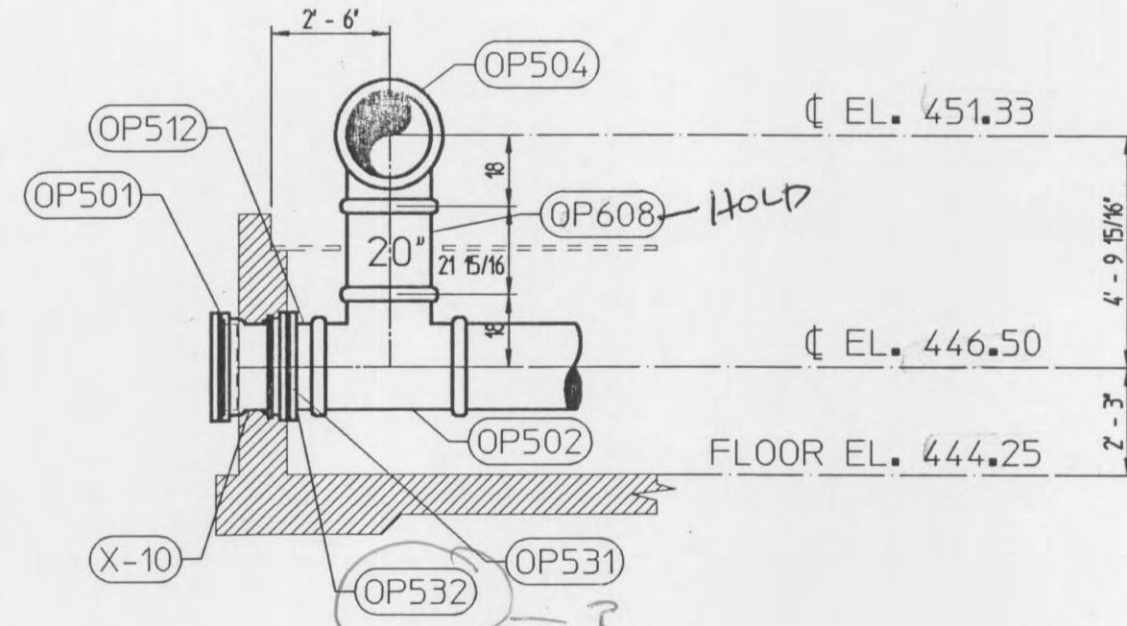


NOTE: PIECES BEGINNING WITH THE PREFIX OP5 ARE COUNTED ON DWG. OP5

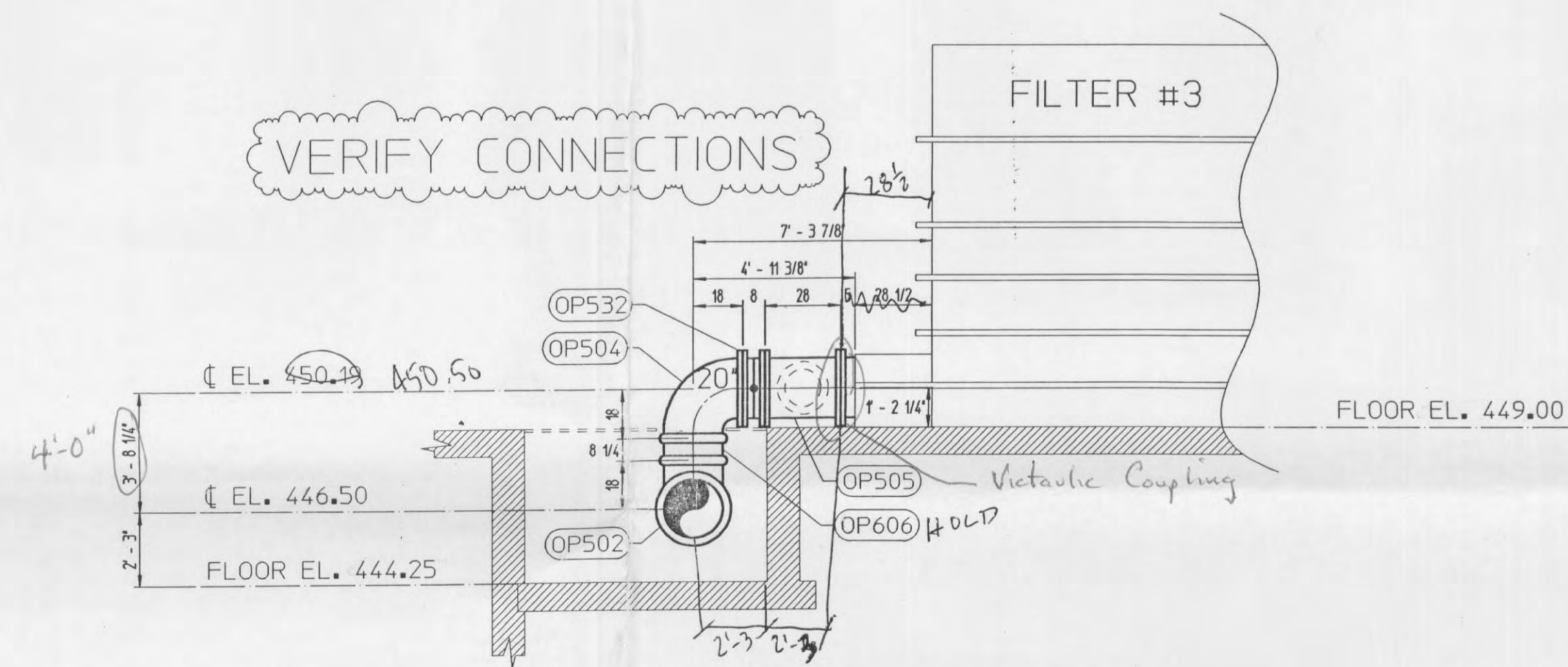


SECTION A-A

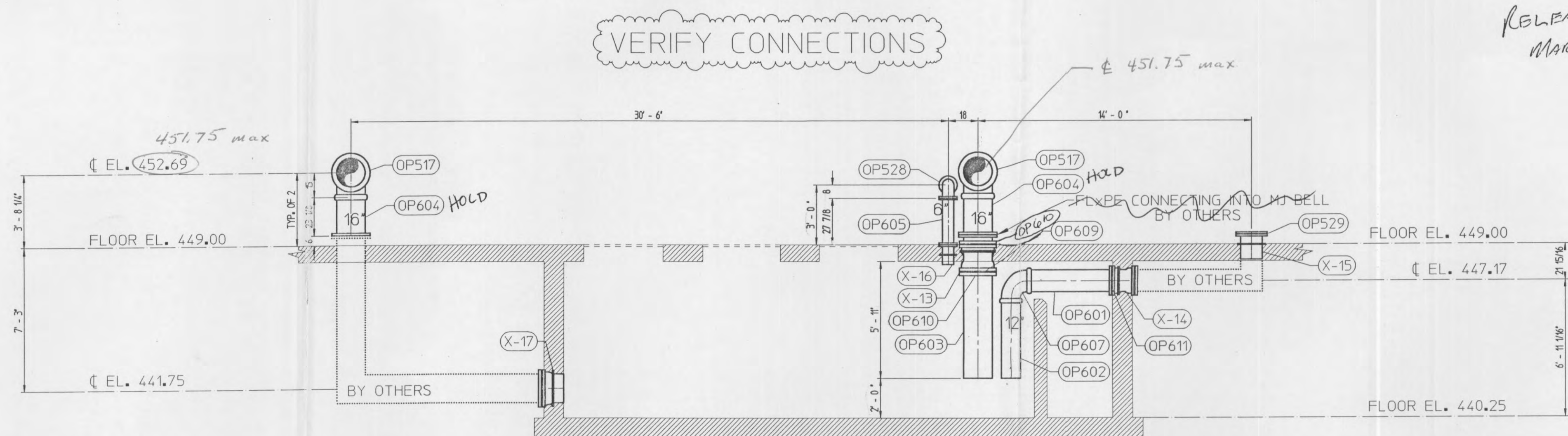
Third Party Products
Third party products such as, but not limited to, EBAA Iron Megalugs, Dresser couplings, etc. are not within the scope of the American warranty agreement. Application and compatibility information is available from these individual companies.

