

NOTES:

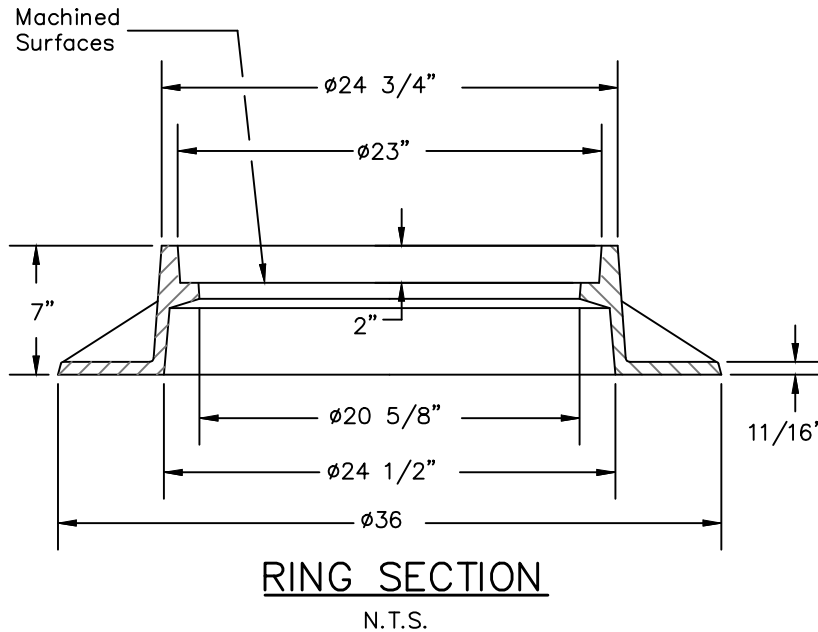
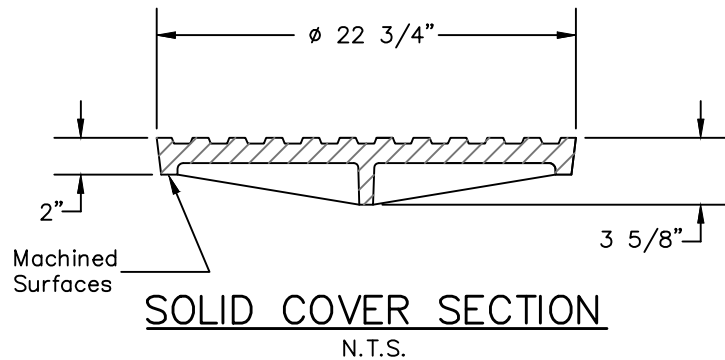
1. U.S. Foundry No. 117 Ring and BL Cover, or equal, if approved by City of Clearwater Engineer.
2. Private manhole covers must not say "Clearwater" on them.
3. Ring must be centered on opening.
4. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
5. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP
------	----------------------	-----

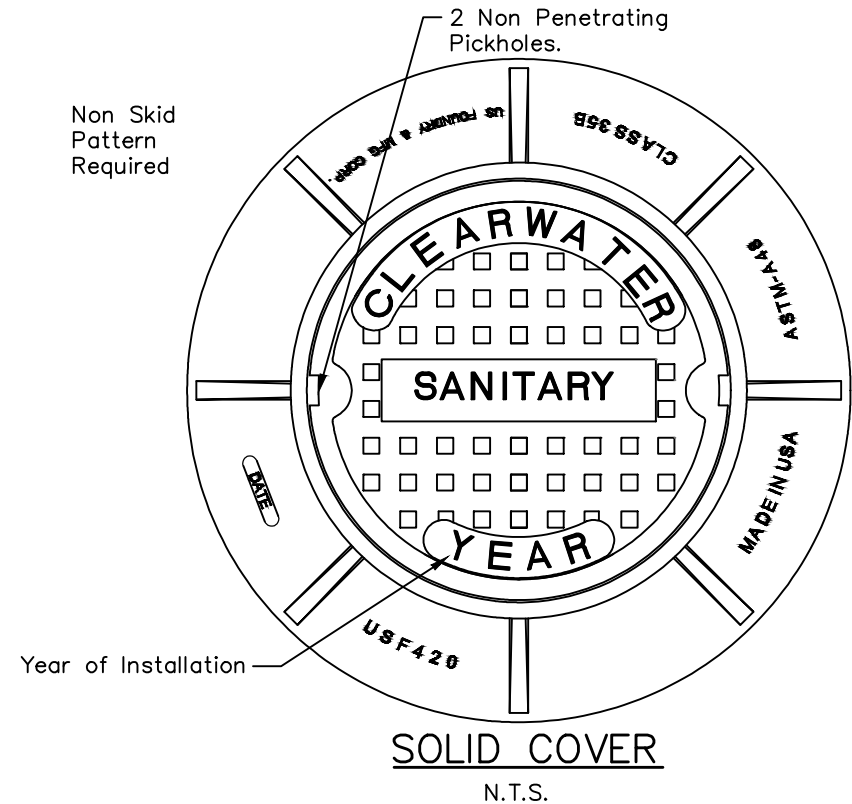
CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

SANITARY SEWER MANHOLE COVER
NON-ROADWAY APPLICATION

INDEX NO.	PAGE NO.
301	1 OF 3
LATEST REVISION	10/21/2019



Non Skid
Pattern
Required



NOTES:

