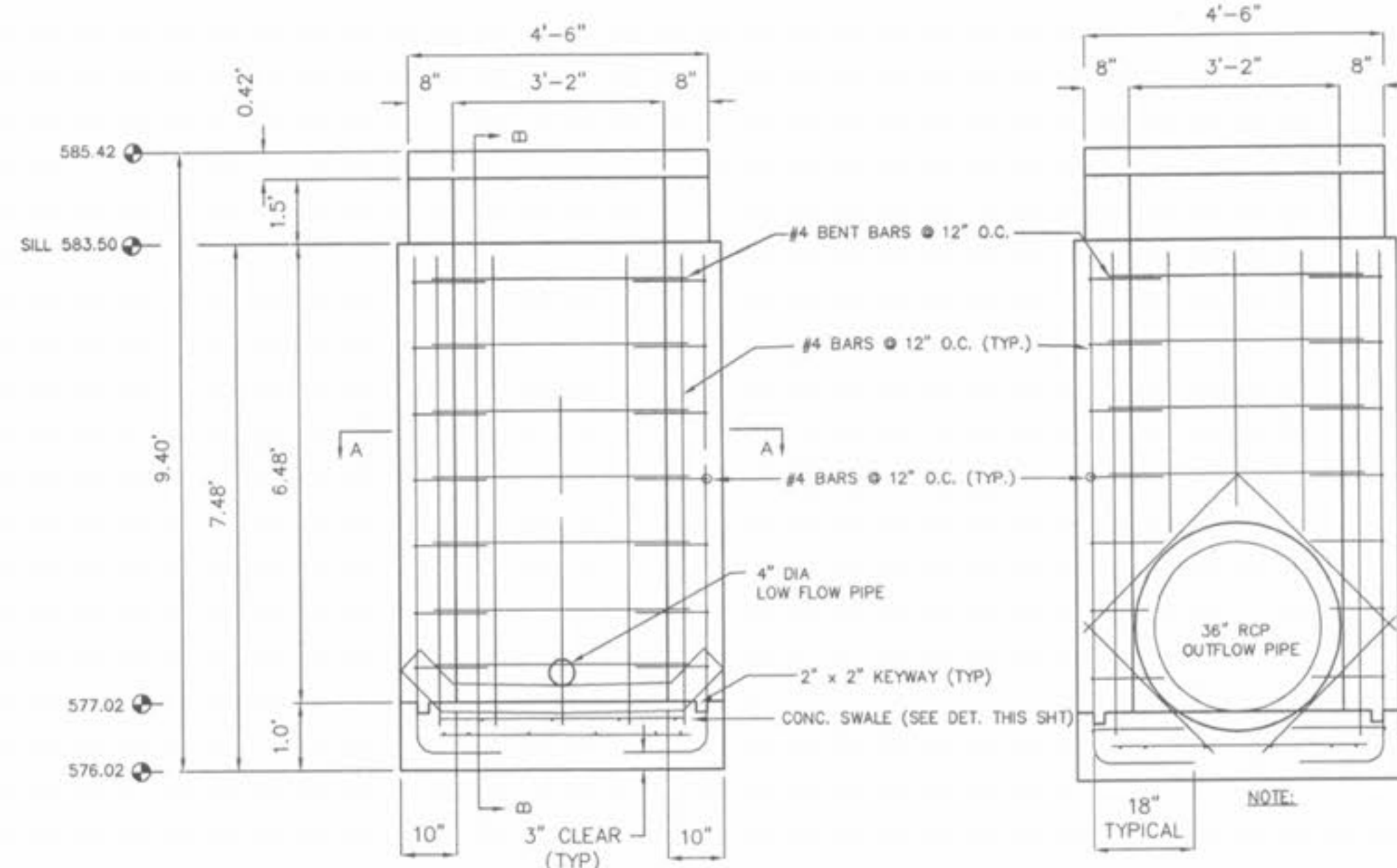


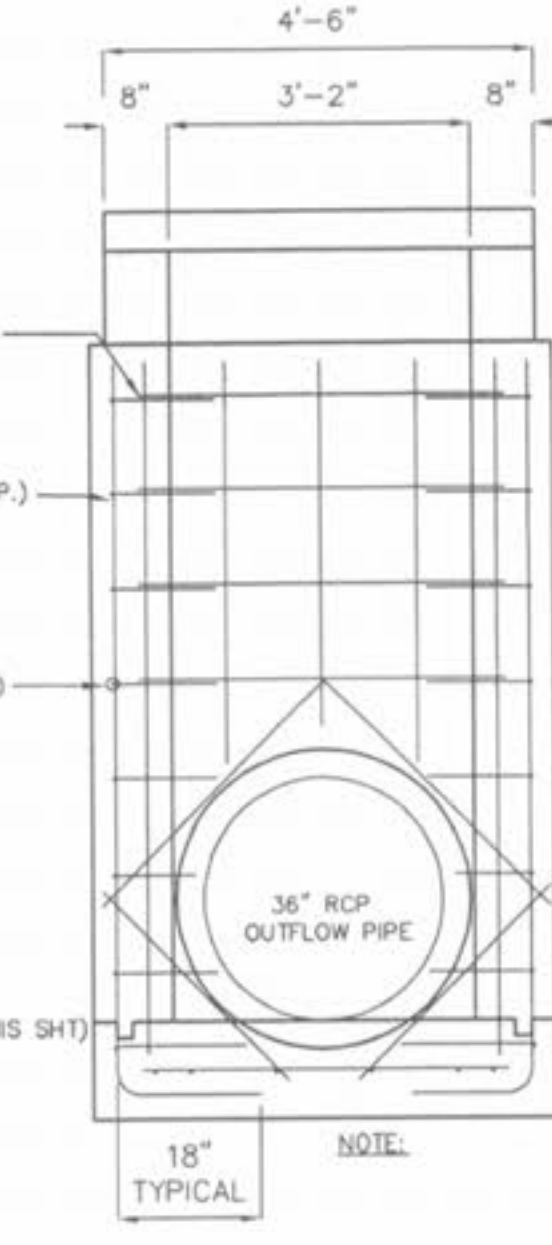
**OUTFALL STRUCTURE 62  
DRAIN DETAIL**  
N.T.S.

