

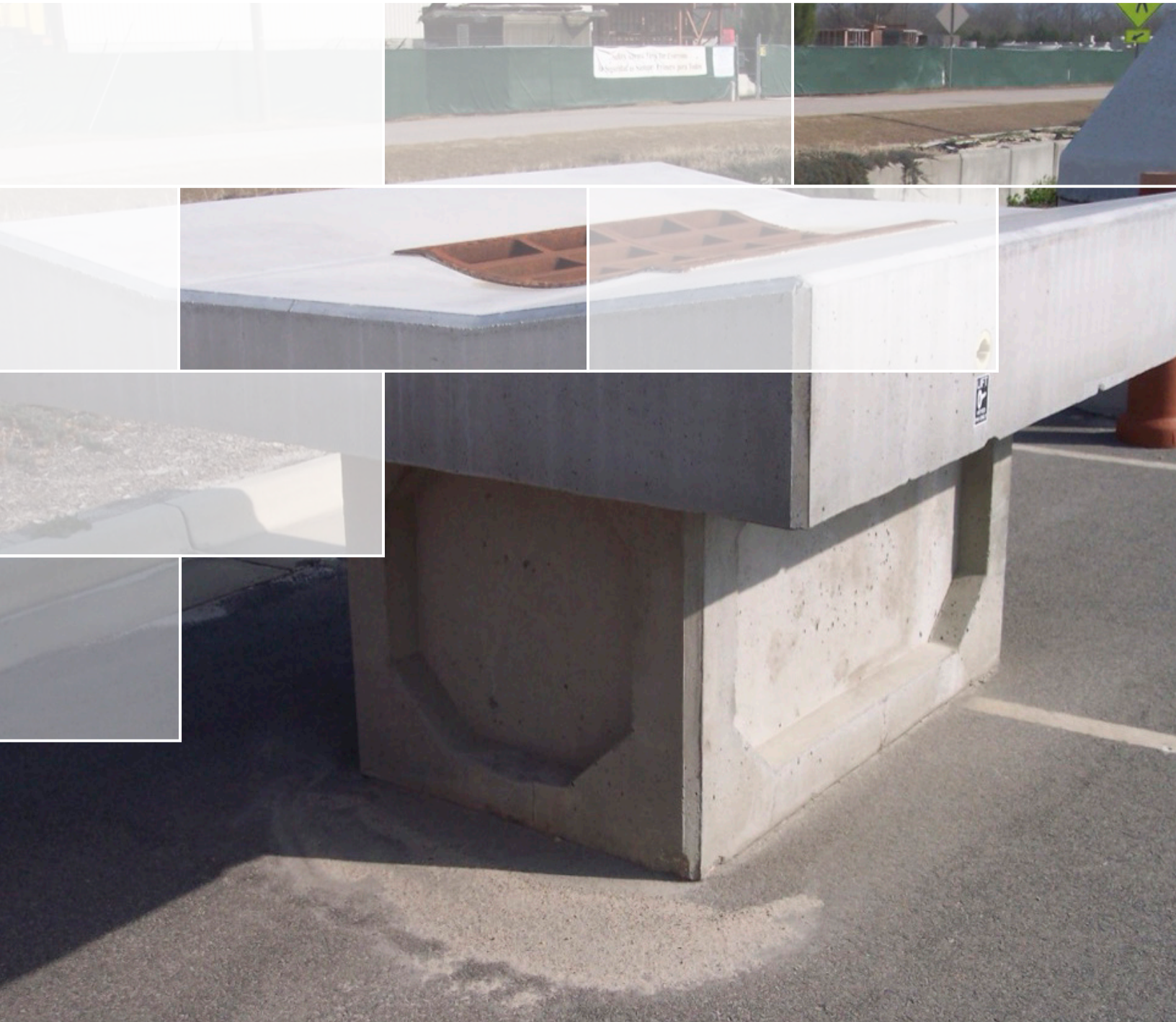


CMC PRECAST

North Carolina Storm Water

Core Product Line

CORE PRODUCTS DIVISION



OVERVIEW

Precast Drainage Inlets are typically used for storm drain systems in lieu of built in place inlets.

SIZES

Precast drainage inlets are available in many sizes from small area drains to large inlets or combination inlet / junction boxes, both in rectangular designs as well as circular structures with diameters of 36 inch through 144 inch.

APPLICATION

Precast drainage inlets may be used for the following:

- Yard Inlets
- Curb Inlets
- Catch Basins
- Traffic Areas
- Parking Lots
- Median Inlets

JOINTS

The following joints are normally available for precast drainage inlets:

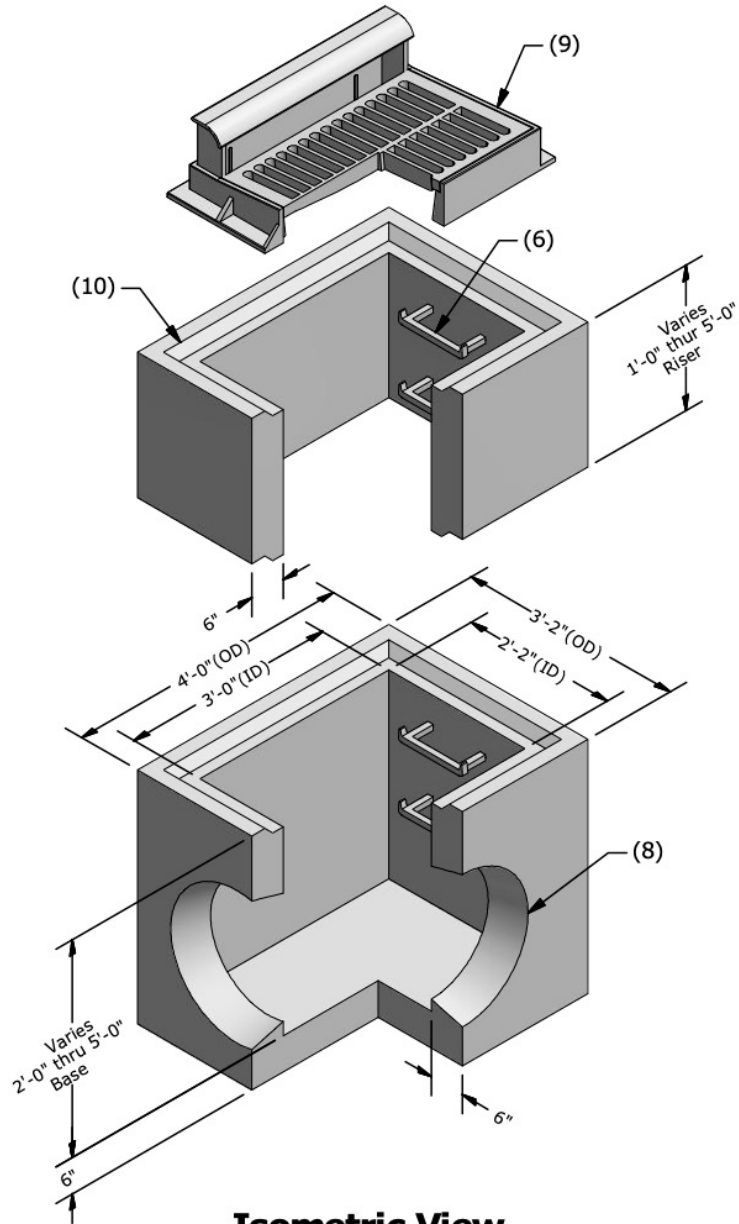
- Pre-formed mastic or butyl gasket
- Mortar joints

