



October 21, 2015

City of Greensboro
Department of Water Resources
P.O. Box 3136
Greensboro, NC 27402

Attn: Mr. Elijah Williams, PE

RE: 56 MGD Upgrade Project T.Z. Osborne – Package 2
Effluent Filter – Effluent Facilities

Mr. Williams,

As a follow up to various onsite meetings and discussions, Garney offers the following quotation for the construction of the Chlorine Contact Splitter Box, Filter Effluent Structure, and interconnecting piping.

Included with this quotation is all required labor, material, equipment, and supervision to construct these facilities, upon final design to be performed by others. In to meet schedule requirements of Package 3 construction milestones, it is expected, and pricing as indicated is dependent upon final design documents completed and transmitted to Garney by November 30, 2015.

Specifically included with this quotation is all work associated with:

1. Excavation, backfill, groundwater dewatering
2. Relocation of storm inlet box, and re-alignment of storm drain piping including new storm transition manhole near the North East corner of Effluent Filter, as shown on attached sketch titled TZO3-D, dated October 19, 2015
3. Relocation of effluent filter backwash drain, and overflow, and pump discharge piping near the North East corner of Effluent Filter, as shown on attached plan view sketch titled TZO3-B, dated October 19, 2015 as well as section view shown on sketch TZO3-C dated October 19, 2015. Garney will require an expected two shut downs of 6 hrs. each, of the filter backwash system in order to complete relocation of PD, OF, and BWD lines as indicated.
4. Filter Effluent Structure
 - a. Size, shape and elevations as indicated on attached sketch titled TZO3-A, dated October 19, 2015
 - b. 12 Tons of reinforcing steel
 - c. 124 rebar dowels to be drilled and epoxied into the existing filter structure
 - d. Walls no more than 12-inches thick
 - e. Slabs no more than 18-inches thick
 - f. One 78-inch wall PCCP wall pipe connection to Filter Effluent Pipeline, at Centerline Elevation 707.5 ft
 - g. 12-inches of crushed concrete / stone base below slab
5. Chlorine Contact Splitter Box
 - a. Size, shape and elevations as indicated on attached sketch titled TZO3-E, dated October 19, 2015
 - b. 15 Tons of reinforcing steel
 - c. Walls no more than 18-inches thick
 - d. Slabs no more than 18-inches thick
 - e. One 78-inch wall PCCP wall pipe connection to Filter Effluent Pipeline, at Elevation 704.0 FT

- f. One restrained joint 54-inch ductile iron wall pipe with plug, for connection by Contract 3 to New Chlorine Contact Tanks 5 & 6. Wall pipes shall be furnished using either the US Pipe or ACIPCO restraint system.
 - g. 60-inch and 54-inch wall pipes with plugs for future connection. Wall pipes shall be furnished using either the US Pipe or ACIPCO restraint system.
 - h. 12-inches of crushed concrete / stone base below slab
 - i. Galvanized steel stop log frames at each wall pipe within the Chlorine Contact Splitter Box. Frames shall be set to receive the 5-foot logs, furnished under Contract 3.
6. Filter Effluent Pipeline
- a. Layout, elevation and alignment as shown on attached sketch titled TZO3-F, dated October 20, 2016
 - b. 78-inch pre-stressed concrete cylinder pipe (PCCP) filter effluent pipe interconnecting Filter Effluent Structure and Chlorine Contact Splitter Box
 - c. 175 liner feet 78-inch PCCP, with wall pipes at either end.
 - d. #57 stone bedding, 6-inches thick below pipe, and to pipe centerline. Backfill with soil above.

