NE Region Construction Details Index		
Block Number	**Detail Description**	**Date Modified**
MANHOLES & STORM SEWER		
100	Adjusting Manhole Covers	
101	Inlet and Temporary Surface Drain	
102	Reconnect Storm Sewer Lateral Detail	
103	Artesian Well Drainout	
104	Detail for Extension of Underdrain Outfalls	
105	Median Inlet to Ditch Bottom With Elbows	
105M	Daylight Median Inlet	Feb-21
106	Detail for French Drains	
107	Slotted Vane Drain Detail	
108	Repairing Slotted Vane Drain Detail	
109	Residential Storm Sewer Lateral, Pipe Connection Detail	Sep-19
110	Pipe Underdrain Detail	
111	Rubber Ring Cutting Detail Inlet Type 2, Special	
CULVERT DETAILS		
150	Culvert Pipe Replacement With Slurry	Sep-19
151	Pavement at Culvert Replacements	Jun-19
152	New Culvert Pipes with Transition	Sep-19
153	Typical Geomembrane Pipe Boot Detail	
BUTT JOINTS		
202	Butt Joint Detail for Non-milled Asphaltic Pavements (Profile Change)	Sep-21
203	Butt Joint Detail for Asphaltic Pavements (No Profile Change)	Sep-21
204	Butt Joint Detail for Milled Asphaltic Pavements (Profile Change)	Sep-21
CABLE GUARD & BEAM GUARD DETAILS		
250	High Tension Cable Guard Barrier Terminal End (Detail A)	
251	High Tension Cable Guard Barrier Terminal End (Detail B)	
252	High Tension Cable Guard Barrier Offset Locations	
253	Detail for Asphaltic Shoulder at Beam Guard	
CURB & GUTTER		
301	Concrete Curb & Gutter Transition Detail	
302	Berm Detail Behind Curb & Gutter	
304	Concrete C & G 4-Inch Sloped 30-Inch Type G Special	
EROSION CONTROL		
350	Rock Bags Ditch Check	
351	Rock Filter Bag Ditch Check Detail	
352	Erosion Mat Treatment at Culverts	
353	Diversion Channel Detail	
354	Riprap Treatment at Storm Sewer Outfalls	Jan-19
356	Weir Detail for Wetland Mitigation Site	
358	Erosion Bales with Rock Bag Relief	
359	Rock Bags used for Silt Fence Relief	
360	Silt Fence Turn-Around Detail	
361	Temporary Slope Drain Detail	
362	Excavation Protection at Box Culverts	
PAVEMENT DETAILS		
400	Intersection Detail Type C Modified	

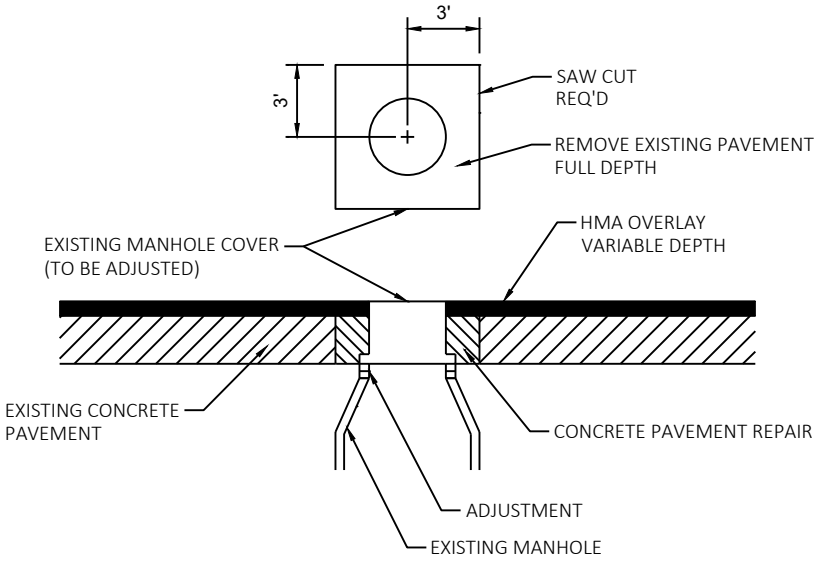
401	Longitudinal Detail for Box Culvert Frost Heave Repair Area	
402	Longitudinal Detail for Culvert Pipe Frost Heave Repair Area	
403	Cross Stitching Details	
404	Grading Intersections for Type B or D Intersections	
405	Longitudinal Detail for Frost Heave Repair Area Without Pipe	
406	Marsh Treatment with Geogrid	
407	Asphalt Splitter Island Detail with Crosswalk	Jun-22
408	Concrete Splitter Island Detail with Crosswalk	Jun-22
409	Asphalt Splitter Island Detail without Crosswalk	
410	Concrete Splitter Island Detail without Crosswalk	Jun-22
411	Cul de sac Details	Aug-19
412	Concrete Pavement & Concrete Overlay Safety Edge	
413	Crack Sealing and Filling Details	NEW

