GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

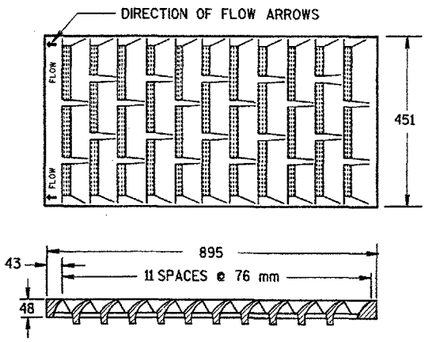
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

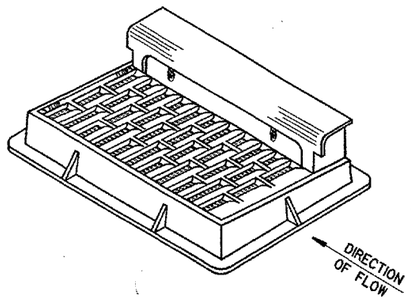
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

NOTE

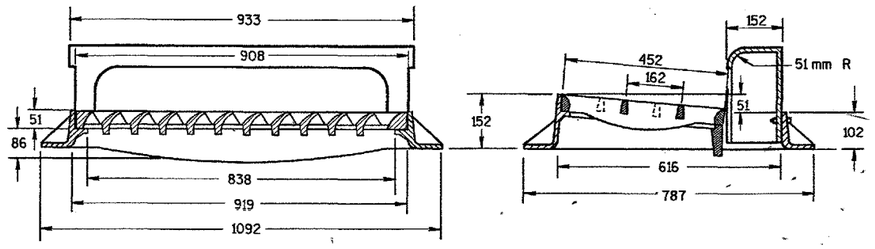
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE SHOWN.

NOTE:
GRATE IS REVERSIBLE.





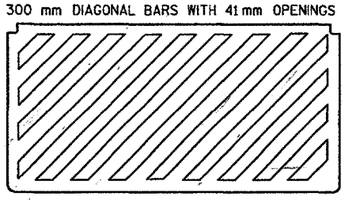
NOTE: CURB BOX HEIGHT ADJUSTABLE 150 mm TO 230 mm



TYPE "H"

(APPROXIMATE WEIGHT 191 kg)
FRAME..... 79 kg
GRATE..... 63 kg
CURB BOX..... 49 kg

300 mm DIAGONAL BARS WITH 41 mm OPENINGS

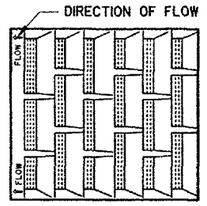


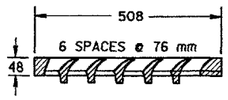
SPECIAL GRATE FOR TYPE "H" COVER

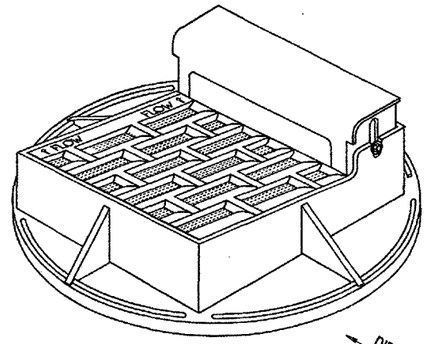
(MEASURES 895 mm X 451 mm X 51 mm)
(APPROXIMATE WEIGHT 78 kg)

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

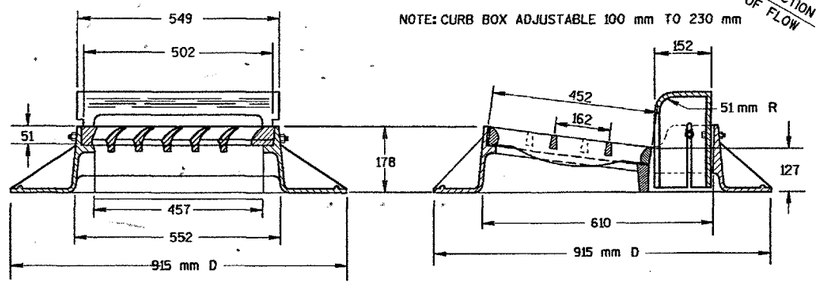
NOTE:
GRATE IS REVERSIBLE.







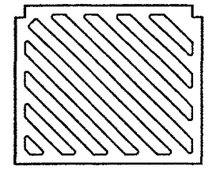
NOTE: CURB BOX ADJUSTABLE 100 mm TO 230 mm



TYPE "A"

(APPROXIMATE WEIGHT 325 LBS.)
FRAME..... 157 LBS.
GRATE..... 84 LBS.
CURB BOX..... 84 LBS.

30 mm DIAGONAL BARS WITH 30 mm OPENINGS



SPECIAL GRATE FOR TYPE "A" COVER

(MEASURES 502 mm X 432 mm X 51 mm
GRATE..... 38 kg
(NOTED AS TYPE A-S ON DRAINAGE TABLE)

NOTE:
GRATE IS REVERSIBLE.

INLET COVERS
TYPE A, H, A-S, & H-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

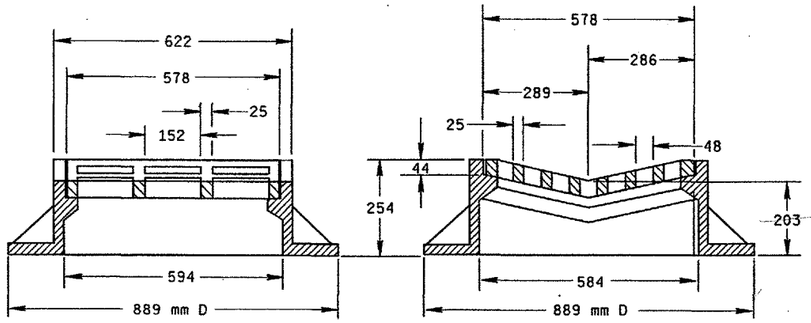
APPROVED 8/27/26
DATE
Roy L. Thomasma
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA
M

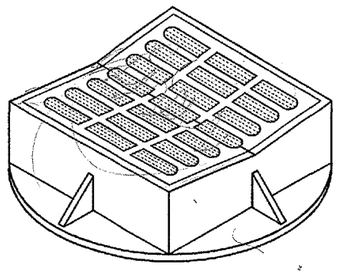
S.D.D. 8 A 5-15a

LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15,16,17,18,19, 20,21,22, 23,24, 25,26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41, 42,43,44,45,46,47,48, 49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

S.D.D. 8 A 5-15a

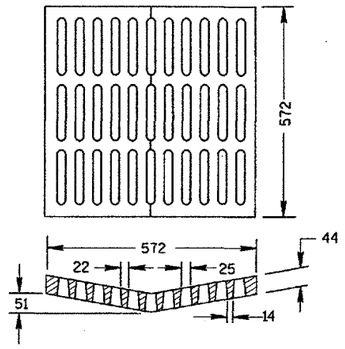




TYPE "B"

(APPROXIMATE WEIGHT 179 kg)

FRAME..... 129 kg
GRATE..... 50 kg

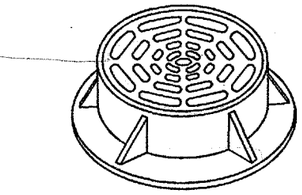


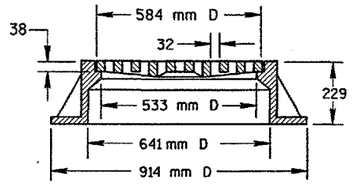
ALTERNATIVE GRATE FOR FOR TYPE "B" COVER

(APPROXIMATE GRATE WEIGHT 57 kg)
GRATE.....57 kg

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE





TYPE "C"

(APPROXIMATE WEIGHT 154 kg)

FRAME..... 107 kg
GRATE..... 48 kg

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

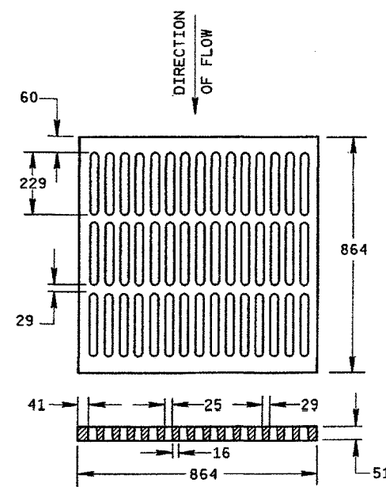
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

NOTES

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

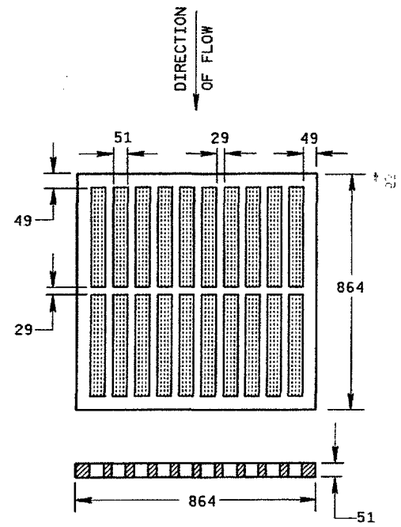


ALTERNATIVE TYPE "MS"

(APPROXIMATE GRATE WEIGHT 166 kg)
GRATE.....166 kg

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

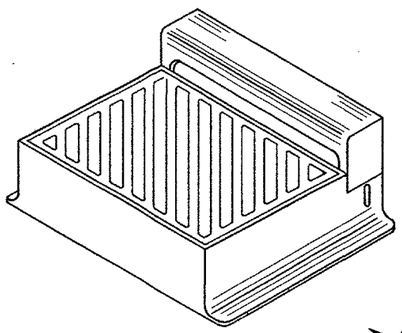


TYPE "MS"

(APPROXIMATE GRATE WEIGHT 122 kg)
GRATE.....122 kg

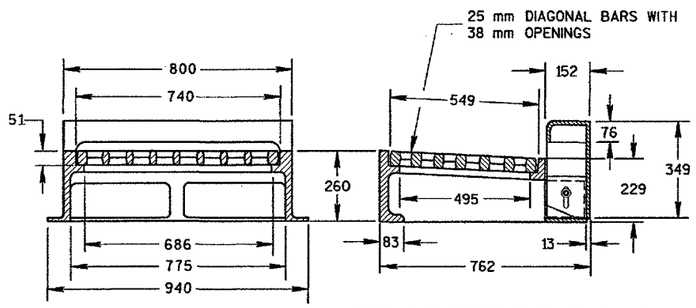
USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



DIRECTION OF FLOW

DIAGONAL SLOTS, SHALL BE ORIENTED TO THE DIRECTION OF FLOW AS ILLUSTRATED. GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 152 mm TO 229 mm

TYPE "WM"

(APPROXIMATE WEIGHT 304 kg)

FRAME..... 163 kg
GRATE..... 73 kg
CURB BOX..... 68 kg

INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 6/28/98
DATE

CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

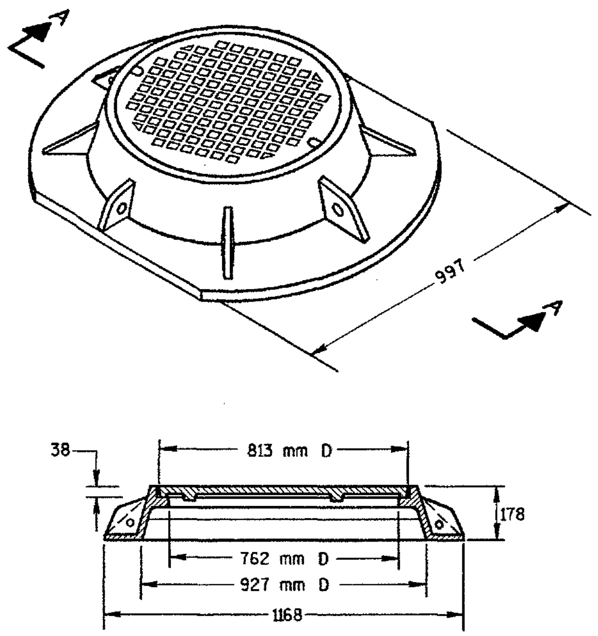
M

S.D.D. 8 A 5-15b

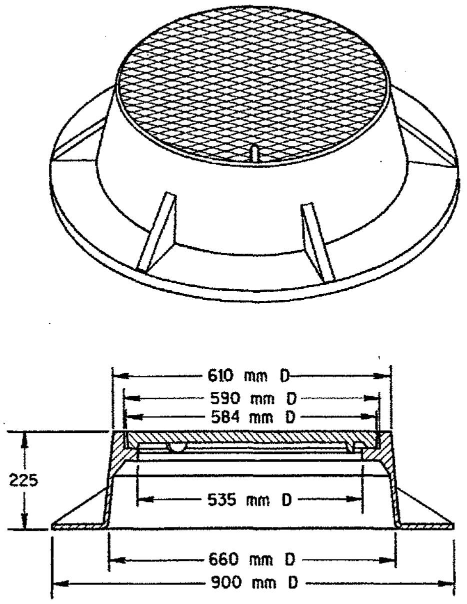
LEVELS ON - 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17, 18,19, 20,21,22, 23,24, 25, 26,27, 28,29, 30,31, 32,33, 34,35,36,37,38,39, 40,41, 42,43, 44, 45, 46, 47, 48, 49, 50,51, 52,53,54, 55,56,57, 58,59,60,61, 62,63

FILE NAME:

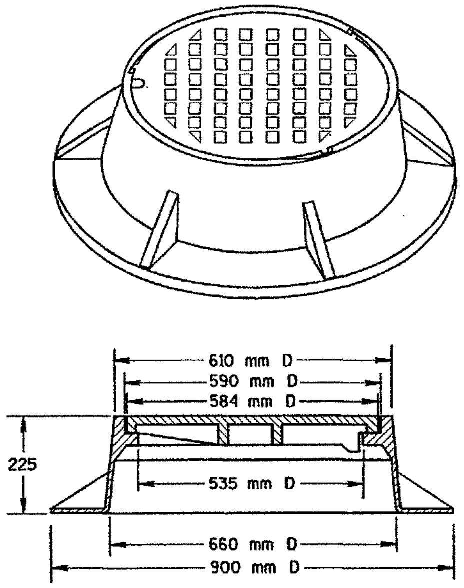
S.D.D. 8 A 5-15b



SECTION A-A
TYPE "K"
(APPROXIMATE WEIGHT 188 kg)
FRAME..........95 kg
LID............93 kg



TYPE "J"
(APPROXIMATE WEIGHT 113 kg)
FRAME..............61 kg
LID................52 kg



TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(APPROXIMATE WEIGHT 111 kg)
FRAME..............66 kg
LID................45 kg
(NOTED AS TYPE J-S ON DRAINAGE TABLE)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

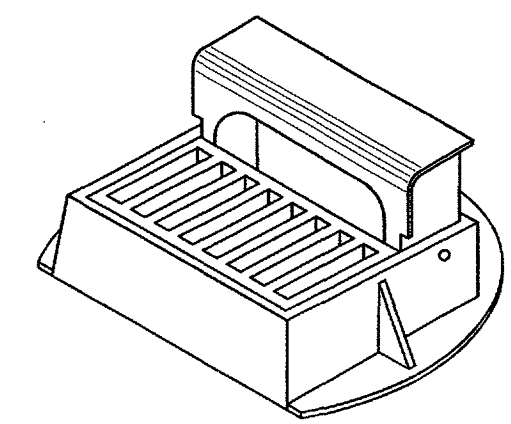
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

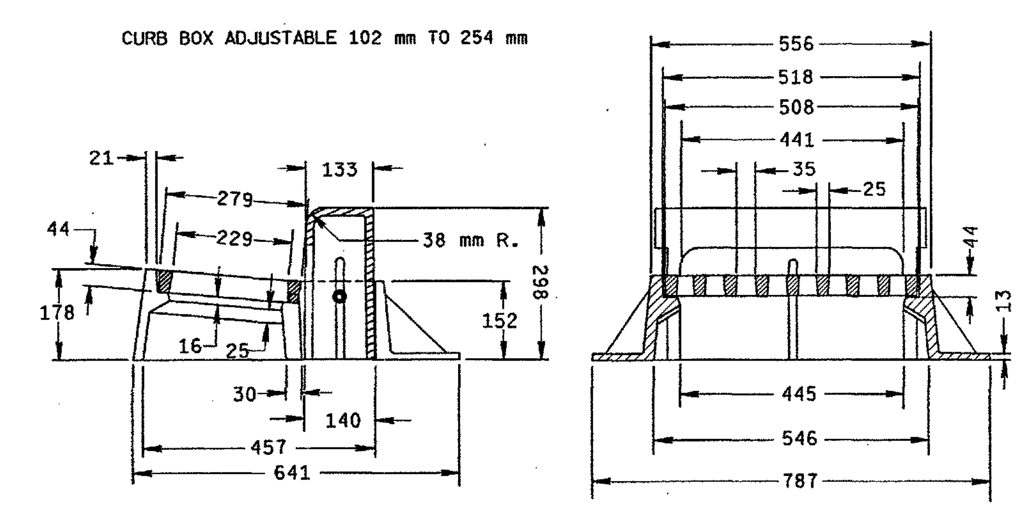
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

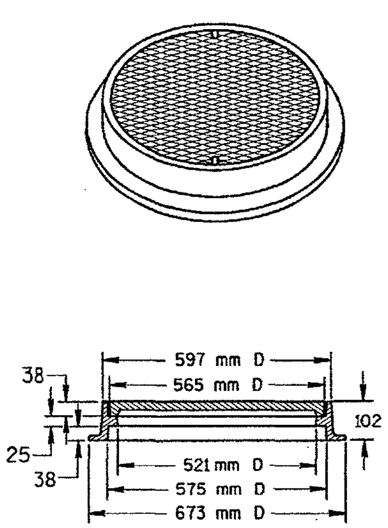
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

NOTE

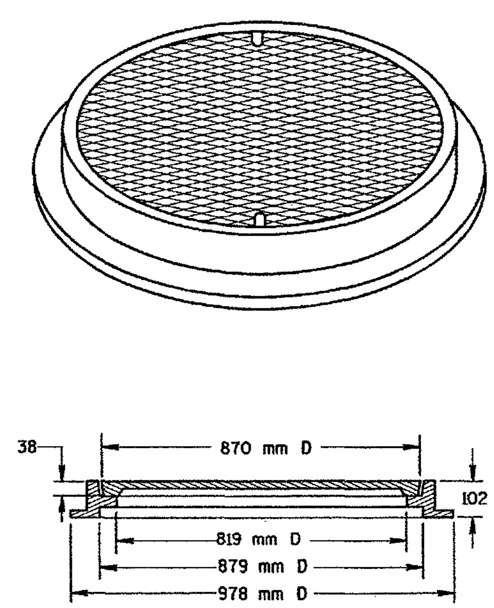
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.