APPLICABLE SPECIFICATIONS

- **ASTM C478 / AASHTO M199** -Precast Reinforced Concrete Manhole Sections
- **ASTM C913** - Precast Concrete Water and Wastewater Structures
- **ASTM C990** - Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
- **North Carolina Department of Transportation standards and specifications**



**PRECAST 2'-2" X 3'-0" STANDARD CATCH
BASIN NCDOT 840.02**

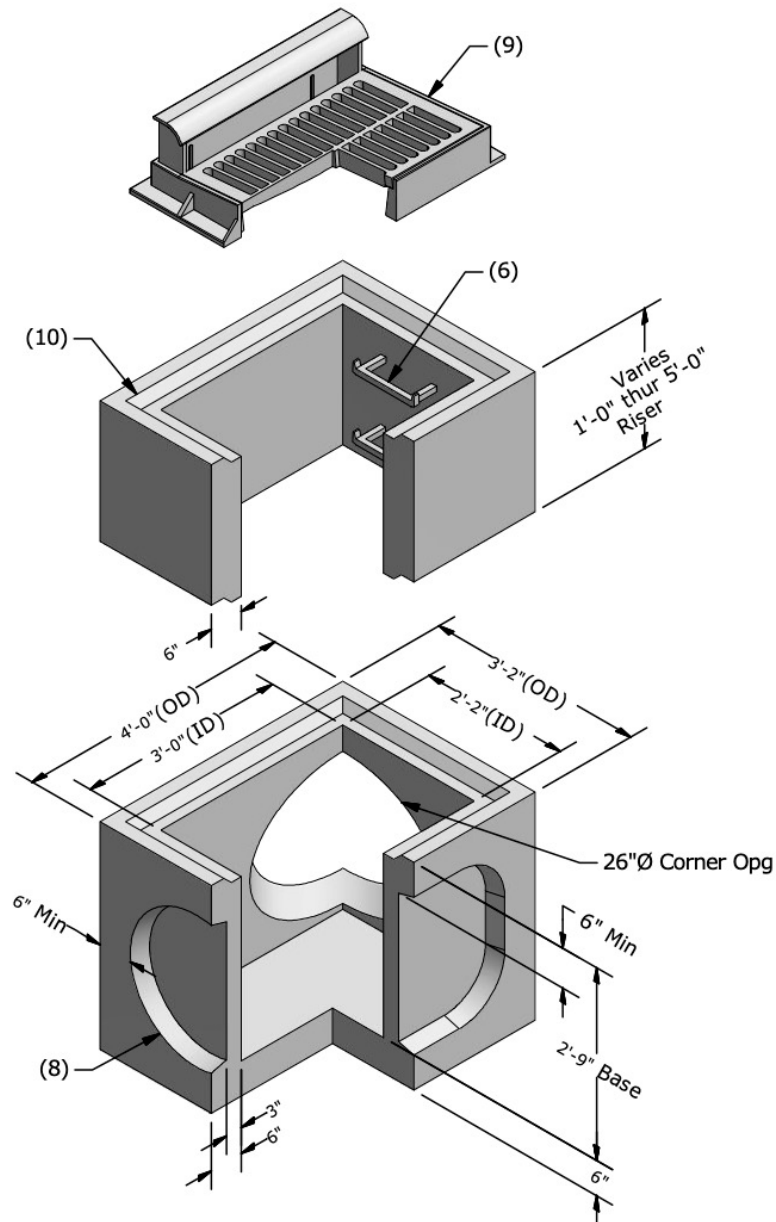


Isometric View

NOTES

1. Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
4. Additional reinforcing at opening.
5. Designed for 1120'44' loading.
6. Steps provided @ 12" spacing, aligned vertically for structures over 3'6" in depth.
7. Contractor to adjust to grade as required per NCDOT specifications.
8. Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
9. Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
10. Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