	DRIVEWAYS	
450	Rural Driveway Grading and/or Paving Detail	
451	Rural Driveways with Curb & Gutter	
452	Typical Driveway Profiles	
453	Typical Cross Section for Driveways	
454	Driveway Entrance Detail with Sidewalk, Curb & Gutter	Aug-21

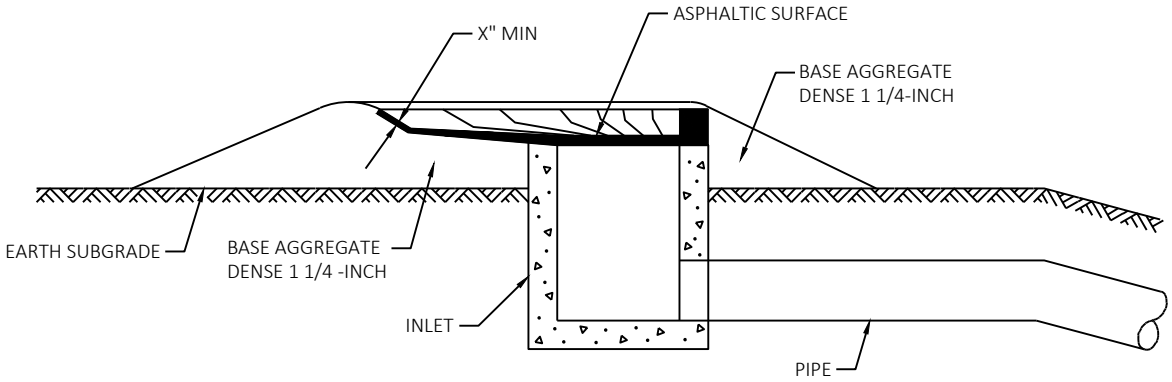
	EXCAVATION	
500	Typical Marsh Excavation	
501	Longitudinal Section for Undercut Areas (EBS) and Marsh Excavation	
502	Excavation Below Subgrade (EBS)	

	TYPICAL SECTIONS	
550	Typical Cross Section with Curb & Gutter (Milled)	
551	Typical Section Thru Basin Lysimeter Below Foundry Sand Structural Fill	
552	Typical Cross Section for Fly Ash Placement	
553	Typical Cross Section for Foundry Sand Placement (Waupaca Foundry)	
554	Fly Ash Placement Detail (WPS)	
555	Detail for Transition to Base Aggregate Lift	
556	Typical Cross Section with Curb & Gutter (Pulverized)	