**OUTFALL STRUCTURE #62 & 62A**

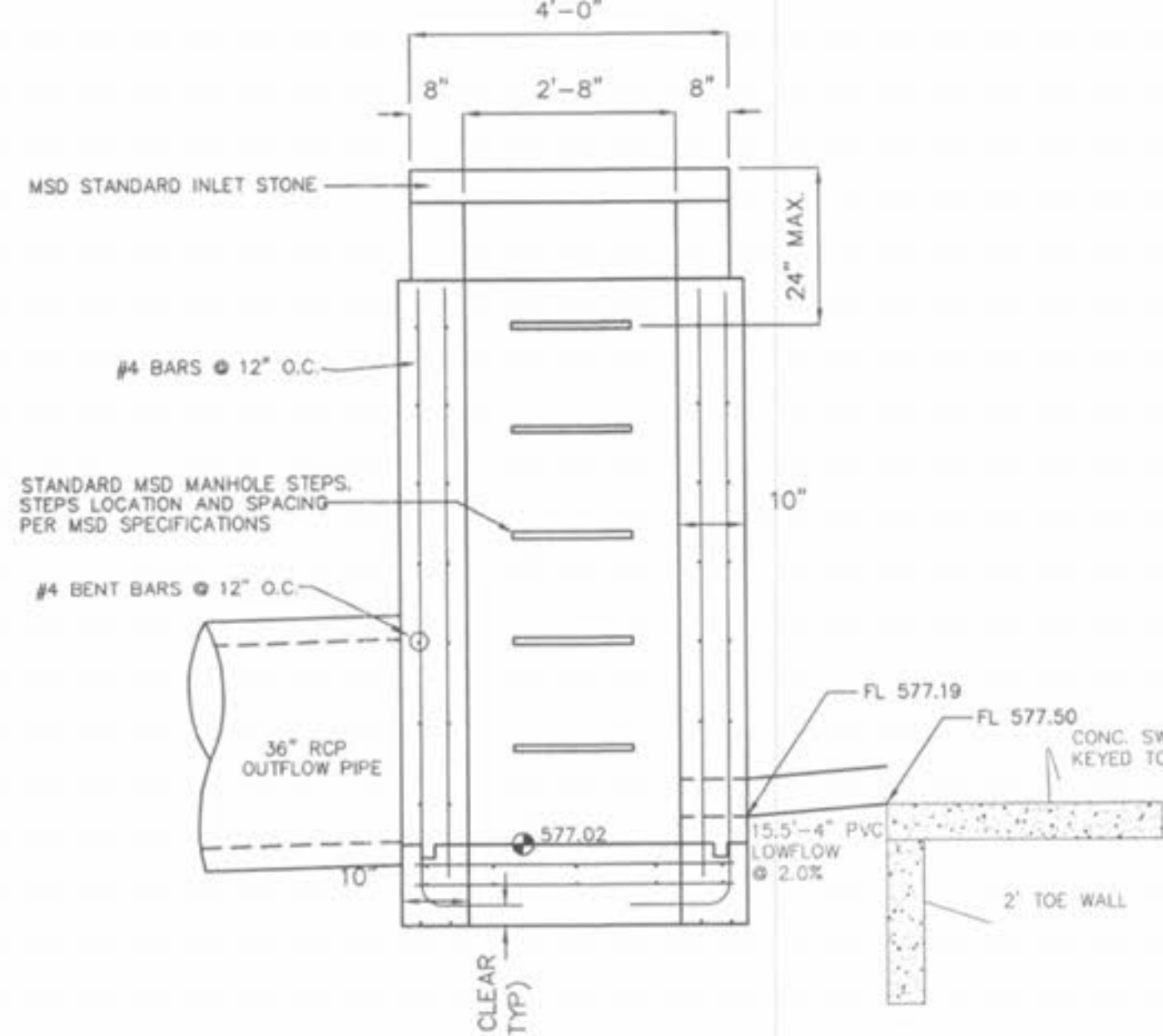
2 YEAR, 20 HOUR STORM	589.60
15 YEAR, 20 HOUR STORM	590.44
25 YEAR, 20 HOUR STORM	590.90
100 YEAR, 20 HOUR STORM	591.44
100 YEAR, 20 MIN. STORM BLOCKED LOW FLOW	= 592.39



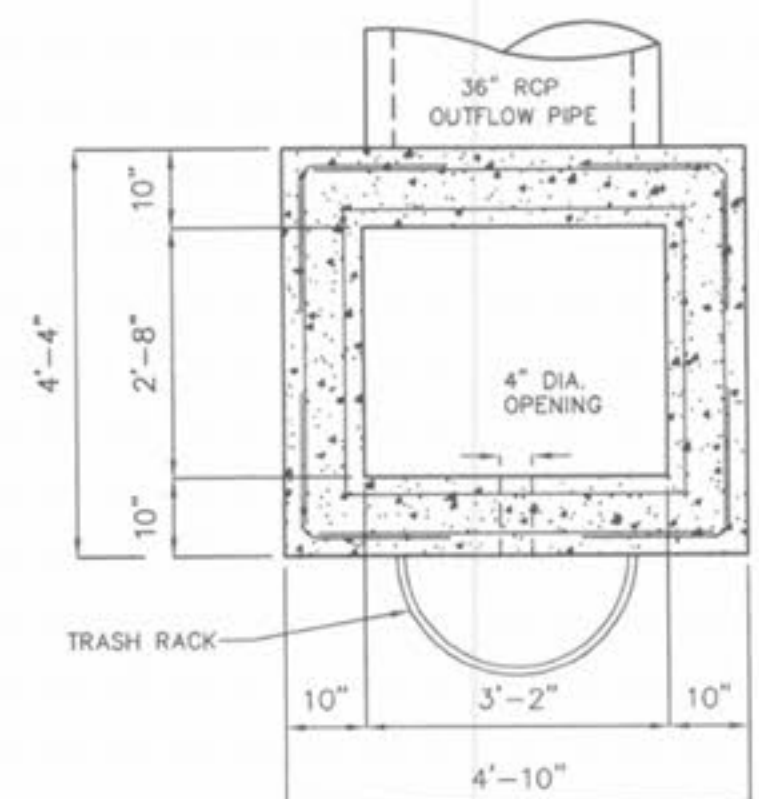
**OUTFALL STRUCTURE 23  
FRONT ELEVATION**  
N.T.S.