PRECAST 2'-2" X 3'-0" CATCH BASIN-KNOCKOUT BOX WITH CORNER OPENING NCDOT 840.45

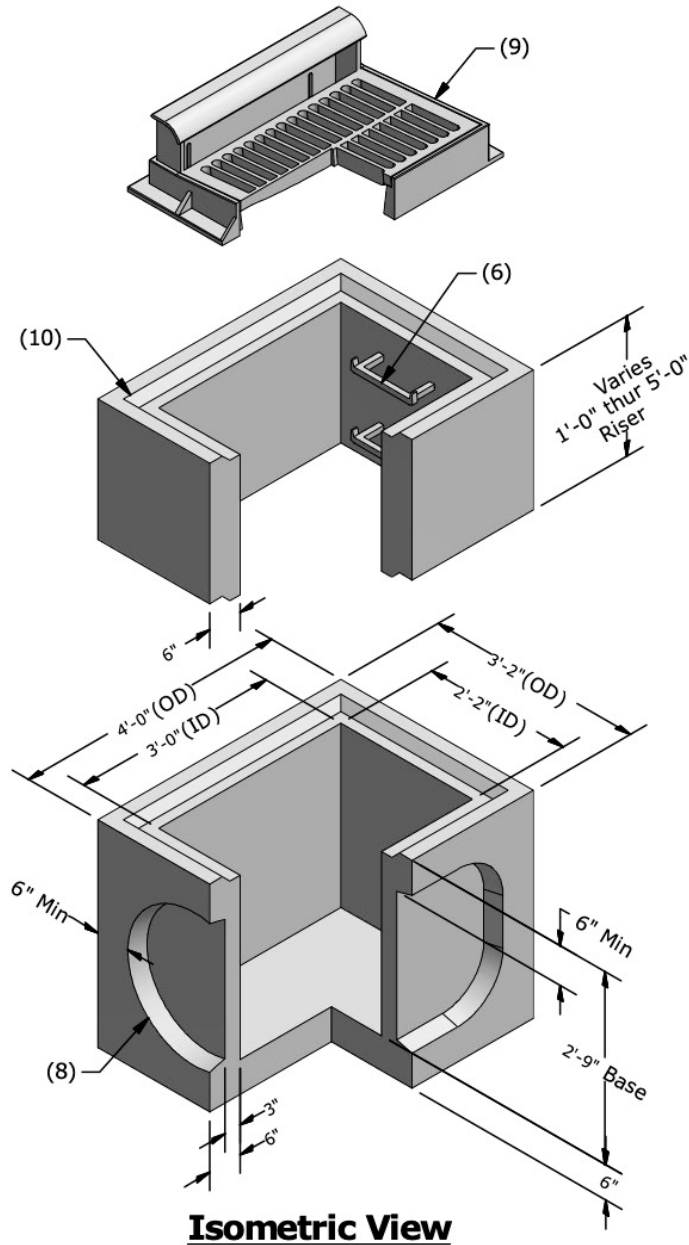


Isometric View

NOTES

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- Concrete compressive strength 4,000 psi minimum.
- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
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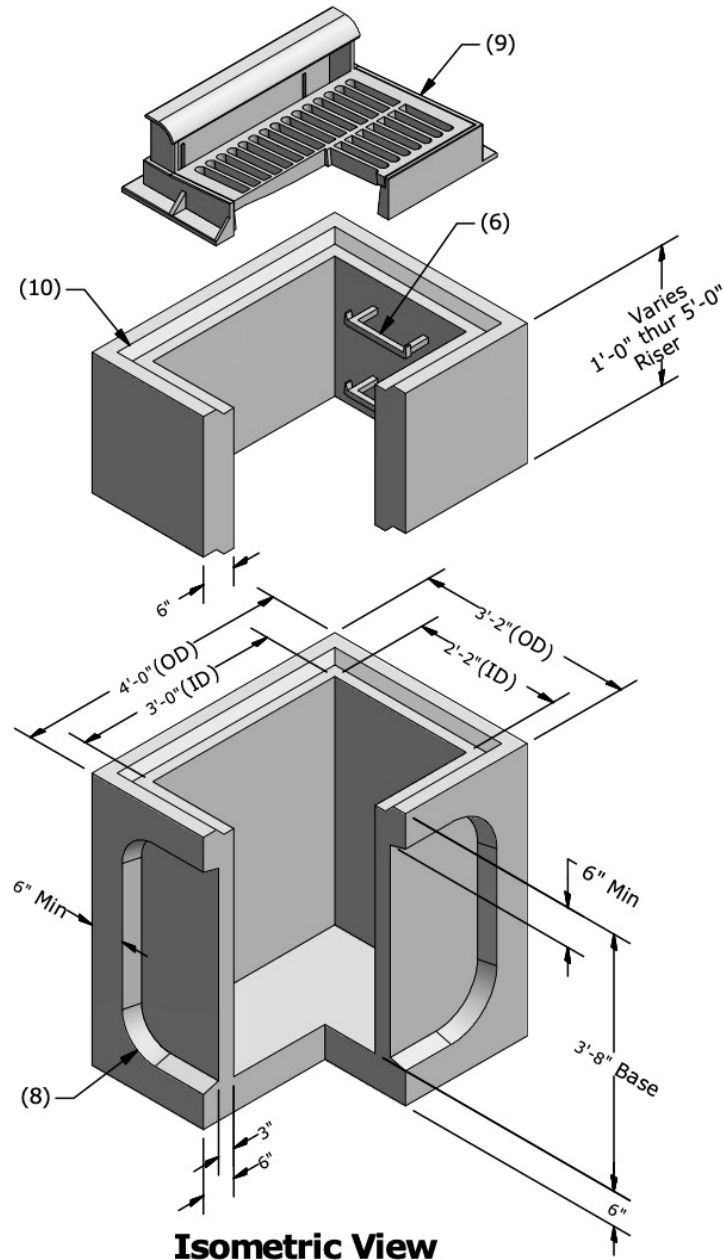
PRECAST 2'-2" X 3'-0" X 2'-9" CATCH BASIN- KNOCKOUT BOX NCDOT 840.45



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- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth. Knockout base typically without steps.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

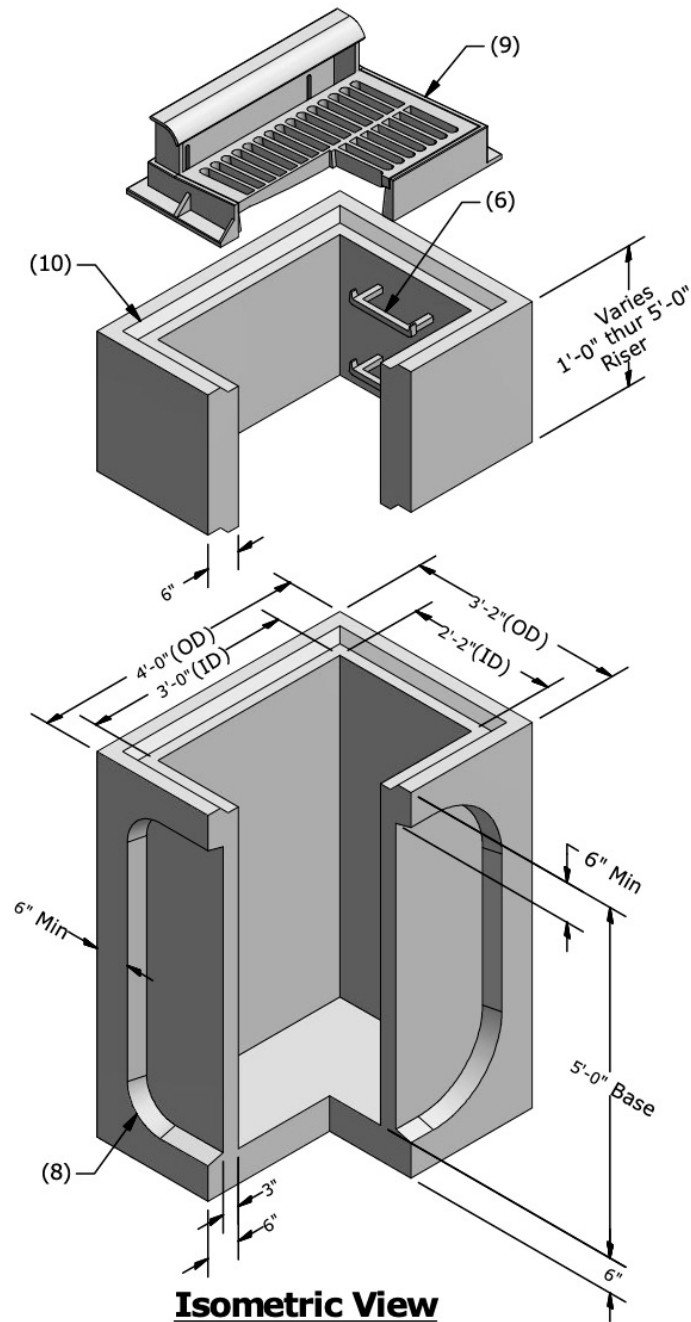
PRECAST 2'-2" X 3'-0" X 3'-8" CATCH BASIN- KNOCKOUT BOX NCDOT 840.45



NOTES

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- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth. Knockout base typically without steps.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

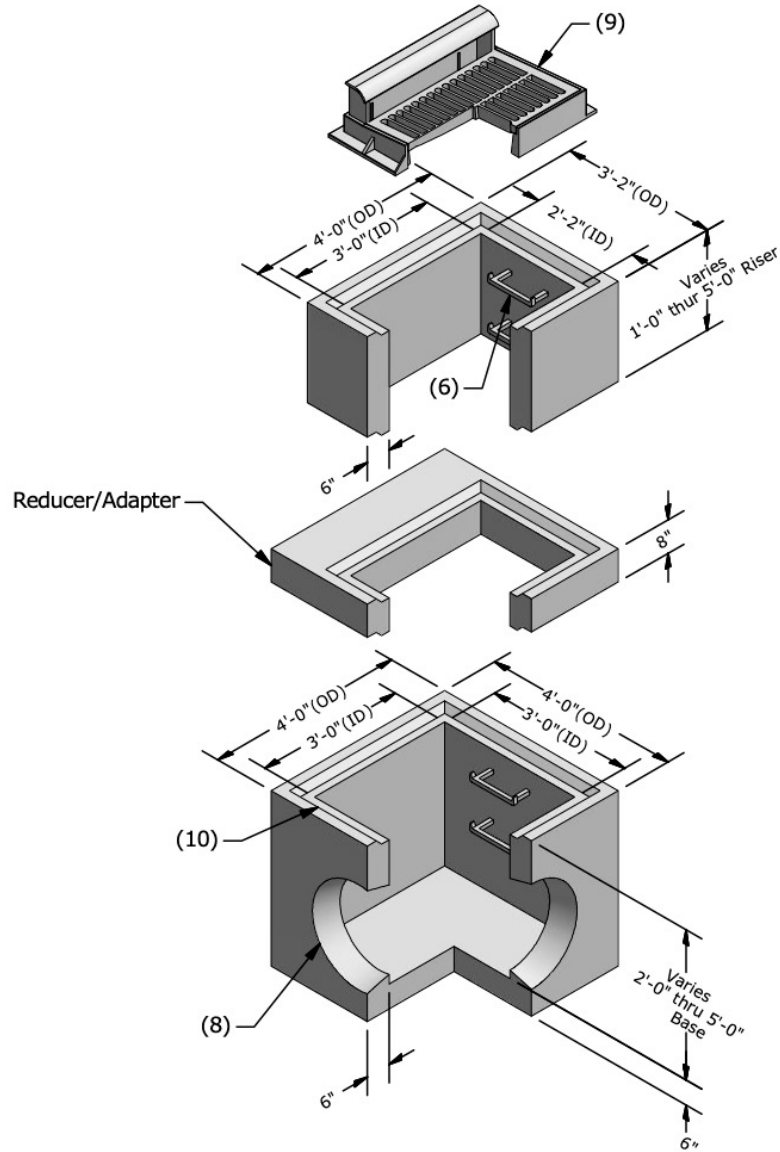
PRECAST 2'-2" X 3'-0" X 5'-0" CATCH BASIN-KNOCKOUT BOX NCDOT 840.45