SPECIAL DIMENSIONS
Scaled dimensions have been estimated. Pipe lengths and fitting locations on this drawing are based on these estimated lengths. Please supply and/or verify these dimensions prior to ordering pipe material.

NOTE: PLEASE VERIFY ALL VALVE DIMENSIONS. GASKETS BETWEEN FLANGE FACES ARE 1/8" THICK.



SECTION B-B
TYP. OF FOUR



SECTION C-C

NOTE: THE PLAN VIEW IS PROVIDED ON DWG. OP5

BILL OF MATERIAL			
QTY	SP/ID	MARK	DESCRIPTION
1	CL-PRE	OP601	12" VGER PE PIPE CL-53 0.4" 2'-F-5 2 0-10
1	CL-PRE	OP602	12" VGER PE PIPE CL-53 0.4" 2'-F-5 2 0-10
1	CL-PRE	OP603	16" PE PIPE CL-53 0.43" 2'-F-5 5 7-10
2	CL-PRE	OP604	16" PE PIPE CL-53 0.43" 11-1/8" 2'-F-5 5 7-10
1	CL-PRE	OP605	6" FLG PIPE CL-53 0.34" 2'-F-5 5 7-10
4	CL-PRE	OP606	20" VGER VGER PIPE CL-55 0.51" 8-1/4" 2'-F-5 5 7-10
1	CL-PRE	OP607	12" VGER C10-SR 90 BEND, ALL CENTERS, 12", 350 PSL US/ (V) 4-5-6-6
1	CL-PRE	OP608	20" VGER VGER PIPE CL-55 0.51" 19-15/16" 2'-F-5 5 7-10
1	CL-PRE	OP609	16" MEGALUG RETAINER GLAND W/COATING 2
1	CL-PRE	OP610	16" MEGALUG ACCESSORY KIT WITH SBR GASKET AND 12 BOLTS (MEGALUG RETAINER GLAND NOT INCLUDED)
1	CL-PRE	OP611	12" MEGALUG ACCESSORY KIT, INCLUDING MEGALUG GLAND, SBR GASKET AND 8 BOLTS
1	CL-ASP	**X-13	16" MJ TAPPED FOR STUDS DWG Pa00097 MJ-FAB TAPPED FOR STUDS DWG Pa00097 PIPE CL-53 0.43" 14" OVERALL (8-1/2" L) W/STL COLLAR 8" FROM M-FAB FACE, 2-2-2-2IN
1	CL-ASP	**X-14	12" MJ TAPPED FOR STUDS DWG Pa00097 MJ-FAB TAPPED FOR STUDS DWG Pa00097 PIPE CL-53 0.4" 11" OVERALL (7-5/8" L) W/STL COLLAR 6-1/2" FROM M-FAB FACE, 2-2-2-2IN
1	CL-ASP	**X-15	12" FLG TAPPED FOR STUDS DWG Pa00089 PE PIPE CL-53 0.4" 11" OVERALL (11" L) W/STL COLLAR 9" FROM PE, 2-2-2-2
1	CL-ASP	**X-16	6" FLG TAPPED FOR STUDS DWG Pa00089 PE PIPE CL-53 0.34" 11" OVERALL (10" L) W/STL COLLAR 6" FROM PE, 2-2-2-2
1	CL-ASP	**X-17	16" MJ TAPPED FOR STUDS DWG Pa00097 PE PIPE CL-50 0.34" 11" OVERALL (9-1/2" L) W/STL COLLAR 6-1/2" FROM PE, ASPHALTIC COATED IN SOCKET, ASPHALTIC COATED ON SPIGOT END, 2-2-2-2IN

SPECIFICATION BOUNDARY DEFINITIONS

Boundary ID: CL-PRE d Service type: PROCESS
 Boundary name: 12" & Less Domestic Service temp: 50
 Boundary unit: 0 Environment: EXT/BURIED

Pipe lining: Single Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Pipe coating: Tnemec 140-1211 Epoxy, Red Oxid, 1-Coat, 4-Avg, 3-Min
 Filling lining: Double Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Filling coating: Tnemec 140-1211 Epoxy, Red Oxid, 1-Coat, 4-Avg, 3-Min

