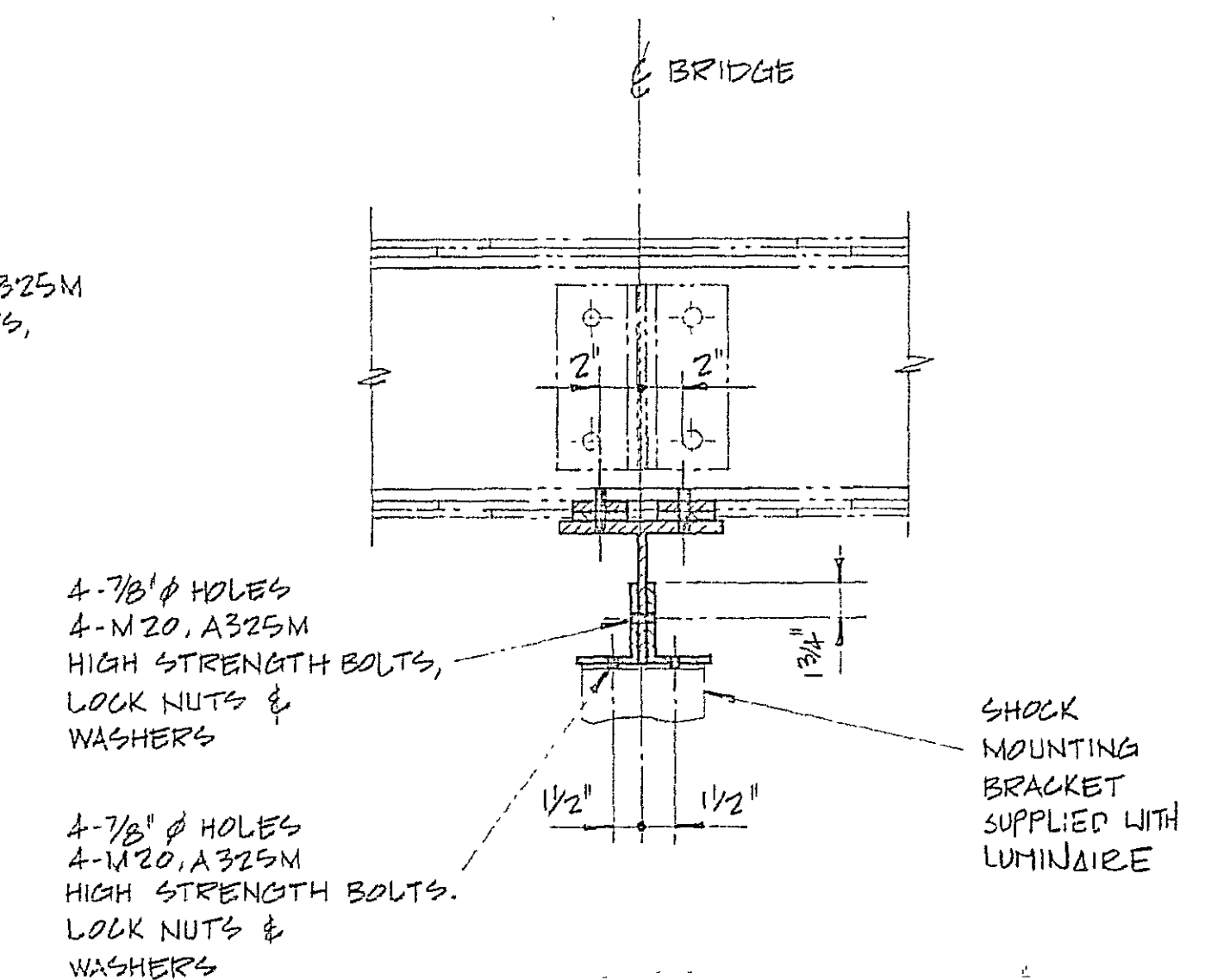
DRILL 3-15/16" HOLES THRU EXIST. SWAY FRAME STRUT OR PORTAL STRUT & PROVIDE 3-M22, A325M HIGH STRENGTH BOLTS, LOCK NUTS & WASHERS

NOTE: SWAY FRAME STRUT SHOWN

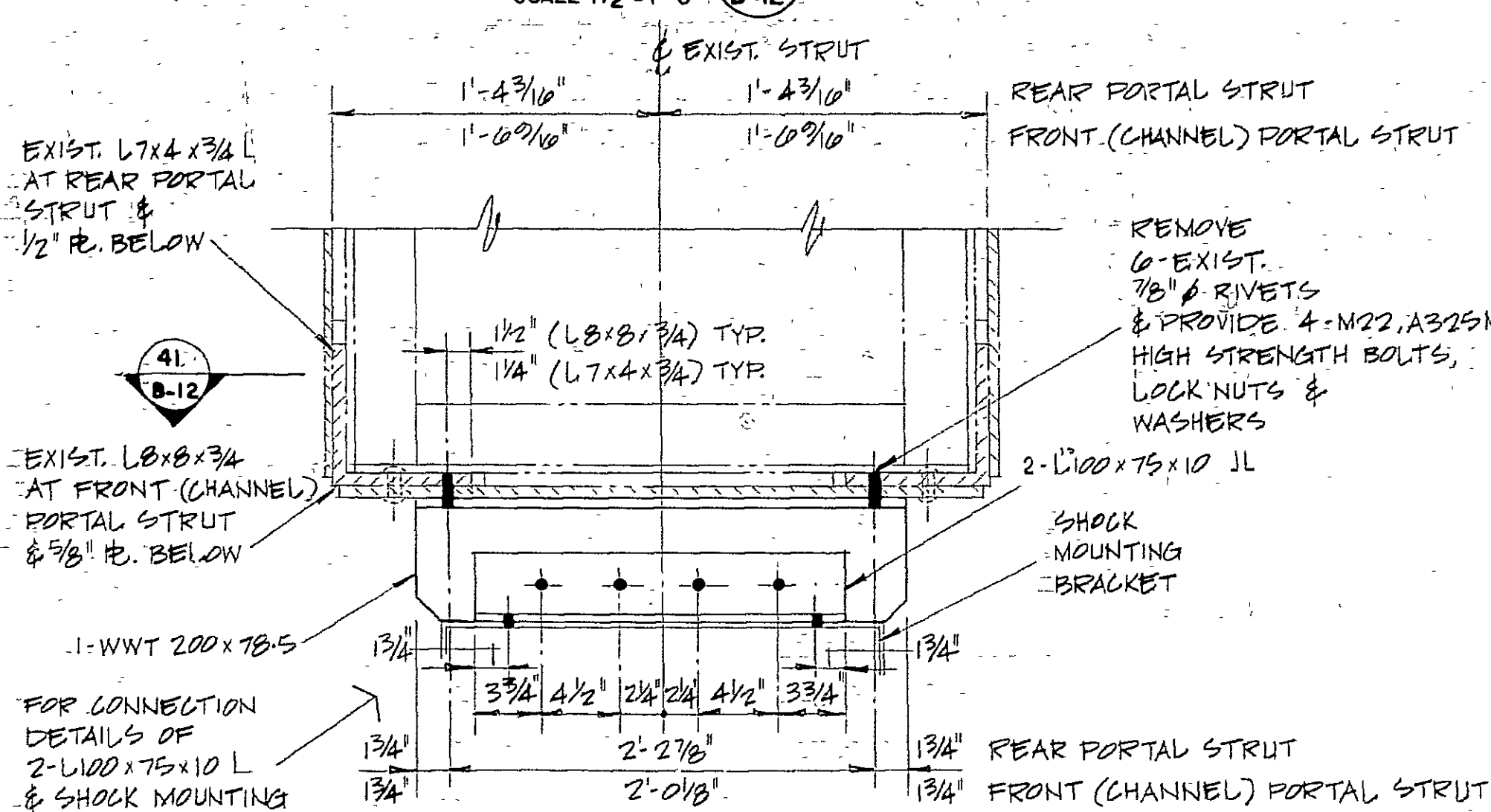
LUMINAIRE & BALLAST SUPPORTS
 N.T.S.



