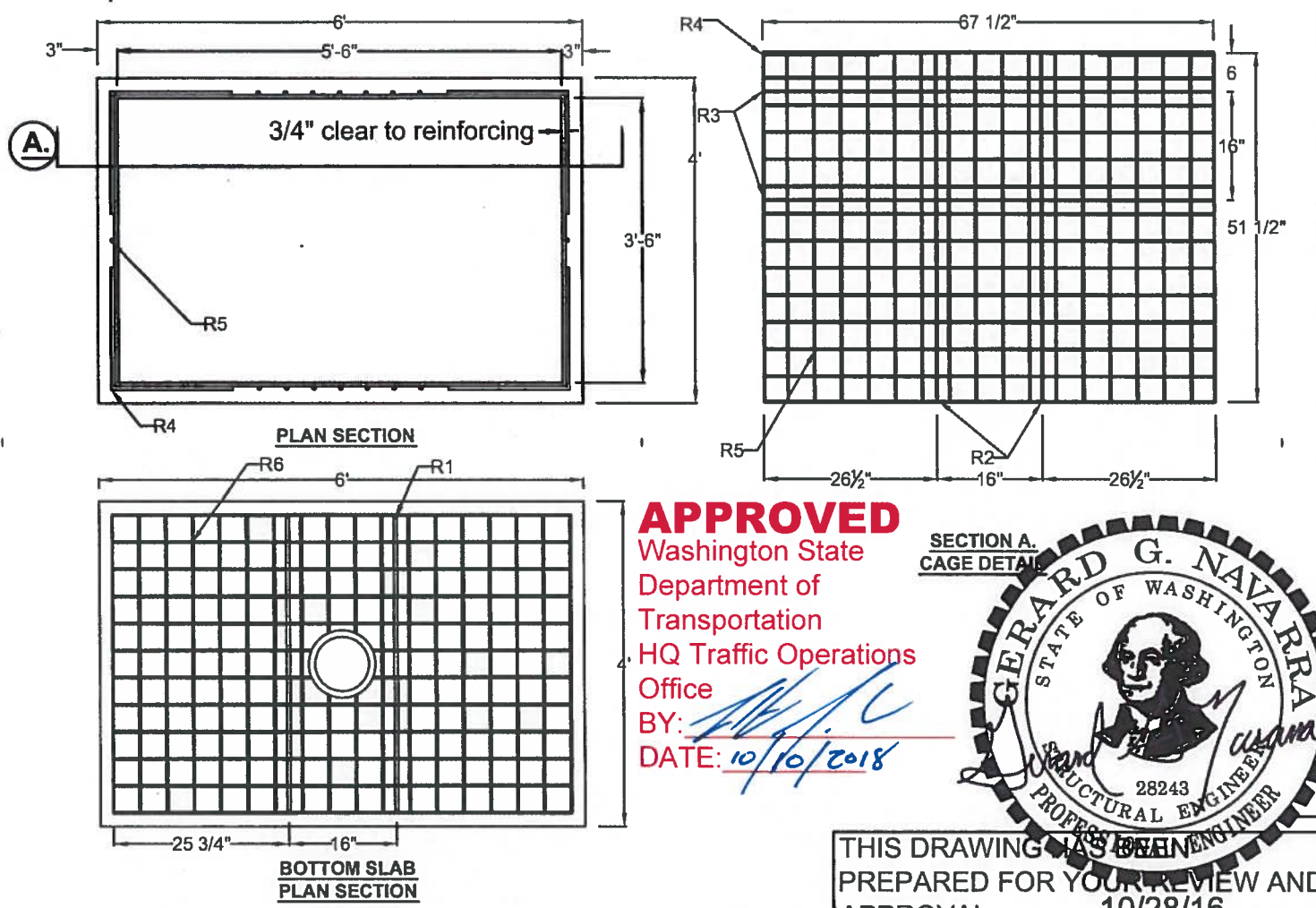


- NOTES:**
- 1.) PLACED EACH CORNER
 - 2.) 5/8" X 3/4" SS GROUND STUD WITH SS NUTS AND SS WASHERS SHALL BE ATTACHED TO BRASS GROUNDING LUG IN VAULT AND BONDING INSERT IN LID.
 - 3.) BRASS GROUNDING LUG AND BONDING INSERT TO BE ATTACHED VIA #8MIN. X 4' (FT.) TINNED BRAIDED COPPER BONDING JUMPER
 - 4.) ALL REBAR GRADE 60
 - 5.) f'c 4000 PSI MINIMUM



APPROVED
 Washington State
 Department of
 Transportation
 HQ Traffic Operations
 Office
 BY: *[Signature]*
 DATE: 10/10/2018

THIS DRAWING HAS BEEN PREPARED FOR YOUR REVIEW AND APPROVAL 10/28/16

APPROVED AS SUBMITTED
 APPROVED AS CORRECTED
 RESUBMIT

PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH PRODUCTION.

SIGNED _____
 TITLE _____ DATE _____

BAR	DESCRIPTION/SIZE	QTY.	COMMENT
R1	#5 BAR @ 44"	2	16" ε TO ε
R2	#3 BAR @ 50"	4	16" ε TO ε
R3	#3 BAR @ 69"	4	16" ε TO ε
R4	#4 BAR @ 36" BEND @ 90°	4	SEE NOTE 1
R5	4X4 WWF W2.9XW2.9	1	50"X231"
R6	4X4 WWF W2.9XW2.9	1	45"X69"
R7	36" X 1 5/8" X 13/16" GALVANIZED UNISTRUT	2	1 EACH SHORT WALL
R8	60" X 1 5/8" X 13/16" GALVANIZED UNISTRUT	2	1 EACH LONG WALL
R9	1/2" BRASS GROUNDING INSERT	1	2 INTERNAL
R10	1/2" BONDING INSERT	1	IN LID

DRAWN: AH DATE: 10/27/16
 QC: JB SCALE: NTS

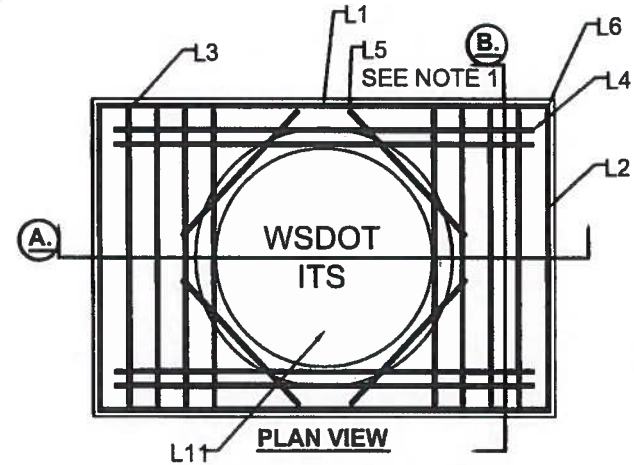
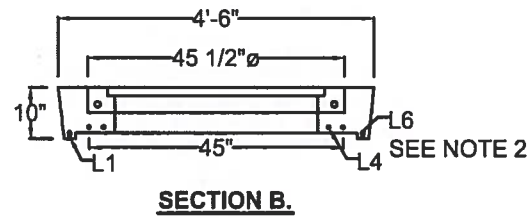
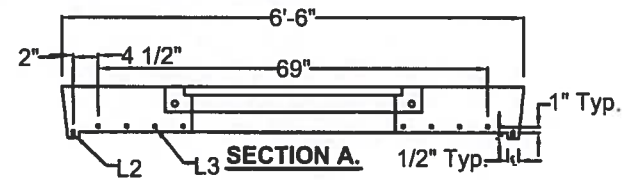
465 VAULT BASE

PAGE: 1 of 2

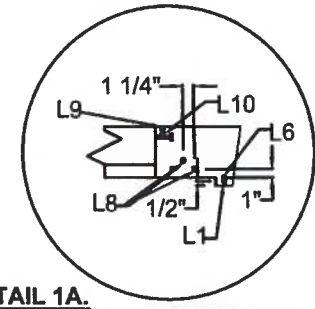
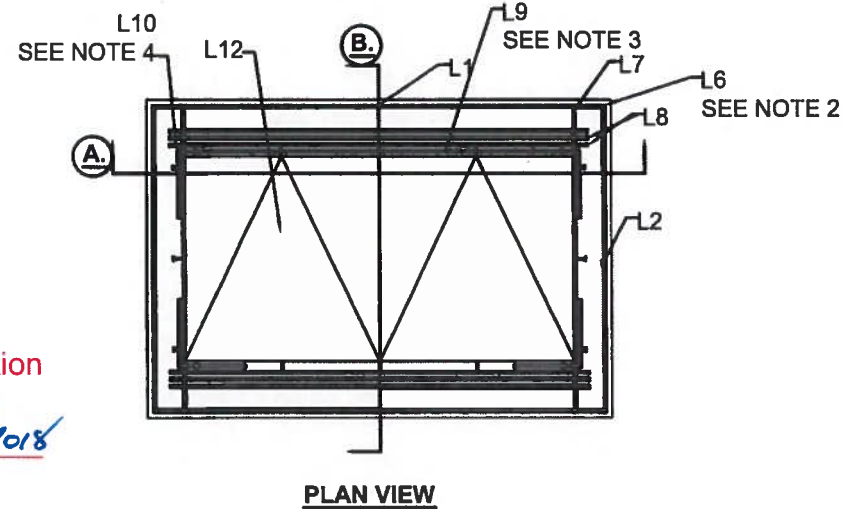
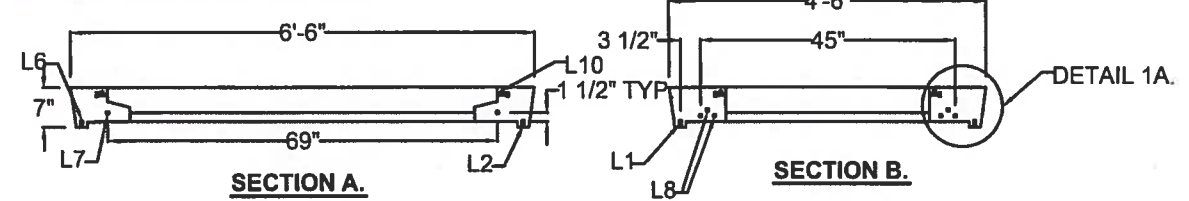
THIS DRAWING IS INTENDED FOR THE USE OF THE INDIVIDUAL TO WHICH IT IS ADDRESSED AND CONTAINS INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE. IF YOU ARE NOT THE INTENDED RECIPIENT, PLEASE DO NOT DISSEMINATE, DISTRIBUTE OR COPY THIS BY E-MAIL OR OTHERWISE.

