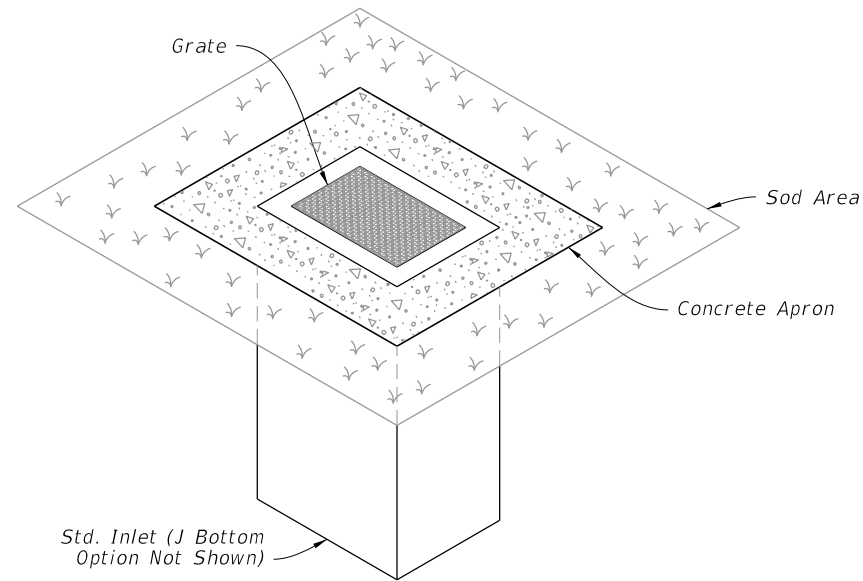


GENERAL NOTES:

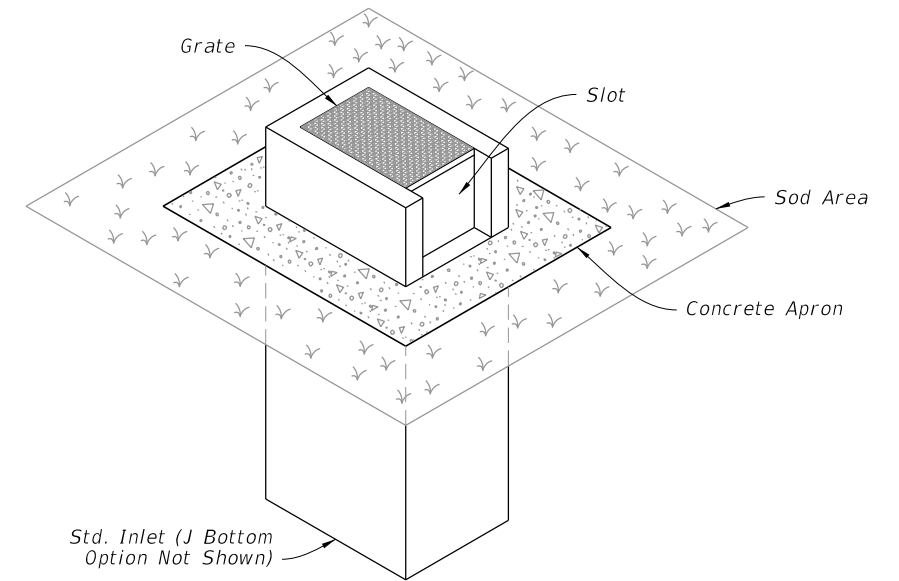
1. Work this Index with Index 425-001 and Index 425-010.
2. Chamfer all exposed edges and corners $\frac{3}{4}$ " chamfer or tooled to $\frac{1}{4}$ " radius.
3. All reinforcing is Grade 60 bars with 2" minimum cover unless otherwise noted. Cut or bend bars for $1\frac{1}{2}$ " clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.
4. Use Concrete Apron on inlets without slots and inlets with non-traversable slots only when called for in the Plans.
5. Quantities are for informational and estimating purposes only.
6. Slots are not permitted on sides with grate seats.



=====**DITCH BOTTOM INLET TYPE C**=====

TRAVERSABLE

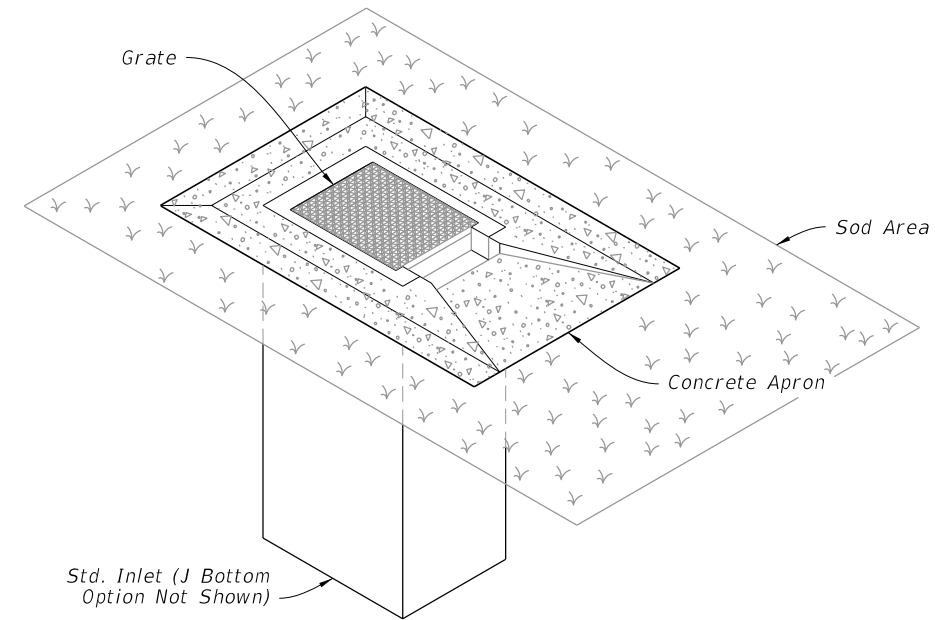
(Without Slot - Type D, E, and H Similar, Pipe Connection Not Shown)



=====**DITCH BOTTOM INLET TYPE C**=====

NON-TRAVERSABLE

(Slot > 7" Shown - Type D, E, and H Similar, Pipe Connection Not Shown)



=====**DITCH BOTTOM INLET TYPE C**=====

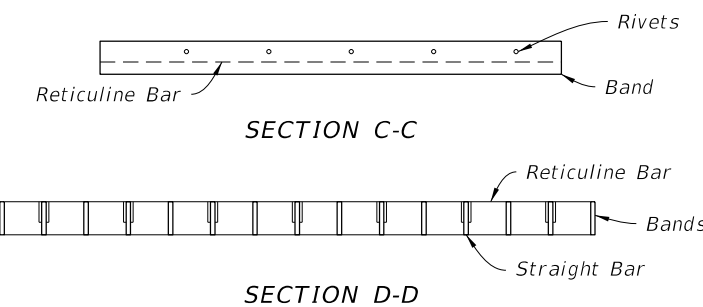
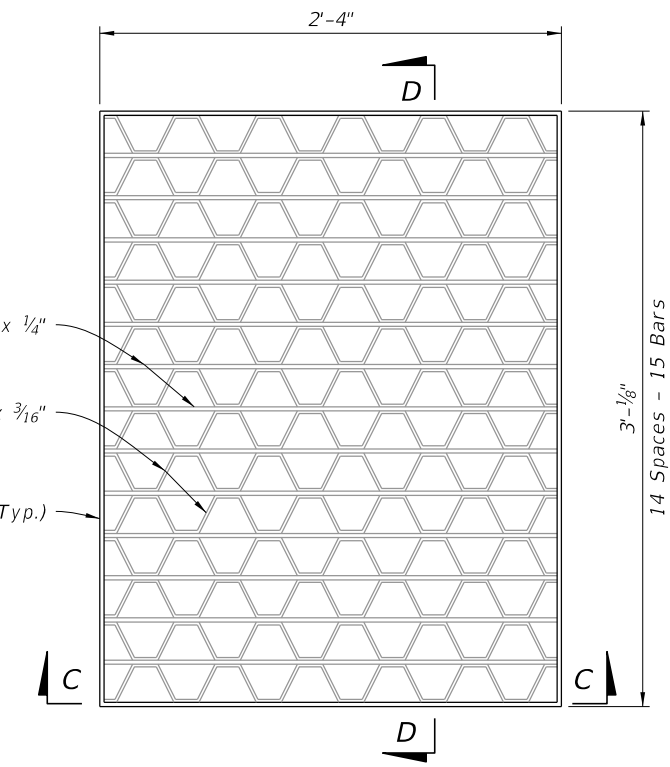
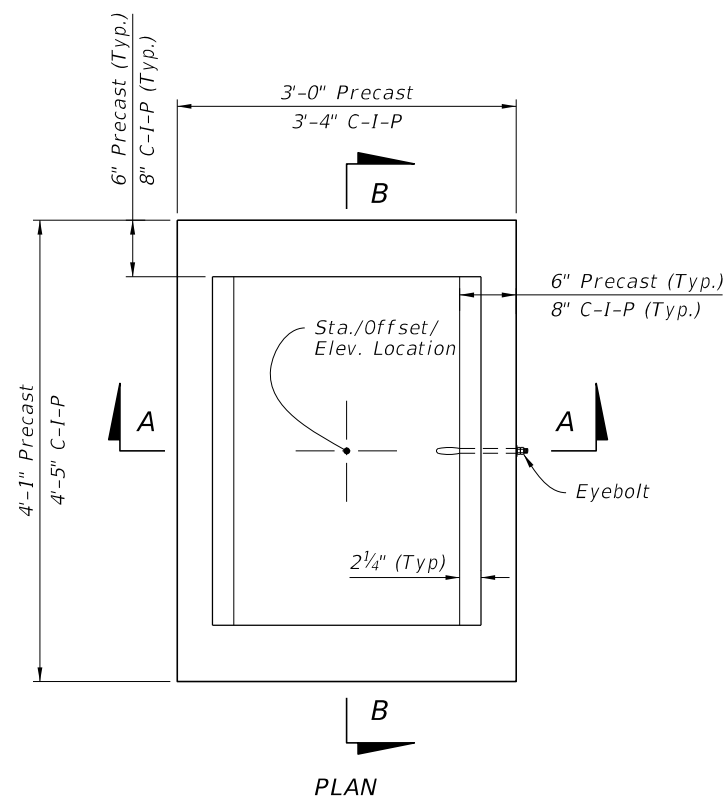
TRAVERSABLE

(Single Slot < 7" Shown, Double Slot, Type D, and E Similar, Pipe Connection Not Shown)

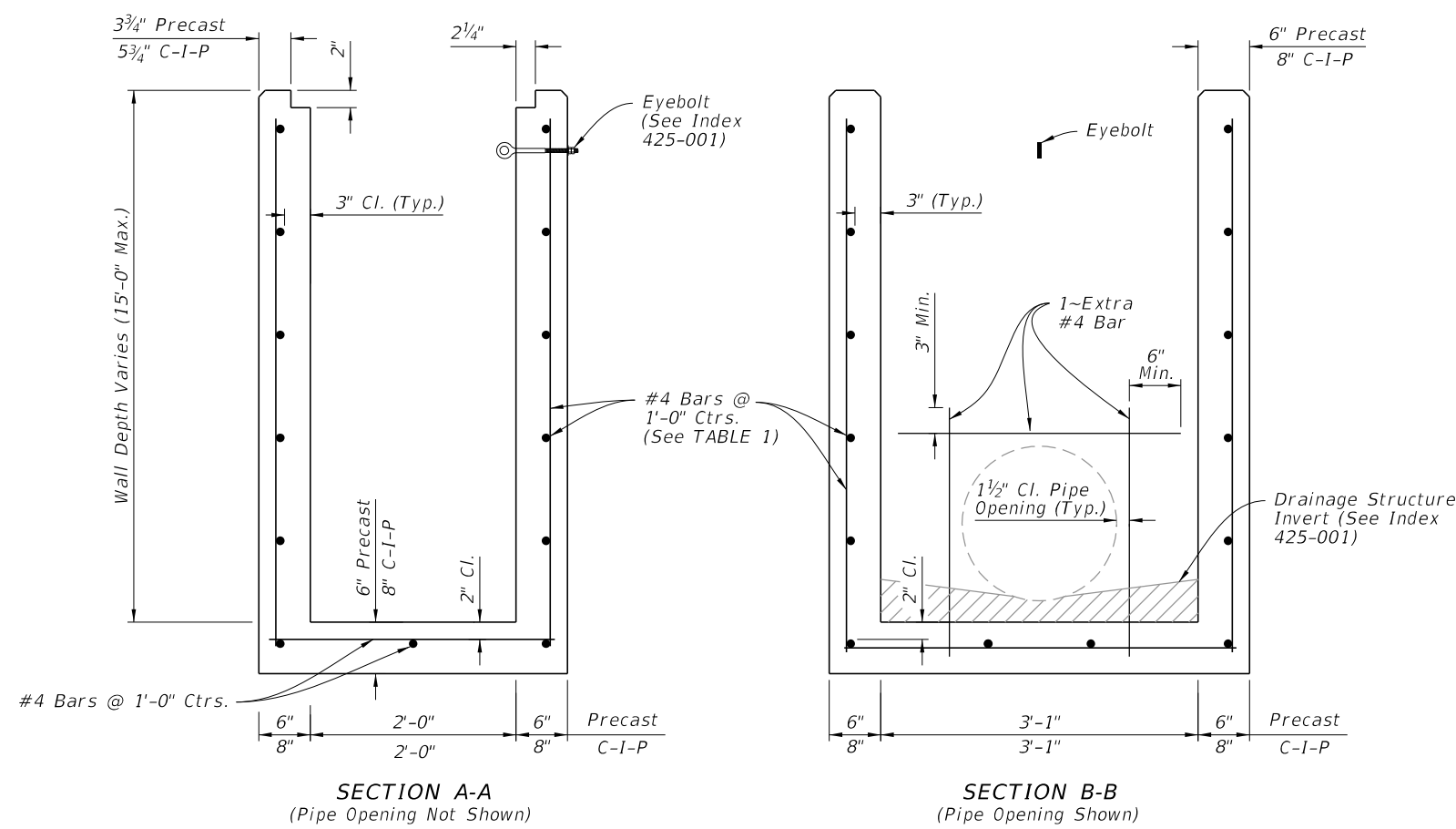
TABLE OF CONTENTS:

| Sheet | Description |
|-------|---|
| 1 | General Notes and Contents |
| 2 | Type C - Dimensional, Reinforcing, and Grate Details |
| 3 | Type D - Dimensional, Reinforcing, and Grate Details |
| 4 | Type E - Dimensional, Reinforcing, and Grate Details |
| 5 | Type H (2 & 3 Grate) - Dimensional, Reinforcing, and Steel Grate Details |
| 6 | Type H (4 Grate) - Dimensional, Reinforcing, and Steel Grate Details |
| 7 | Cast Iron Grate Details |
| 8 | Non-Traversable Inlet Details |
| 9 | Traversable Inlet Without Slot Details |
| 10 | Traversable Inlet With Slot Details |
| 11 | Case 1 - Add Traversable Slots to Existing Inlets |
| 12 | Case 2 - Add Traversable Slots (Partial) to Existing Inlets |
| 13 | Case 3 - Add Traversable Slots (Partial) to Existing Inlets and Ditch Block |
| 14 | Alternate A Structure Bottom - Top Slab Details |

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STEEL GRATE DETAIL
(Approx. 104 Lbs. - See Sheet 7 For Cast Iron Grates)