Additionally, the following items have been included:

- 1. Hydrostatic testing of structures and pipelines, with test water provided by Owner.
- 2. Submittals for reinforcing steel fabrication and placement.
- 3. Submittals for prestressed pipe, and fittings.
- 4. PCCP materials per project specification.
- 5. Submittals for ductile iron wall pipes with plugs.
- 6. Submittal detailing galvanized steel stop log frames
- 7. Exterior concrete walls, exposed to view shall receive a rubbed finish per specification
- 8. All exterior corners chamfered 3/4-inch

Specifically excluded from this quotation is all work associated with:

- 1. Design
- 2. Permitting
- 3. Inspection and/or testing
- 4. Geotechnical exploration
- 5. Pressure testing of pipelines, see testing described above
- 6. Coatings / damp proofing of any kind
- 7. Blasting / Excavation of Rock. Geotechnical information indicates the required areas are easily excavated.
- 8. Submittals of any kind unless specifically indicated above. Concrete materials, and accessories shall be as previously submitted and approved
- 9. Demolition of existing filtered effluent piping
- 10. Demolition / saw-cutting of existing concrete.
- 11. Ladders, stairway, handrail, or any other form of access not specifically indicated above
- 12. Any increase to rebar weights indicated above, will require a revised quotation.

Garney will provide all required labor, material, equipment and supervision to complete the above work for the mutually agreeable lump sum increase of Six Hundred Seventy One Thousand, Fifty Six and 00/100's (\$671,056.00) to the above referenced project. No increase of contract time is required for this work. Any deviation from the above will require a revised quotation.

At the Owner's option, the 60-inch and 54-inch wall pipes with plugs for future connection at the Chlorine Contact Splitter Box may be deleted for the lump sum deduct of \$96,934.00

This quotation is valid for written acceptance until November 10, 2015. After that time Garney reserves its right to revise this proposal.

We trust the above to be acceptable. Should you have any question, comment, or wish to discuss any of the above in greater detail, please feel free to contact us immediately. I may be reached by email at lcobb@garney.com, or via telephone at (407)877-5903 ext. 572.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Lucas R. Cobb', with a stylized flourish at the end.