NOTES

- Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
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- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
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- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

PRECAST 3'-0" X 3'-0"/2'-2" X 3'-0" STANDARD CATCH BASIN NCDOT 840.02



Isometric View

NOTES

- Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
- Concrete compressive strength 4,000 psi minimum.
- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

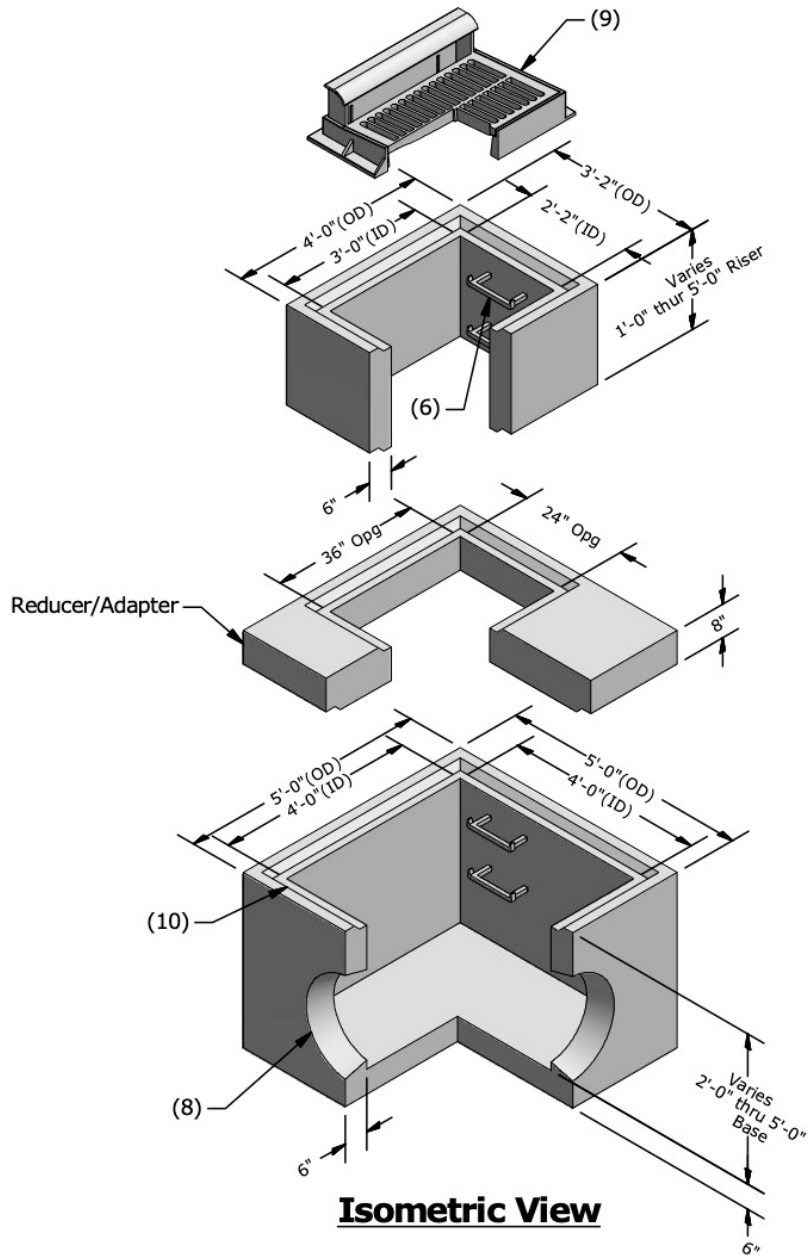
Exploded view diagram of a manhole assembly showing components (6) through (10) with dimensions and labels:

- Component (6):** A rectangular frame with dimensions 6'-0" (OD) by 5'-0" (ID). It features an "Open Throat As Required" and a riser height that "Varies 1'-0" thru 5'-0".
- Component (7):** A ring with a "Flattop As Required" and a thickness of 8".
- Component (8):** A base with a "Flattop As Required" and a thickness of 6 1/2".
- Component (9):** A circular cover with a diameter of 4'-0" and a thickness of 8".
- Component (10):** A frame with dimensions 6'-0" (OD) by 5'-0" (ID) and a base that "Varies 2'-0" thru 5'-0".

NOTES

- | NOTES | |
|-------|--|
| 1. | Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures". |
| 2. | Concrete compressive strength 4,000 psi minimum. |
| 3. | Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both. |
| 4. | Additional reinforcing at opening. |
| 5. | Designed for H-20-44 loading. |
| 6. | Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth. |
| 7. | Contractor to adjust to grade as required per NCDOT specifications. |
| 8. | Pipe to be installed by contractor as per NCDOT specifications for grout joint connections. |
| 9. | Ring and cover to be as per NCDOT standards 840.54, supplied by CP&P or customer, installed by contractor. |
| 10. | Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements. |

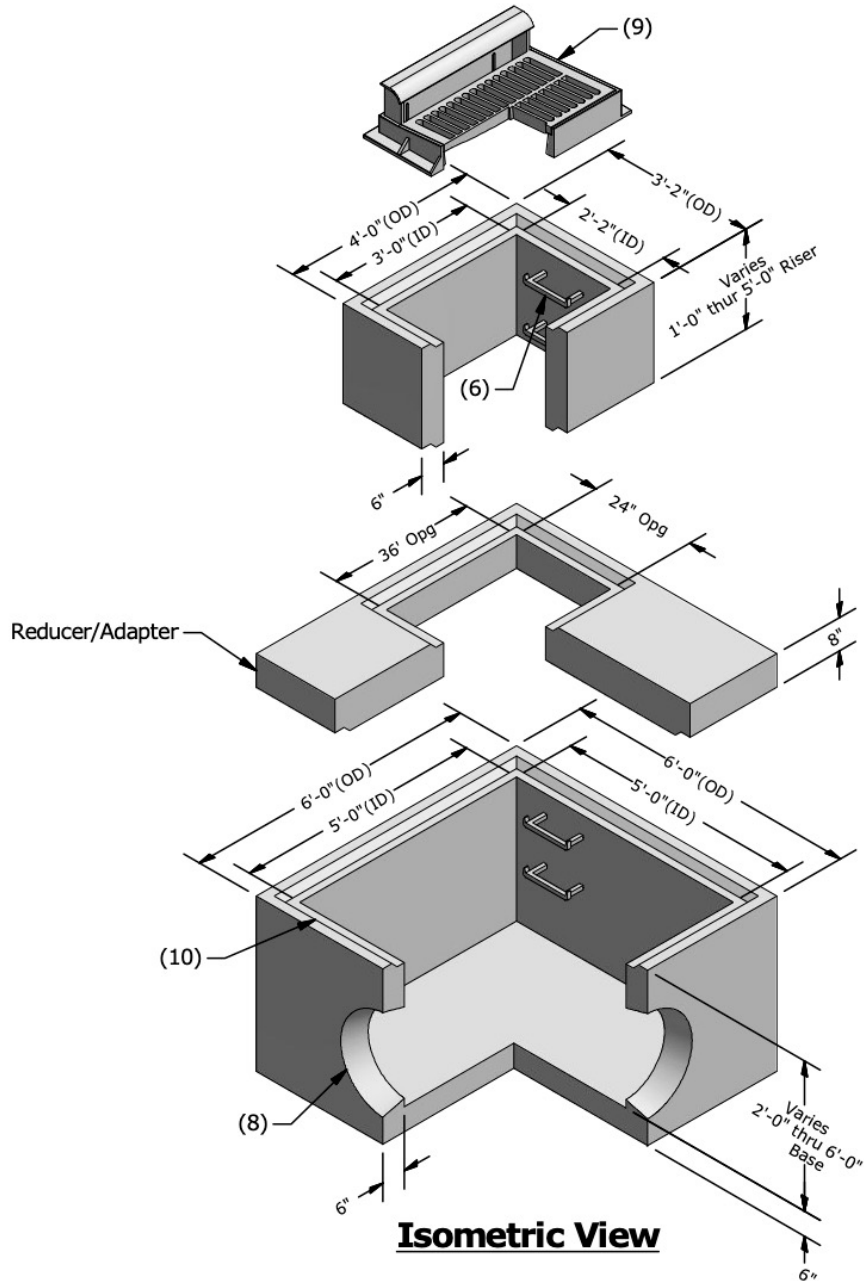
PRECAST 4'-0" X 4'-0"/2'-2" X 3'-0" STANDARD CATCH BASIN NCDOT 840.02



