INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

STRUCTURE CONTRACT PLANS

66th AVENUE ROADWAY WIDENING

PHASE IB 57th STREET TO 69TH STREET
INDIAN RIVER COUNTY PROJECT No. 1505
FDOT FPID 436379-1-52-01

INDEX OF STRUCTURE PLANS

STRUCTURES
SHOP DRAWINGS
TO BE SUBMITTED TO:

BRIAN GOOD, P.E.
KIMLEY-HORN
445 24TH ST. SUITE 200
VERO BEACH, FL 32960
(772) 794-4100

PLANS PREPARED BY:

Kimley»Horn

1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411
Certificate Of Authorization No. 696

PROJECT NUMBER: 097035041

STRUCTURE PLANS:
ENGINEER OF RECORD: THOMAS W. FARNAN, P.E.
P.E. NO.: 49143

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION,
"DESIGN STANDARDS" DATED JANUARY 2015,
AND "STANDARDS SPECIFICATIONS FOR ROAD
AND BRIDGE CONSTRUCTION" DATED 2015, AS
AMENDED BY CONTRACT DOCUMENTS.

INDIAN RIVER COUNTY FLORIDA

Department of Public Works

RICHARD B. SZPYRKA, P.E., DIRECTOR

NOTE: THE SCALE OF THESE PLANS MAY
HAVE CHANGED DUE TO REPRODUCTION.

SHEET NO.
B-1

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THOMAS W. FARNAN
LICENSE
No 49143
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

Thomas W Farnan Date: 2020.12.07 15:48:09-05'00'

ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

KIMLEY-HORN AND ASSOCIATES, INC.
1920 WEKIVA WAY, SUITE 200
WEST PALM BEACH, FLORIDA 33411
CERTIFICATE OF AUTHORIZATION 696
THOMAS W. FARNAN, P.E. NO. 49143

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH 61G15-23.004, F.A.C.

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

SIGNATURE SHEET

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. **B-2**

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GENERAL NOTES

A. Design Specifications

1. FDOT Structures Manual dated January 2017.
2. American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor (LRFD) Bridge Design Specifications, 7th Edition and all subsequent interim's.
3. FDOT Plans Preparation Manual dated January 2017.

B. Governing Standards and Construction Specifications

Florida Department of Transportation, 2016 Design Standards and July 2016 Standard Specifications for Road and Bridge Construction, as amended by Contract Documents.

C. Vertical Datum

All elevations refer to National Geodetic Vertical Datum (NGVD) of 1929.

D. Environment

Superstructure and Substructure are classified as Slightly Aggressive.

E. Design Methodology

Load Resistance and Factor Design (LRFD) method using Strength, Service and Fatigue Limit States.

F. Design Loadings

1. Live Loads:
HL-93 with Dynamic Load Allowance

2. Dead Loads:

Traffic Railing (42" Vertical Shape)	587 plf
Traffic Railing (32" F-Shape)	420 plf
Reinforced Concrete	150 pcf
Wearing Surface	40 psf

3. Utilities:
A 1000 plf allowance for utility loads has been included in the design.

G. Materials

1. Reinforcing Steel: Carbon Steel per Specifications Section 931.

2. Concrete

Class II (Approach Slabs)	f'c = 3,400 psi Approach Slabs
Class II (Superstructure)	f'c = 3,400 psi Barriers and Sidewalks
Class II (Substructure)	f'c = 3,400 psi Bents and Precast Panels
Class IV (Superstructure)	f'c = 5,500 psi All Closure Pours
Class V (Special)	f'c = 6,000 psi Prestressed Piling
Class V	f'c = 6,500 psi Precast Slab Units

3. Concrete Cover

Cast-In-Place Superstructure	2"
Precast Prestressed Slab Units (unless oterhwise noted)	2"
Cast-In-Place Substructure (Cast Against Earth)	4"
Cast-In-Place Substructure (Formed Surfaces)	3"

Concrete cover dimensions shown in the plans do not include placement and fabrication tolerances unless shown as "minimum cover". See Specifications Section 415 for allowable tolerances. All dimensions pertaining to the location of reinforcing steel are to centerline of bar except where clear dimension is noted to face of concrete.

H. Applied Finish Coating

A Class 5 Finish Coating shall be applied to the portions of the structures shown on the Surface Finish Detail on this sheet.

I. Plan Dimensions

All dimensions in these plans are measured in feet either horizontally or vertically unless otherwise noted.

J. Utilities

For plan locations of existing utilities, see Plan and Elevation shee .Locations of utilities shown in the plans are approximate. For disposition of utilities, see the Utility Adjustment sheets in the Roadway Plans.

N. Joints in Concrete

Construction joints will be permitted only at the locations indicated in the Plans. Additional construction joints or alterations to those shown shall require pre-approval of the Engineer.

O. Existing Bridge Construction Considerations

Dimension verification: Unless otherwise noted, the dimensions, elevations and intersecting angles shown are based on the information as detailed in the Original Construction Plans of the existing bridges and may not represent as-built conditions. It is the Contractor's responsibility to verify this data before beginning construction and notify the Engineer of any discrepancies.

P. Traffic Control Plans

For Maintenance of Traffic, see the Traffic Control Plans located in the Lead (Roadway) Component of these Plans.

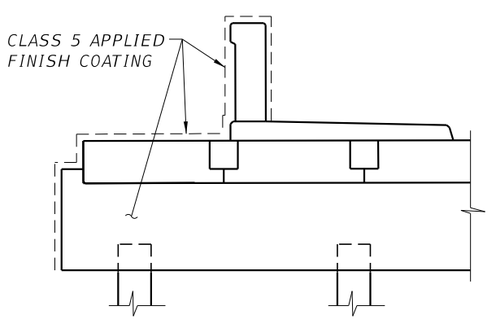
Q. Phasing of Work

Work phasing and progression of the work shall conform to the Traffic Control Plans located in the Lead (Roadway) Component of these Plans.

ABBREVIATIONS:

C.I.P	=	Cast-In-Place
N.F.	=	Near Face
E.F.	=	Each Face
F.F.	=	Far Face
PR.	=	Pair
U.O.N.	=	Unless otherwise noted
P.E.J.M.	=	Premolded Expansion Joint Material

For additional standard abbreviations, see FDOT Design Standards, FY 2017-18.



DETAIL OF CONCRETE CLASS 5 SURFACE FINISH

PRESTRESSED MEMBERS:

FINISH:
All surfaces of the pre stressed Slab Unit shall receive a Class 3 surface finish.

CONCRETE STRENGTH AND DETENSIONING:
At transfer of the prestressing load, the concrete cylinder strength shall be 5,000 psi minimum.

HANDLING AND STORAGE:
During handling and storage, the prestressed units shall only be lifted from their designated lifting points and not their ends. Also, all slab units must be stored on adequate dunnage. The beam ends must be supported no closer than 5" to the end nor no further than 18" from the ends.

FORMS AND PALLETS:
All prestressed slab Units shall be cast on concrete based pallets and in metal forms. Blockouts for the closure pours may be formed with wood.

SHOP DRAWINGS:
The Contractor shall submit three (3) sets of shop drawings or one electronic copy, showing complete details of the proposed prestressed Slab Units. The drawings shall include reinforcing steel, prestressing steel, tensioning and detensioning schedules, camber calculations, and all computations required to control the work.

EQUIPMENT ON UNITS:
Before any heavy construction equipment over Florida Legal Loads is permitted on the structure during construction, sketches showing the axle spacing and anticipated loadings shall be submitted to and approved by the Engineer.

For additional prestressed Notes, see Prestressed Slab Unit sheets.

SUMMARY OF QUANTITIES PER BRIDGE

Br. No. 880049 Pay Item No.	Br. No. 884038 Pay Item No.	Pay Item Description	Unit	Quantity
110-3	110-3A	Removal of Existing Structures	SF	960
400-2-4	400-2-4A	Class II Concrete (Superstructure)	CY	9
400-2-5	400-2-5A	Class II Concrete (Substructure)	CY	136
400-2-10	400-2-10A	Class II Concrete (Approach Slabs)	CY	99
400-4-4	400-4-4A	Class IV Concrete (Superstructure)	CY	23
400-148	400-148A	Plain Neoprene Bearing Pads	CF	1.7
415-1-4	415-1-4A	Reinforcing Steel (Superstructure)	LB	7390
415-1-5	415-1-5A	Reinforcing Steel (Substructure)	LB	9520
415-1-9	415-1-9A	Reinforcing Steel (Approach Slabs)	LB	20400
450-3-14	450-3-14A	Prestressed Slab Units (5'-0" Width)	LF	40
450-3-24	450-3-24A	Prestressed Slab Units (4'-0" Width)	LF	515
455-34-3	455-34-3A	Concrete Prestressed Piling (18" Square)	LF	1560
455-143-3	455-143-3A	Concrete Test Prestressed Piling (18" Square)	LF	150
458-1-11	458-1-11A	Expansion Joint Seal (Poured w/ Backer Rod)	LF	138
521-5-1	521-5-1A	Concrete Traffic Railing - Bridge (32" F-Shape)	LF	82
521-5-5	521-5-5A	Concrete Traffic Railing - Bridge (42" Vertical Shape)	LF	78

BRIDGE NO'S 880049 & 884038

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REVISIONS

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DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
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APPROVED BY	T.W. FARNAN	

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INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

GENERAL NOTES

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-3

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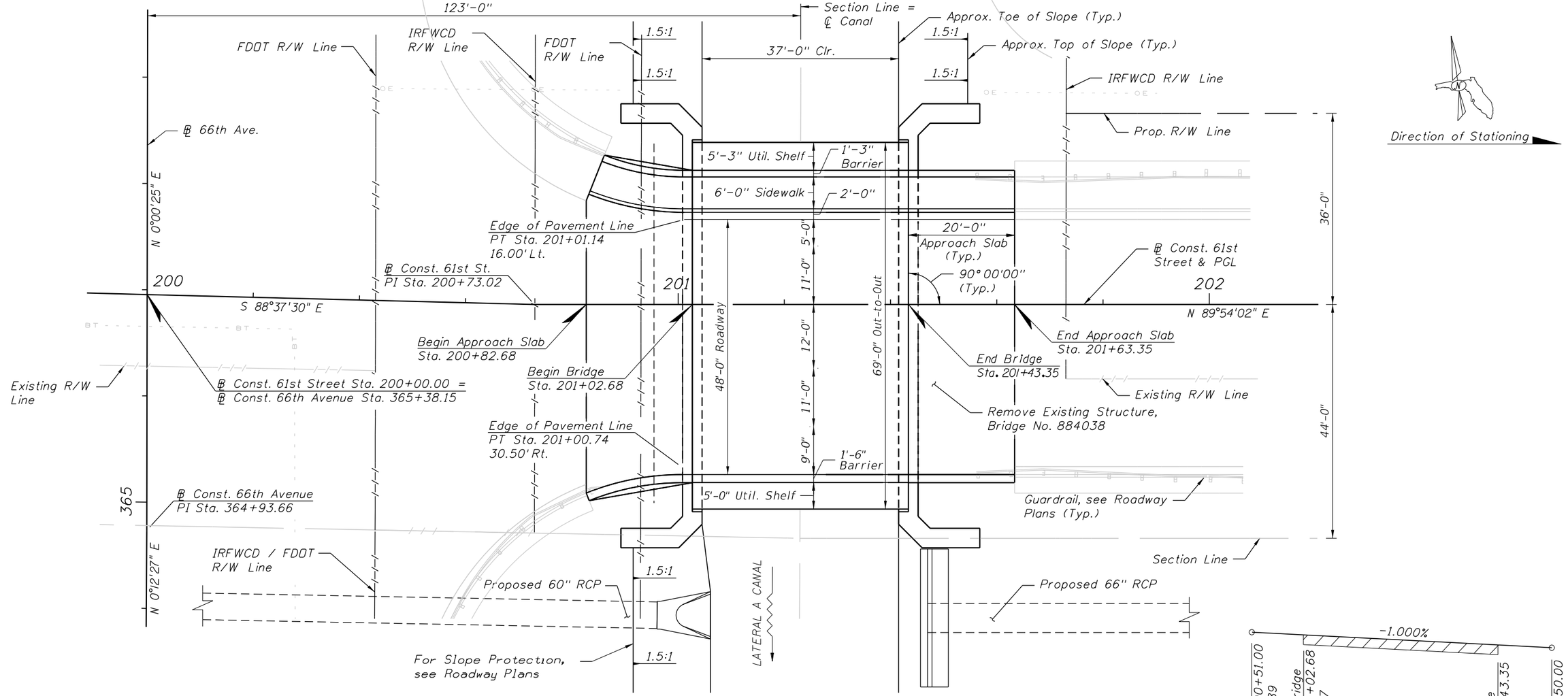
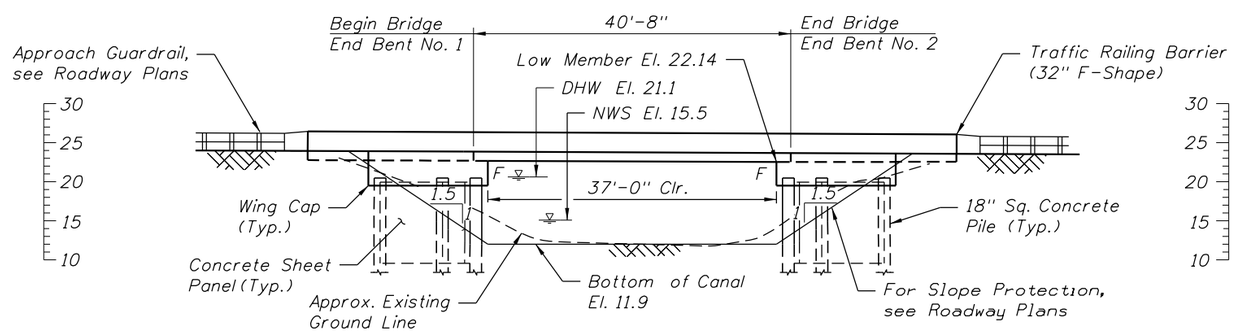


PLAN



ELEVATION

PROFILE GRADE

BRIDGE NO'S 880049 & 884038

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ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