**OUTFALL STRUCTURE 23  
REAR ELEVATION**  
N.T.S.



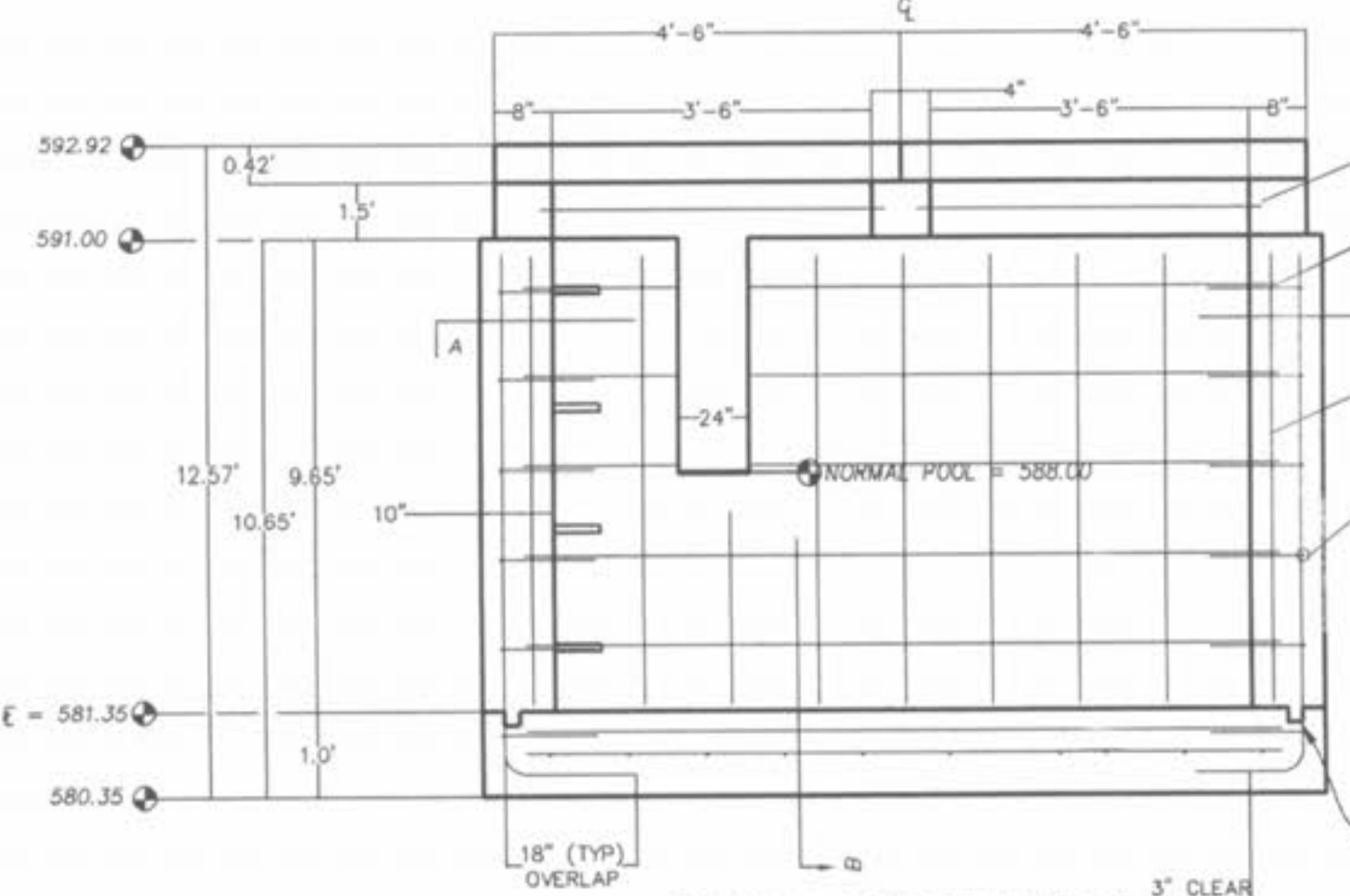
**OUTFALL STRUCTURE 23  
SECTION B-B**  
N.T.S.