DIMENSIONAL AND REINFORCING DETAILS

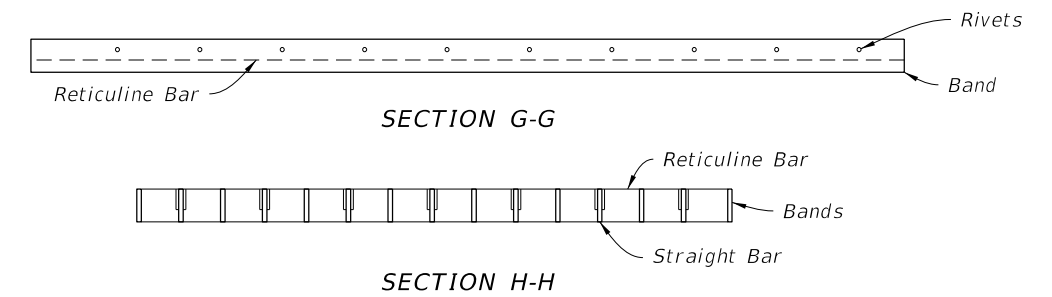
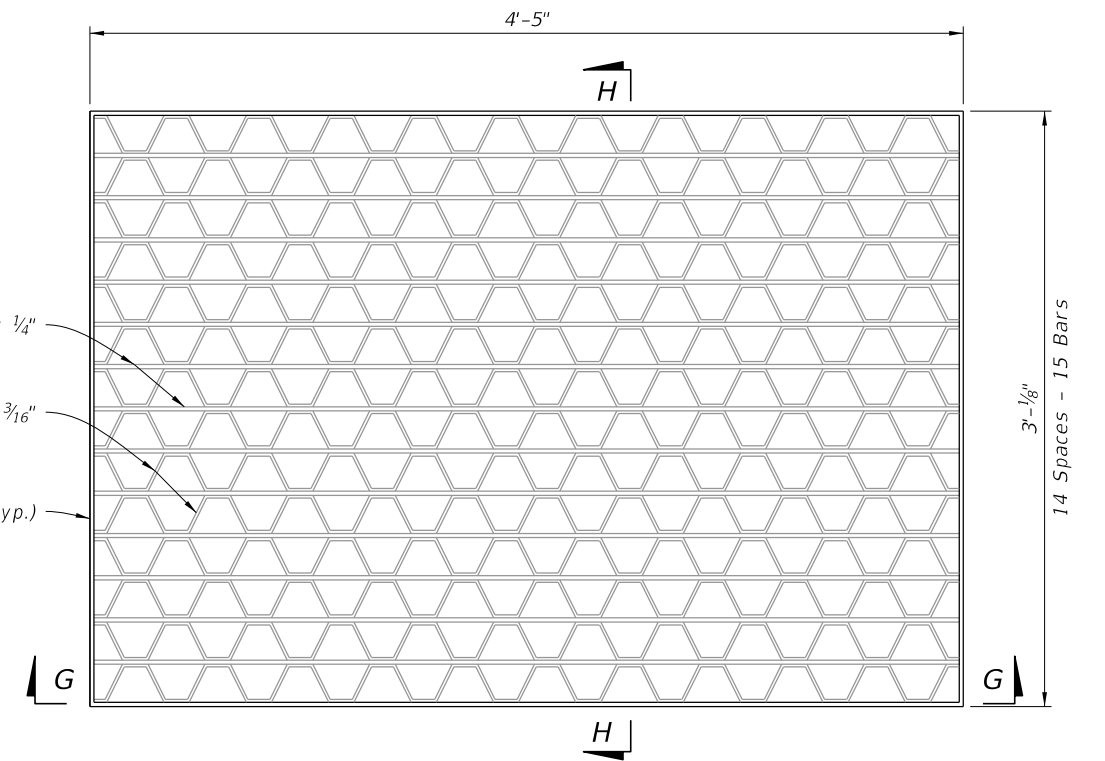
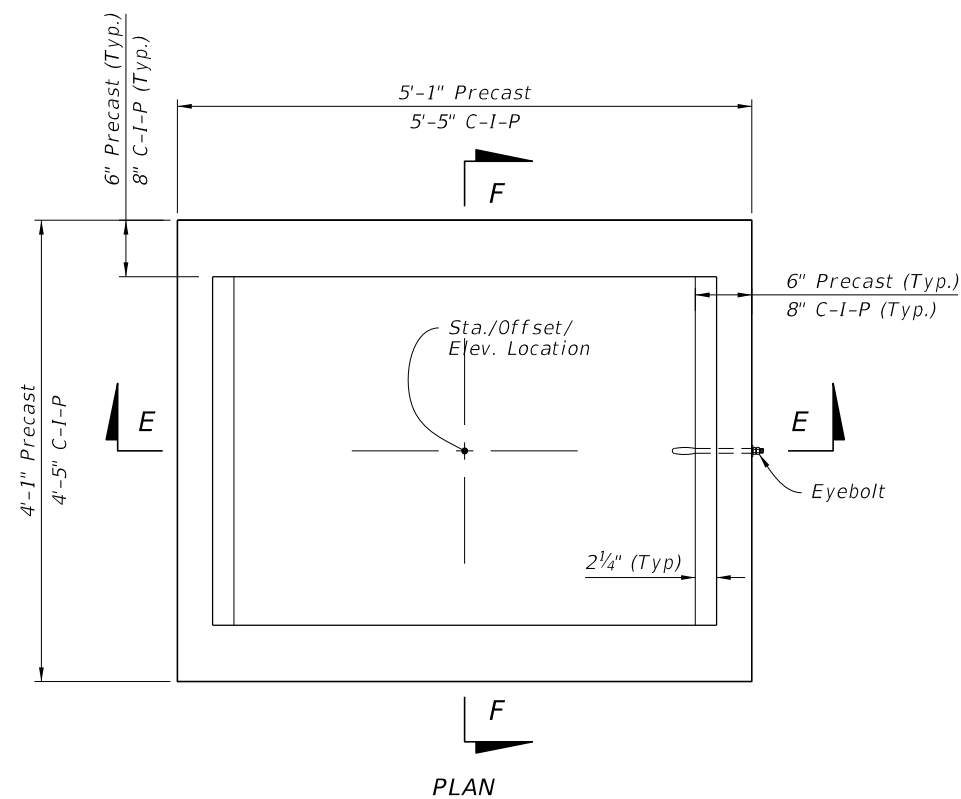
TABLE 1
HORIZONTAL WALL REINFORCING SCHEDULE

| WALL DEPTH | SCHEDULE | AREA (in. ² /ft.) | MAX. SPACING | |
|------------|----------|------------------------------|--------------|-----|
| | | | BAR | WWF |
| 0' - 15' | A12 | 0.20 | 12" | 8" |

- NOTES:**
1. Grate, Concrete Apron, and Sod not shown on structure detail.
 2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

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STEEL GRATE DETAIL
(Approx. 190 lbs. - See Sheet 7 For Cast Iron Grates)

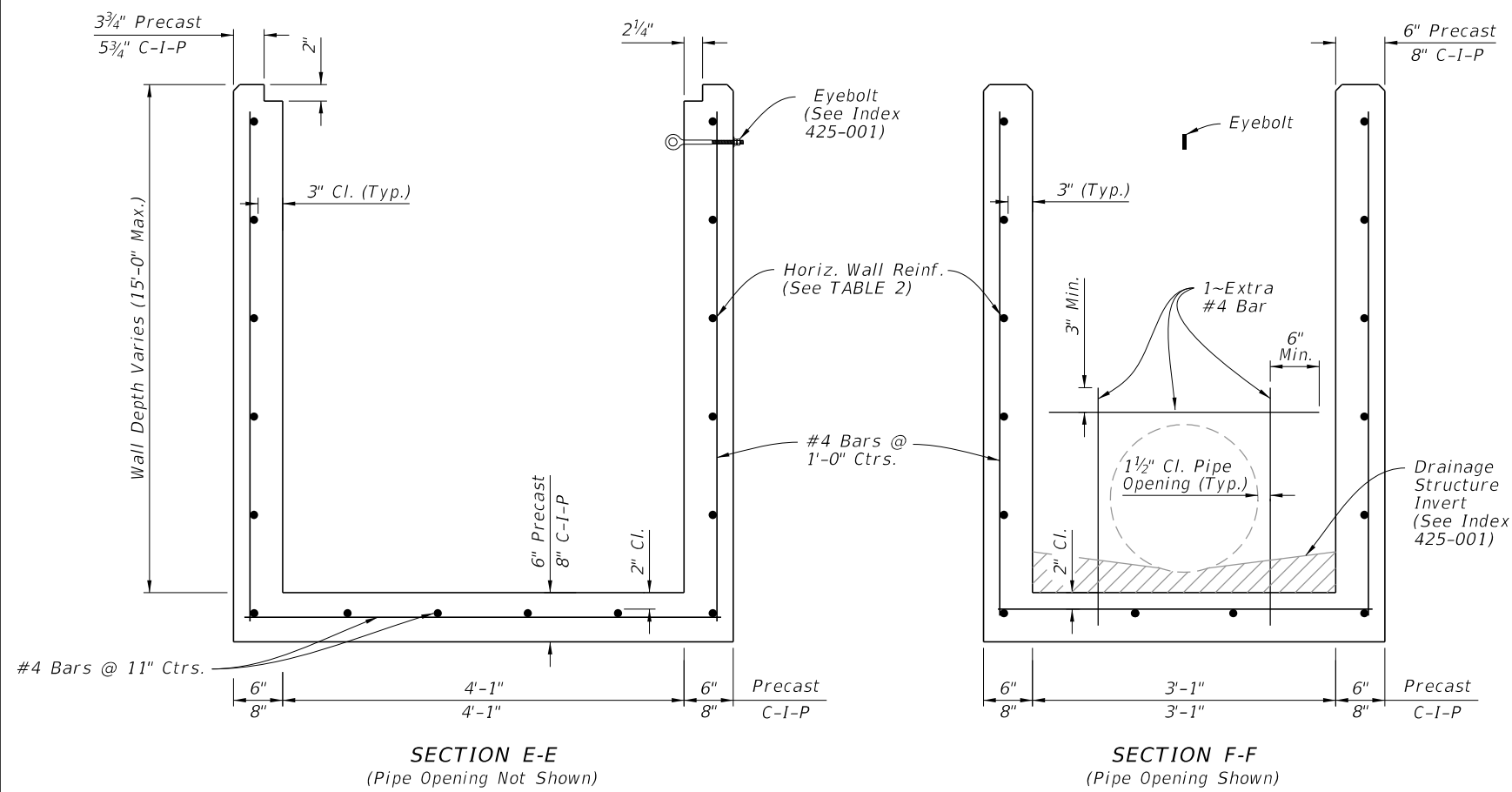


TABLE 2
HORIZONTAL WALL REINFORCING SCHEDULE

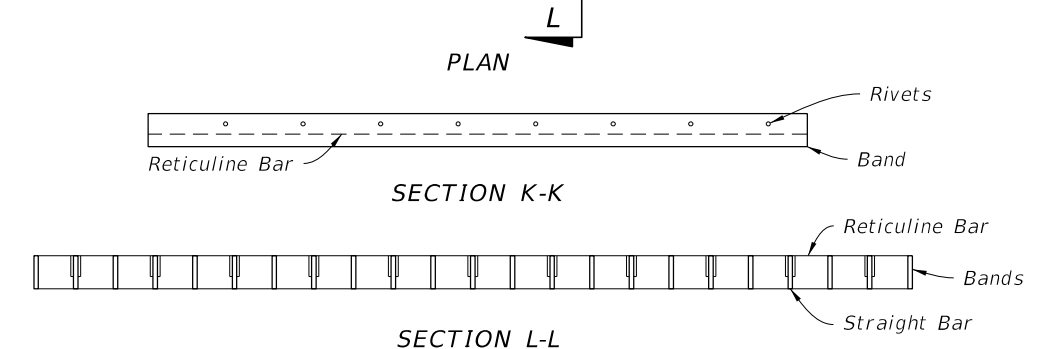
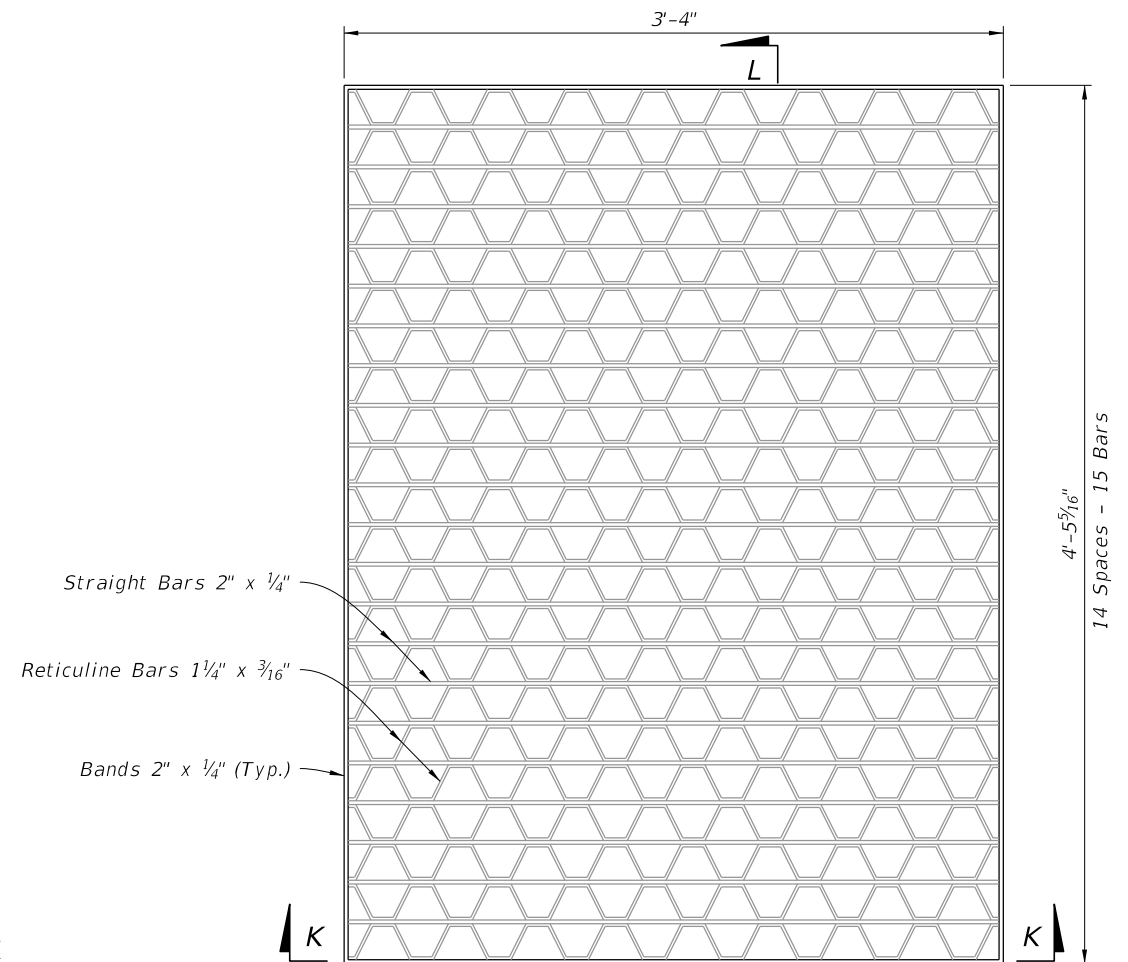
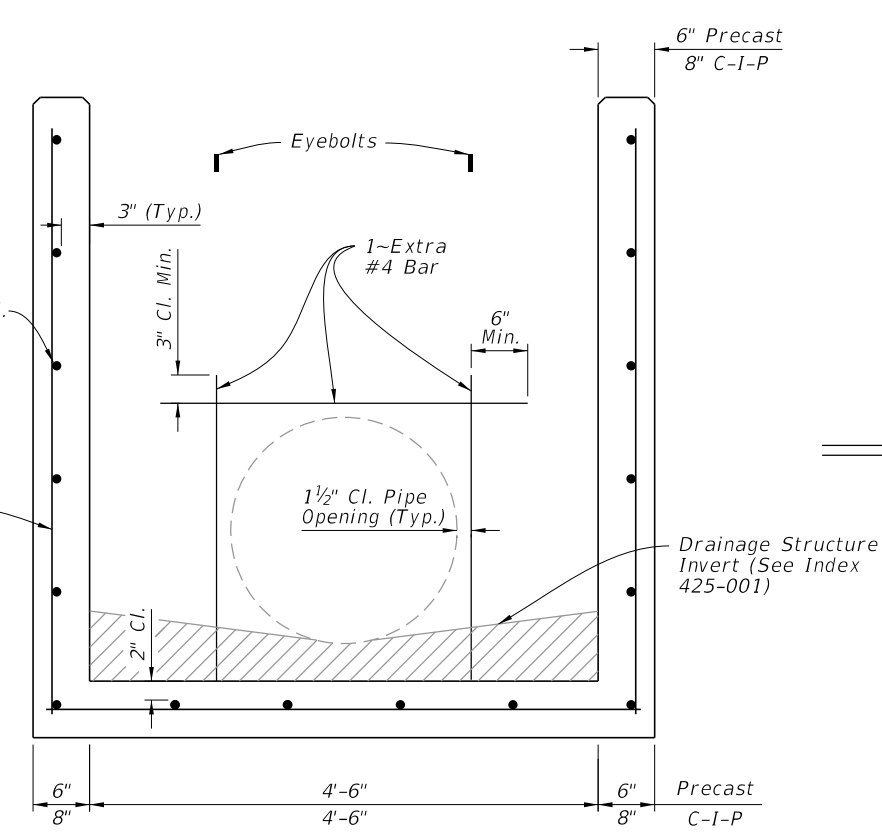
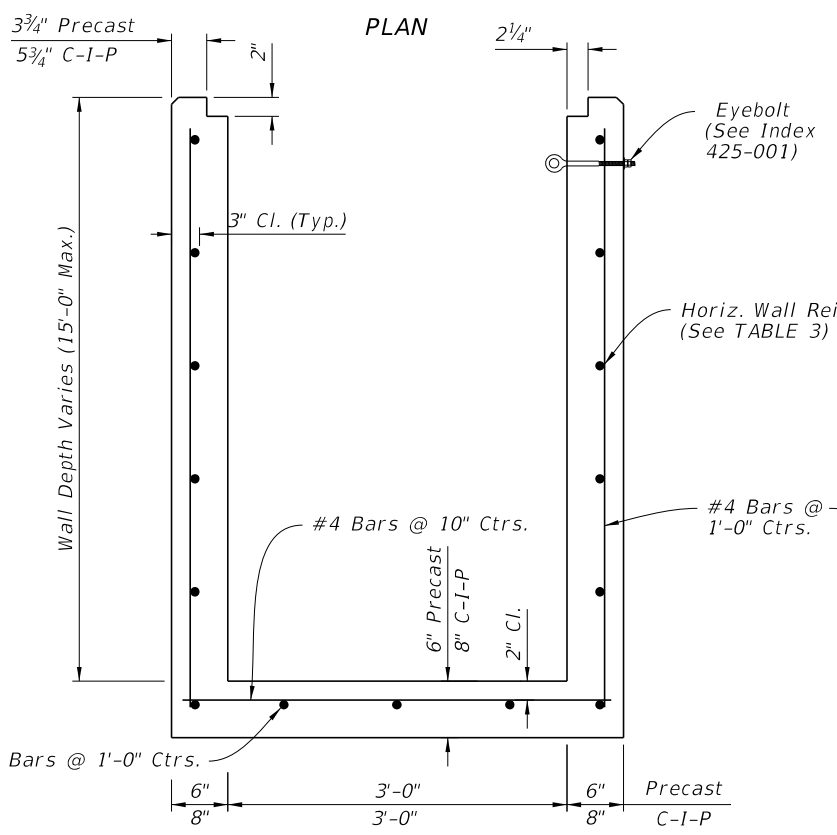
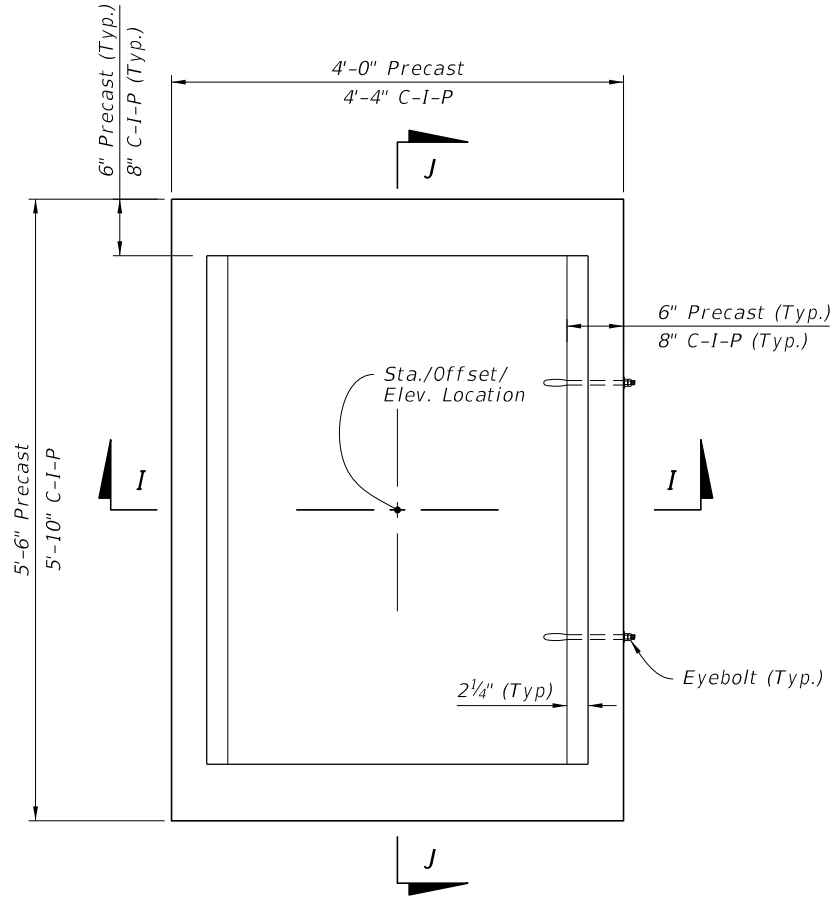
| WALL DEPTH | SCHEDULE | AREA (in. ² /ft.) | MAX. SPACING | |
|------------|----------|------------------------------|--------------|-----|
| | | | BARS | WWR |
| 0' - 6' | A12 | 0.20 | 12" | 8" |
| 6' - 10' | A6 | 0.20 | 6" | 5" |
| 10' - 13' | A4 | 0.20 | 4" | 3" |
| 10' - 15' | B5.5 | 0.24 | 5 1/2" | 5" |