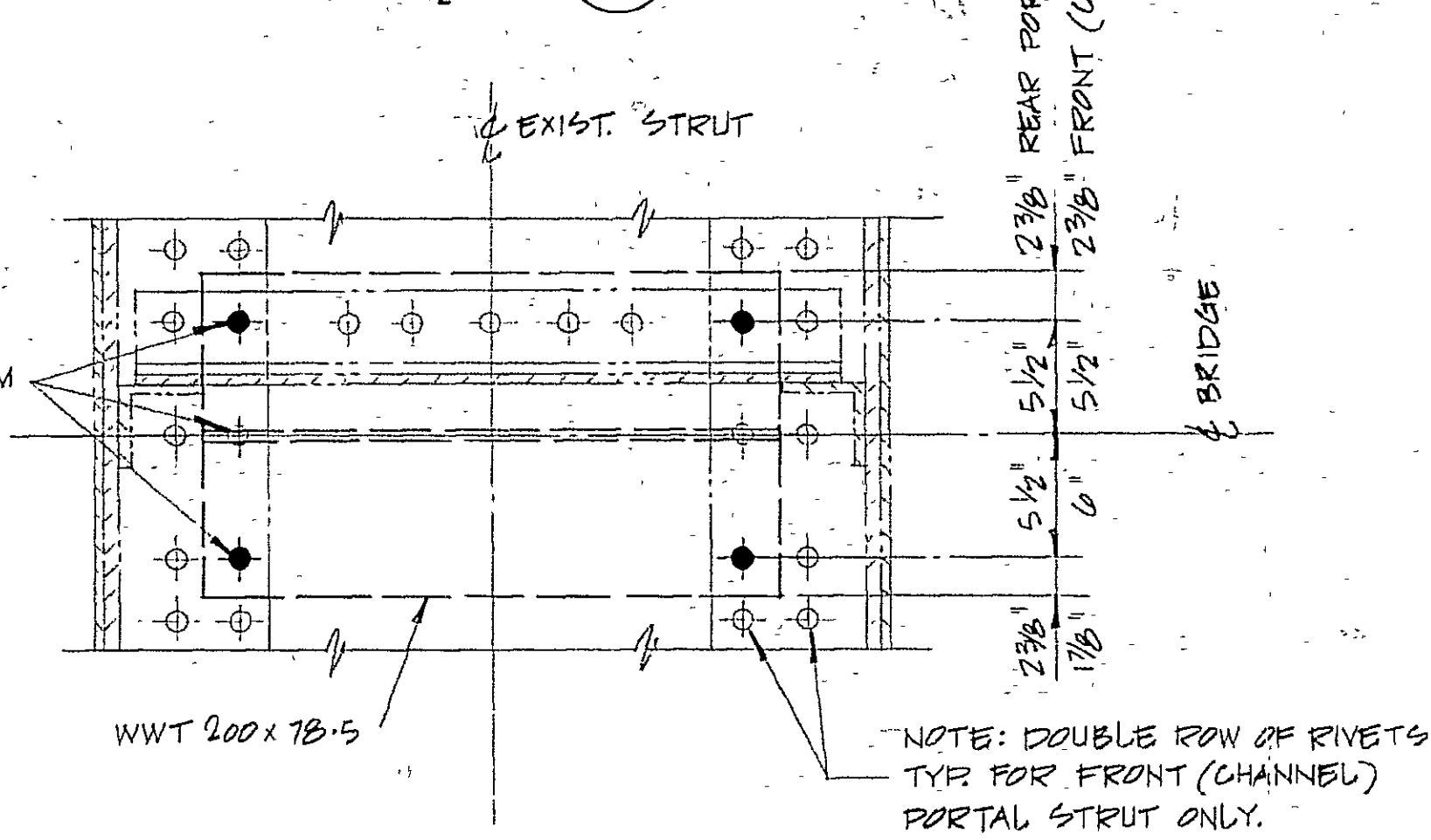
SECTION 38
 SCALE: 1/2" = 1'-0" B-12



SECTION 39
 SCALE: 1/2" = 1'-0" B-12



SECTION 40
 SCALE: 1/2" = 1'-0" B-12



SECTION 41
 SCALE: 1/2" = 1'-0" B-12

NOTE: FRONT (CHANNEL) PORTAL STRUT SHOWN

A	Detail no. - where detail required
B	Drawing no. - where detail required
C	Drawing no. - where detail required

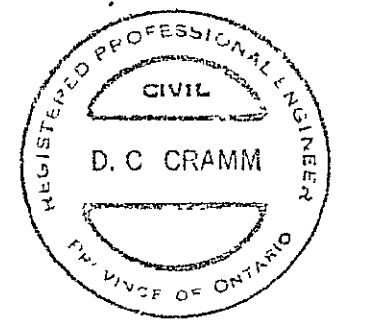
project title
 titre du projet
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

drawing title
 titre du dessin
LUMINAIRE AND BALLAST SUPPORT DETAILS

designed by / conçu par	J.C. LOW
drawn by / dessiné par	D.J.
reviewed by / examiné par	<i>Asst. Eng.</i>
approved by / approuvé par	<i>D. C. Cramm</i>
project date / date du projet	APRIL 23, 1982
project no. / no. du projet	041412
drawing no. / dessin no.	B-12

