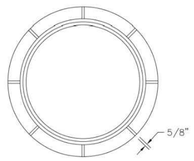
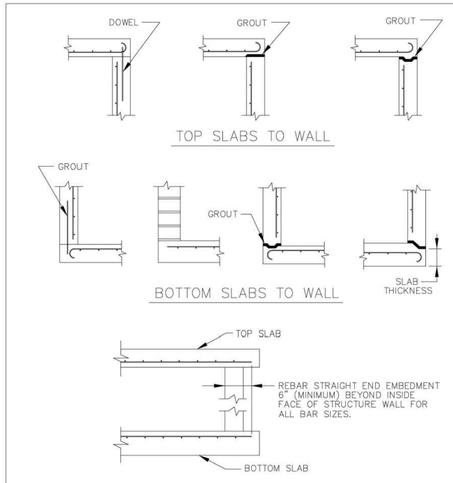


CAST IRON FRAME FOR MANHOLES

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	CAST IRON FRAME FOR MANHOLES
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 411-1

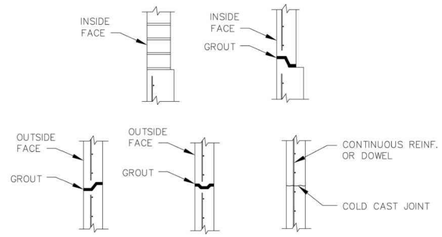


REBAR STRAIGHT END EMBEDMENT IN LIEU OF ACI STANDARD HOOKS FOR TOP AND BOTTOM SLABS

OPTIONAL CONSTRUCTION JOINTS

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	OPTIONAL CONSTRUCTIONAL JOINTS
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 412-1



WALL JOINTS

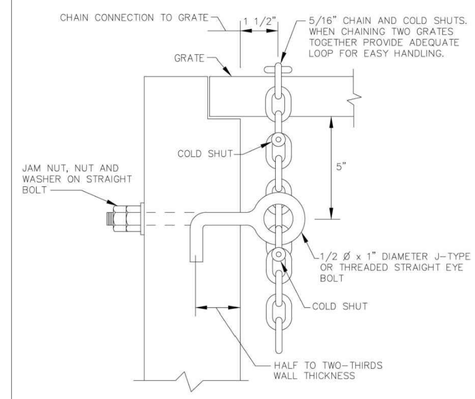
NOTES:

1. ONE OR MORE TYPES OF JOINTS MAY BE USED IN A SINGLE STRUCTURE, EXCEPT BRICK WALL STRUCTURE. BRICK WALL CONSTRUCTION IS PERMITTED ON CIRCULAR UNITS ONLY.
2. ALL GROUTED JOINTS ARE TO HAVE A MAXIMUM THICKNESS OF 1".
3. KEYWAYS ARE TO BE A MINIMUM OF 1 1/2" DEEP.
4. JOINT DOWELS ARE TO BE #4 BARS, 12" LONG WITH A MINIMUM OF 6 BARS PER CIRCULAR STRUCTURES APPROXIMATELY EVENLY SPACED, AND 2 BARS PER SIDE AT APPROXIMATE QUARTER POINTS FOR RECTANGULAR STRUCTURES.
5. MINIMUM COVER ON REINFORCING BARS IS 1 1/4".
6. REBAR STRAIGHT END EMBANKMENT MAY BE USED IN LIEU OF ACI STANDARD HOOKS FOR TOP AND BOTTOM SLABS EXCEPT WHEN HOOKS ARE SPECIFICALLY CALLED FOR IN PLANS OR STANDARD DRAWINGS.
7. JOINTS BETWEEN WALL SEGMENTS AND BETWEEN WALL SEGMENTS AND TOP OR BOTTOM SLABS MAY BE SEALED EITHER BY PREFORMED PLASTIC GASKET MATERIAL OR BY GROUT.
8. APPROVED PRODUCT INSERTS MAY BE USED IN LIEU OF DOWEL EMBEDMENT.

OPTIONAL CONSTRUCTION JOINTS

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	OPTIONAL CONSTRUCTION JOINT
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 412-2



NOTE: WHEN ALTERNATE "G" GRATE IS SPECIFIED, THE CHAIN, BOLT, NUTS, WASHER AND COLD SHUTS SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE GRATE.

COST OF EYE BOLT AND CHAIN TO BE INCLUDED IN THE CONTRACT UNIT PRICE FOR INLETS.

EYE BOLT AND CHAIN FOR LOCKING GRATES

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	EYE BOLT AND CHAIN
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 413-1

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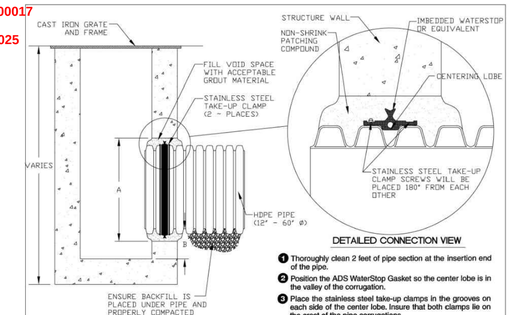