- NOTES:**
1. Grate, Concrete Apron, and Sod not shown on structure details.
 2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
 3. Cast Iron Grate is not permitted on inlet Type D.

DIMENSIONAL AND REINFORCING DETAILS

TYPE D - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

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STEEL GRATE DETAIL
(Approx. 215 lbs. - See Sheet 7 For Cast Iron Grates)

TABLE 3
HORIZONTAL WALL REINFORCING SCHEDULE

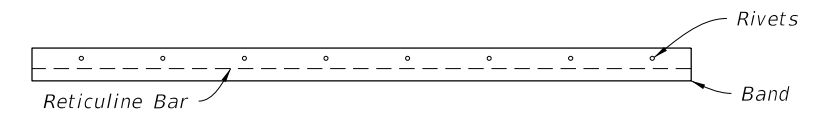
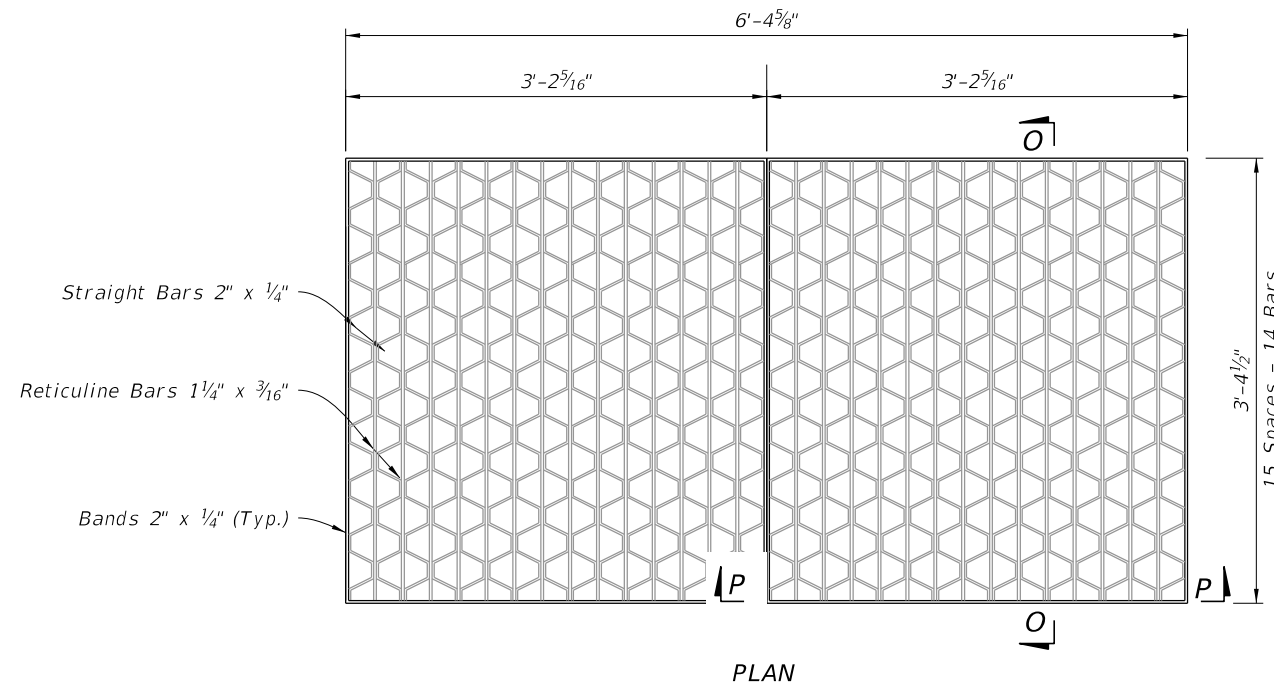
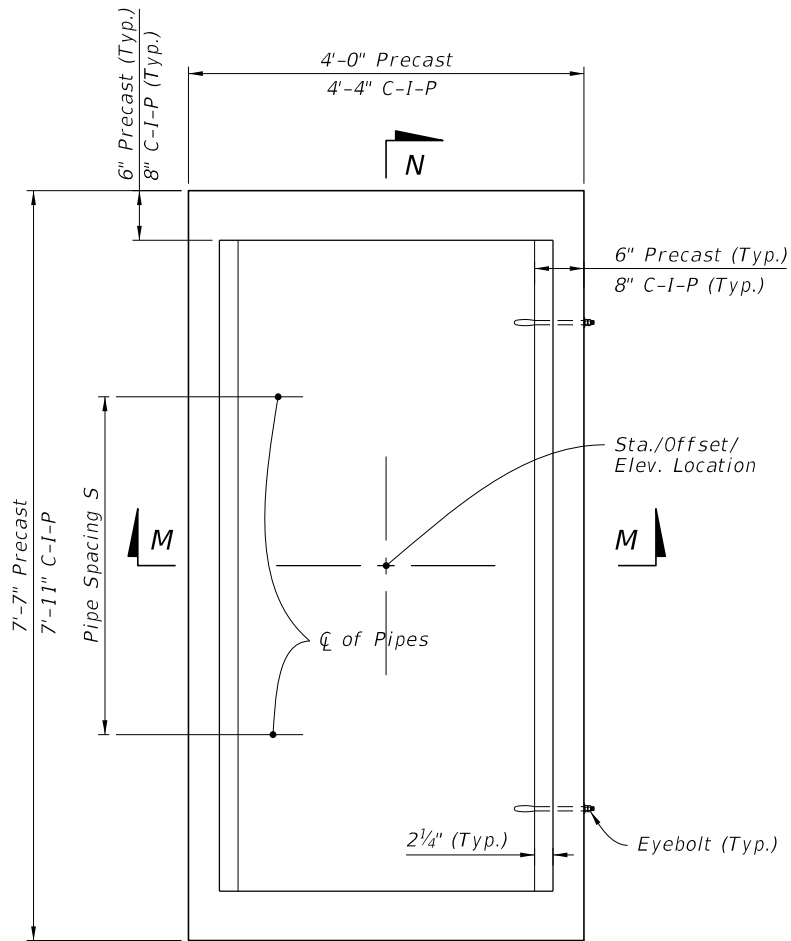
| WALL DEPTH | SCHEDULE | AREA (in. ² /ft.) | MAX. SPACING | |
|------------|----------|------------------------------|--------------|-----|
| | | | BARS | WWR |
| 0' - 5' | A12 | 0.20 | 12" | 8" |
| 0' - 7.5' | A6 | 0.20 | 6" | 5" |
| 7.5' - 10' | B5.5 | 0.24 | 5 1/2" | 5" |
| 10' - 15' | C6.5 | 0.37 | 6 1/2" | 6" |

- NOTES:**
1. Grate, Concrete Apron, and Sod not shown on structure detail.
 2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

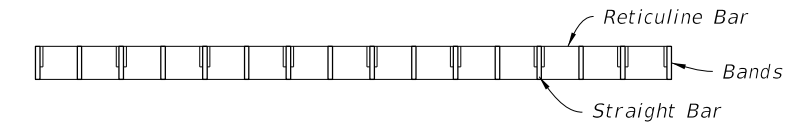
DIMENSIONAL AND REINFORCING DETAILS

TYPE E - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

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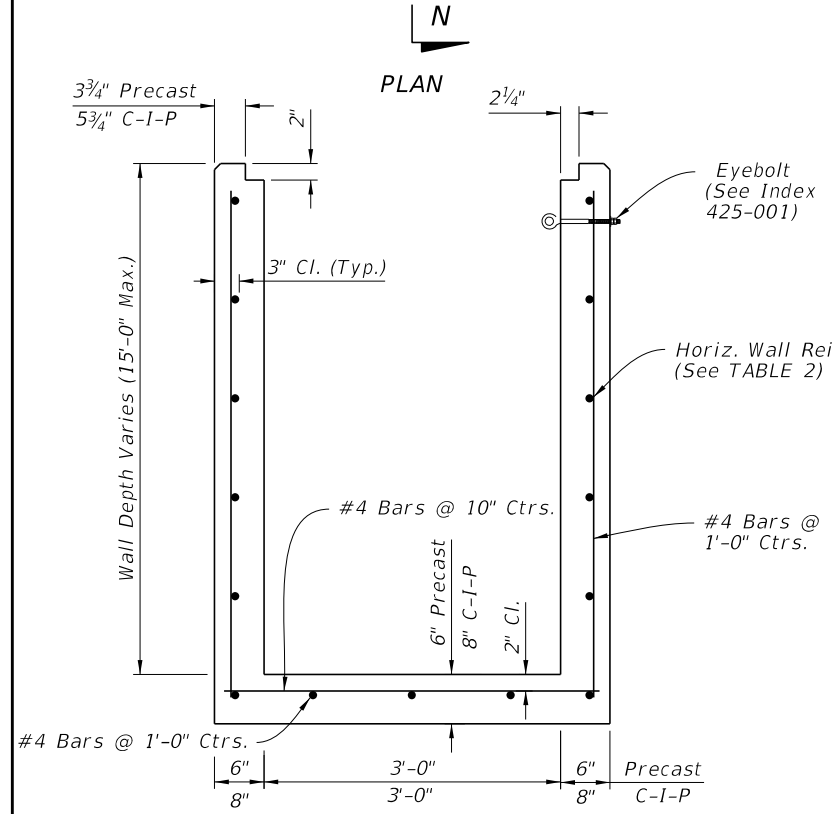


SECTION O-O

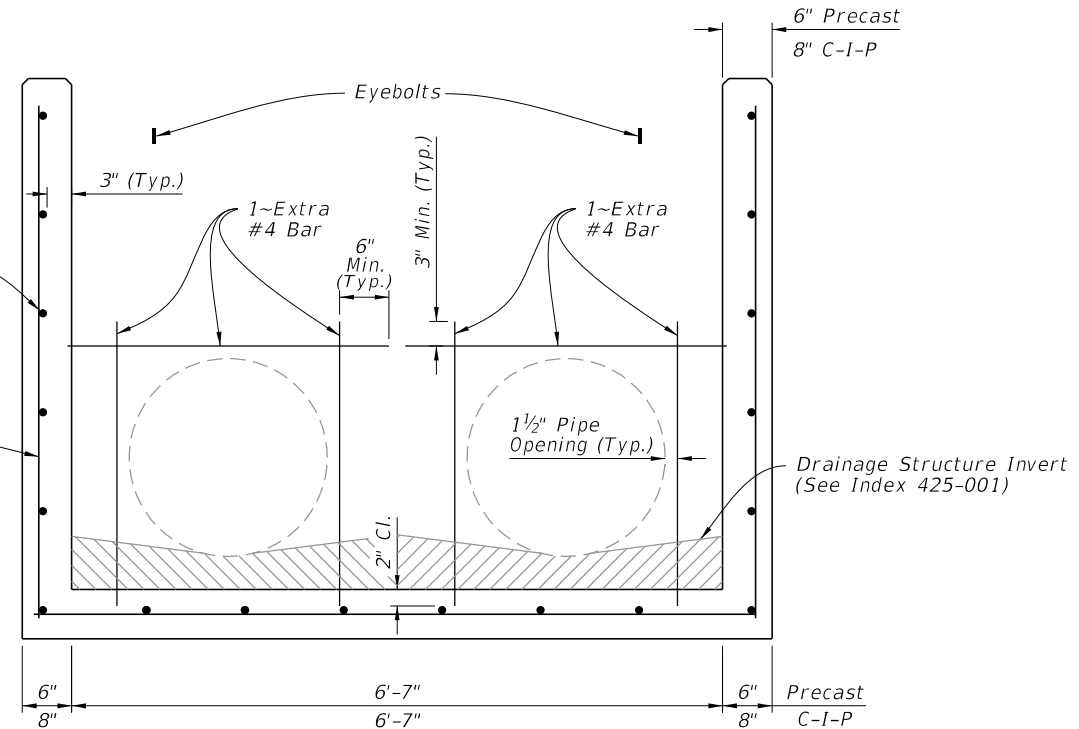


SECTION P-P

STEEL GRATE DETAIL
(2-Grates Shown, Approx. 310 lbs. - See Sheet 7 For Cast Iron, 3-Grates)



SECTION M-M
(Pipe Opening Not Shown)



SECTION N-N
(Pipe Opening Shown)