H² PRE-CAST INC.
 CONCRETE PRODUCTS
 (509) 884-6644 Phone (509) 884-4567 Fax

HEAVY DUTY 460-02 VAULT LID



STANDARD DUTY 460-23 VAULT LID

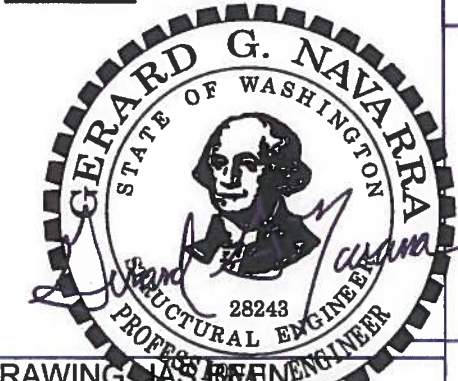
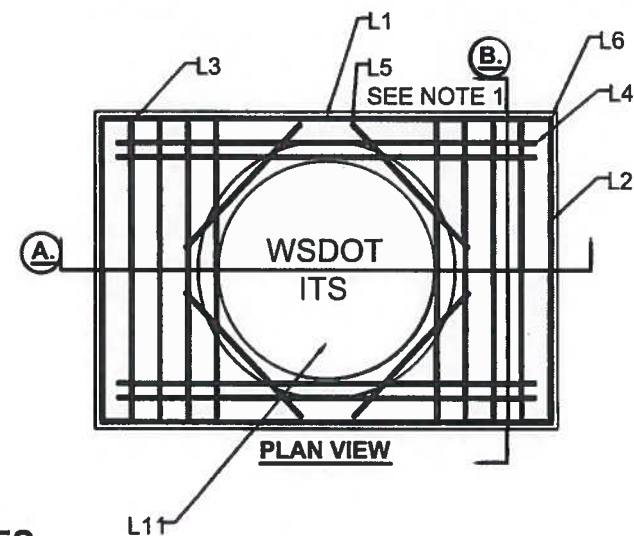
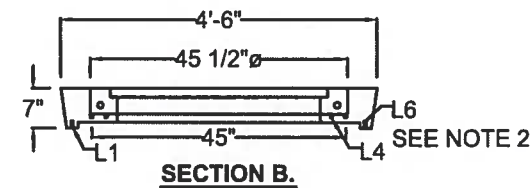
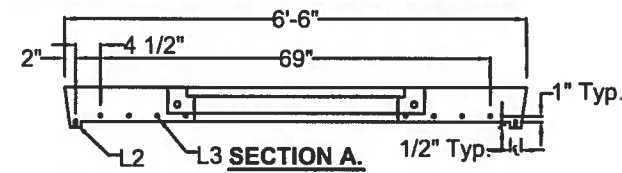


APPROVED

Washington State Department of Transportation
HQ Traffic Operations Office

BY: *[Signature]* DATE: 10/10/2018

STANDARD DUTY OR RETROFIT 460-02 VAULT LID



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- APPROVED AS SUBMITTED
- APPROVED AS CORRECTED
- RESUBMIT

PLEASE CHECK THE APPROPRIATE BOX AND RETURN ONE SIGNED COPY SO THAT WE MAY PROCEED WITH PRODUCTION.

SIGNED _____

TITLE _____ DATE _____

BAR	DESCRIPTION/SIZE	QTY.	COMMENT
L1	#3 BAR @ 60"	2	NA
L2	#3 BAR @ 24"	2	NA
L3	#6 BAR @ 51"	8	5" O.C.
L4	#6 BAR @ 74"	4	2 1/2" O.C.
L5	#3 BAR @ 36"	4	SEE NOTE 1
L6	#3 BAR @ 36" BEND @ 90°	4	SEE NOTE 2
L7	#6 BAR @ 52"	2	69" ϵ TO ϵ
L8	#5 BAR @ 74"	6	2 1/2" O.C.
L9	#6 BAR @ 60"	1	SEE NOTE 3
L10	#4 BAR @ 24" BEND @ 90°	4	SEE NOTE 4
L11	WSDOT ITS 36" RING AND COVER 2688Z2PT	1	N/A
L12	INWESCO 23 HATCH 35A57	1	N/A

NOTES:

- 1.) RUN THROUGH RING LOOPS IN CASTING
- 2.) PLACED EACH CORNER
- 3.) TIED TO HATCH STUDS HINGE SIDE
- 4.) TIED TO HATCH STUDS ALL FOUR CORNERS
- 5.) ALL REBAR GRADE 60
- 6.) f_c 4000 PSI MINIMUM

DRAWN: AH DATE: 10/27/16

QC: JB SCALE: NTS

WSDOT 465 VAULT LIDS

PAGE: 2 of 2

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Approved for Heavy-Duty Cable Vaults Only.

EJIW EAST JORDAN
IRON WORKS EST. 1883

800-626-4653
www.ejiw.com
MADE IN USA

PRODUCT NUMBER
00268801

CATALOG NUMBER
2688Z2PT
2688 APT DI

MANHOLE ASSEMBLY
LOAD RATING
HEAVY DUTY

COATING
UNDIPPED

ESTIMATED WEIGHT
COVER: 311 LBS
FRAME: 225 LBS
UNIT: 532 LBS

MATERIAL SPECIFICATION
COVER - GRAY IRON
ASTM A48 CL35B
FRAME - GRAY IRON
ASTM A48 CL35B

OPEN AREA
N/A

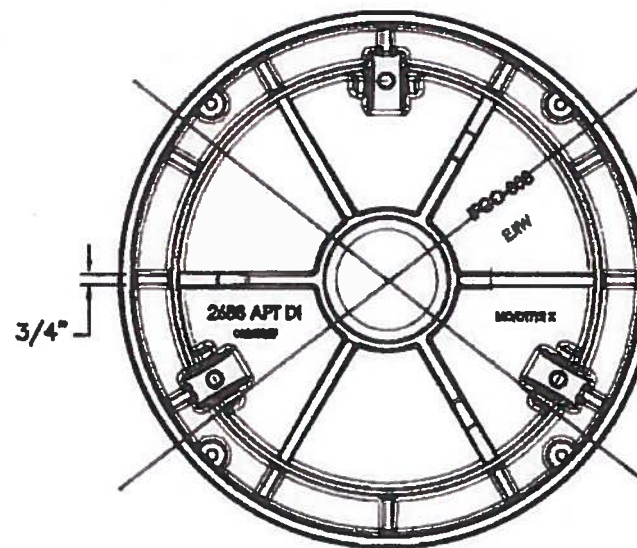
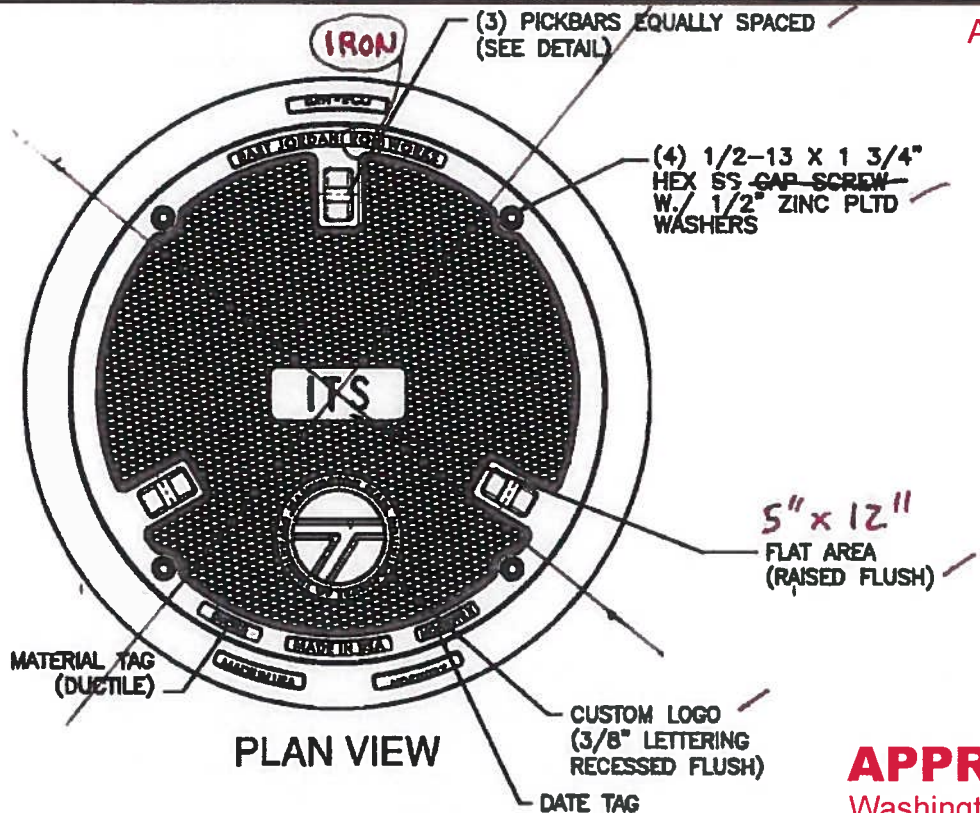
√ DESIGNATES MACHINED SURFACE