TYPE "L"
(APPROXIMATE WEIGHT 66 kg)
FRAME..........34 kg
LID............32 kg



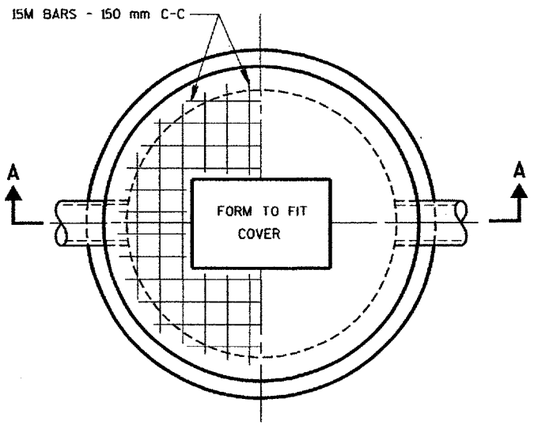
TYPE "M"
(APPROXIMATE WEIGHT 175 kg)
FRAME.................. 57 kg
LID....................... 118 kg

INLET COVER TYPE "Z"
(APPROXIMATE WEIGHT 155 kg)
FRAME.......................... 90 kg
GRATE.......................... 23 kg
CURB BOX..................... 42 kg

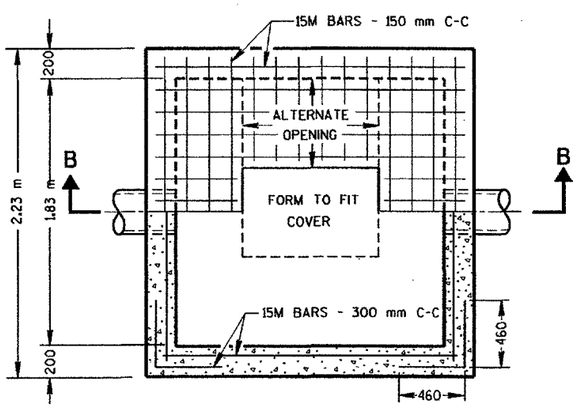
INLET COVER, TYPE Z
MANHOLE COVERS, TYPE
K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

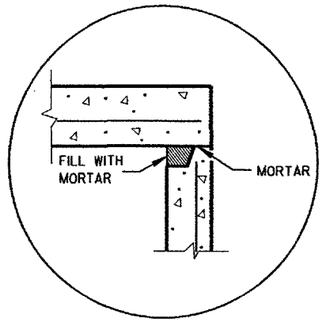
APPROVED
8/27/98
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA
M



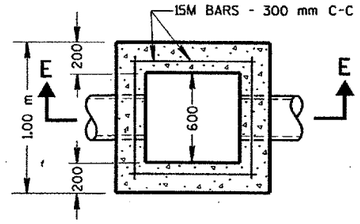
PLAN VIEW



HALF SECTION C-C



DETAIL "A"



SECTION D-D

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE A PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLE 1-C", "CATCH BASINS 1-B", "INLETS 3-H", ETC. THE FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 150 mm IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 1.5 m IN DEPTH: 400 mm C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 100 mm FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 255 mm; MINIMUM WALL EMBEDMENT OF 75 mm; AND BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 1335 N. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 20 mm. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR WILL BE ACCEPTABLE.

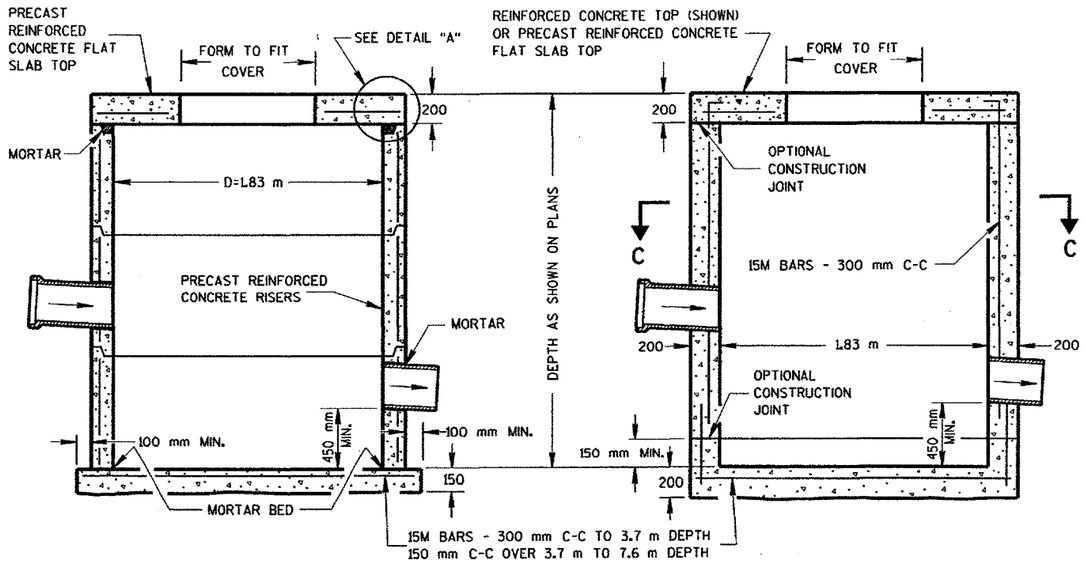
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199M

NOTE

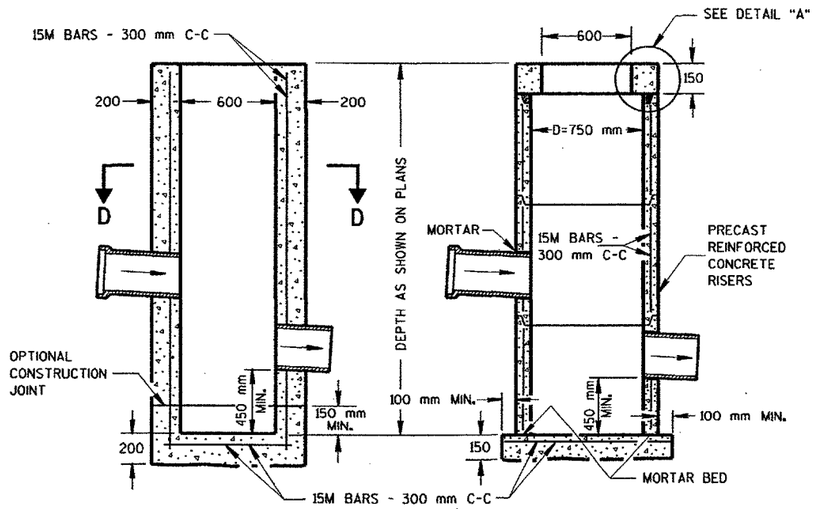
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



PRECAST REINFORCED CONCRETE SECTION A-A

REINFORCED CONCRETE SECTION B-B

CATCH BASINS TYPE 5



REINFORCED CONCRETE SECTION E-E

PRECAST REINFORCED CONCRETE

CATCH BASINS TYPE 3

CATCH BASINS TYPE 3 & 5

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 01/27/95 DATE

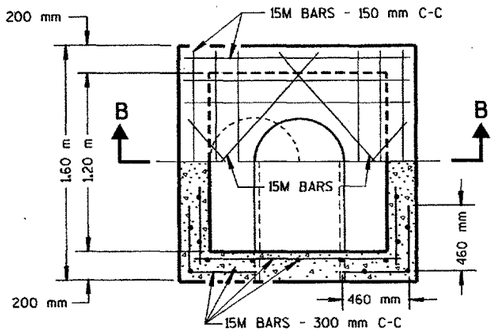
Roy L. Thomson
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

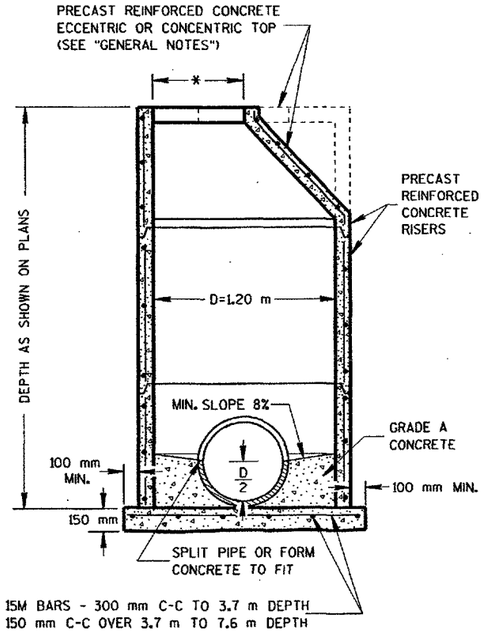
M

S.D.D. 8 A 7-3

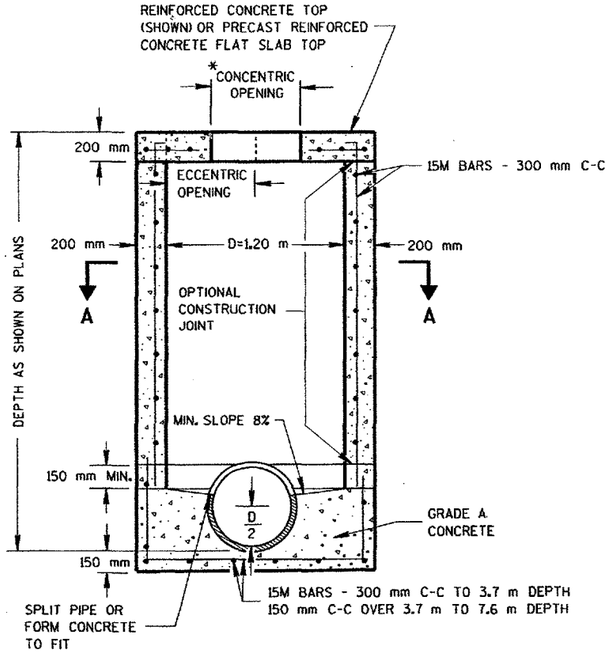
S.D.D. 8 A 7-3



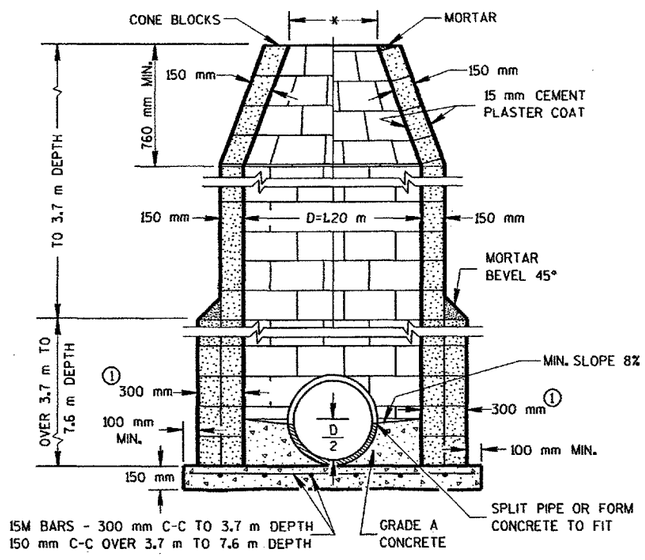
HALF SECTION A-A



PRECAST REINFORCED CONCRETE



SECTION B-B
REINFORCED CONCRETE



CONCRETE BLOCK

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 1-C", "CATCH BASINS 1-B", "INLETS 3-H", ETC. THE FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 150 mm IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 1.5 m OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 1.5 m IN DEPTH: 400 mm C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 100 mm FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 250 mm; MINIMUM WALL EMBEDMENT OF 75 mm; AND BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 136 kg FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 25 mm.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 19 mm. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

PRECAST REINFORCED CONCRETE RISERS MAY BE PLACED WITH TONGUE UP OR DOWN.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199M.

* USE 600 mm DIAMETER OPENING WITH TYPE "C", "L" AND "J" COVERS, OR 900 mm DIAMETER WITH TYPE "K" AND "M" COVERS.

① 2 COURSES 150 mm BLOCK.

MANHOLES TYPE 1

MANHOLES TYPE 1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 02/07/85
DATE

CHIEF ROADWAY DEVELOPMENT ENGIN

FHWA

S.D.D. 8 B

PLOT NAME:

PLOT SCALE:

REV. DATE:

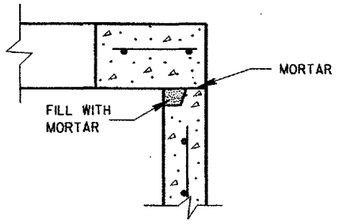
ORIGINATOR:

LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15,16,17,18,19, 20,21,22, 23,24, 25,26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41, 42,43,44,45,46,47,48, 49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

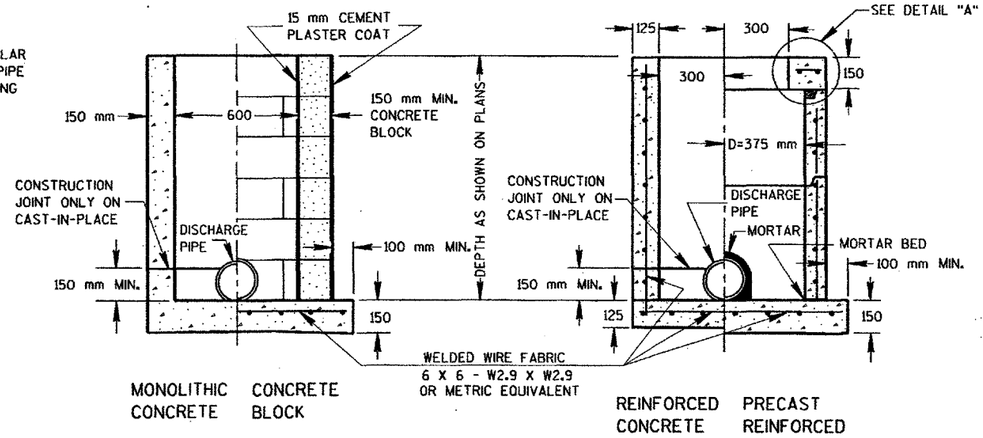
S.D.D. 8 B 6-3

FILE NAME:

*SELECTION OF SQUARE OR CIRCULAR DESIGN WILL BE BASED ON THE PIPE SIZES AND THE INLET COVER BEING UTILIZED



DETAIL "A"



INLETS TYPE 1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION 199 M.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 1-C", "CATCH BASINS 1-B", "INLETS 3-H", ETC. THE FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 150 mm IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

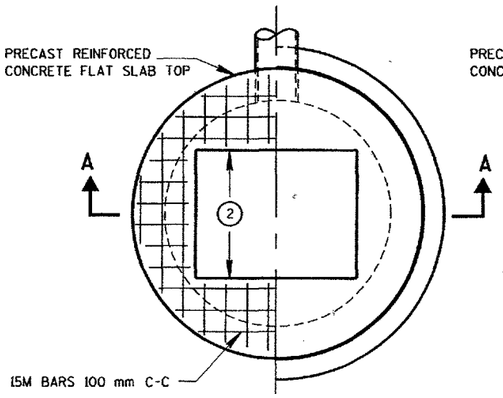
PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

(1) USE 760 mm OPENING FOR TYPE 2 INLETS, 915 mm OPENING FOR TYPE 3 INLETS, AND 890 mm TYPE 4 INLETS.

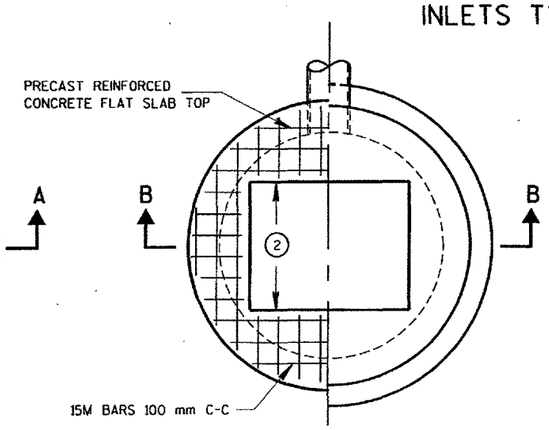
(2) USE 610 mm OPENING FOR TYPE 1, 2 & 3 INLETS, 775 mm OPENING FOR TYPE 4 INLETS.

