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ITEM 607 - VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

DESCRIPTION:

THIS ITEM CONSISTS OF FURNISHING AND INSTALLING VANDAL PROTECTION FENCING ON THE EXISTING CONCRETE PARAPETS. CONSTRUCT IN A MANNER THAT PROVIDES A RIGID, TAUT FENCE CLOSELY CONFORMING TO THE TOP SURFACE OF THE CONCRETE PARAPET. INSTALL POSTS AND POST SLEEVES PLUMB. REFER TO STD. DWG. VPF-1-SO GENERAL NOTES SHEET 1 OF 7 EXCEPT AS NOTED HEREIN.

DESIGN SPECIFICATION:

AASHTO LRFD BRIDGE DESIGN MANUAL, 8TH EDITION AND THE 2020 ODOT BRIDGE DESIGN MANUAL

ADHESIVE ANCHORS:

THE 1/2 INCH DIA. THREADED ROD FOR ADHESIVE ANCHORS SHALL BE ASTM F1554, GRADE 36, WITH ASTM A563 NUTS AND ASTM F436 WASHERS. MECHANICALLY GALVANIZE ALL HARDWARE ACCORDING TO ASTM B695, CLASS 65.

USE AN ADHESIVE ANCHOR EVALUATED ACCORDING TO ICCES REPORT AC308, ACCEPTANCE CRITERIA FOR POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE ELEMENTS*, FOR CRACKED AND UNCRACKED CONCRETE APPLICATIONS. PUBLISHED ICCES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:

WWW.ICC-ES.ORG/EVALUATION.REPORTS

SELECT FROM ONE OF THE FOLLOWING APPROVED PRODUCTS:

HILTI HIT-HY 200 ADHESIVE ANCHORS
(ICCES REPORT ESR-3187)

DEWALT PURE110+ EPOXY ADHESIVE ANCHOR SYSTEM
(ICCES REPORT ESR-3298)

SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE ANCHORS
(ICCES REPORT ESR-4057)

ATC ULTRABOND HS-ICC ADHESIVE ANCHOR SYSTEM
(ICCES REPORT ESR-4094)

INSTALL ADHESIVE ANCHORS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS PUBLISHED IN THE ICCES REPORTS LISTED ABOVE.

THE CONTRACTOR MAY USE A SUBSTITUTE ADHESIVE ANCHOR EVALUATED BY ICCES. THE SUBSTITUTE ANCHORS SHALL HAVE SUFFICIENT CAPACITY TO WITHSTAND THE FACTORED LOADING FOR EACH ANCHOR. THE ANCHOR SHALL BE EVALUATED ACCORDING TO ACI 318 CHAPTER 17, "ANCHORING TO CONCRETE", FOR CRACKED AND UNCRACKED CONCRETE APPLICATIONS.

THE CONTRACTOR SHALL SUPPLY DOCUMENTATION SEALED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER ENSURING THAT THE SELECTED ADHESIVE ANCHORAGE PROVIDES SUFFICIENT CAPACITY FOR THIS APPLICATION IN ACCORDANCE WITH ACI 318. INSTALL THE SELECTED ANCHORS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTION PUBLISHED IN THE ICCES REPORT.

THE EFFECTIVE EMBEDMENT DEPTH (H_{eff}) FOR 1/2 INCH DIAMETER ANCHORS INSTALLED IN THE TOP OF THE PARAPET SHALL BE SEVEN INCHES. THE FACTORED LOADING ON THE TOP ANCHOR GROUP IS 2.20 KIPS OF TENSION.

THE EFFECTIVE EMBEDMENT DEPTH (H_{eff}) FOR 1/2 INCH DIAMETER ANCHORS INSTALLED IN THE BACK OF THE PARAPET SHALL BE 4 INCHES. THE FACTORED LOADING ON THE SIDE MOUNTED ANCHOR IS 1.68 KIPS OF SHEAR.

FENCE LINE POSTS AND END POSTS:

FENCE LINE POST AND END POST SHALL BE 2.875 INCH OUTSIDE DIAMETER GRADE 2 PIPE, 710.03 (TYPE I) FY = 50,000 PSI, 4.64 LB/FT. THE PROTECTIVE COATING SHALL BE ACCORDING TO AASHTO M181 FOR GRADE 2 POSTS.