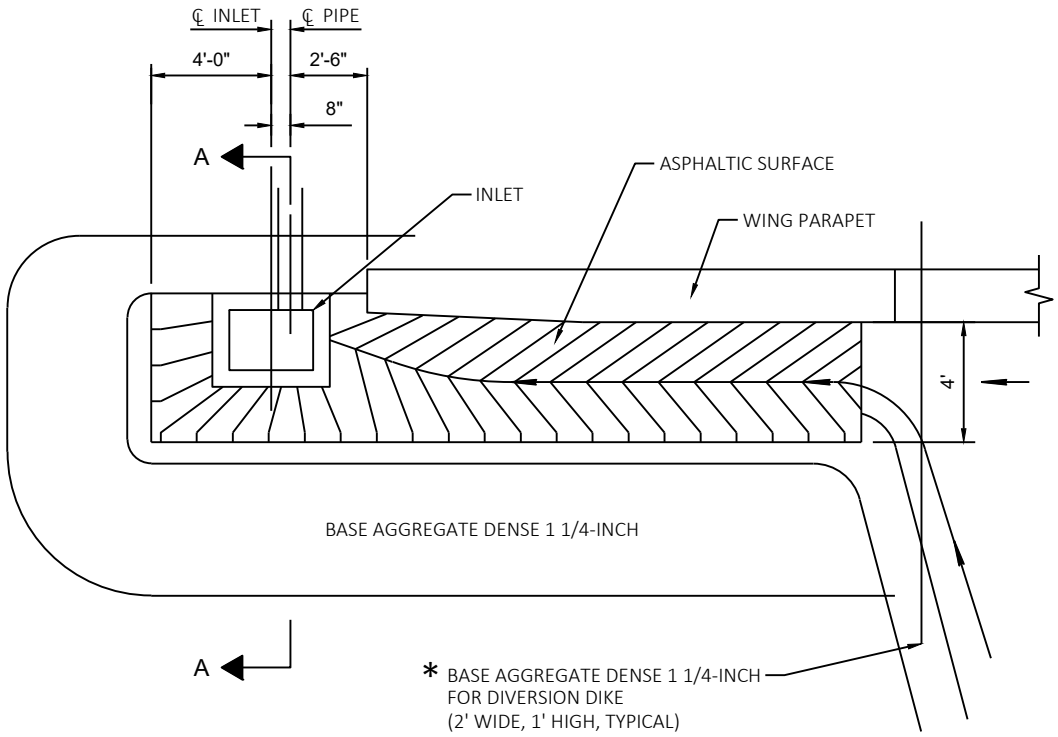
	TRAFFIC CONTROL	
600	Shoulder Closure-Regulatory Speed Reduction with Barrier	
601	Shoulder Closure-Regulatory Speed Reduction without Barrier	
602	Pavement Marking Detail for Tapered Overlapping Joints in HMA Pavements (2 Layers)	
603	Pavement Marking Detail for Tapered Overlapping Joints in HMA Pavements (1 Layer)	
604	Lane Closure-Regulatory Speed Reduction with Barrier	
605	Lane Closure-Regulatory Speed Reduction without Barrier	