NOTE

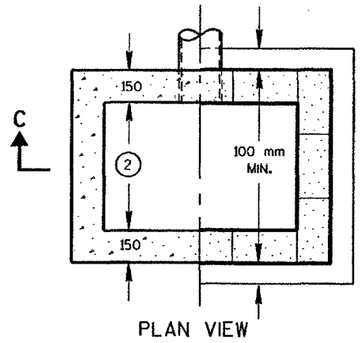
ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



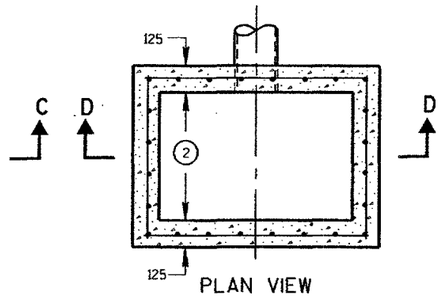
PLAN VIEW



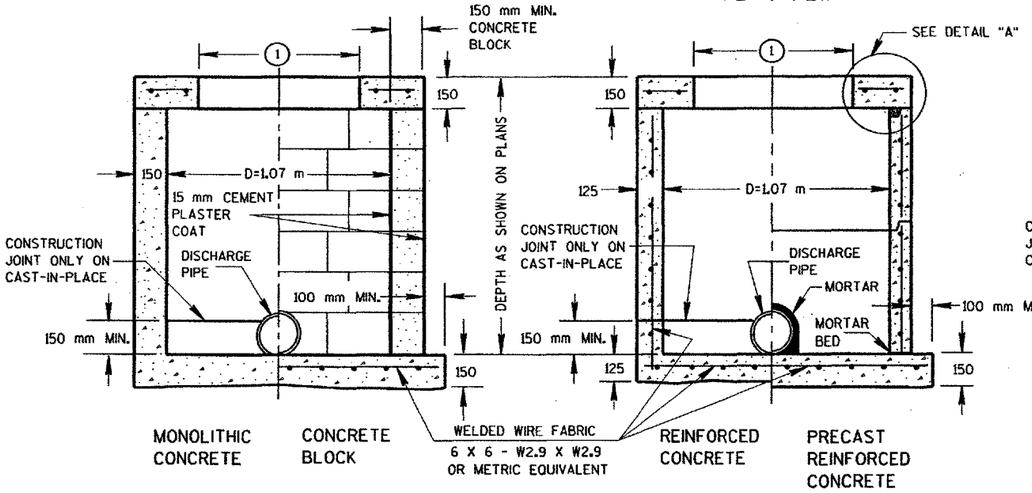
PLAN VIEW



PLAN VIEW



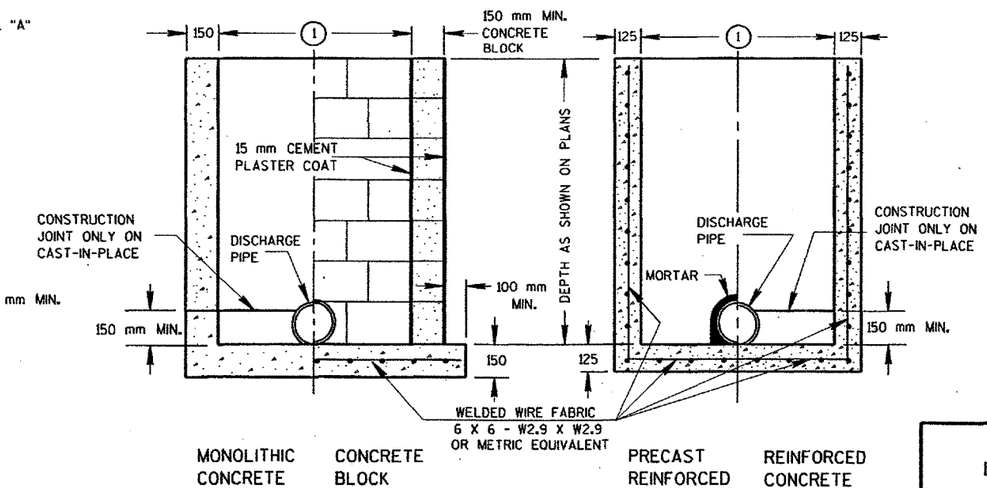
PLAN VIEW



SECTION A-A

SECTION B-B

INLETS TYPE 2, 3 & 4



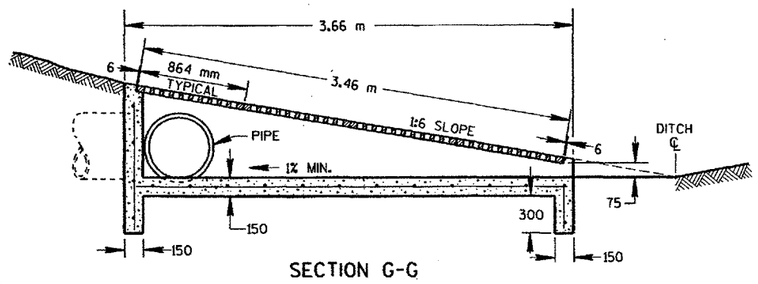
SECTION C-C

SECTION D-D

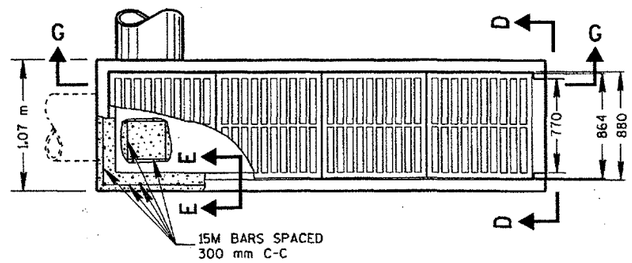
INLETS TYPE 1, 2, 3 & 4
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 01/31/95 DATE — Roy L. Thimsen — CHIEF ROADWAY DEVELOPMENT ENGINEER FHWA M

S.D.D. 8 C 1-5

S.D.D. 8 C 1-5



SECTION G-G



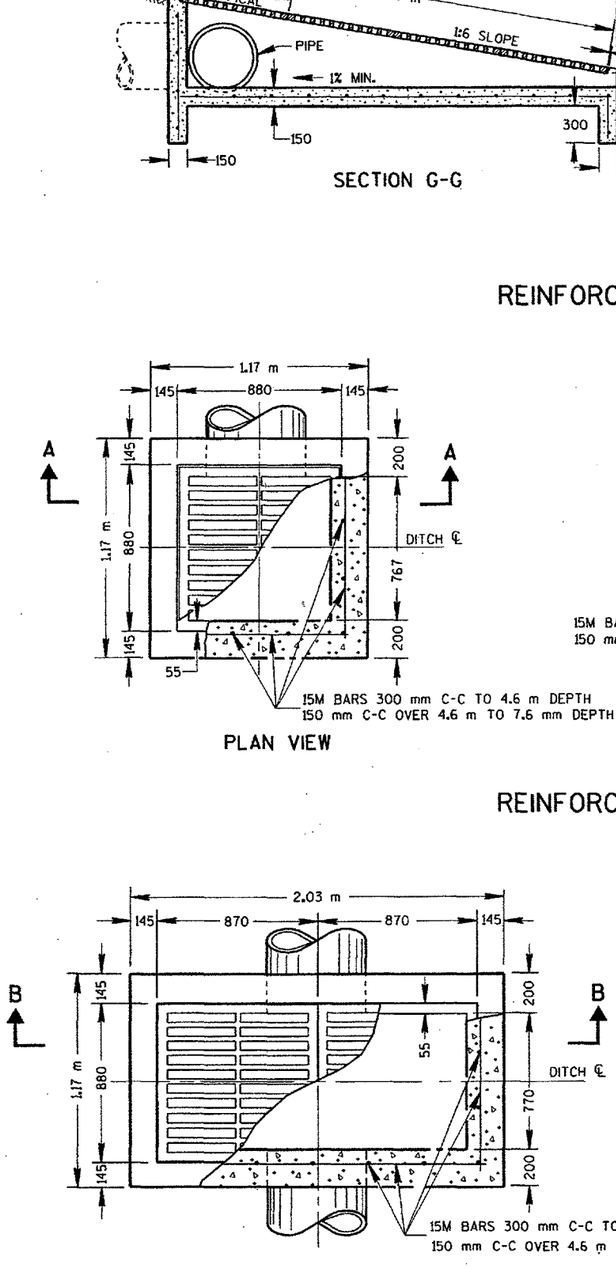
PLAN VIEW

REINFORCED CONCRETE INLET TYPE 11

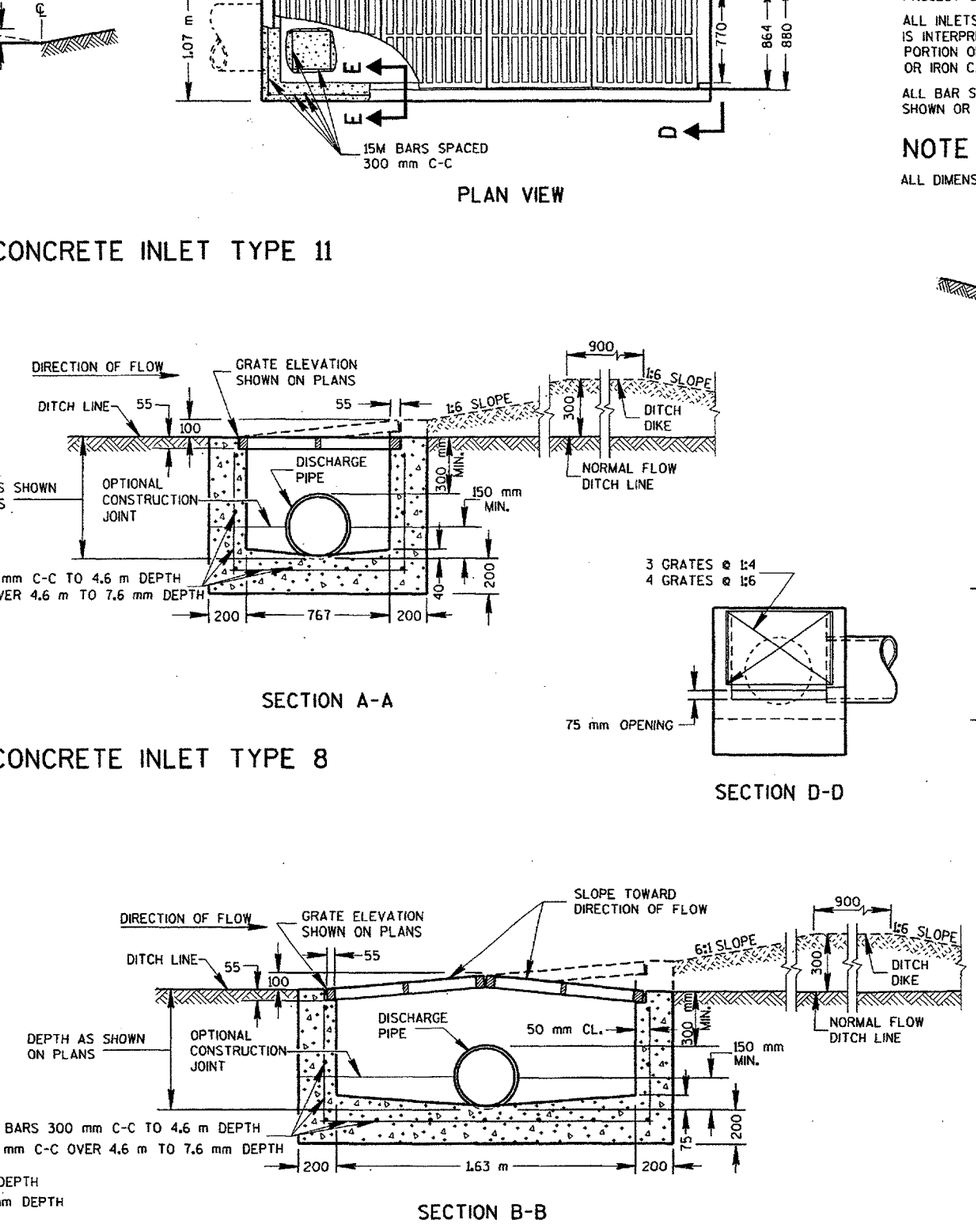
PLAN VIEW

SECTION A-A

REINFORCED CONCRETE INLET TYPE 8



PLAN VIEW



SECTION B-B

REINFORCED CONCRETE INLET TYPE 9

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

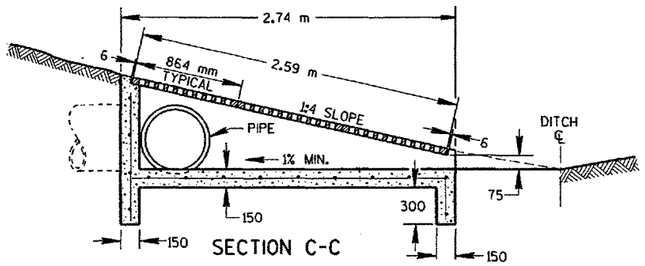
PRECAST REINFORCED CONCRETE INLET UNITS, IF USED, SHALL CONFORM TO THE REQUIREMENTS OF THE CATCH BASINS, MANHOLES AND INLETS SECTION OF THE STANDARD SPECIFICATIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A CORRECTED LIST OF SIZES IS FURNISHED BY THE ENGINEER.

ALL INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, B-MS", ETC. THIS DESIGNATION IS INTERPRETED TO MEAN THAT THE NUMBER, OR FIRST DIGIT DESIGNATES THE MASONRY PORTION OF THE STRUCTURE AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER OR IRON CASTING TO BE USED THEREWITH TO COMPRISE THE COMPLETE UNIT.

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 50 mm CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

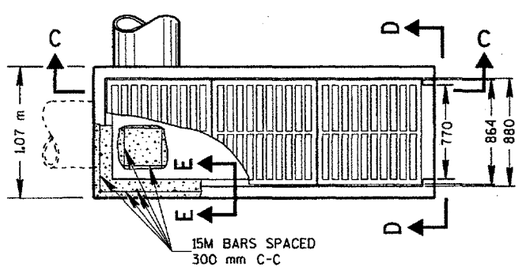
NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



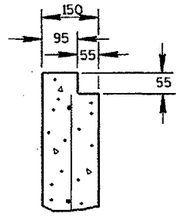
SECTION C-C

SECTION D-D



PLAN VIEW

REINFORCED CONCRETE INLET TYPE 10



SECTION E-E

INLETS TYPE 8, 9, 10 & 11

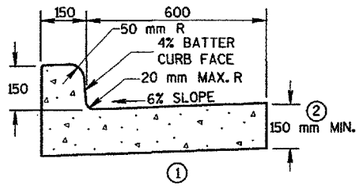
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
01/30/95
DATE

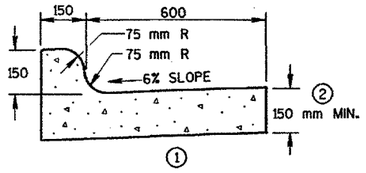
Roy L. Thiessen
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

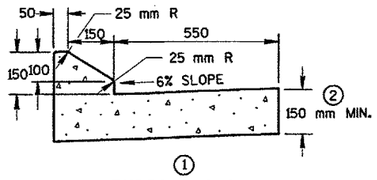
S.D.D. 8 C 5-



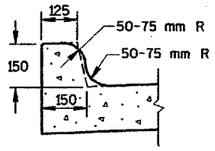
TYPES A & D



TYPES K & L

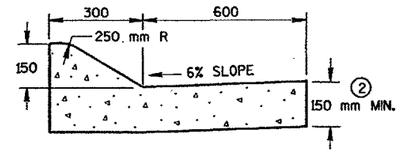


TYPES G & J

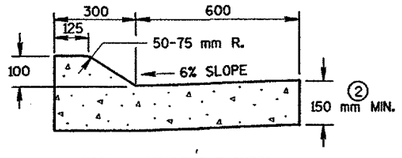


OPTIONAL CURB SHAPE
1
FOR TYPES K & L

CONCRETE CURB & GUTTER 750 mm



(150 mm MOUNTABLE CURB)



(100 mm MOUNTABLE CURB)

1
TYPES A & D

CONCRETE CURB & GUTTER 900 mm

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 600 mm BEHIND THE BACK OF CURBS.

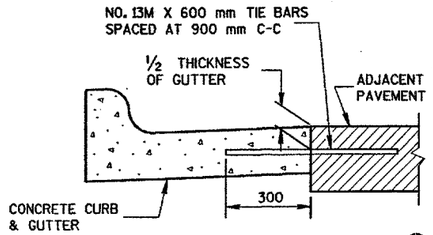
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 150 mm MINIMUM GUTTER THICKNESS IS MAINTAINED.

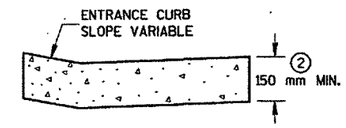
(3) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

NOTE

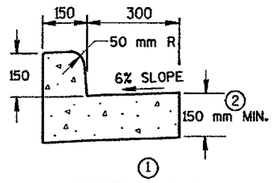
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



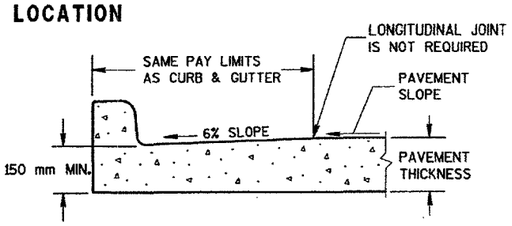
1
TYPICAL TIE BAR LOCATION



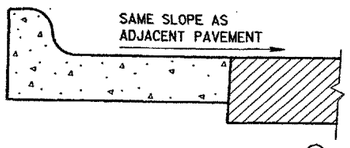
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



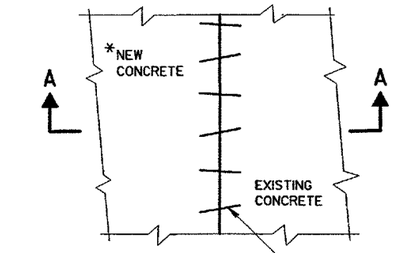
TYPES A & D
CONCRETE CURB & GUTTER 450 mm



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

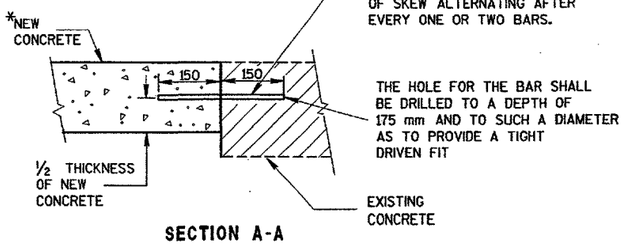


REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)



PLAN VIEW

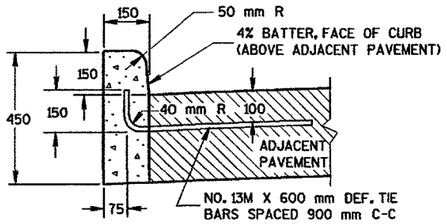
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.



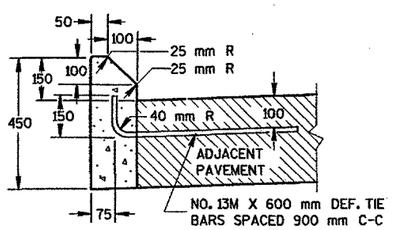
NO. 19M X 300 mm DEF. BARS SPACED 900 mm C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.

THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 175 mm AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT

SECTION A-A
PAVEMENT TIES



1
TYPES A & D



1
TYPES G & J

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 04/16/99
DATE
Tony L. Thimm
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

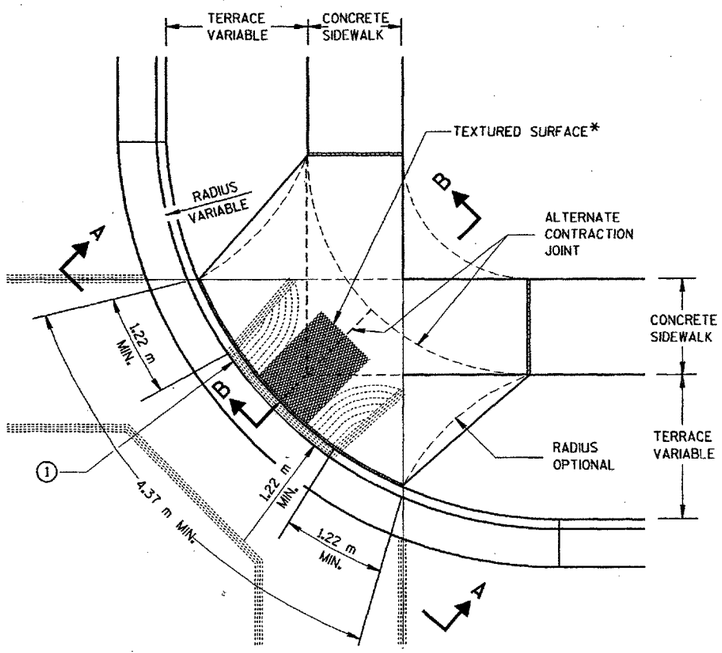
S.D.D. 8 D 1-13

LEVELS ON • 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

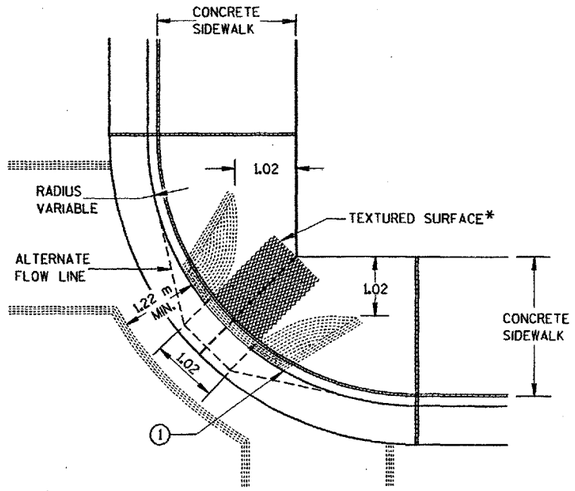
S.D.D. 8 D 1-13

FILE NAME:

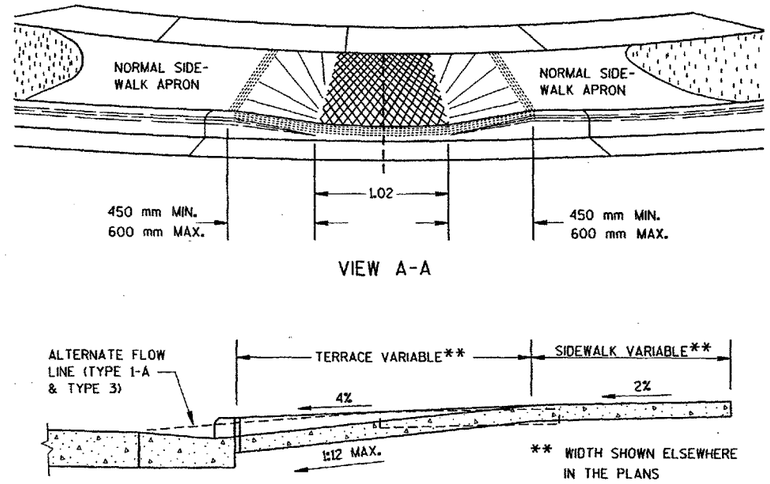
S.D.D. 8 D 1-13



PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



PLAN VIEW
TYPE 1-A RAMP
(NO TERRACE)



VIEW A-A

SECTION B-B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

RAMPS SHALL BE BUILT AT 1:12 OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 OR TYPE 1-A RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

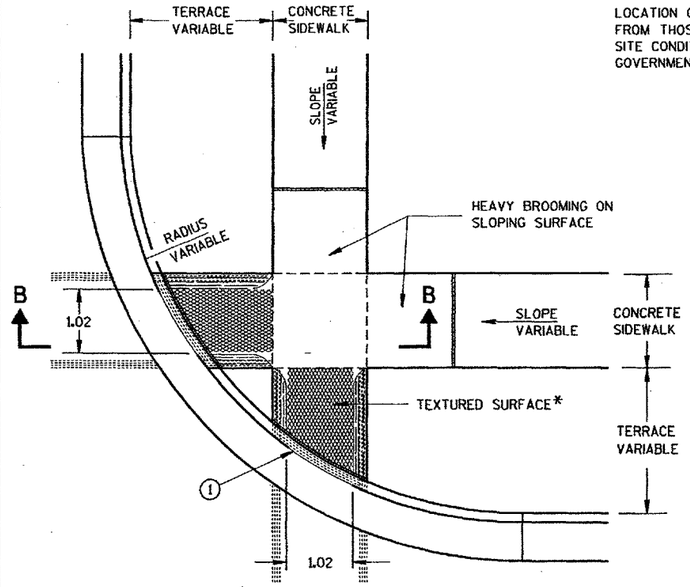
CURB RAMPS SHALL BE MEASURED AND PAID FOR AS CONCRETE SIDEWALK AND CONCRETE CURB AND GUTTER.

SURFACE TEXTURING SHALL CONSIST OF LINEAR IMPRESSIONS APPROXIMATELY 6 mm TO 9 mm IN DEPTH AND WIDTH, ORIENTED TO PROVIDE A UNIFORM PATTERN OF DIAMOND SHAPES MEASURING APPROXIMATELY 32 mm IN WIDTH BY 57 mm IN LENGTH, WITH THE LENGTH BEING PARALLEL TO THE DIRECTION OF PEDESTRIAN MOVEMENT. THIS SURFACE TEXTURE MAY BE ACHIEVED BY IMPRESSING AND REMOVING A PIECE OF EXPANDED METAL REGULAR INDUSTRIAL MESH INTO THE SURFACE OF THE RAMP WHILE THE CONCRETE IS IN A PLASTIC STATE.

(1) THE RAMP SHALL BE BORDERED ON BOTH SIDES AND ON THE CURB LINE WITH A 100 mm WID YELLOW PAINT STRIPE OR WITH BRICK OF A CONTRASTING COLOR. NORMALLY THE PAINT STRI ALTERNATE WILL BE USED. THE MUNICAPALITY OR THE DEPARTMENT WILL APPLY THIS STRIPPING UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.

IF A MUNICAPALITY REQUIRES THE BRICK ALTERNATE, SPECIAL DETAILS AND PROVISIONS ARE SHOWN ELSEWHERE IN THE PLANS.

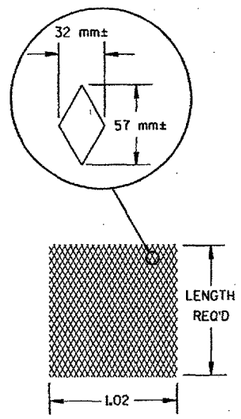
NOTE: ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.



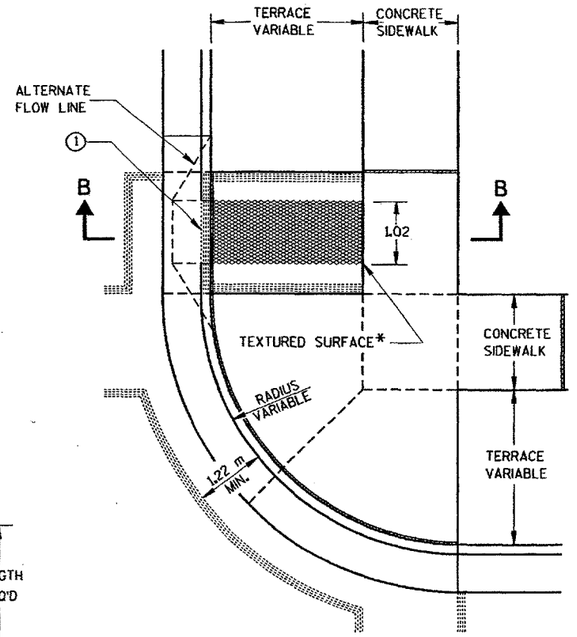
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

13 mm ═══ EXPANSION JOINT-SIDEWALK
- - - - - CONTRACTION JOINT

LOCATION OF JOINTS MAY BE VARIED FROM THOSE SHOWN TO BETTER FIT SITE CONDITIONS AND/OR LOCAL GOVERNMENT PREFERENCE.



DETAIL OF DIAMOND PATTERN*



PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 01/27/95 DATE
Roy L. Thompson
CHIEF ROADWAY DEVELOPMENT ENGR
FHWA

S.D.D. 8 D 5-8

S.D.D. 8 D

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

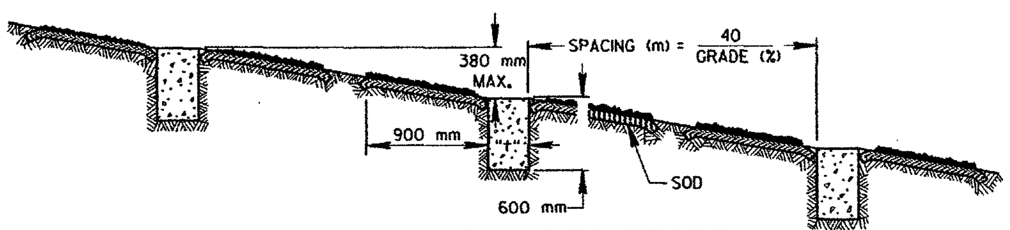
ALTERNATE DESIGNS FOR DITCH CHECKS, OF THE MATERIAL OR COMBINATION OF MATERIALS SHOWN HEREON, MAY BE USED UPON WRITTEN PERMISSION OF THE ENGINEER.

SOD STRIPS FOR DITCH CHECKS MAY BE PLACED EITHER TRANSVERSELY OR LONGITUDINALLY TO THE DIRECTION OF WATER FLOW.

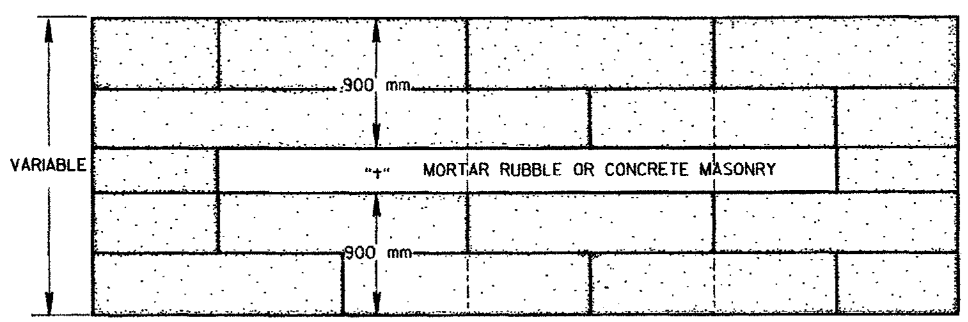
NOTE:

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

SLOPE RATIOS ARE SHOWN VERTICAL COMPONENT FIRST AND THEN THE HORIZONTAL (RISE:RUN).

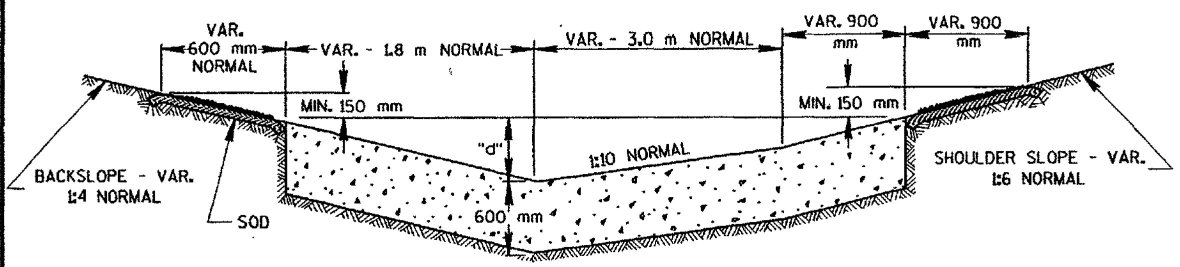


PROFILE OF DITCH GRADE

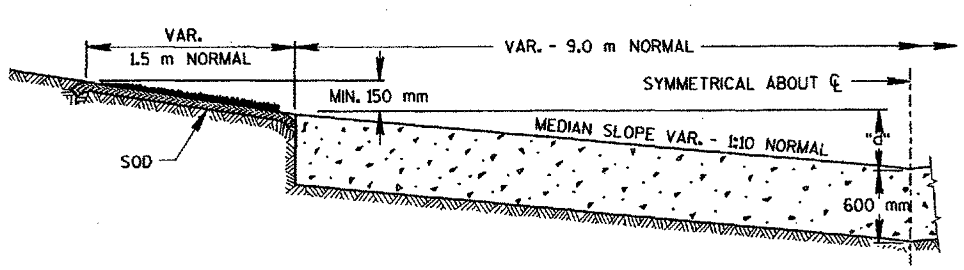


PLAN VIEW SHOWING MASONRY AND SOD

"t" - MASONRY THICKNESS SHALL BE 225 mm FOR CONCRETE AND 300 mm FOR MORTAR RUBBLE.



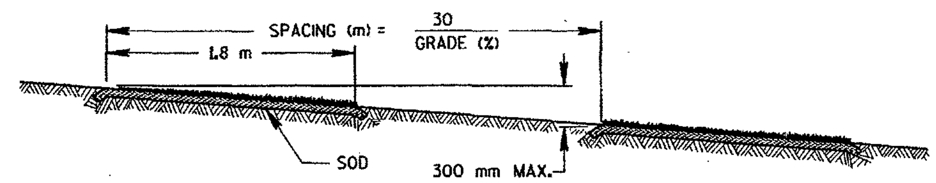
SIDE DITCH CROSS SECTION



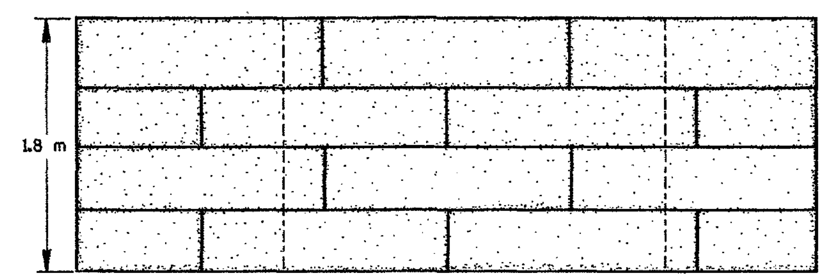
MEDIAN DITCH CROSS SECTION

"d" - THE MINIMUM DEPTH OF THE MASONRY PORTION OF THE DITCH CHECKS SHALL BE EQUAL TO THE MAXIMUM DEPTH OF FLOW. THE NORMAL "d" WILL BE 600 mm.