BASE PLATES:

ALL PLATES SHALL BE ASTM A709 GRADE 36 OR 50, GALVANIZED ACCORDING TO C8MS 711.02.

POST SLEEVES:

POST SLEEVES SHALL BE 3.500 INCH OUTSIDE DIAMETER PIPE, ASTM A53, 25,000 PSI MINIMUM YIELD STRENGTH, 7.58 LB/FT, GALVANIZED ACCORDING TO C8MS 711.02. HEXAGON SOCKET SET SCREWS SHALL BE SAE 4140 ALLOY STEEL, HEAT TREATED, WITH FLAT OR OVAL POINT.

FABRIC:

1" DIAMOND MESH SHALL EXTEND 3" ABOVE THE TOP RAIL FOR THE FULL LENGTH OF THE FENCE.

COLOR:

THE COLOR OF THE FENCE FABRIC, RAILS, POSTS, PLATES, TIE WIRES, AND ADDITIONAL VISUAL HARDWARE AND CAULK SHALL BE BLACK (FEDERAL COLOR NO. 27038).

CONSTRUCTION PROCEDURE:

1. FIELD VERIFY THE LOCATIONS OF ALL PARAPET SAWCUT JOINTS WITHIN THE LIMITS OF THE PROPOSED VANDAL PROTECTION FENCING.

2. PREPARE A WORKING DRAWING SHOWING THE POST LOCATIONS AND FIELD VERIFIED SAWCUT JOINTS FOR APPROVAL BY THE PROJECT ENGINEERING PRIOR TO FABRICATION. ALLOW FIVE WORKING DAYS FOR REVIEW.

3. MARK AND DRILL HOLES FOR THE 1/2 INCH HIGH STRENGTH THREADED ANCHORS USING A BASE PLATE OR TEMPLATE.

4. INSTALL 1/2 INCH DIAMETER HIGH STRENGTH THREADED ANCHORS.

5. INSTALL POSTS AND BASE PLATES AND SHIM WHERE REQUIRED.

6. CAULK EDGES OF BASE PLATES, SHIMS AND SLEEVES.

7. COMPLETE INSTALLATION OF FENCE.

* FENCE INSTALLATION SHALL BE COMPLETED BY 4/15/2021. CONTRACTOR SHALL MAKE NOTE OF THE MINIMUM ALLOWABLE APPLICATION TEMPERATURE OF THE SELECTED ADHESIVE AND PLAN ACCORDINGLY TO ENSURE NO DELAYS.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE QUANTITY BY THE FOOT. THE DEPARTMENT WILL MEASURE ALONG THE BOTTOM OF THE FENCE FROM CENTER TO CENTER OF END POSTS.

BASIS OF PAYMENT:

THE DEPARTMENT WILL MAKE PAYMENT FOR THE COMPLETED AND ACCEPTED QUANTITIES OF VANDAL FENCE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
607	FOOT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN

ITEM 202 - CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE ESTIMATED QUANTITIES FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

ITEM 625 - STRUCTURE GROUNDING SYSTEM, AS PER PLAN:

PROVIDE A STRUCTURAL GROUND TO THE EXISTING LIGHTING SYSTEM FOR EACH FENCE. ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE PAID FOR UNDER ITEM 625, STRUCTURE GROUNDING SYSTEM, AS PER PLAN.