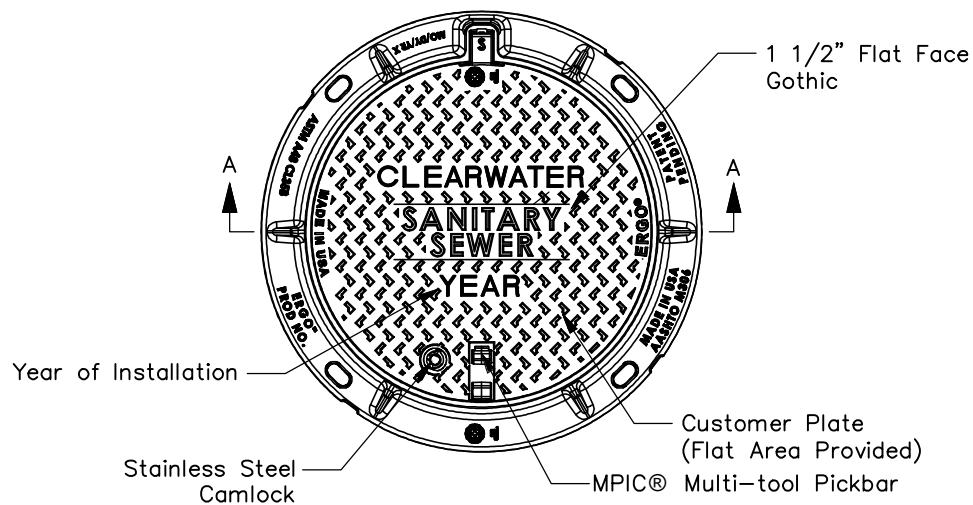
1. Where roadway base is 8" or thicker, use 9" ring.
2. Manufacturer's model USF 420 Ring & G Cover, or equal, if approved by City of Clearwater Engineer.
3. Heavy Traffic (Multi-lane) with cover located in travel lane will require ring and cover by EJ Group ERGO Assembly, Product Number 00104083L0 or equal, See Index 301 Page 3 of 3.
4. Private manhole covers must not say "Clearwater" on them.
5. Ring must be centered on opening.
6. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
7. See also City of Clearwater's Technical Specification Section IV.

DATE	REVISION DESCRIPTION	APP
------	----------------------	-----

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

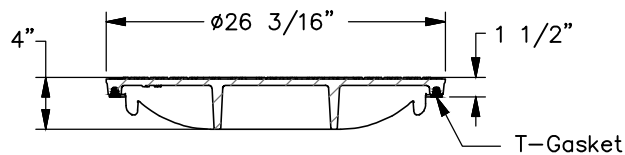
SANITARY SEWER MANHOLE COVER
FOR ROADWAY APPLICATION

INDEX NO.	PAGE NO.
301	2 OF 3
LATEST REVISION	10/21/2019



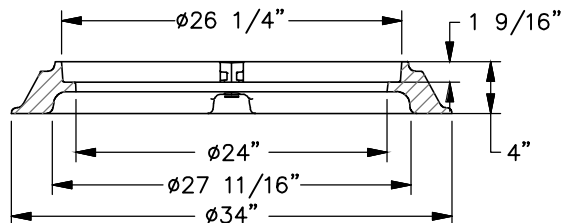
SOLID COVER

N.T.S.



SOLID COVER SECTION

N.T.S.

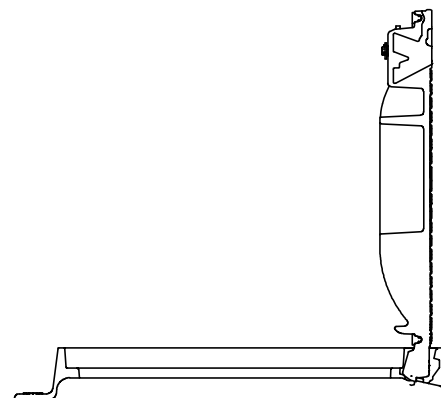


RING SECTION

N.T.S.

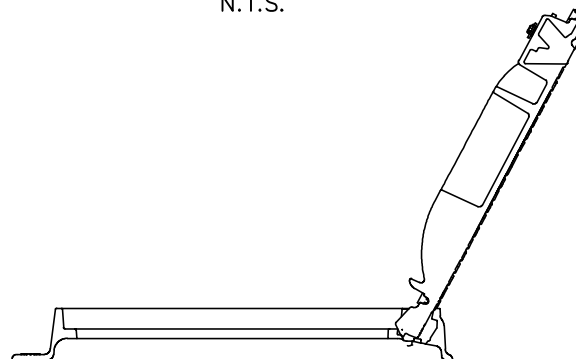
NOTES:

1. Manufacturer's model: EJ Group ERGO Assembly, Product Number 00104083L01 or equal, if approved by City of Clearwater Engineer.
2. See also City of Clearwater's Technical Specification Section IV.



SAFETY LOCK @90°

N.T.S.



FULLY OPENED @120°

N.T.S.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

SANITARY SEWER MANHOLE COVER
FOR ROADWAY APPLICATION
FOR FDOT ROADWAY

INDEX NO.	PAGE NO.
301	3 OF 3
LATEST REVISION	10/21/2019

1. All new manholes must be AASHTO M85 Type II cement with Xypex Admix C-1000R.
2. All pipe penetrations into manhole shall be precast or core drilled with a flexible Kor-N-Seal rubber boot or approved equal, installed.
3. All pipes must be color coded "Safety Green."
4. Doghouse manholes are not permitted.
5. Flat top manholes are not permitted unless pre-approved by City Engineer.
6. All connections to manhole shall be water tight.
7. All manhole coring must be witnessed by City Inspector.
8. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
9. See also City of Clearwater's Technical Specification Section IV.