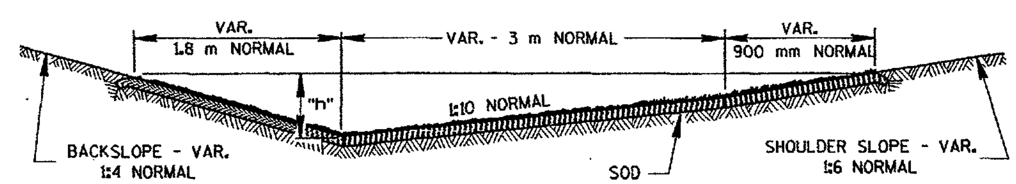
MASONRY AND SOD DITCH CHECKS



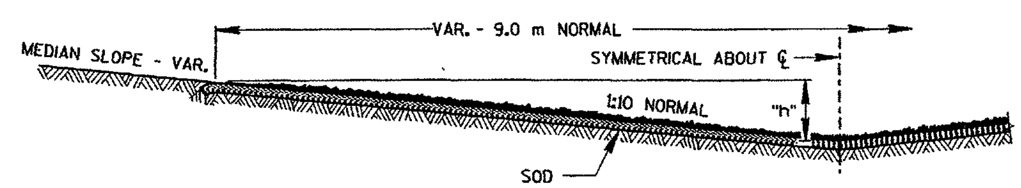
PROFILE OF DITCH GRADE



PLAN VIEW SHOWING SOD



SIDE DITCH CROSS SECTION



MEDIAN DITCH CROSS SECTION

"h" - THE MINIMUM HEIGHT OF DITCH TO BE SODDED SHALL BE EQUAL TO THE MAXIMUM DEPTH OF FLOW PLUS 150 mm. THE NORMAL "h" WILL BE 460 mm

SOD DITCH CHECKS

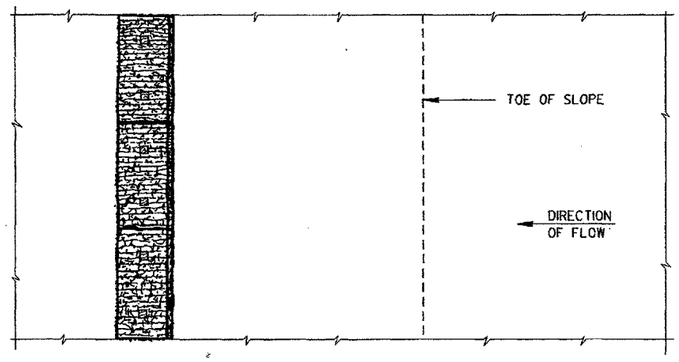
SOD OR MASONRY AND SOD DITCH CHECKS
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 02/07/95 DATE — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA M

S.D.D. 8 E 4-2

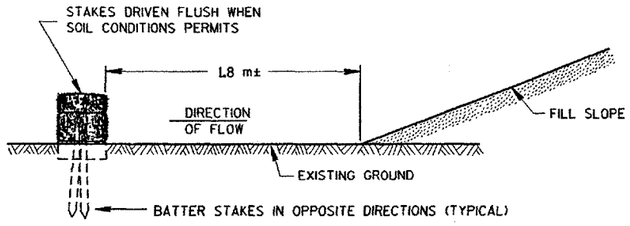
LEVELS ON • 2,3,4,5,6,7,8, 9,10,11,12,13,14,15,16,17,18,19, 20,21,22, 23,24, 25, 26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41, 42,43,44,45,46,47, 48, 49,50,51, 52,53,54,55,56,57, 58,59,60,61,62,63

ORIGINATOR:

REVISED:



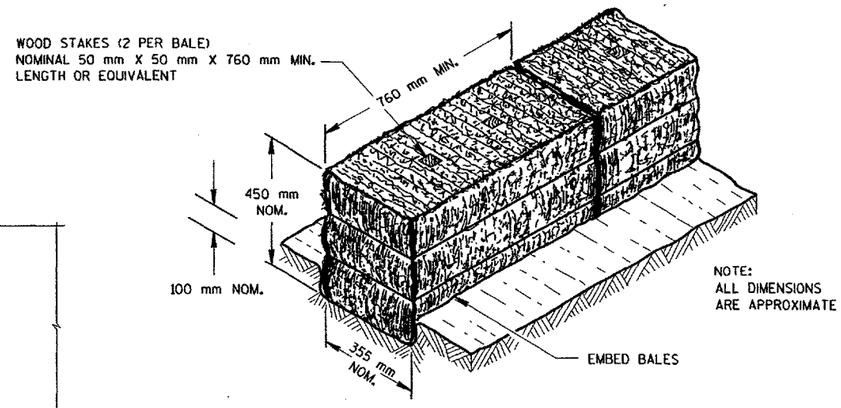
PLAN VIEW

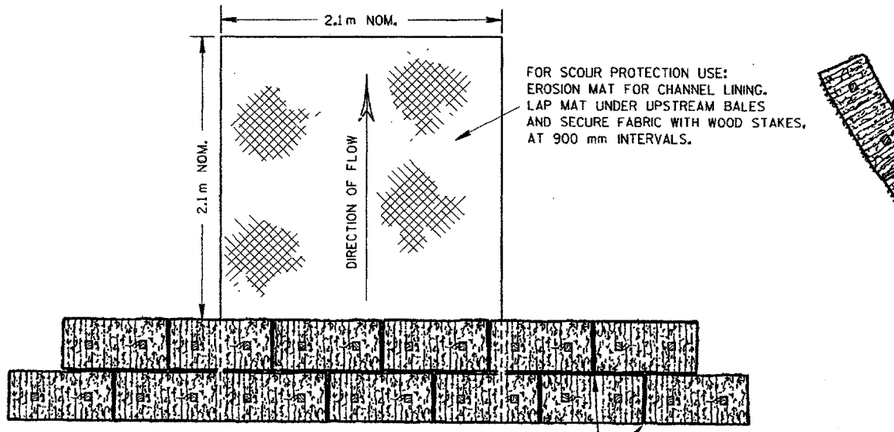


FRONT ELEVATION

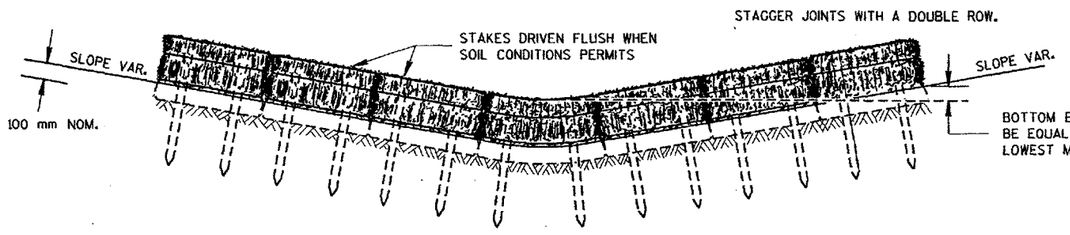
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW





PLAN VIEW

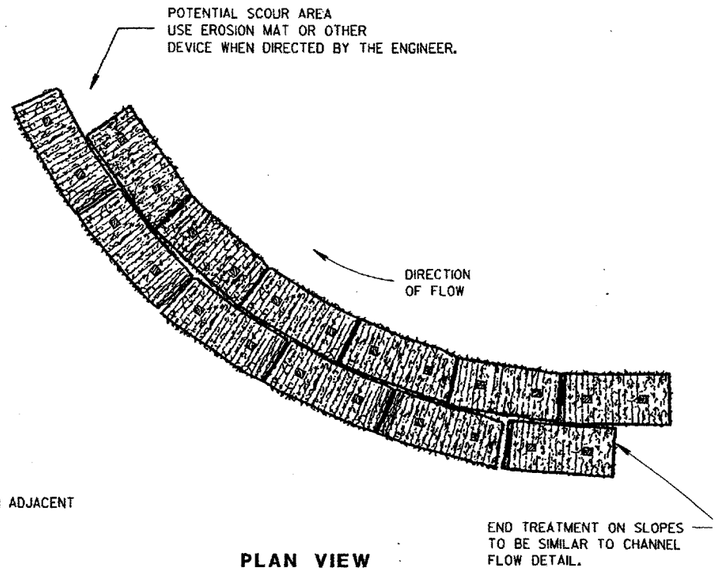


FRONT ELEVATION

EROSION BALES FOR CHANNEL FLOW

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

EROSION BALES WHEN ALTERING THE DIRECTION OF FLOW

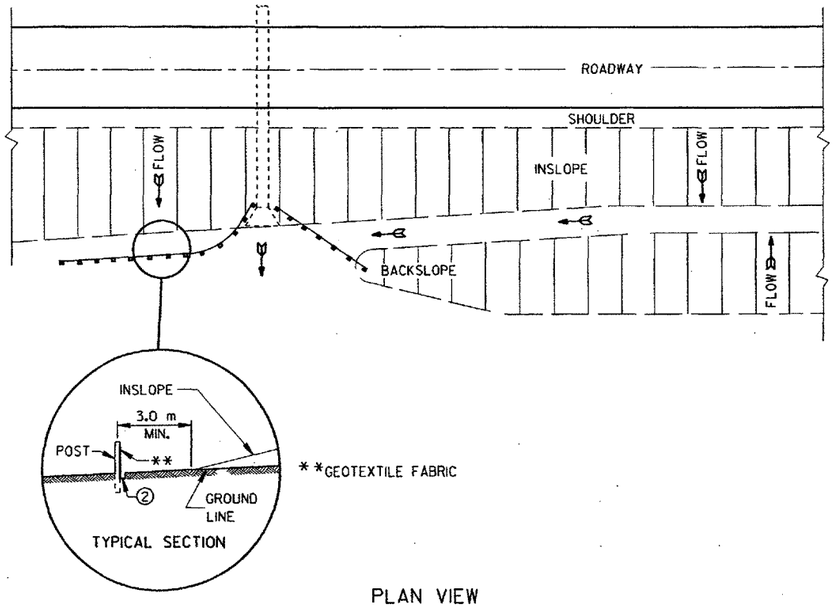
TYPICAL INSTALLATIONS OF EROSION BALES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
01/27/98
DATE

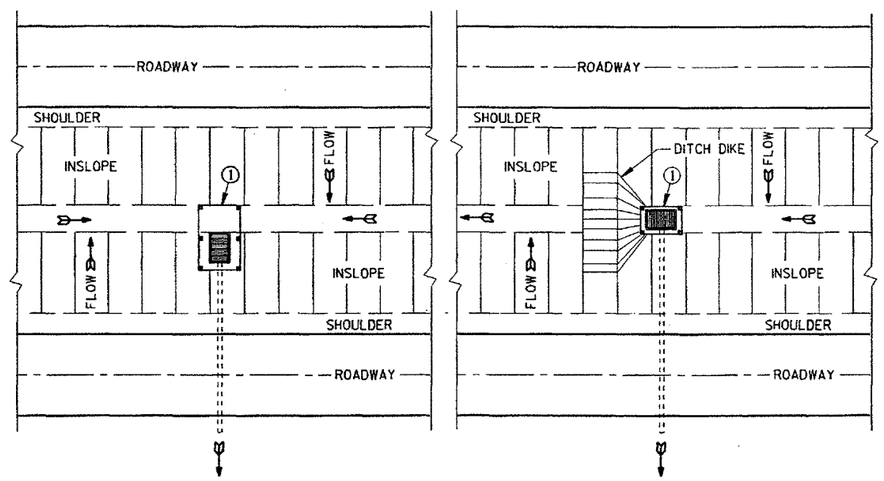
Roy L. Thimesch
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

TYPICAL APPLICATIONS OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

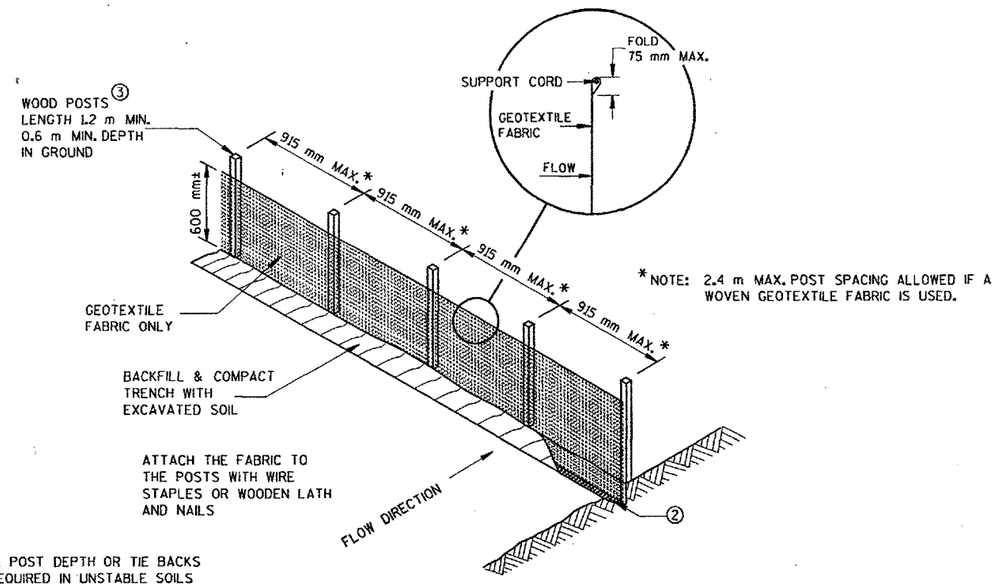
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

① HORIZONTAL BRACE WITH 50 mm X 100 mm WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.

② TRENCH SHALL BE A MINIMUM OF 100 mm WIDE & 150 mm DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

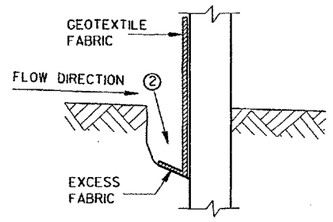
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 30 mm X 30 mm OF OAK OR HICKORY.



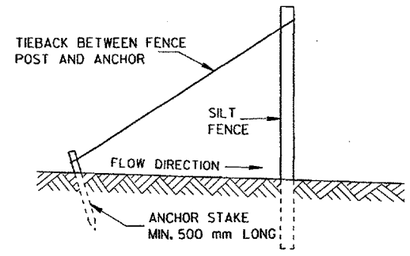
*NOTE: 2.4 m MAX. POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

SILT FENCE
(NON-REINFORCED)



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 03/11/96 DATE
Roy L. Thompson
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA M

S.D.D. 8 E 9-5

FILE NAME:

S.D.D. 8 E 9-5

LEVELS ON • 2,3,4,5,6,7,8, 9,10, 11, 12,13,14, 15, 16,17, 18,19, 20,21,22, 23,24, 25, 26,27, 28,29, 30,31, 32,33, 34,35, 36,37, 38,39, 40,41, 42,43,44, 45, 46,47, 48, 49,50,51, 52,53,54, 55,56,57, 58,59,60, 61, 62,63

METAL APRON ENDWALLS

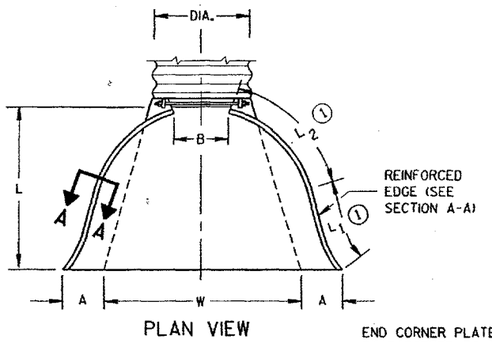
PIPE DIA. (mm)	MIN. THICK. (mm) STEEL	MIN. THICK. (mm) ALUM.	DIMENSIONS (MILLIMETERS) A (±1")	B (MAX.)	H (±1")	L (±1½")	L_1 ①	L_2 ①	W (±2")	APPROX. SLOPE	BODY
300	1.6	1.5	150	150	150	535	305	445	610	1:2.5	1 Pc.
375	1.6	1.5	180	205	150	660	355	552	760	1:2.5	1 Pc.
450	1.6	1.5	205	255	150	790	380	718	915	1:2.5	1 Pc.
525	1.6	1.5	230	305	150	915	455	752	1065	1:2.5	1 Pc.
600	1.6	1.5	255	330	150	1040	455	949	1220	1:2.5	1 Pc.
750	2.0	1.9	305	405	205	1300	455	1327	1525	1:2.5	1 Pc.
900	2.0	1.9	355	480	230	1525	610	1905	1830	1:2.5	2 Pc.
1050	2.8	2.7	405	560	280	1755	610	1921	2135	1:2.5	2 Pc.
1200	2.8	2.7	455	685	305	1980	610	2057	2285	1:2.5	3 Pc.
1350	2.8	2.7	455	760	305	2140	760	2172	2590	1:2.25	3 Pc.
1500	2.8×	2.7×	455	840	305	2210	—	—	2895	1:2	3 Pc.
1650	2.8×	2.7×	455	915	305	2210	—	—	3050	1:2	3 Pc.
1800	2.8×	2.7×	455	990	305	2210	—	—	3200	1:2	3 Pc.
1950	2.8×	2.7×	455	1070	305	2210	—	—	3355	1:1.5	3 Pc.
2100	2.8×	2.7×	455	1145	305	2210	—	—	3505	1:1.5	3 Pc.
2250	2.8×	2.7×	455	940	305	2210	—	—	3660	1:1.5	3 Pc.
2400	2.8×	2.7×	455	890	305	2210	—	—	3960	1:1.5	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

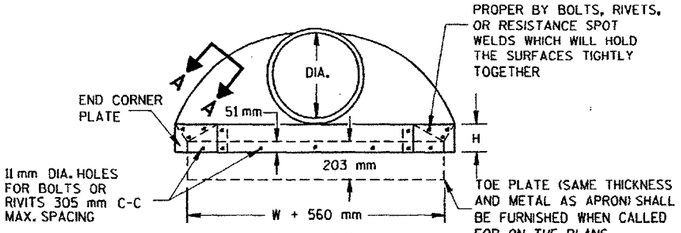
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (mm)	DIMENSIONS (MILLIMETERS) T	A	B	C	D	E	G	APPROX. SLOPE
305	51	102	610	1241	1851	610	51	1:3
380	57	152	686	1168	1854	762	57	1:3
450	64	229	686	1168	1854	914	64	1:3
525	70	229	915	953	1867	1067	70	1:3
600	76	241	1105	762	1867	1219	76	1:3
675	83	267	1257	610	1867	1372	83	1:3
750	89	305	1372	502	1867	1524	89	1:3
900	102	381	1600	883	2483	1829	102	1:3
1050	114	533	1600	889	2489	1981	114	1:3
1200	127	610	1829	660	2489	2134	127	1:3
1350	140	686	1651	* 635 ** 889	* 2496 ** 2540	2286	140	1:2.4
1500	152	* 762 ** 924	1524	991	2515	2448	127	1:2
1650	165	* 610 ** 762	* 1829 ** 1981	* 533 ** 686	2515	2591	140	1:2
1800	178	* 610 ** 915	1981	533	2515	2743	152	1:2
1950	190	* 610 ** 915	1981	533	2515	2896	165	1:2
2100	203	915	2299	533	2832	3048	165	1:1.5
2250	216	1041	2222	610	2832	3353	165	1:1.5