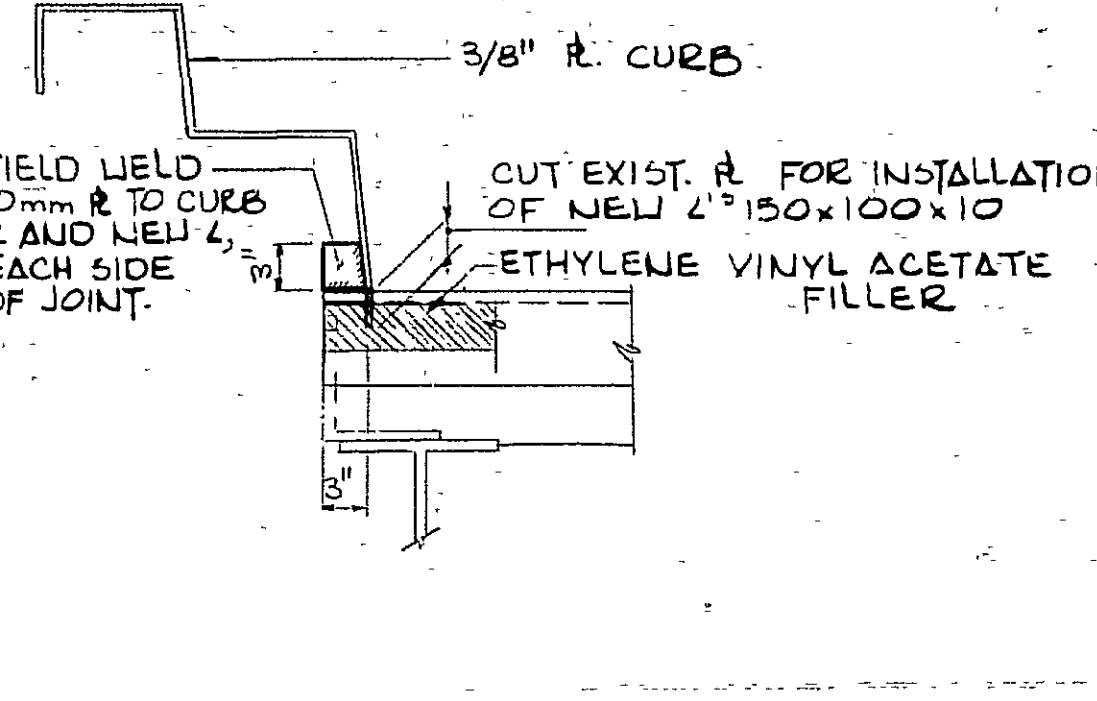
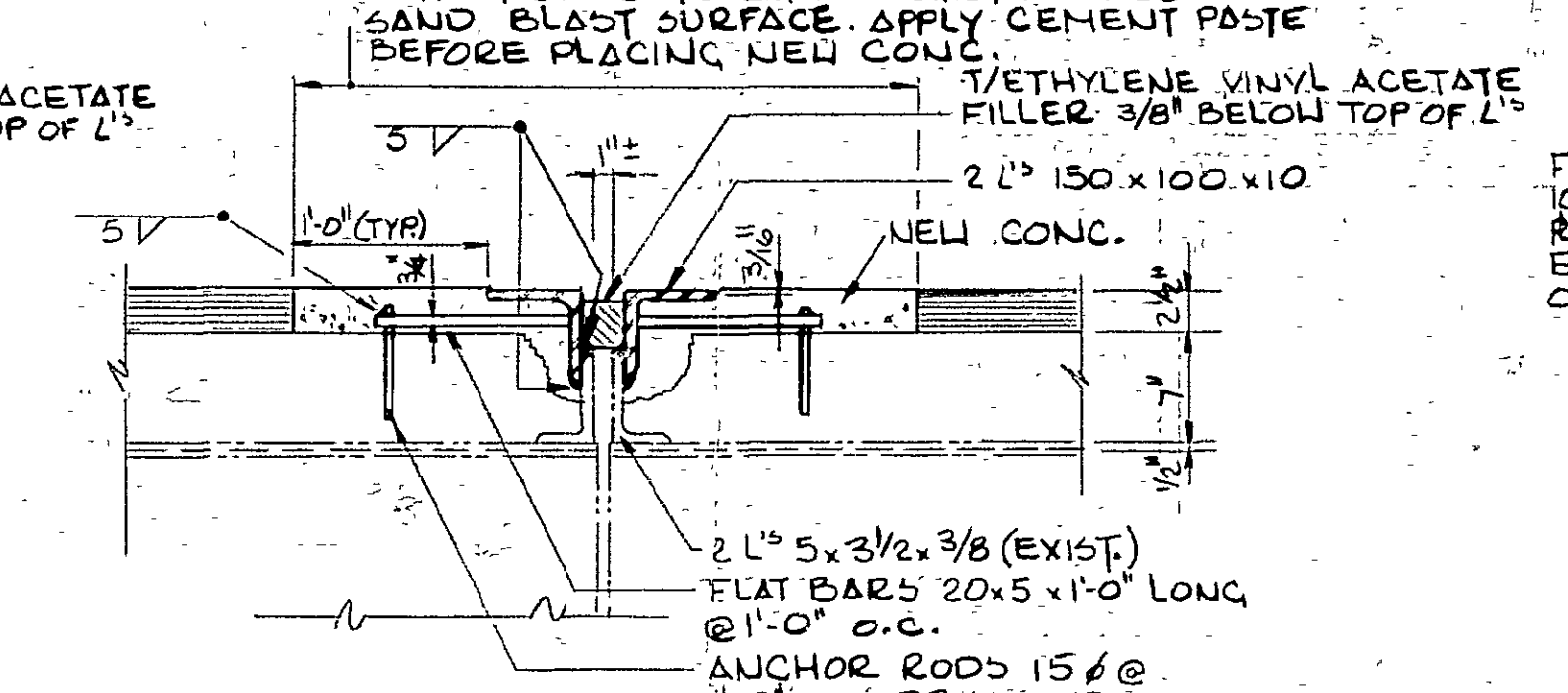
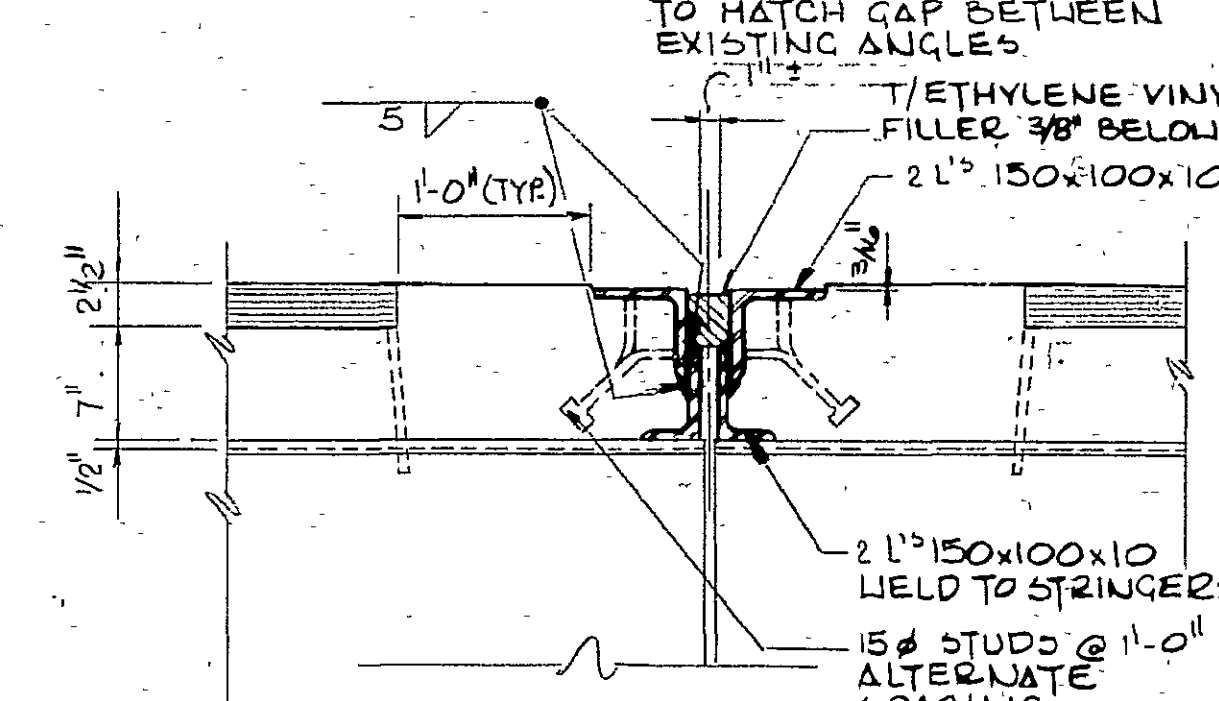