NOTES

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- Concrete compressive strength 4,000 psi minimum.
- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
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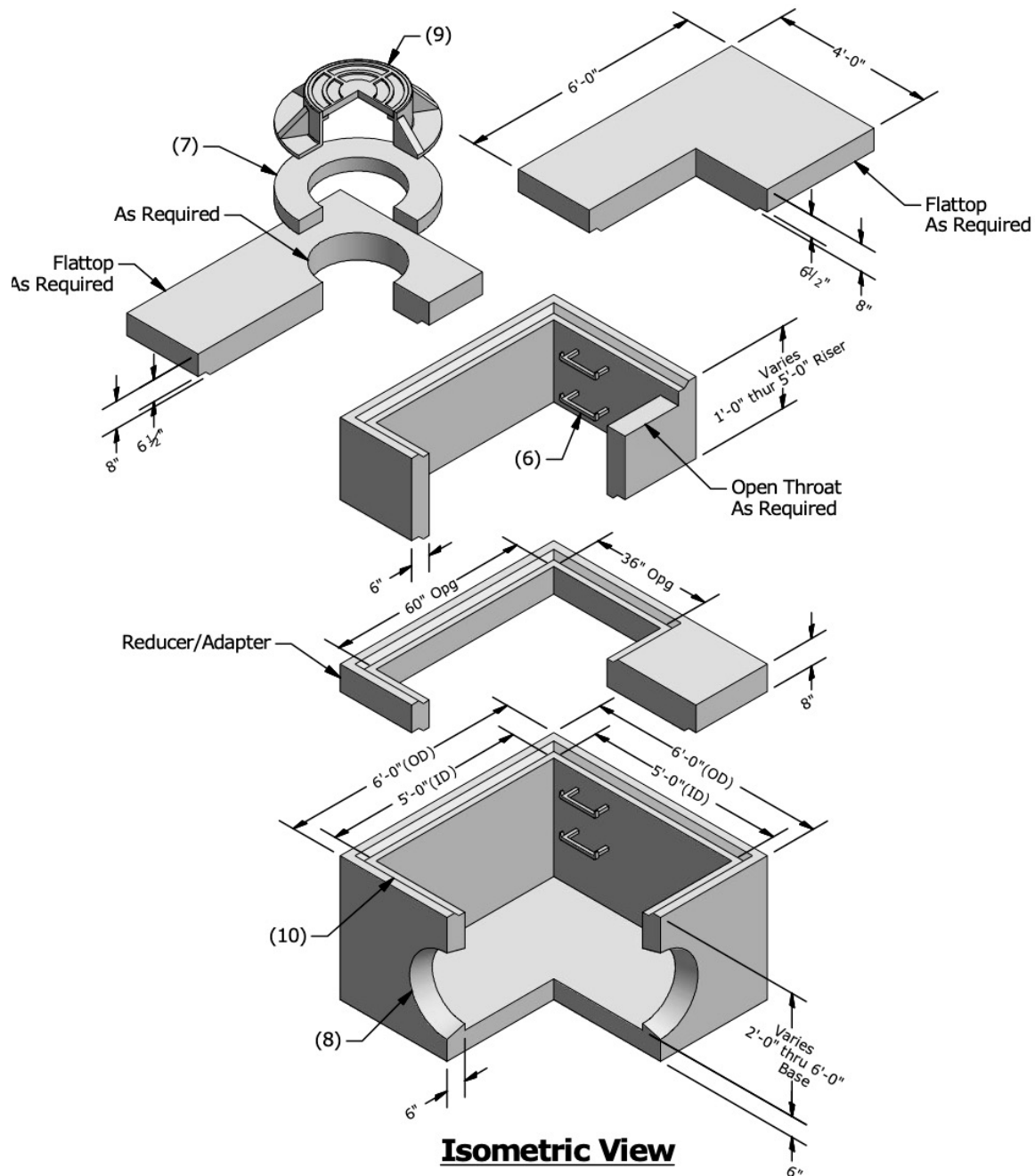
PRECAST X 5'-0" X 5'-0"/2'-2" X 3'-0" STANDARD CATCH BASIN NCDOT 840.04



NOTES

- Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
- Concrete compressive strength 4,000 psi minimum.
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- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