PLAN & ELEVATION

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-4

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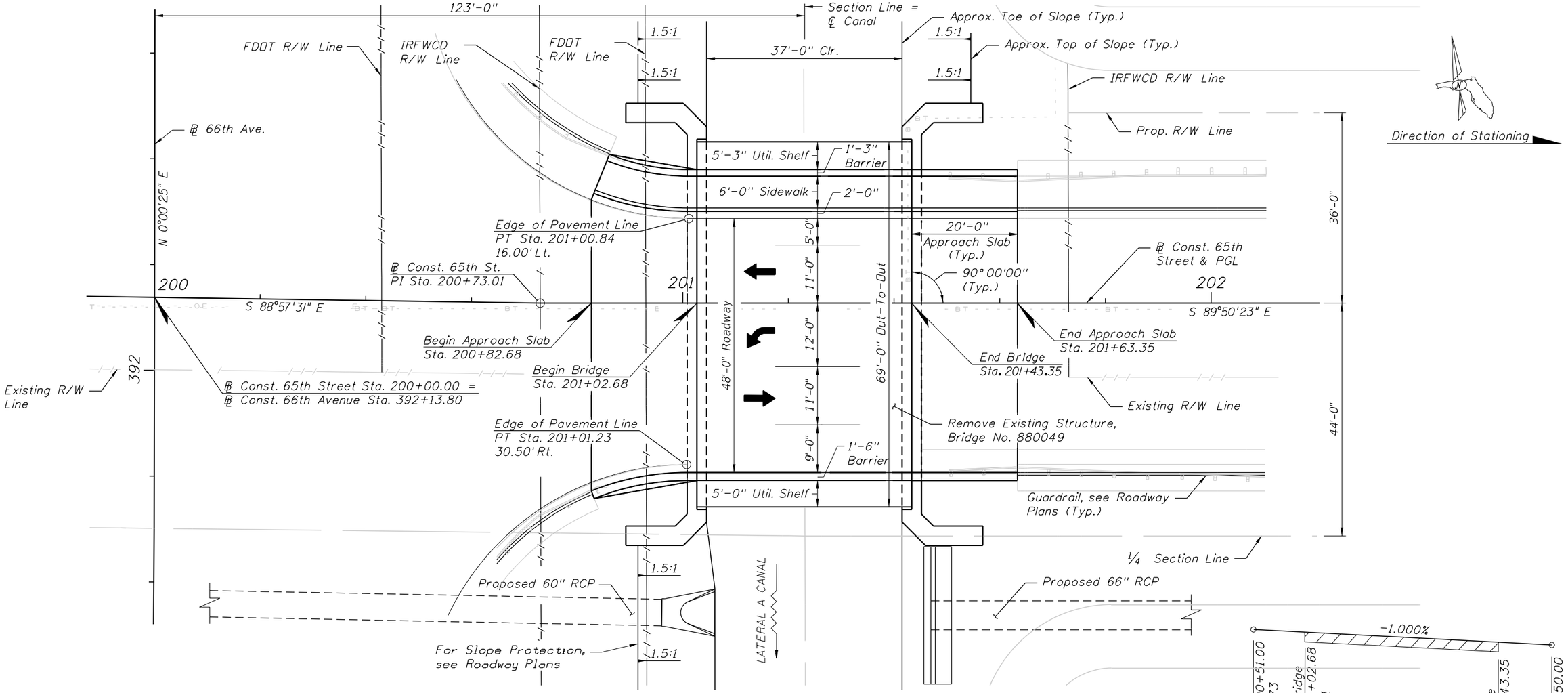
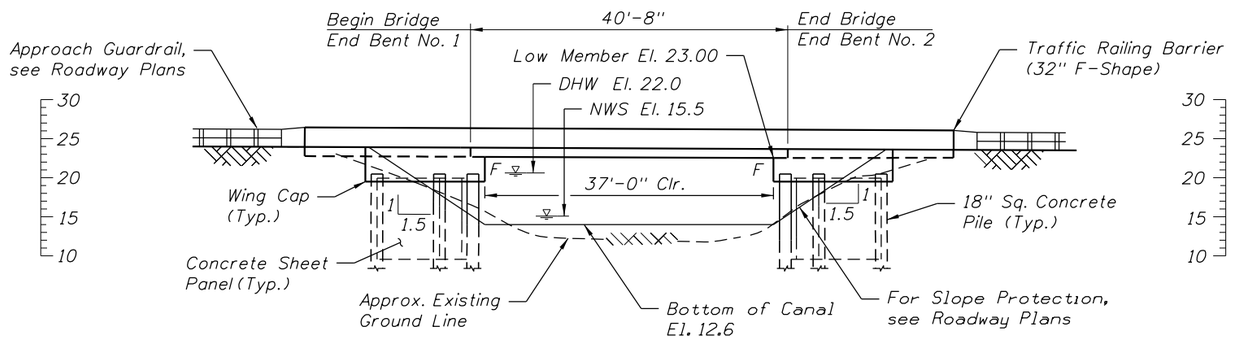


PLAN

PROFILE GRADE



ELEVATION

BRIDGE NO'S 880049 & 884038

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ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

PLAN & ELEVATION

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-5

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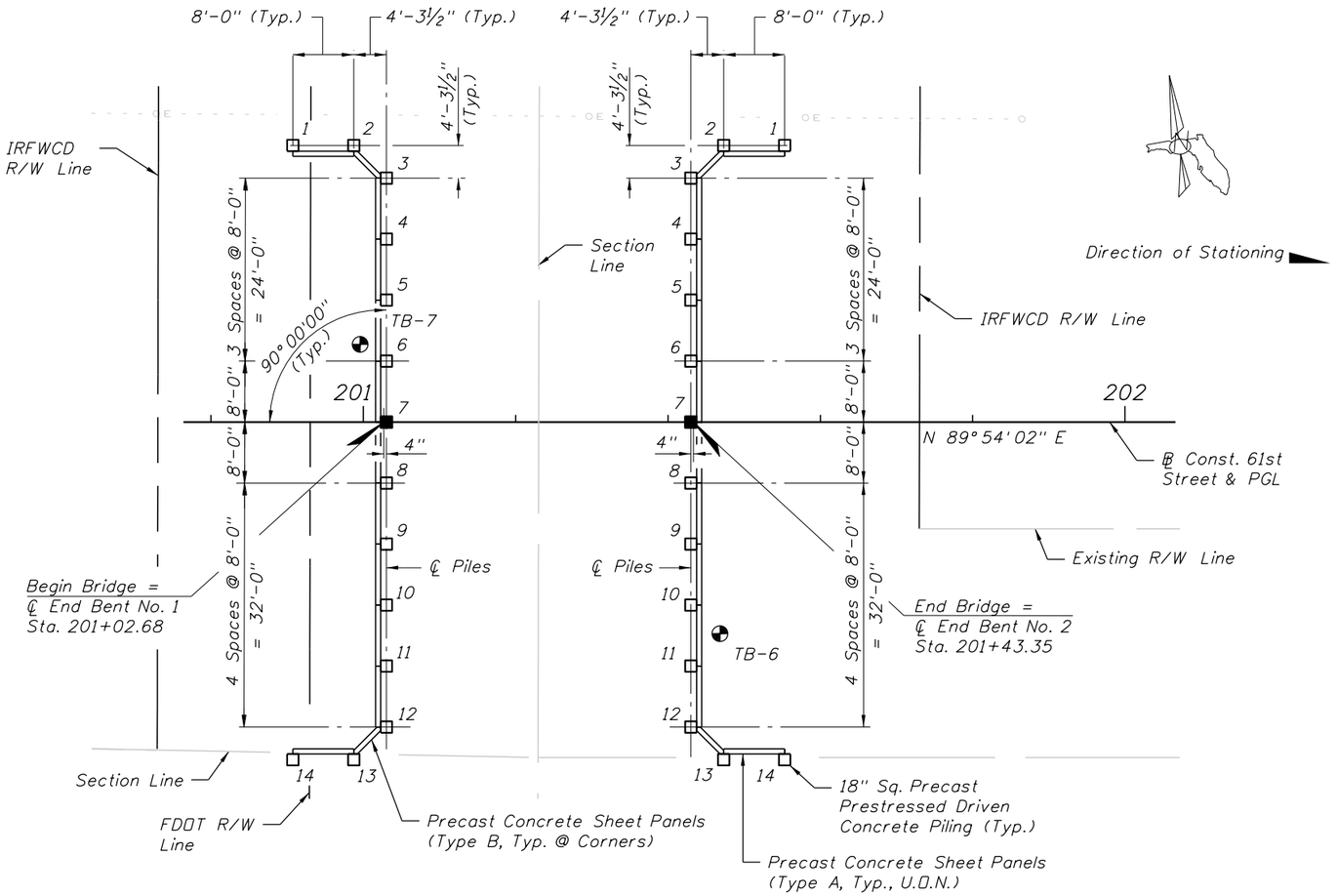

PLAN

PILE INSTALLATION NOTES:

1. For Bridge Geotechnical information, see sheets "Subsurface Profiles (1,2 of 2)."
2. All piling to be 18" Square Prestressed Concrete Piling.
3. Minimum Tip Elevation is required per Standard Specification Section 455.
4. No jetting will be allowed without the approval of the Engineer.
5. The Contractor should not anticipate being allowed to jet piles below the Minimum Tip Elevation.
6. At each End Bent, pile driving is to commence at the center of the End Bent and proceed outward.
7. All pile driving operations shall be in accordance with FDOT Specification 455.
8. Test Piles shall be driven in the position of a permanent pile. Test Pile locations and length shall be determined by the Contractor and the Geotechnical Engineer.
9. For Pile Cutoff elevations, see "End Bent No. 1,2 Layout" sheets.
10. All pile shall be driven to Nominal Bearing Resistance:

$$\text{Nominal Bearing Resistance} = \frac{\text{(Factored Design Load + Net Scour + Down Drag)}}{\phi}$$

where ϕ is a performance factor of 0.65 when a dynamic load test is performed as defined in Section 3.5 of FDOT Structures Design Guidelines, effective January 1, 2007.

11. Dynamic Measurements shall be taken during driving of the test piles designated in the plans by using the Pile Driving (PDA) in accordance with Sections 455-5.13 and 455-5.14.
12. The Contractor shall verify the locations of all utilities prior to any pile driving.
13. For Precast Concrete Sheet Panel Details, see "End Bent Details (2 of 2)."

LEGEND:

- ◒ — Indicates Boring Location
- □ — Indicates Proposed 18" Pile
- ■ — Indicates Proposed 18" Test Pile

PILE DATA TABLE

INSTALLATION CRITERIA								DESIGN CRITERIA						
BENT NO.	PILE SIZE (in.)	NOMINAL BEARING RESISTANCE (tons)	TENSION RESISTANCE (tons)	MINIMUM TIP ELEVATION (ft.)	TEST PILE LENGTH (ft.)	REQUIRED JET ELEVATION (ft.)	REQUIRED PREFORM ELEVATION (ft.)	FACTORED DESIGN LOAD (tons)	DOWN DRAG (tons)	TOTAL SCOUR RESISTANCE (tons)	NET SCOUR RESISTANCE (tons)	100-YEAR SCOUR ELEVATION (ft.)	LONG TERM SCOUR ELEVATION (ft)	RESISTANCE FACTOR-Φ
EB 1	18	155	N/A	-5	75	N/A	N/A	100	N/A	*	*	*	*	0.65
EB 2	18	155	N/A	-5	75	N/A	N/A	100	N/A	*	*	*	*	0.65

* End Bents protected by Rock Slope Protection

NOTE: Scour Analysis was not conducted for this waterway since it is controlled.

BRIDGE NO'S 880049 & 884038

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ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

FOUNDATION LAYOUT

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-6

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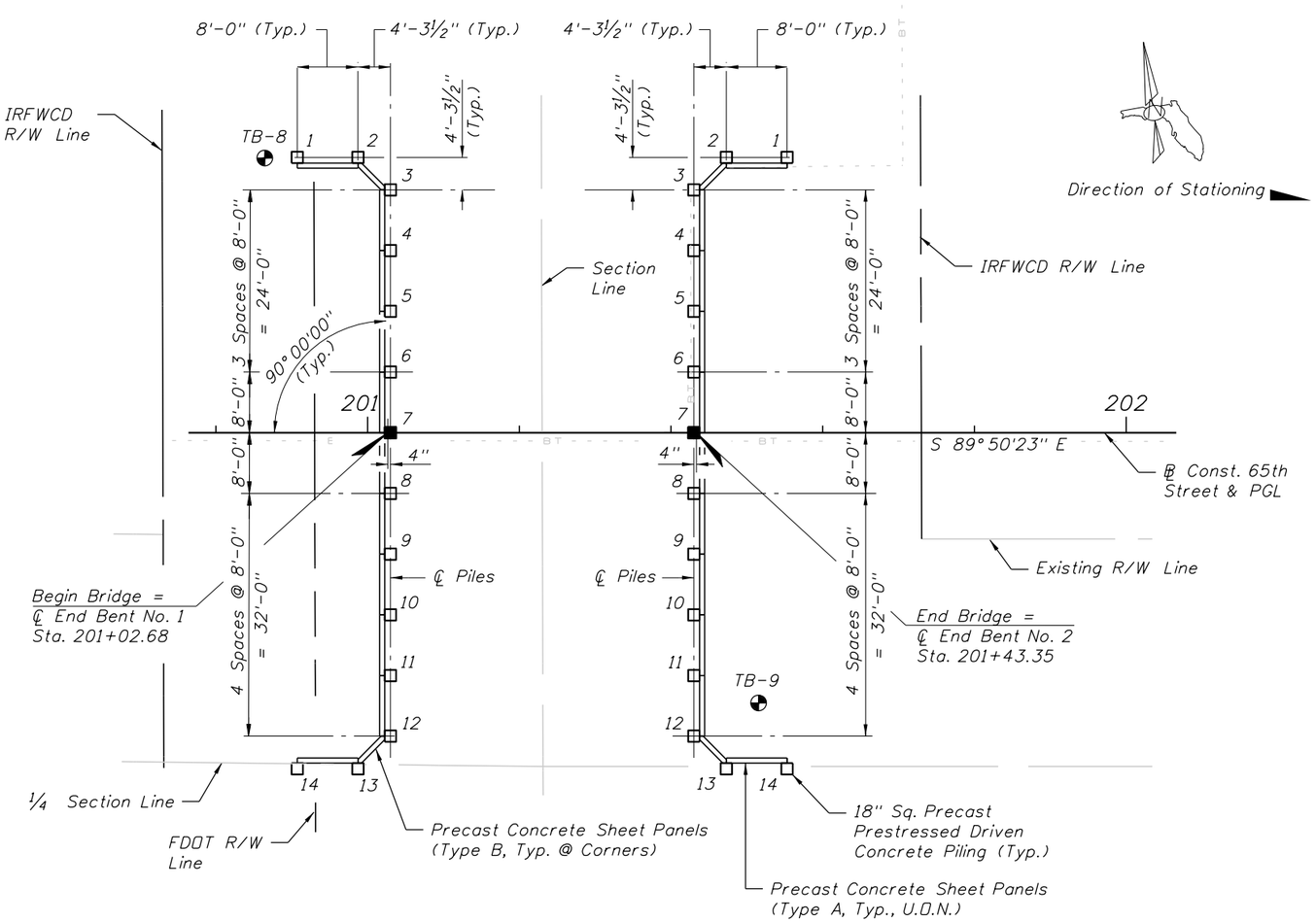

PLAN

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EB 1	18	155	N/A	-5	75	N/A	N/A	100	N/A	*	*	*	*	0.65
EB 2	18	155	N/A	-5	75	N/A	N/A	100	N/A	*	*	*	*	0.65

* End Bents protected by Rock Slope Protection

NOTE: Scour Analysis was not conducted for this waterway since it is controlled.

PILE INSTALLATION NOTES:

1. For Bridge Geotechnical information, see sheets "Subsurface Profiles (1,2 of 2)."
2. All piling to be 18" Square Prestressed Concrete Piling.
3. Minimum Tip Elevation is required per Standard Specifications Section 455.
4. No jetting will be allowed without the approval of the Engineer.
5. The Contractor should not anticipate being allowed to jet piles below the Minimum Tip Elevation.
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9. For Pile Cutoff elevations, see "End Bent No. 1,2 Layout" sheets.
10. All pile shall be driven to Nominal Bearing Resistance:

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where Ø is a performance factor of 0.65 when a dynamic load test is performed as defined in Section 3.5 of FDOT Structures Design Guidelines, effective January 1, 2007.

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12. The Contractor shall verify the locations of all utilities prior to any pile driving.
13. For Precast Concrete Sheet Panel Details, see "End Bent Details (2 of 2)."