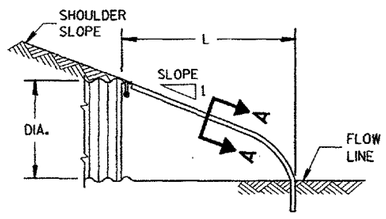
* MINIMUM
** MAXIMUM



PLAN VIEW

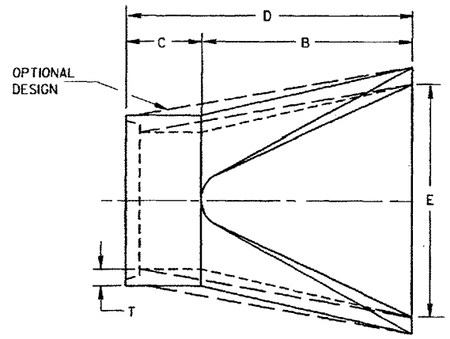


END VIEW

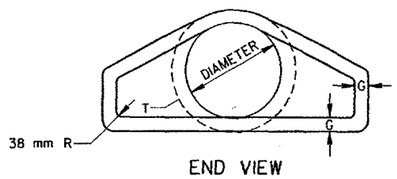


SIDE ELEVATION

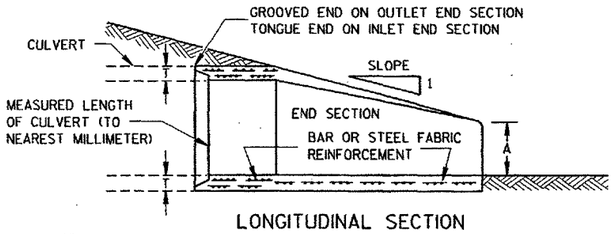
METAL ENDWALLS



PLAN

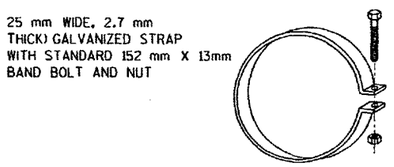


END VIEW



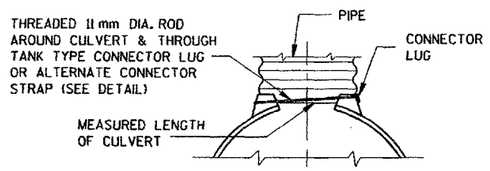
LONGITUDINAL SECTION

CONCRETE ENDWALLS

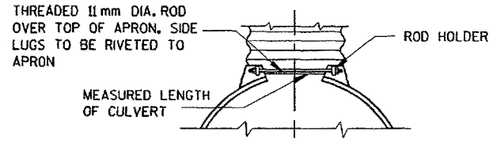


ALTERNATE FOR TYPE 1 CONNECTION

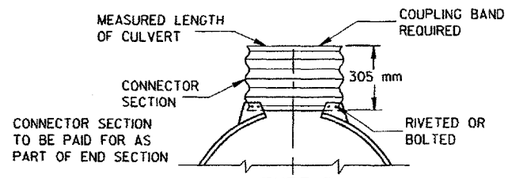
END SECTION CONNECTOR STRAP



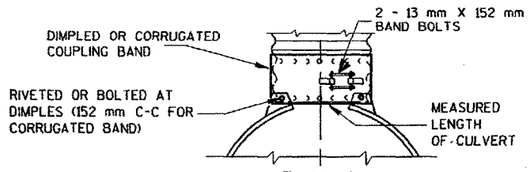
TYPE 1
FOR 300 mm THRU 600 mm CORR. PIPE



TYPE 2
FOR 750 mm THRU 2400 mm CORR. PIPE



TYPE 3
FOR 1050 mm THRU 2400 mm CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

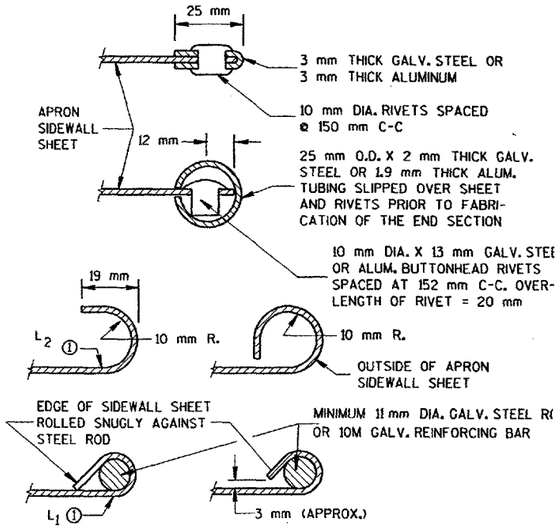
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 1500 mm DIAMETER PIPE AND LARGER SHALL HAVE 2.8 mm SIDES AND 3.5 mm CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 1500 mm DIAMETER PIPE AND LARGER SHALL HAVE 3.4 mm SIDES AND 3.4 mm CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 1500 mm THROUGH 2400 mm DIAMETER APRON ENDWALL SIZES, THE REINFORCE EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 152 mm BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 1500 mm DIAMETER, A 180° ROLLED EDGE MAY BE USE INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

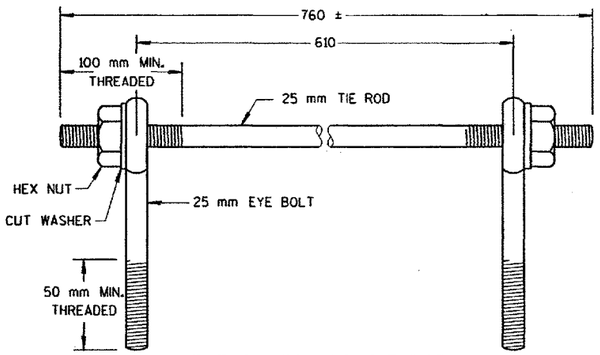
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

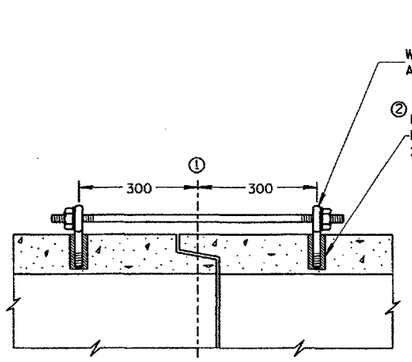
APPROVED 01/27/95 DATE
Roy L. Thiessen
CHIEF ROADWAY DEVELOPMENT ENGR
FHWA

S.D.D. 8 F

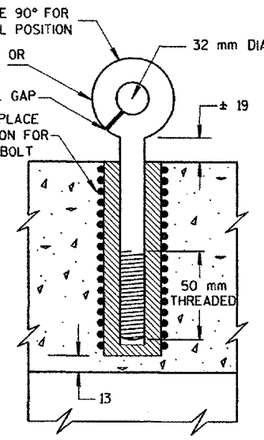
PLOT NAME: S.D.D. 8 F 1-11
PLOT SCALE:
REV. DATE:
ORIGINATOR:
FILE NAME:
LEVELS ON - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)



LONGITUDINAL SECTIONS

GENERAL NOTES

CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED ON THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES. UNLESS OTHERWISE STATED IN THE CONTRACT THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE CULVERT PIPE AS INDICATED ON THE PLANS AND BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO CULVERT PIPE, REINFORCED CONCRETE CULVERT PIPE, OR REINFORCED CONCRETE PIPE CATTLE PASS.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

① CENTERLINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

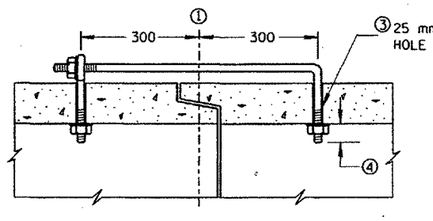
③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED.

④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 50 mm.

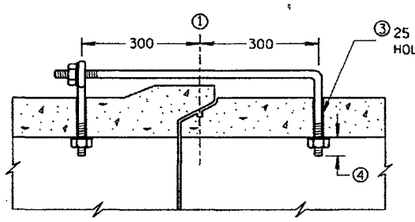
⑤ ROD DIAMETER + 25 mm.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 13 mm OF THE INNER SURFACE OF THE PIPE.

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(TONGUE & GROOVE PIPE)



(MODIFIED BELL PIPE)

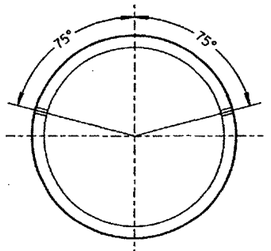
LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
400-600	115	160
750	130	180
900	140	180
1000	150	
1200	165	
1500	190	
1650	200	

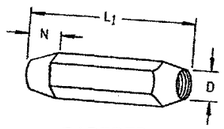
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
300-1500	16	16	125	13
1650-2100	19	19	125	13
2250-2700	25	25	180	36

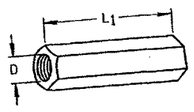


PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



TAPERED



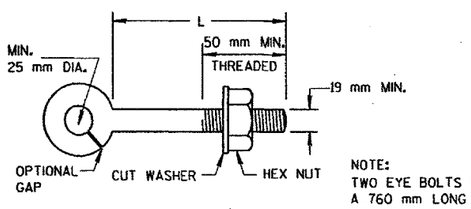
PLAIN

RIGHT AND LEFT THREADS

SLEEVE NUTS

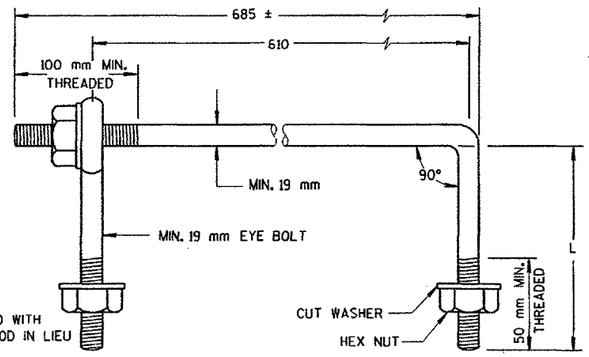
NOTE

ALL DIMENSIONS IN THIS DRAWING ARE IN MILLIMETERS.



EYE BOLT

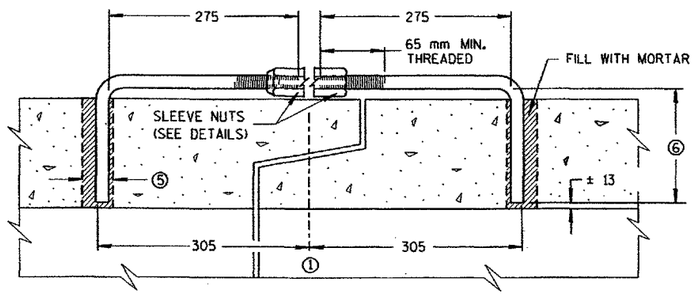
NOTE:
TWO EYE BOLTS MAY BE USED WITH A 760 mm LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

(JOINT TIES FOR 450 mm TO 1650 mm DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



LONGITUDINAL SECTION

(JOINT TIES FOR 300 mm TO 2700 mm DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)

JOINT TIES FOR CONCRETE PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
01/27/95
DATE

Roy L. Thompson
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

S.D.D. 8 F 4-5

PLOT SCALE:

PLOT NAME:

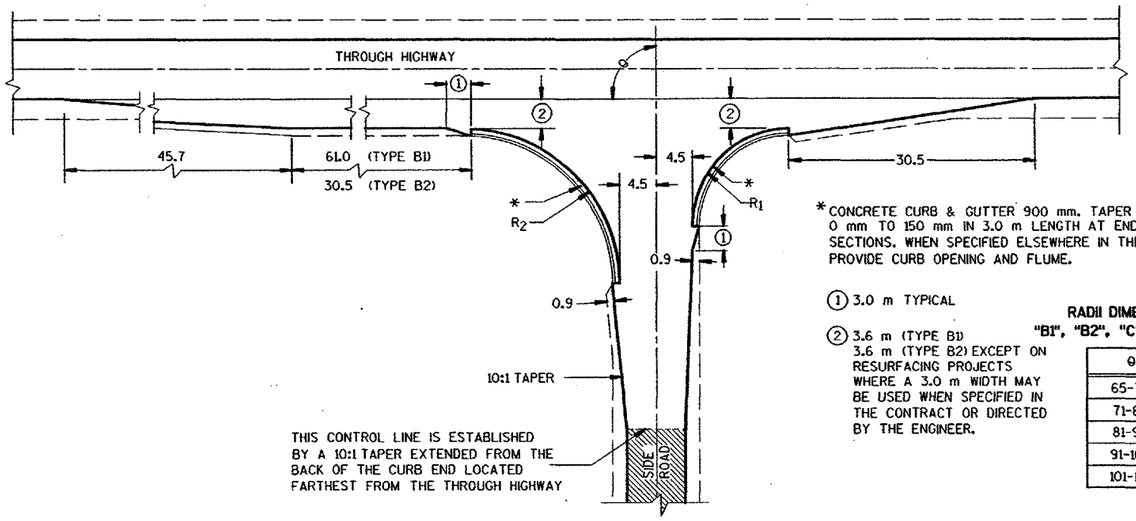
LEVELS ON - 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17,18,19, 20,21,22, 23,24, 25, 26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41, 42,43, 44, 45, 46,47, 48, 49, 50,51, 52,53,54, 55,56,57, 58,59,60,61, 62,63

REV. DATE:

ORIGINATOR:

FILE NAME:

S.D.D. 8 F 4-5



TYPE "B1" AND "B2"

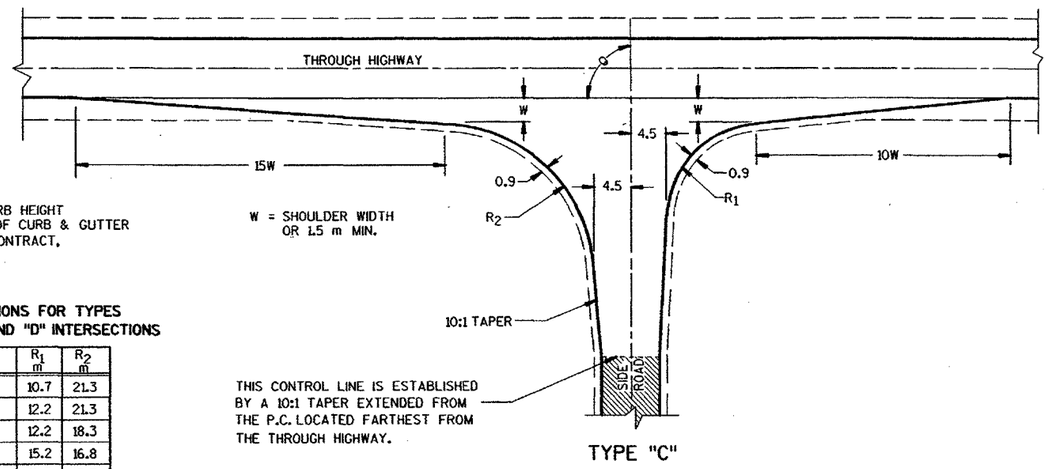
* CONCRETE CURB & GUTTER 900 mm. TAPER CURB HEIGHT 0 mm TO 150 mm IN 3.0 m LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

(1) 3.0 m TYPICAL

(2) 3.6 m (TYPE B1)
3.6 m (TYPE B2) EXCEPT ON RESURFACING PROJECTS WHERE A 3.0 m WIDTH MAY BE USED WHEN SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

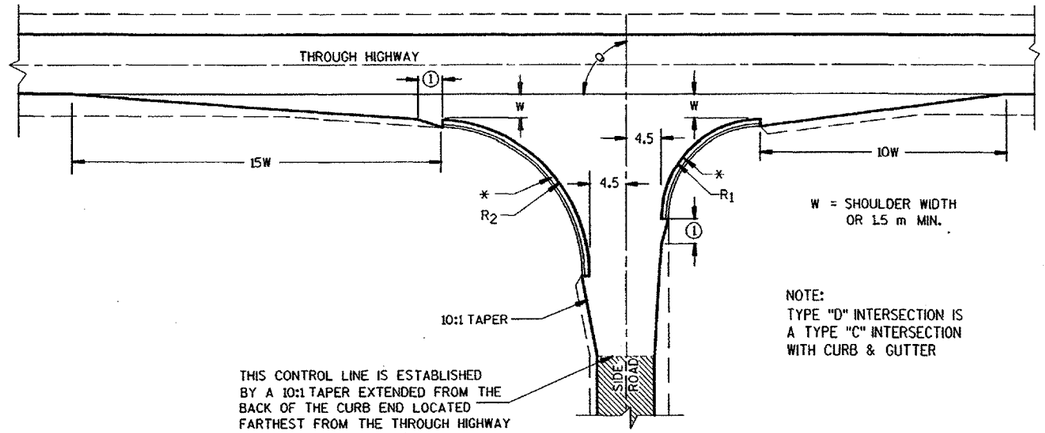
RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1 m	R_2 m
65-70	10.7	21.3
71-80	12.2	21.3
81-90	12.2	18.3
91-100	15.2	16.8
101-110	18.3	13.7



W = SHOULDER WIDTH OR 1.5 m MIN.

TYPE "C"



W = SHOULDER WIDTH OR 1.5 m MIN.

NOTE:
TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB & GUTTER

TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

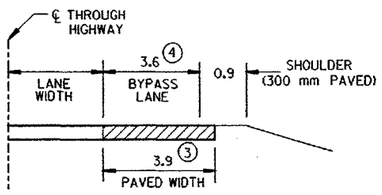
SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

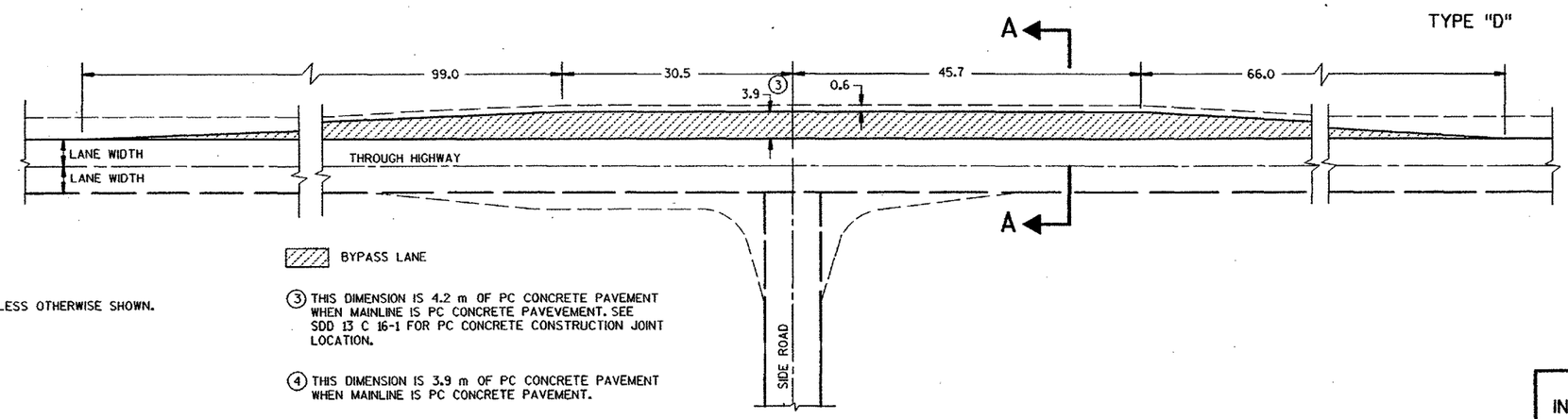
WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

▨ EXISTING SURFACE



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



▨ BYPASS LANE

(3) THIS DIMENSION IS 4.2 m OF PC CONCRETE PAVEMENT WHEN MAINLINE IS PC CONCRETE PAVEVEMENT. SEE SDD 13 C 16-1 FOR PC CONCRETE CONSTRUCTION JOINT LOCATION.