Gasket types

COUPLING GLAND - none
 FASTITE - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLEX-RING 4-12 - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLG LESS ACCESSORIES - none
 FRBELL FLEX-RING - Fastite Gasket, Plain Rubber Styrene-Butadiene
 MJ - Mechanical Joint Gasket, Plain Rubber Styrene-Butadiene
 RIGID GROOV LESS ACC - none

Boundary ID: CL-PRE Service type: PROCESS
 Boundary name: CL-PRE Service temp: 50
 Boundary unit: 1 Environment: EXT/BURIED

Pipe lining: Single Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Pipe coating: Tnemec 140-1211 Epoxy, Red Oxid, 1-Coat, 3-Avg, 1-Min
 Filling lining: Double Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Filling coating: Asphaltic Coated: Black, 1-Coat, 3-Avg, 1-Min

Gasket types

COUPLING GLAND - none
 FASTITE - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLEX-RING 4-12 - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLG LESS ACCESSORIES - none
 FRBELL FLEX-RING - Fastite Gasket, Plain Rubber Styrene-Butadiene
 MJ - Mechanical Joint Gasket, Plain Rubber Styrene-Butadiene
 RIGID GROOV LESS ACC - none

Boundary ID: CL-ASP Service type: PROCESS
 Boundary name: CL-ASP Service temp: 50
 Boundary unit: 1 Environment: EXT/BURIED

Pipe lining: Single Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Pipe coating: Asphaltic Coated: Black, 1-Coat, 3-Avg, 1-Min
 Filling lining: Double Thick C/L with Seal Coat: Black, 1-Coat, ANMA C104
 Filling coating: Asphaltic Coated: Black, 1-Coat, 3-Avg, 1-Min

Gasket types

FASTITE - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLEX-RING 4-12 - Fastite Gasket, Plain Rubber Styrene-Butadiene
 FLG LESS ACCESSORIES - none
 FRBELL FLEX-RING - Fastite Gasket, Plain Rubber Styrene-Butadiene
 GAGE FOR DRESSER - none
 MJ - Mechanical Joint Gasket, Plain Rubber Styrene-Butadiene
 RIGID GROOV LESS ACC - none

Approved As Noted
 10/18/02

RELEASE ALL ITEMS NOT
 MARKED HOLD.

NOV 05 2002

REVIEW DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DEVIATIONS FROM CONTRACT REQUIREMENTS.

BLACK & VEATCH

This drawing has been reviewed and found in general conformance with the contract documents.

APPROVED
 APPROVED AS NOTED
 REVISE AND RESUBMIT

KCI CONSTRUCTION CO. DATE 10/22/02
 SPEC. SECTION 1501

#096

AMERICAN DUCTILE IRON PIPE
 A DIVISION OF AMERICAN CAST IRON PIPE COMPANY

PHONE: 1-800-442-2347 FAX: 1-800-442-2348

P O BOX 2727 2916 16th STREET NORTH
 BIRMINGHAM, ALABAMA 35202 BIRMINGHAM, ALABAMA 35207

6"-7" Diameter Ductile Iron Pipe - Fastite Joint, Mechanical Joint, Flanged Joint
 Flex-Ring Restrained Joint, Lock-Ring Restrained Joint, Flex-Lok Restrained Joint.
 ANSI A21.10, A21.53, & AMERICAN Standard Fittings
 ANSI A21.4 Cement Lining, POLYBOND Lining, plus Special Coatings & Linings
 American Flow Control - Valves And Hydrants

This drawing is a service to the customer as an aid in developing a detailed bill of material. The purchaser must verify correctness of design and dimensions. It is the responsibility of the purchaser to verify all details on receipt of prints. Changes desired shall be noted on a print and returned to American. Drawings will be revised per these changes. Drawings returned to American without signature or initial will be considered to have been reviewed by the customer with any required change noted.

REVISED BY:	DATE:	REV #:

CONDAIRE, INCORPORATED

WATER TREATMENT FACILITIES
 O FALLON, MO

SECTION VIEWS TO DWG. OP5
 REF. DWGS. D3, D5, D6, D7

DRAWN BY: Daniel Jones DATE DRAWN: 30Sep2002 SCALE: NTS PROJECT NUMBER: KM001998 **C02070-OP6**