LEGEND:

- Indicates Boring Location
- Indicates Proposed 18" Pile
- Indicates Proposed 18" Test Pile

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ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

FOUNDATION LAYOUT

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-7

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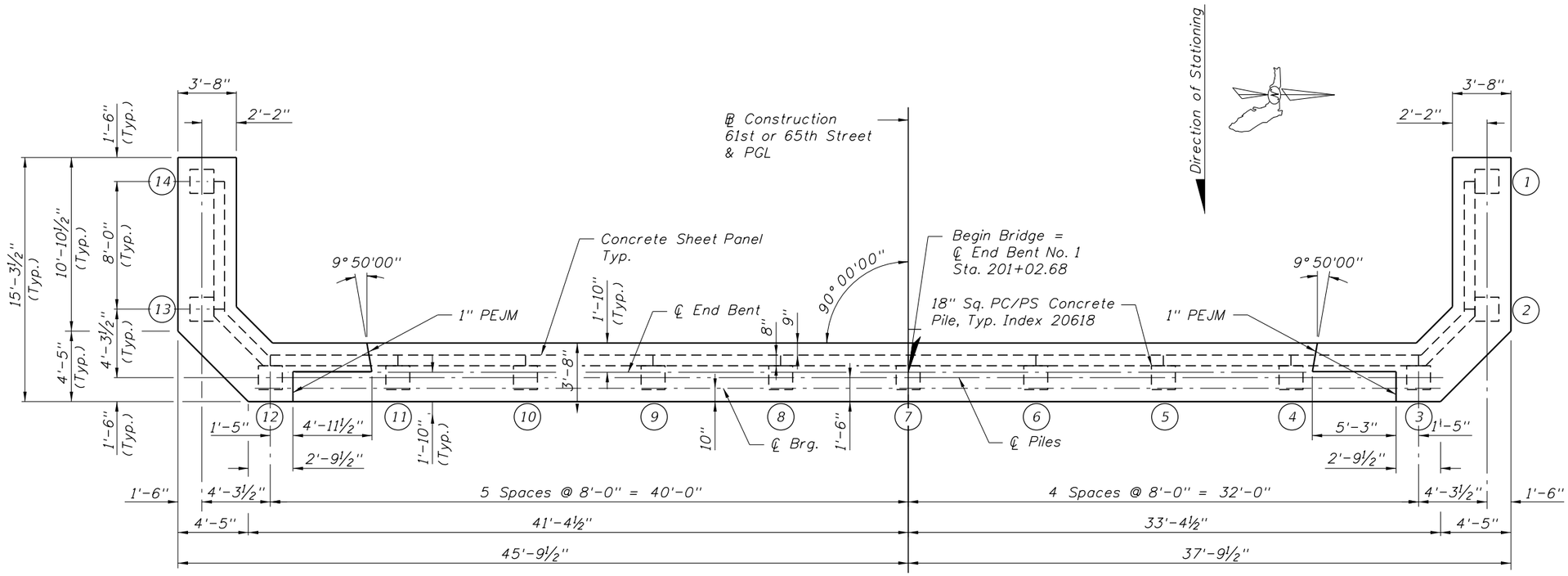
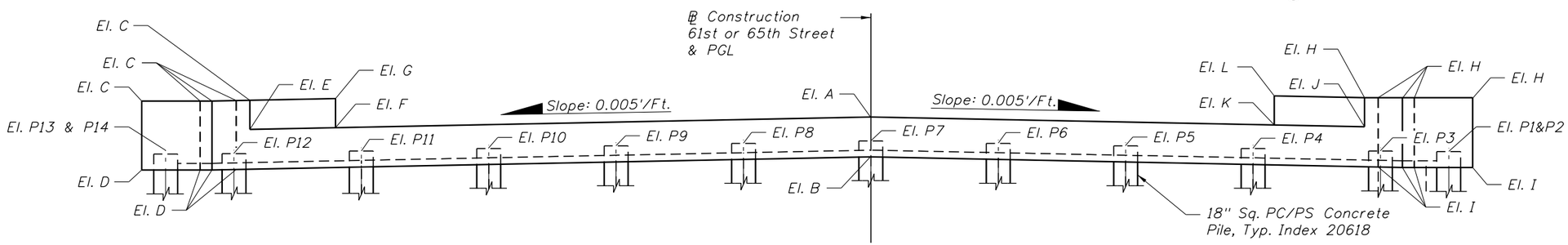


PLAN



ELEVATION

NOTES:

1. Concrete sheet panels not shown for clarity. See Foundation Layout sheet for layout.

(X) Indicates pile number

TABLE OF BENT ELEVATIONS													
BRIDGE	A	B	C	D	E	F	G	H	I	J	K	L
61st Street over 66th Ave. Canal	22.66	20.16	24.18	19.95	22.46	22.49	24.20	24.22	19.99	22.50	22.53	24.24
65th Street over 66th Ave. Canal	23.50	21.00	25.02	20.79	23.30	23.33	25.04	25.06	20.83	23.34	23.37	25.08

TABLE OF PILE ELEVATIONS												
P1&2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13&14
21.0	21.0	21.1	21.1	21.2	21.2	21.2	21.1	21.1	21.00	21.0	21.0
21.8	21.8	21.9	21.9	22.0	22.0	22.0	21.9	21.9	21.8	21.8	21.8

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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

END BENT NO. 1 LAYOUT

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-10

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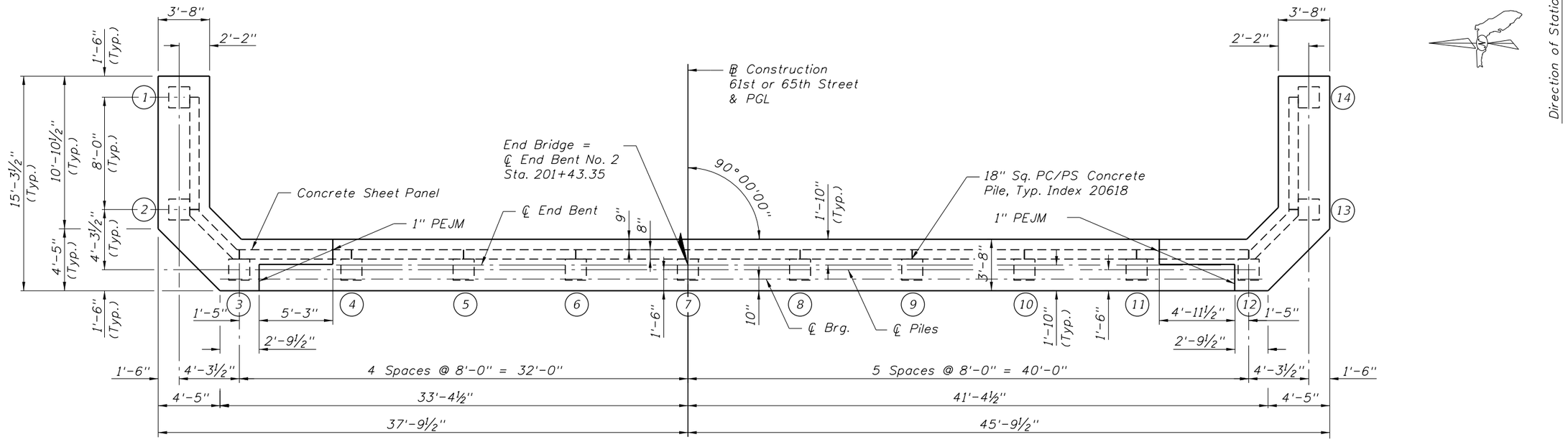

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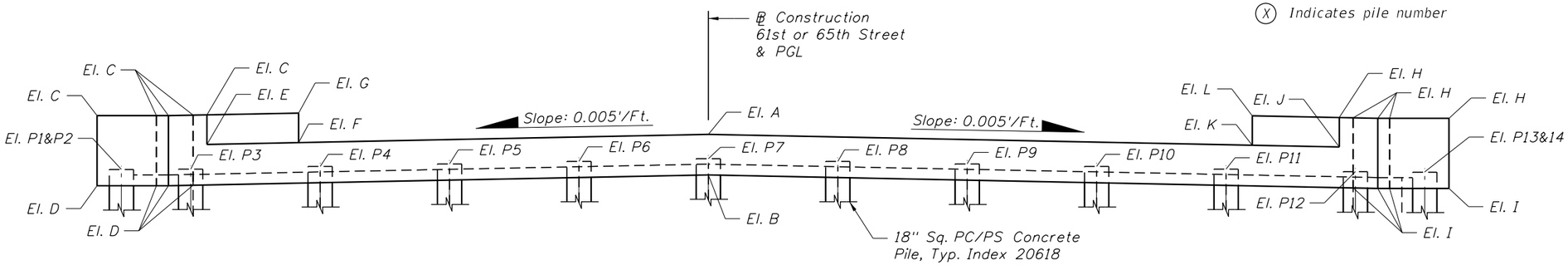

ELEVATION

NOTES:

1. Concrete sheet panels not shown for clarity. See Foundation Layout sheet for layout.

(X) Indicates pile number

TABLE OF BENT ELEVATIONS													TABLE OF PILE ELEVATIONS											
BRIDGE	A	B	C	D	E	F	G	H	I	J	K	L	P1&2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13&14
61st Street over 66th Ave. Canal	22.25	19.75	23.82	19.59	22.09	22.12	23.84	23.78	19.55	22.05	22.08	23.80	20.6	20.6	20.6	20.7	20.7	20.7	20.7	20.7	20.6	20.6	20.6	20.6
65th Street over 66th Ave. Canal	23.09	20.59	24.66	20.43	22.93	22.96	24.68	24.62	20.39	22.89	22.92	24.64	21.4	21.4	21.4	21.5	21.5	21.6	21.6	21.6	21.5	21.5	21.4	21.4

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

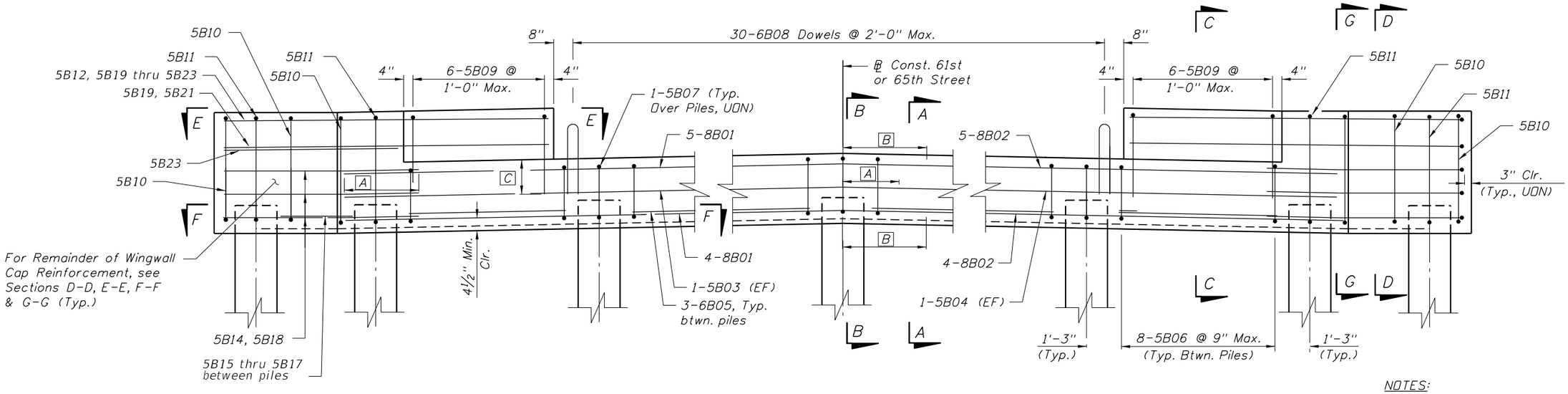
END BENT NO. 2 LAYOUT

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-11

RIney.Amerson 12/7/2020 3:42:18 PM K:\WPB_Structures\04703504_61st and 65th Street over 66th Ave Canal\Struct\EndBent02.dgn

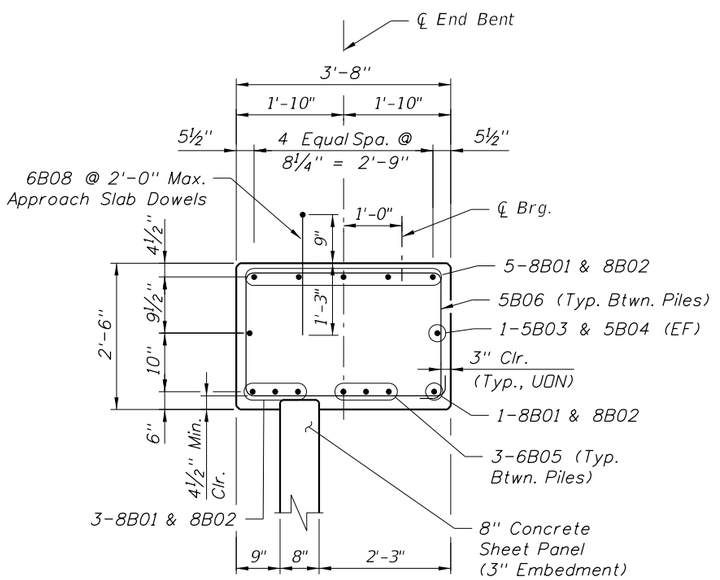
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



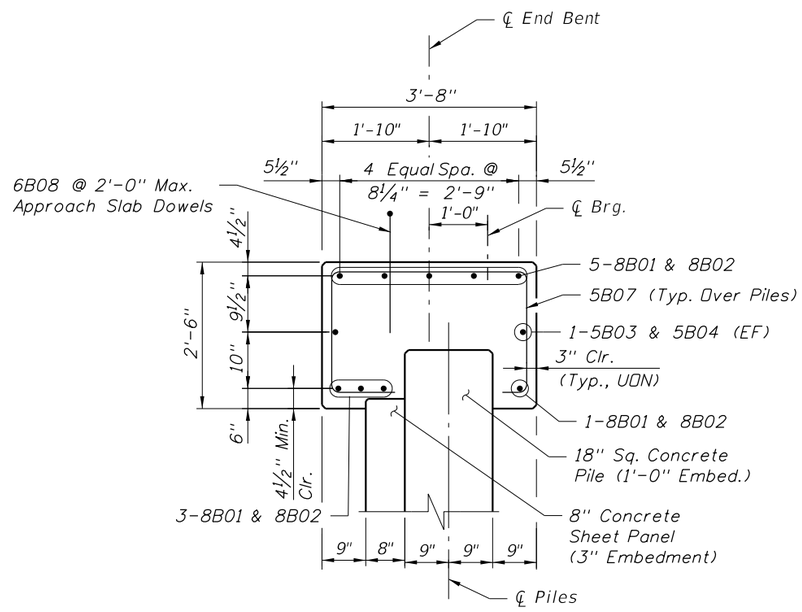
PARTIAL ELEVATION
(End Bent 2 Shown, End Bent 1 Similar by Opposite Hand)

NOTES:

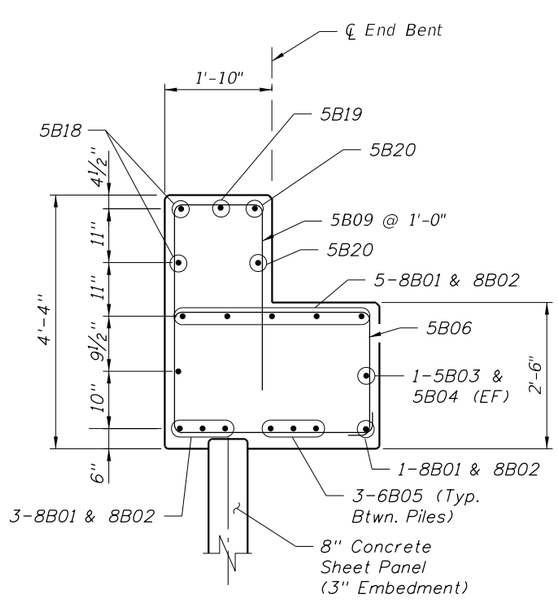
[A] 2'-7" Min. Lap Length (Typ.)
[B] 5'-6" Min. Lap Length (Typ.)
[C] 1'-3" Min. Embed. (Typ.)