Lucas R. Cobb, PE
Senior Project Manager

CC: Don Trujilo, Garney
File - LTO

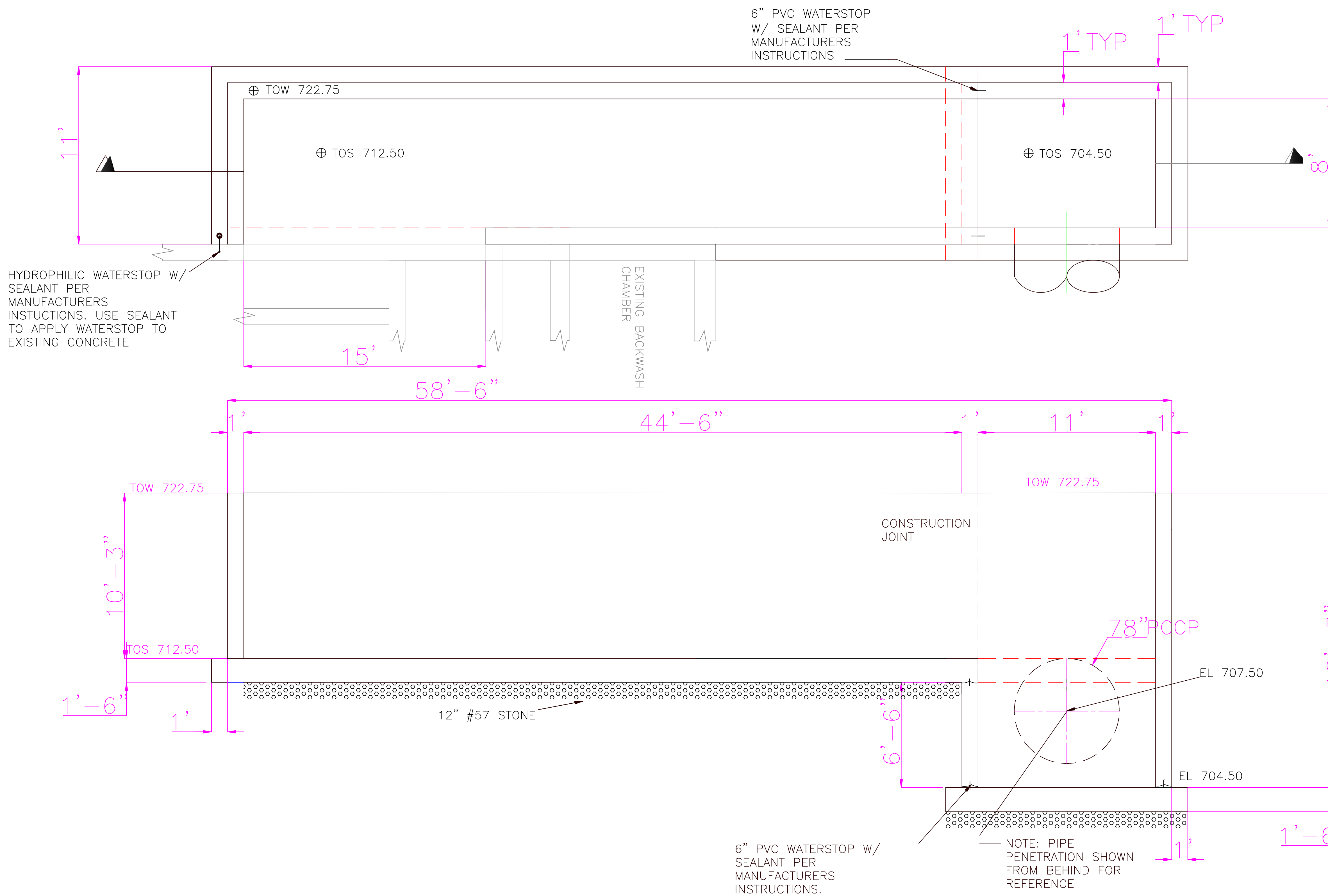
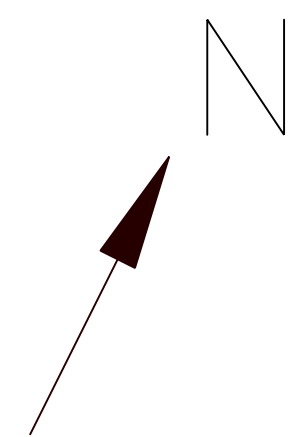