ITEM

625

UNIT

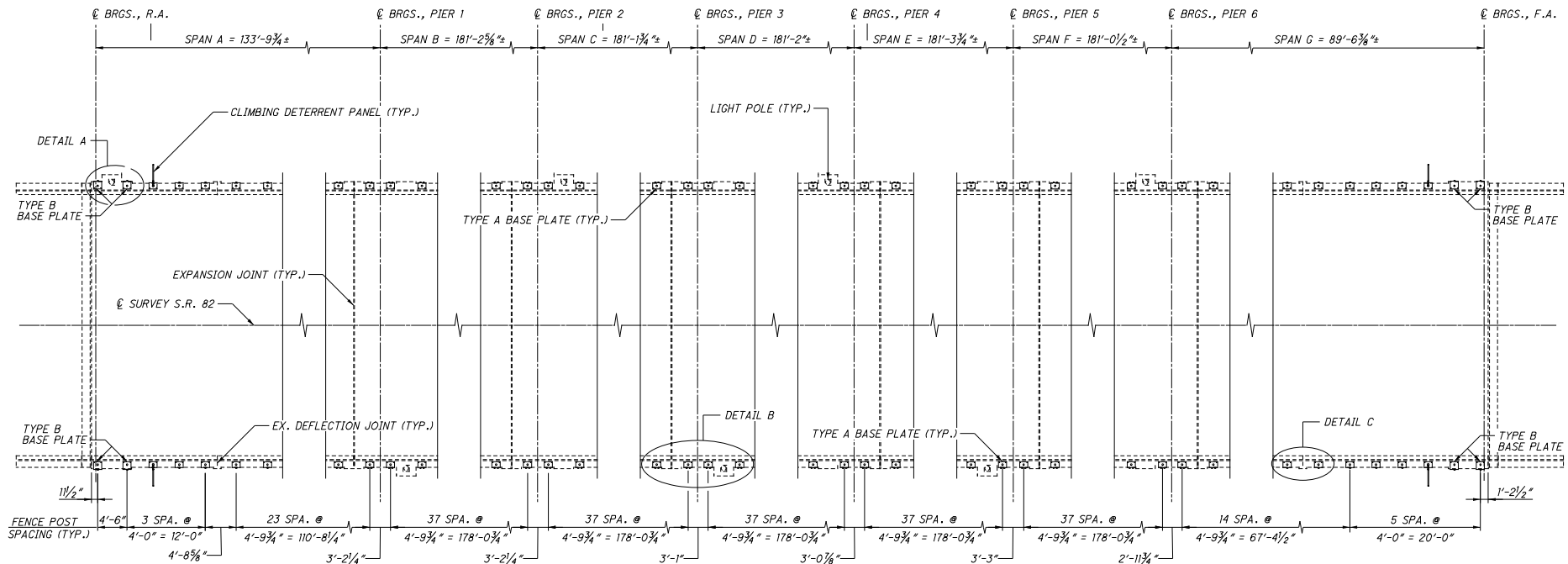
EACH

DESCRIPTION

STRUCTURE GROUNDING SYSTEM, AS PER PLAN

ESTIMATED QUANTITIES						DESIGN: AMR DATE: 7/16/20		CHECK: GDJ DATE: 7/16/20	
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.	SHEET #
201	11000	LS	-	CLEARING AND GRUBBING				LS	
607	39901	2258	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC, AS PER PLAN			2258		1
625	33001	2	EACH	STRUCTURE GROUNDING SYSTEM, AS PER PLAN			2		1

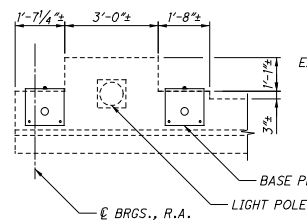
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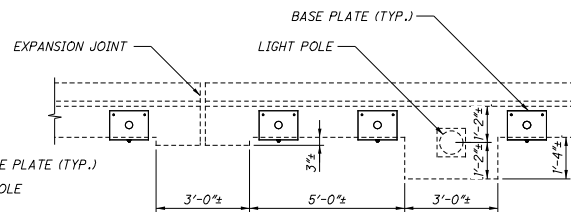
PLAN

NOTES

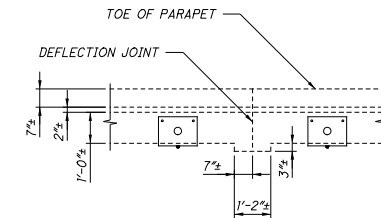
1. CONTRACTOR TO VERIFY FENCE POST SPACING DOES NOT CONFLICT WITH EXISTING DEFLECTION JOINTS, LIGHT PILASTERS AND EXPANSION JOINTS. PRIOR TO ORDERING MATERIALS, CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO SPACING SPECIFIED AS NECESSARY TO ENSURE NO CONFLICTS. THE POST SPACING SHALL NOT EXCEED 5'-0".
2. REFER TO STD. DWG. VPF-1-90 FOR ADDITIONAL NOTES AND DETAILS.
3. PROVIDE ACCESS OPENING AT EACH LIGHT POLE LOCATION.
4. PROVIDE EXPANSION SLEEVES AT EACH EXPANSION JOINT LOCATION.



