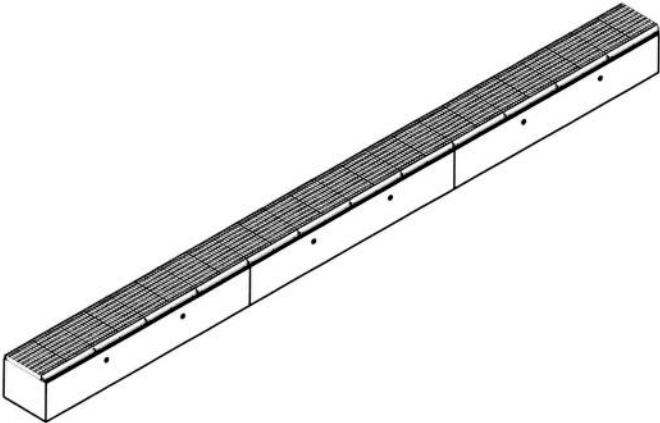
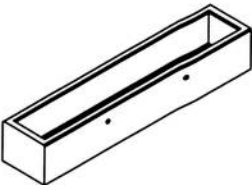


Project: _____
Location: _____
Product: **T1 TUNNEL TRENCH DRAIN**
Culvert ID: _____
Contractor: _____ Acct # _____
Engineer: _____
Job ID: _____

SHT. NO	DESCRIPTION
01	TITLE SHEET & INDEX
02	NOTES & DETAILS
03	TYPICAL INSTALLATION DETAIL
04	SINGLE PIECE TRENCH DRAIN PLAN & PROFILE
05	COMPONENT TRENCH DRAIN PLAN & PROFILE
06	COMPONENT TRENCH DRAIN DETAILS
07	TRENCH DRAIN STEEL DETAILS

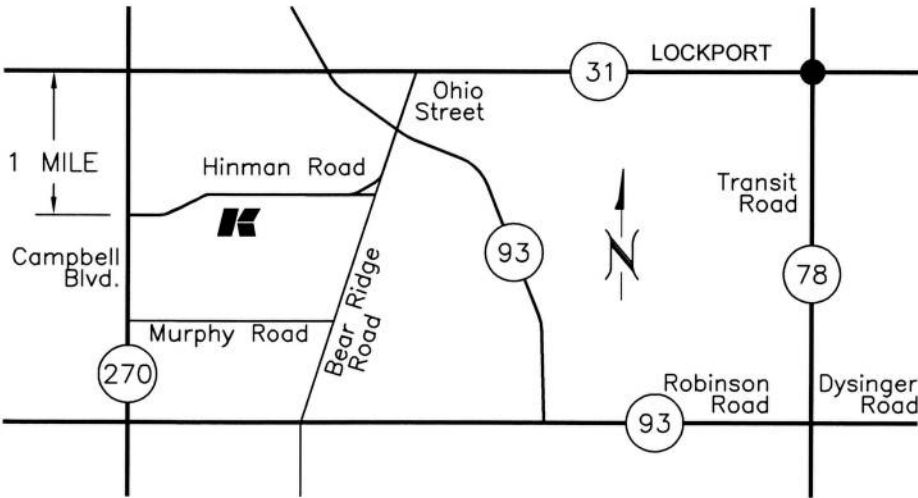


MAILING ADDRESS:
SALES/ENGINEERING & CORPORATE HEADQUARTERS
KISTNER CONCRETE PRODUCTS, INC.
8713 READ ROAD, P.O. BOX 218
EAST PEMBROKE, NEW YORK 14056
(716) 894-2267
(585) 762-8216
FAX: (585) 762-8315

☒ **MANUFACTURING FACILITY**
KISTNER CONCRETE PRODUCTS, INC.
5550 HINMAN ROAD
LOCKPORT, N.Y.
(716) 434-6157
(716) 693-0174
FAX: (716) 434-0138

☐ **MANUFACTURING FACILITY**
KISTNER CONCRETE PRODUCTS, INC.
5726 ROUTE 39 - RD 1
SPRINGVILLE, N.Y.
(716) 592-2811
FAX: (716) 592-3045