SECTION A-A



SECTION B-B



SECTION C-C

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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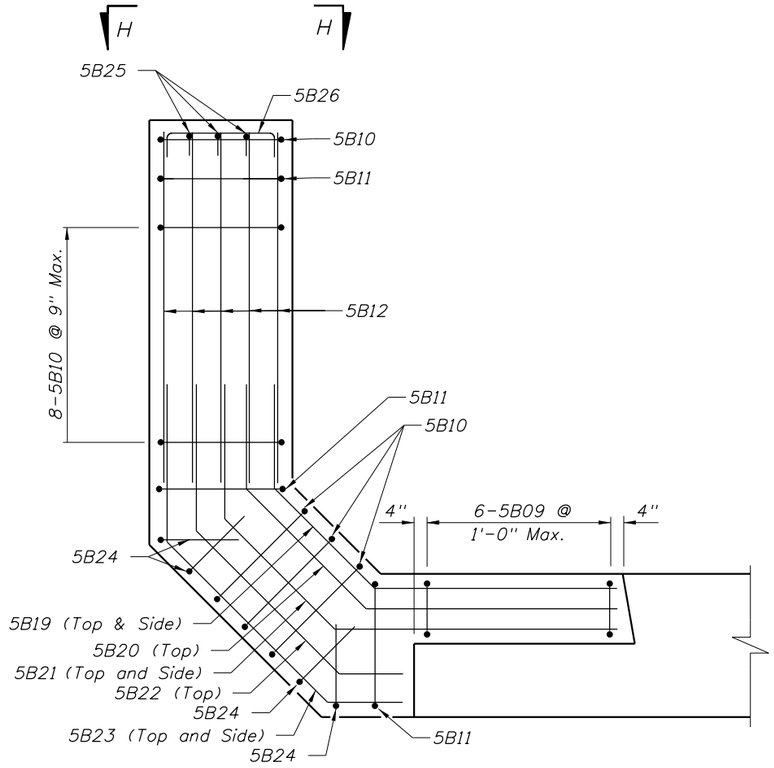
INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

END BENT DETAILS (1 OF 3)

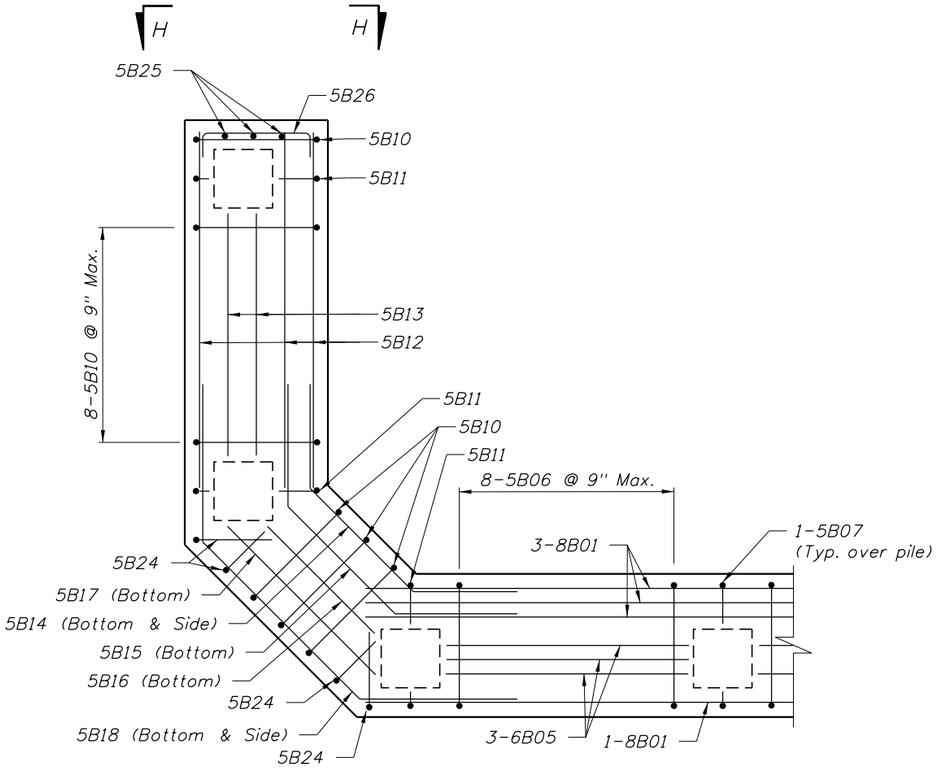
61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO.
B-12



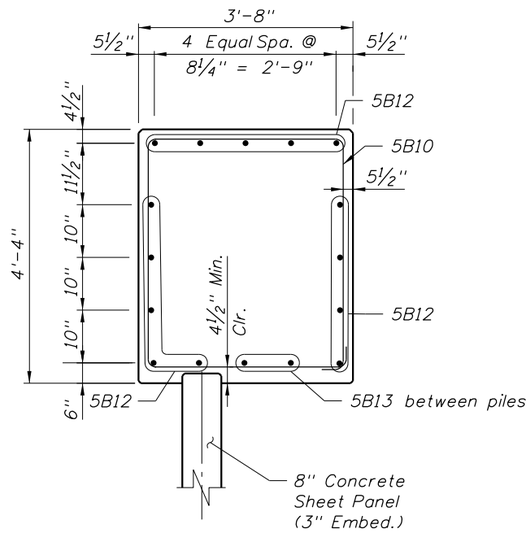
SECTION E-E

EB 1 South and EB 2 North Shown,
EB 1 North and EB 2 South similiar

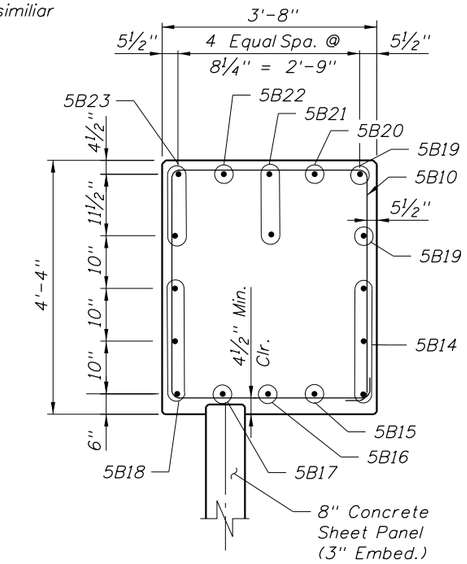


SECTION F-F

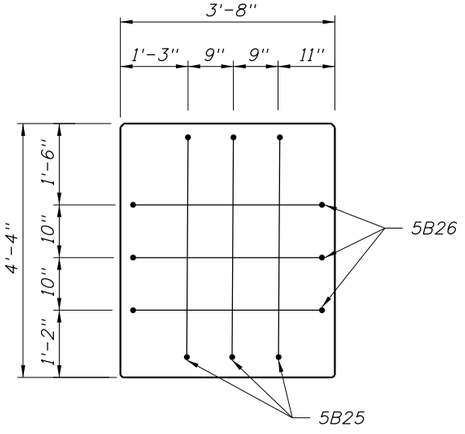
EB 1 South and EB 2 North Shown,
EB 1 North and EB 2 South similiar



SECTION D-D



SECTION G-G



VIEW H-H

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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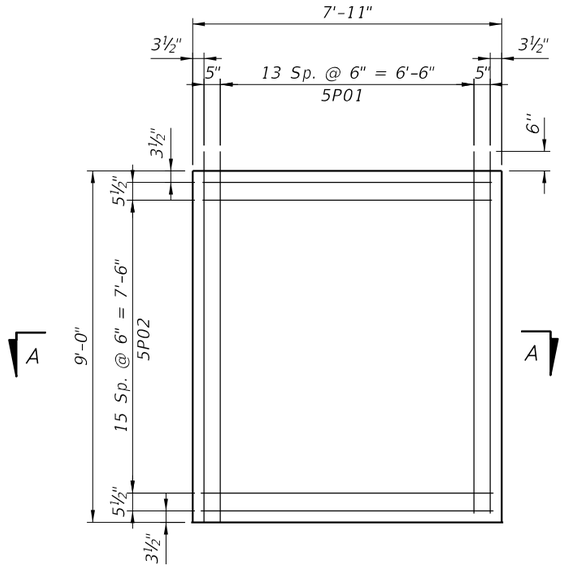
INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

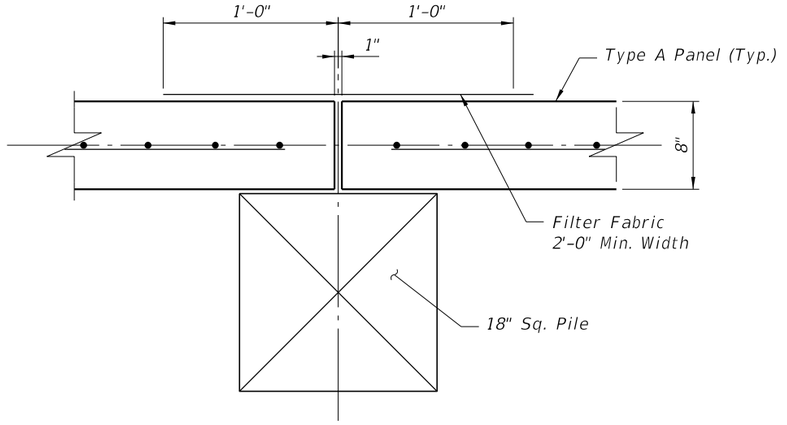
END BENT DETAILS (2 OF 3)

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

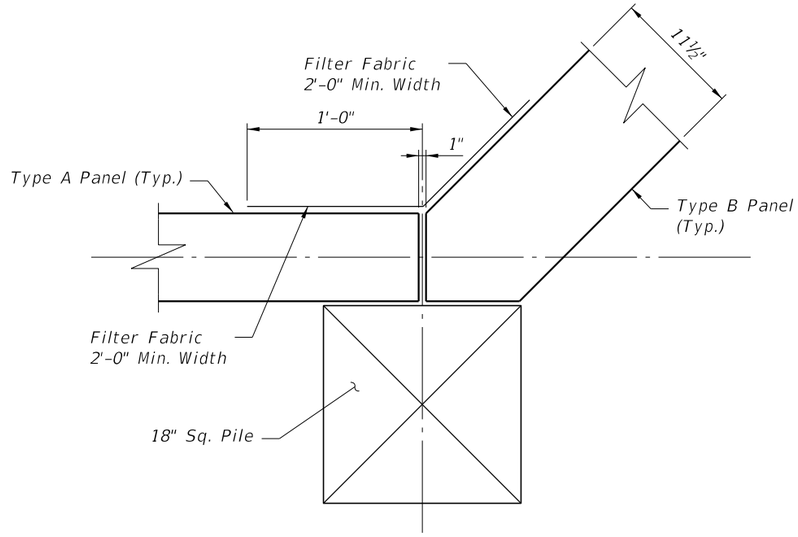
SHEET NO. B-13



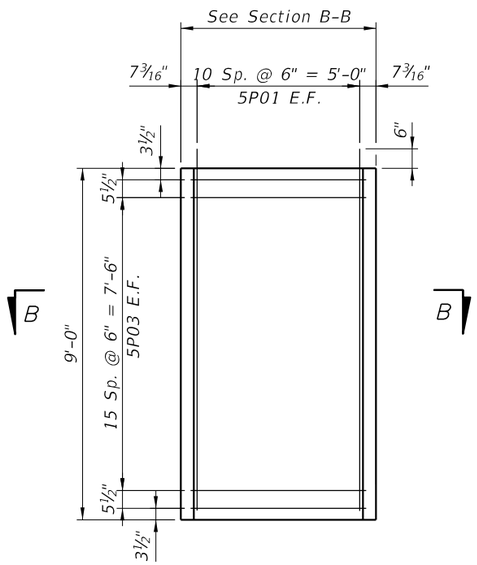
TYPE A SHEET PANEL DETAIL



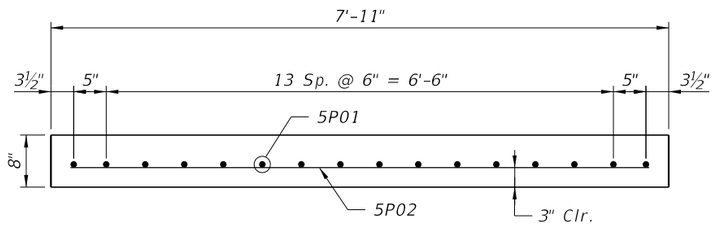
SHEET PANEL TANGENT JOINT DETAIL



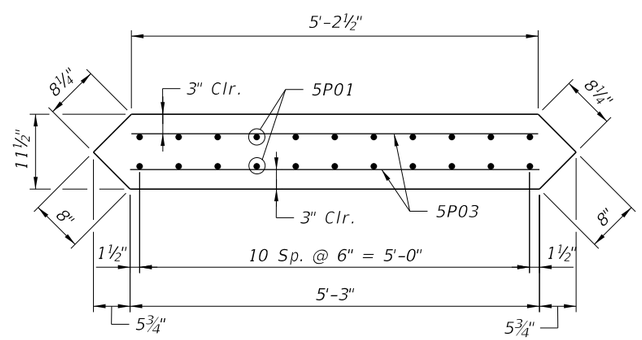
SHEET PANEL CORNER JOINT DETAIL



TYPE B SHEET PANEL DETAIL



SECTION A-A



SECTION B-B

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
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APPROVED BY	T.W. FARNAN	

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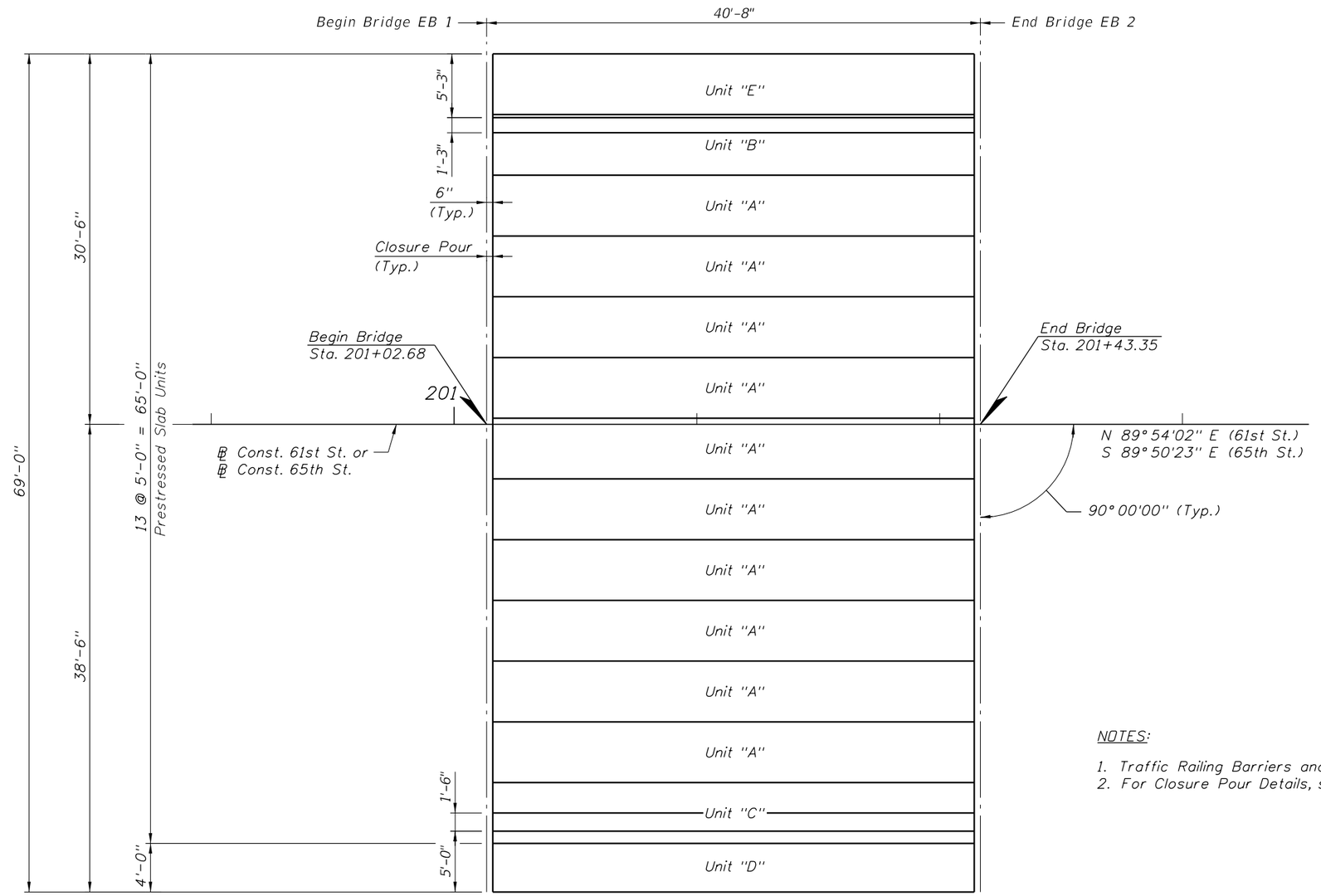
ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