DRAWN DEW	DATE 05/18/06
LAST REVISED JJD	DATE 05/22/08

REFERENCE INFORMATION

00XXXXXX

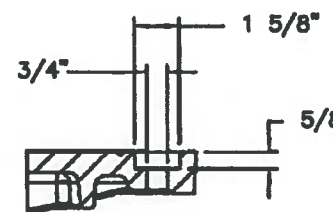
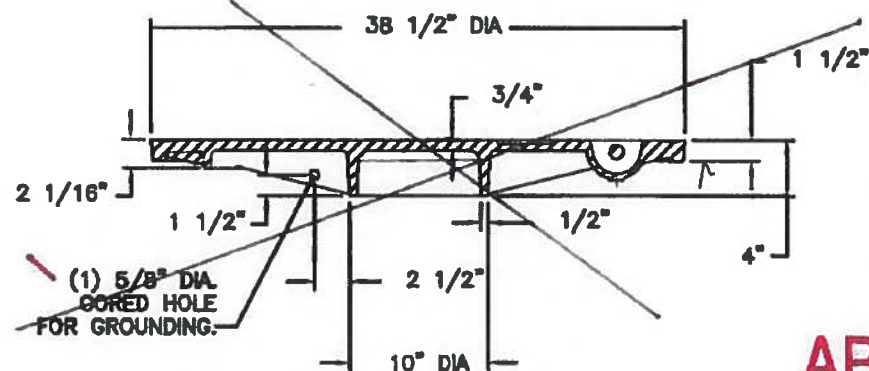
Ductile Iron -
ASTM A536



APPROVED AS NOTED

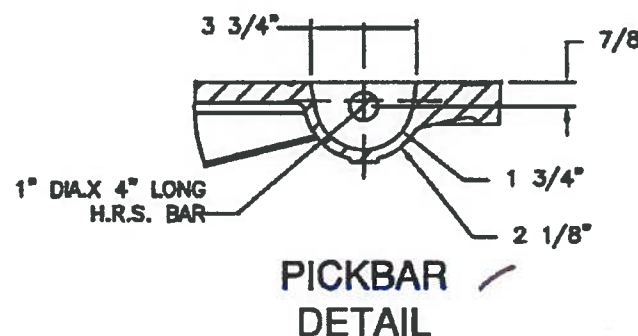
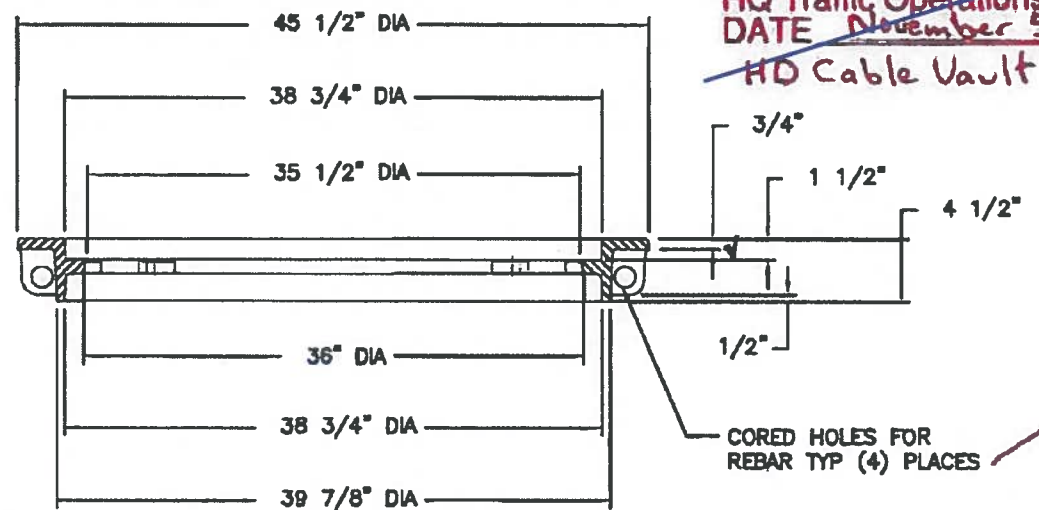
Washington State Department of Transportation
HQ Traffic Operations Office
BY: *[Signature]* DATE: 10/10/2018

USE THIS SHEET FOR FRAME SECTION DETAIL, BOLT HOLE DETAIL & PICKBAR DETAIL. USE SHEET TITLED "COVER", PRODUCT # 00268823, REVISED DATE 5/19/09 FOR COVER DETAIL NOT SHOW ON THIS SHEET.



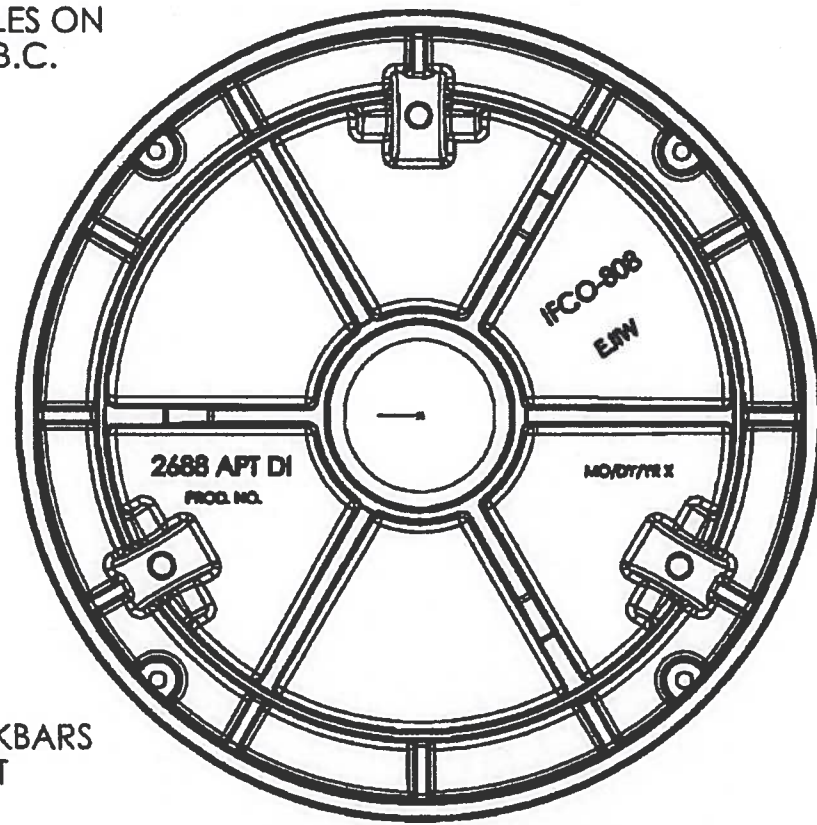
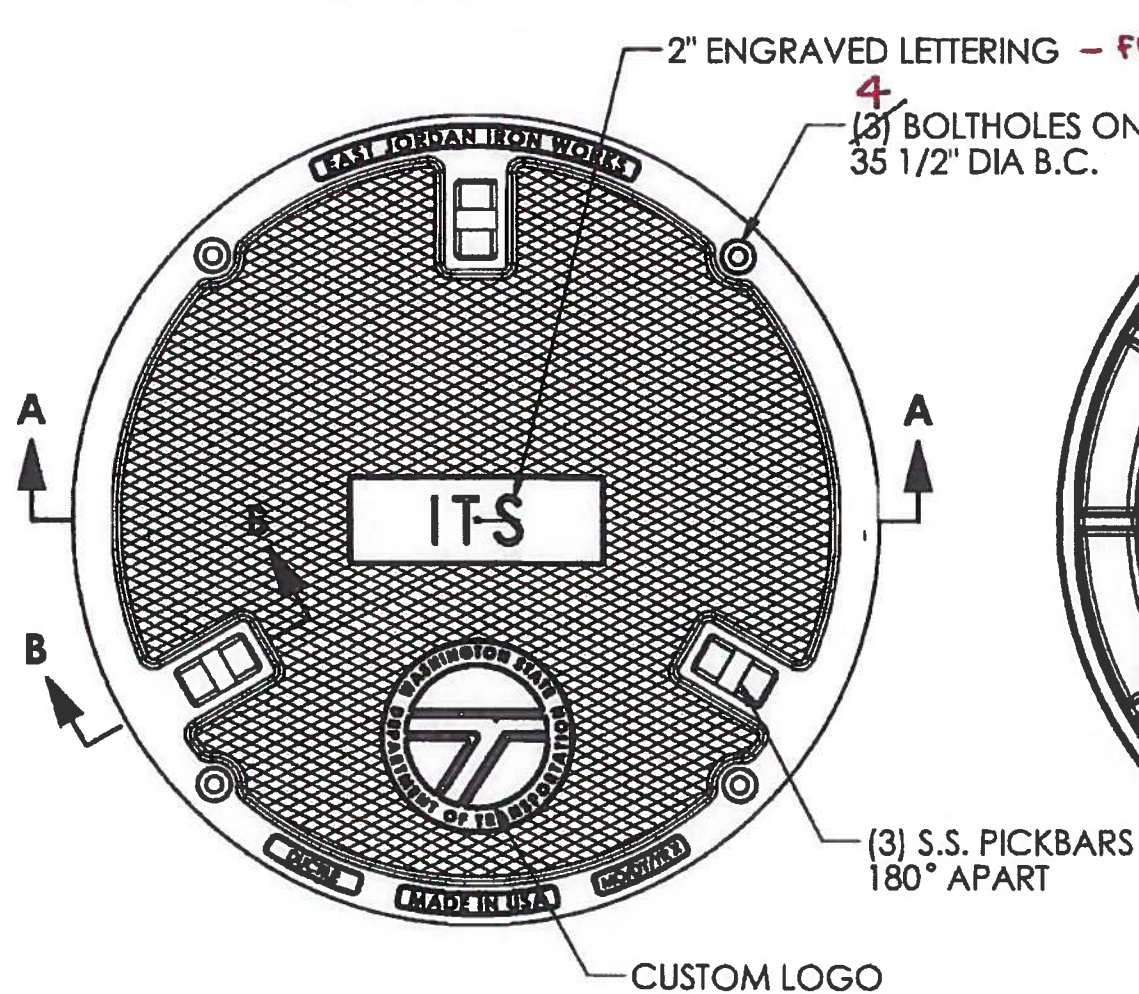
APPROVED AS NOTED