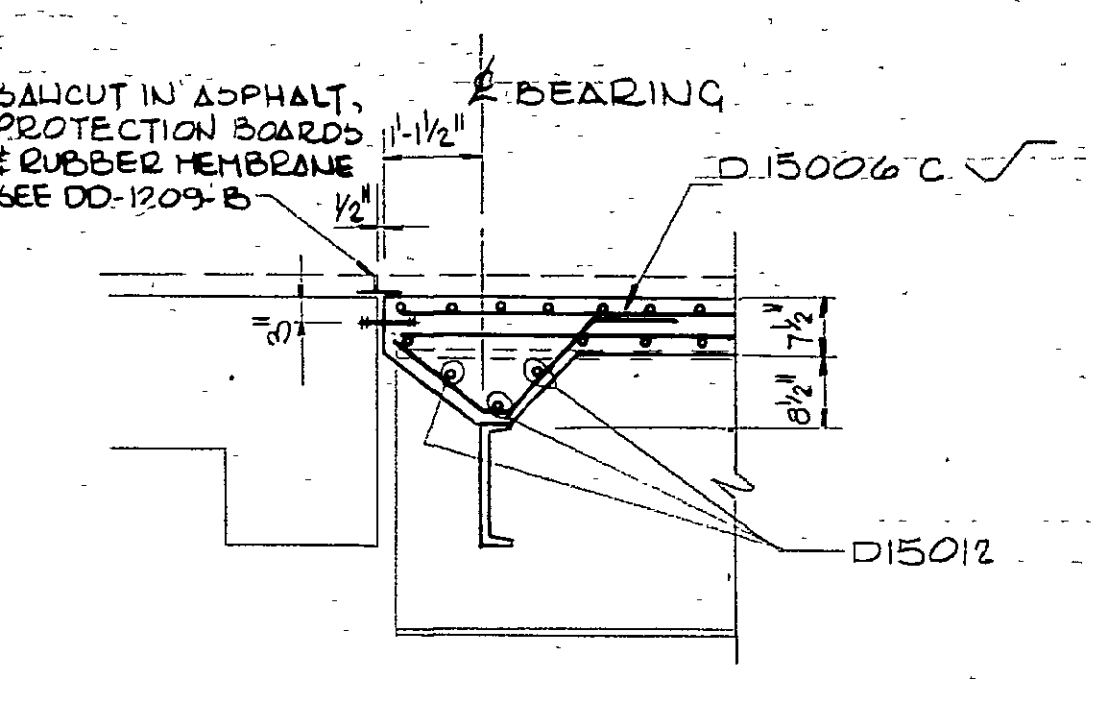
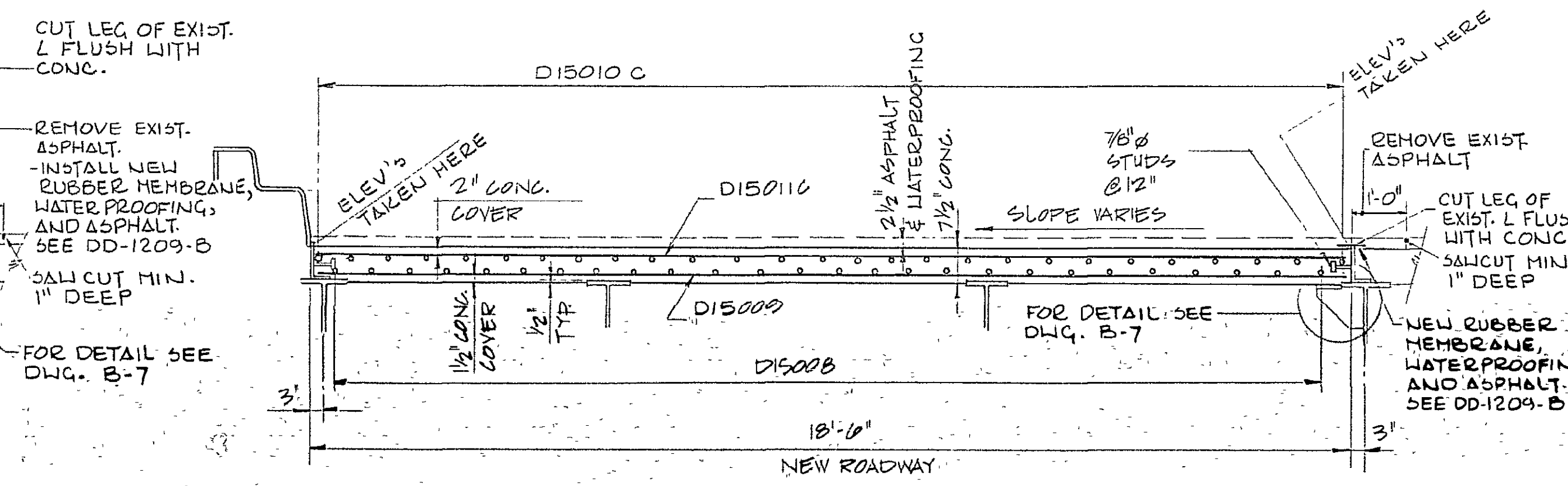
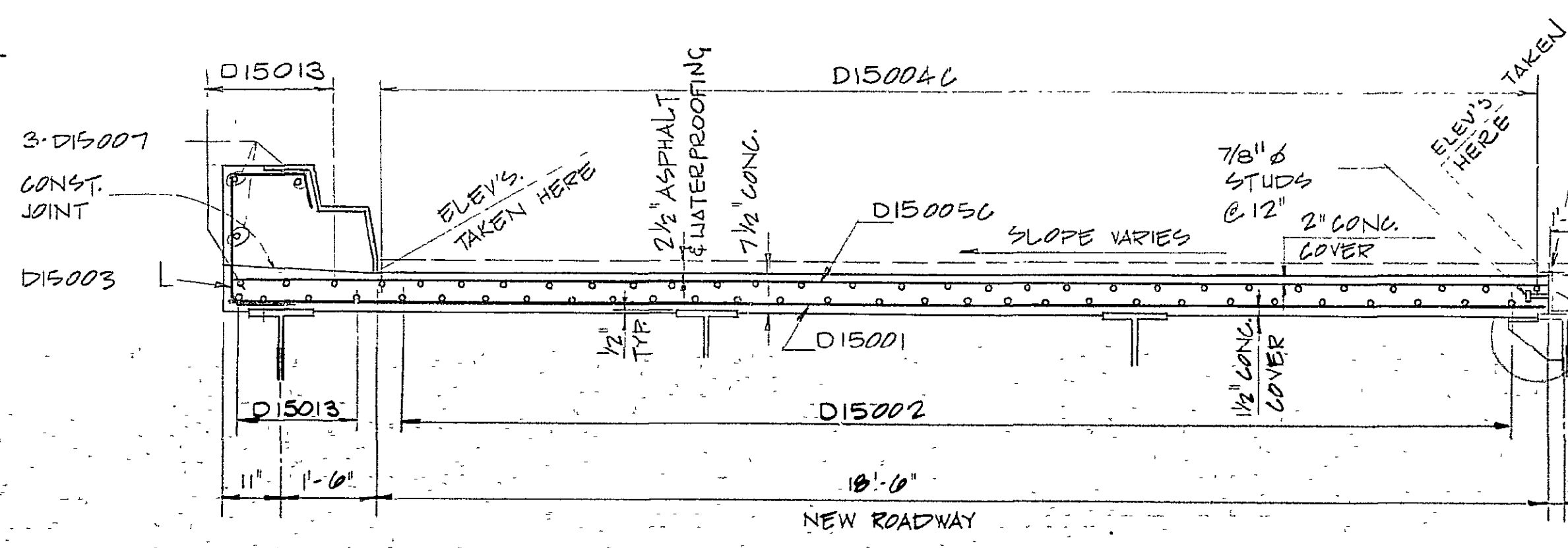