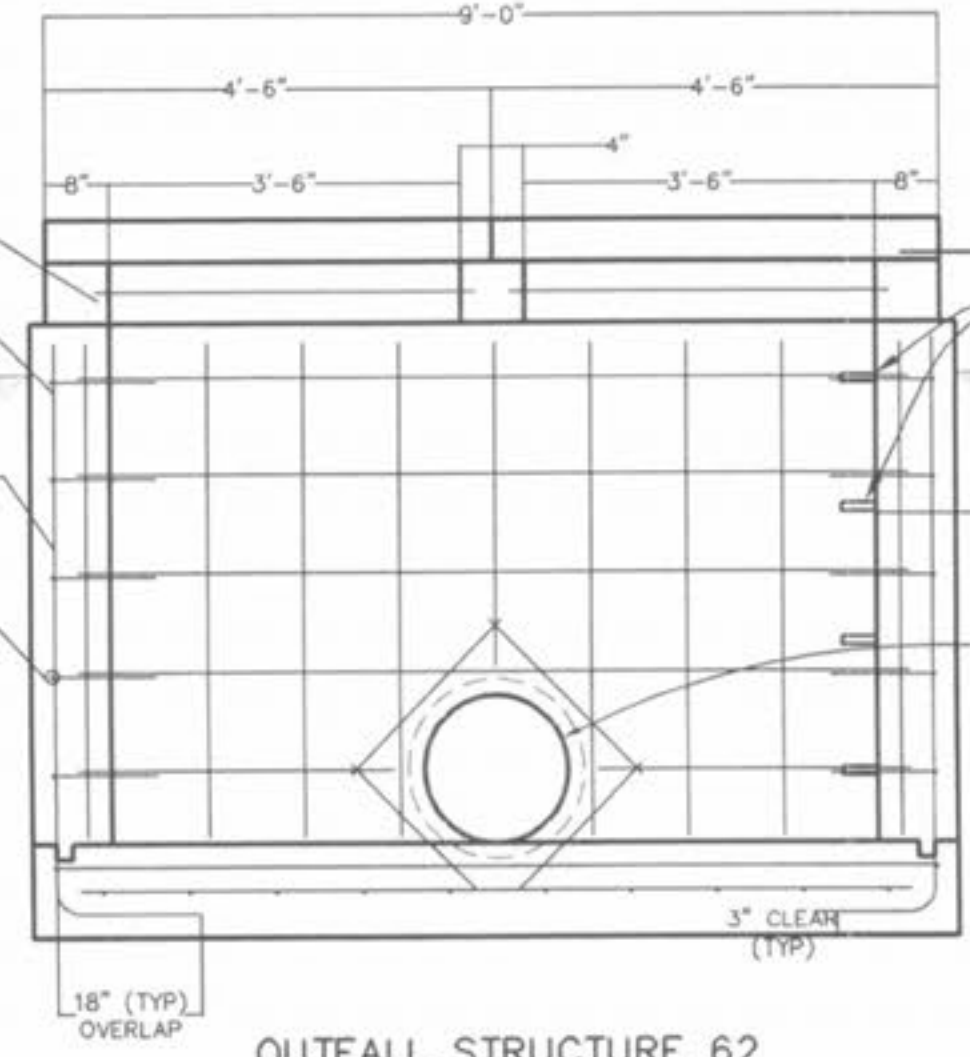
**OUTFALL STRUCTURE 23  
SECTION A-A**  
N.T.S.

**OUTFALL STRUCTURE #23**

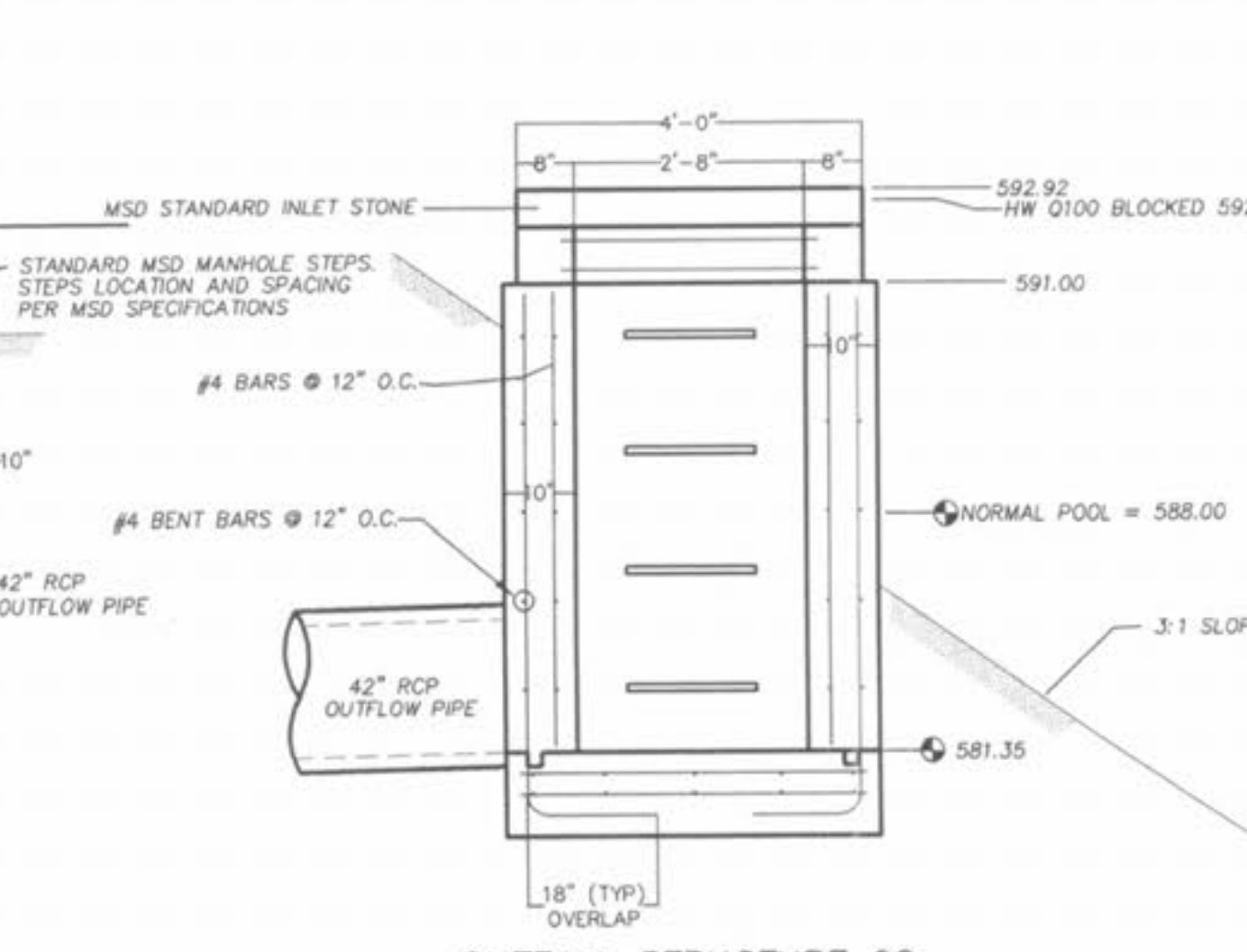
2 YEAR, 20 HOUR STORM	581.44
15 YEAR, 20 HOUR STORM	582.65
25 YEAR, 20 HOUR STORM	583.31
100 YEAR, 20 HOUR STORM	584.00
100 YEAR, 20 MIN. STORM BLOCKED LOW FLOW	= 584.64