Washington State Department of Transportation
HQ Traffic Operations Office
DATE November 5, 2009 TAT
HD Cable Vault

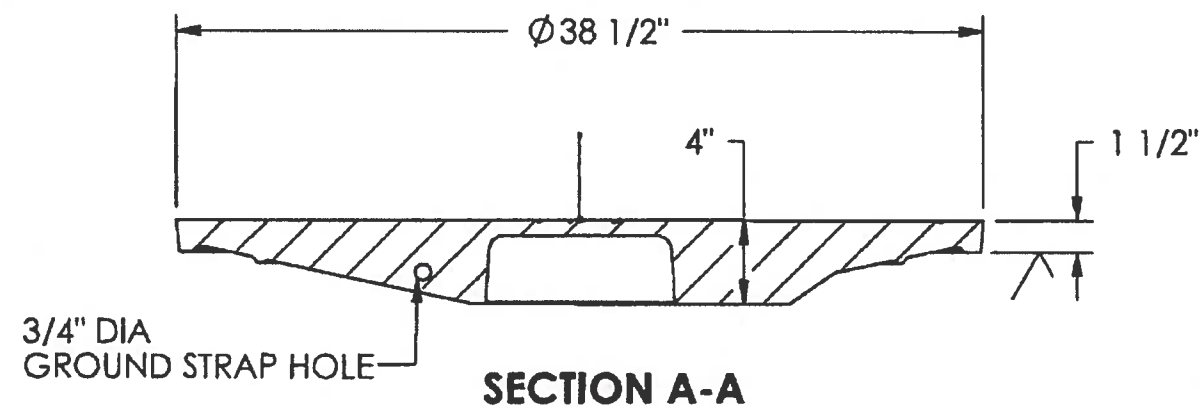


√ MACHINED SURFACE

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BOTTOM VIEW



SECTION A-A

APPROVED AS NOTED

Washington State Department of Transportation

HQ Traffic Operations Office

BY: *[Signature]* DATE: 10/10/2018



SECTION B-B

APPROVED AS NOTED

SUPERSEDED

Washington State Department of Transportation
 HQ Traffic Operations Office
 DATE: November 5, 2009 TAT

EJIW EAST JORDAN
 IRON WORKS EST. 1883

800-626-4653

www.ejiw.com

MADE IN USA

PRODUCT NUMBER

00268829

CATALOG NUMBER

2688APT DI

COVER

LOAD RATING

HEAVY DUTY

COATING

UNDIPPED

SPECIFICATION

COVER-DUCTILE IRON

ASTM A536

OPEN AREA

N/A

√ DESIGNATES
 MACHINED SURFACE

DRAWN

DEW

DATE

8/30/2007

LAST REVISED

DEW

DATE

5/19/2009

CONFIDENTIAL: This drawing is the property of East Jordan Iron Works, Inc. and embodies confidential information, trade secret information, and/or know how that is the property of

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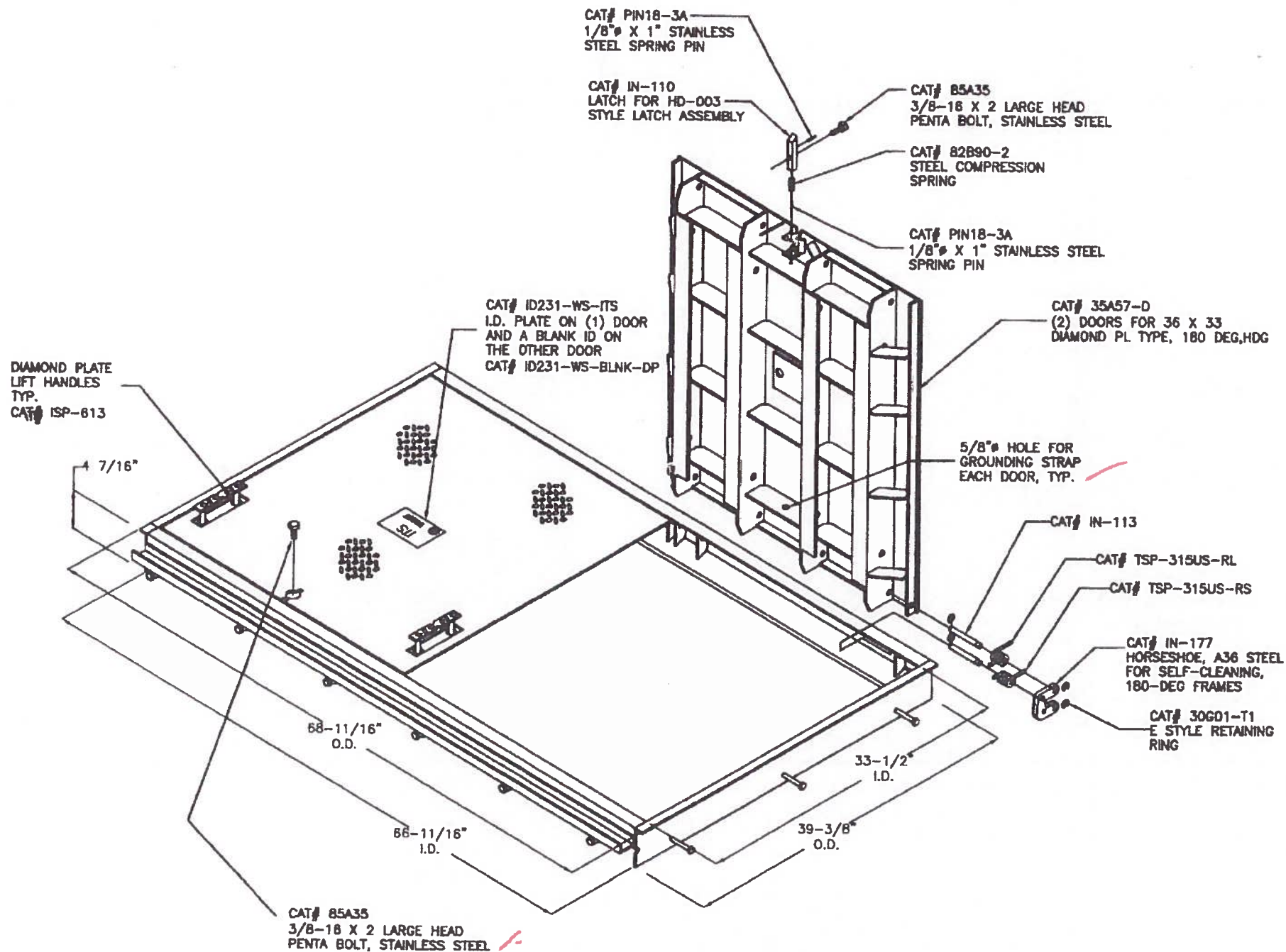
DESIGN CRITERIA

1. ASSUME ASTM A-36 STEEL PLATE & STRUCTURAL SHAPES.
2. DESIGN IN AASHTO H-20 (16.0 KIP WHEEL LOAD) LOADING CRITERIA.
3. USE 16.0 KIP WHEEL LOAD WITH A 40% IMPACT FACTOR (22,500 lbs.).
4. $F_b = 0.66F_y$ ($F_y = 36.0$ ksi) $F_b = 24.00$ ksi.
5. $F_v = 0.40F_y$ (14.40 ksi).
6. LOAD DISTRIBUTION AREA @ 10"x10".
7. REFER TO ASTM C-857 AS LAST REVISED WHERE APPLICABLE.
8. USE AWS E70-6 CO₂ GAS SHIELDED WELDING WIRE

NOTES

THIS FRAME AND COVER ASSEMBLY HAS BEEN DESIGNED IN ACCORDANCE WITH THE LOADING CRITERIA SET-FOURTH BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS (AASHTO), AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM C-857 AS LAST REVISED) WHERE APPLICABLE.