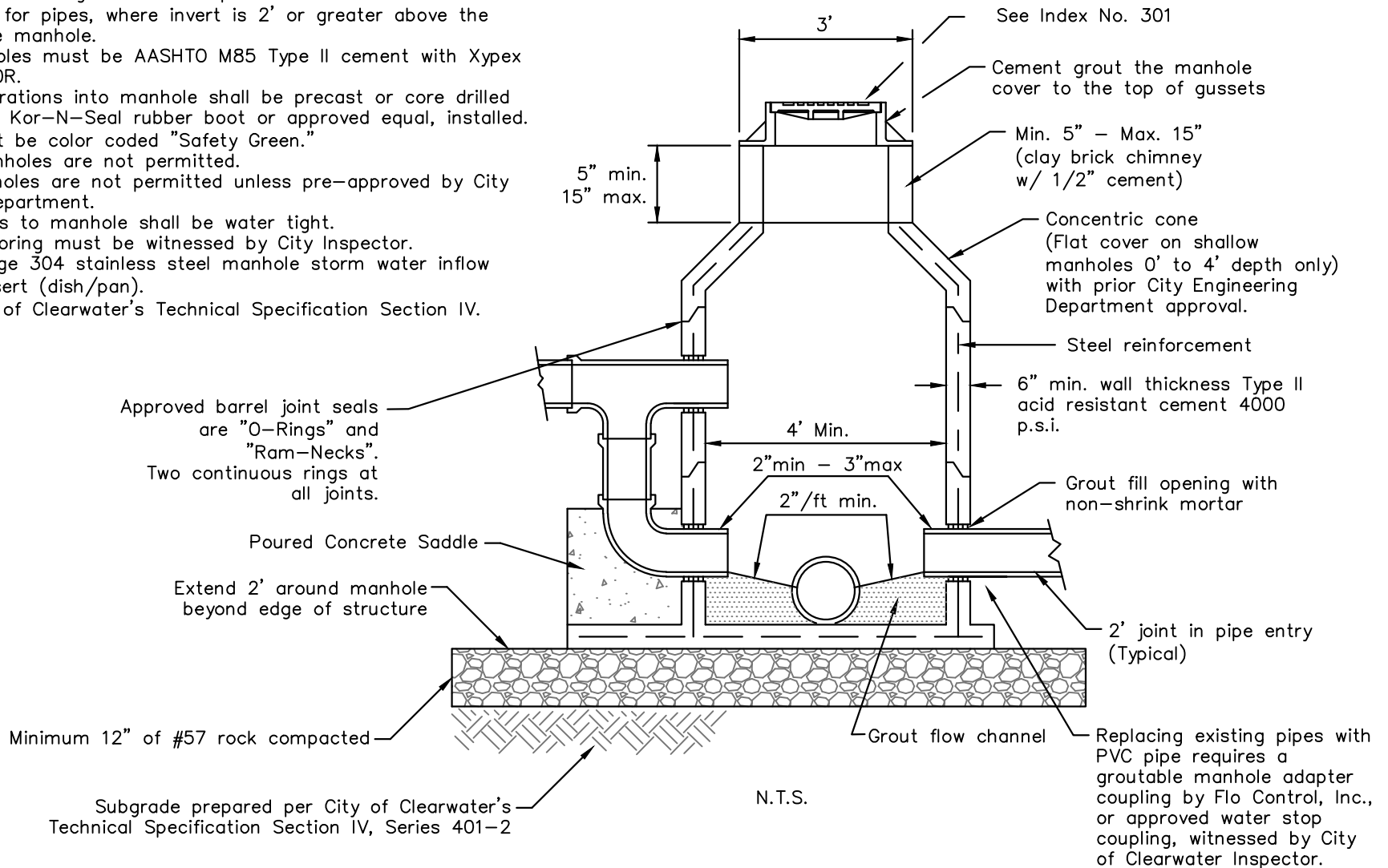


CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

INDEX NO.	PAGE NO.
302	1 OF 3
LATEST REVISION	10/21/2019

NOTES:

1. Precast manhole drop may be approved by City of Clearwater Engineer. Shop drawing submittal required.
2. Drop required for pipes, where invert is 2' or greater above the bottom of the manhole.
3. All new manholes must be AASHTO M85 Type II cement with Xypex Adminx C-100R.
4. All pipe penetrations into manhole shall be precast or core drilled with a flexible Kor-N-Seal rubber boot or approved equal, installed.
5. All pipes must be color coded "Safety Green."
6. Doghouse manholes are not permitted.
7. Flat top manholes are not permitted unless pre-approved by City Engineering Department.
8. All connections to manhole shall be water tight.
9. All manhole coring must be witnessed by City Inspector.
10. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
11. See also City of Clearwater's Technical Specification Section IV.



DATE	REVISION DESCRIPTION	APP

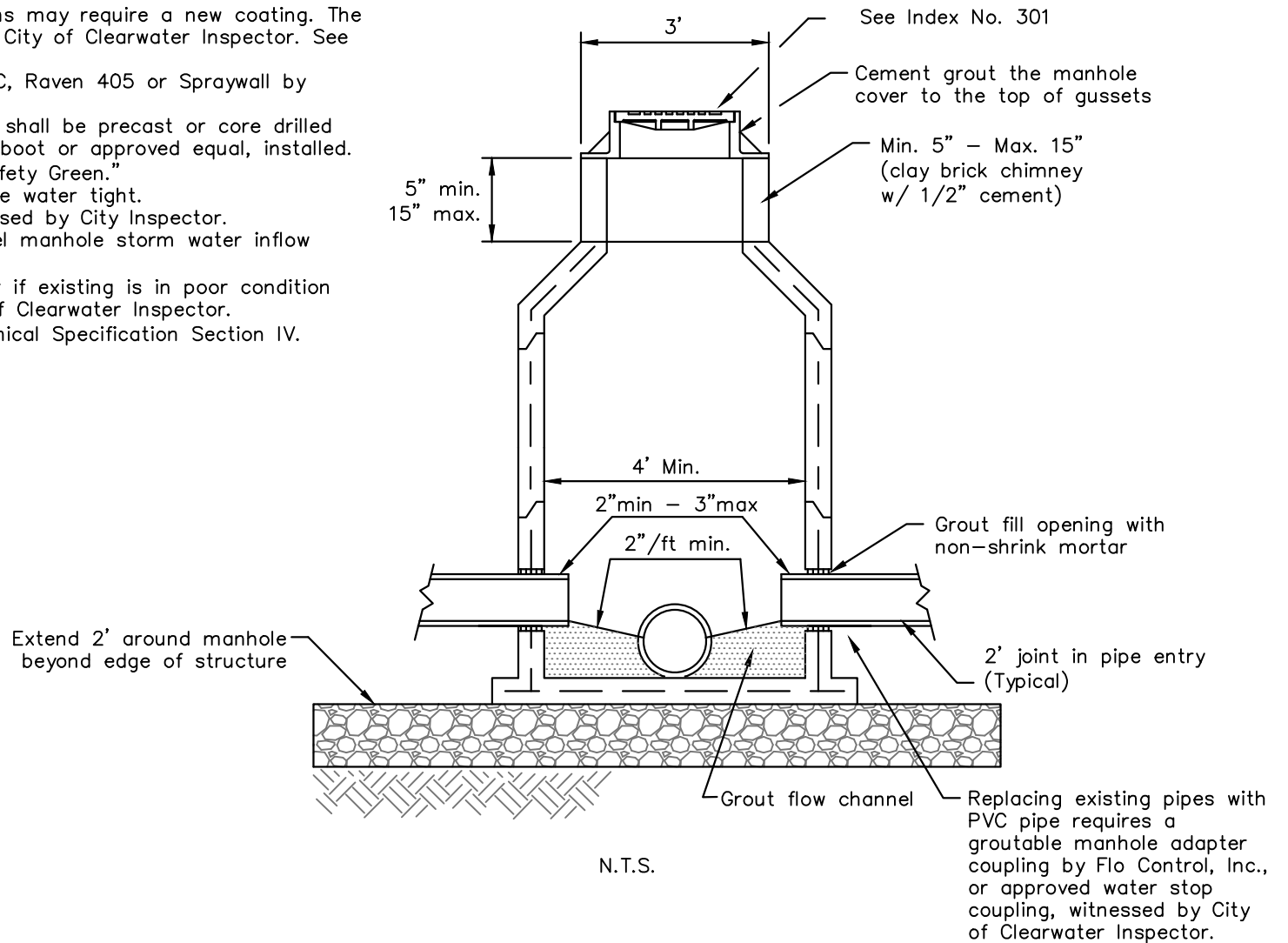
CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