100 ADJUSTING MANHOLE COVERS

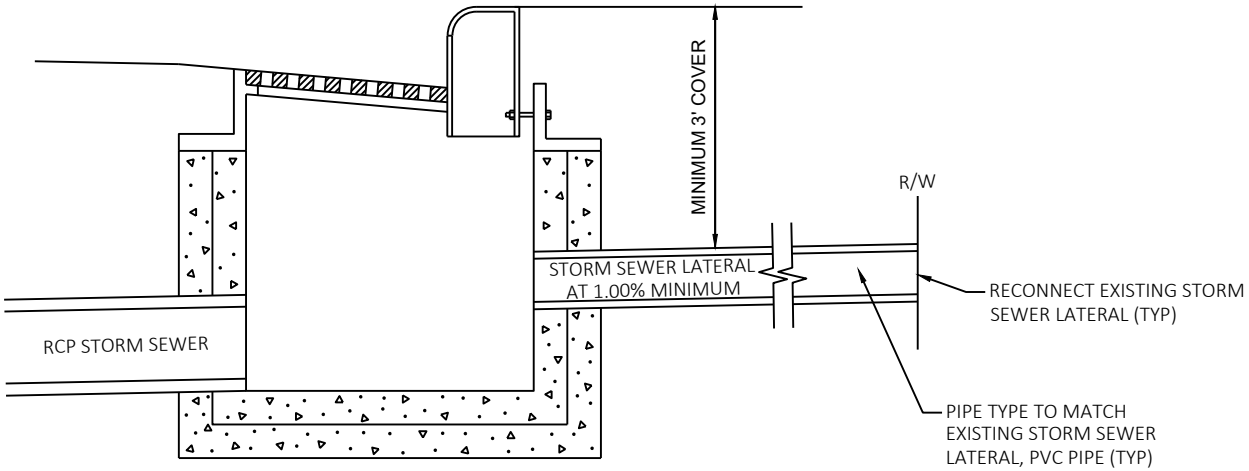


SECTION A-A



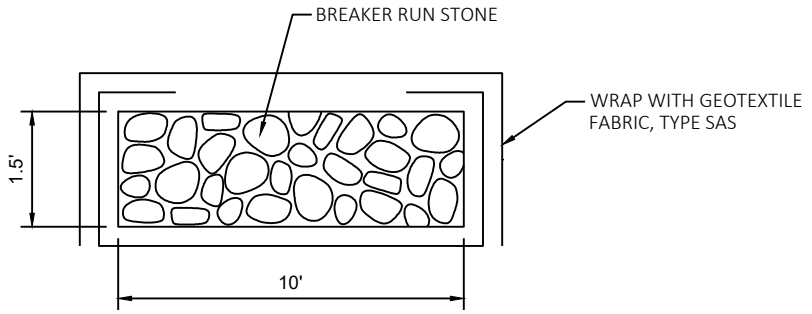
* INCIDENTAL TO SURFACE DRAIN ITEM IF NO OTHER BASE AGGREGATE ON THE PROJECT

101 INLET & TEMPORARY SURFACE DRAIN

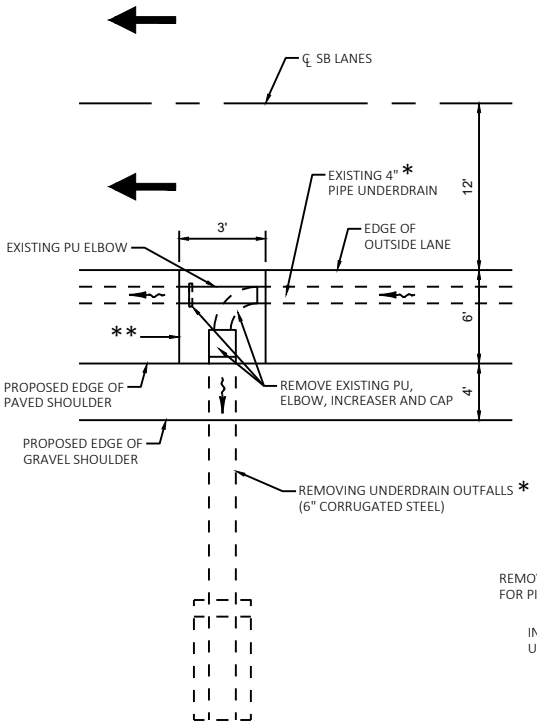


NOTE:
ALL LABOR AND MATERIALS NECESSARY FOR CONNECTION TO STORM SEWER SHALL BE INCIDENTAL TO THE BID ITEM OF RECONNECT STORM SEWER LATERALS.

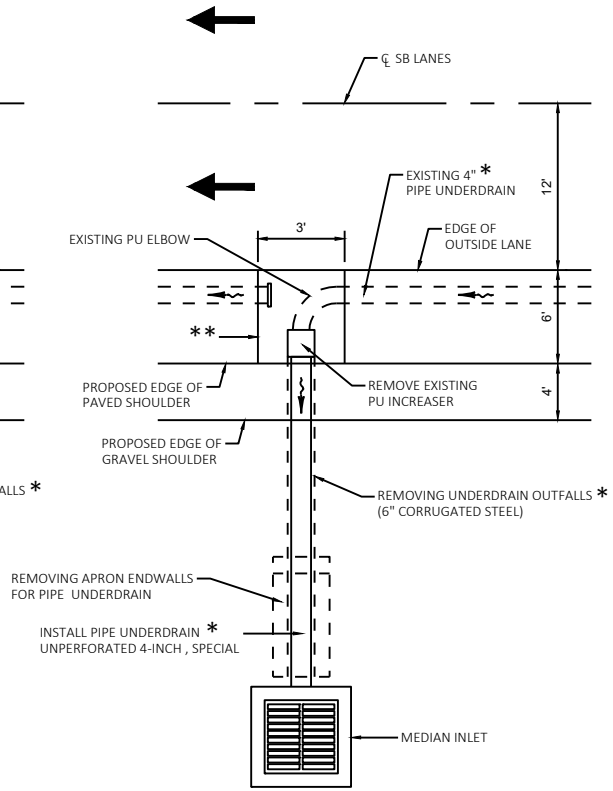
102 RECONNECT STORM SEWER LATERAL DETAIL