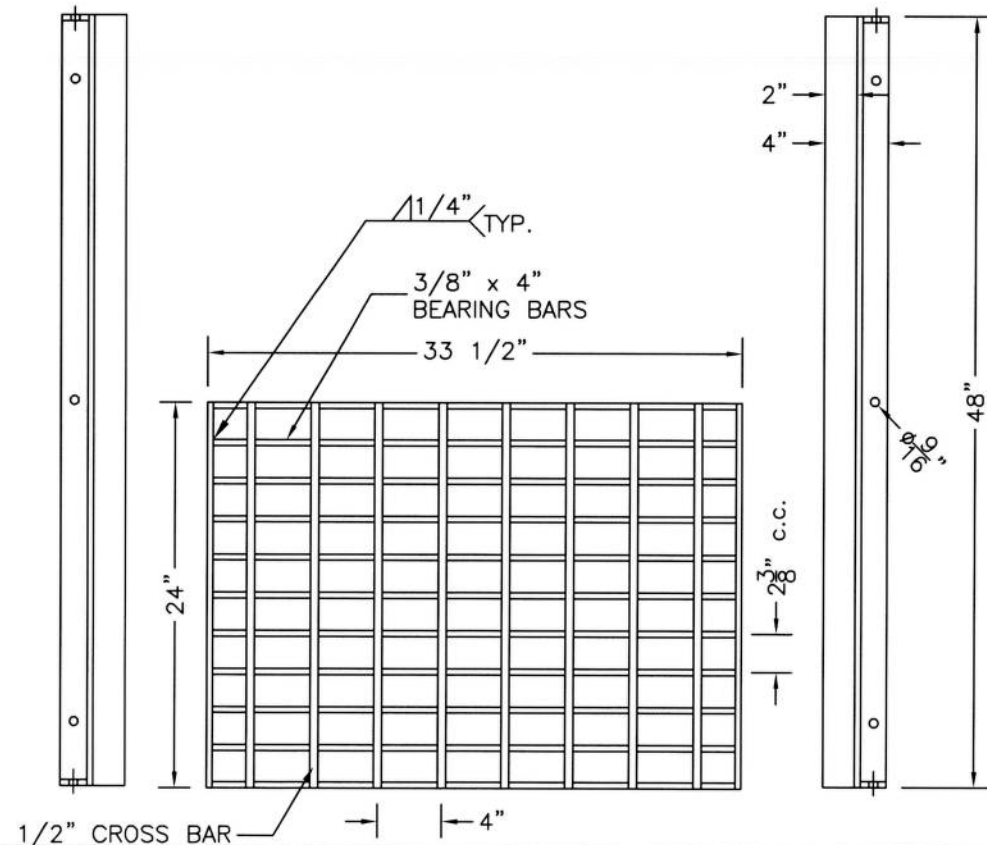
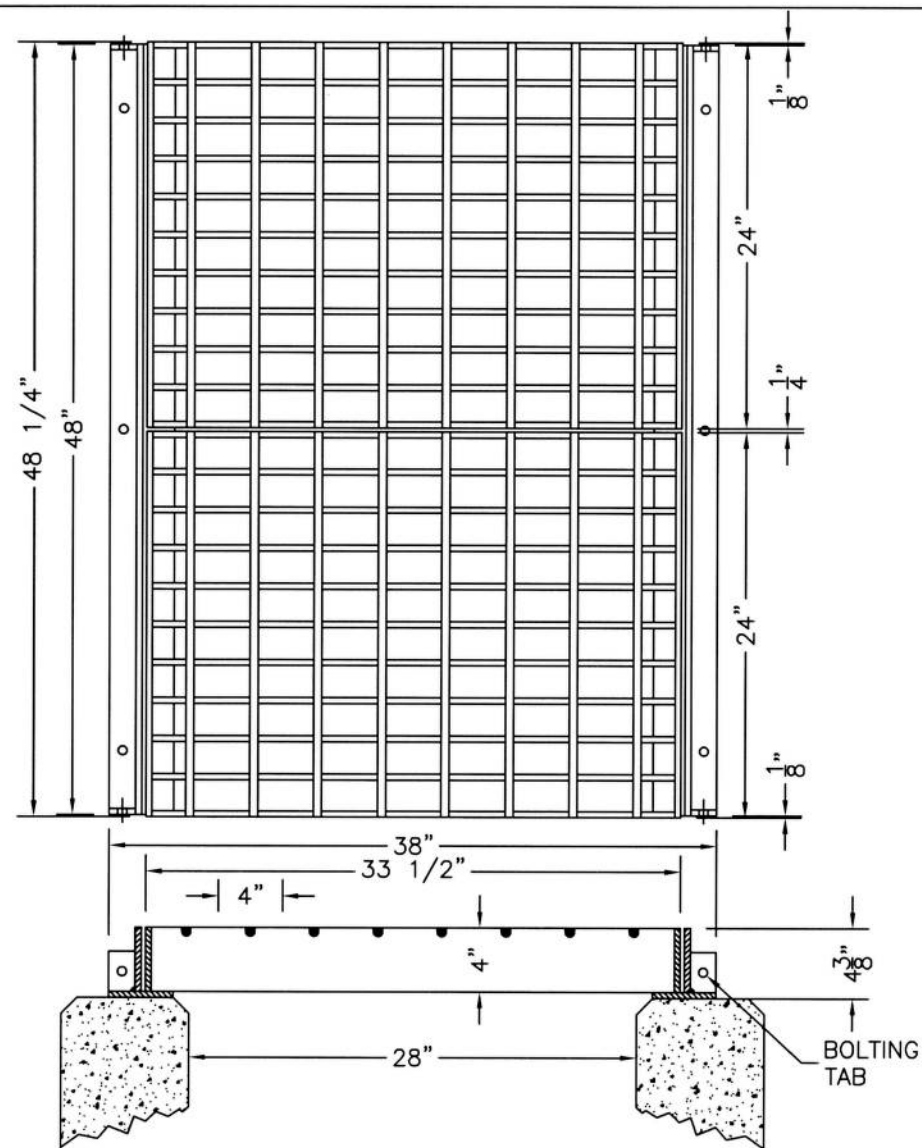
☐ **MANUFACTURING FACILITY**
KISTNER CONCRETE PRODUCTS, INC.
10002 EAST ROAD
EAST BETHANY, N.Y.
(585) 343-7811
FAX: (585) 343-2546