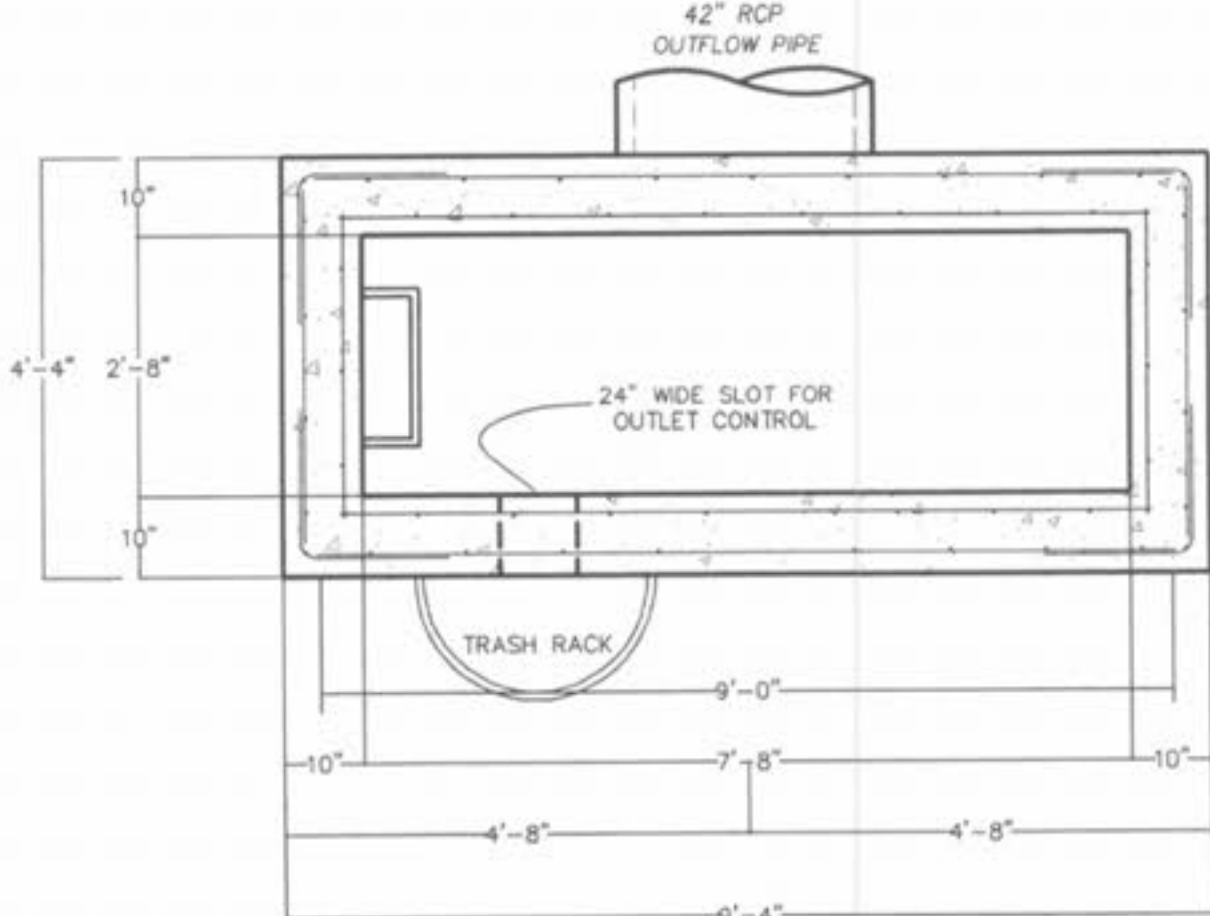
**OUTFALL STRUCTURE 62  
FRONT ELEVATION**  
N.T.S.