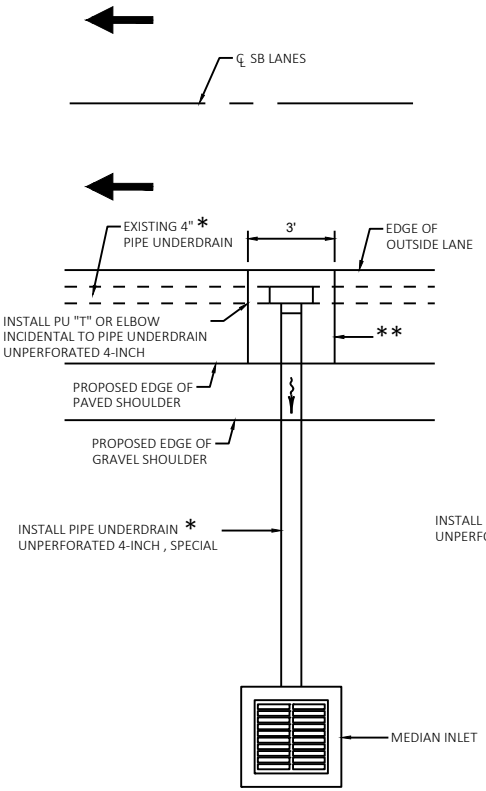
103 ARTESIAN WELL DRAINOUT



INTERMEDIATE LOCATIONS NO INLET

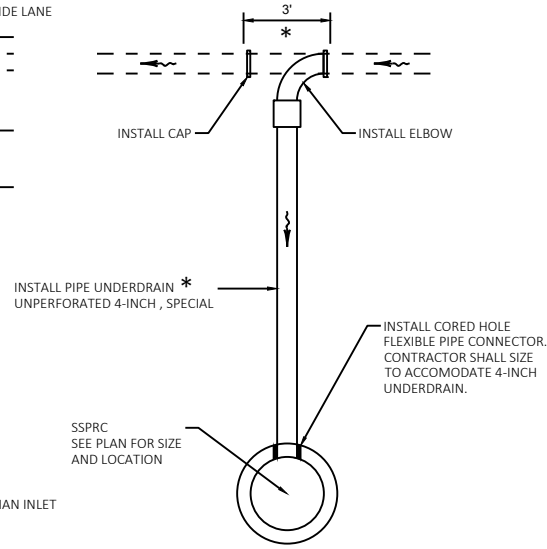


INTERMEDIATE LOCATIONS AT INLETS



LOW POINT LOCATION

CHECK PLANS FOR CORRECT
PIPE SIZES AND MATERIALS



CONNECTION TO CONCRETE PIPE

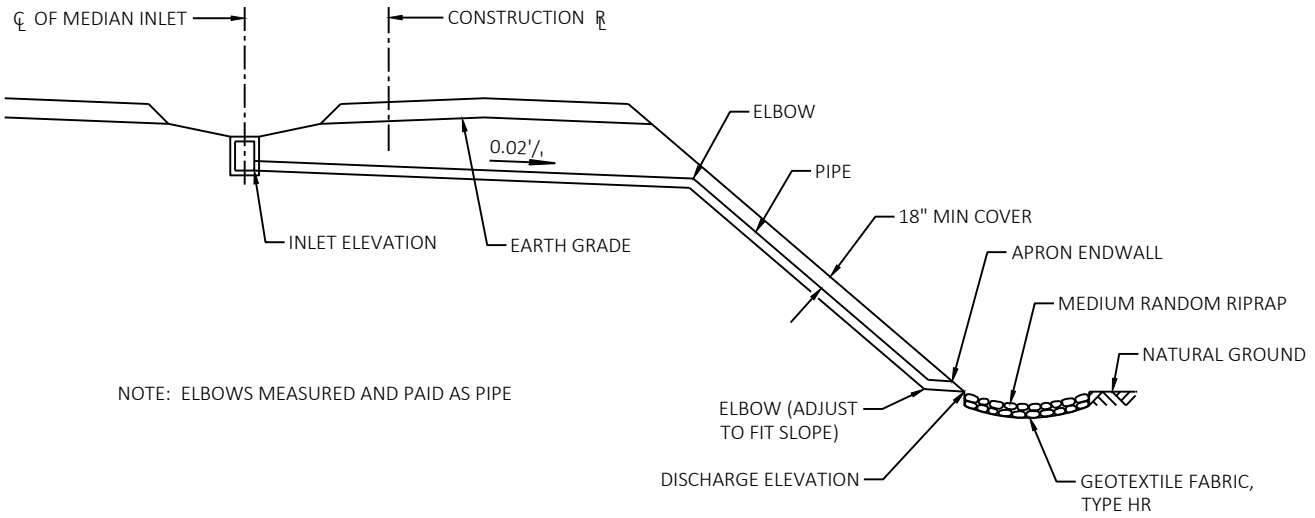
104 DETAIL FOR EXTENSION OF UNDERDRAIN OUTFALLS

(SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS)

SHOWN FOR SB LANE MEDIAN PIPE UNDERDRAIN WORK.
NB LANE MEDIAN PIPE UNDERDRAIN WORK IS SIMILAR.