END BENT DETAILS (3 OF 3)

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-14

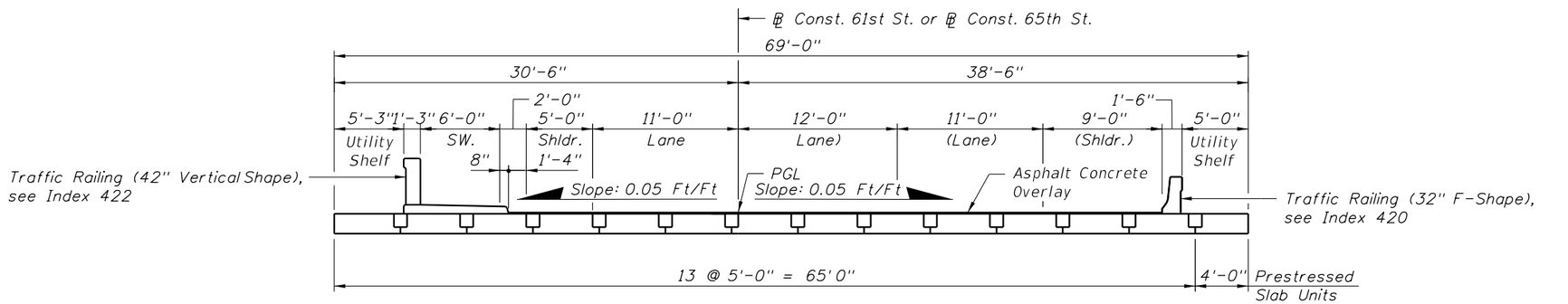
RIney.Amerson 12/7/2020 3:42:20 PM K:\WPB_Structures\04703504l_61st and 65th Street over 66th Ave Canal\Struct\EndBentDet03.dgn



NOTES:

1. Traffic Railing Barriers and Sidewalks not shown.
2. For Closure Pour Details, see "Superstructure Details."

PLAN



TYPICAL SECTION

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

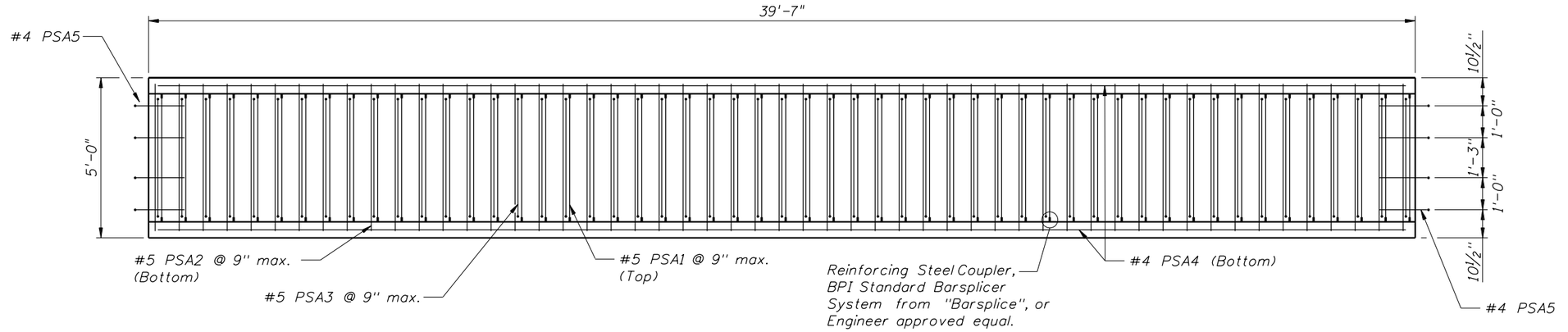
ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

FRAMING PLAN & TYPICAL SECTION

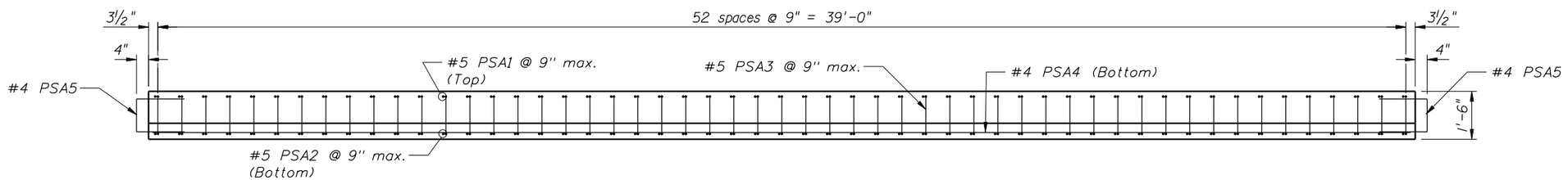
61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-15

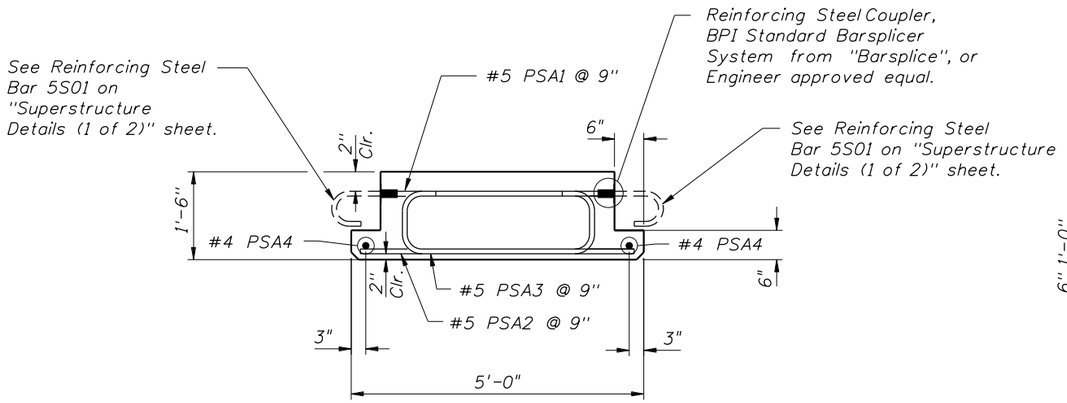
RIney.Amerson 12/7/2020 3:42:21 PM K:\WPB_Structures\04703504l_61st and 65th Street over 66th Ave Canal\Struct\FramingPlan.dgn



PLAN - SLAB UNIT "A"

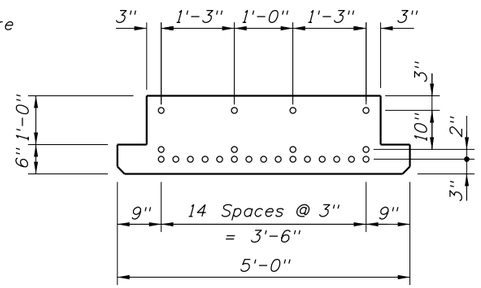


ELEVATION - SLAB UNIT "A"



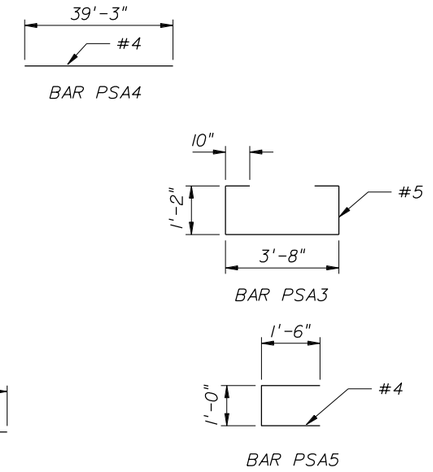
SECTION - SLAB UNIT "A"

NOTE: Prestress Strands not shown



PRESTRESS STRAND PATTERN

Strand Description: Use 0.60" Diameter, Grade 270.
Low Relaxation Strands stressed at 43.94 kips each,
Area per strand equals 0.217 sq. in. (Total 23 Strands)



REINFORCING STEEL BENDING DIAGRAMS

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
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INDIAN RIVER COUNTY BOARD OF COUNTY COMMISSIONERS

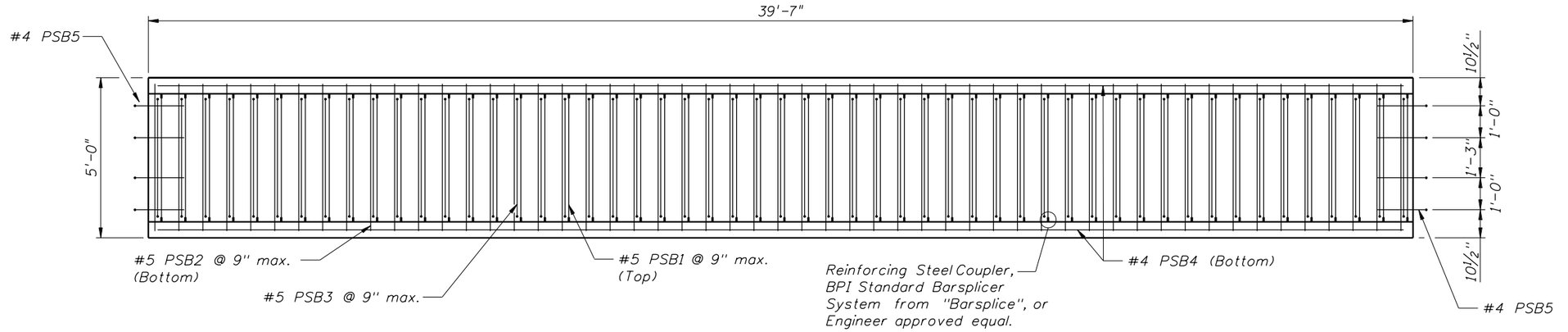
ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

PRESTRESSED TYPE A SLAB UNIT

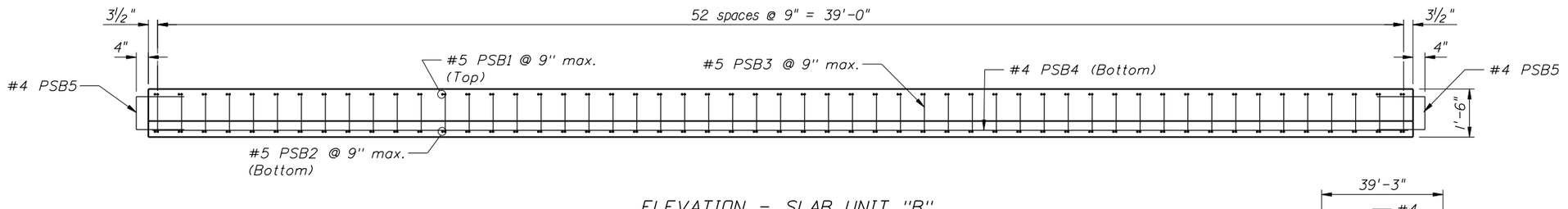
61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-16

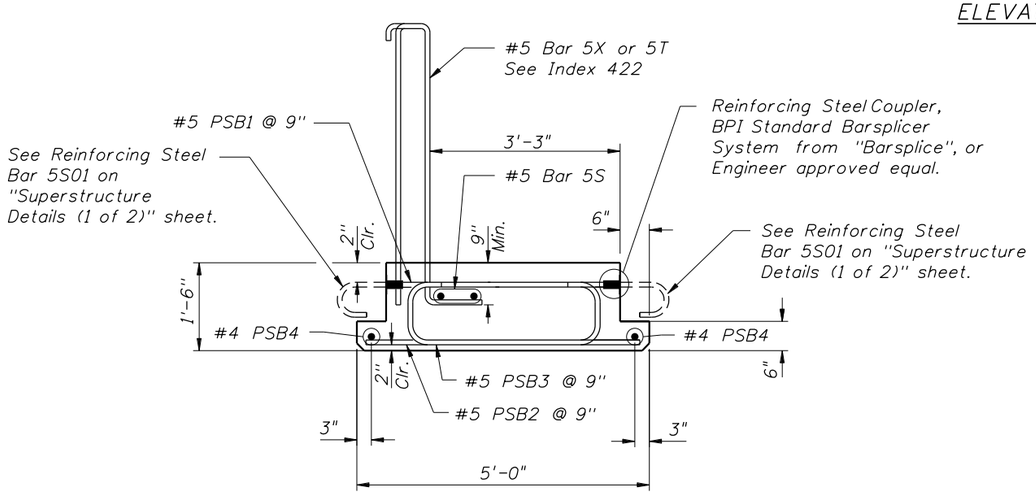
RIney.Amerson 12/7/2020 3:42:22 PM K:\WPB_Structures\04703504_61st and 65th Street over 66th Ave Canal\Struct\PrestSlab_A.dgn



PLAN - SLAB UNIT "B"

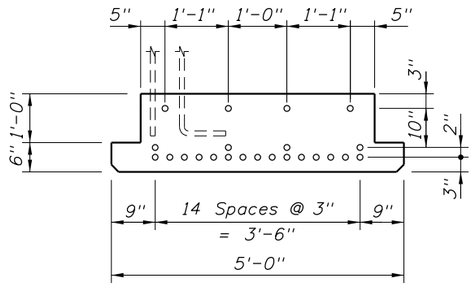


ELEVATION - SLAB UNIT "B"



SECTION - SLAB UNIT "B"

NOTE: Prestress Strands not shown



PRESTRESS STRAND PATTERN

Strand Description: Use 0.60" Diameter, Grade 270.
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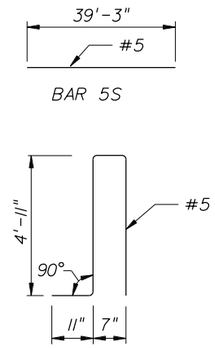
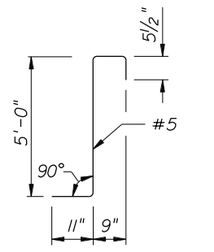
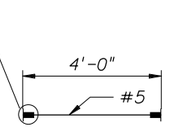
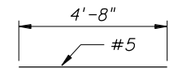
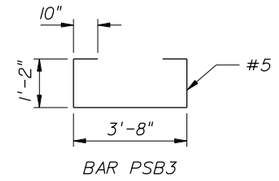
Area per strand equals 0.217 sq. in. (Total 23 Strands)











REINFORCING STEEL BENDING DIAGRAMS

BRIDGE NO'S 880049 & 884038

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
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CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
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INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