DIMENSIONAL AND REINFORCING DETAILS

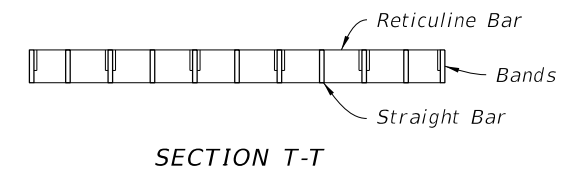
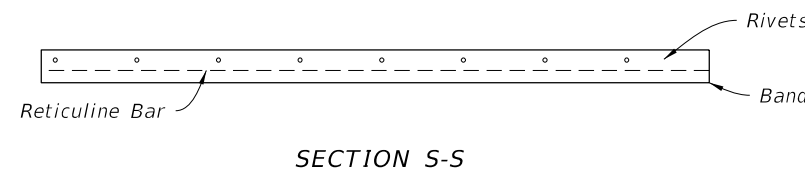
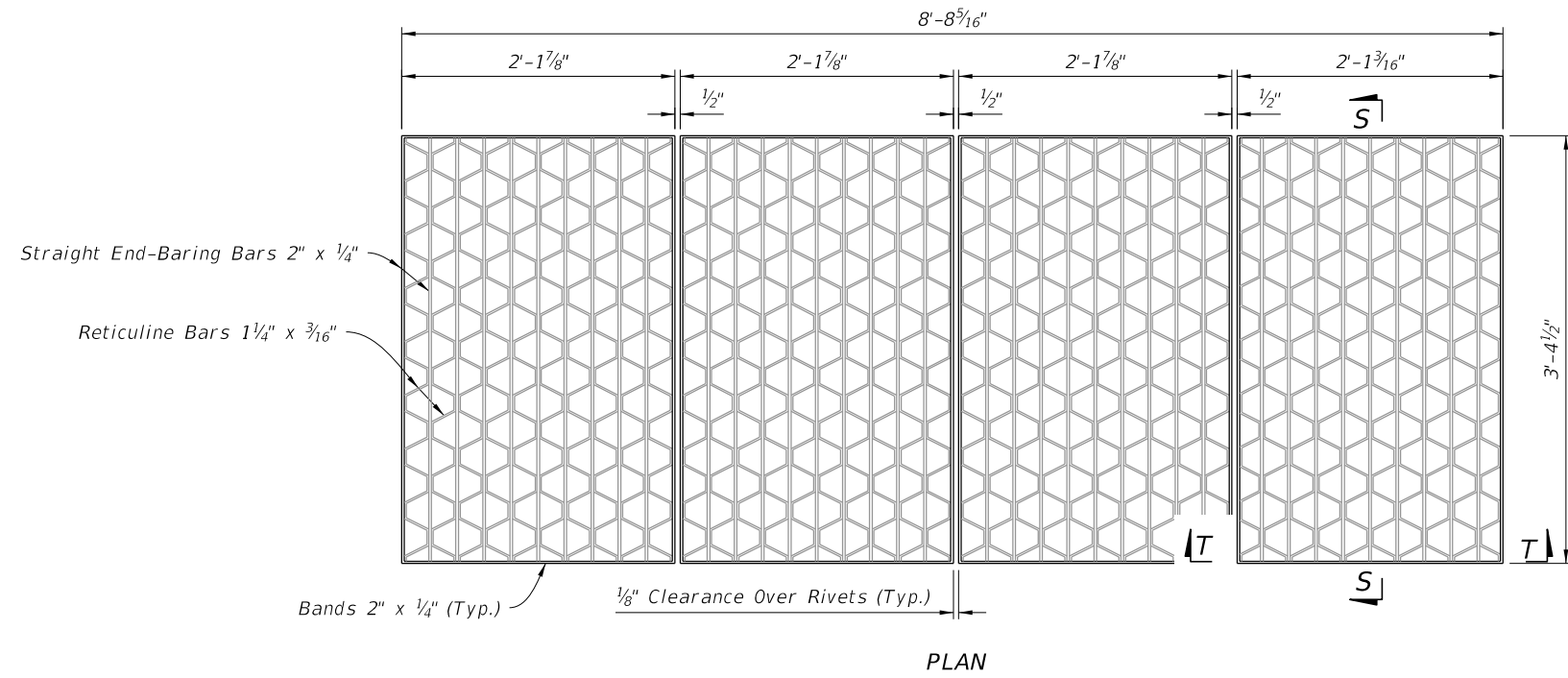
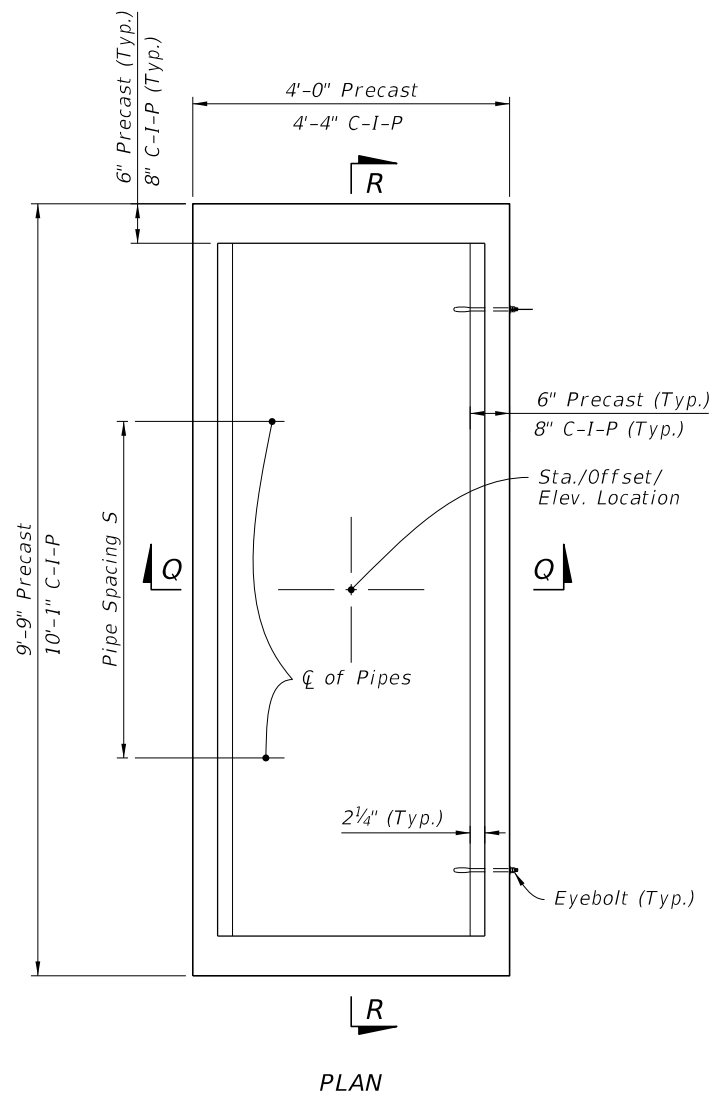
TABLE 4
HORIZONTAL WALL REINFORCING SCHEDULE

| WALL DEPTH | SCHEDULE | AREA (in. ² /ft.) | MAX. SPACING | |
|------------|----------|------------------------------|--------------|-----|
| | | | BARS | WWR |
| 0' - 5' | B5.5 | 0.24 | 5 1/2" | 5" |
| 5' - 7' | C6.5 | 0.37 | 6 1/2" | 6" |
| 7' - 15' | D4.5 | 0.53 | 4 1/2" | 4" |

- NOTES:**
1. Grate, Concrete Apron, and Sod not shown on structure details.
 2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
 3. Pipe Spacing S = 3'-5"

TYPE H (2 & 3 GRATE) - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

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STEEL GRATE DETAIL

(Approx. 388 lbs. - See Sheet 7 For Cast Iron Grates)

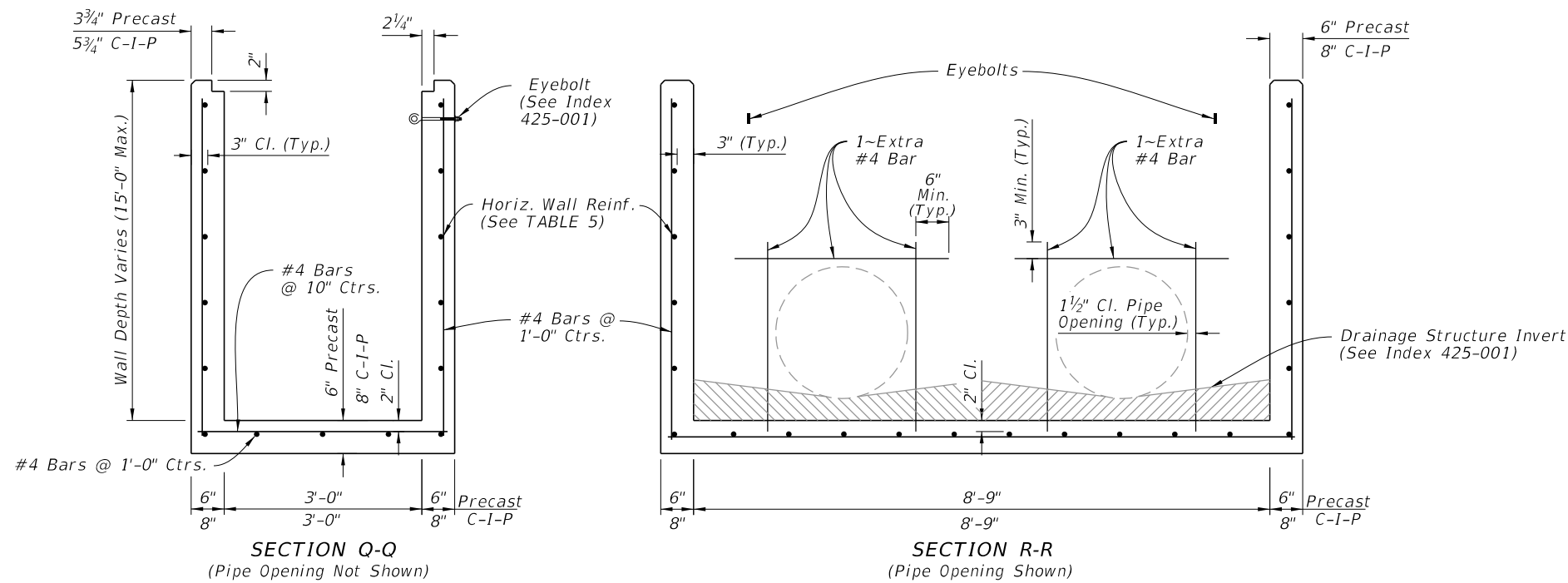


TABLE 5
HORIZONTAL WALL REINFORCING SCHEDULE

| WALL DEPTH | SCHEDULE | AREA (in. ² /ft.) | MAX. SPACING | |
|------------|----------|------------------------------|--------------|-----|
| | | | BARS | WWR |
| 0' - 5' | C3.5 | 0.37 | 3 1/2" | 3" |
| 5'-10' | D4.5 | 0.53 | 4 1/2" | 4" |

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure details.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.
3. Pipe Spacing S = 4'-3"

DIMENSIONAL AND REINFORCING DETAILS

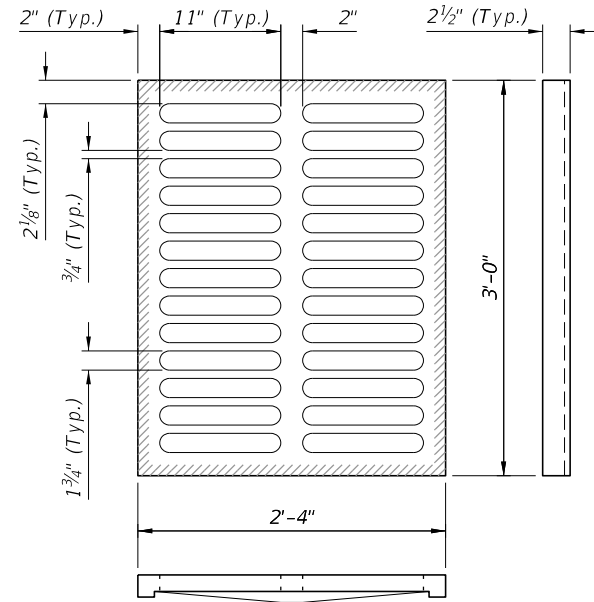
TYPE H (4 GRATE) - DIMENSIONAL, REINFORCEMENT, AND STEEL GRATE DETAILS

1/6/2025 10:22:34 AM

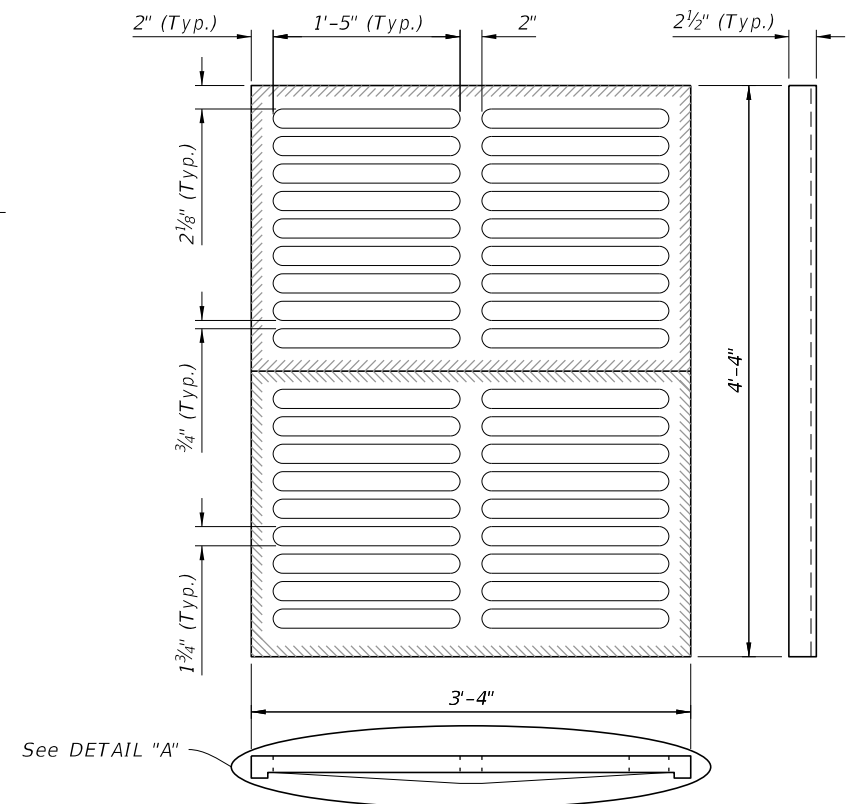
| | | | | | | |
|---------------------------|--------------|--|------------------------------|---|------------------|------------------|
| LAST REVISION 11/01/20 | DESCRIPTION: | | FY 2024-25 STANDARD PLANS | DITCH BOTTOM INLET TYPES C, D, E, AND H | INDEX 425-052 | SHEET 6 of 14 |
| | | | | | | |

NOTES:

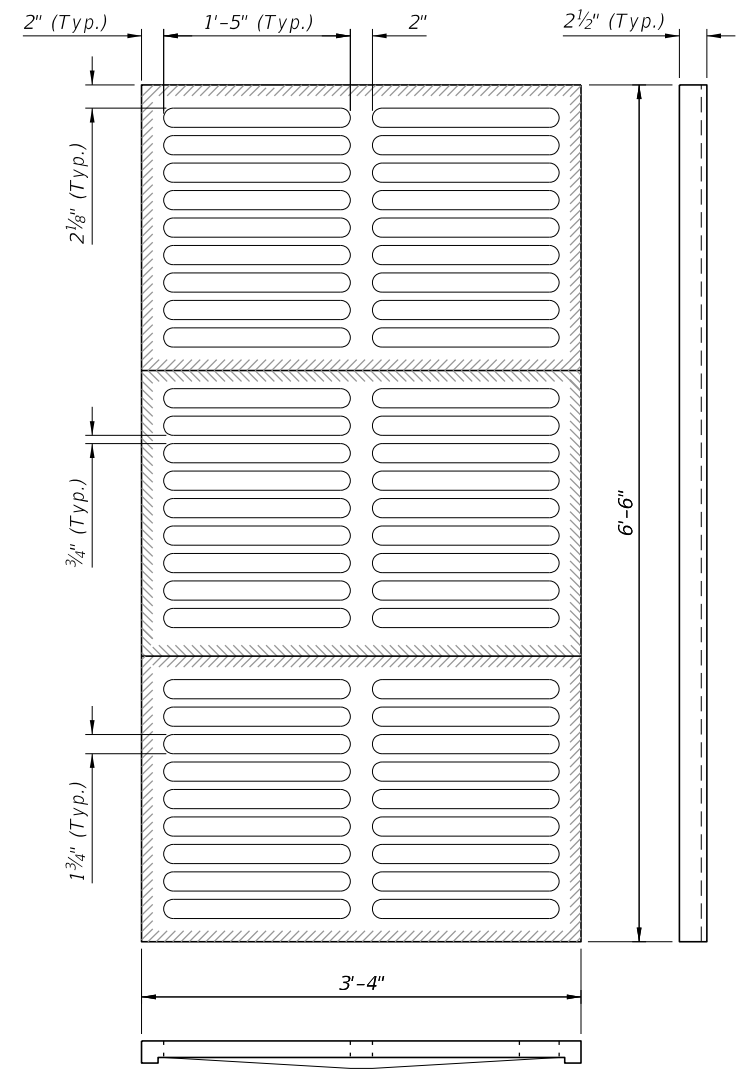
1. Steel Grates are required on inlets with traversable slots and on Inlets where bicycle traffic is anticipated.
2. Cast Iron Grates are not permitted on Inlet Type D.