* CHECK PLANS FOR CORRECT PIPE SIZES AND MATERIALS.

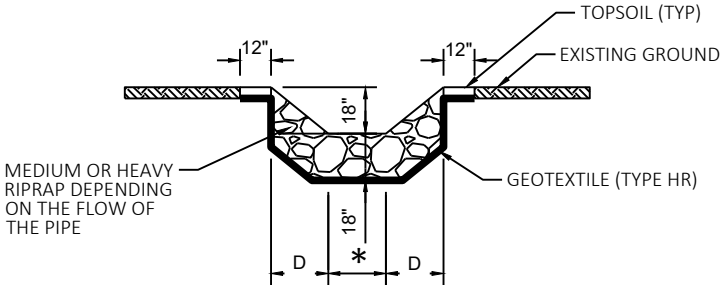
** PLACE 5" HMA PAVEMENT OVER BASE AGGREGATE DENSE 1 1/4". (SEE DETAIL)



105 MEDIAN INLET TO DITCH BOTTOM WITH ELBOWS

DESIGNER NOTES:

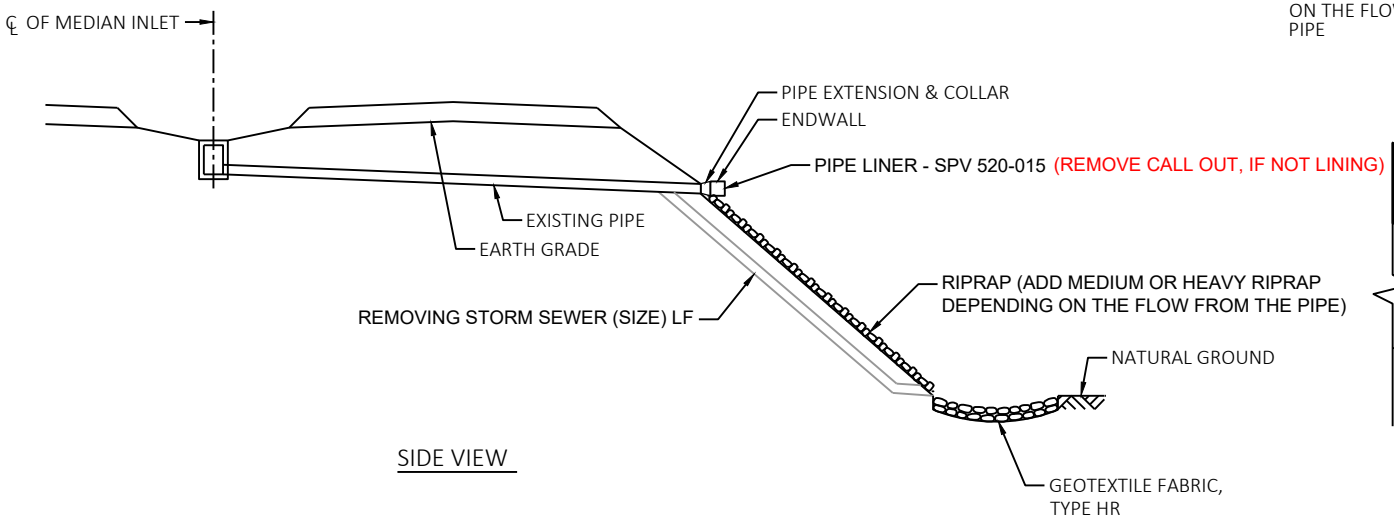
- PIPES WILL BE LINED FOR ALL PIPES 18-INCH OR LARGER.
- NEED TO DO HYDRAULIC ANALYSIS TO ENSURE NO BACK UPS CAUSED BY THE SMALLER PIPE DIAMETER FROM THE LINER.
- DITCH GRADING MIGHT BE NEEDED FROM THE WASHOUT OF THE FAILED PIPE ALONG THE FORESLOPE - MAKE SURE THERE IS POSITIVE DRAINAGE.
- CHECK TO SEE IF THERE IS STILL RIPRAP IN THE DITCH BOTTOM, IF THERE IS DO NOT NEED RIPRAP, IF THE RIPRAP IS ERODED IN OR NOT THERE NEED TO INCLUDE RIPRAP AT DITCH BOTTOM.
- WORK TO BE DONE WITH THIS DETAIL.
  - * REMOVE ELBOW & PIPE DOWN FORESLOPE
  - * DAYLIGHT PIPE WITH EXTENSION
  - * ADD ENDWALL.
  - * ADD PLASTIC LINER IF NEEDED.