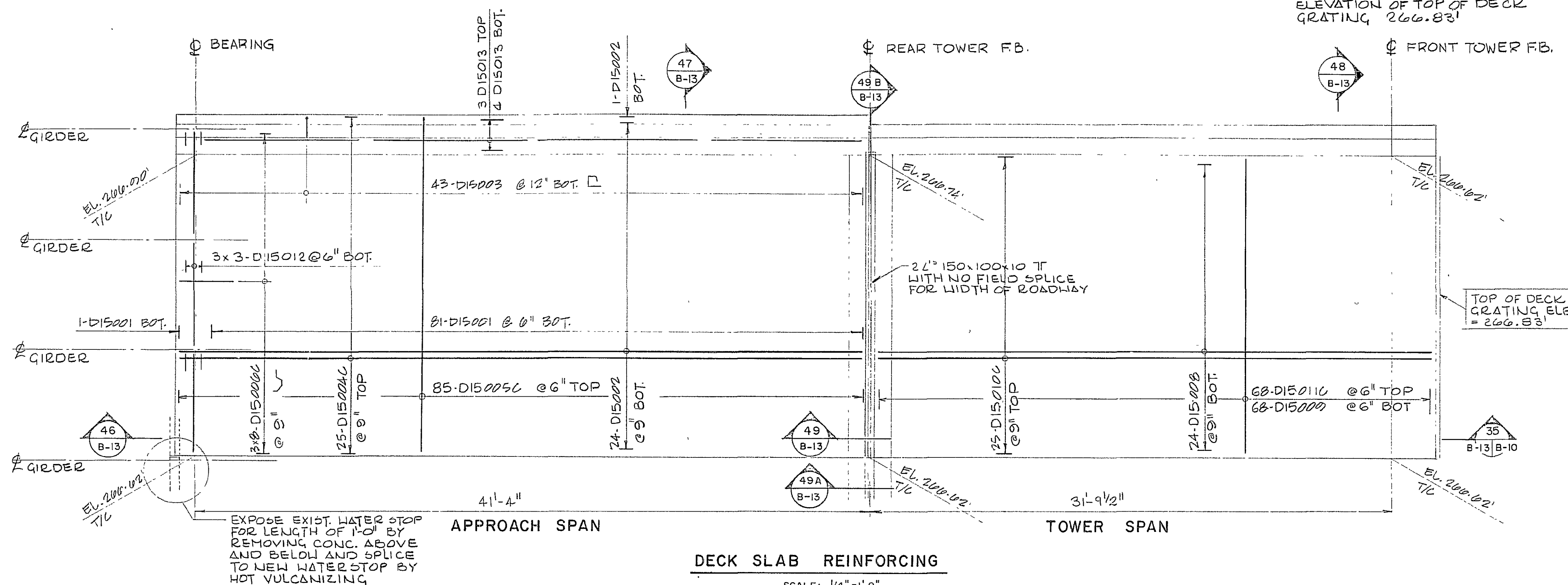
All dimensions in feet and inches unless otherwise noted.