**NEW PRECAST SANITARY MANHOLE DETAIL
OUTSIDE DROP**

INDEX NO.	PAGE NO.
302	2 OF 3
LATEST REVISION	10/21/2019

NOTES:

1. Any new manhole cores/connections may require a new coating. The new coating will be determined by City of Clearwater Inspector. See Note 2.
2. Interior shall be Strong Seal MS 2C, Raven 405 or Spraywall by Sprayroq.
3. All pipe penetrations into manhole shall be precast or core drilled with a flexible Kor-N-Seal rubber boot or approved equal, installed.
4. All pipes must be color coded "Safety Green."
5. All connections to manhole shall be water tight.
6. All manhole coring must be witnessed by City Inspector.
7. Install 18 gauge 304 stainless steel manhole storm water inflow abatement insert (dish/pan).
8. Contractor to replace ring & cover if existing is in poor condition which will be determined by City of Clearwater Inspector.
9. See also City of Clearwater's Technical Specification Section IV.

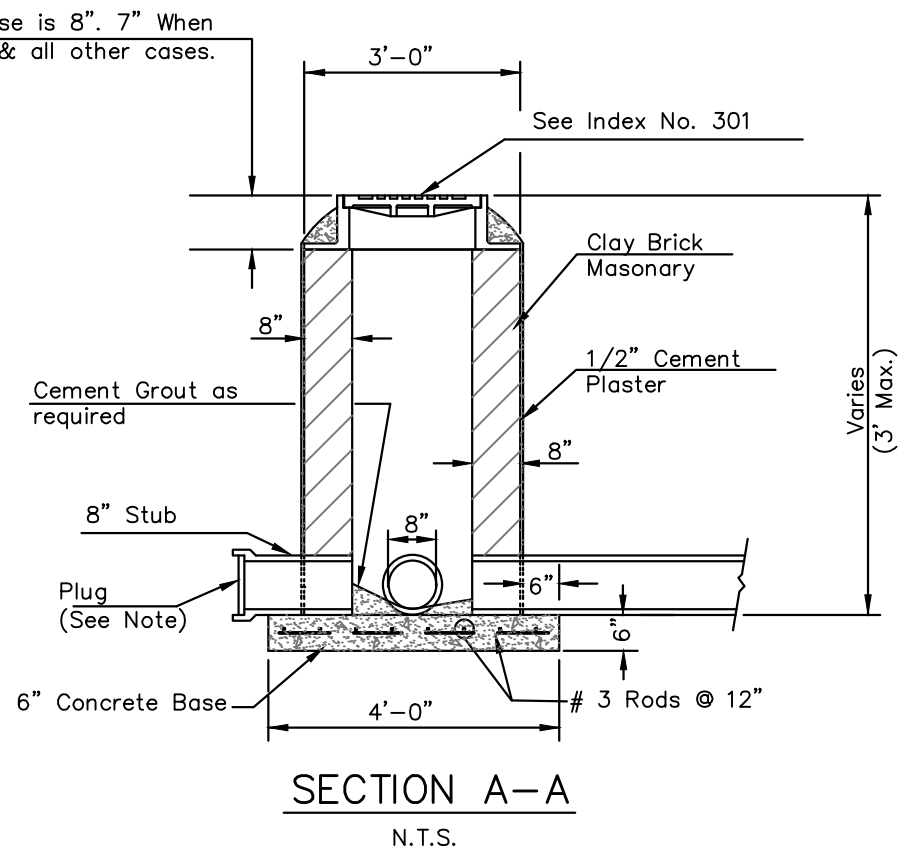


DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

EXISTING SANITARY MANHOLE DETAIL

INDEX NO.	PAGE NO.
302	3 OF 3
LATEST REVISION	10/21/2019



- NOTES:
1. Lamp holes shall have a waterproof bituminous coating on the exterior, Koppers Bitumastic Black 300M, or equivalent.
 2. Plug to be plastic with "O" ring or VC with "O" ring.
 3. P.V.C. pipe entry requires transite manhole coupling accessory by Johns Manville or equal approved water stop coupling.

DATE	REVISION	DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

SANITARY SEWER LAMP HOLE DETAIL

INDEX NO. 303	PAGE NO. 1 OF 1
LATEST REVISION	2/22/2016

NOTE
Cleanout Plug Cover for traffic areas
to be U.S. Foundry 7623 Or Equal.

Cleanout Plug
Charlotte Pipe And Foundry Company Part No. 106
Or Equal

Concrete Pad
8" Thick x 1'-6" Sq.

Female Adapter
Charlotte Pipe And Foundry Company Part No. 101
Or Equal

Two-Way Cleanout
Charlotte Pipe And Foundry Company Part No. 448
Or Equal

Sewer Lateral

N.T.S.

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

STANDARD CLEANOUT
(SANITARY)

INDEX NO.	PAGE NO.
304	1 OF 2
LATEST REVISION	2/22/2016

DATE	REVISION DESCRIPTION	APP

Cleanout Plug
Charlotte Pipe And Foundry Company Part No. 106
Or Equal

NOTE:
Cleanout Plug Cover for traffic areas
to be U.S. Foundry 7623 Or Equal.

Concrete Pad 8" Thick x
1'-6" Sq.