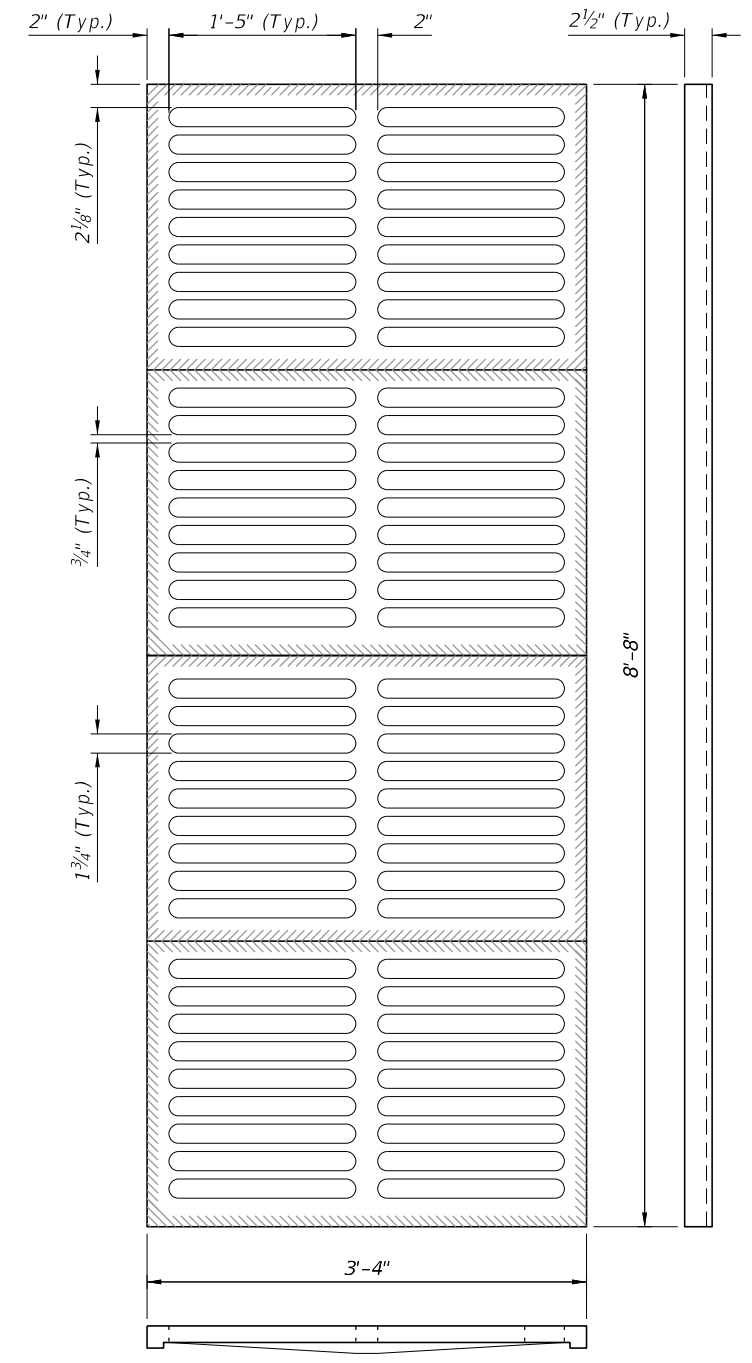
TYPE C
Approx. 235 lbs.



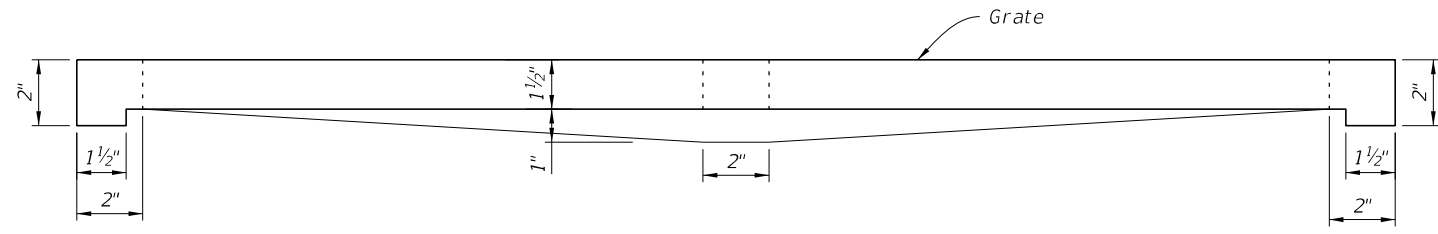
TYPE E
Approx. 465 lbs.



TYPE H
(3-Grate Inlet)
Approx. 725 lbs.



TYPE H
(4-Grate Inlet)
Approx. 967 lbs.



DETAIL "A"
(Typical Section)

CAST IRON GRATE DETAILS

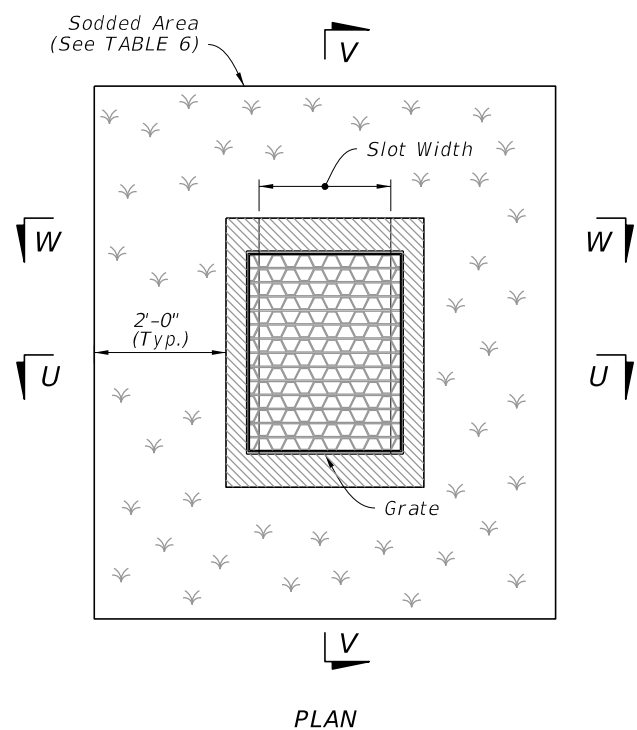
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|---------------|----------|--------------|
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|---------------|----------|--------------|



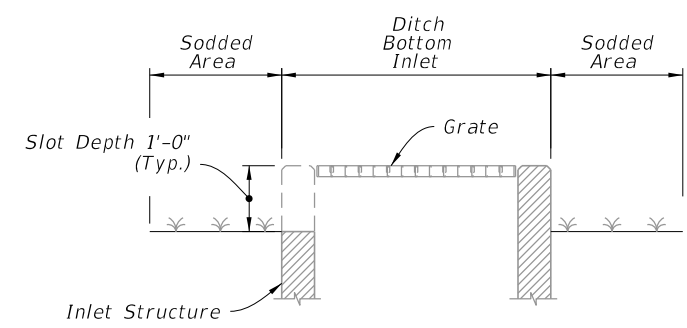
DITCH BOTTOM INLET TYPES C, D, E, AND H

| | |
|---------|---------|
| INDEX | SHEET |
| 425-052 | 7 of 14 |

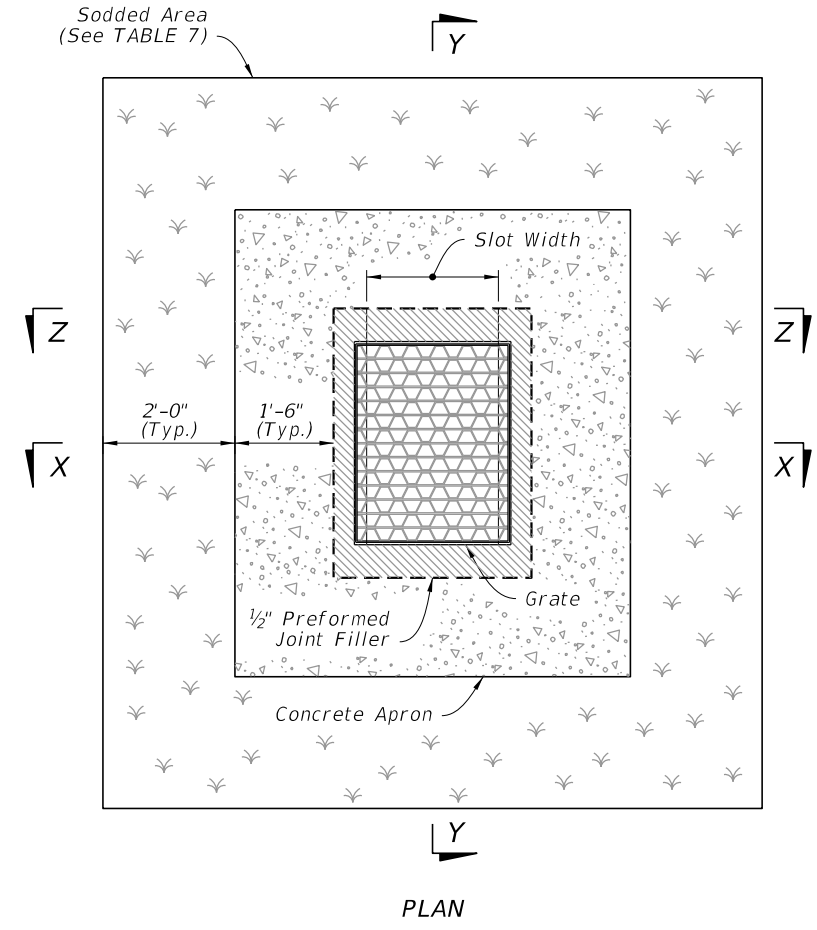


**TABLE 6
SOD ONLY
QUANTITIES**

| Inlet Type | Sod SY |
|------------|--------|
| C | 6 |
| D | 6 |
| E | 7 |
| H | 8 |

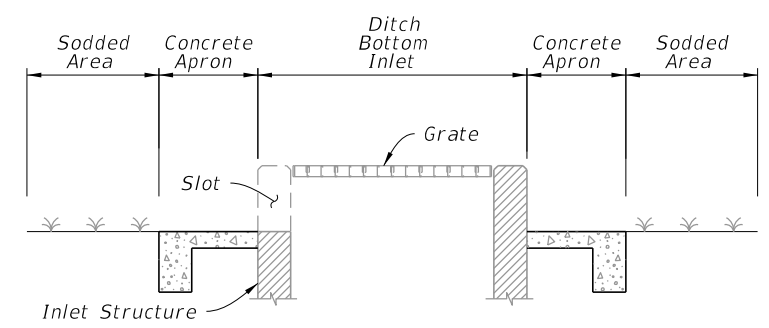


SECTION V-V

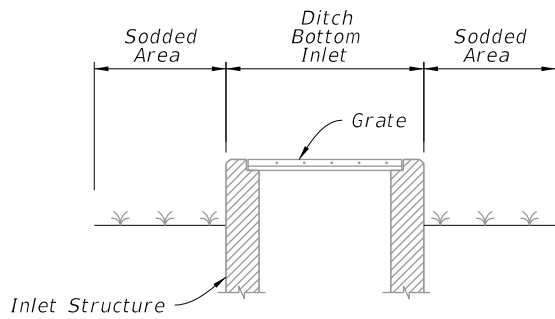


**TABLE 7
SOD AND CONCRETE
APRON QUANTITIES**

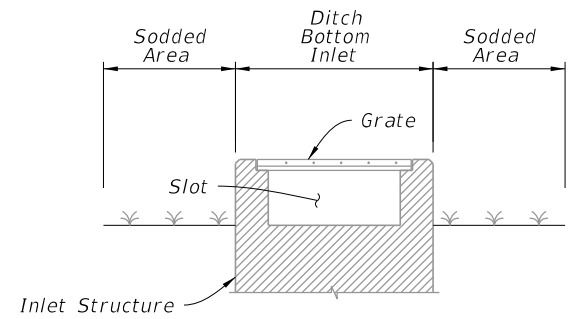
| Inlet Type | Sod SY | Conc. CY |
|------------|--------|----------|
| C | 8 | 0.30 |
| D | 9 | 0.36 |
| E | 9 | 0.37 |
| H | 11 | 0.45 |



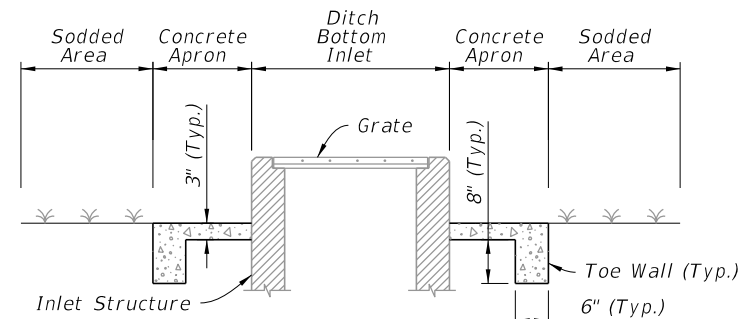
SECTION Y-Y



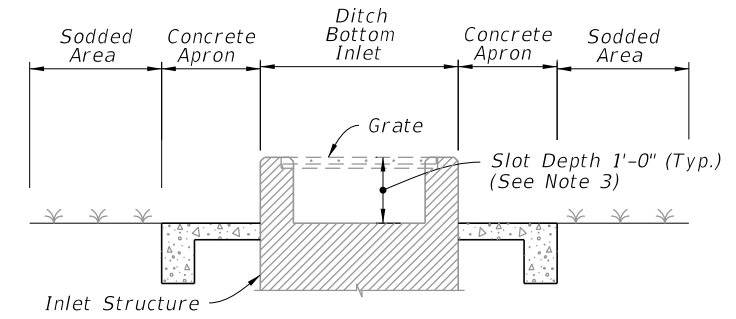
SECTION U-U



SECTION W-W



SECTION X-X



SECTION Z-Z

SODDING ONLY
(Slot Shown, Non-Slot Similar)

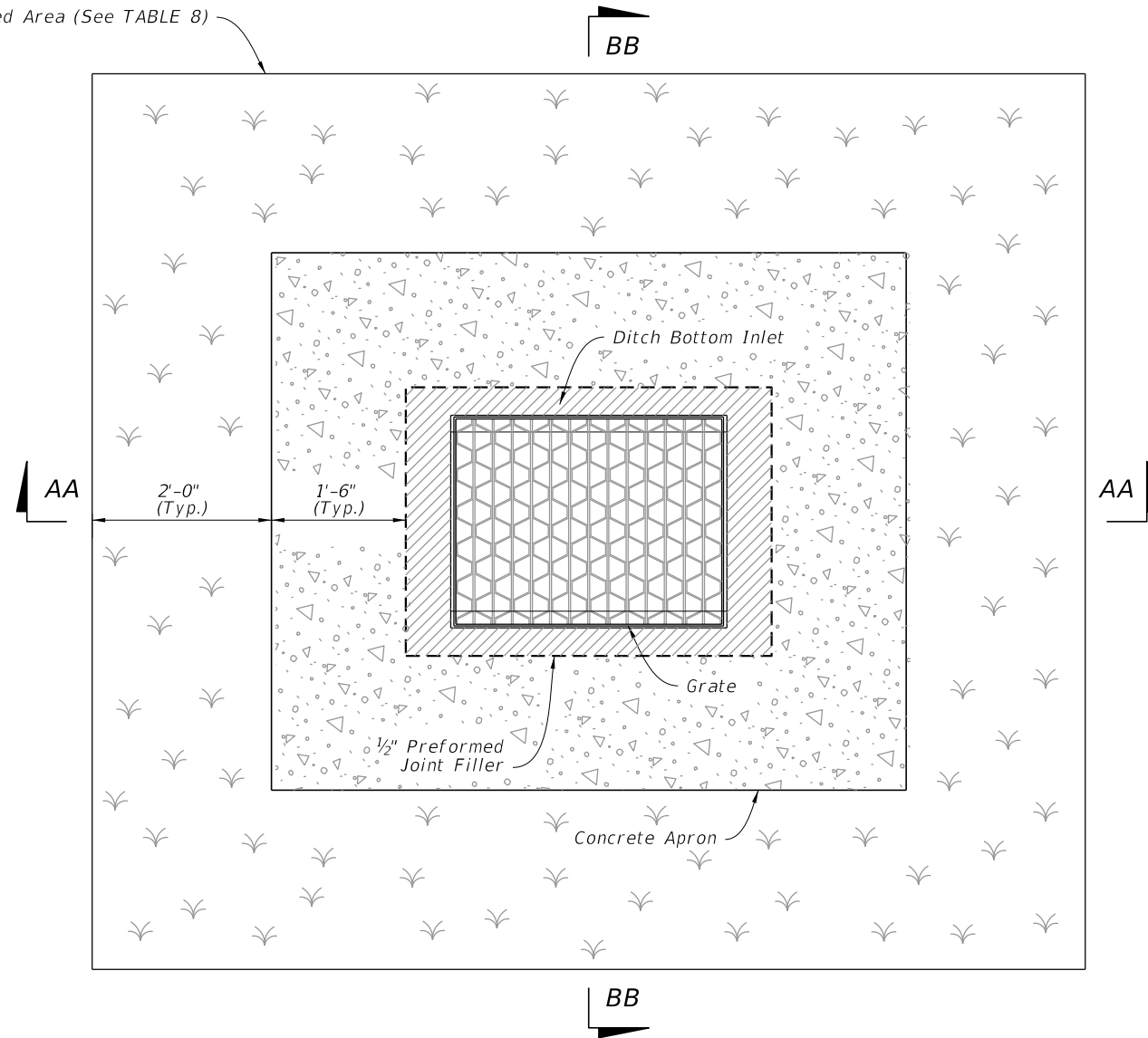
SODDING AND PAVEMENT
(Slot Shown, Non-Slot Similar)

NOTES:

1. Concrete Apron installed only where called for in the Plans.
2. Sod always required.

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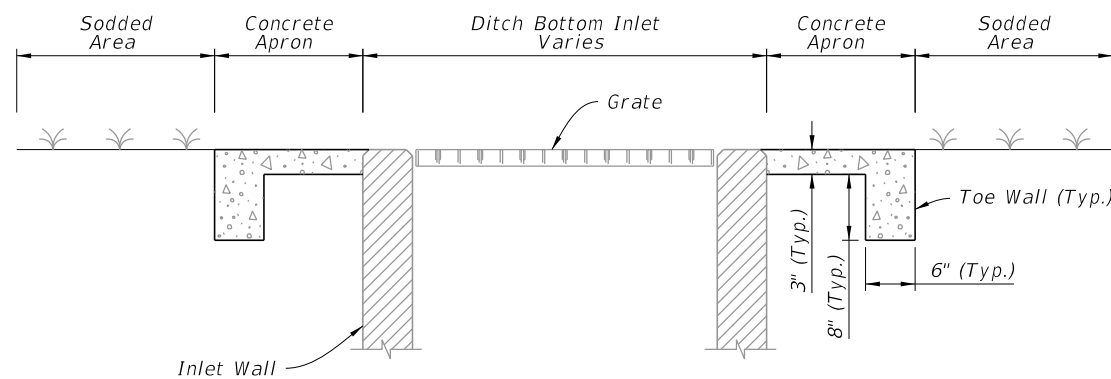
Sodded Area (See TABLE 8)



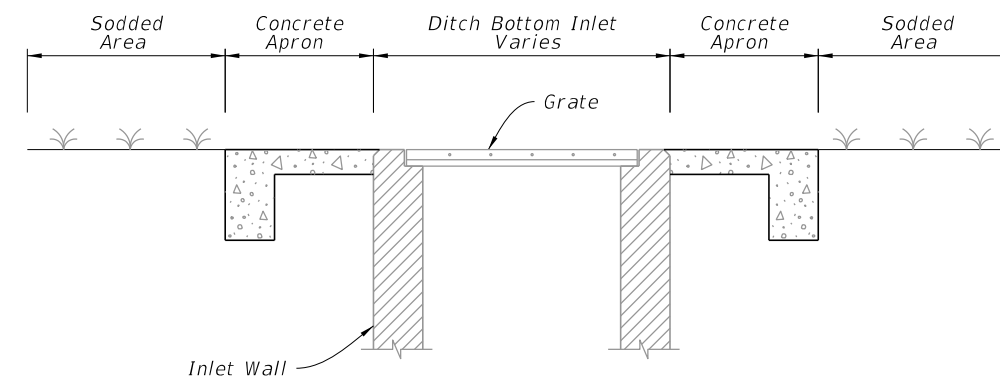
| TABLE 8 CONCRETE APRON AND SOD QUANTITIES | | |
|---|--------|----------|
| SOD AND PAVEMENT | | |
| Inlet Type | Sod SY | Conc. CY |
| C | 8 | 0.30 |
| D | 9 | 0.36 |
| E | 9 | 0.37 |
| H | 11 | 0.45 |

NOTES:

1. Concrete Apron to be installed only where called for in the Plans.
2. Sod always required.



SECTION AA-AA



SECTION BB-BB

TRAVERSABLE INLET WITHOUT SLOT DETAILS

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| | | |
|---------------------------|----------|--------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: |
|---------------------------|----------|--------------|

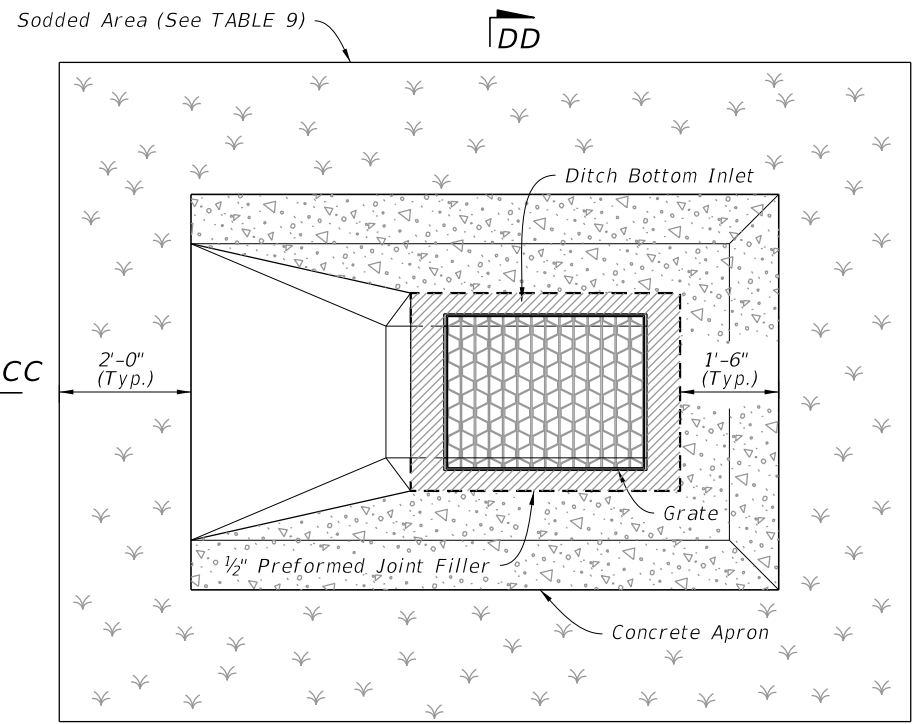


FY 2024-25
STANDARD PLANS

DITCH BOTTOM INLET TYPES C, D, E, AND H

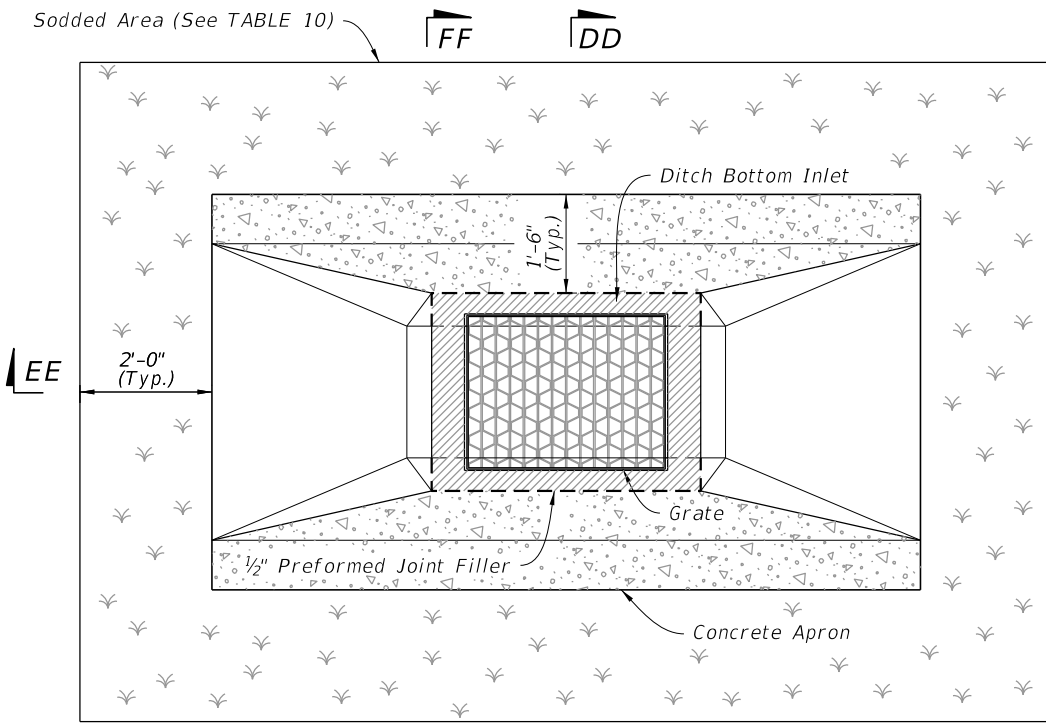
INDEX
425-052

SHEET
9 of 14



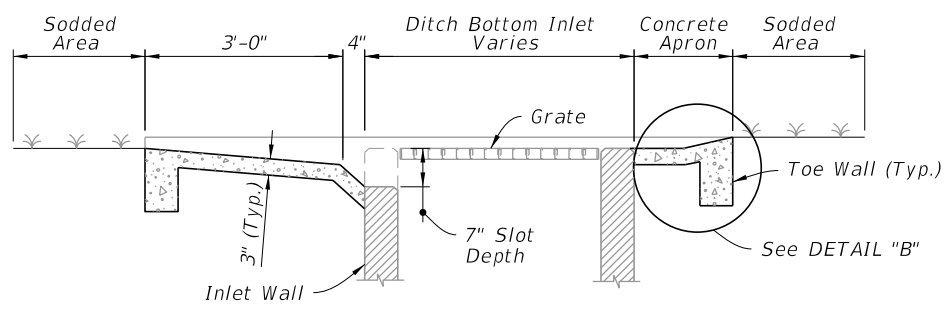
**TABLE 9
CONCRETE APRON
AND
SOD QUANTITIES**

| SINGLE SLOT | | |
|-------------|--------|----------|
| Inlet Type | Sod SY | Conc. CY |
| C | 12 | 0.77 |
| D | 14 | 0.91 |
| E | 14 | 0.91 |
| H | -- | -- |

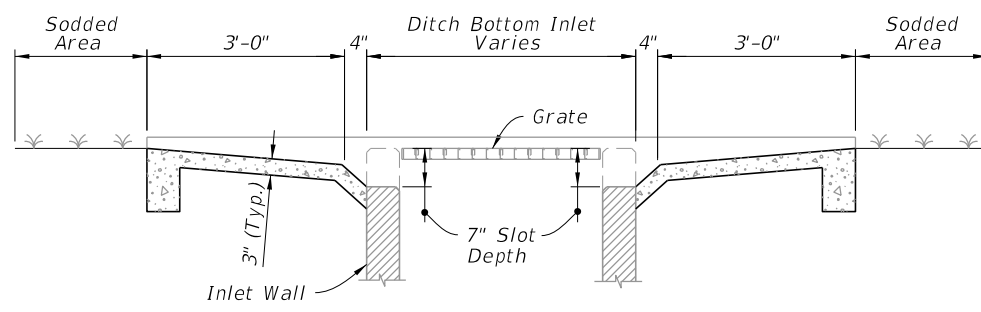


**TABLE 10
CONCRETE APRON
AND
SOD QUANTITIES**

| DOUBLE SLOT | | |
|-------------|--------|----------|
| Inlet Type | Sod SY | Conc. CY |
| C | 16 | 0.93 |
| D | 19 | 1.10 |
| E | 18 | 1.08 |
| H | -- | -- |



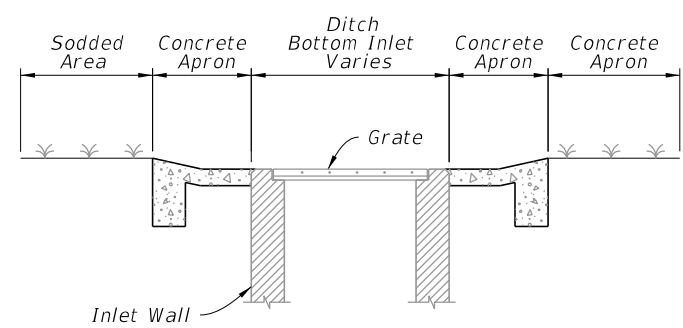
SECTION CC-CC



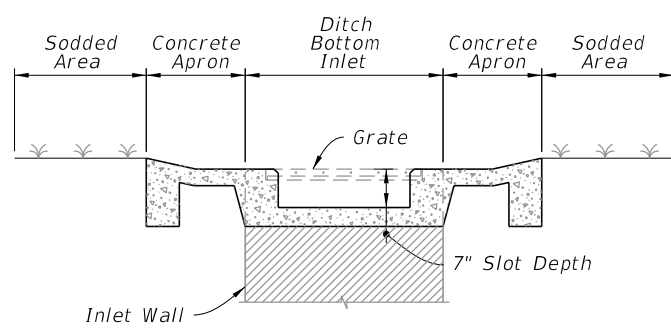
SECTION EE-EE

SINGLE SLOT

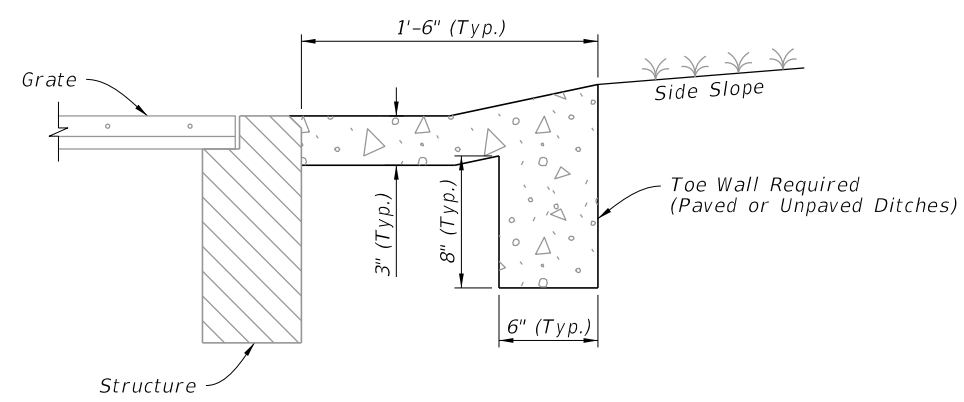
DOUBLE SLOT



SECTION DD-DD



SECTION FF-FF



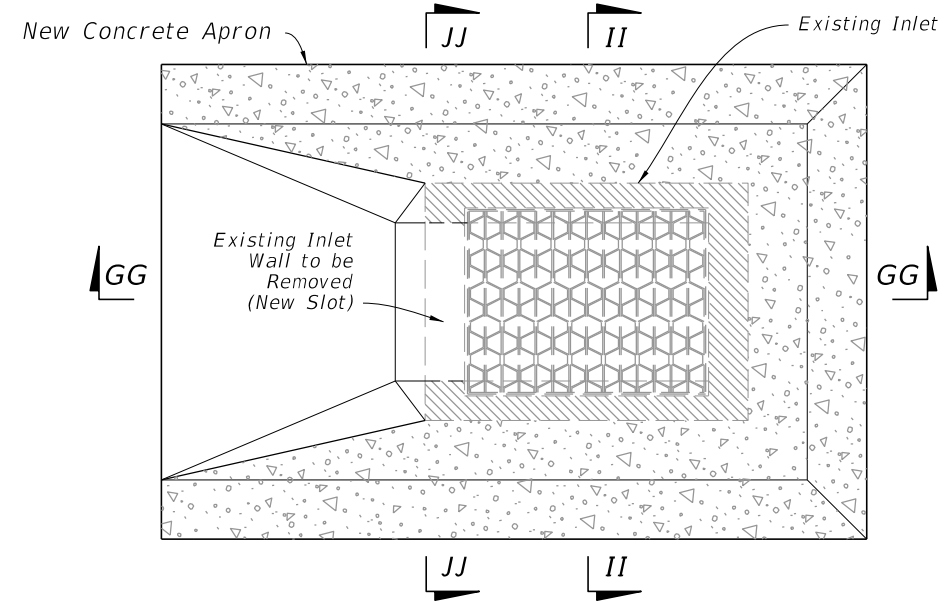
DETAIL "B"

NOTE:
Sod always required.