NOTE: REFERENCE FOR ELEVATIONS GIVEN ON THIS DRAWING IS ELEVATION OF TOP OF DECK GRATING, 266.83'



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HAMILTON ONTARIO

REVISIONS
AS BUILT, FROM FIELD RECORDS
1983/09/15



- A detail no. - où le détail
- B drawing no. - where detail required / dessin no. - où détail exigé
- C drawing no. - where detailed / dessin no. - où détaillé

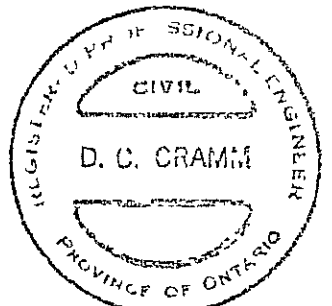
MODIFICATIONS OF BURLINGTON CHANNEL VERTICAL LIFT BRIDGE AND APPROACHES

DECK SLAB DETAILS

designed by / conçu par	J.C. LOW
drawn by / dessiné par	W.G.M.
reviewed by / examiné par	<i>[Signature]</i>
approved by / approuvé par	D.C. Cramm
project date / date du projet	APRIL 23, 1982
project no. / no. du projet	041412
drawing no. / dessin no.	B-13

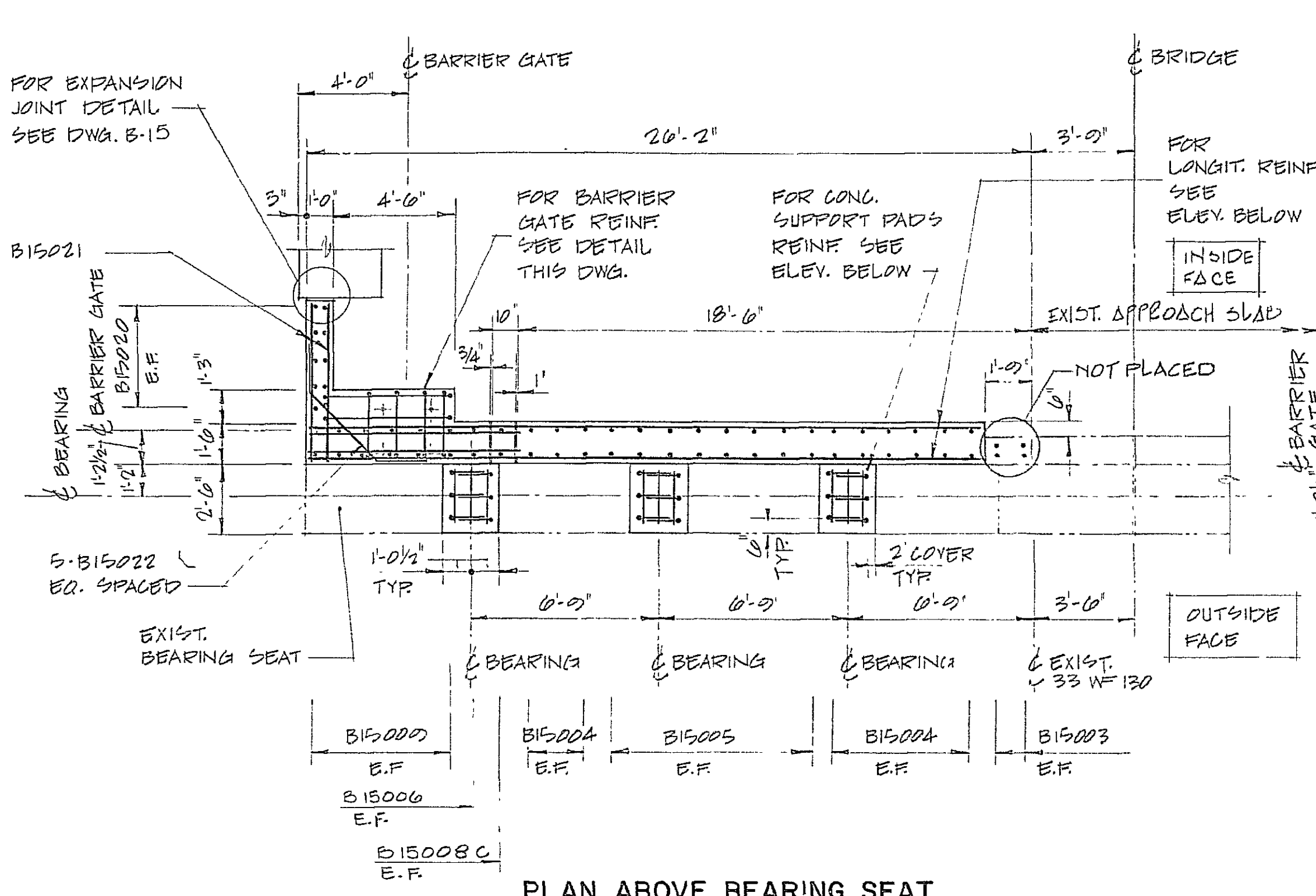
All dimensions in feet and inches unless otherwise noted.

NOTE:
REFERENCE FOR ELEVATIONS
GIVEN ON THIS DRAWING IS
ELEVATION OF TOP OF DECK
GRATING 266.83'



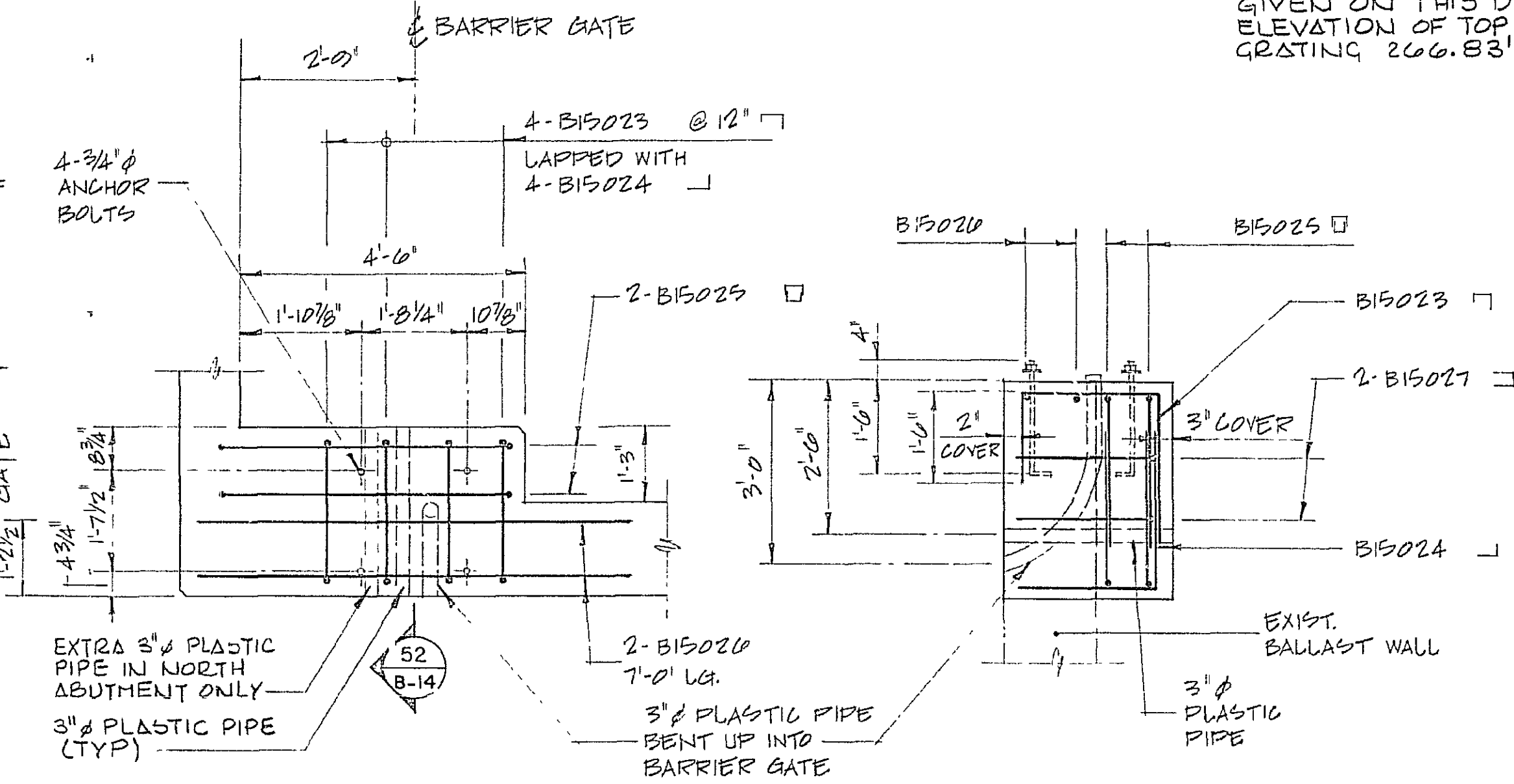
C.C. PARKER CONSULTANTS LIMITED
CONSULTING PROFESSIONAL ENGINEERS
HAMILTON ONTARIO