REV. NO.		DATE	SHEETS AFFECTED	
PREPARED FOR:		ACCT #		
JOB ID:				
DATE:	SHEET TITLE:		DRAWN BY:	
11/29/12	TITLE SHEET & INDEX		DAR	
SCALE:	NONE		CK'D BY:	
PROJECT:		CJC		
KISTNER DWG NO:	XXKCPXXX-0		CONTRACT DWG NO:	
KISTNER SHT NO:	1 OF 7		NYS DOT DWG NO:	
KISTNER CONCRETE PRODUCTS, INC.				
5550 HINMAN ROAD LOCKPORT, NEW YORK 14094 PHONE 716-434-6157 PROPRIETARY INFORMATION ALL RIGHTS OF KISTNER CONCRETE PRODUCTS, INC.				

☐ Approved
☐ Approved As Noted

By: _____ DATE _____



SPECIFICATIONS:

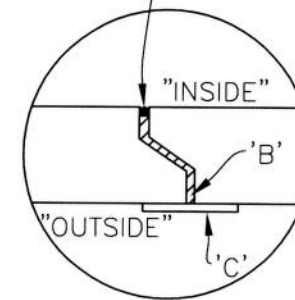
CONCRETE: 5,000 P.S.I. @ 28 DAYS.

ENTRAINED AIR: 5% - 9%.

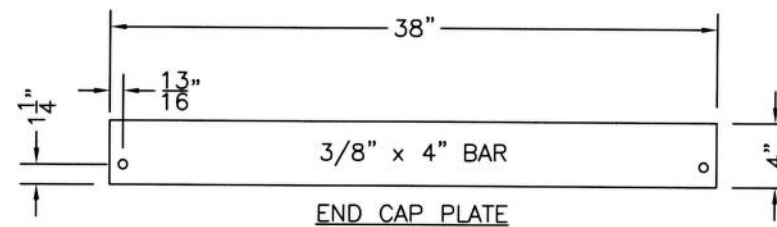
STEEL: A.S.T.M. A496-A615
GRADE 60-60 KSI.

DESIGN LOADING: A.A.S.H.T.O. HS-20-44
WITH 30% IMPACT AND
EQUIVALENT SOIL PRESSURE
OF 30 (PCF). FLOTATION FORCES
NOT ACCOUNTED FOR.

'A' - BUTYL RUBBER JOINT
MATERIAL 1" SQ. CROSS-
SECTION COMPRESSED



**JOINT DETAIL
(COMPONENT ONLY)**
NOT-TO-SCALE



COMPONENT TRENCH DRAIN JOINT GENERAL NOTES:

- 'A' - JOINT SEALANT
'B' - WATERPLUG
'C' - 6" BUTYL WRAP WITH BACKING PRIMED FOR
INSTALLATION.
'D' - SPRAY ADHESIVE

'A', 'B', 'C' & 'D' AVAILABLE THROUGH KISTNER CONCRETE.
PURCHASED AND INSTALLED BY CONTRACTOR.

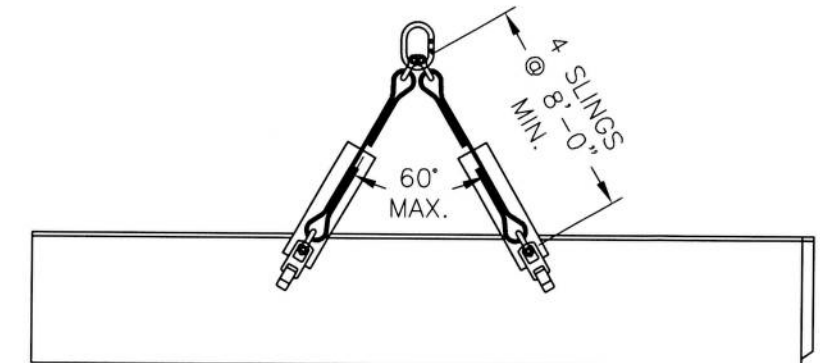
JOINT DETAILS FOR WATERTIGHT INSTALLATION.
NOTE: NON-POTABLE INSTALLATIONS ONLY.

ABOVE INFORMATION IS SUPPLIED FOR CONTRACTOR KNOWLEDGE.
CONTRACTOR IS RESPONSIBLE FOR PROPER APPLICATION AND ULTIMATE
WATERTIGHT INSTALLATION OF STRUCTURE.