THIS FRAME AND COVER ASSEMBLY HAS BEEN DESIGN FOR USE IN TRAFFIC APPLICATION, OR IN AREAS SUBJECTED TO H-20-44 TRAFFIC CONDITIONS.



BILL OF MATERIALS & MILL CERTS DOCUMENTS

ITEM NUMBER	ITEM DESCRIPTION	MATERIAL
35A57-D	33" X 36" DOOR, DIAMOND PL TYPE	See Drawing
35A57-F	33-1/2" X 66-11/16 CLR OPNG FRAME	See Drawing
ISP-613	LIFT HANDLE, DIAMOND PLATE	A786
B5A35	3/8-16 X 2 LARGE HEAD PENTA BOLT	A193-10A
PIN18-3A	1/8" X 1" A36 STEEL	420 S.S.
IN-110	5/8" SQ LATCH, A36 STEEL, ZINC PLATED	A36
B2B90-2	COMPRESSION SPRING FOR IN-110	302 S.S.
IN-113	1/2" HINGE PIN FOR 180-DEG SPRING ASSIST	A36
TSP-315US-RS	SPRING #02 RIGHT SHORT, 180-DEG	A401-10
TSP-315US-RL	SPRING #03 RIGHT LONG, 180-DEG	A401-10
TSP-315US-LS	SPRING #02 LEFT SHORT, 180-DEG	A401-10
TSP-315US-LL	SPRING #03 LEFT LONG, 180-DEG	A401-10
IN-177	HORSESHOE FOR 180-DEG SPRING ASSIST	A36
30G01-T1	1/2" E STYLE RETAINING RING	A693-06
ID231-WS-ITS	3/16 X 3-1/16 X 5-5/16 ID PLATE, WS-DOT	A36
ID231-WS-BLNK-DP	3/16 X 3-1/16 X 5-5/16 ID PLATE, BLANK	A36

APPROVED AS NOTED

Washington State Department of Transportation
HQ Traffic Operations Office

BY: [Signature] DATE: 10/10/2018

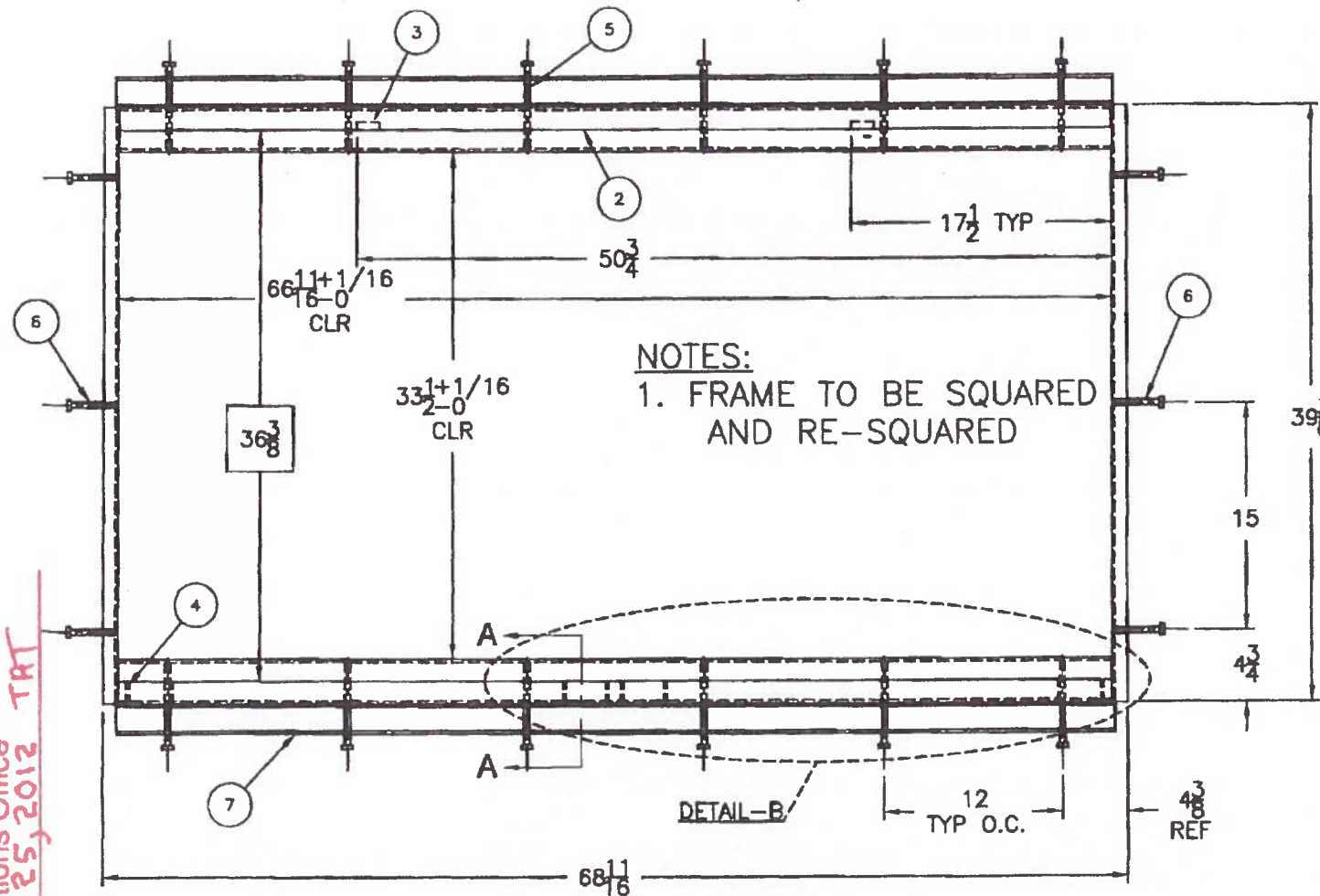
APPROVED
Washingon SUPERSEDED
Department of Transportation
HQ Traffic Operations Office
DATE January 25, 2012 TAT



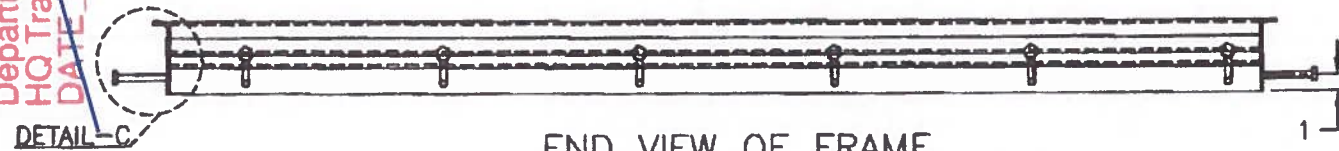
A	CHANGE LIFT HANDLE TO DIAMOND PLATE / REVISE CHANNEL TO SHOW FULL LENGTH	11/22/11	SJ
REV	DESCRIPTION OF MODIFICATION	DATE	BY
PROPRIETARY INFORMATION			
THIS DRAWING EMBODIES PROPRIETARY AND CONFIDENTIAL INFORMATION AND IS LOANED BY INVESCO WITH THE UNDERSTANDING THAT IT WILL NOT BE DISCLOSED IN PART OR WHOLE, AND/OR USED FOR ANY OTHER PURPOSE OTHER THAN MAINTENANCE OR INSTALLATION, UNLESS EXPRESSLY AUTHORIZED IN WRITING BY INVESCO INCORPORATED			
		TITLE: COVER AND FRAME FOR SELF-CLEANING INLINE DOUBLE 180-DEG, FLOOR PLATE, HDG	
746 NORTH CONEY AVENUE AZUSA, CALIFORNIA 91702 PH: (626) 334-8304 FAX: (626) 889-3404	SIZE: <u>SCALE</u> DATE: <u>08/29/08</u> DWN BY: <u>LN</u>	CAT/DWG#: <u>B5A57</u> SHEET <u>1</u> OF <u>1</u>	WEIGHT: REV: <u>A</u>

Approved for Standard Duty Cable Vaults Only.