revisions: AS BUILT, FROM FIELD RECORDS
date: 1983/09/15



PLAN ABOVE BEARING SEAT

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

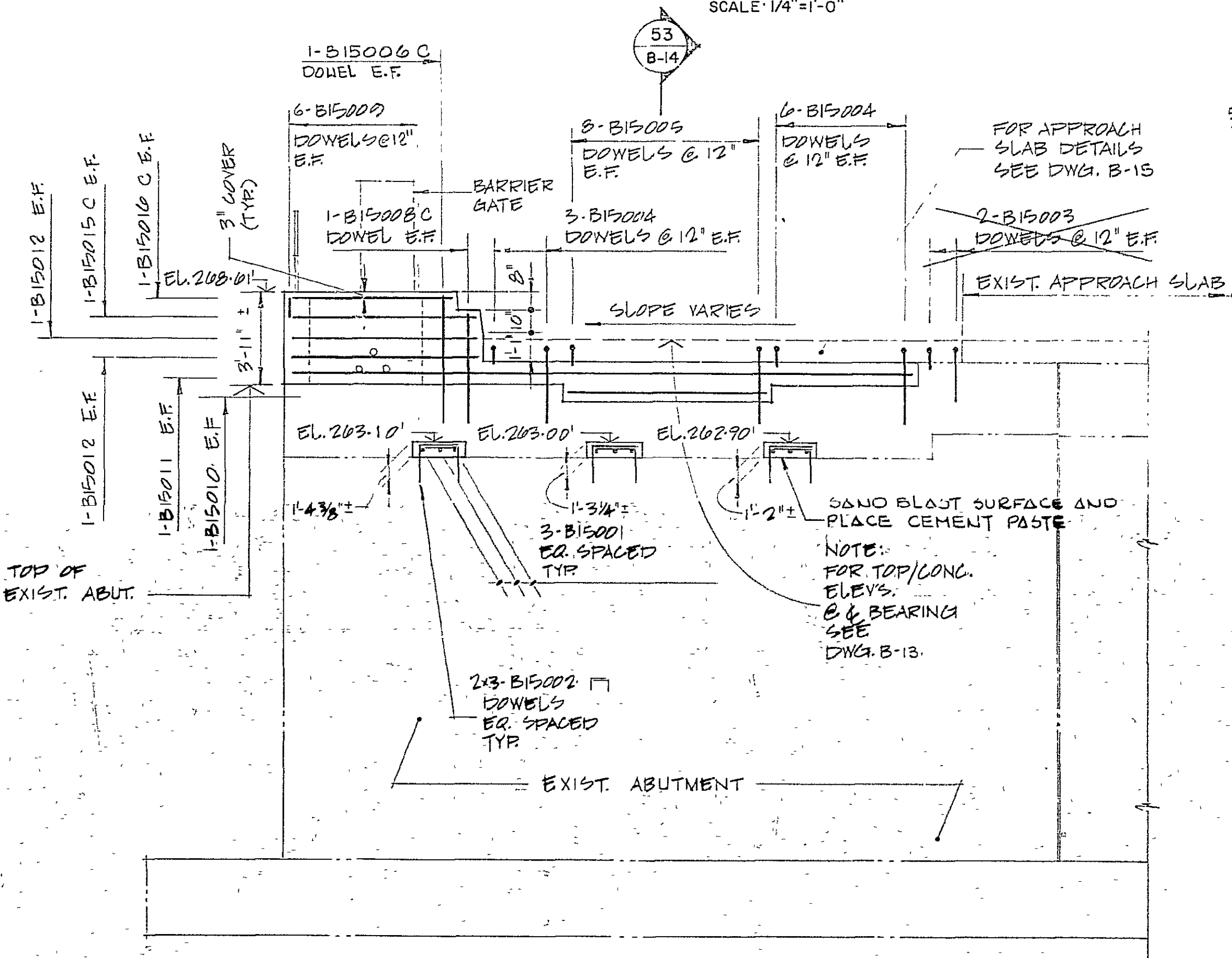


BARRIER GATE SUPPORT DETAIL

(BALLAST WALL REINF. NOT SHOWN FOR CLARITY)
SCALE: 1/2" = 1'-0"