'A' JOINT SEALANT - 'BUTYL RUBBER' MEETS FEDERAL SPECIFICATION
#SS-S-00210 (210-A), AASHTO M-198
SERVICE TEMP: -65°F TO +200°F

PROCEDURE:

1. INSTALL STRUCTURE BOTTOM SECTION.
2. LOCATE 1" SQ. BUTYL JOINT SEALANT 'A' PER DETAIL.
3. INSTALL NEXT STRUCTURE SECTION.
4. WATERPLUG 'B' INTERIOR & EXTERIOR, ALL GAPS.
5. APPLY LIBERALLY SPRAY ADHESIVE 'D'.
6. APPLY BUTYL WRAP 'C' PER DETAIL.



TRENCH DRAIN LIFT DETAIL
4 POINT LIFT SLINGS BY G.C.
(4) 2 TON LIFT PINS

1.) ALL 3/8" x 4" BARS SHALL
CONFORM TO A.S.T.M. A572 GRADE 50
STEEL. (MIN. 50 K.P.S.I. YIELD).

2.) 1/2" ROUND CROSS BARS SHALL
CONFORM TO A.S.T.M. A-36.

3.) COMPLETE UNIT SHALL BE HOT DIP
GALVANIZED PER ASTM 123 AFTER
FABRICATION.

4.) UNIT DESIGNED FOR AASHTO HS-20
WHEEL LOADS (16,000 LB WHEEL PLUS
30% IMPACT) USING A 10" x 20" CONTACT
AREA. THE DESIGN STRESS SHALL NOT
EXCEED 55% OF THE MINIMUM YIELD.
(SPAN ESTIMATED AT 30").

- ☐ Approved
☐ Approved As Noted

By: _____ DATE _____

REV. NO.	DATE	DESCRIPTION

PREPARED FOR: _____ ACCT# _____

JOB ID: _____

DATE: 11/29/12 SHEET TITLE: _____ DRAWN BY: DAR

SCALE: NONE PROJECT: _____ CK'D BY: CJC

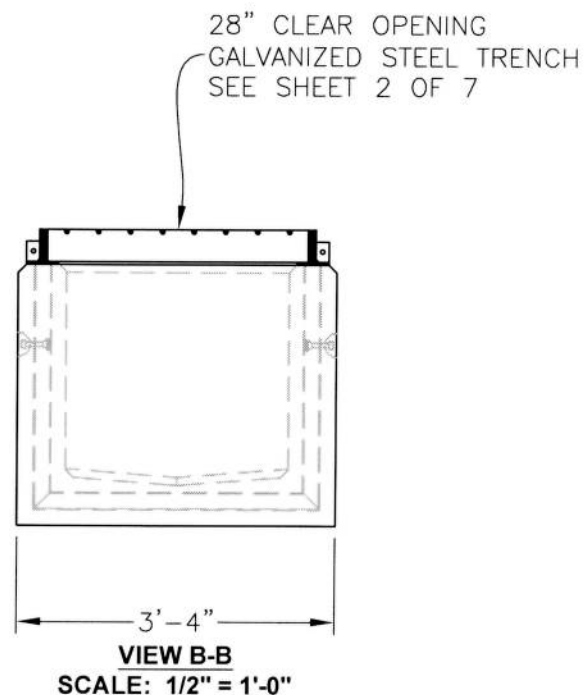
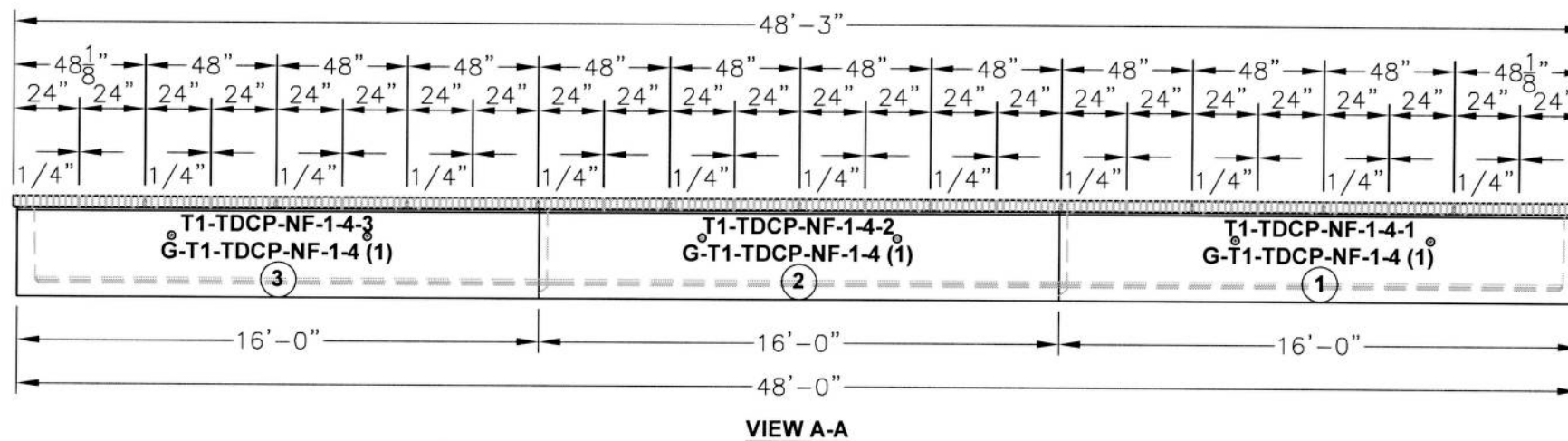
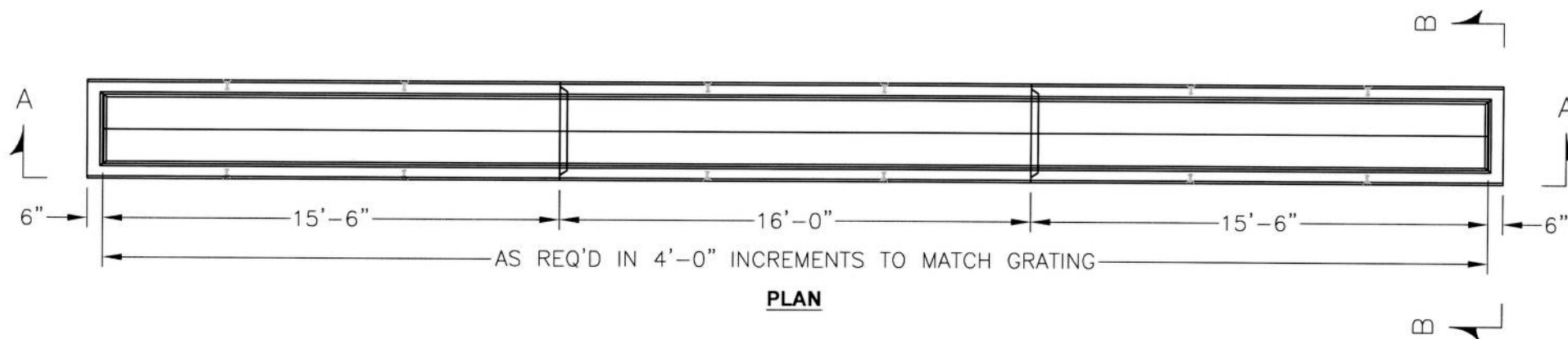
PROJECT: _____