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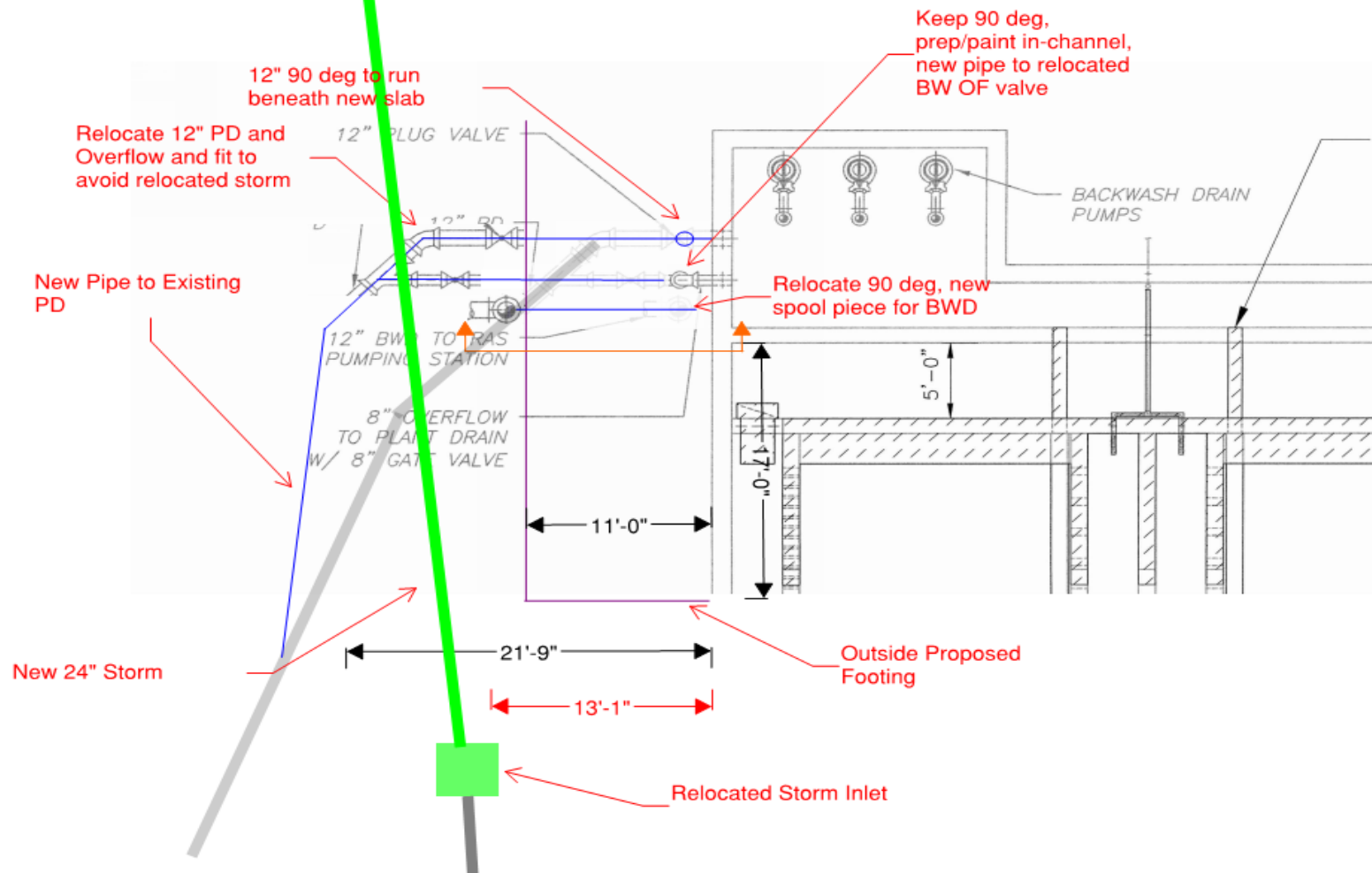
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8 7 6 5 4 3 2 1