PRECAST 5'-0" X 5'-0"/3'-0" X 5'-0" THROAT CATCH BASIN NCDOT 840.04

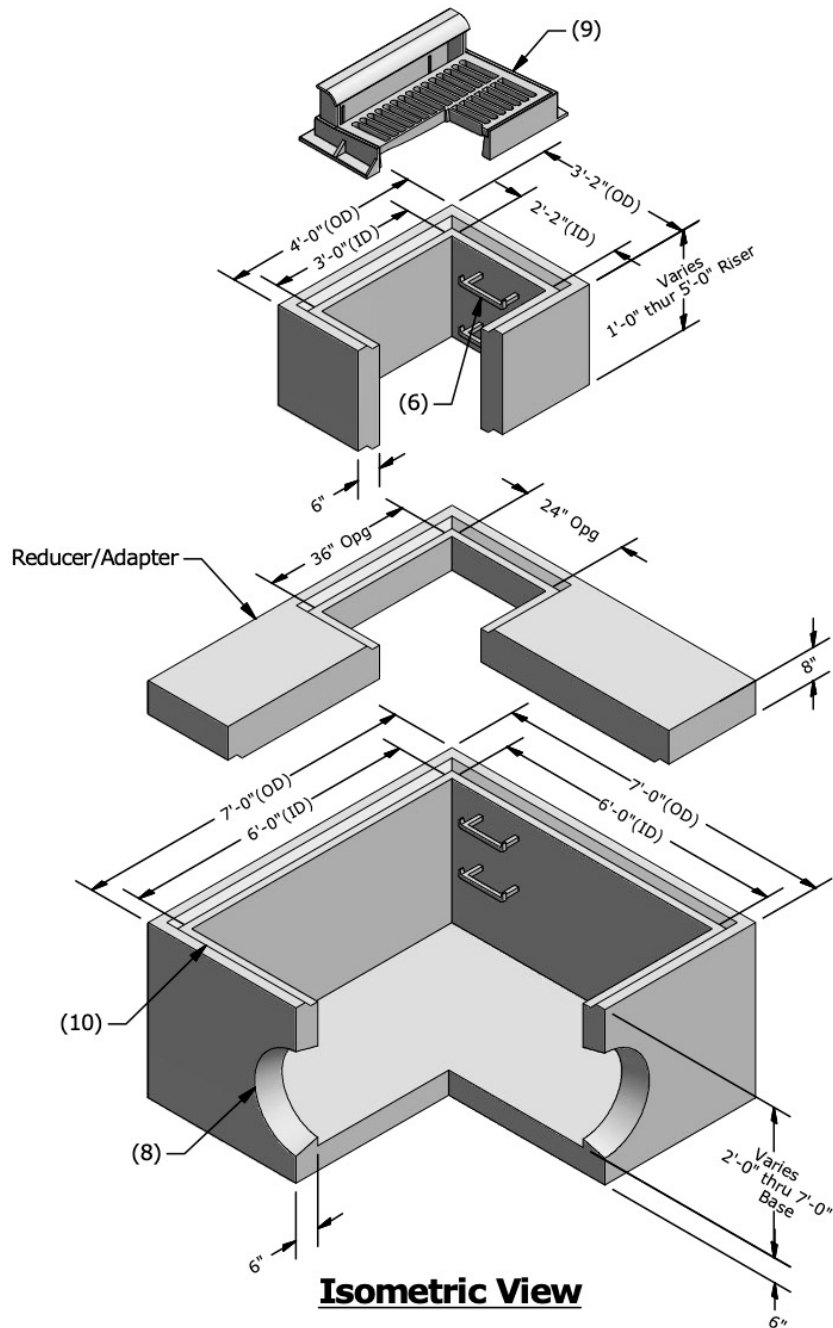


Isometric View

NOTES

- Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
- Concrete compressive strength 4,000 psi minimum.
- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Ring and Cover to be as per NCDOT standards 840.54, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

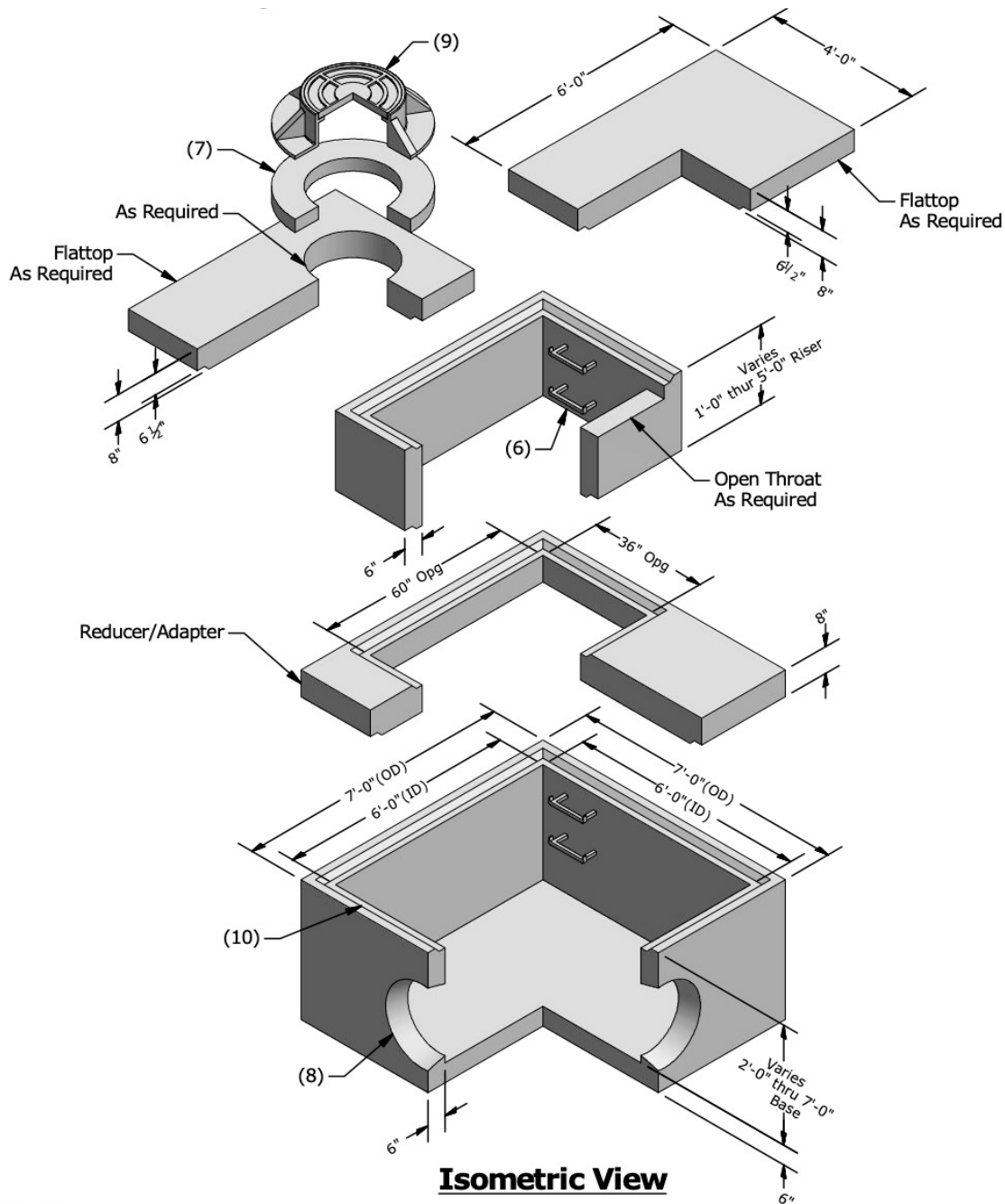
PRECAST X 6'-0" X 6'-0"/2'-2" X 3'-0" STANDARD CATCH BASIN NCDOT 840.02



NOTES

- Design Specifications per current ASTM C913 standards for "Precast Concrete Water and Wastewater Structures".
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- Steel reinforcing design to conform to the requirements of ASTM C890 and shall utilize grade 60 re-bar conforming to the requirements of ASTM A615 or WWR conforming to the requirements of ASTM A185 or both.
- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Frame, grate and hood to be as per NCDOT standards 840.03, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