KISTNER XXXCPXXX-0 CONTRACT
KISTNER DWG NO: 2 OF 7 NYSDOT
KISTNER SHT NO: _____ DWG NO: _____

**KISTNER
CONCRETE
PRODUCTS, INC.**
5550 HINMAN ROAD
LOCKPORT, NEW YORK 14094
PHONE 716-434-6157
PROPRIETARY INFORMATION
ALL RIGHTS OF KISTNER CONCRETE PRODUCTS, INC.

By: _____ DATE _____

REV. NO.	DATE	SHEETS AFFECTED
PREPARED FOR:		ACCT #
JOB ID:		
DATE: 11/29/12	SHEET TITLE: TYPICAL INSTALLATION DETAIL	DRAWN BY: DAR
SCALE: NONE		CK'D BY: CJC
PROJECT:		
KISTNER DWG NO: XXKCPXXX-0	CONTRACT DWG NO:	
KISTNER SHT NO: 3 OF 7	NYSOOT DWG NO:	
 KISTNER CONCRETE PRODUCTS, INC.		
5550 HINMAN ROAD LOCKPORT, NEW YORK 14094 PHONE 716-434-6157 PROPRIETARY INFORMATION ALL RIGHTS OF KISTNER CONCRETE PRODUCTS, INC.		



PIECE ID	# OF PIECES	PIECE WT.
T1-TDCP-NF-1-4-1	1	10,223
T1-TDCP-NF-1-4-2	1	9,842
T1-TDCP-NF-1-4-3	1	10,358
G-T1-TDCP-NF-1-4	3	446

LEGEND

PIECE ID: T1-TDCP-NF-1-4-1
GRATING ID (QTY): G-T1-TDCP-NF-1-4 (1)
PIECE NO.: 1

	REV. NO.	DATE	SHEETS AFFECTED
	PREPARED FOR: ACCT #		
	JOB ID:		
	DATE: 11/29/12	SHEET TITLE: COMPONENT TRENCH DRAIN PLAN & PROFILE	DRAWN BY: DAR
☐ Approved ☐ Approved As Noted	SCALE: 3/16"=1'	CK'D BY: CJC	
	PROJECT:		
	KISTNER DWG NO: XXKCPXXX-0	CONTRACT DWG NO:	
	KISTNER SHIT NO: 5 OF 7	NYSDOT DWG NO:	
By: _____	DATE: _____	KISTNER CONCRETE PRODUCTS, INC. 5550 HINMAN ROAD LOCKPORT, NEW YORK 14094 PHONE 716-434-6157 PROPRIETARY INFORMATION ALL RIGHTS OF KISTNER CONCRETE PRODUCTS, INC.	