Female Adapter
Charlotte Pipe And Foundry Company Part No. 101
Or Equal

6" or 8" - 1/8 Bend

Plug

Sewer Main

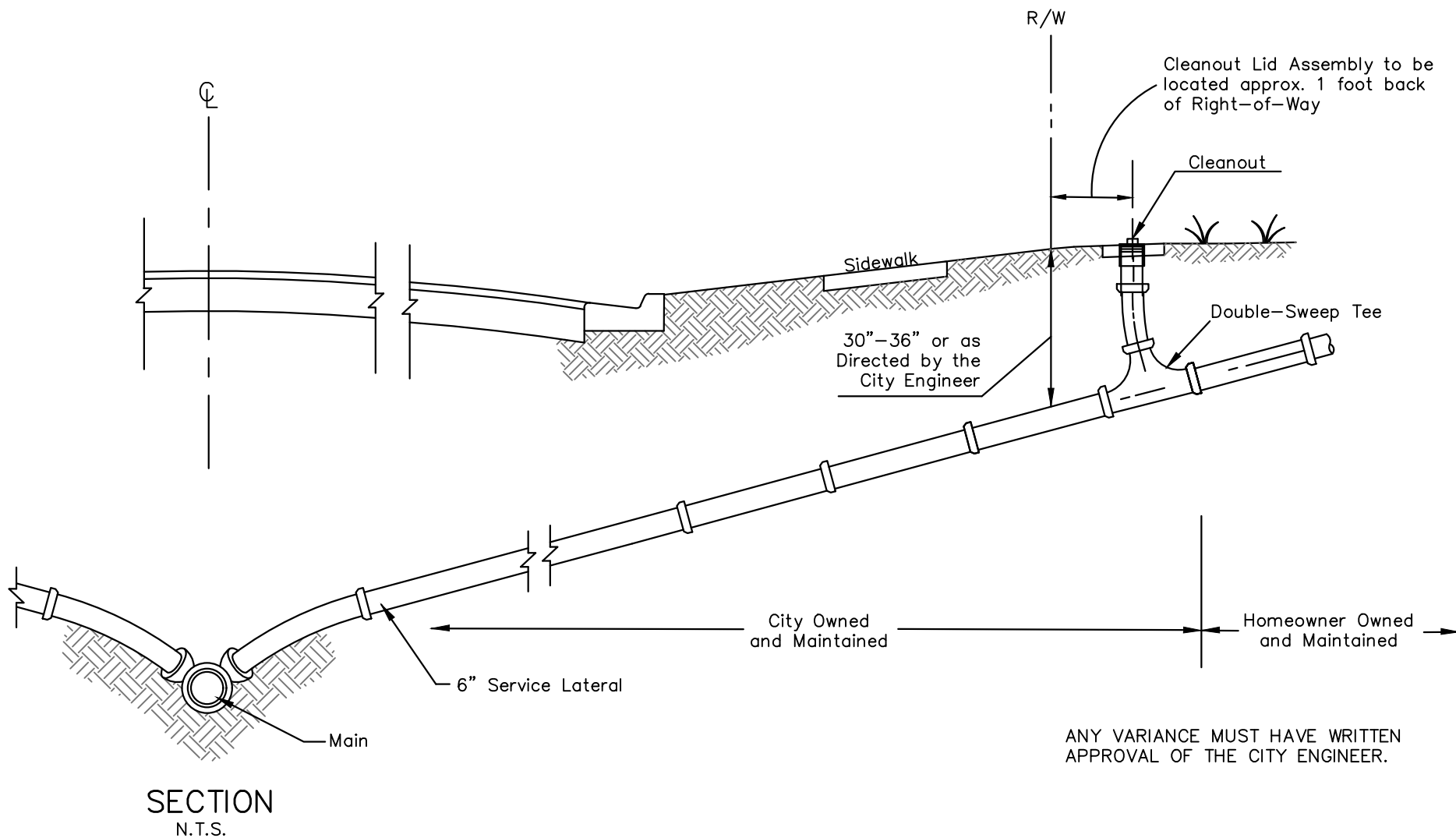
N.T.S.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

STANDARD TERMINAL END CLEANOUT
(SANITARY)

INDEX NO.	PAGE NO.
304	2 OF 2
LATEST REVISION	2/22/2016



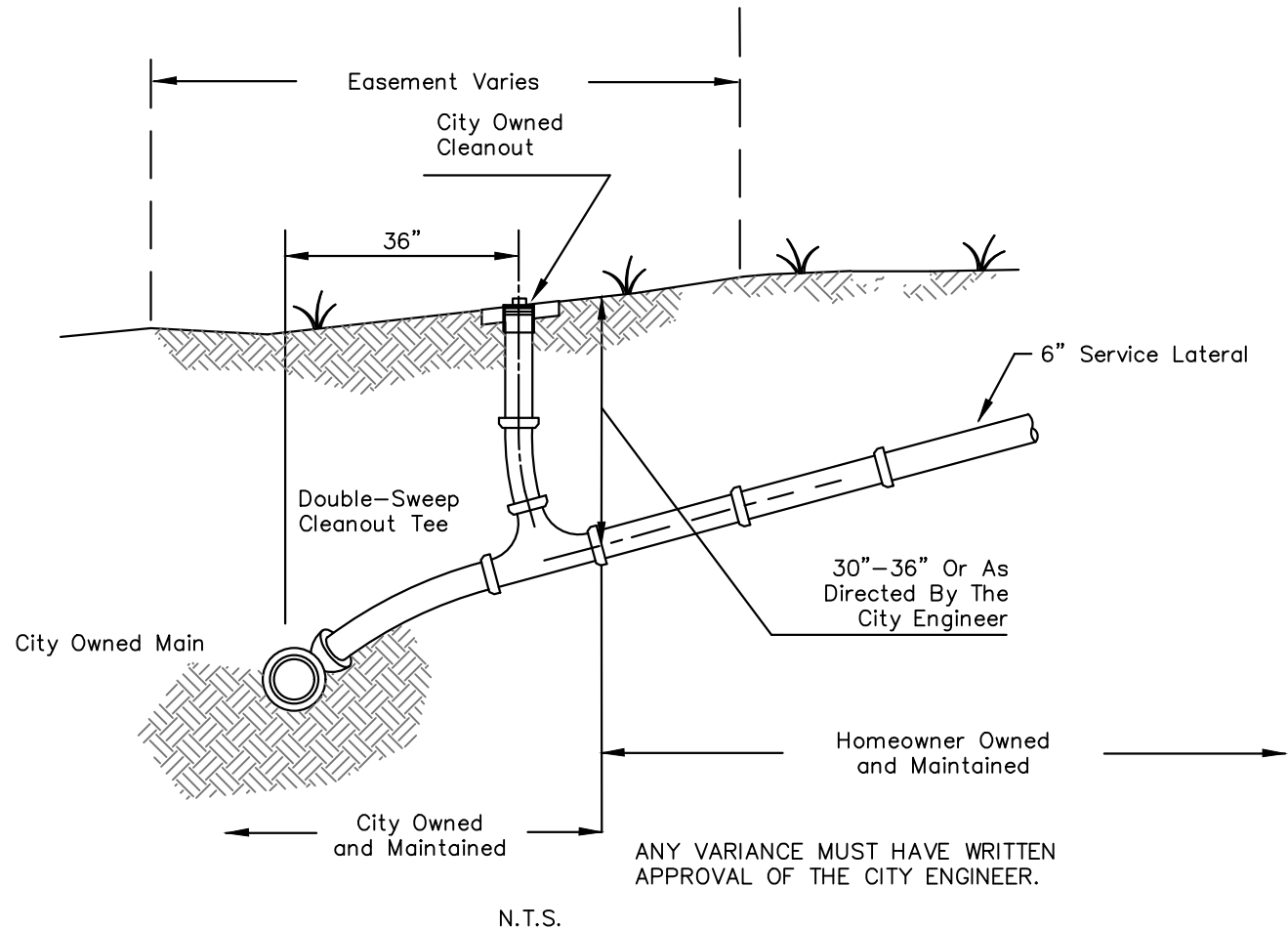
ANY VARIANCE MUST HAVE WRITTEN
APPROVAL OF THE CITY ENGINEER.