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



 ADVANCING WATER	TZ OSBORNE PACKAGE 3			
	EFFLUENT FILTER STRUCTURE			
	10/19/2015	SIZE	FSCM NO.	DWG NO. TZ03-A
SCALE NTS		SHEET		



Date: 10-19-2015

FIG. #

LOCATION

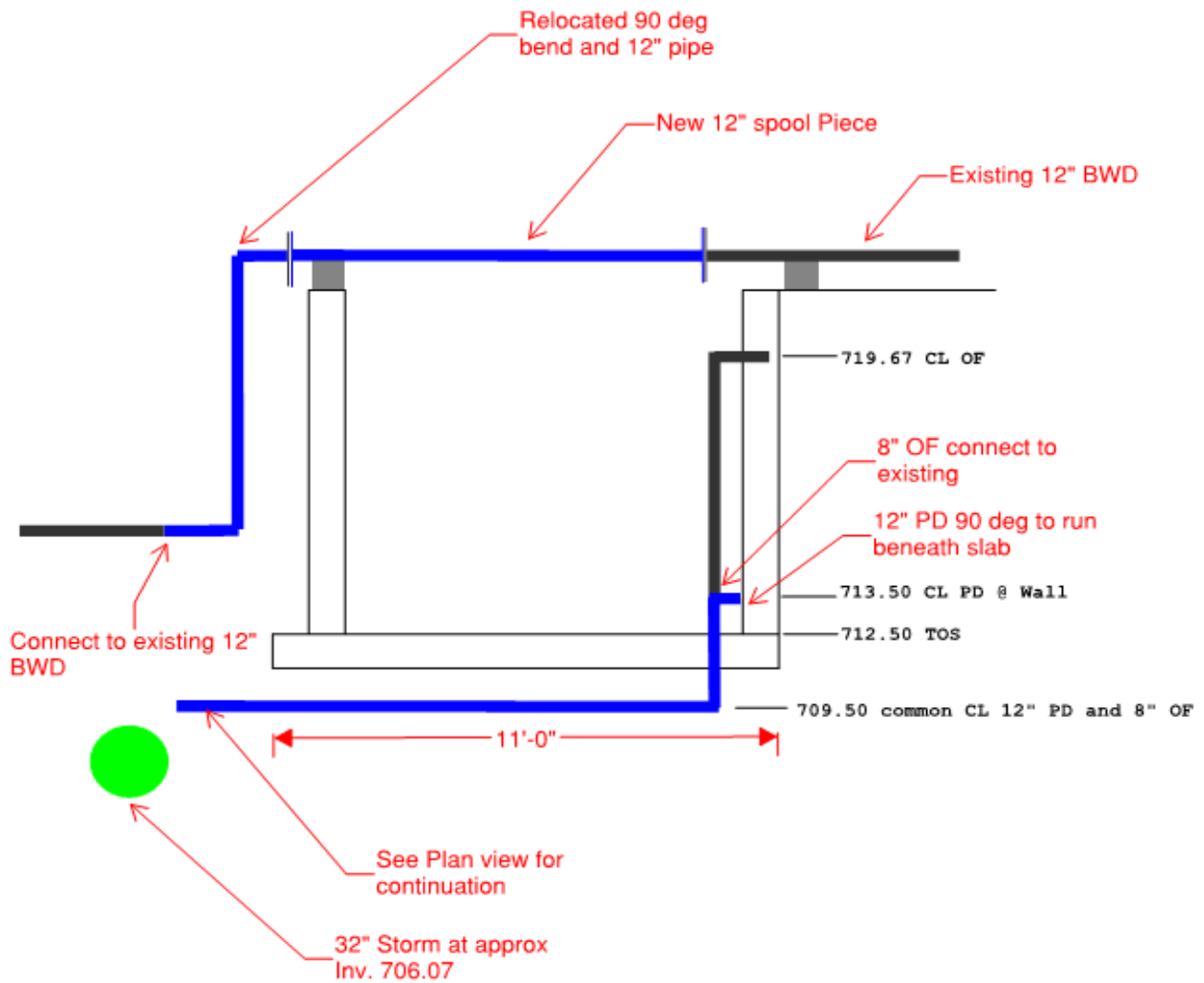
Effluent Filter