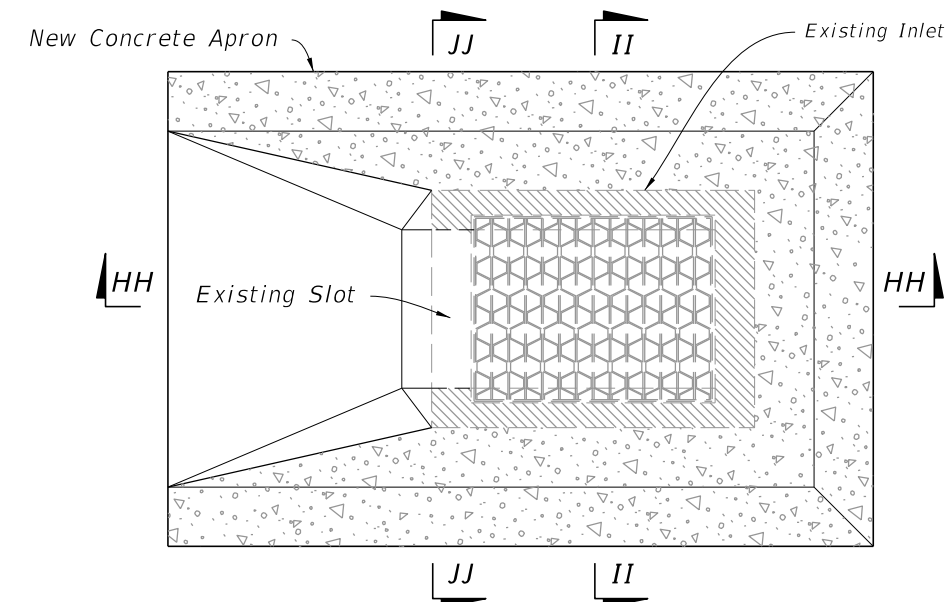
TRAVERSABLE INLET WITH SLOT DETAILS

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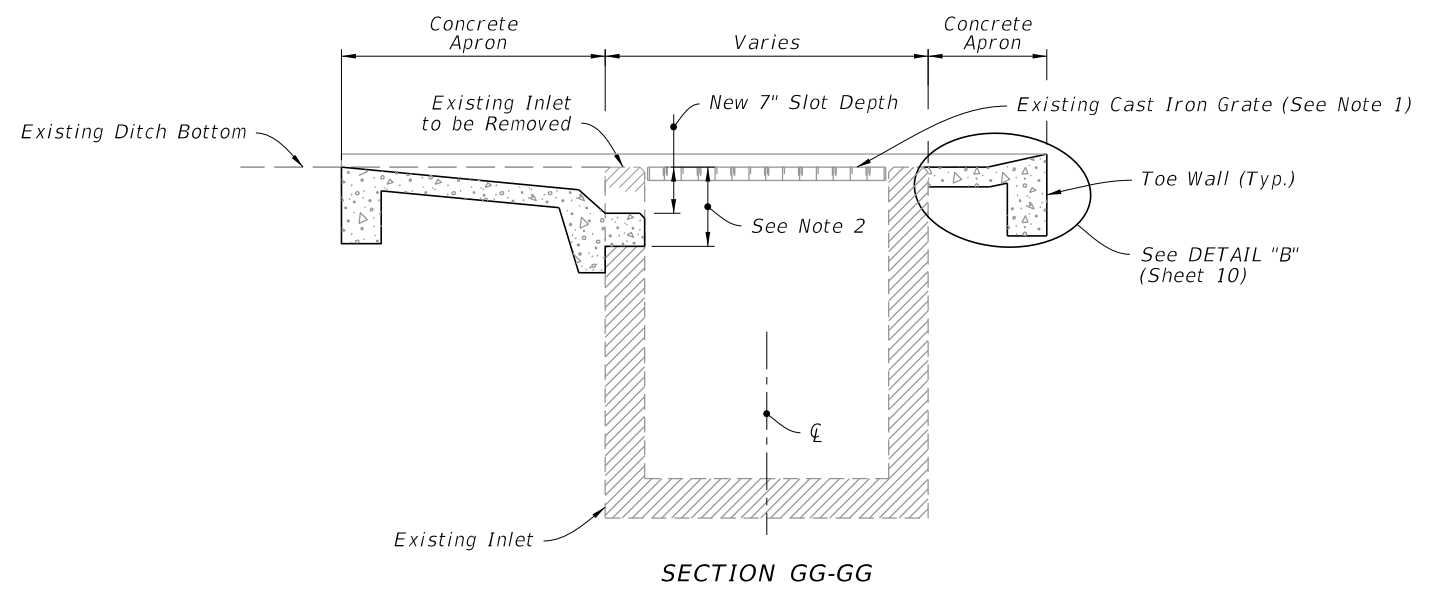
| | | | | | | | |
|---------------------------|----------|--------------|--|------------------------------|---|------------------|-------------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | | FY 2024-25 STANDARD PLANS | DITCH BOTTOM INLET TYPES C, D, E, AND H | INDEX 425-052 | SHEET 10 of 14 |
|---------------------------|----------|--------------|--|------------------------------|---|------------------|-------------------|



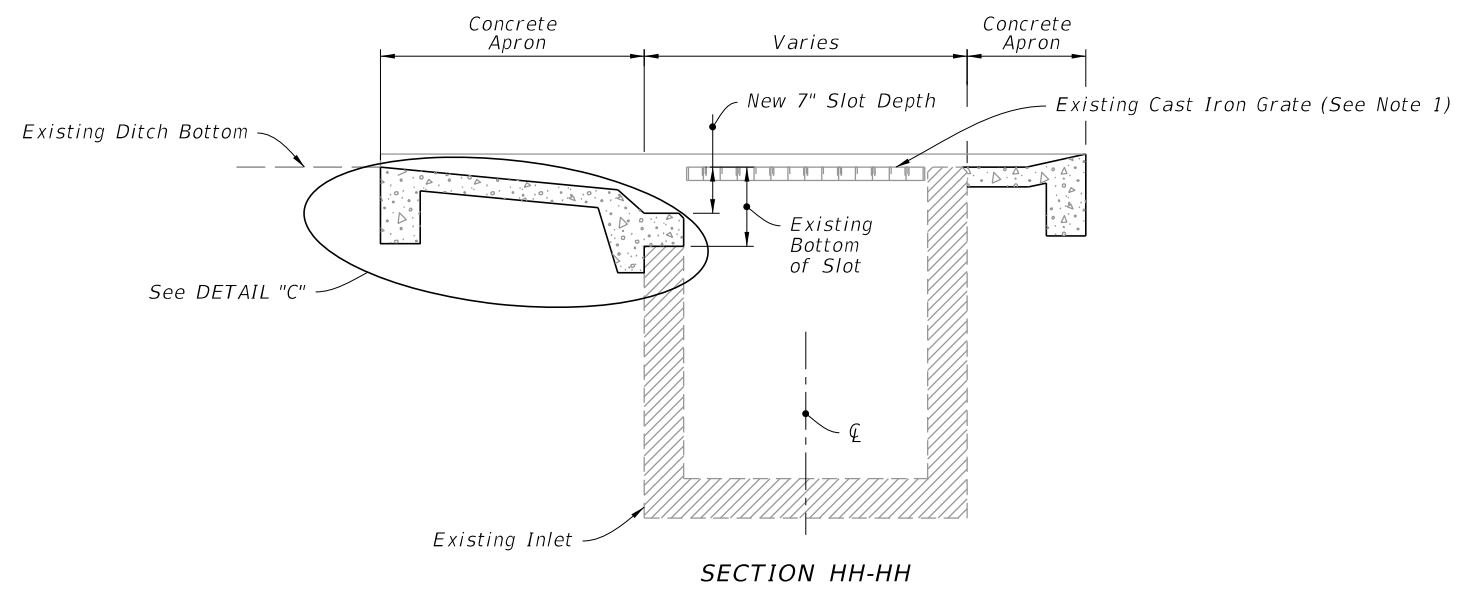
PLAN



PLAN



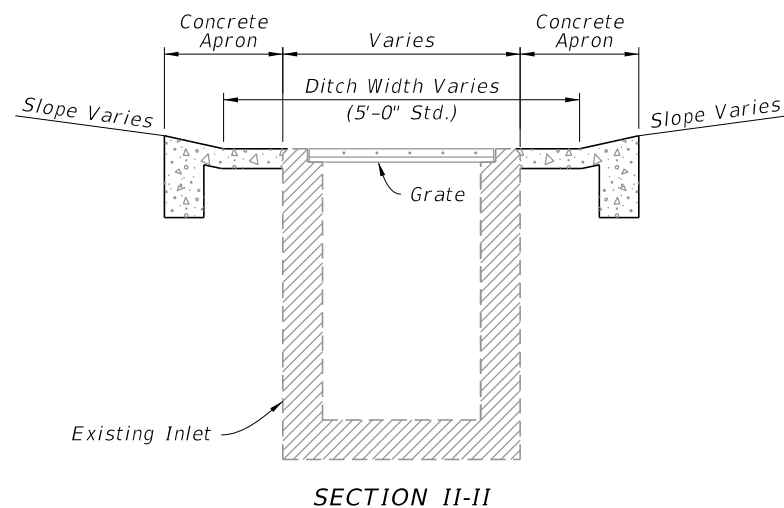
SECTION GG-GG



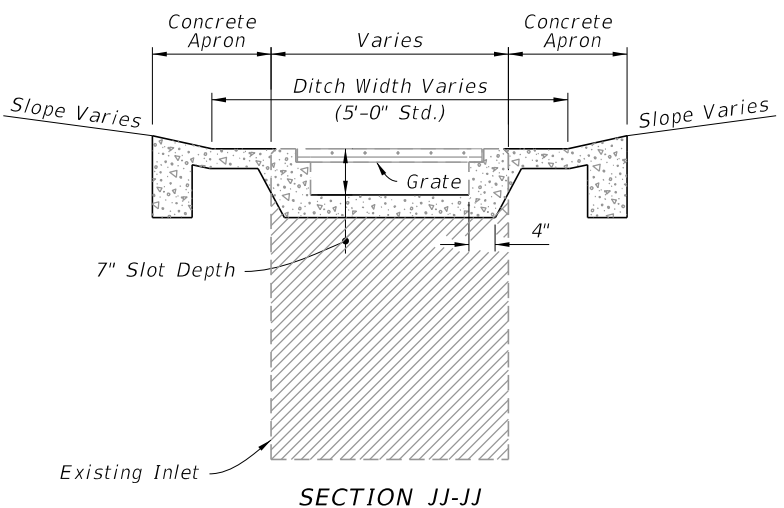
SECTION HH-HH

WITHOUT SLOT

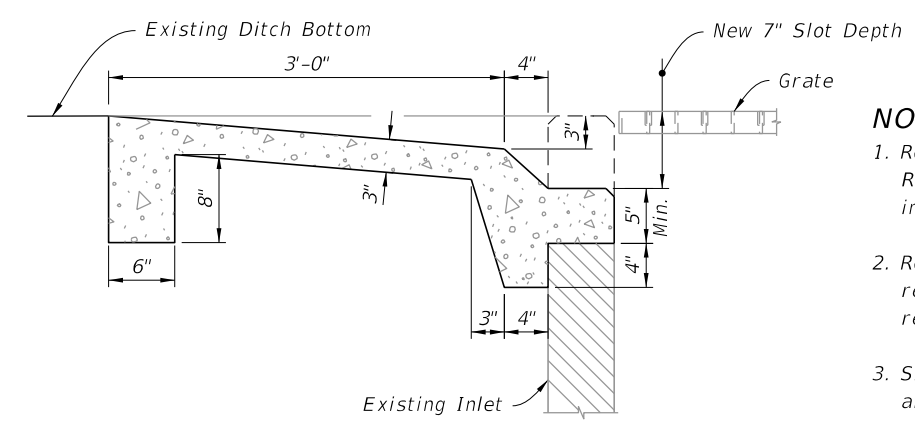
WITH SLOT



SECTION II-II



SECTION JJ-JJ



DETAIL "C"

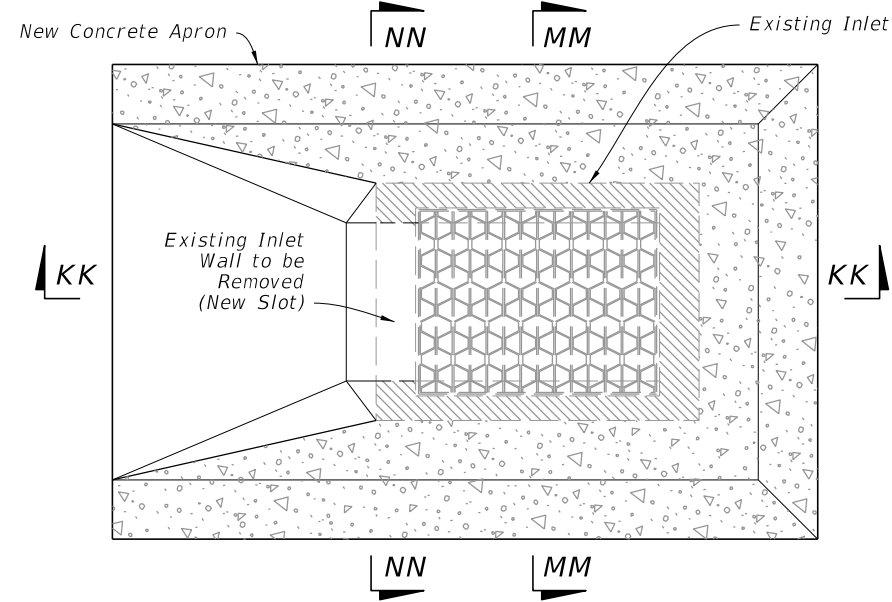
NOTES:

1. Replace existing cast iron grate with steel grate. Replace existing steel grate when called for in the plans or as directed by the Engineer.
2. Remove existing wall to this line (exposed rebar in pavement zone may be either removed or embedded)
3. Single Slot shown, Double Slots symmetrical about the Inlet centerline.

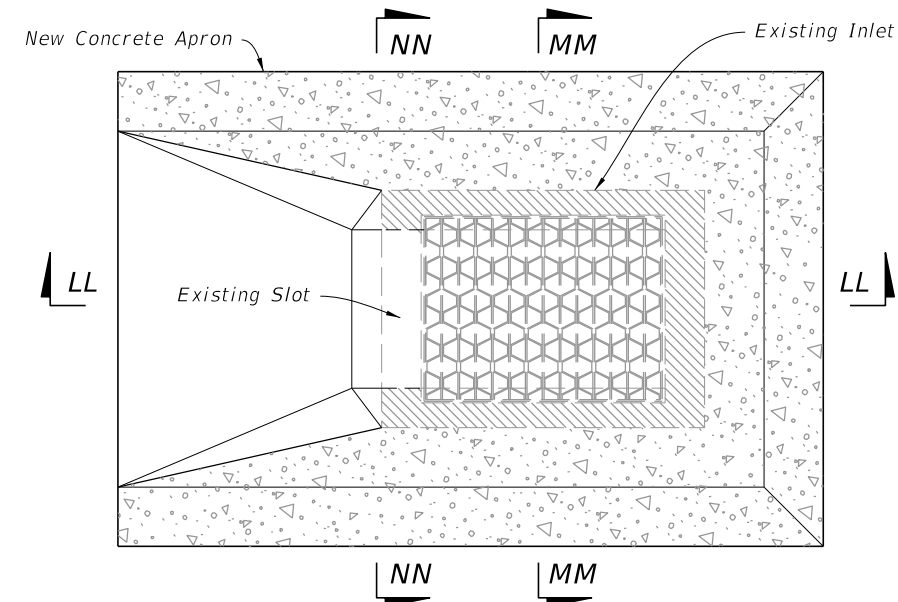
CASE 1 - ADD TRAVERSABLE SLOTS TO EXISTING INLETS

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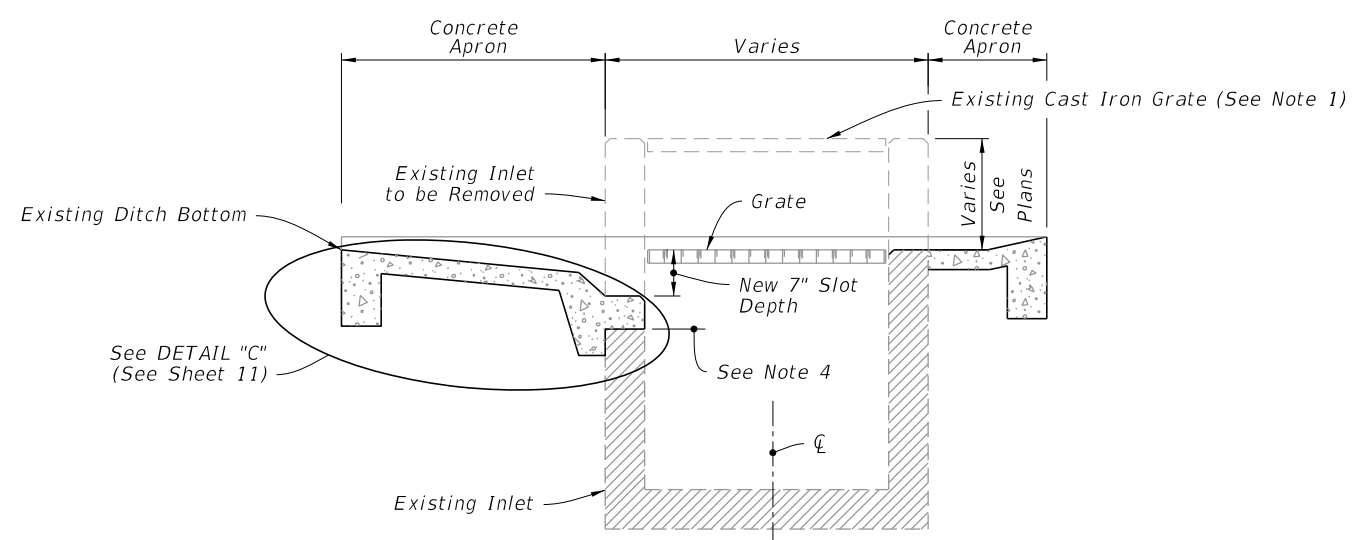
| | | | | | | | |
|---------------------------|----------|--------------|--|------------------------------|---|------------------|-------------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: |  | FY 2024-25 STANDARD PLANS | DITCH BOTTOM INLET TYPES C, D, E, AND H | INDEX 425-052 | SHEET 11 of 14 |
|---------------------------|----------|--------------|--|------------------------------|---|------------------|-------------------|