INSTALLATION RECOMMENDATIONS

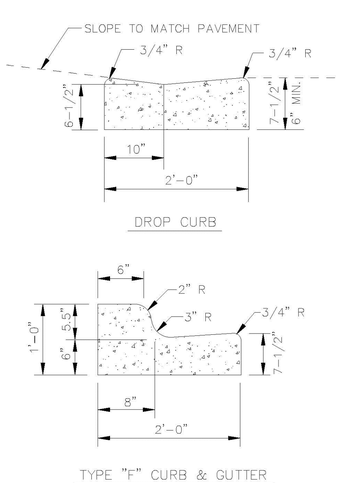
PIPE SIZE (IN)	PIPE OD (IN) A-PROFILE	PIPE OD (IN) H-PROFILE	"A" MIN. HOLE Ø	"B" MIN. DISTANCE PIPE INVERT TO STRUCUTRE INVERT (IN)
12	14.5	14.2	18"Ø	3.7
15	17.6	17.8	23.00	4.8
18	21.2	21.5	26.50	4.2
24	27.8	28.4	33.25	4.5
30	35.1	35.5	43.50	5.2
36	41.1	41.4	47.00	5.5
42	47.7	48.0	53.00	5.7
48	53.6	54.0	59.00	5.7
60	66.3	67.3	72.00	6.4

1. Thoroughly clean 2 feet of pipe section at the insertion end of the pipe.
2. Position the ADS WaterStop Gasket so the center lobe is in the valley of the corrugation.
3. Place the stainless steel take-up clamps in the grooves on each side of the center lobe. Insure that both clamps lie on the crest of the pipe corrugations.
4. Position the take-up clamp screws 180° from each other. Using a torque ratchet or torque wrench, gradually tighten both screws of each clamp to 60 lbs./inch torque. Do not overtighten. A screw driver will not tighten clamps adequately.
5. Apply a good quality concrete bonding agent to the structure opening.
6. Insert pipe into the structure opening. Make sure that the ADS WaterStop is fully within the plane of the structure's wall. **If mortaring in place,** apply and compact non-shrink grout around the ADS WaterStop and between the pipe and the opening, taking care to fill the voids. Make sure that the ADS WaterStop Gasket does not contact the bare structure walls. **If pouring in place,** use concrete of sufficient slump to permit complete flow around the pipe and ADS WaterStop. Thoroughly vibrate all around the pipe and ADS WaterStop Gasket to complete compaction and to release any trapped air.
7. Allow concrete or mortar to fully cure before testing or backfilling. If the system is to be tested, testing should be completed prior to backfilling around the structure, following all recommendations and requirements of the test system manufacturer. Plug any vent holes in the N-12 pipe prior to testing.
8. Backfill the N-12 pipe following recommendations in ADS Product Note 3.115, *Installing N-12 Storm, Sanitary Sewer and Culvert Pipe.*

WATER STOP SEAL

ENGINEERING STANDARDS 2022

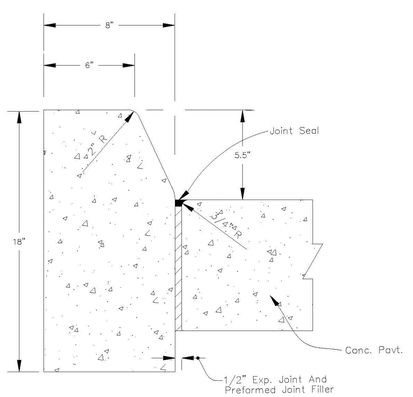
REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	WATER STOP SEAL
TCW	04-08	SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 414-1



CONCRETE CURB AND GUTTER DETAIL

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	CONCRETE CURB AND GUTTER
S.S.	07-2016	SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 300-1



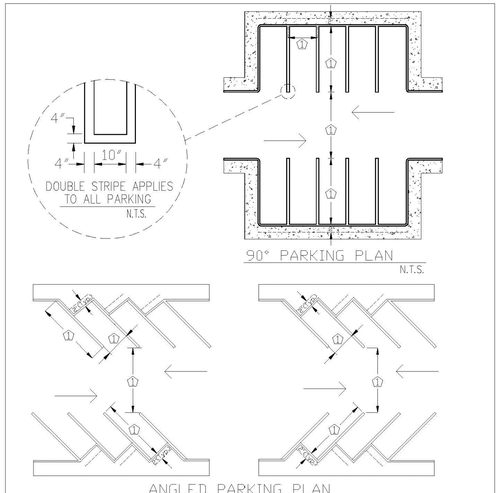
NOTE

FOR USE ADJACENT TO CONCRETE OR FLEXIBLE PAVEMENT, CONCRETE SHOWN. EXPANSION JOINT, PREFORMED JOINT FILLER AND JOINT SEAL ARE REQUIRED BETWEEN CURBS AND CONCRETE PAVEMENT ONLY.

CONCRETE CURB DETAIL

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	CONCRETE CURB
S.S.	01-2014		
S.S.	08-2015		
S.S.	07-2016	SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 300-2



NOTES

1. INDICATED DIMENSION BY LOCAL ZONING ORDINANCE.
2. CURBING APPLIES TO ALL PARKING.
3. EACH SPACE SHALL BE DESIGNATED BY FOUR 4 INCH WIDE VISIBLE STRIPING CONSISTING OF WHITE PAINT OR AS APPROVED BY THE CITY.

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	STANDARD PARKING SPACES
		SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 300-3

BY	DATE

REVISIONS
FILE NAME: 10326ENG.dwg

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING - LAND PLANNING
LANDSCAPE ARCHITECTURE - SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-1452

OAKS @ PALM AIRE
PAVING, GRADING, & DRAINAGE DETAILS
POMPANO BEACH, FLORIDA

DATE 12/27/2023
DRAWN BY RHT
F.B./ PG. N/A
SCALE N.T.S.

Digitally signed by Ryan Wheeler
Date: 2024.12.11 13:44:53 -05'00'
Adobe Acrobat version: 2024.002.20687

RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
— FOR THE FIRM —
DATE

JOB #10326
SHT.NO. PD.04
OF 7 SHEETS

Drawing: R:\10326-00-00-200 Drawings\Working\10326_DRNGTM_CURBs_DETAILS.dwg 04