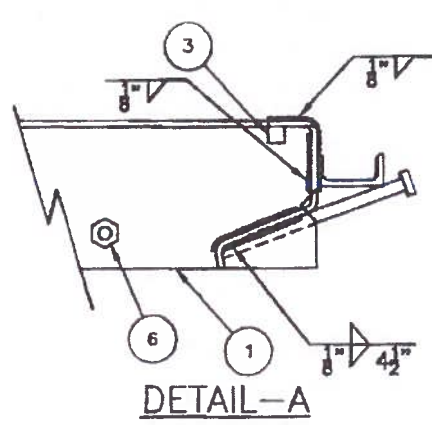
APPROVED AS NOTED
 Washington State Department of Transportation
 HQ Traffic Operations Office
 DATE: January 25, 2012 TRT
SUPERSEDED



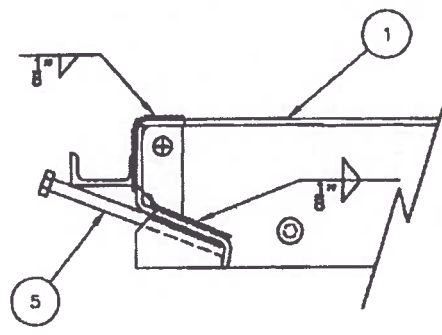
PLAN VIEW OF FRAME



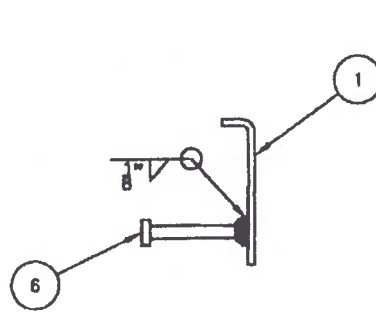
END VIEW OF FRAME



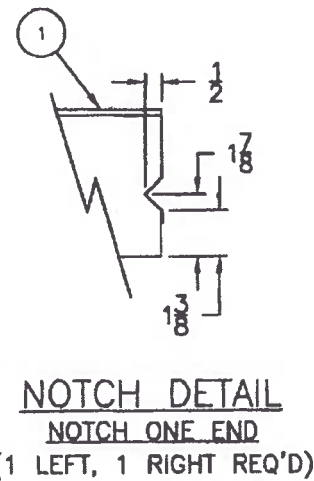
DETAIL-A



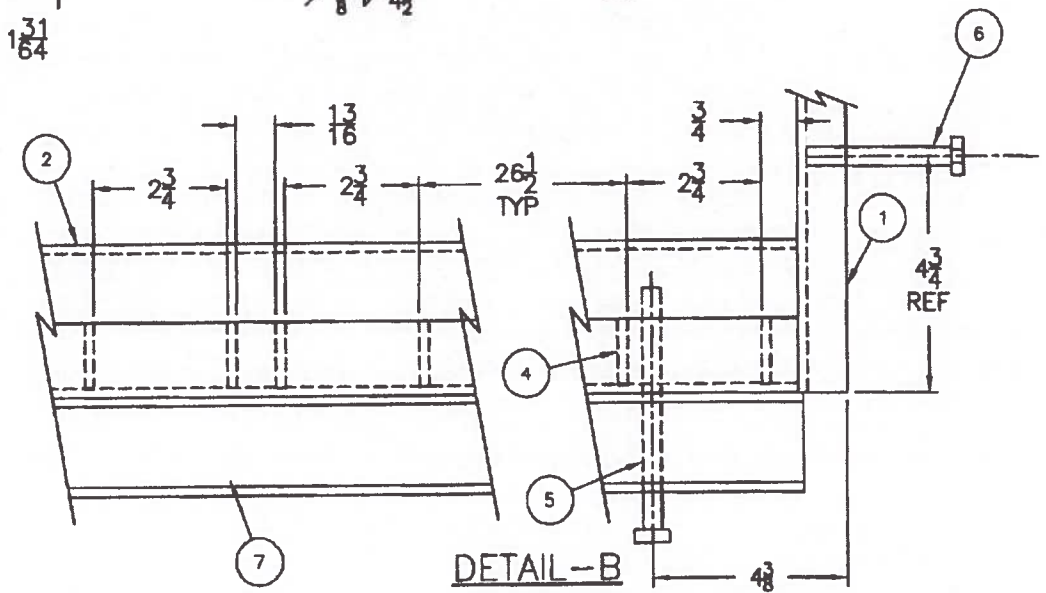
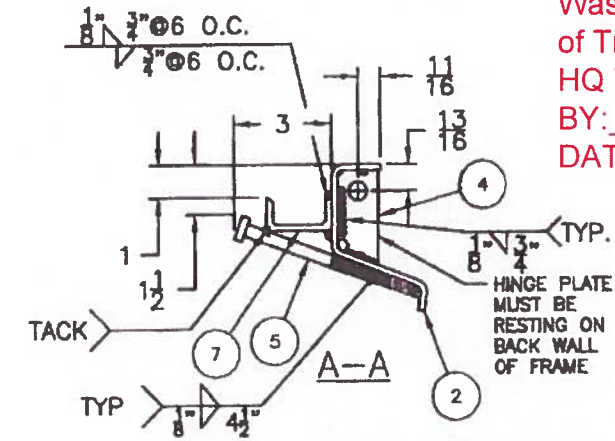
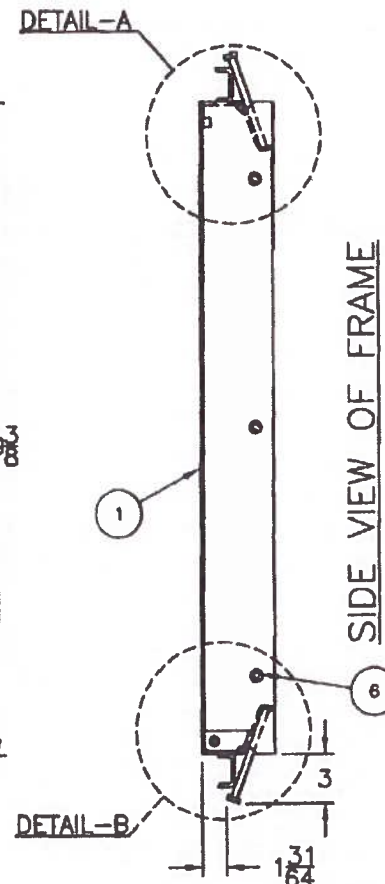
DETAIL-B



DETAIL-C



NOTCH DETAIL
NOTCH ONE END
(1 LEFT, 1 RIGHT REQ'D)



DETAIL-B

BILL OF MATERIALS			
Item	Qty	Name	Material
1	2	CAT# 35A57-F-1, 39-3/8 LONG	A36 STEEL
2	2	CAT# 35A57-F-2, 66-11/16 LONG	A36 STEEL
3	2	SQ 1/2 X 1-1/2	A36 STEEL
4	8	CAT# IN-103	A36 STEEL
5	12	CAT# HW-STUD38-625	C1015 STEEL
6	6	CAT# HW-STUD38-300	C1015 STEEL
7	2	C 2 X 1 X 3/16 X 67	A36 STEEL

APPROVED AS NOTED
 Washington State Department of Transportation
 HQ Traffic Operations Office
 BY: *[Signature]*
 DATE: 10/10/2018



D	ADDED CHANNEL TO OUTSIDE OF FRAME PER PRODUCTION	11/08/10	SJ
C	REVISED ANCHOR BOLTS TO NELSON STUDS	07/02/10	SJ
REV	DESCRIPTION OF MODIFICATION	DATE	BY
PROPRIETARY INFORMATION			
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INWESCO <small>748 N. Conroy Avenue Alhambra, California 91702 626.334.8304</small>		TITLE FRAME FOR SELF CLEANING DOUBLE, 180-DEG 33-1/2" X 66-11/16" CLEAR OPEN, HDG	
DATE	CAT #	WEIGHT	REVISION
01/05/08	35A57-F		D
DRAWN BY			
RS			

Approved for Standard Duty Cable Vaults Only.