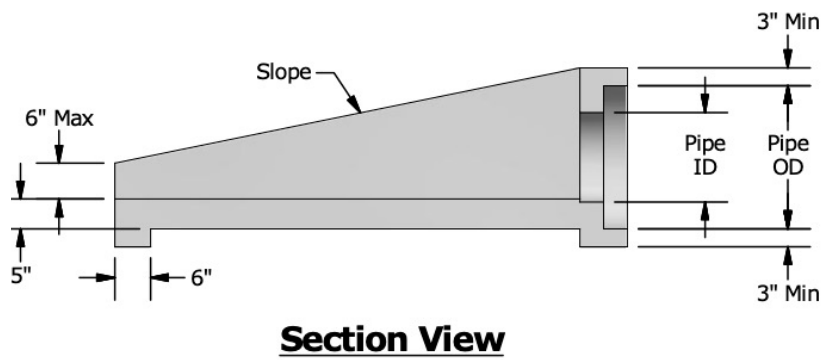
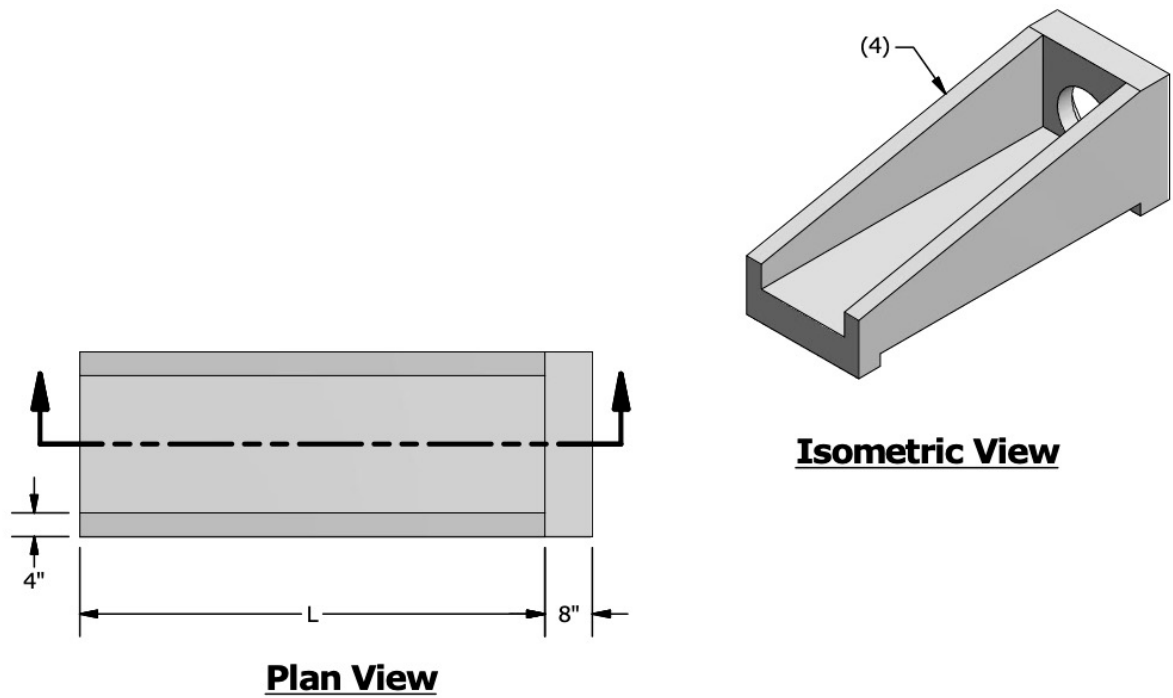
PRECAST 6'-0" X 6'-0"/3'-0" X 5'-0" OPEN THROAT CATCH BASIN NCDOT 840.04



NOTES

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- Additional reinforcing at opening.
- Designed for H-20-44 loading.
- Steps provided @ 12" spacing, aligned vertically for structures over 3'-6" in depth.
- Contractor to adjust to grade as required per NCDOT specifications.
- Pipe to be installed by contractor as per NCDOT specifications for grout joint connections.
- Ring and Cover to be as per NCDOT standards 840.54, supplied by CP&P or customer, installed by contractor.
- Joints to be sealed with preformed butyl rubber joint sealant conforming to the requirements of ASTM C990, or mortar as per NCDOT requirements.

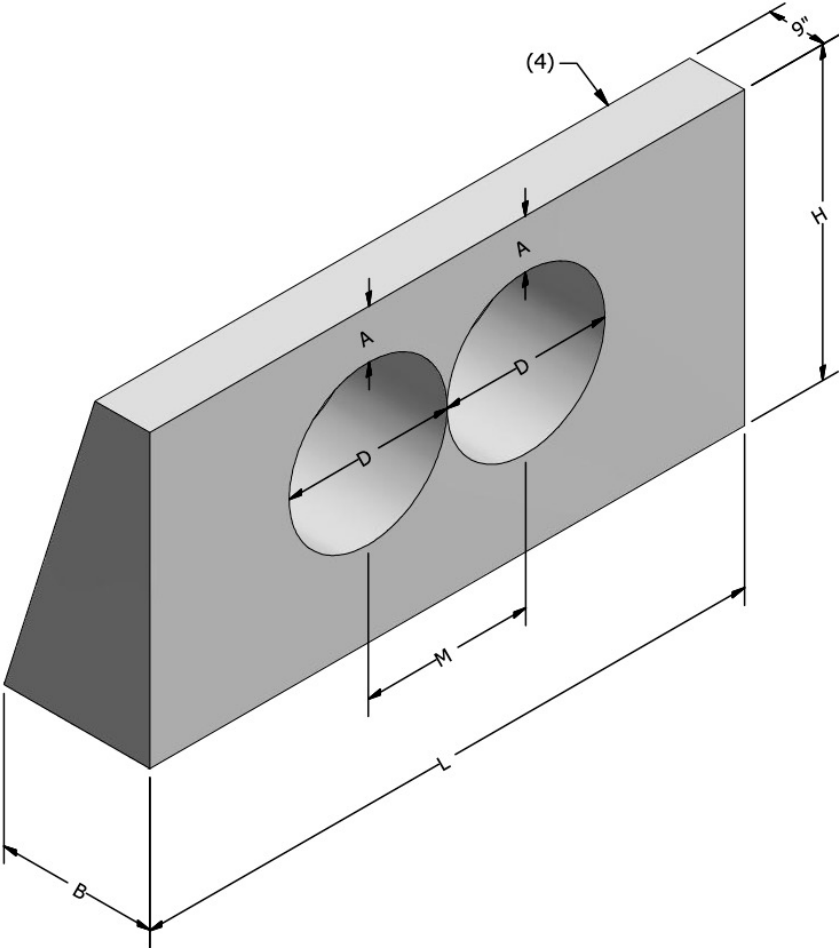
PRECAST CROSS & PARALLEL PIPE END SECTION NCDOT
 310.02/03



Cross Pipe End Section				Parallel Pipe End Section			
Slope	Pipe ID	Pipe OD	L	Slope	Pipe ID	Pipe OD	L
4:1	15"	24"	6'-6"	6:1	15"	24"	9'-4"
4:1	18"	26"	6'-6"	6:1	18"	26"	9'-4"

- NOTES**
- This design is intended for precast structures produced by CP&P only, not for cast-in-place construction.
 - Concrete compressive strength 4,000 psi minimum.
 - Steel reinforcing design conforms to ASTM A706 or A615, grade 60 rebar or WWR conforming to the requirements of ASTM A1064, grade 65 minimum.
 - All exposed edges to be chamfered.