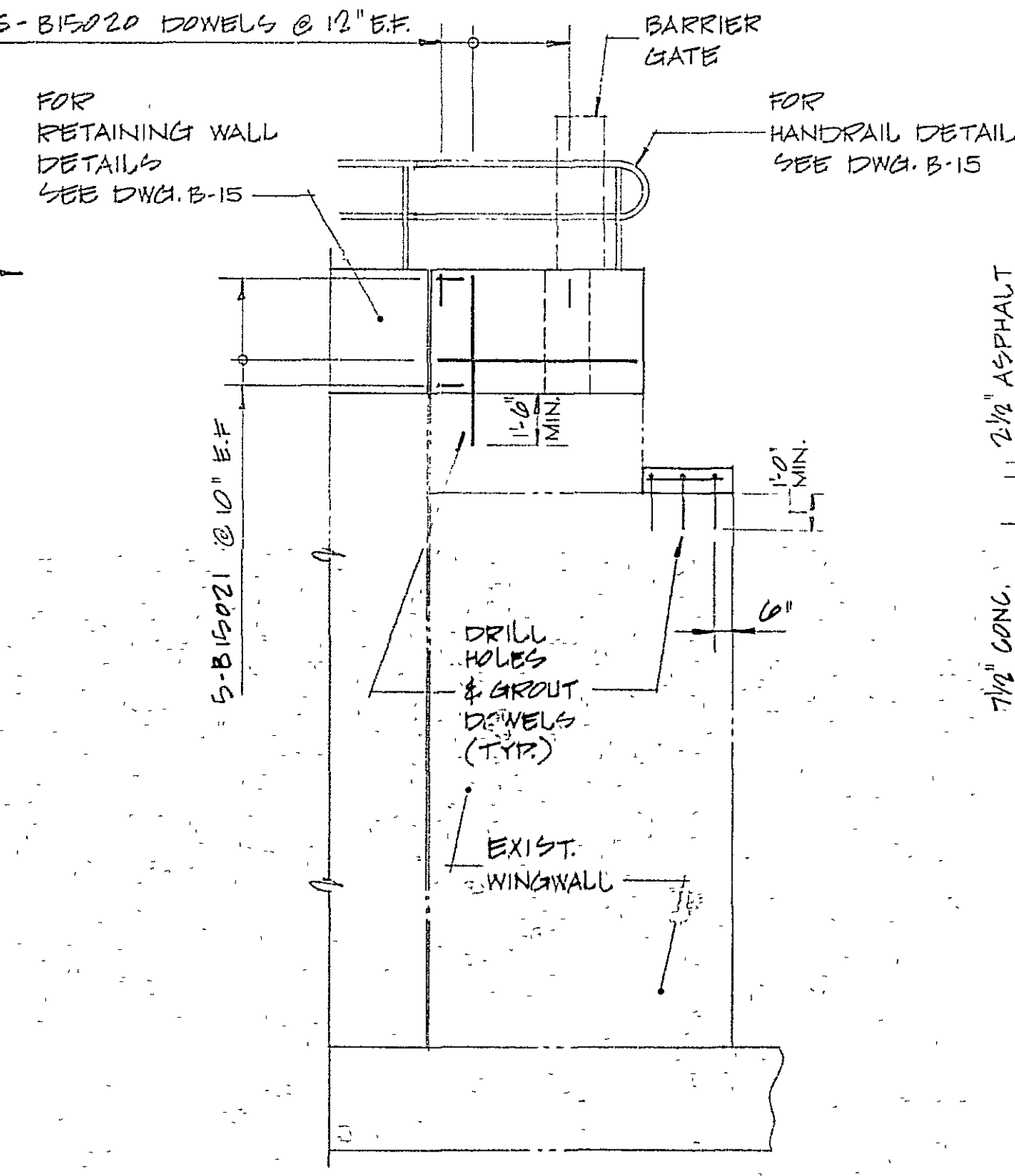
SECTION 52

SCALE: 1/2" = 1'-0" B-14



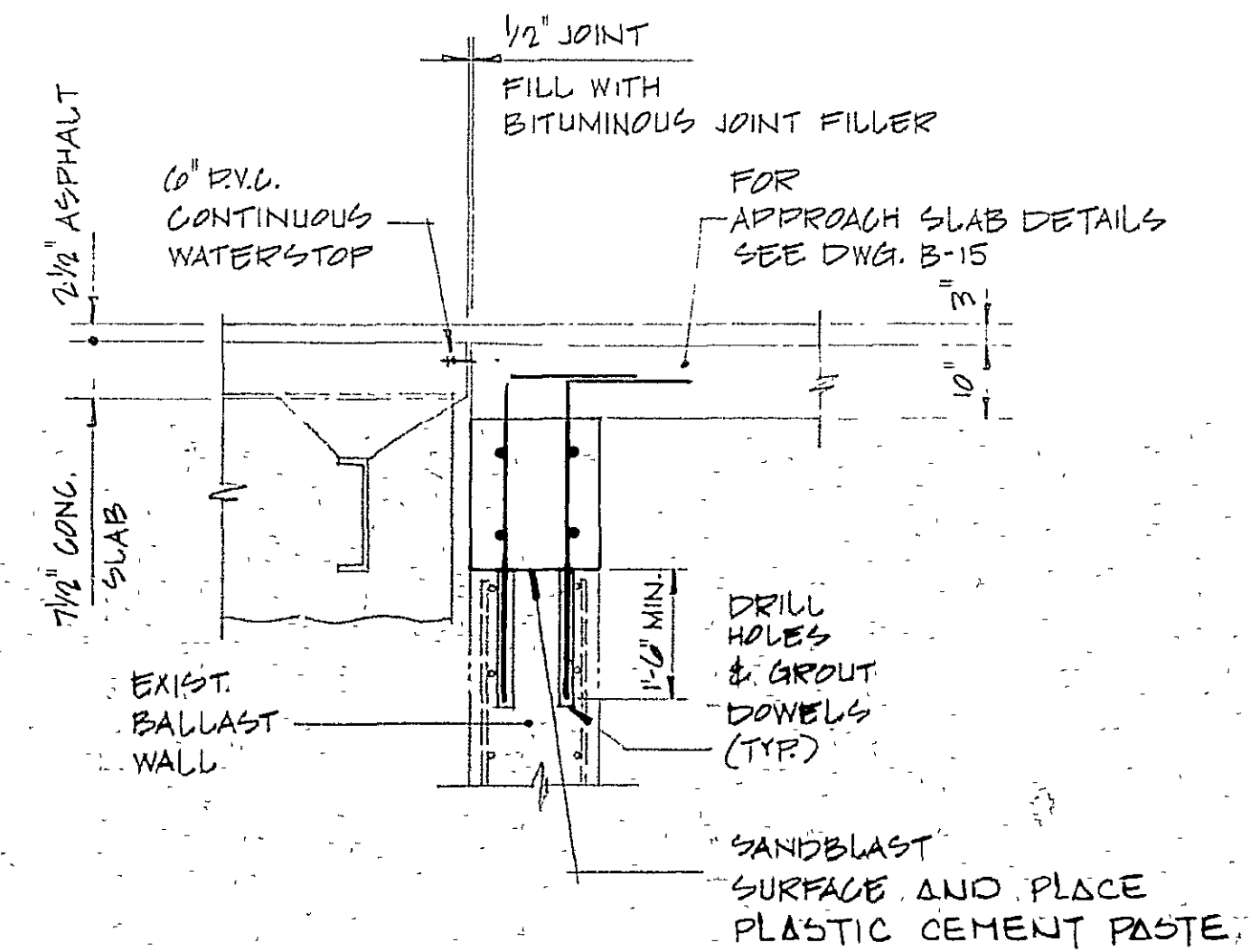
PART. ELEVATION OF SOUTH ABUTMENT

(NORTH ABUTMENT OPPOSITE HAND)
SCALE: 1/4" = 1'-0"



ELEVATION OF SOUTH EAST WINGWALL

(NORTH EAST WINGWALL OPPOSITE HAND)
SCALE: 1/4" = 1'-0"



SECTION 53

SCALE: 1/2" = 1'-0" B-14

Detail reference table:

A	A detail no.
B	B drawing no. - where detail required
C	C dessin no. - where detailed

MODIFICATIONS OF
BURLINGTON CHANNEL
VERTICAL LIFT BRIDGE
AND APPROACHES

ABUTMENT DETAILS

designed by / conçu par: J.C. LOW

drawn by / dessiné par: D.J.

reviewed by / examiné par: [Signature]

approved by / approuvé par: D.C. Gramm

project date / date du projet: APRIL 23, 1982

project no. / no. du projet: 041412

drawing no. / dessin no.: B-14

All dimensions in feet and inches
unless otherwise noted