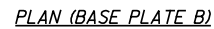
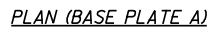
DETAIL A



DETAIL B



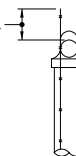
DETAIL C



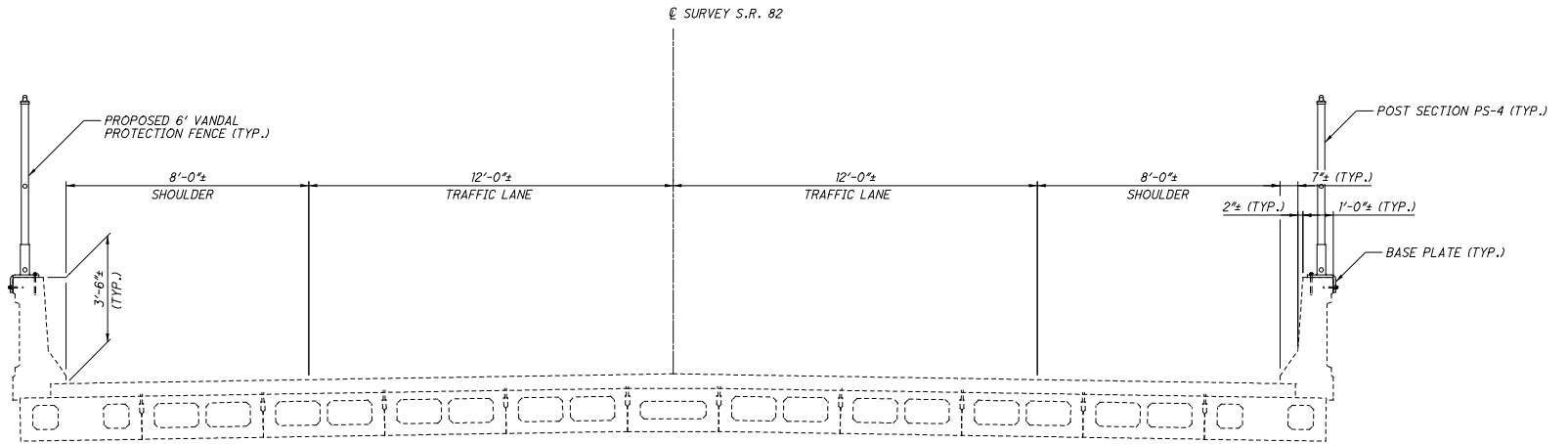
DETAIL B

1. INSTALL VANDAL PROTECTION FENCE PER STD. DWG. VPF-1-90 EXCEPT WHERE MODIFIED IN THESE PLANS.
2. CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE THE EXISTING STRUCTURE DURING VANDAL PROTECTION FENCE INSTALLATION. ANY DAMAGE THAT OCCURS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.
3. PLACE A CLIMBING DETERRENT PANEL ON THE THIRD POST FROM THE BEGINNING AND END OF THE FENCE, RESULTING IN FOUR PANELS TOTAL. SEE SHEET 2/4 FOR LOCATIONS.
4. PRIOR TO DRILLING THE HOLES FOR THE BASE PLATES, THE LOCATIONS OF THE FENCE POSTS SHALL BE CAREFULLY LAID OUT AND ADJUSTED AS NECESSARY TO ACHIEVE THE REQUIRED CLEARANCES TO THE PARAPET DEFLECTION JOINTS.

EXTEND FENCE FABRIC 3" ABOVE TOP OF LINE RAIL



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TRANSVERSE SECTION

NOTE

REFER TO STD. DWG. VPF-I-90 FOR ADDITIONAL NOTES AND DETAILS.

DESIGN AGENCY CARPENTER MARTY <small>INCORPORATED</small> <small>1017 BRADSHAW BL. COLUMBUS, OH 43260</small>	DATE	7-21-20
	REVIEWED	STK
DRAWN	AMR	REVIS
	AMR	GDJ
STRUCTURE FILE NUMBER 7706871		
TRANSVERSE SECTION		
BRIDGE NO. SUM-82-0000		
S.R. 82 OVER CUYAHOGA RIVER, B&O RAILROAD, AND BIKE PATH		
D04 BH FY2021	(WEST)	
PID No. 101380		
4	4	
26	26	