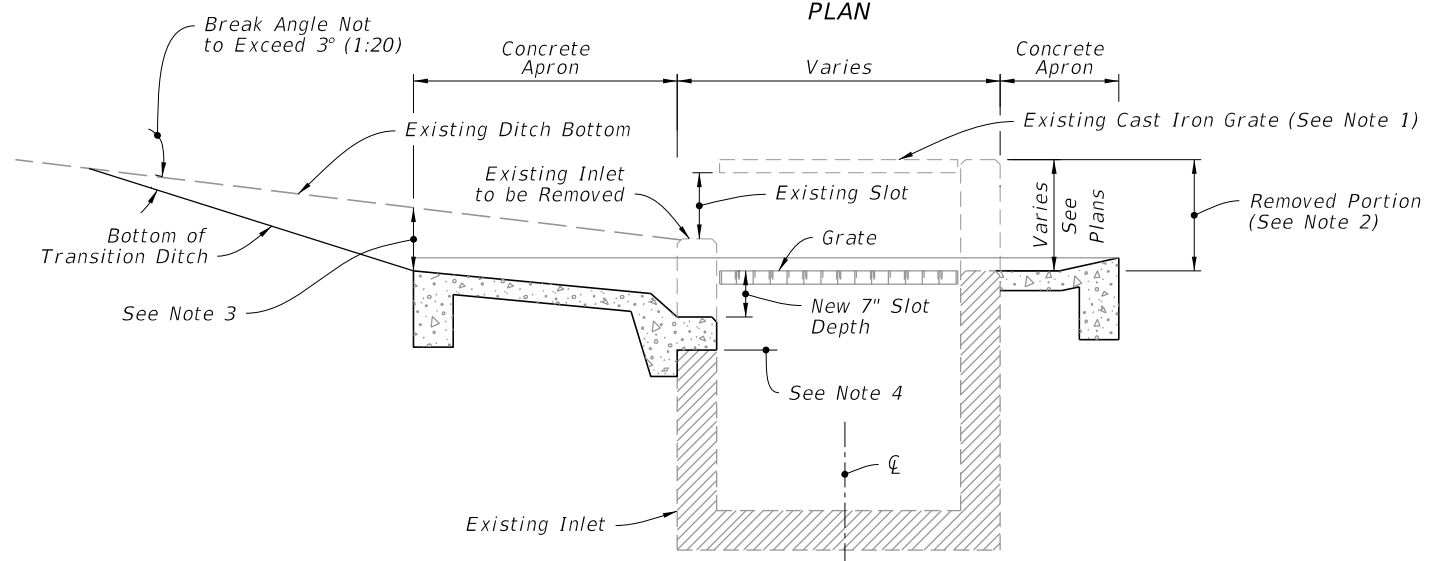
PLAN



PLAN



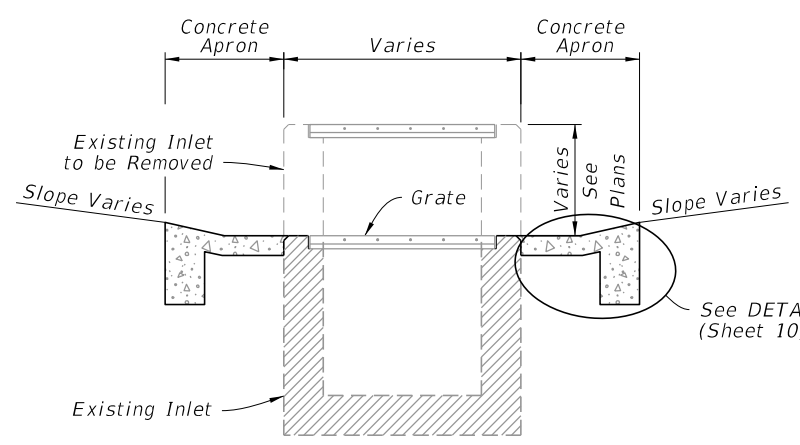
SECTION KK-KK



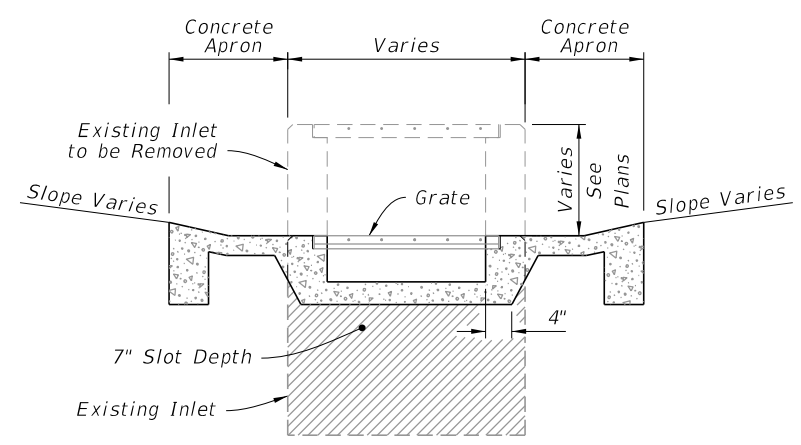
SECTION LL-LL

WITHOUT SLOT

WITH SLOT



SECTION MM-MM



SECTION NN-NN

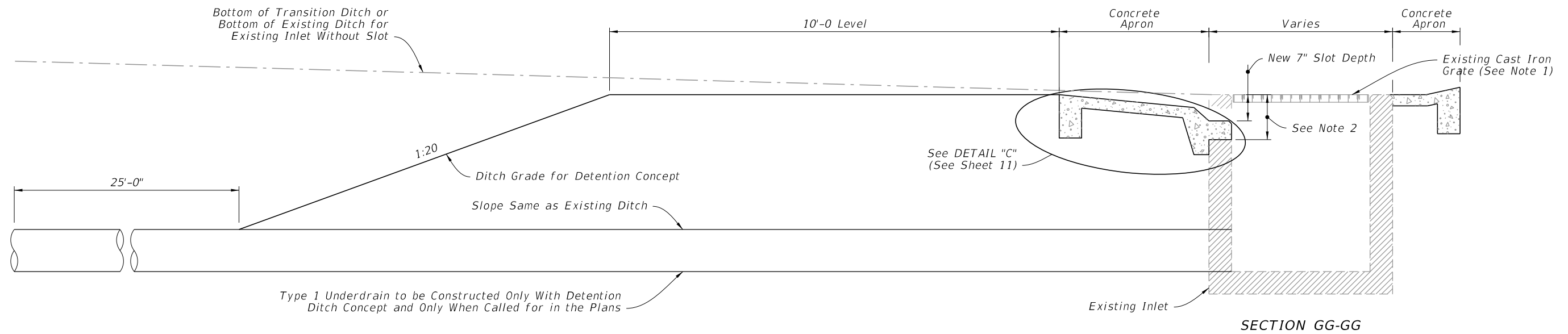
NOTES:

- Existing cast iron grate to be replaced with steel grate. Existing steel reticuline grate to be replaced when called for in the Plans or as directed by the Engineer.
- Remove this portion of box and construct new, concrete ditch pavement, seats and slot (s) (slots if required).
- These points can be the same or nearly the same where ditch grades are flat.
- Remove exist. wall to this line (exposed rebar in part. zone may be either removed or embedded).
- Single Slot shown, Double Slots symmetrical about the Inlet centerline.

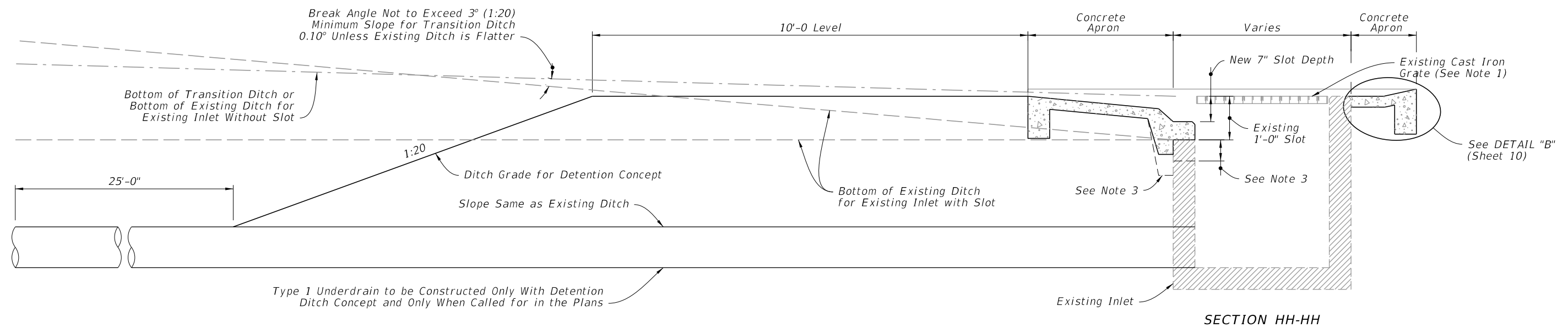
CASE 2 - ADD TRAVERSABLE SLOTS (PARTIAL) TO EXISTING INLETS

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| | | | | | | | |
|---------------------------|----------|--------------|--|------------------------------|---|------------------|-------------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | | FY 2024-25 STANDARD PLANS | DITCH BOTTOM INLET TYPES C, D, E, AND H | INDEX 425-052 | SHEET 12 of 14 |
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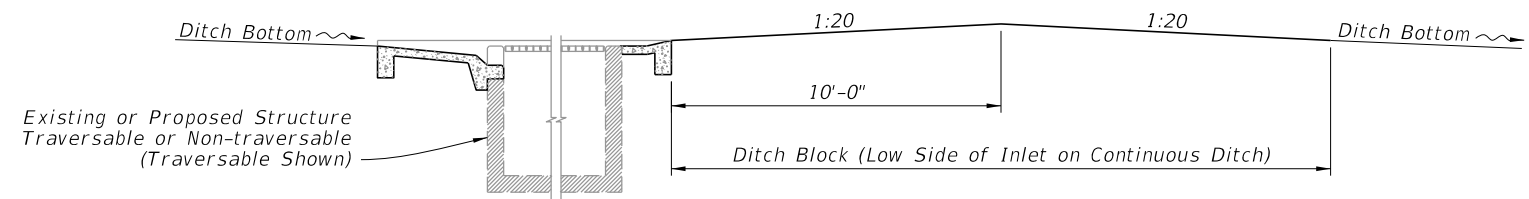
WITHOUT SLOT



WITH SLOT

NOTES:


1. Existing cast iron grate to be replaced with steel grate. Existing steel reticuline grate to be replaced when called for in the Plans or as directed by the Engineer.
2. Remove existing wall to this line (exposed rebar in pavement zone may be either removed or embedded)
3. Install extra apron when existing slot exceeds 12" in depth.
4. Inlet details (With or Without Slots) similar to details on Sheet 11.

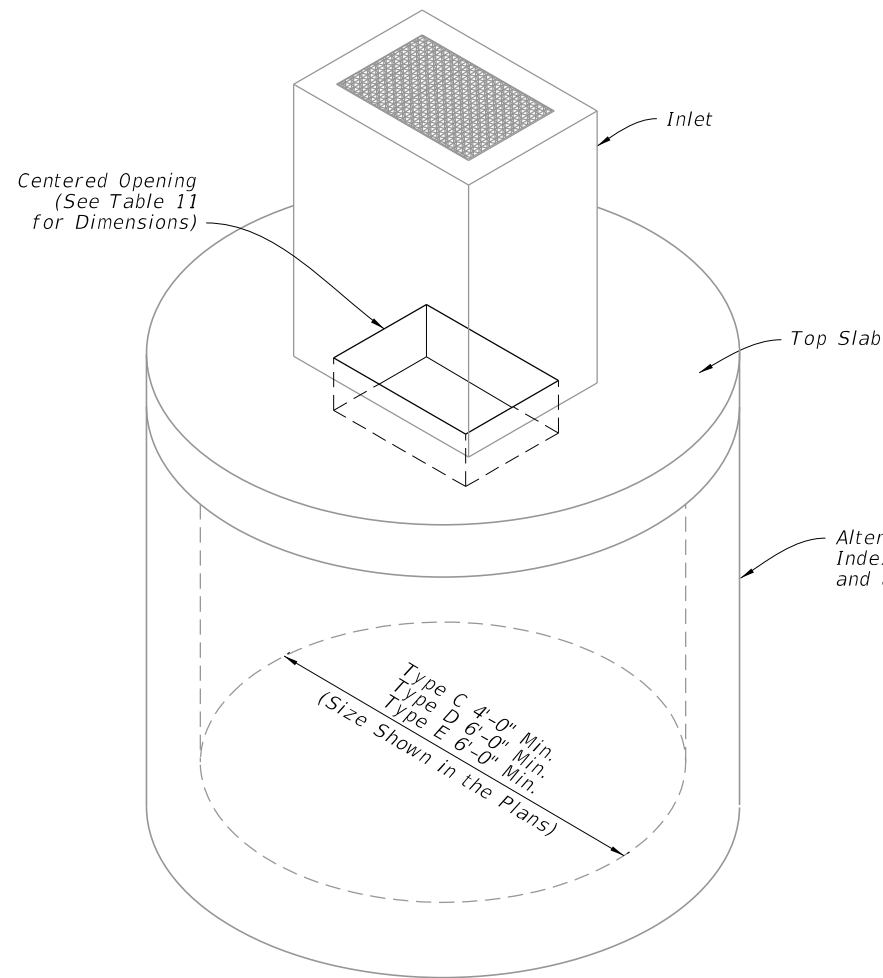


DITCH BLOCK FOR INLETS WITH OR WITHOUT SLOTS

CASE 3 - ADD TRAVERSABLE SLOTS (PARTIAL) TO EXISTING INLETS AND DITCH BLOCK

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| | | | | | | | |
|---------------------------|----------|--------------|---|------------------------------|---|------------------|-------------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: |  | FY 2024-25 STANDARD PLANS | DITCH BOTTOM INLET TYPES C, D, E, AND H | INDEX 425-052 | SHEET 13 of 14 |
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| DIAMETER | OPENING SIZE | |
|----------|---------------|---------------|
| | Min. | Max. |
| 4'-0" | 2'-0" x 3'-1" | 2'-0" x 3'-1" |
| 5'-0" | 2'-0" x 3'-1" | 3'-1" x 4'-1" |
| 6'-0" | 2'-0" x 3'-1" | 3'-0" x 4'-6" |
| 8'-0" | 2'-0" x 3'-1" | 3'-0" x 4'-6" |

2 Way Reinforcement
(See Tables 12 & 13)

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Centered Opening
(See Table 11
for Dimensions)

#4 Bar Each Corner
(2'-0" Min. Length)

#8 Bars

#5 Hoop Bar
(Peripheral Reinforcement)

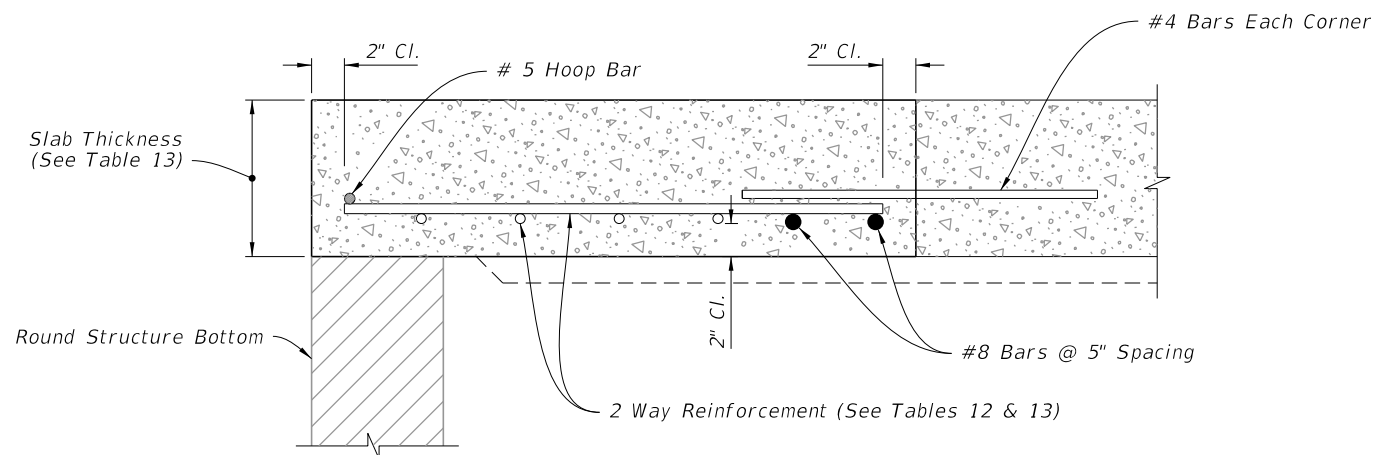
Alternate A Structure Bottom (See
Index 425-010 for Alternate B
and additional details)

Type C 4'-0" Min.
Type D 6'-0" Min.
Type E 6'-0" Min.
(Size Shown in the Plans)

| SCHEDULE | GRADE 60 (BAR) OR 65 KSI & 70 KSI (WIRE REINFORCING) In. ² /ft. |
|----------|---|
| A | 0.20 |
| B | 0.24 |
| C | 0.37 |
| D | 0.53 |
| E | 0.73 |
| F | 1.06 |
| G | 1.45 |

| STRUCTURE DEPTH | SLAB THICKNESS | REINFORCING (2 WAY) SCHEDULE |
|--------------------|-------------------|------------------------------------|
| SIZE: 4'-0" | | |
| ≥0.5' < 40' | 9½" | B |
| SIZE: 5'-0" | | |
| ≥0.5' < 30' | 9½" | C |
| 30' - 40' | 9½" | D |
| SIZE: 6'-0" | | |
| ≥0.5' < 8' | 9½" | B |
| 8' < 18' | 9½" | C |
| 18' < 30' | 9½" | D |
| 30' < 37' | 9½" | E |
| 37' - 40' | 9½" | G |
| SIZE: 8'-0" | | |
| ≥0.5' < 9' | 11½" | C |
| 9' < 15' | 11½" | D |
| 15' < 23' | 11½" | E |
| 23' < 33' | 11½" | E |
| 33' - 40' | 11½" | G |

PLAN



SECTION 00-00

ISOMETRIC VIEW

TOP SLAB REINFORCEMENT DETAILS

ALTERNATE A STRUCTURE BOTTOM - TOP SLAB DETAILS

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| | | |
|---------------------------|----------|--------------|
| LAST REVISION 11/01/20 | REVISION | DESCRIPTION: |
|---------------------------|----------|--------------|



FY 2024-25
STANDARD PLANS

DITCH BOTTOM INLET TYPES C, D, E, AND H

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