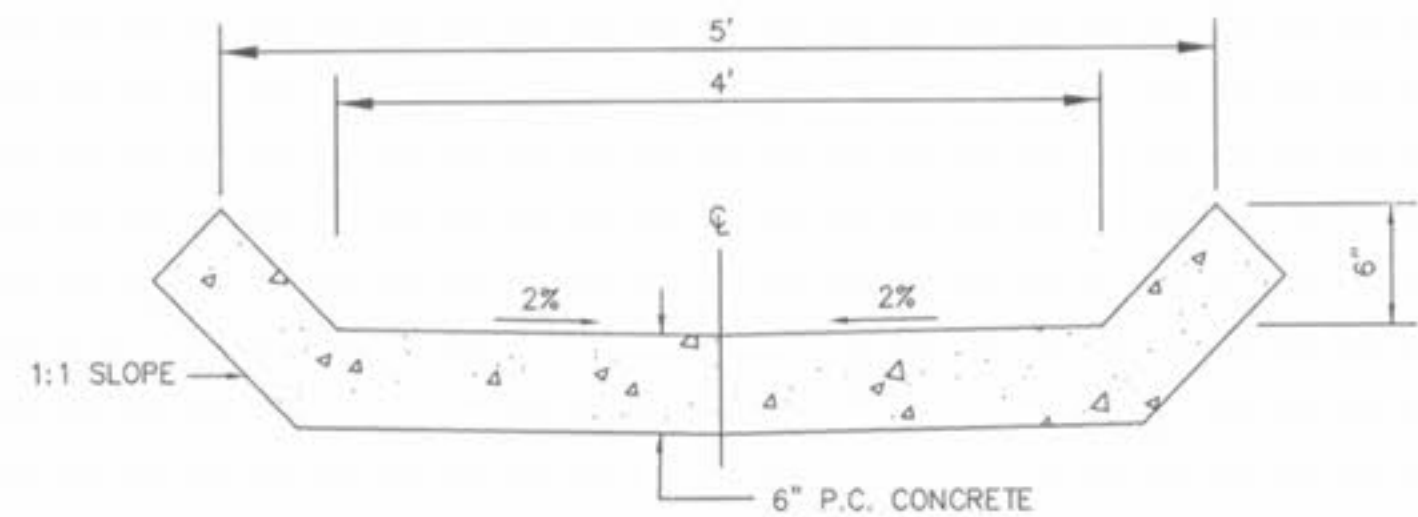
**OUTFALL STRUCTURE 62  
REAR ELEVATION**  
N.T.S.



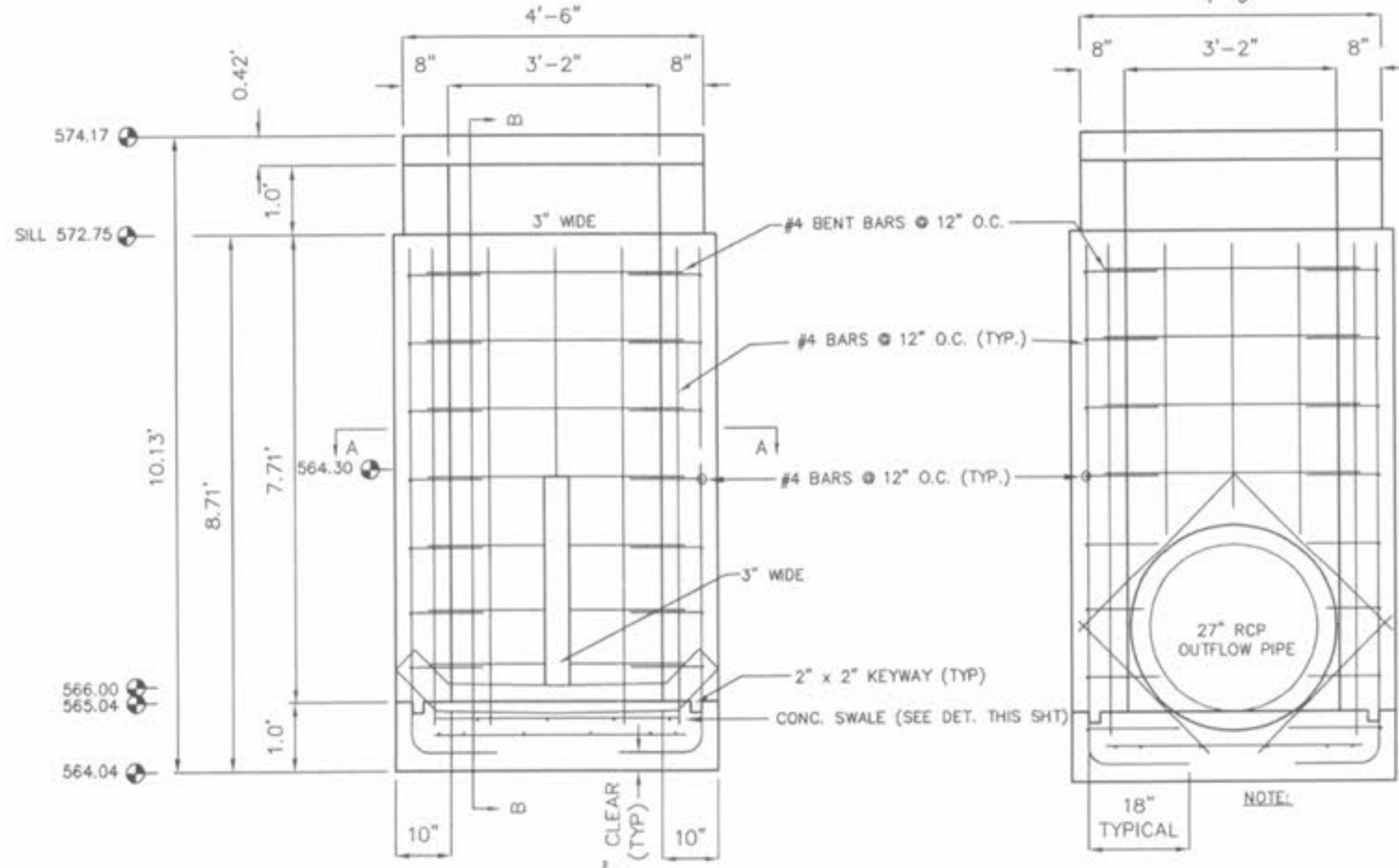
**OUTFALL STRUCTURE 62  
SECTION B-B**  
N.T.S.