8/17/2015	CLEANOUT LOCATION REVISED	PEND.
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

STREET LATERAL DETAIL

INDEX NO.	PAGE NO.
305	1 OF 3
LATEST REVISION	2/22/2016

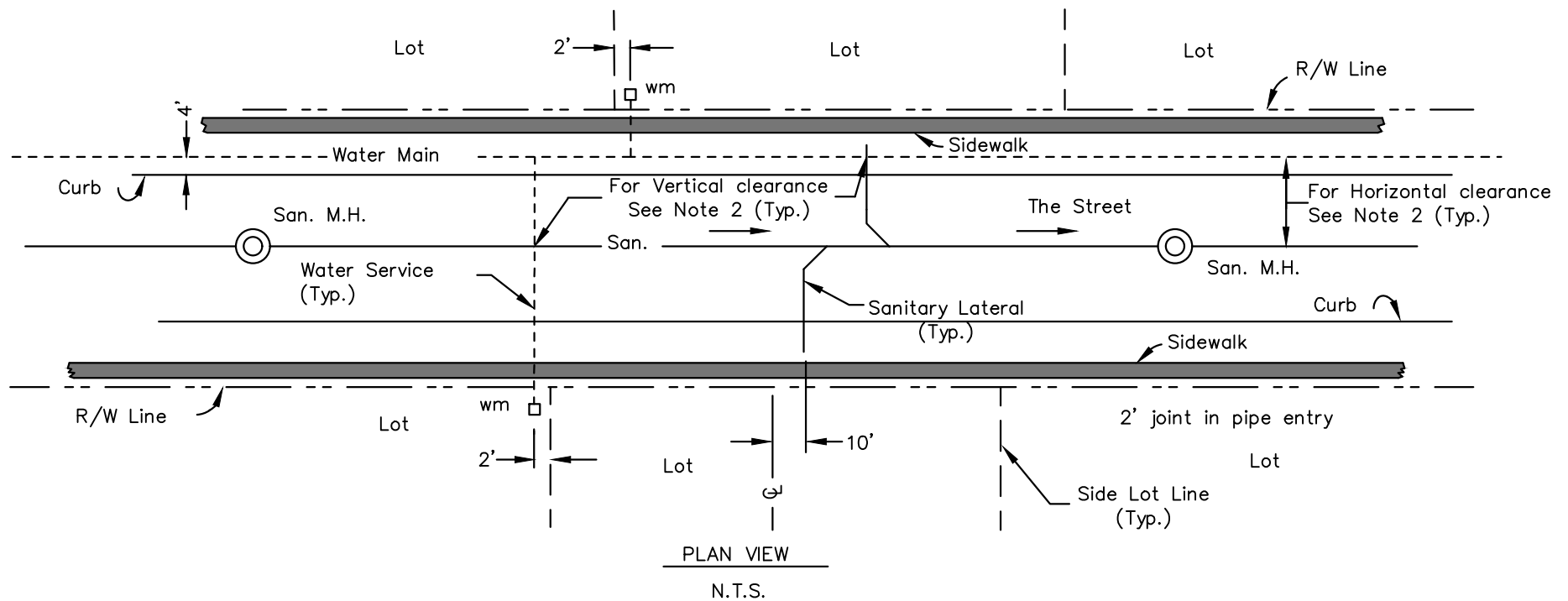


DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

EASEMENT AREA LATERAL DETAIL

INDEX NO.	PAGE NO.
305	2 OF 3
LATEST REVISION	2/22/2016



NOTES:

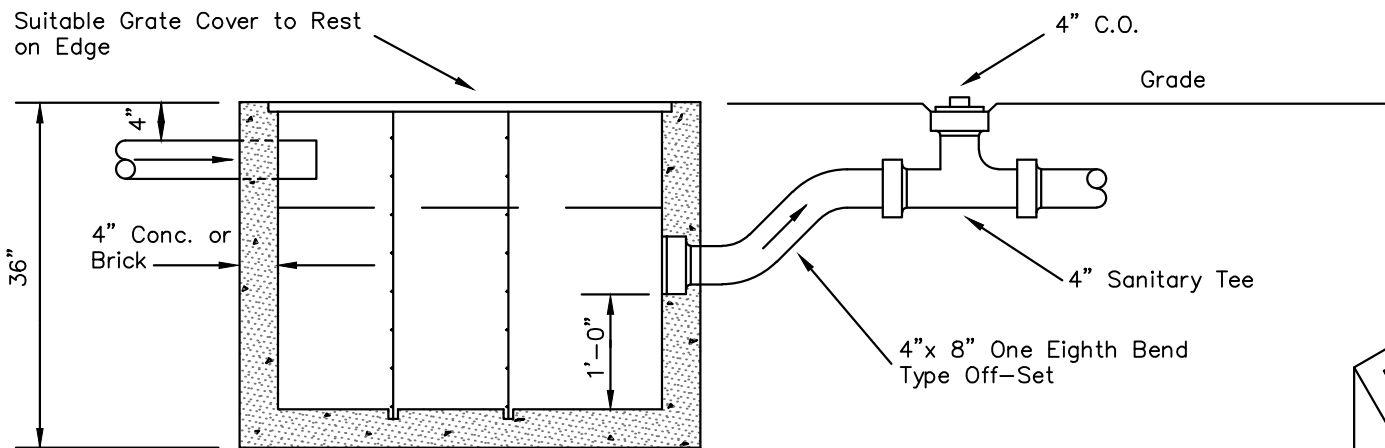
1. Sanitary laterals to be within 10' of center of lot on downhill side of center of lot.
2. Vertical and horizontal clearance between potable water main and sanitary sewer lateral at each intersection to be per FDEP requirements. (See F.A.C. Rule 62-555)