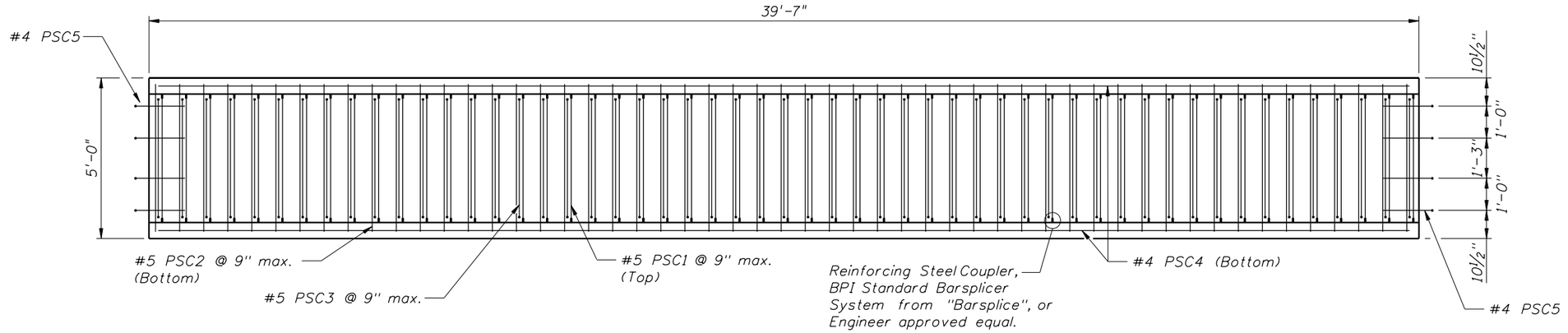
ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

PRESTRESSED TYPE B SLAB UNITS

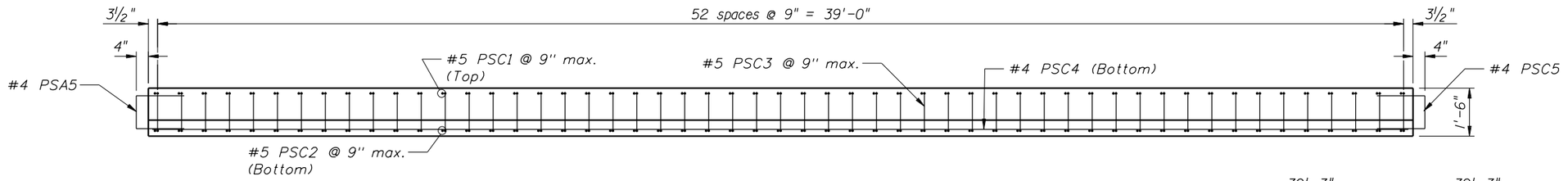
61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-17

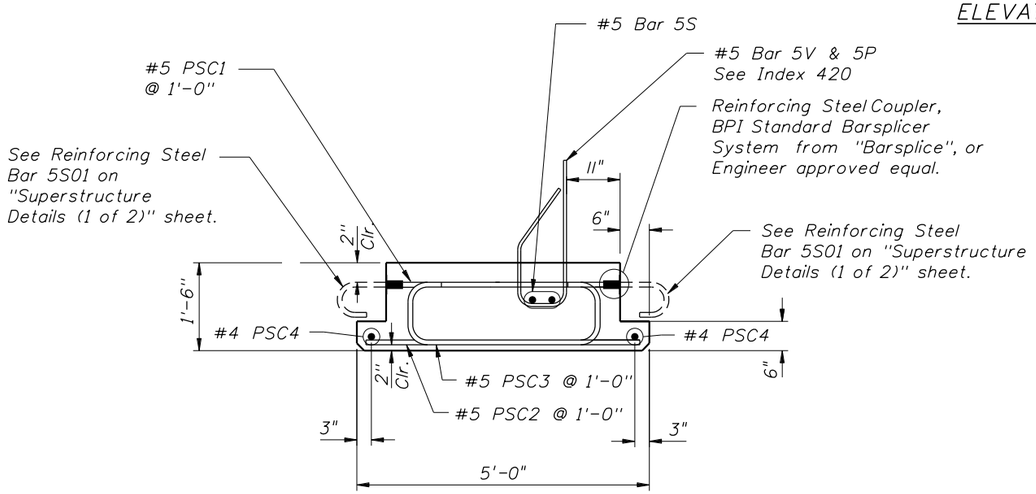
RIney.Amerson 12/7/2020 3:42:22 PM K:\WPB_Structures\04703504_61st and 65th Street over 66th Ave Canal\Struct\PrestSlab_B.dgn



PLAN - SLAB UNIT "C"

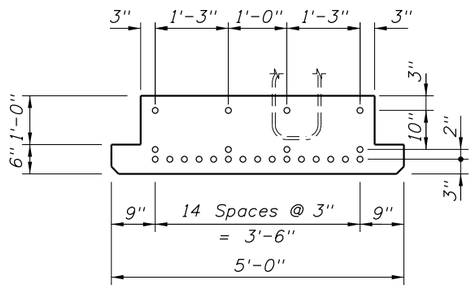


ELEVATION - SLAB UNIT "C"



SECTION - SLAB UNIT "C"

NOTE: Prestress Strands not shown



PRESTRESS STRAND PATTERN

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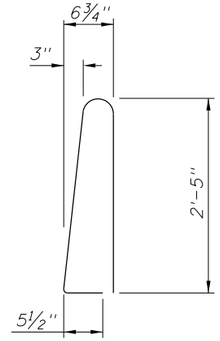
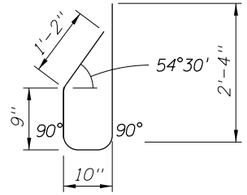
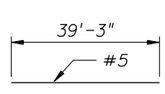
Area per strand equals 0.217 sq. in. (Total 23 Strands)



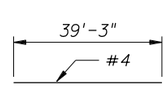
BAR 5P



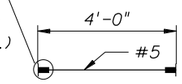
BAR 5V



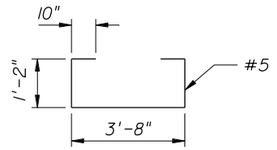
BAR 5S



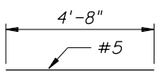
BAR PSC4



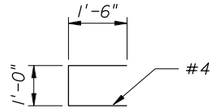
BAR PSC1



BAR PSC3



BAR PSC2



BAR PSC5

REINFORCING STEEL BENDING DIAGRAMS

BRIDGE NO'S 880049 & 884038

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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INDIAN RIVER COUNTY
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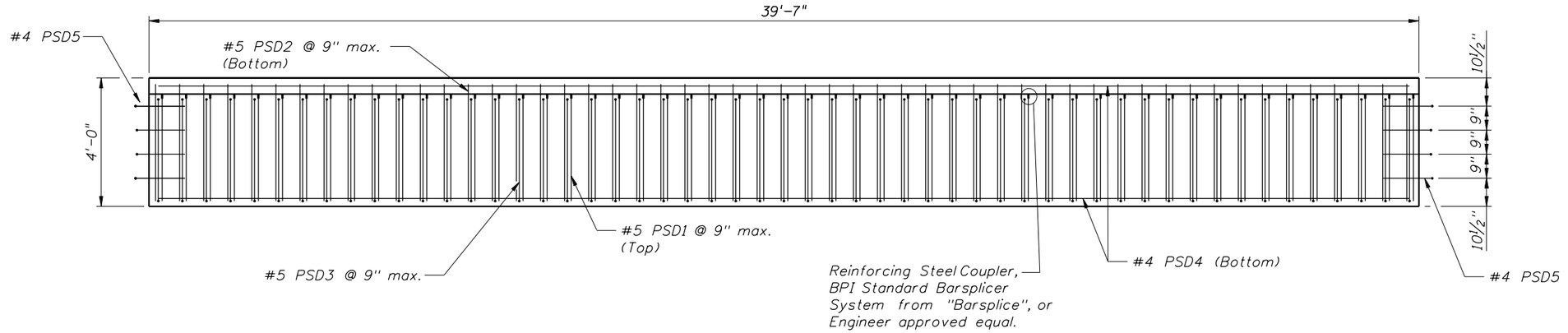
ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

PRESTRESSED TYPE C SLAB UNITS

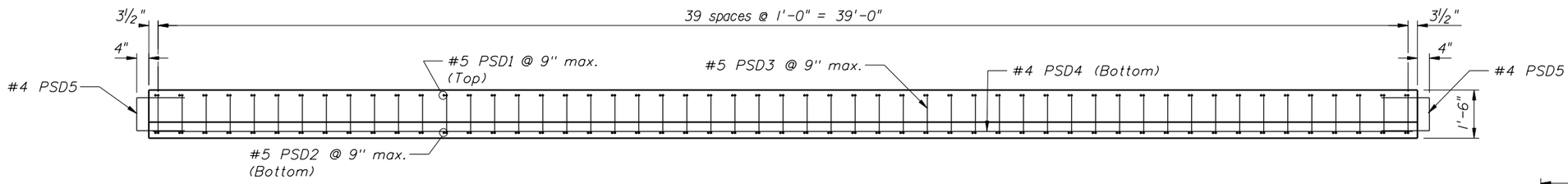
61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-18

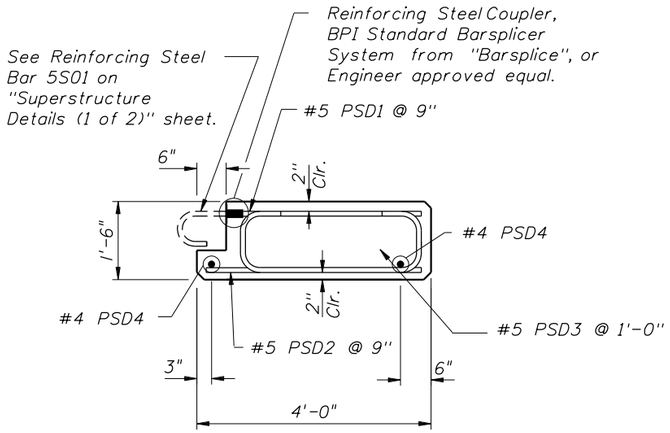
RIney.Amerson 12/7/2020 3:42:23 PM K:\WPB_Structures\04703504_61st and 65th Street over 66th Ave Canal\Struct\PrestSlab_C.dgn



PLAN - SLAB UNIT "D"

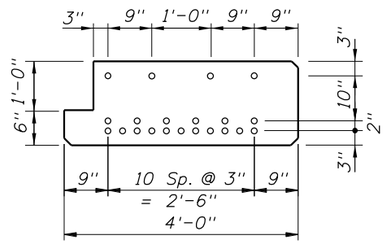


ELEVATION - SLAB UNIT "D"



SECTION - SLAB UNIT "D"

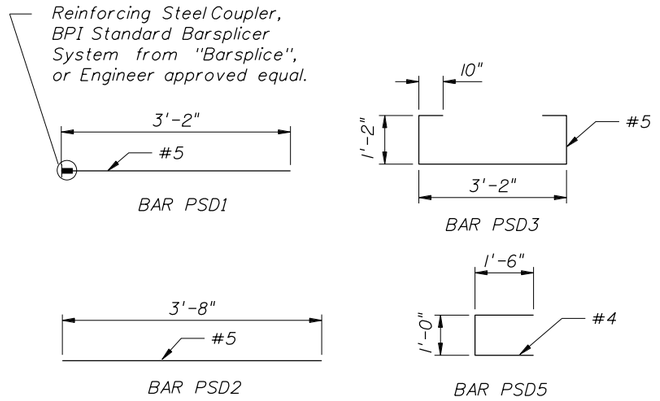
NOTE: Prestress Strands not shown



PRESTRESS STRAND PATTERN

Strand Description: Use 0.60" Diameter, Grade 270.
Low Relaxation Strands stressed at 43.94 kips each,
Area per strand equals 0.217 sq. in. (Total 21 Strands)

BAR PSD4



REINFORCING STEEL BENDING DIAGRAMS

BRIDGE NO'S 880049 & 884038

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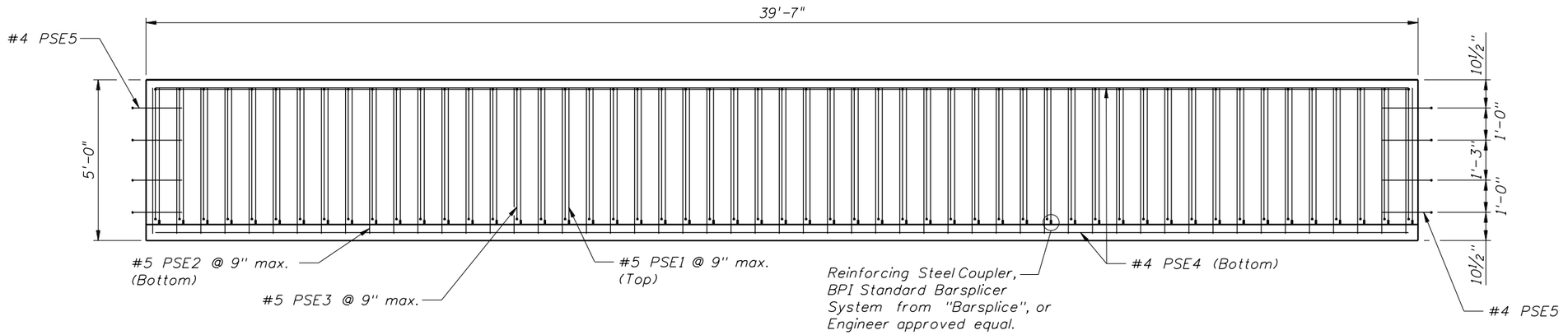
ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

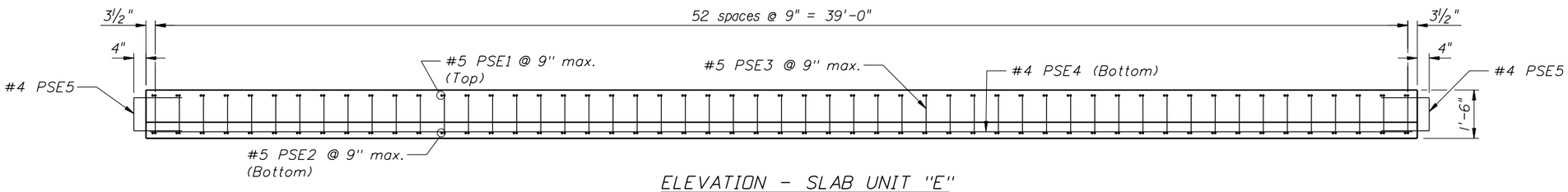
PRESTRESSED TYPE D SLAB UNITS

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-19

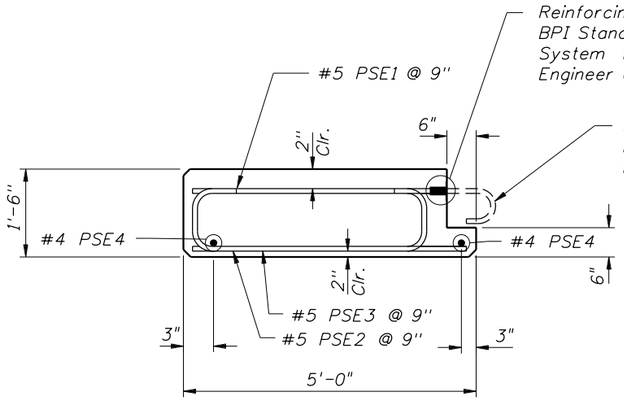


PLAN - SLAB UNIT "E"



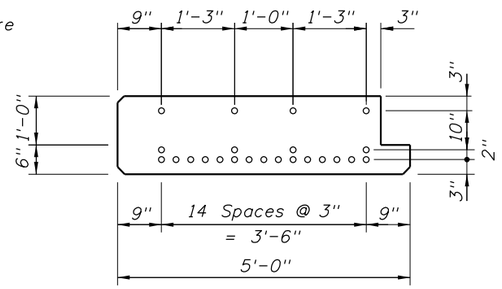
ELEVATION - SLAB UNIT "E"