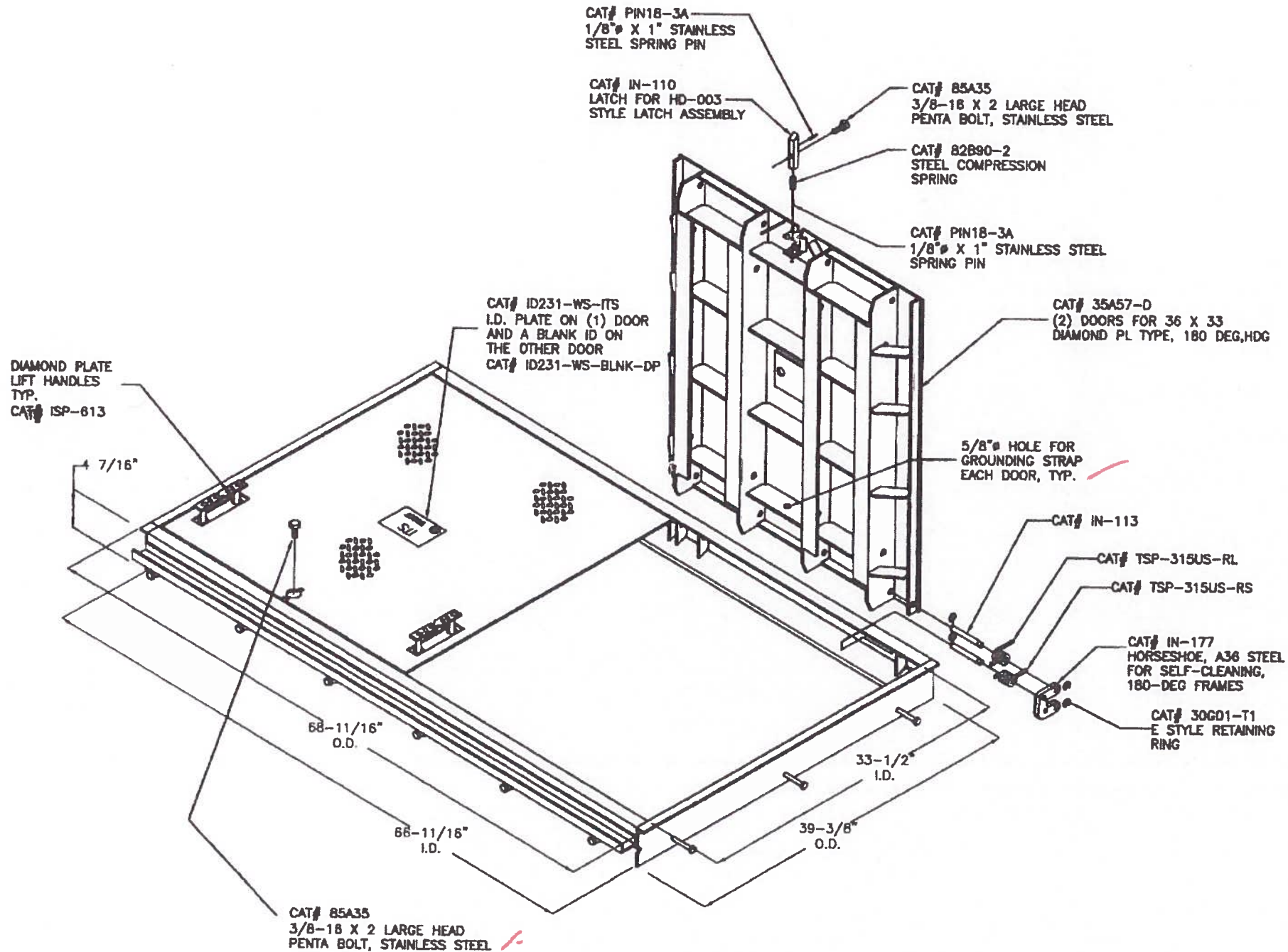
DESIGN CRITERIA

1. ASSUME ASTM A-36 STEEL PLATE & STRUCTURAL SHAPES.
2. DESIGN IN AASHTO H-20 (16.0 KIP WHEEL LOAD) LOADING CRITERIA.
3. USE 16.0 KIP WHEEL LOAD WITH A 40% IMPACT FACTOR (22,500 lbs.)
4. $F_b=0.66F_y$ ($F_y=36.0$ ksi) $F_b=24.00$ ksi.
5. $F_v=0.40F_y$ (14.40 ksi).
6. LOAD DISTRIBUTION AREA @ 10'x10'.
7. REFER TO ASTM C-857 AS LAST REVISED WHERE APPLICABLE.
8. USE AWS ER70-6 CO₂ GAS SHIELDED WELDING WIRE

NOTES

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BILL OF MATERIALS & MILL CERTS DOCUMENTS

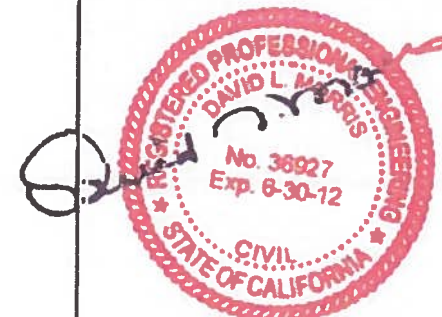
ITEM NUMBER	ITEM DESCRIPTION	MATERIAL
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35A57-F	33-1/2" X 66-11/16 CLR OPNG FRAME	See Drawing
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85A35	3/8-16 X 2 LARGE HEAD PENTA BOLT	A193-10A
PIN18-3A	1/8"Ø X 1" A36 STEEL	420 S.S.
IN-110	5/8" SQ LATCH, A36 STEEL, ZINC PLATED	A36
82B90-2	COMPRESSION SPRING FOR IN-110	302 S.S.
IN-113	1/2" Ø HINGE PIN FOR 180-DEG SPRING ASSIST	A36
TSP-315US-RS	SPRING #02 RIGHT SHORT, 180-DEG	A401-10
TSP-315US-RL	SPRING #03 RIGHT LONG, 180-DEG	A401-10
TSP-315US-LS	SPRING #02 LEFT SHORT, 180-DEG	A401-10
TSP-315US-LL	SPRING #03 LEFT LONG, 180-DEG	A401-10
IN-177	HORSESHOE FOR 180-DEG SPRING ASSIST	A36
30G01-T1	1/2" E STYLE RETAINING RING	A693-06
ID231-WS-ITS	3/16 X 3-1/16 X 5-5/16 ID PLATE, WS-DOT	A36
ID231-WS-BLNK-DP	3/16 X 3-1/16 X 5-5/16 ID PLATE, BLANK	A36

APPROVED AS NOTED

Washington State Department of Transportation
HQ Traffic Operations Office

BY: *[Signature]* DATE: 10/10/2018

APPROVED
SUPERSEDED
Washington State Department of Transportation
HQ Traffic Operations Office
DATE January 25, 2012 TAT

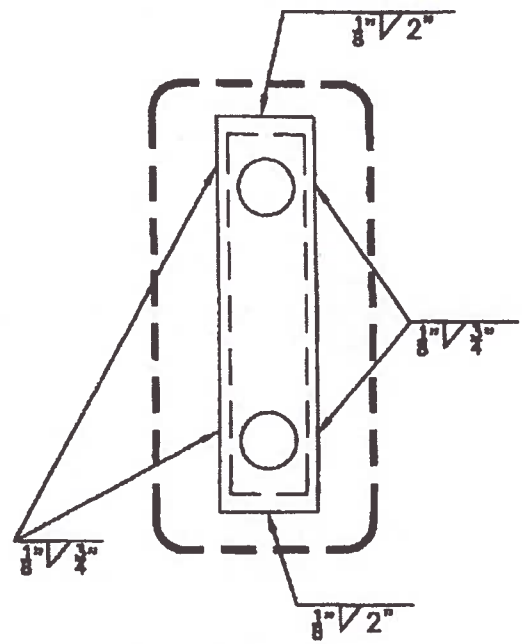
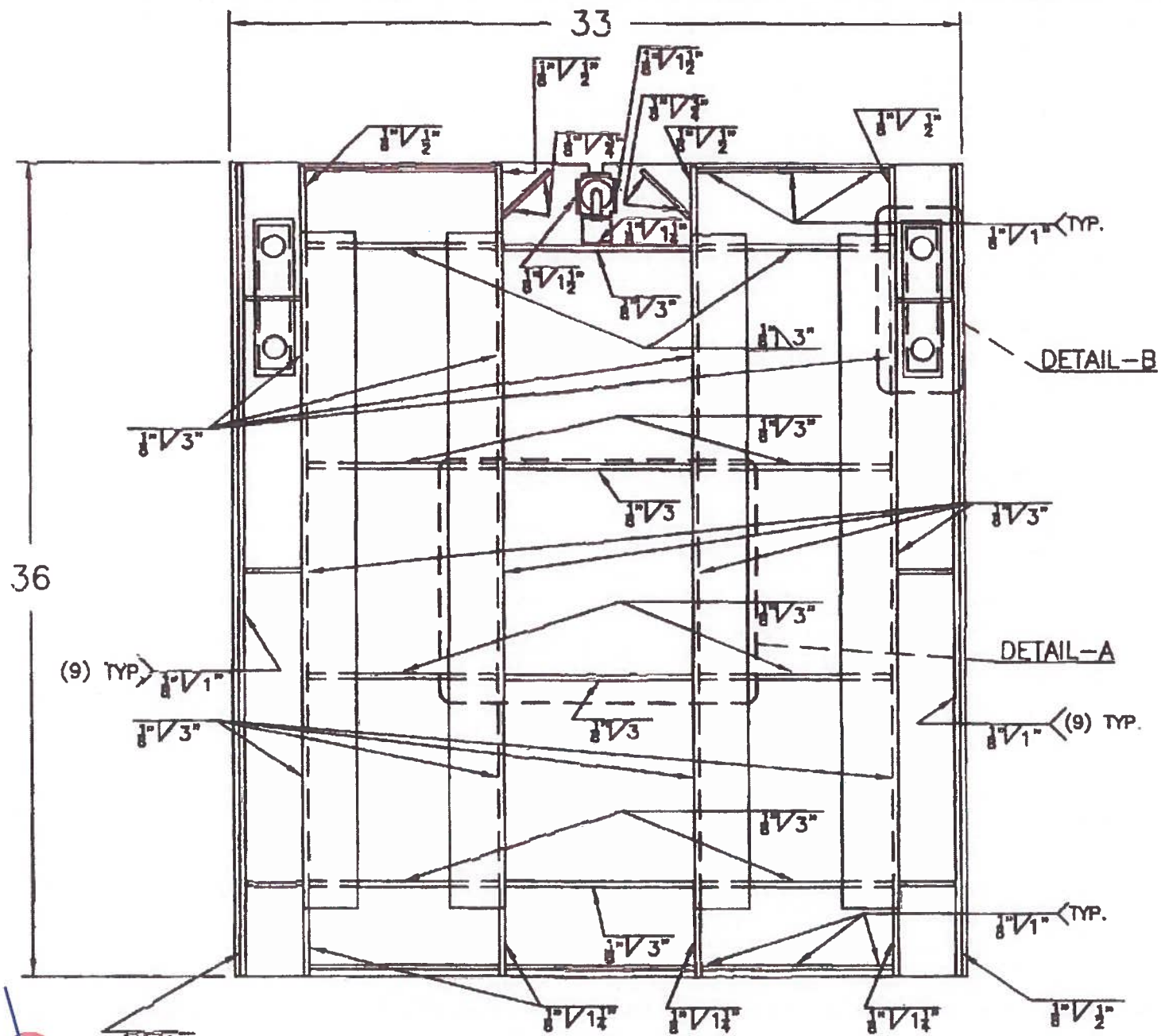