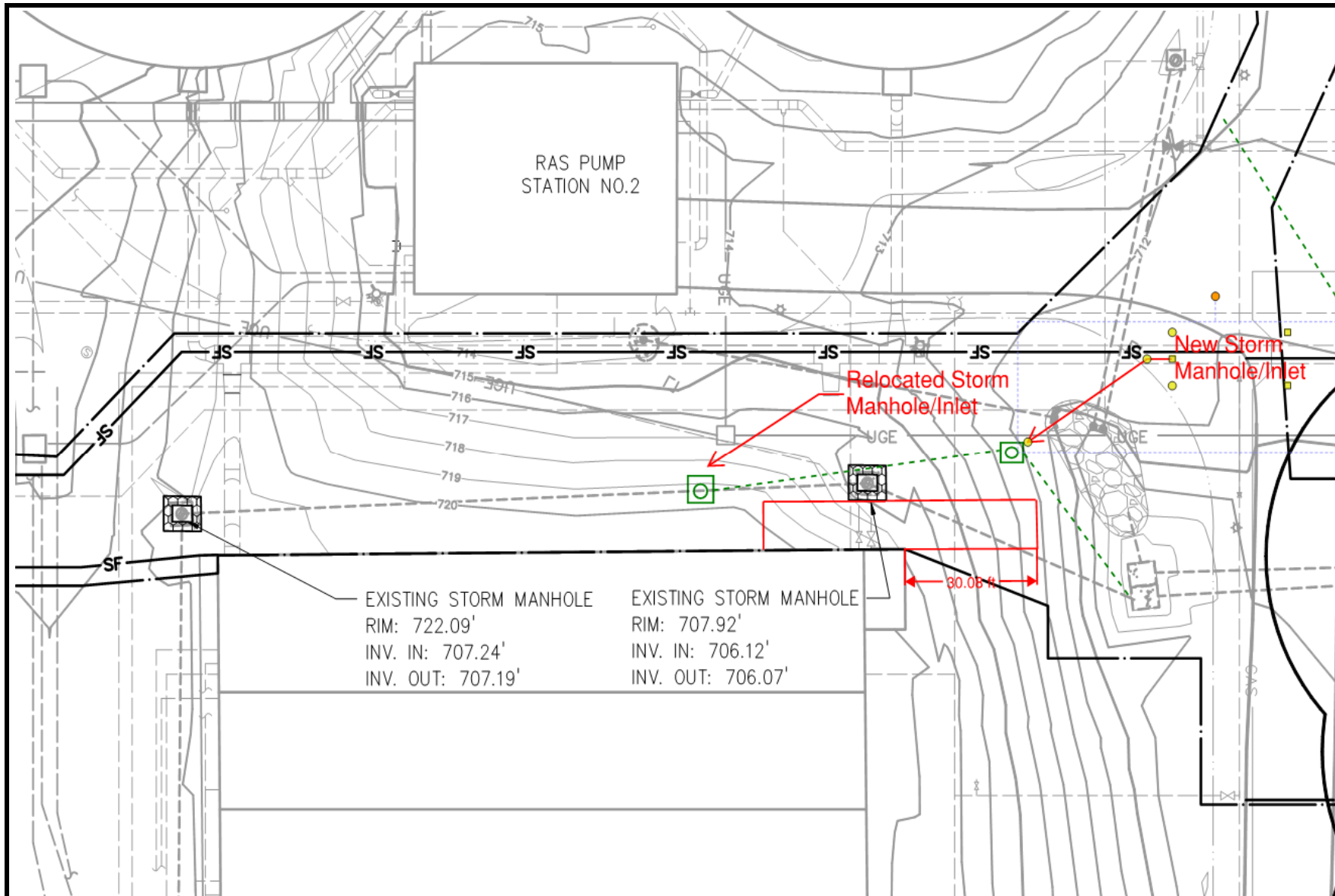
TZO3-B

Effluent Filter
NE Wall

Facilities Pipe
Relocates







Date: 10-19-2015

FIG. #

LOCATION

Effluent Filter

TZO3-D

Effluent Filter
NE Wall

Facilities Pipe
Relocates



D

C

B

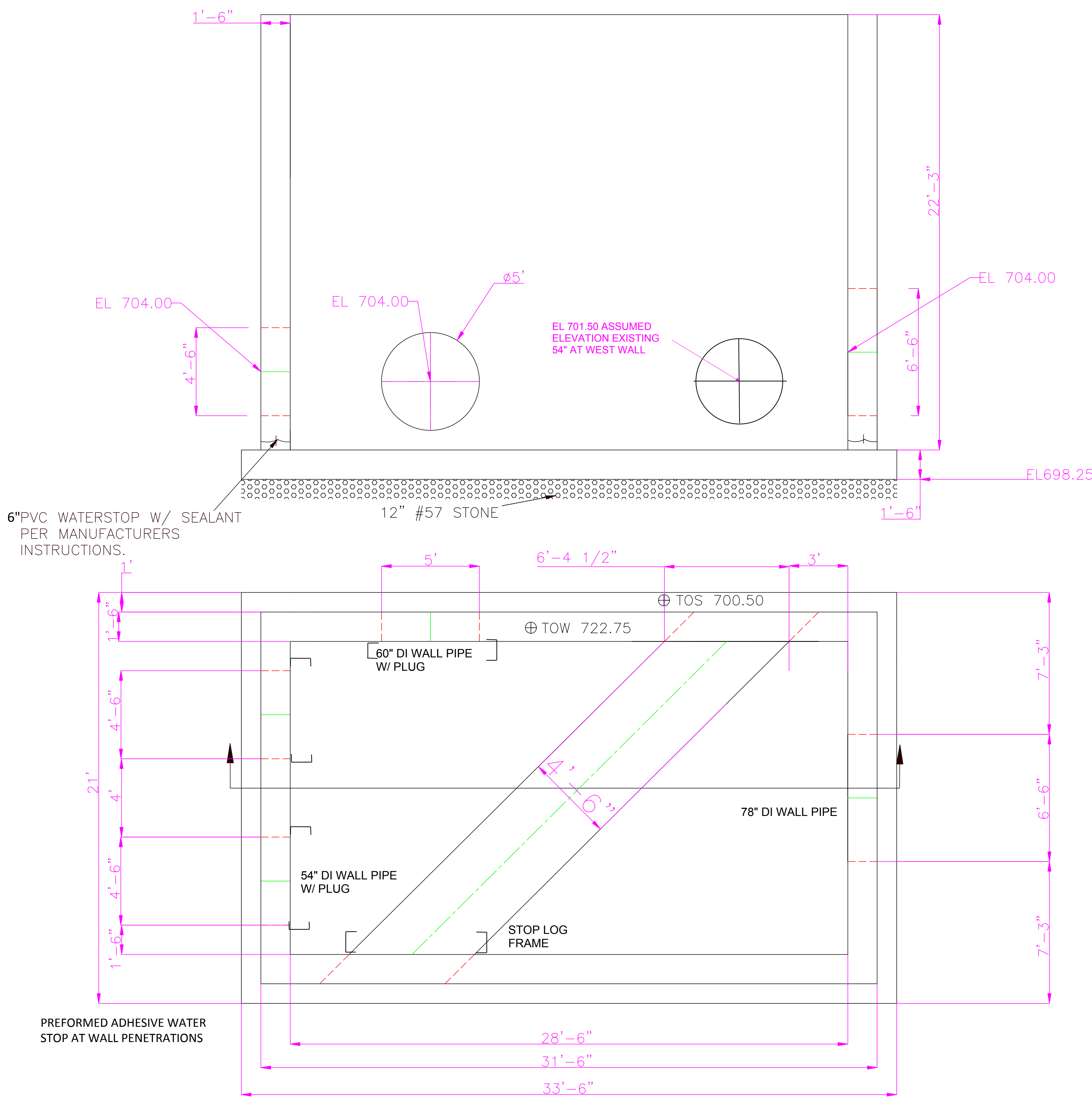
A

D


C

B

A



REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



ADVANCING WATER

TZ OSBORNE PACKAGE 3

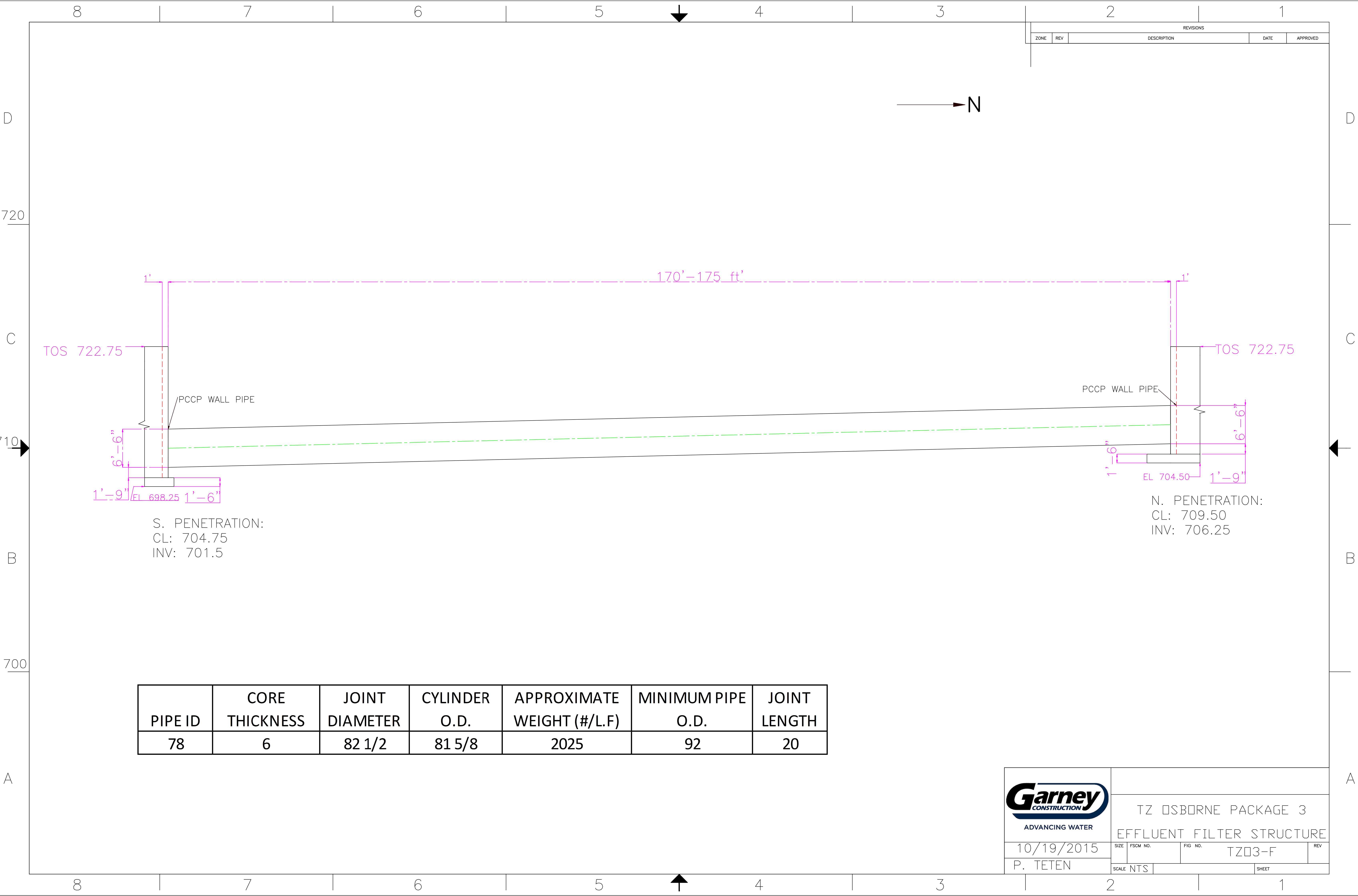
CHLORINE CONTACT SPLITTER

10/19/2015

P. TETEN

SIZE	FSCM NO.	DWG NO.	REV
SCALE NTS		TZ03-E	


SHEET



PIPE ID	CORE THICKNESS	JOINT DIAMETER	CYLINDER O.D.	APPROXIMATE WEIGHT (#/L.F)	MINIMUM PIPE O.D.	JOINT LENGTH
78	6	82 1/2	81 5/8	2025	92	20

S. PENETRATION:
CL: 704.75
INV: 701.5

N. PENETRATION:
CL: 709.50
INV: 706.25



ADVANCING WATER

TZ OSBORNE PACKAGE 3

EFFLUENT FILTER STRUCTURE

10/19/2015	SIZE	FSCM NO.	FIG NO.	TZ03-F	REV
P. TETEN	SCALE NTS		SHEET		