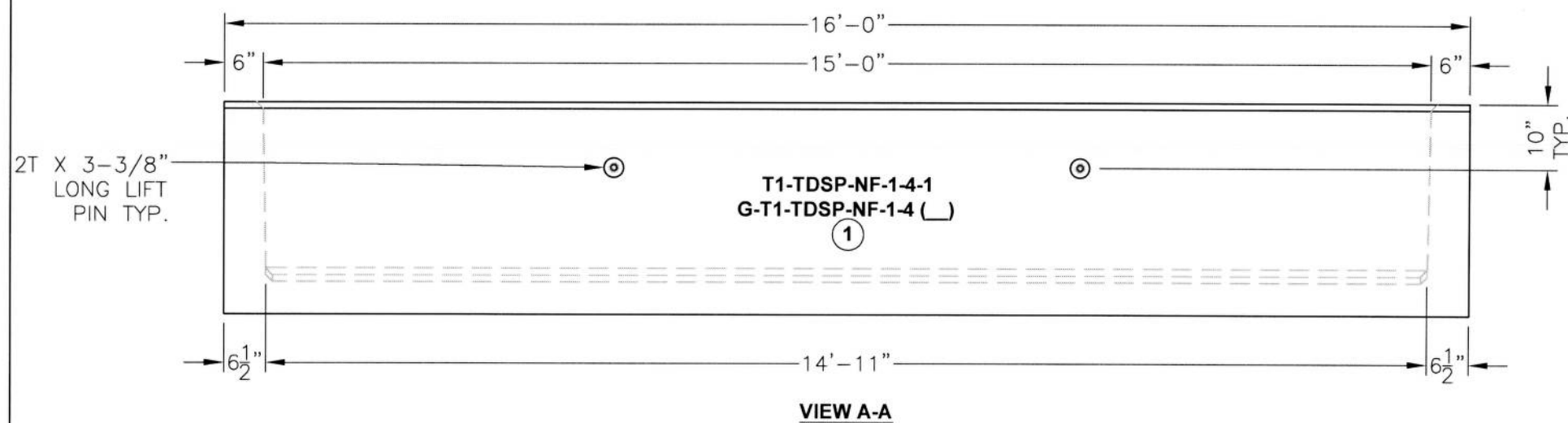
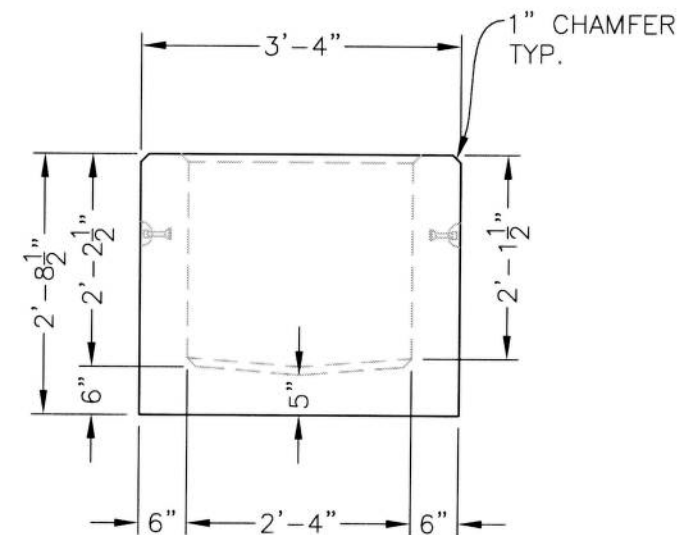
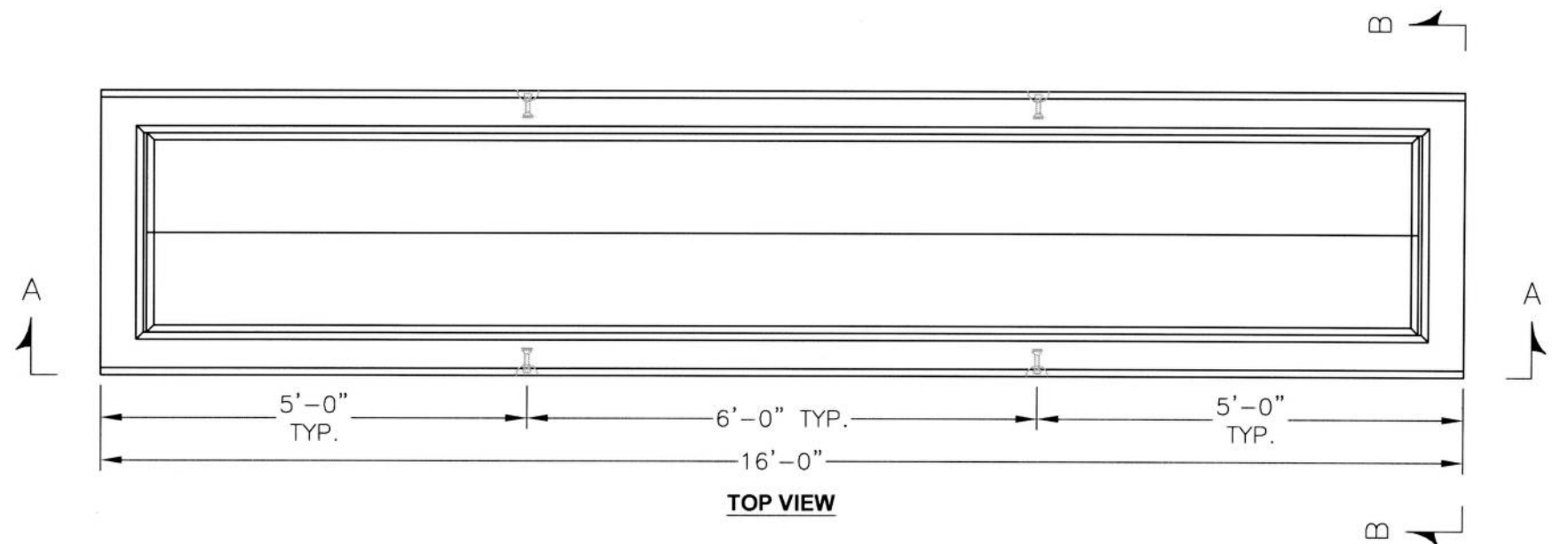
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PIECE ID
T1-TDSP-NF-1-4-1