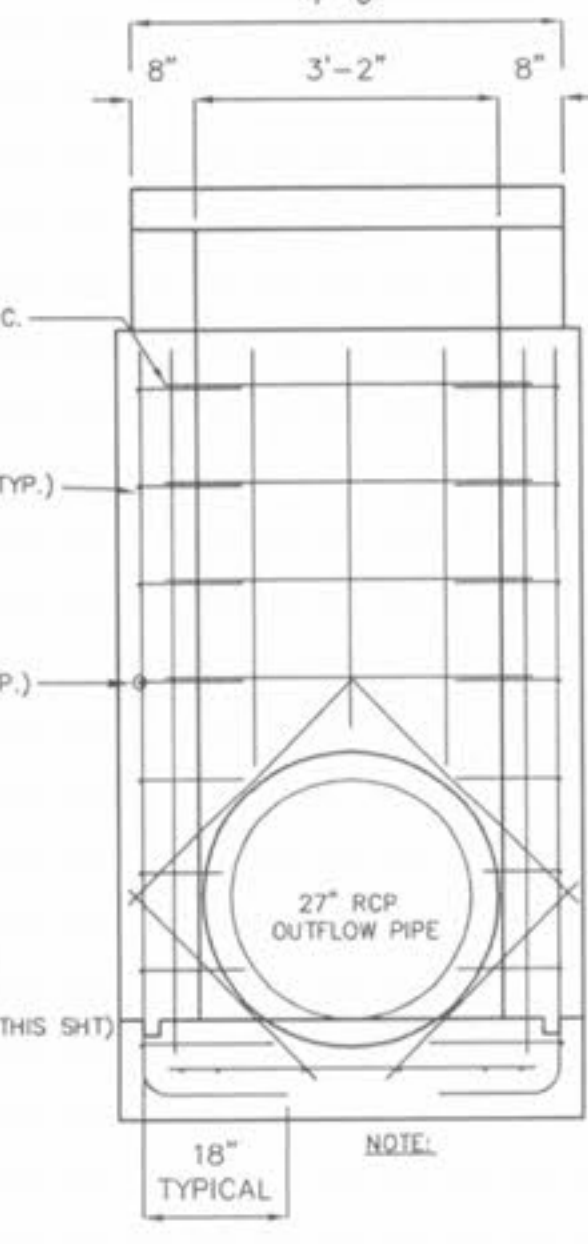
**OUTFALL STRUCTURE 62  
SECTION A-A**  
N.T.S.



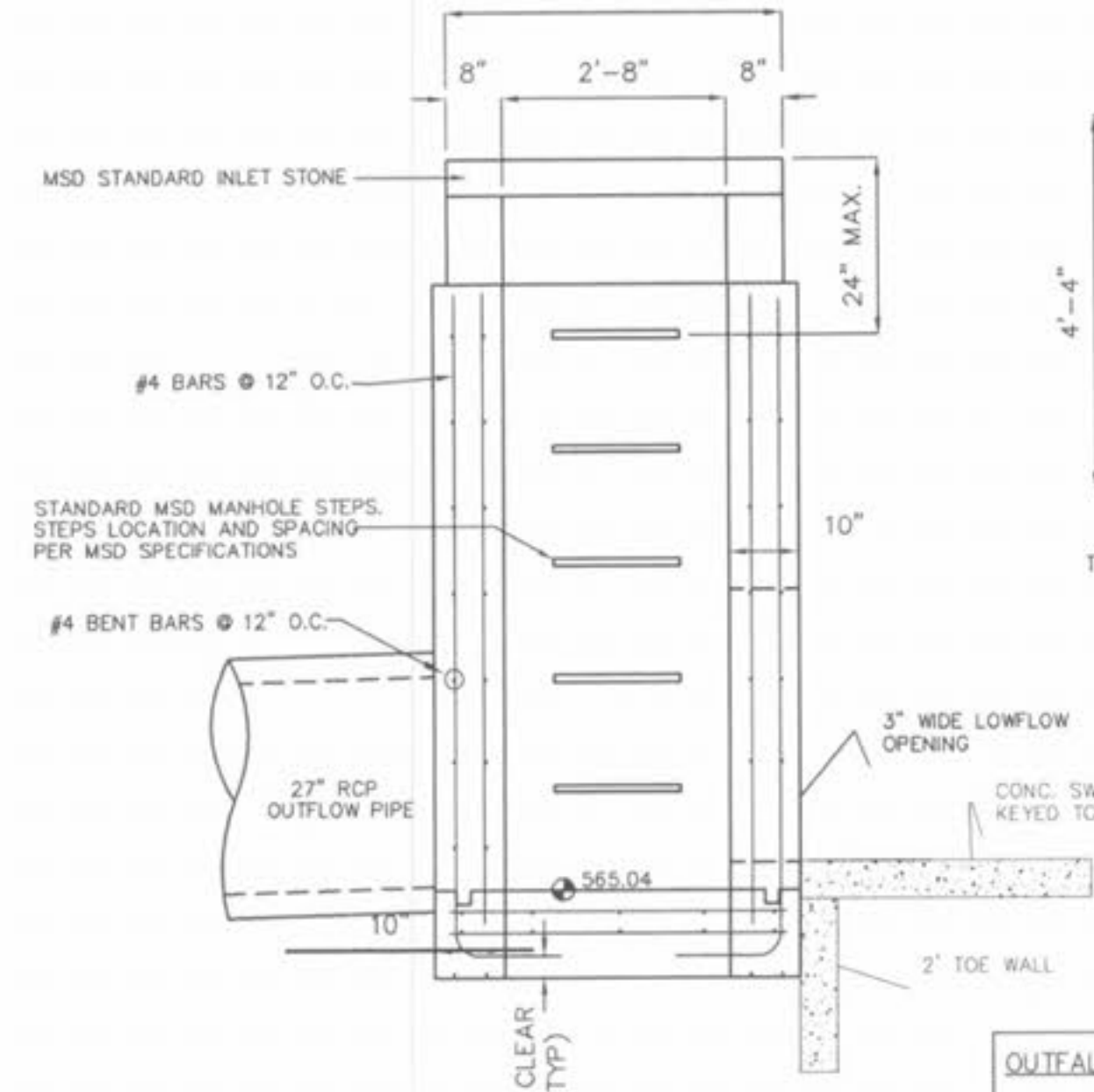
**CONCRETE SWALE DETAIL**  
N.T.S.