(4) THIS DIMENSION IS 3.9 m OF PC CONCRETE PAVEMENT WHEN MAINLINE IS PC CONCRETE PAVEMENT.

NOTE:

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN.

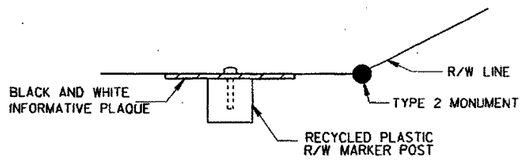
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "(AND 'D' AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

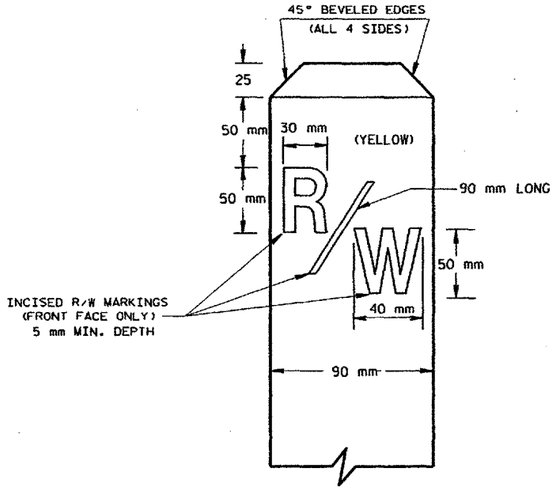
S.D.D. 9 A 1-11a

S.D.D. 9 A 1

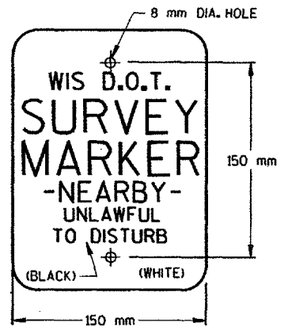


PLAN VIEW

③
TYPICAL LOCATION



RECYCLED PLASTIC
RIGHT OF WAY MARKER POST
FRONT FACE



INFORMATIVE PLAQUE

②
MARKING & SIGNING DETAILS

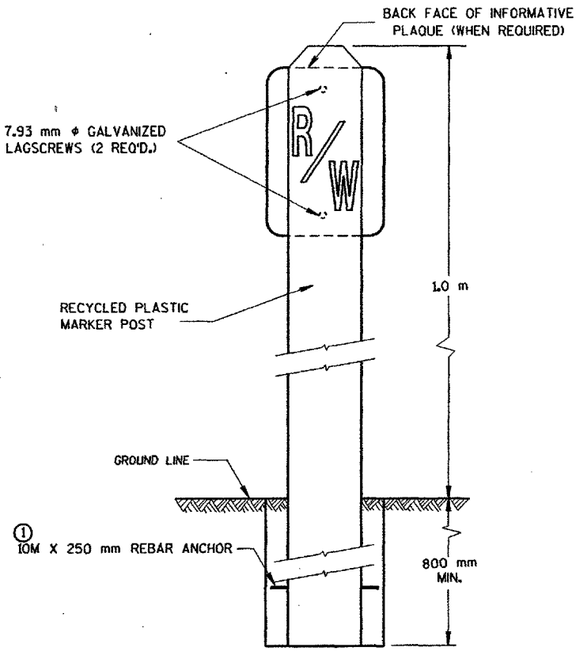
GENERAL NOTES:

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

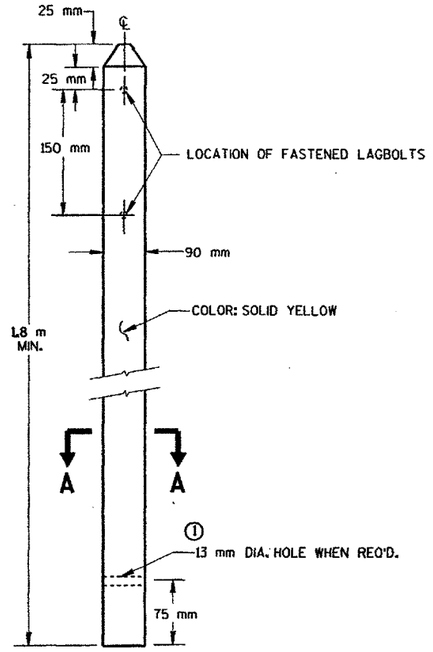
① POSTS SHALL BE ANCHORED AND SET INTO EXCAVATED HOLES AS ILLUSTRATED OR MAY BE DRIVEN AND ANCHORED INTO THE GROUND BY ALTERNATIVE DEVICES APPROVED BY THE ENGINEER.

② INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

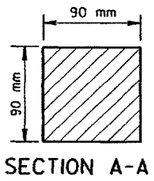
③ A MARKER POST FOR RIGHT OF WAY SHALL BE PLACED ADJACENT TO EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.



FRONT VIEW
TYPICAL INSTALLATION



FRONT VIEW
RECYCLED PLASTIC MARKER POST



SECTION A-A

MARKER POSTS FOR
RIGHT OF WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
02/07/95
DATE

Roy J. Thimsen
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

M

S.D.D. 15 A 1-6

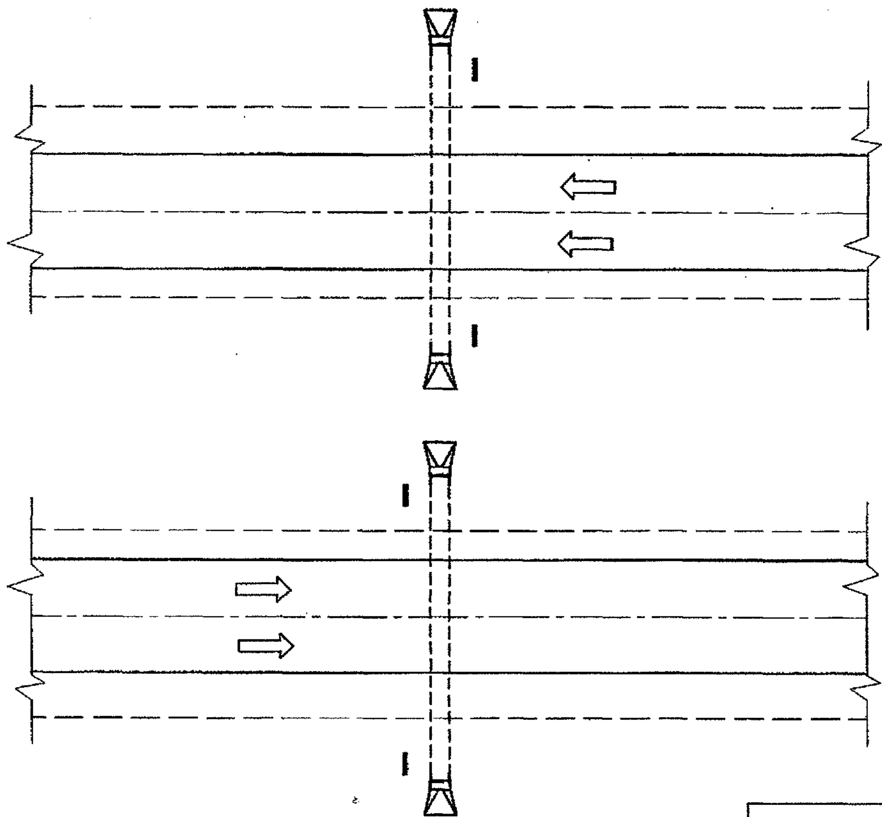
PLOT NAME:
REV. DATE:
LEVELS ON - 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
ORIGINATOR:
S.D.D. 15 A 1-6
FILE NAME:

GENERAL NOTES

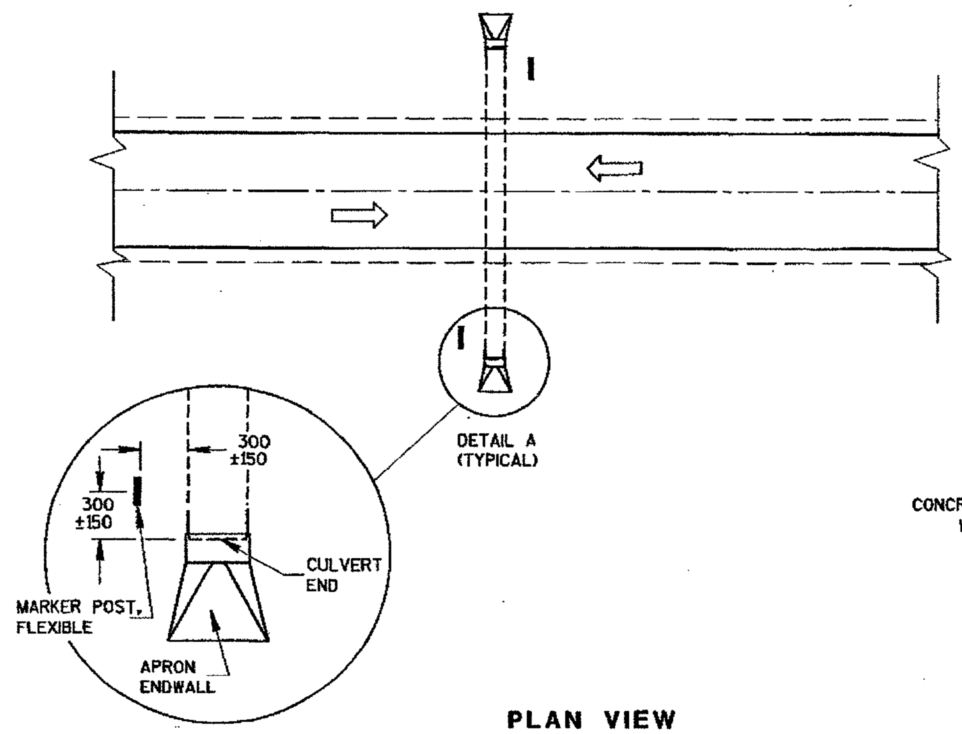
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

NOTE

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.



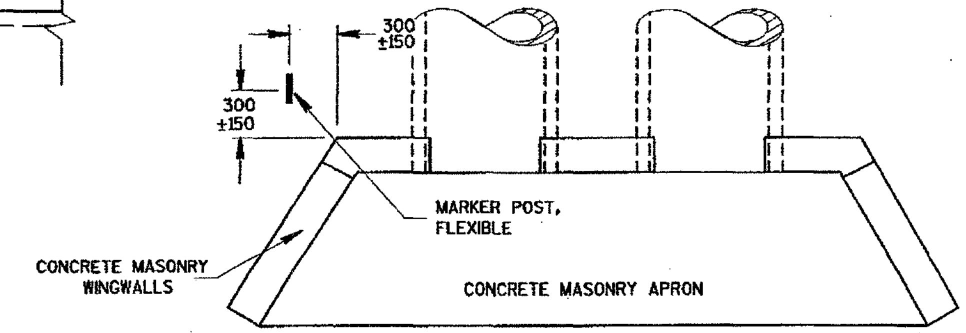
PLAN VIEW
DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

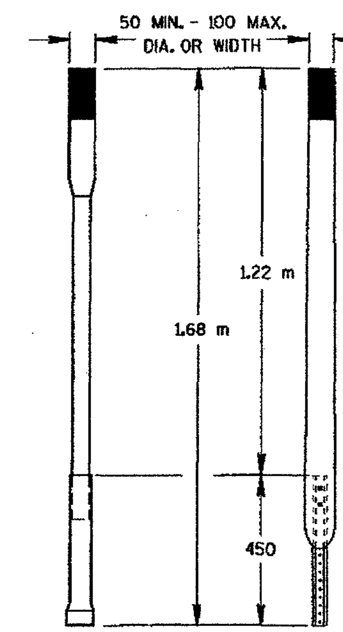
PLAN VIEW
UNDIVIDED HIGHWAY

I	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW

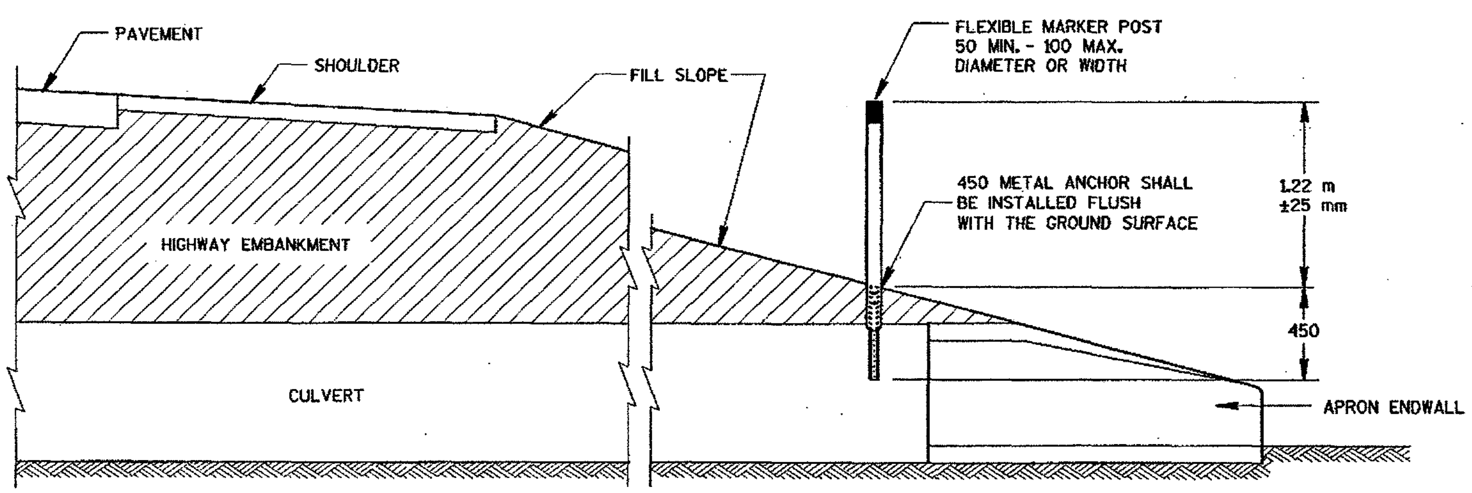


PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

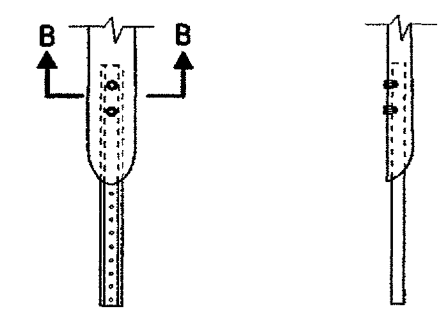
FLEXIBLE MARKER POST LOCATION



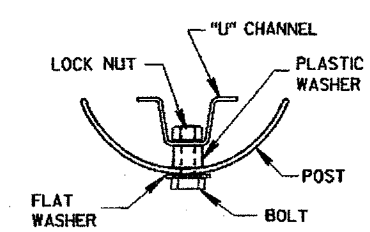
ALTERNATE 1 ALTERNATE 2
FLEXIBLE MARKER POST



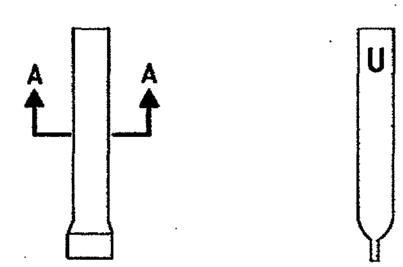
CROSS SECTION
FLEXIBLE MARKER POST



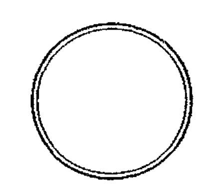
FRONT VIEW SIDE VIEW
CURVED MARKER



SECTION B-B



FRONT VIEW SIDE VIEW
ROUND MARKER



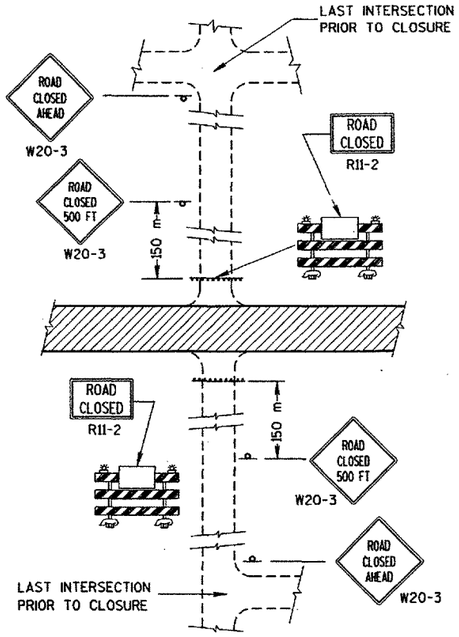
SECTION A-A

FLEXIBLE MARKER POST ANCHORS

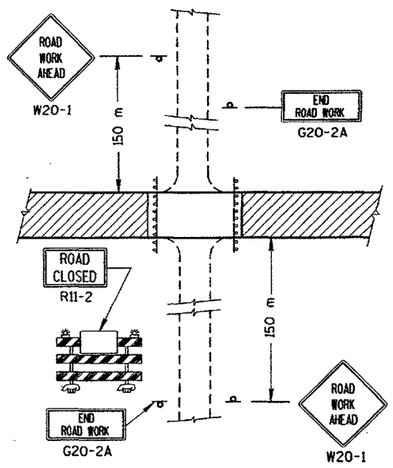
MARKER POST, FLEXIBLE,
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

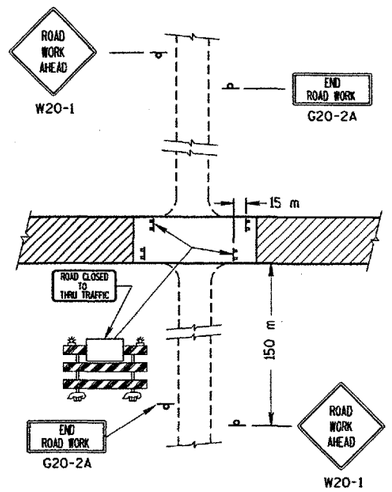
APPROVED
10/01/98
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).