OF PIECES
1

PIECE WT.
10,738

LEGEND
PIECE ID: T1-TDSP-NF-1-4-1
GRATING ID (QTY): G-T1-TDSP-NF-1-4 ()
PIECE NO.: ①



☐ Approved ☐ Approved As Noted By: _____ DATE _____			REV. NO.			DATE			SHEETS AFFECTED		
			PREPARED FOR:			ACCT #					
			JOB ID:			DRAWN BY:					
			DATE: 11/29/12			DAR					
SCALE: 1/2" = 1'			SHEET TITLE: SINGLE PIECE TRENCH DRAIN PLAN & PROFILE			CK'D BY: CJC					
PROJECT:			KISTNER DWG NO: XXKCPXXX-0 SHT NO: 4 OF 7			CONTRACT DWG NO: NYSDOT DWG NO:					
KISTNER CONCRETE PRODUCTS, INC. 5550 HINMAN ROAD LOCKPORT, NEW YORK 14094 PHONE 716-434-6157 PROPRIETARY INFORMATION ALL RIGHTS OF KISTNER CONCRETE PRODUCTS, INC.			KISTNER			CONTRACT					
			DWG NO: XXKCPXXX-0			DWG NO:					
			SHT NO: 4 OF 7			DWG NO:					
			DATE: 11/29/12			DWG NO:					

C:\Drawings\New Stuff after 2-26-10\PRODUCTS\Tunnels\T1\T1_TUNNEL.dwg

PIECE ID

T1-TDCP-NF-1-4-1
T1-TDCP-NF-1-4-2
T1-TDCP-NF-1-4-3
G-T1-TDCP-NF-1-4

OF PIECES

1
1
1
3

PIECE WT.

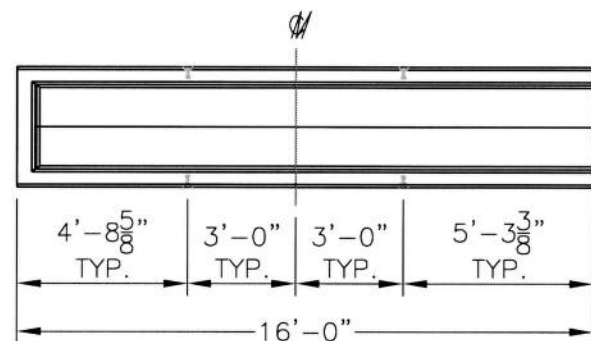
10,223
9,842
10,358
446

LEGEND

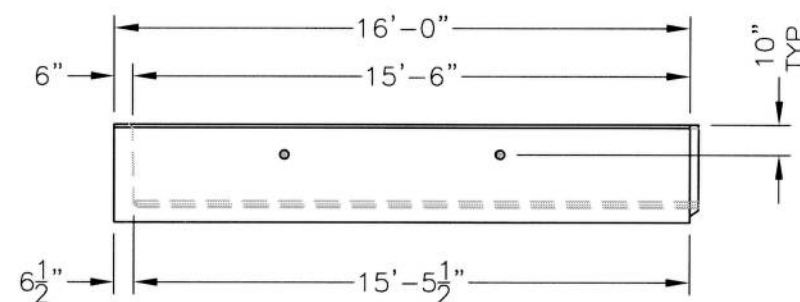
PIECE ID:
GRATING ID (QTY):
PIECE NO.:

T1-TDCP-NF-1-4-1
G-T1-TDCP-NF-1-4 (1)
①

2T X 3-3/8" LONG
LIFT PIN TYP.