6/27/16	Revised Note 2	R.F.
DATE	REVISION DESCRIPTION	APP

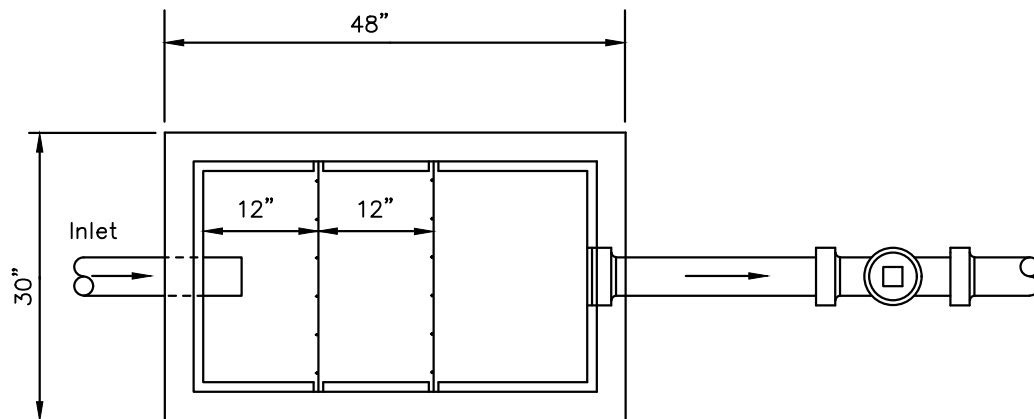
CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

SANITARY LATERAL LOCATIONS

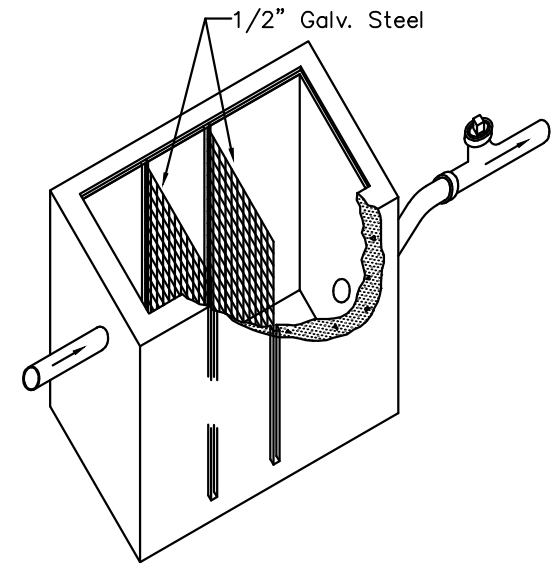
INDEX NO.	PAGE NO.
305	3 OF 3
LATEST REVISION	2/22/2016



SECTION
N.T.S.



PLAN
N.T.S.



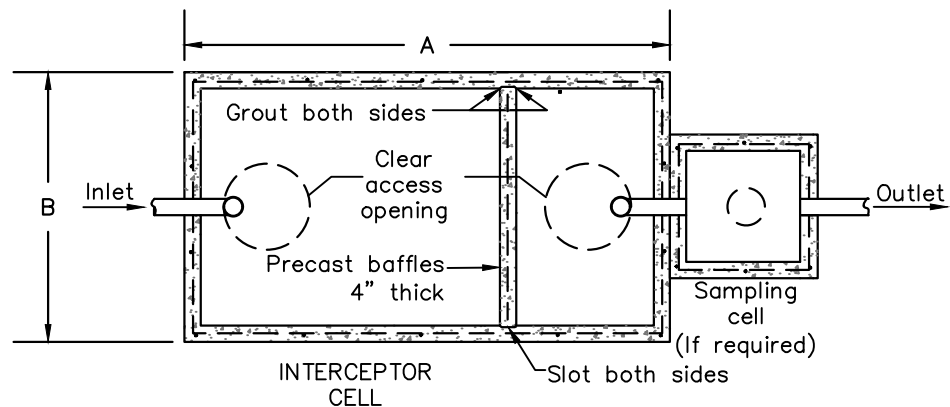
ISOMETRIC VIEW
N.T.S.

DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

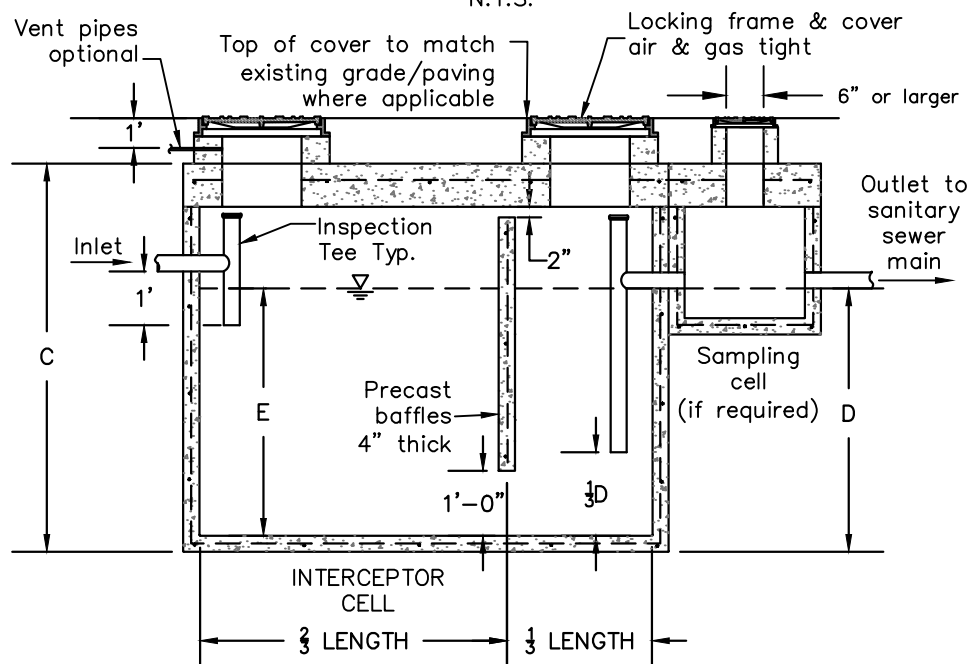
SAND OR LINT TRAP FOR
LAUNDROMATS OR SERVICE STATIONS

INDEX NO.	PAGE NO.
306	1 OF 1
LATEST REVISION	2/22/2016



PLAN VIEW

N.T.S.