PRECAST ENDWALL FOR 12"Ø TO 48"Ø DOUBLE
 CIRCULAR PIPE NCDOT 838.01



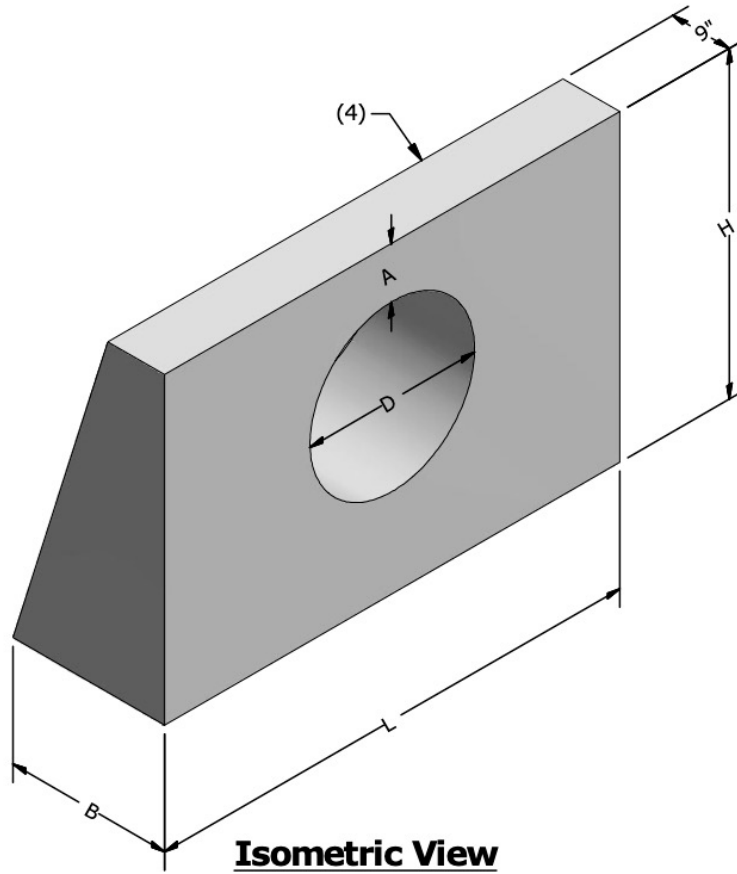
Isometric View

Standard Dimensions								
Pipe ID	D (RCP)	D (DIP)	D (CMP)	H	B	L	M	A
12"	20"	16"	18"	4'-0"	2'-0"	8'-2"	2'-2"	8"
15"	26"	N/A	20"	4'-0"	2'-0"	8'-2"	2'-2"	8"
18"	26"	22"	24"	4'-0"	2'-0"	8'-7"	2'-7"	8"
24"	32"	28"	30"	4'-0"	2'-0"	11'-5"	3'-5"	8"
30"	42"	36"	36"	5'-0"	2'-6"	13'-3"	4'-3"	8"
36"	48"	42"	42"	5'-4"	2'-8"	16'-0"	5'-0"	10"
42"	54"	N/A	48"	6'-0"	3'-0"	18'-5"	5'-10"	10"
48"	62"	N/A	54"	6'-8"	3'-4"	21'-0"	6'-8"	10"

- NOTES

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 2. Concrete compressive strength 4,000 psi minimum.
3. Steel reinforcing design conforms to ASTM A706 or A615, grade 60 rebar or WWR conforming to the requirements of ASTM A1064, grade 65 minimum.
 4. All exposed edges to be chamfered.

PRECAST ENDWALL FOR 12"Ø TO 48"Ø SINGLE CIRCULAR PIPE NCDOT 838.01



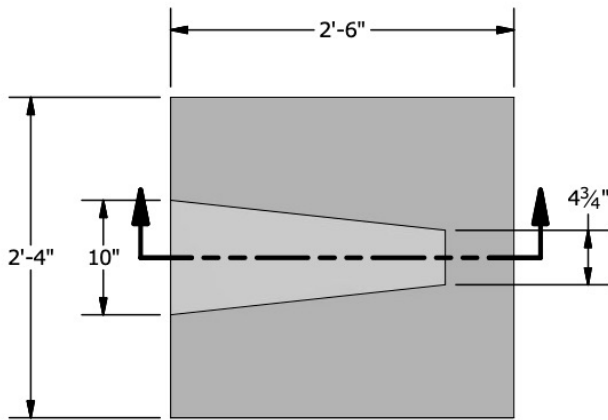
Standard Dimensions							
Pipe ID	D (RCP)	D (DIP)	D (CMP)	H	B	L	A
12"	20"	16"	18"	4'-0"	2'-0"	6'-0"	8"
15"	26"	N/A	20"	4'-0"	2'-0"	6'-0"	8"
18"	26"	22"	24"	4'-0"	2'-0"	6'-0"	8"
24"	32"	28"	30"	4'-0"	2'-0"	8'-0"	8"
30"	42"	36"	36"	5'-0"	2'-6"	9'-0"	8"
36"	48"	42"	42"	5'-4"	2'-8"	11'-0"	10"
42"	54"	N/A	48"	6'-0"	3'-0"	12'-8"	10"
48"	62"	N/A	54"	6'-8"	3'-4"	14'-4"	10"

NOTES

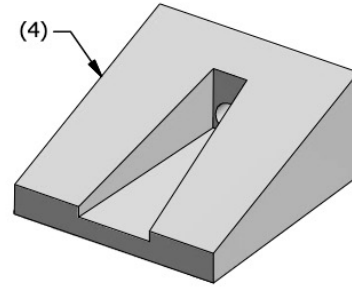
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4. All exposed edges to be chamfered.

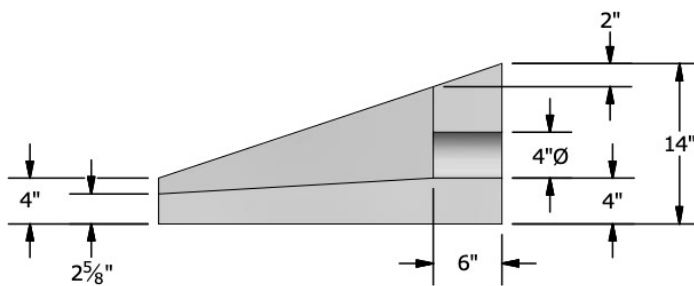
PRECAST UNDERDRAIN PIPE SPLASH PAD FOR 4"Ø PIPE NCDOT 816.01



Plan View



Isometric View



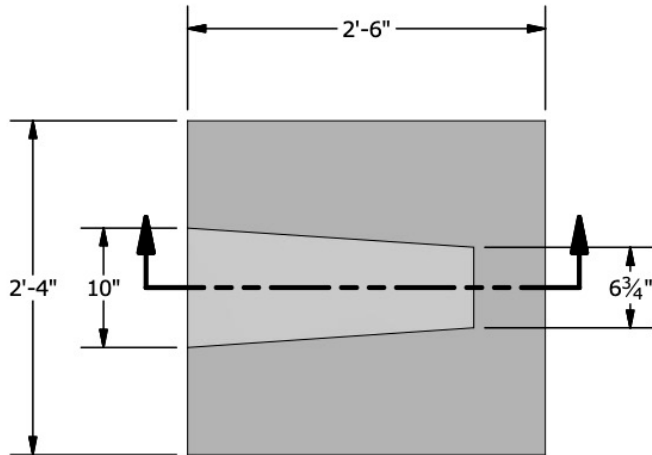
Section View

NOTES

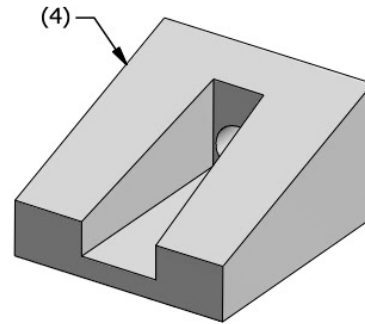
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2. Concrete compressive strength 4,000 psi minimum.

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4. All exposed edges to be chamfered.

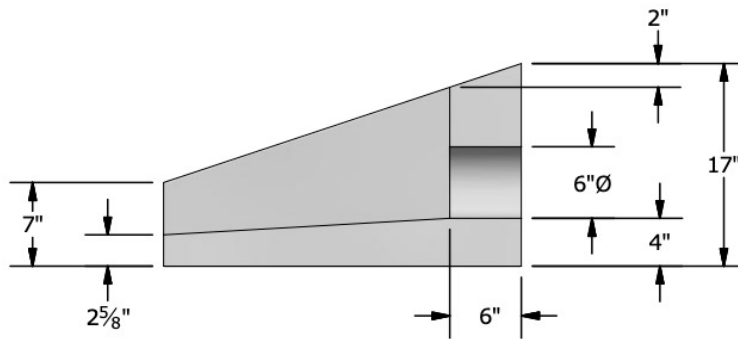
PRECAST UNDERDRAIN PIPE SPLASH PAD FOR 6"Ø PIPE NCDOT 816.01



Plan View



Isometric View



Section View

NOTES

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4. All exposed edges to be chamfered.



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