SIDEROAD CLOSURES

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE SIDE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE ROAD CLOSED SIGN (R11-2), ROAD CLOSED ___ MILES AHEAD SIGN (R11-3) AND THE ROAD CLOSED TO THRU TRAFFIC SIGN (R11-4) SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER MIDDLE RAIL

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES, TYPE I, II AND III, AND ON ALL R11-3 AND R11-4 SIGNS.

ALL SIGNS SHALL BE 1200 mm X 1200 mm UNLESS OTHERWISE NOTED BELOW:
R11-2, "ROAD CLOSED" SIGNS SHALL BE 1200 mm X 750 mm.
R11-3, AND R11-4 SIGNS SHALL BE 1500 mm X 750 mm.
G20-2A SIGNS SHALL BE 1200 mm X 600 mm.

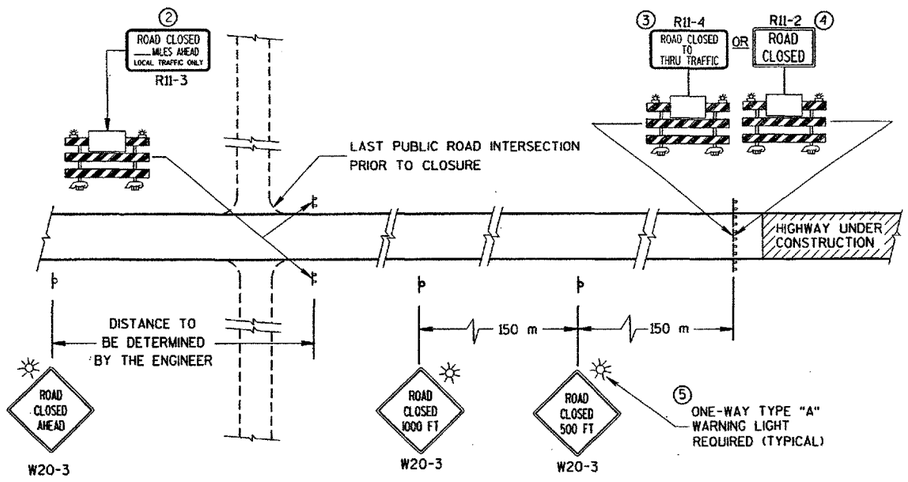
(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

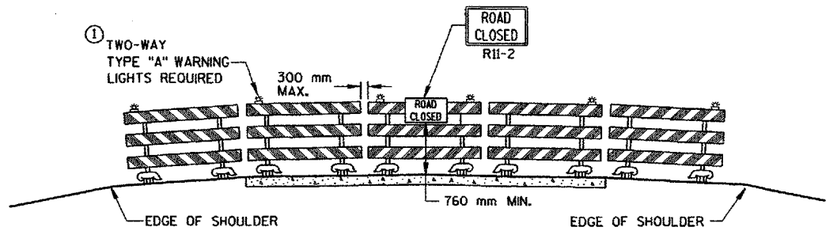
(3) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL.

(4) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL.

(5) ONE-WAY LIGHTS SHALL BE PROVIDED ON ALL ADVANCE WARNING SIGNS. THE UNIT SHALL BE POSITIONED SUCH THAT THE LIGHT SOURCE IS OUTSIDE THE SIGN FACE AND AT THE TOP OF THE SIGN.

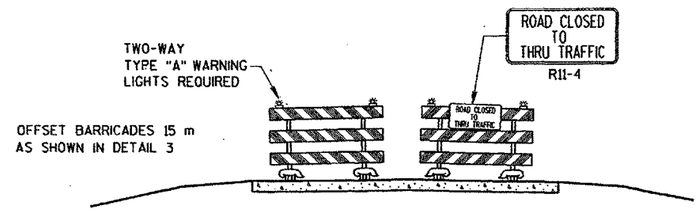


MAINLINE CLOSURE



APPROACH VIEW

ROAD CLOSURE BARRICADE DETAIL



APPROACH VIEW

LANE CLOSURE BARRICADE DETAIL

- POST MOUNTED WARNING SIGN
- TYPE III BARRICADES WITH TYPE "H" REFLECTIVE SHEETING
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

BARRICADES AND SIGNS FOR ROAD CLOSURES

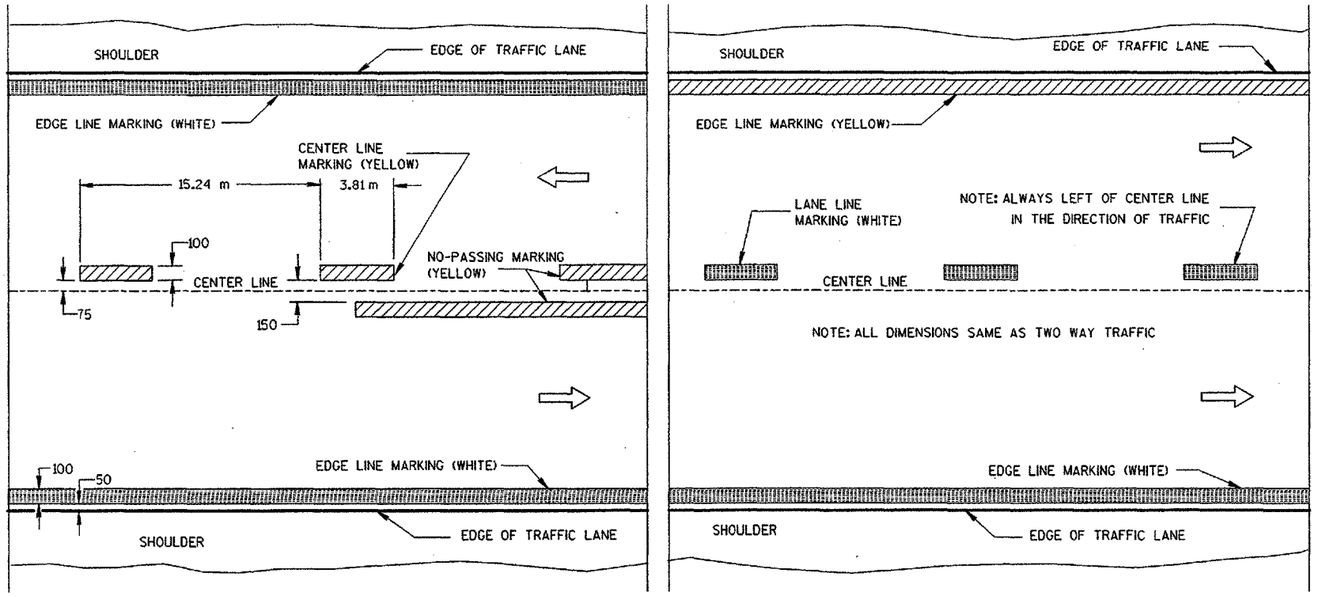
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-10-95
DATE
Charles J. Spang
for DIRECTOR, OFFICE OF TRAFFIC
FHWA
M

S.D.D. 15 C 2-3

REV. DATE: 8-10-95
LEVELS ON - 2,3,4,5,6,7,8, 9,10,11,12,13,14,15, 16,17,18,19, 20,21,22, 23,24,25,26,27, 28,29,30,31,32,33, 34,35,36,37,38,39, 40,41,42,43,44,45,46,47,48, 49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
FILE NAME:
ORIGINATOR:

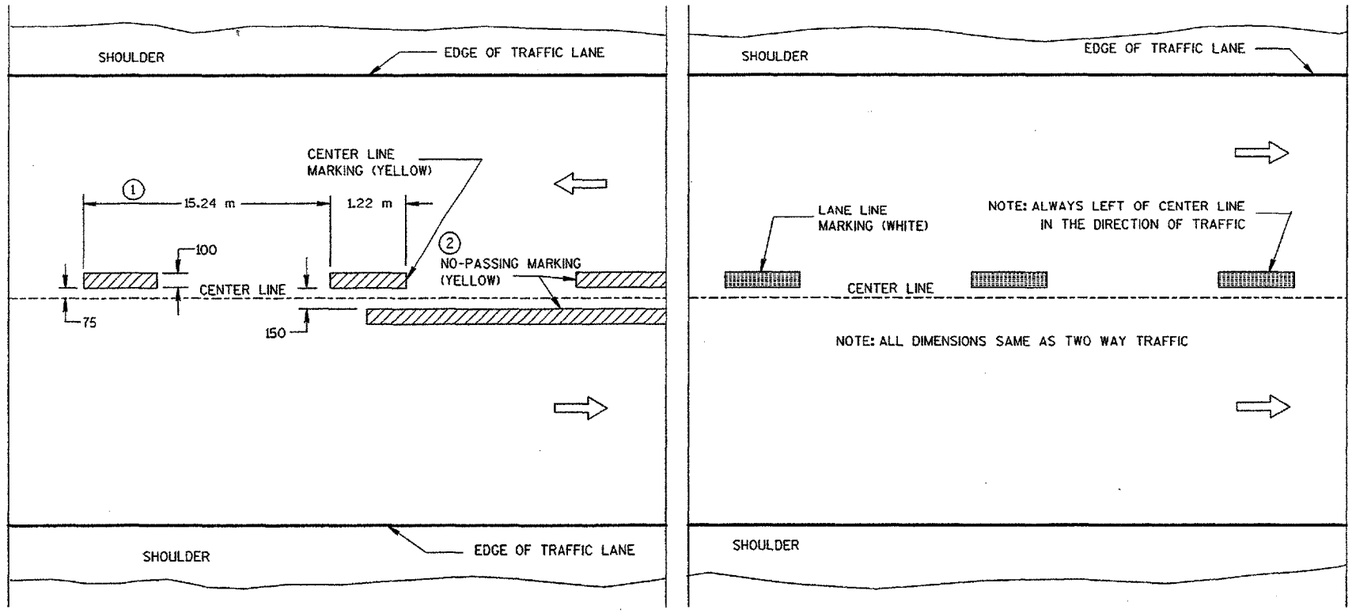
S.D.D. 15 C 2-3



TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC

ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) HALF CYCLE LENGTHS (7.62 m±) WITH 600 mm MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.

(2) NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-10-98
DATE
FHWA

Chester J. Spray
CHIEF SIGNS AND MARKING ENGINEER

S.D.D. 15 C 8-8a

S.D.D. 15 C 8-8

PLOT NAME:
PLOT SCALE=6.28-95>
REV. DATE:
ORIGINATOR:
LEVELS ON = 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63
FILE NAME:

NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

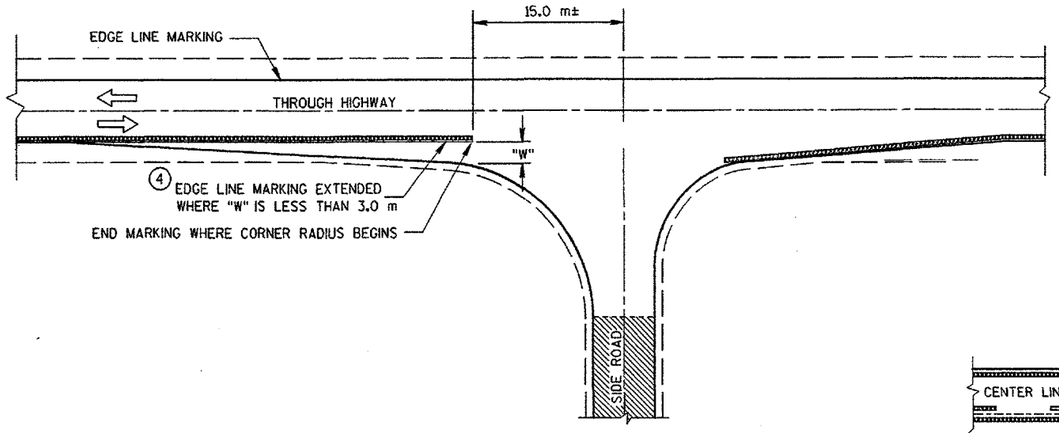
(1) WHEN DISTANCE "A" IS LESS THAN 76 m, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 30 m, OMIT CHANNELIZING LANE LINE.

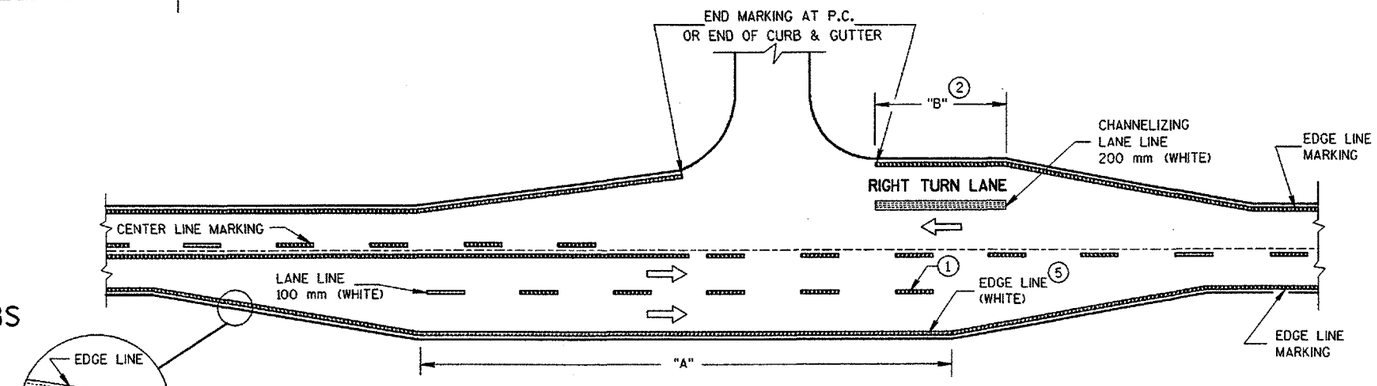
(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

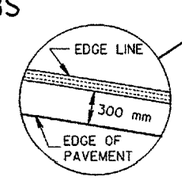
(4) LOCATE THE EDGE LINE ALONG THE TAPER WHERE "W" IS 3.0 m OR MORE.

(5) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 300 mm FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.



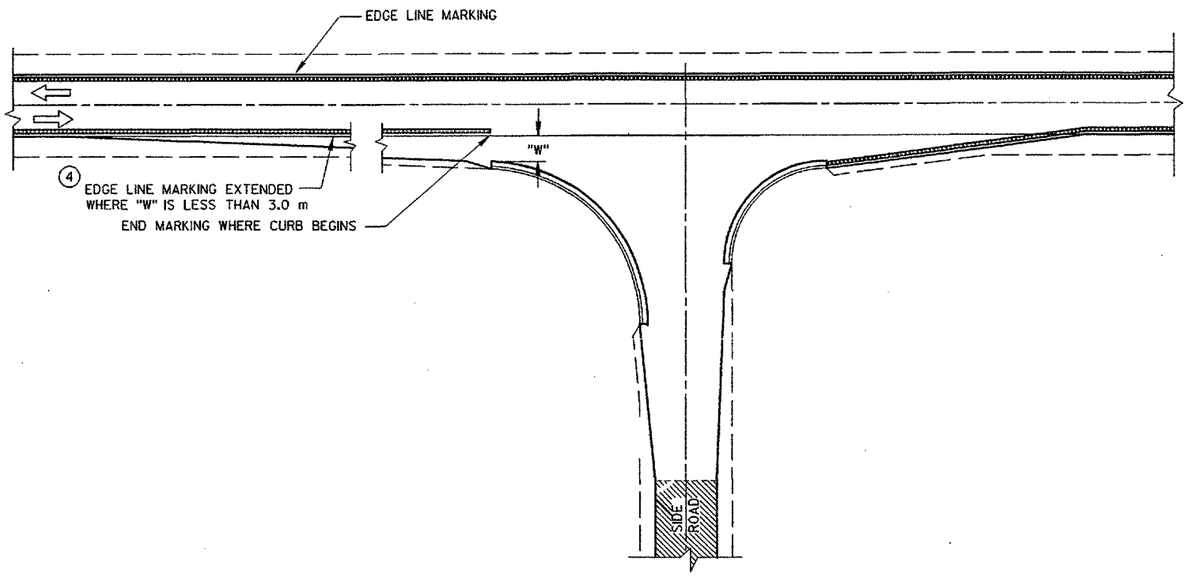
MINOR INTERSECTION WITHOUT CURBS





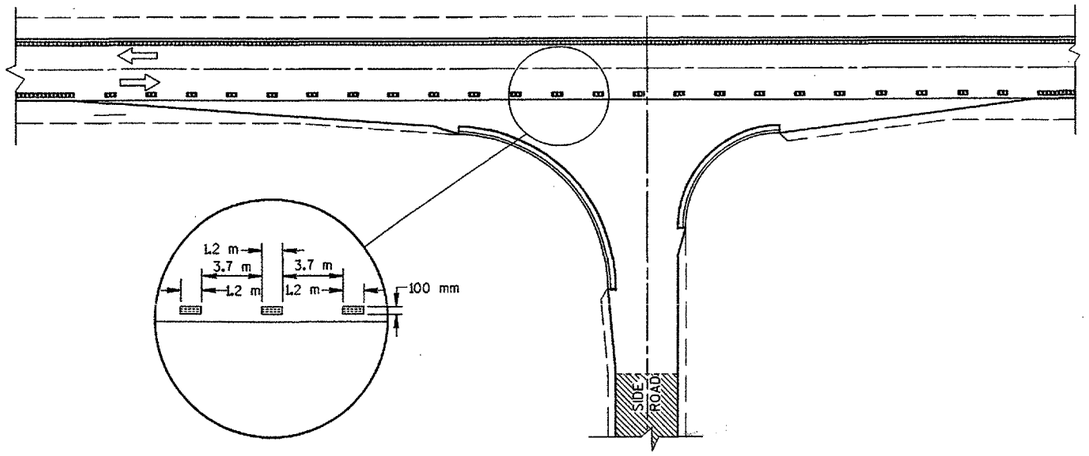
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION M

S.D.D. 15 C 8-8b

LEVELS ON · 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63

FILE NAME:

S.D.D. 15 C 8-8b