BAR PSE4



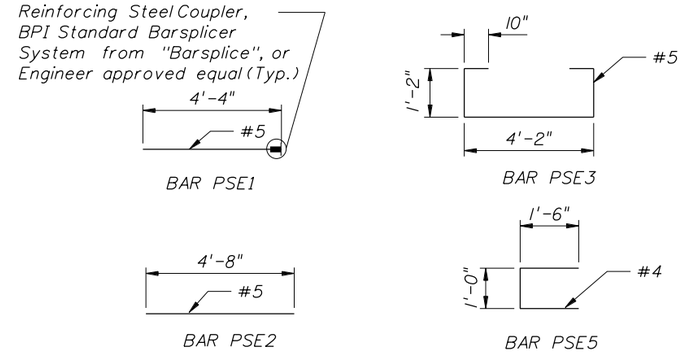
SECTION - SLAB UNIT "E"

NOTE: Prestress Strands not shown



PRESTRESS STRAND PATTERN

Strand Description: Use 0.60" Diameter, Grade 270.
Low Relaxation Strands stressed at 43.94 kips each,
Area per strand equals 0.217 sq. in. (Total 23 Strands)



REINFORCING STEEL BENDING DIAGRAMS

BRIDGE NO'S 880049 & 884038

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REVISIONS					
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DRAWN BY	RJF	06/07
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CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

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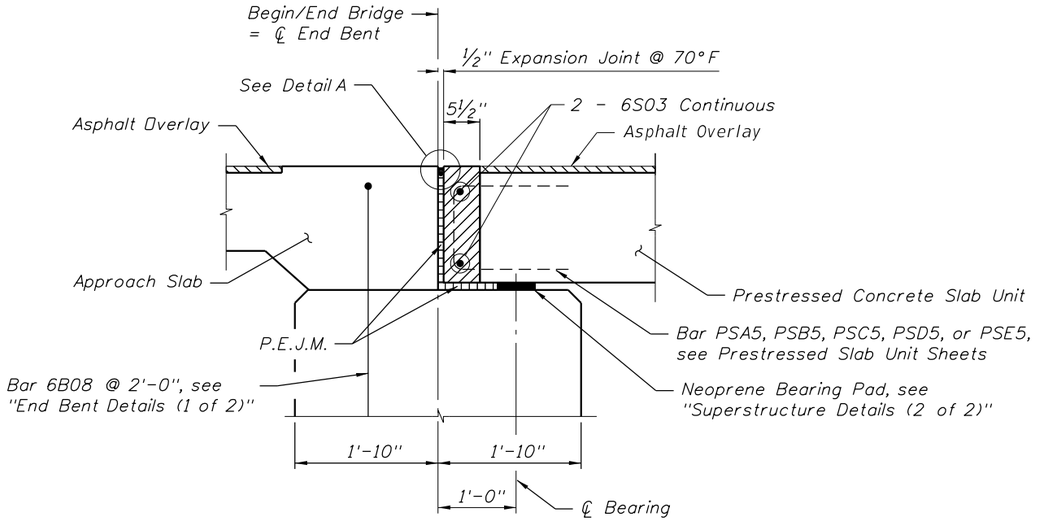
ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

PRESTRESSED TYPE E SLAB UNITS

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

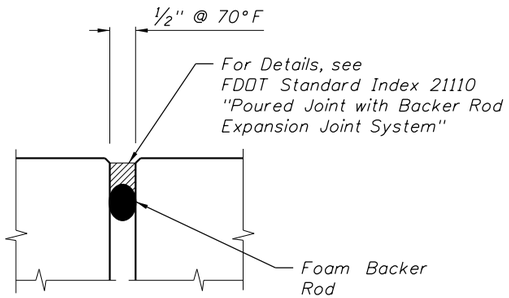
SHEET NO. B-20



END BENT DETAIL

NOTE:

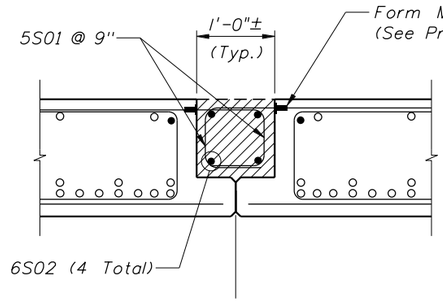
All costs of Expansion Joint shall be included in price bid for Expansion Joint, Poured with Backer Rod.



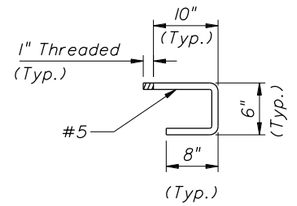
DETAIL A

NOTE:

Construct per FDOT Standard Index No. 21110



SECTION

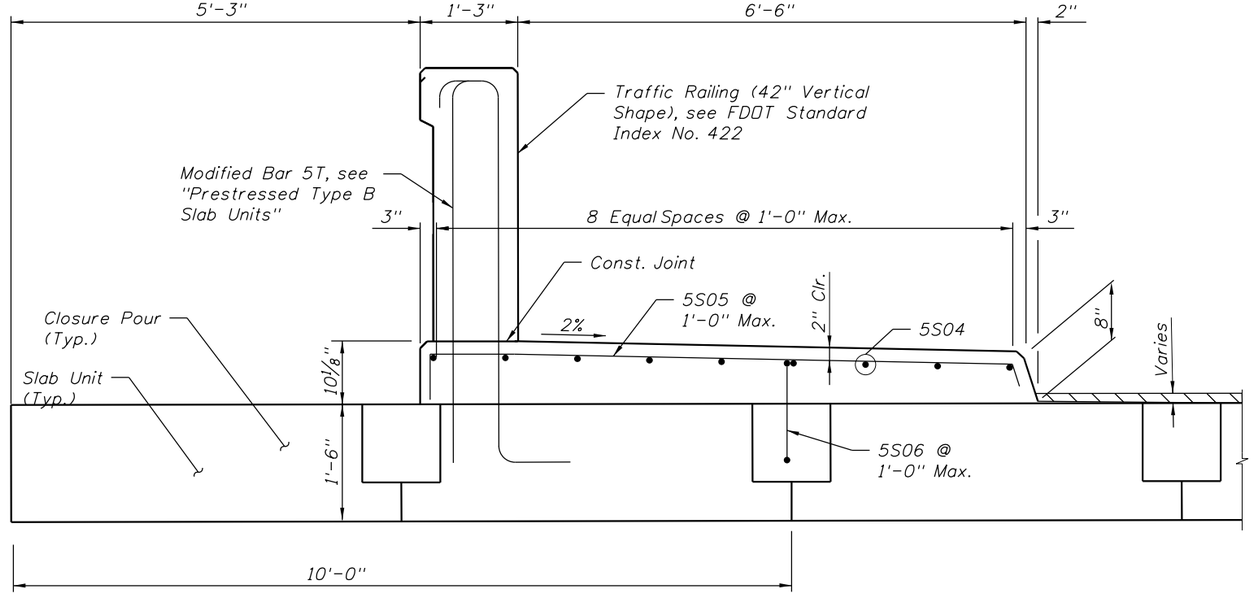


BAR 5S01 BENDING DIAGRAM

PRECAST PRESTRESSED SLAB CLOSURE POUR DETAILS

NOTES:

1. For Closure Pours, use Class V Concrete, f'c = 5,500 psi.
2. Reinforcing Bar "5S01" shall be installed prior to placing adjacent slab units.



SIDEWALK DETAIL

BRIDGE NO'S 880049 & 884038

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ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

SUPERSTRUCTURE DETAILS (1 OF 2)

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-21

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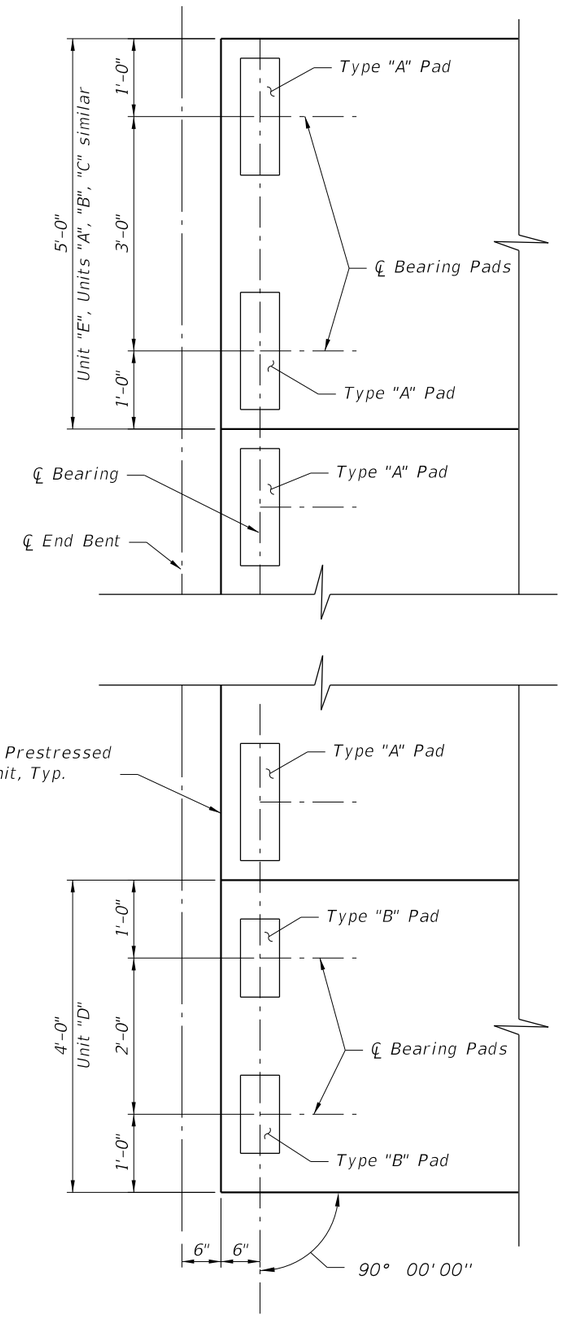
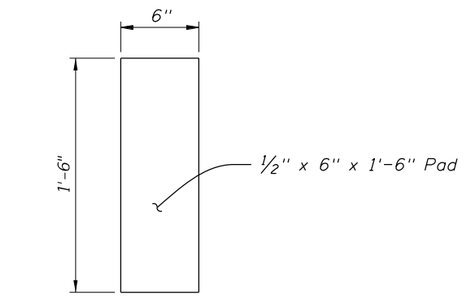


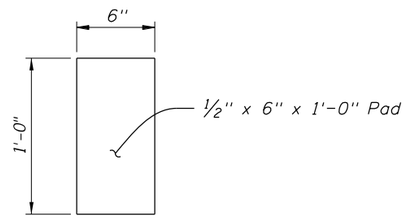
BEARING PAD LAYOUT - PARTIAL PLAN

Begin Bridge End shown End Bridge End Similar



PLAN - TYPE "A" PAD

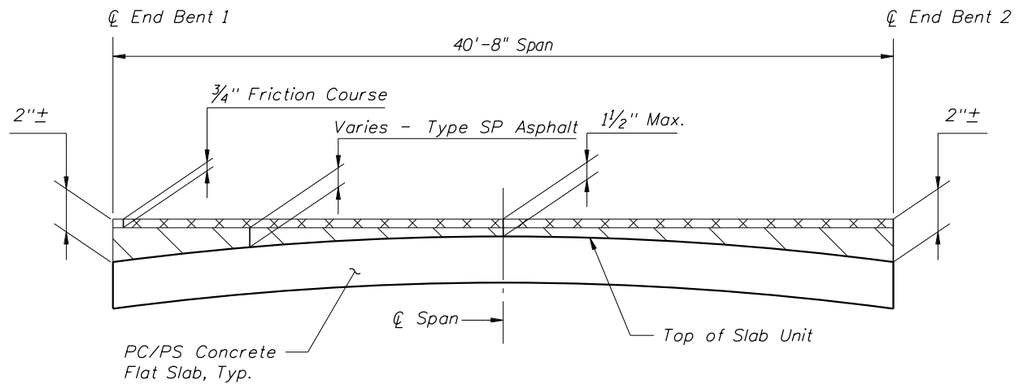
(No. Req'd = 52)



PLAN - TYPE "B" PAD

(No. Req'd = 4)

NOTE: Neoprene Bearing Pads shall have a Grade 50 durometer hardness.



ASPHALT OVERBUILD

See Roadway Plans for Asphalt Concrete Quantities

BRIDGE NO'S 880049 & 884038

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REVISIONS

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BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

SUPERSTRUCTURE DETAILS (2 OF 2)

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO. B-22

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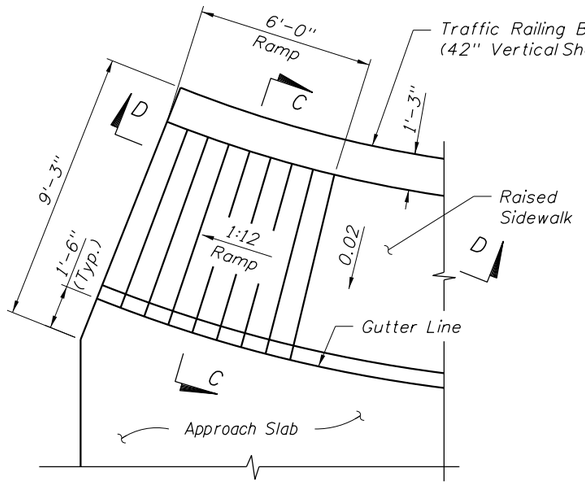
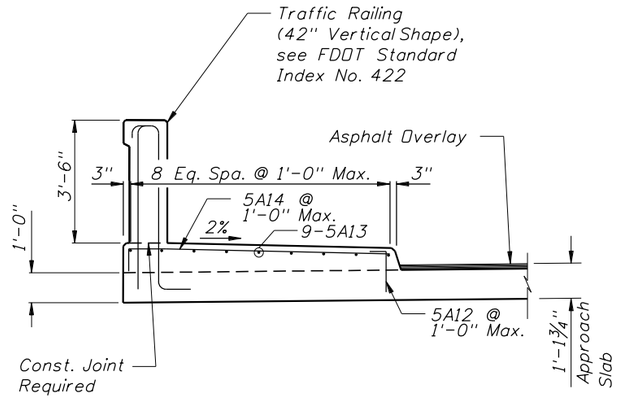
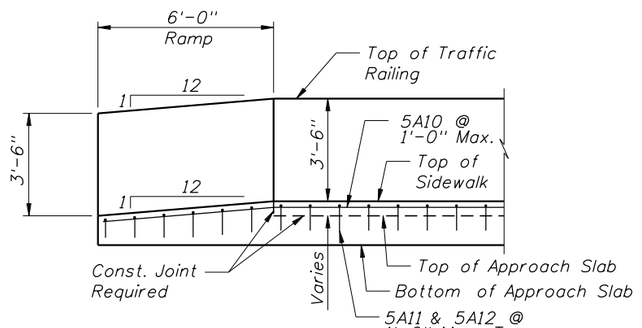