REV	DESCRIPTION OF MODIFICATION	DATE	BY
A	CHANGE LIFT HANDLE TO DIAMOND PLATE / REVISE CHANNEL TO SHOW FULL LENGTH	11/22/11	SJ

PROPRIETARY INFORMATION

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INWESCO INCORPORATED		TITLE COVER AND FRAME FOR SELF-CLEANING INLINE DOUBLE 180-DEG, FLOOR PLATE, HDG	
748 NORTH CONEY AVENUE AZUSA, CALIFORNIA 91702 PH: (626) 334-8304 FAX: (626) 889-3404	SIZE	DATE 06/29/06	REV A
	SCALE	DWN BY LJN	WEIGHT
		CAT/DWG# 85A87	SHEET 1 OF 1



DETAIL-B
(TYP. OF BOTH HANDLES)

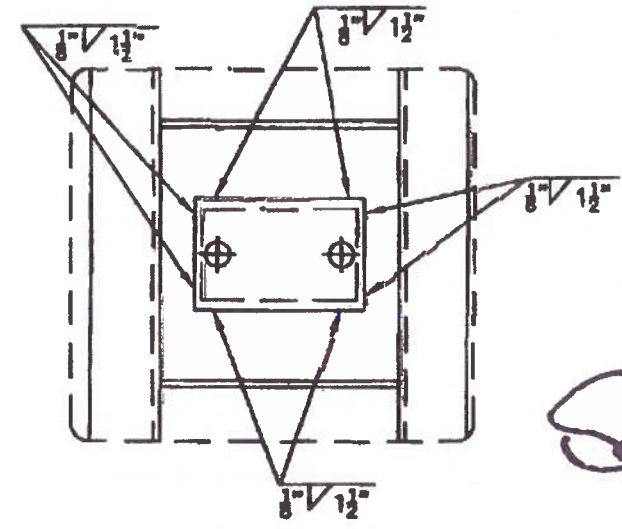
APPROVED AS NOTED

Washington State Department of Transportation
 HQ Traffic Operations Office
 BY: *[Signature]* DATE: 10/10/2018

Approved for Standard Duty Cable Vaults Only.

HORIZONTAL WELDS

APPROVED AS NOTED
 SUPERSEDED
 Washington State Department of Transportation
 HQ Traffic Operations Office
 DATE: January 25, 2012 TAT



DETAIL-A
FOR ID TAG HOLDER



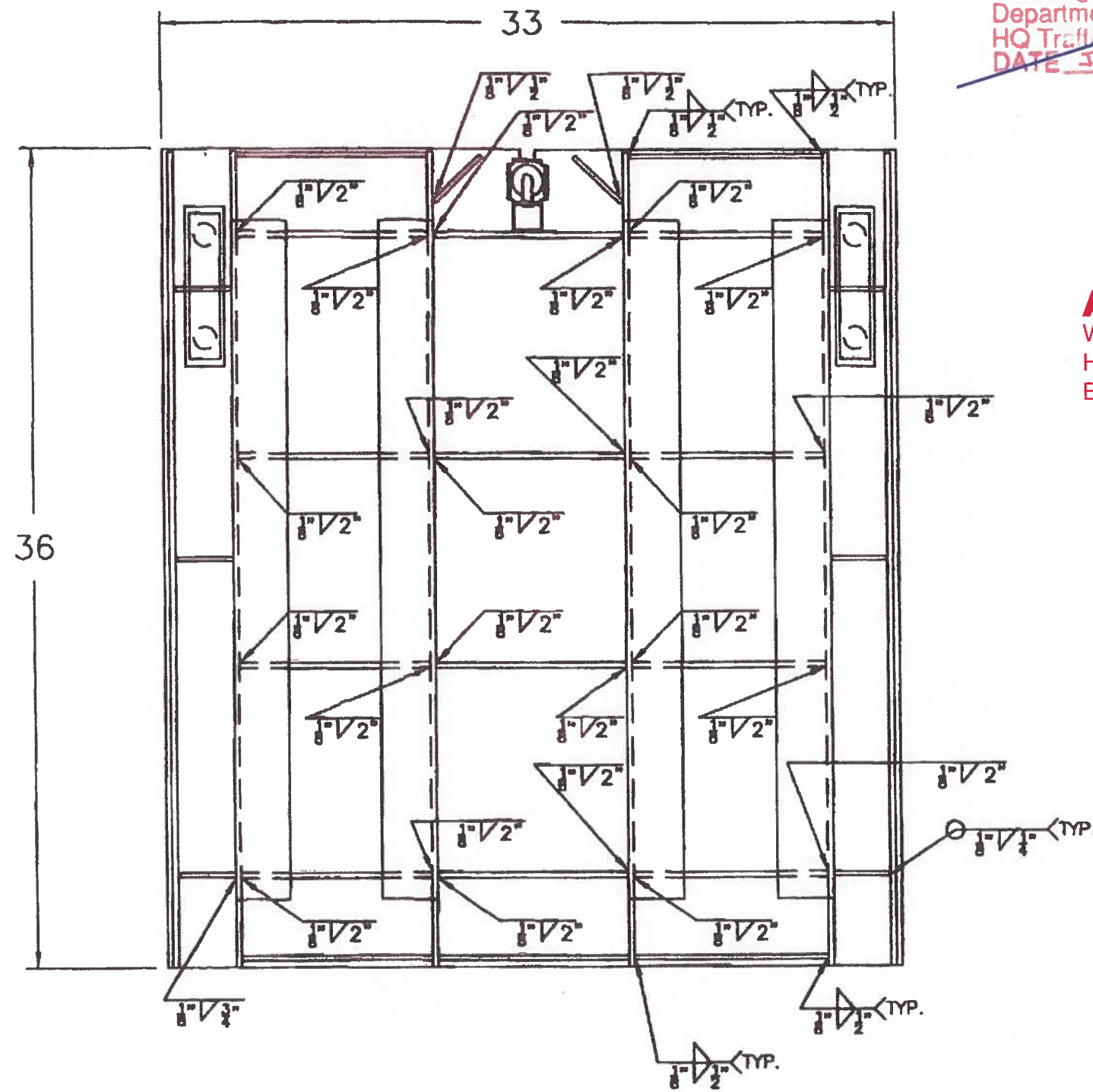
REV	DESCRIPTION OF MODIFICATION	DATE	BY
D	REVISE WELD SYMBOLS	03/29/10	DHL
C	REVISE WELD SYMBOLS	03/17/10	SJ

INWESCO STANDARD DETAIL
 THE PARTS SHOWN IN THIS BORDER MAKE UP A SUB-ASSEMBLY TO BE USED IN EVERY SIMILAR TOP ASSEMBLY. THE BILL OF MATERIALS CONTAINED IN THIS BORDER SHALL NOT BE DUPLICATED IN THE ASSEMBLY BILL OF MATERIALS. THEREFORE THIS SUB-ASSEMBLY IS REFERRED TO AS AN INWESCO STANDARD DETAIL.

INWESCO 746 N. Conroy Avenue Azusa, California 91702 628.334.8304	TITLE WELDING STANDARDS FOR SUBSTRUCTURE	
	DATE 11-23-04	CAT # 35A57-DWS-1
DRAWN BY RS	WEIGHT REVISION D	

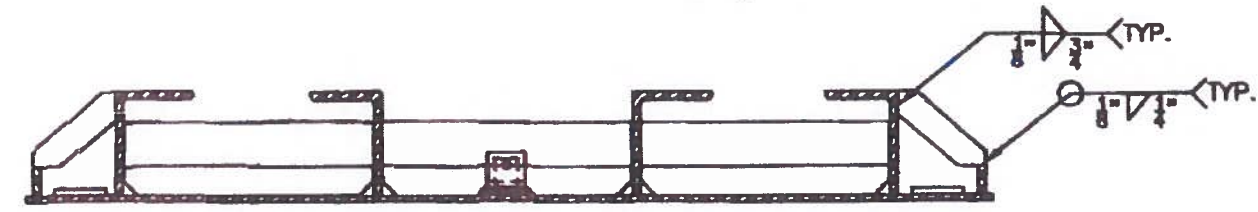
APPROVED
~~Washington State Department of Transportation~~
~~HQ Traffic Operations Office~~
~~DATE January 25, 2012 TAT~~

APPROVED AS NOTED
 Washington State Department of Transportation
 HQ Traffic Operations Office
 BY: *[Signature]* DATE: 10/10/2018



VERTICAL WELDS

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SECTION VIEW

REV	DESCRIPTION OF MODIFICATION	DATE	BY
B	REVISE WELD SYMBOLS	03/29/10	DHL
A	REVISE WELD SYMBOLS	03/17/10	SJ

INWESCO STANDARD DETAIL
 THE PARTS SHOWN IN THIS BORDER MAKE UP A SUB-ASSEMBLY TO BE USED IN EVERY SIMILAR TOP ASSEMBLY. THE BILL OF MATERIALS CONTAINED IN THIS BORDER SHALL NOT BE DUPLICATED IN THE ASSEMBLY BILL OF MATERIALS. THEREFORE THIS SUB-ASSEMBLY IS REFERRED TO AS AN INWESCO STANDARD DETAIL.

INWESCO 746 N. Doney Avenue Azusa, California 91702 828.334.8304	TITLE WELDING STANDARDS FOR SUBSTRUCTURE	
	DATE 03/25/10	CAT # 35A57-DWS-2
DRAWN BY SJ	WEIGHT REVISION B	