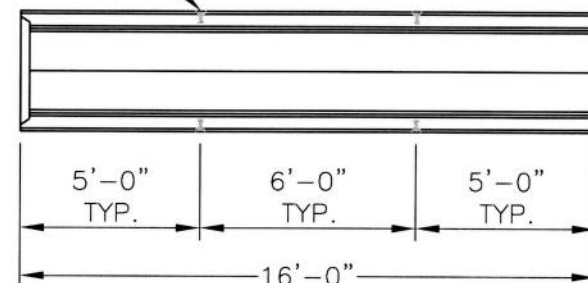


TOP VIEW

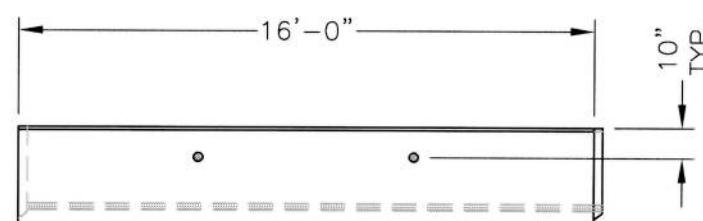


FRONT VIEW

TRENCH DRAIN SECTION
T1-TDCP-NF-1-4-3
PC. #3

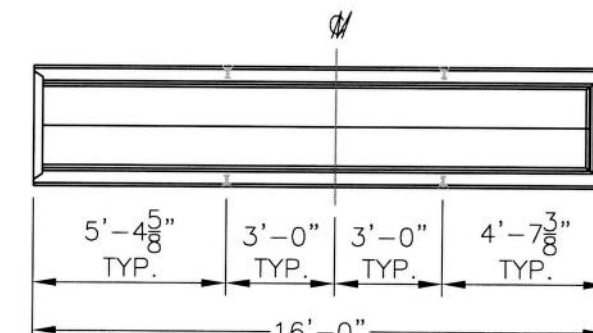


TOP VIEW

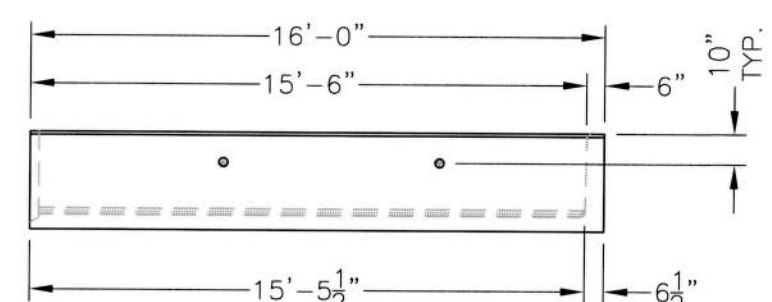


FRONT VIEW

TRENCH DRAIN SECTION
T1-TDCP-NF-1-4-2
PC. #2

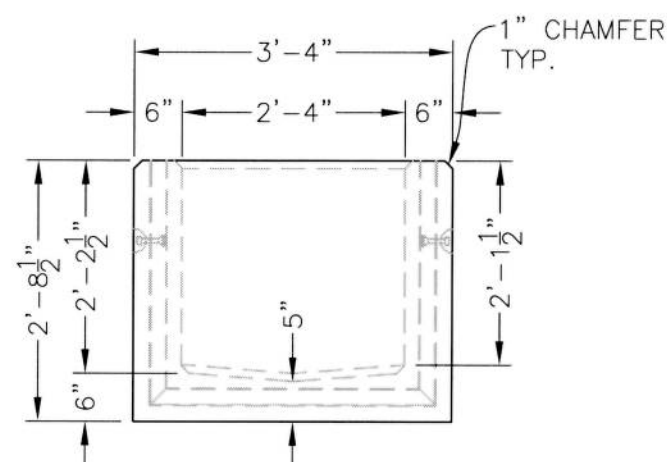


TOP VIEW



FRONT VIEW

TRENCH DRAIN SECTION
T1-TDCP-NF-1-4-1
PC. #1



TYPICAL END VIEW
SCALE: 1/2" = 1'-0"

☐ Approved
☐ Approved As Noted

By: _____ DATE _____

REV. NO. **DATE** **SHEETS AFFECTED**
PREPARED FOR: _____ ACCT # _____

JOB ID:

DATE: 11/29/12

SHEET TITLE:

**COMPONENT
TRENCH DRAIN
DETAILS**

DRAWN BY:

DAR

CK'D BY:

CJC

SCALE:

3/16"=1'

PROJECT:

KISTNER
DWG NO: XXKCPXXX-0

KISTNER
SHT NO: 6 OF 7

CONTRACT
DWG NO:

NYSDOT
DWG NO:



**KISTNER
CONCRETE
PRODUCTS, INC.**

5550 HINMAN ROAD
LOCKPORT, NEW YORK 14094
PHONE 716-434-6157

PROPRIETARY INFORMATION
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