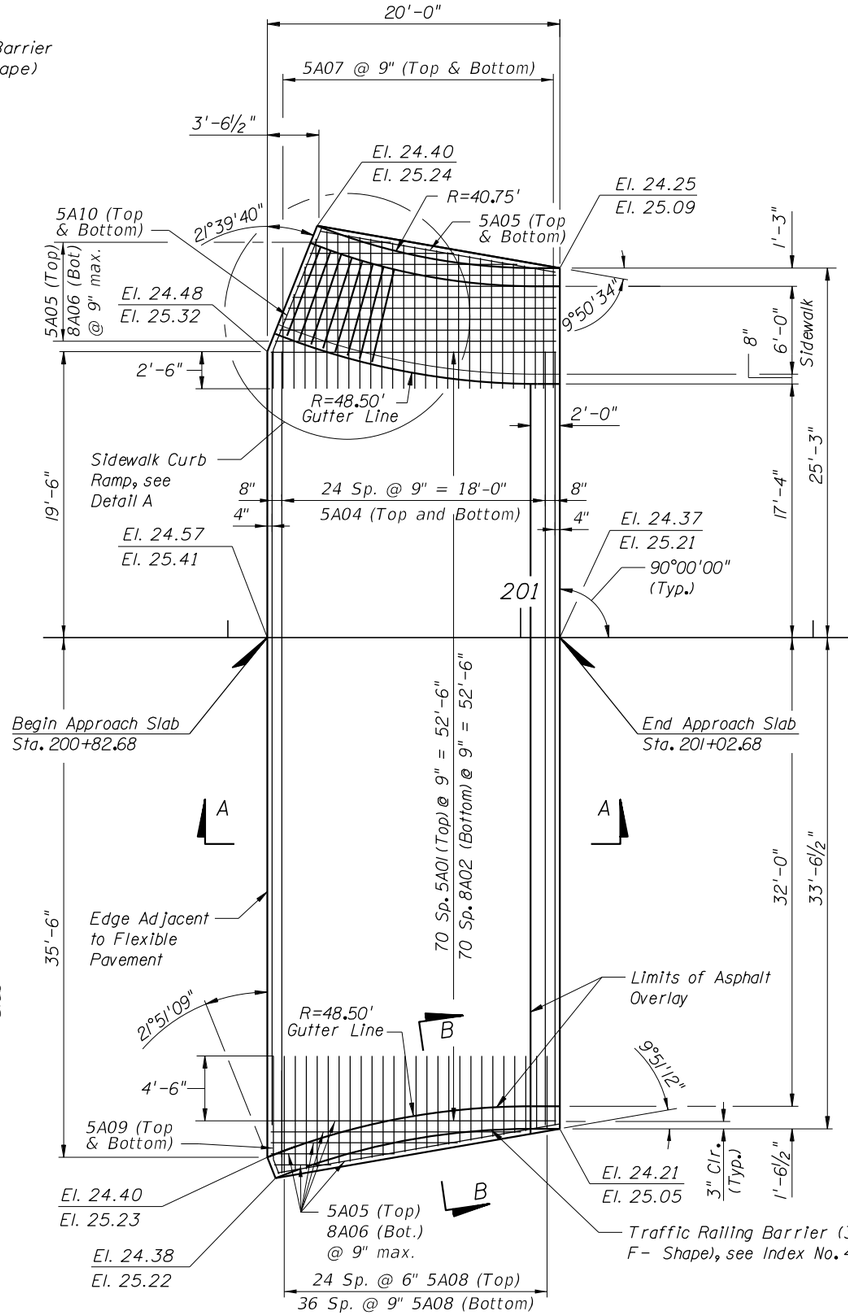
DETAIL A



SECTION C-C



VIEW D-D

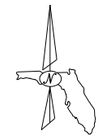


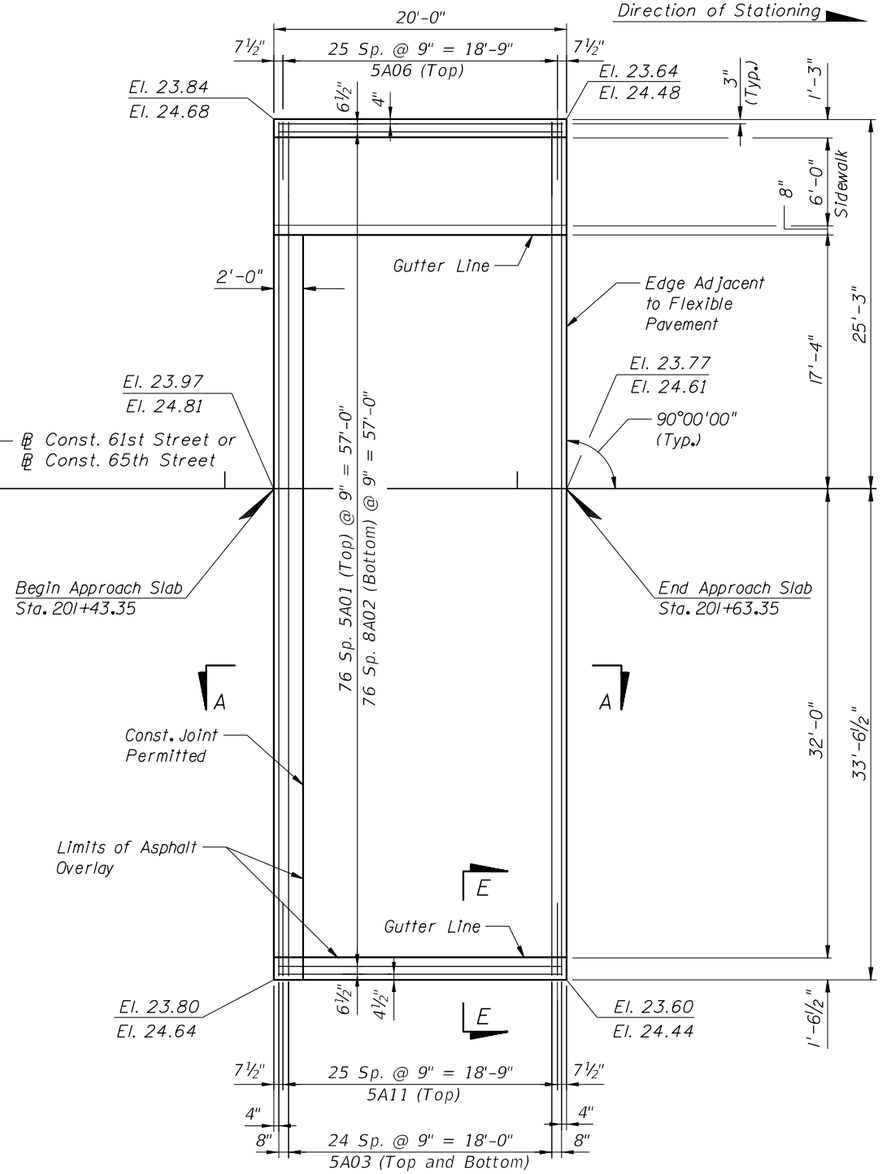
PLAN
End Bent No. 1

ELEVATION KEY:
El. XX.XX = 61st Street
El. XX.XX = 65th Street

Notes:

1. Work this sheet with FDOT Standard Index No. 20900.
2. Elevationas are to top of asphalt overlay and do not include ¾" Sidewalk Blockout.





PLAN
End Bent No. 2

* NOTE: Bars 5A06 are required as shown when either the 32" F-Shape or 42" Vertical Traffic Railing Barriers are used at the edge of the Approach Slab.

BRIDGE NO'S 880049 & 884038

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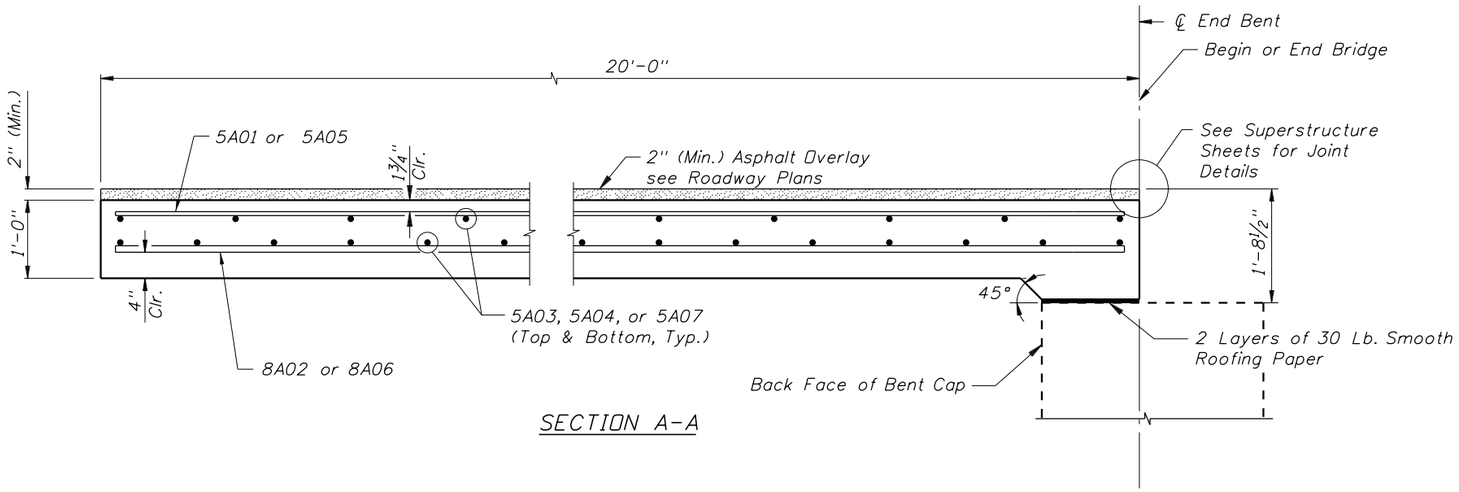
ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

APPROACH SLAB LAYOUT

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

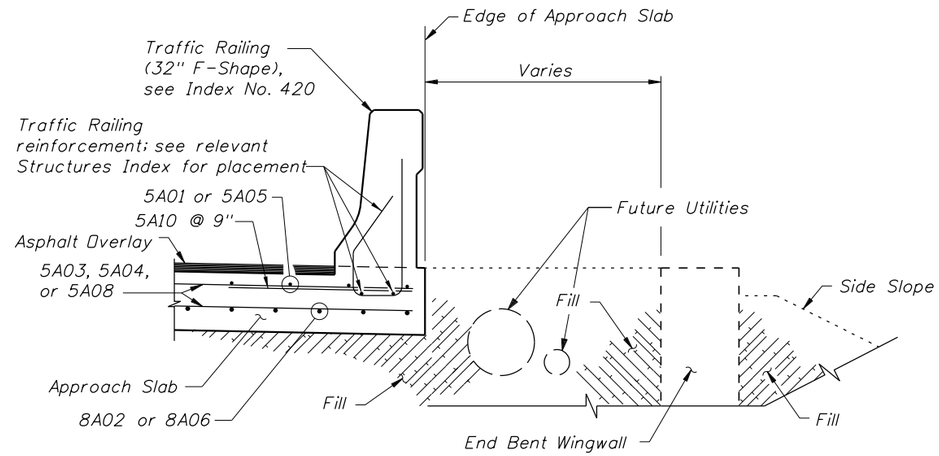
SHEET NO. B-23



SECTION A-A

GENERAL NOTES

1. SURFACE TREATMENT: As an option to Class 4 Floor Finish (Bridge Floor Grooving) per Section 400 a hand tined or heavy broomed finish may be permitted on the concrete portion of the riding surface. Sidewalk areas shall receive a broomed finish. The top surface of the concrete beneath the asphalt overlay shall be raked.



SECTION B-B

BRIDGE NO'S 880049 & 884038

REVISIONS					
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	NAMES	DATES
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ROADWAY IMPROVEMENTS TO C.R. 510 AND 66th AVENUE

APPROACH SLAB DETAILS

61st & 65th STREET BRIDGES OVER 66th AVENUE CANAL

SHEET NO. B-24

MARK		LENGTH	NO	TYP	STY		B	C	D	E	F	H	J	K	N	Ø
SIZE	DES	FT IN	BARS	BAR	A	G	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	FT IN FR	NO	ANG
LOCATION SUPERSTRUCTURE											NO. REQUIRED = 1					
5	S01	2- 1	1378	11			0- 6	0-11	0- 8	NOTE: PROVIDE 1" LENGTH OF THREADS AT END OF "C"						
6	S02	40- 2	52	1			40- 2									
6	S03	68- 8	4	1			68- 8									
5	S04	40- 2	9	1			40- 2									
5	S05	8- 7	41	13			7- 5	0- 7	0- 7						90	76
5	S06	2- 4	41	10			1- 6	0-10								
LOCATION END BENTS											NO. REQUIRED = 2					
8	B01	48- 3	9	1			48- 3									
8	B02	34- 9	9	1			34- 9									
5	B03	45- 4	2	1			45- 4									
5	B04	34- 9	2	1			34- 9									
6	B05	6- 0	27	1			6- 0									
5	B06	10- 1	72	4			1-10 ½	3- 2								
5	B07	8- 1	10	5			1-10 ½	3- 2	0-11	0- 3						
6	B08	4- 7	30	23			2- 0	0- 2 ¼	2- 0							
5	B09	7- 0	12	11			1- 4	2-10	2-10							
5	B10	14- 9	24	4	4	4	3- 8 ½	3- 2								
5	B11	11- 9	6	5			3- 8 ½	3- 2	0-11	0- 3						
5	B12	9- 0	28	1			9- 0									
5	B13	6- 0	4	1			6- 0									
5	B14	9- 3	6	13			3- 9	2- 9	2- 9						45	45
5	B15	10- 2	2	13			3-10	3- 2	3- 2						45	45
5	B16	3-10	2	1			3-10									
5	B17	5- 4	2	1			5- 4									
5	B18	13- 8	6	13			5- 8	4- 0	4- 0						45	45
5	B19	12- 9	4	13			3- 9	2- 9	6- 3						45	45
5	B20	13- 7	2	13			4- 4	2-10	6- 5						45	45
5	B21	14- 8	4	13			4- 0	3- 5	7- 3						45	45
5	B22	10- 7	2	13			5- 2	3- 9	1- 8						45	45
5	B23	11-10	4	13			5-10	4- 0	2- 0						45	45
5	B24	7-11	8	11			3-10 ½	2- 0	2- 0							
5	B25	4-11	6	11			3-10 ½	0- 6	0- 6							
5	B26	4- 2	6	11			3- 2	0- 6	0- 6							
LOCATION APPROACH SLAB BEGIN BRIDGE										NO. REQUIRED = 1						
5	A01	19- 6	71	1			19- 6									
8	A02	19- 6	71	1			19- 6									
5	A04	53- 0	54	1			53- 0									
5	A05	19- 6	16	1			19- 6			NOTE: CUT BARS IN FIELD TO FIT						
8	A06	19- 6	16	1			19- 6			NOTE: CUT BARS IN FIELD TO FIT						
5	A07	10- 9	52	1			10- 9			NOTE: CUT BARS IN FIELD TO FIT						
5	A08	9- 0	62	1			9- 0			NOTE: CUT BARS IN FIELD TO FIT						
5	A09	6- 0	2	12			5- 0	1- 0								22
5	A10	11- 6	2	12			9- 0	2- 6								22
5	A12	1-10	19	10			1- 4	0- 6								
5	A13	19- 0	9	1			19- 0									
5	A14	8- 5	19	10			7- 5	1- 0								
LOCATION APPROACH SLAB END BRIDGE										NO. REQUIRED = 1						
5	A01	19- 6	79	1			19- 6									
8	A02	19- 6	79	1			19- 6									
5	A03	58- 3	54	1			58- 3									
5	A11	5- 0	26	1			5- 0									
5	A12	1-10	20	10			1- 4	0- 6								
5	A13	19- 6	9	1			19- 6			NOTE: CUT BARS IN FIELD TO FIT						
5	A14	8- 5	20	10			7- 5	1- 0								

NOTE: 61st Street Bridge shown, 65th Street Bridge similar.

BRIDGE NO'S 880049 & 884038

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAMES	DATES
DRAWN BY	RJF	06/07
CHECKED BY	TWF	03/17
DESIGNED BY	JJF	06/07
CHECKED BY	TWF	03/17
APPROVED BY	T.W. FARNAN	

Kimley»Horn
Certificate Of Authorization No. 696
Thomas W. Farnan, P.E.
P.E. License No. 49143
1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411

INDIAN RIVER COUNTY
BOARD OF COUNTY COMMISSIONERS

ROADWAY IMPROVEMENTS
TO C.R. 510 AND 66th AVENUE

REINFORCEMENT BAR LIST

61st & 65th STREET BRIDGES
OVER 66th AVENUE CANAL

SHEET NO.
B-25