SECTION VIEW

N.T.S.

INTERCEPTOR CELL SIZING CHART					
GALLON CAPACITY	A	B	C	D	E
750	7'-0"	4'-8"	7'-0"	4'-3"	3'-11"
1000	9'-0"	5'-0"	7'-2"	4'-2"	3'-10"
1250	9'-0"	5'-0"	7'-2"	5'-2"	4'-10"

GENERAL NOTES:

1. The interceptor system may consist of multiple interceptor cells, if required greater than 1250 gallon capacity.
2. One sampling cell per system shall be installed at outfall to main, only if required.
3. Concrete wall coating taking into consideration the water-oil mix.
4. Contractor to supply & install all piping and sanitary tee's, clean-outs for cleaning toward and away from interceptor (alternate dual sweep clean-outs).
5. Contractor shall assure 2,500 PSI minimum soil bearing capacity at bedding elevation.

NOTES:

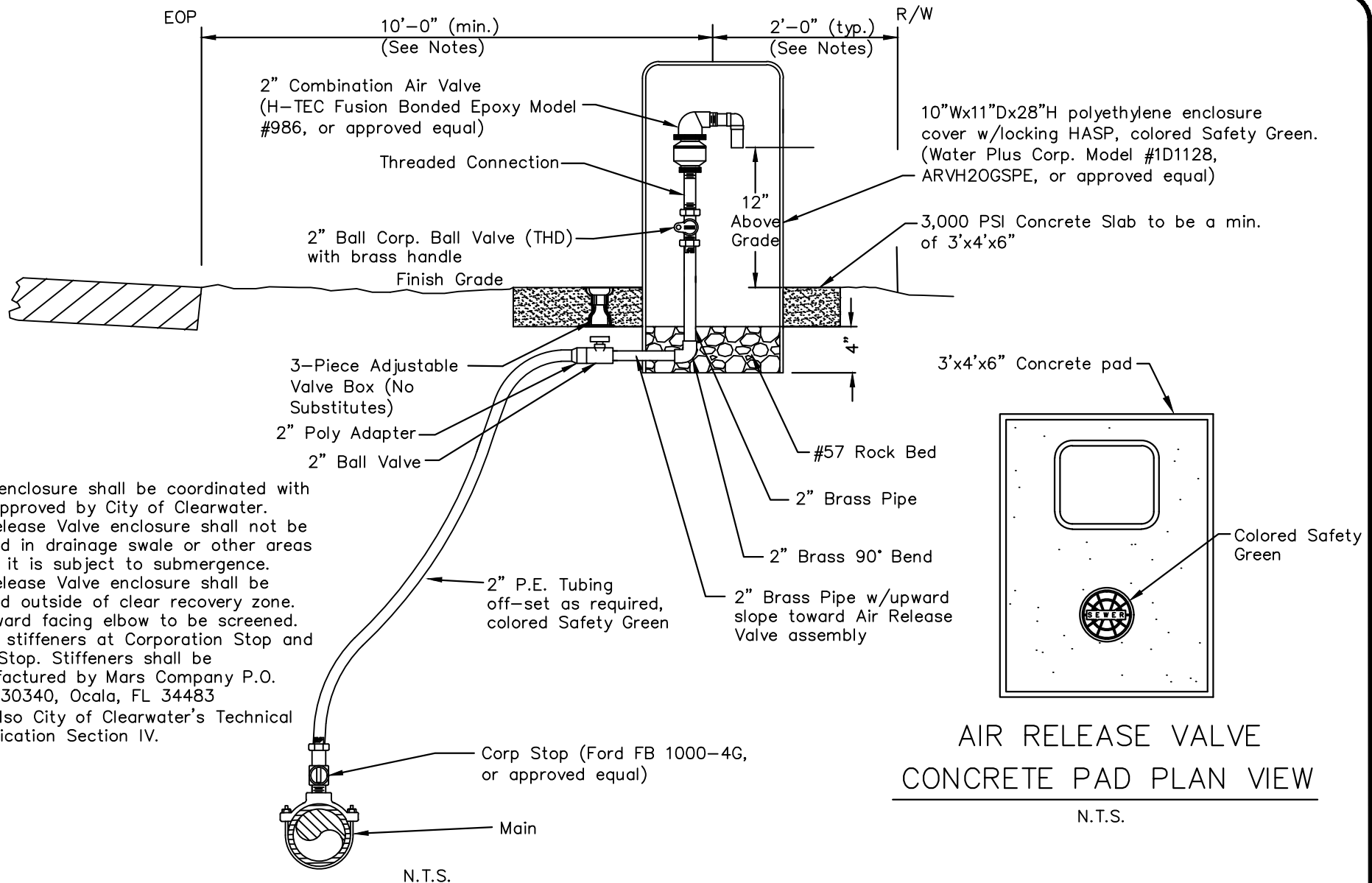
1. Concrete: 4500psi at 28 day.
2. Rebar: ASTM A615 Grade 60.
3. Mesh: ASTM A815 Grade 65.
4. Design: ACI3 18-83 Building Code ASTM C857 Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
5. Loads: H-20 truck wheels w/30% impact per AASHTO.
6. Fill w/clean water prior to start up of system.
7. Gray water only, black water shall be carried by separate sewer.

5/31/11	SAMPLING CELL NOTE	R.P.
DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
SANITARY SEWER
DETAILS

GREASE INTERCEPTOR
750-1250 GALLON

INDEX NO.	PAGE NO.
307	1 OF 1
LATEST REVISION	2/22/2016



DATE	REVISION DESCRIPTION	APP

CITY OF CLEARWATER
ENGINEERING DEPARTMENT
**SANITARY SEWER
DETAILS**

**TYPICAL AIR RELEASE VALVE
SANITARY SEWER APPLICATION**

INDEX NO.	PAGE NO.
308	1 OF 1
LATEST REVISION	10/21/2019