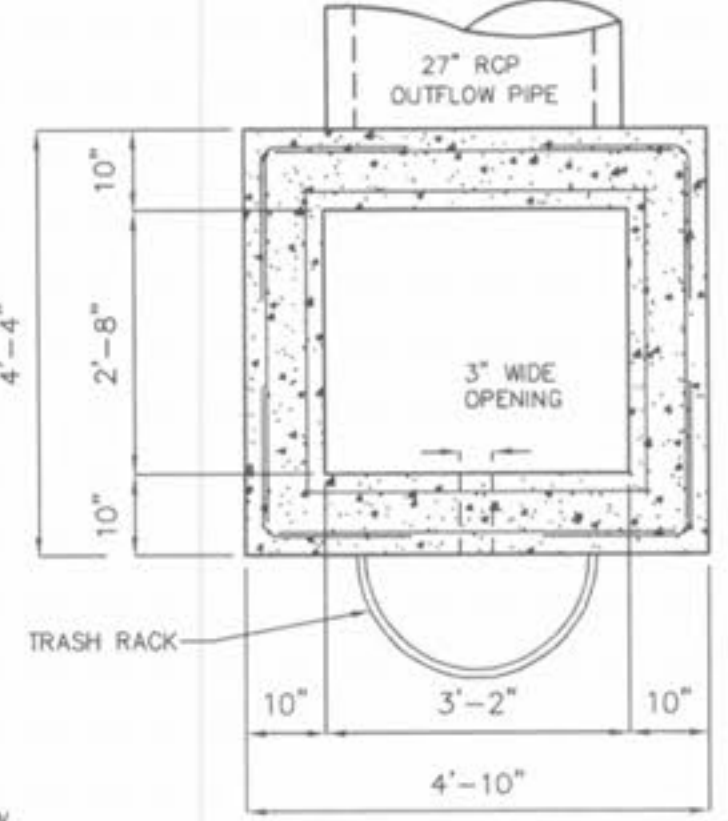
**OUTFALL STRUCTURE 208  
FRONT ELEVATION**  
N.T.S.



**OUTFALL STRUCTURE 208  
REAR ELEVATION**  
N.T.S.



**OUTFALL STRUCTURE 208  
SECTION B-B**  
N.T.S.



**OUTFALL STRUCTURE 208  
SECTION A-A**  
N.T.S.

**OUTFALL STRUCTURE #208**

2 YEAR, 20 HOUR STORM	570.61
15 YEAR, 20 HOUR STORM	572.19
25 YEAR, 20 HOUR STORM	572.93
100 YEAR, 20 HOUR STORM	573.36
100 YEAR, 100 MIN. STORM BLOCKED LOW FLOW	= 573.64

- CONSTRUCTION NOTES:**
- Concrete for the structure shall be "air entrained" and contain at least 6 sack Class "A" Portland Cement per cubic yard. The concrete shall be placed at a slump of 4 inches ± 1/2 inch. The concrete shall be proportioned and transported in accordance with ASTM C-94.
  - Reinforcing steel shall conform to ASTM C-615-60 with deformations conforming to ASTM A-305 and shall have a minimum cover of 2 inches except for 3 inches where concrete is poured against earth.
  - Laps and/or splices in reinforcing steel shall be a minimum of 30 bar diameters.
  - Keyed joints shown are to be 2-inch by 2-inch keyed construction joints.
  - F<sub>y</sub> = 60,000 psi
  - F<sub>c</sub> = 3,500 psi
  - All exposed edges are to have a 3/4-inch Chamfer.
  - Contractor to provide for bypass of stormwater during construction of structure.
  - Soil density tests shall be obtained by the soils engineer at selected intervals to insure compliance with soils specifications.
  - All soil specifications shall be directed by soils engineer.
  - 2" clear (typ) to closest rebar to concrete surface. Unless noted otherwise.

**DETAIL SHOWING REINFORCING  
AROUND OPENINGS**  
N.T.S.

**ISSUE REMARKS/DATE**

1	03-02-05	FIRST SUBMITTAL
2	04-04-05	REVISED PER DCSD COMMENTS
3	05-23-05	REVISED PER CITY OF OTTALON COMMENTS
4	06-27-05	REVISED PER DCSD COMMENTS
5	06-09-05	REVISED PER PWS&P COMMENTS
6	06-27-05	REVISED PER CITY OF OTTALON COMMENTS
7	07-14-05	REVISED PER PWS&P COMMENTS
8	08-08-05	REVISED PER CITY OF OTTALON COMMENTS

PREPARED FOR:  
**SPRINGHURST, L.L.C.**  
5091 NEW BAUMGARTNER ROAD  
ST. LOUIS, MISSOURI 63129  
(314) 487-6717



THE **STERLING** CO.  
ENGINEERS & SURVEYORS  
5065 NEW BAUMGARTNER ROAD  
ST. LOUIS, MISSOURI 63129  
(314) 487-0440 FAX 487-8944  
E-Mail: Sterling@sterling-eng-survey.com

**PROJECT:** THE VILLAGES AT SPRINGHURST

**DRAWN:** [Signature]  
**DESIGNED:** [Signature]  
**CHECKED:** [Signature]

**SHEET TITLE:** OUTFALL STRUCTURE DETAILS

NO	03	12	269
M.S.D.	SHEET		
PH	10.1		
DIGITAL FILE LOCATION	SPRINGHURST-2		
DATE	08/04/05		
OF	-		