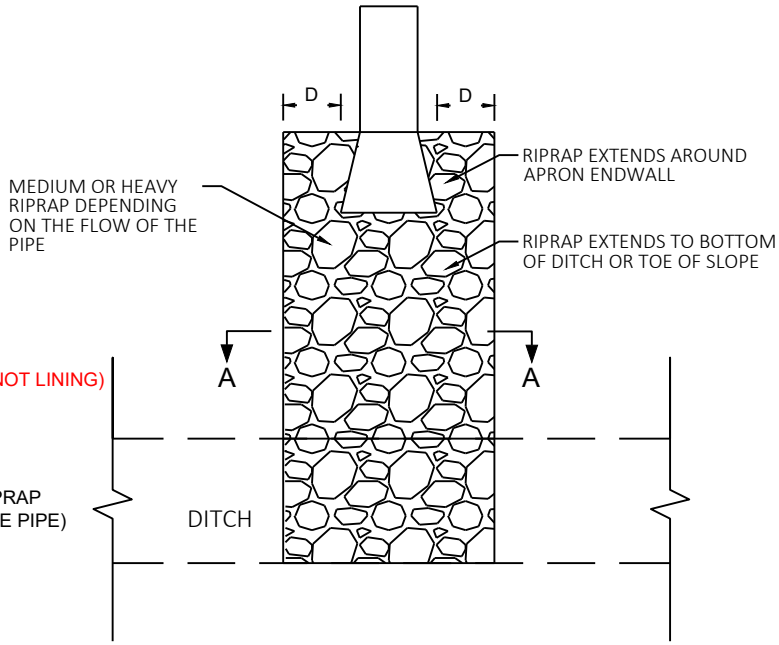
SECTION A-A

* APRON ENDWALL WIDTH

D = PIPE DIAMETER

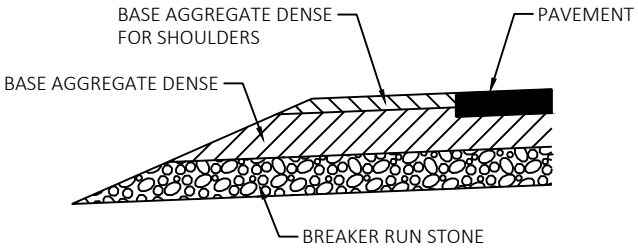


SIDE VIEW

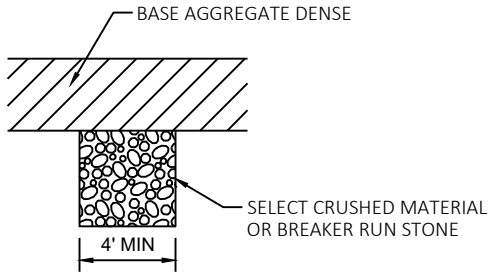


PLAN VIEW

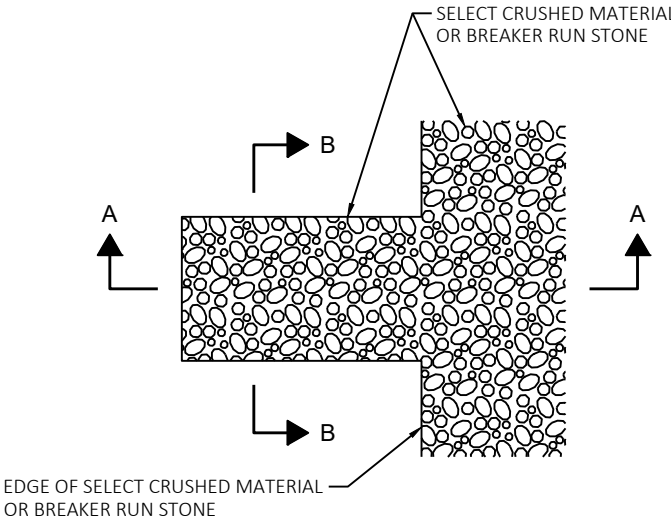
105M DAYLIGHT MEDIAN INLET



SECTION A-A



SECTION B-B

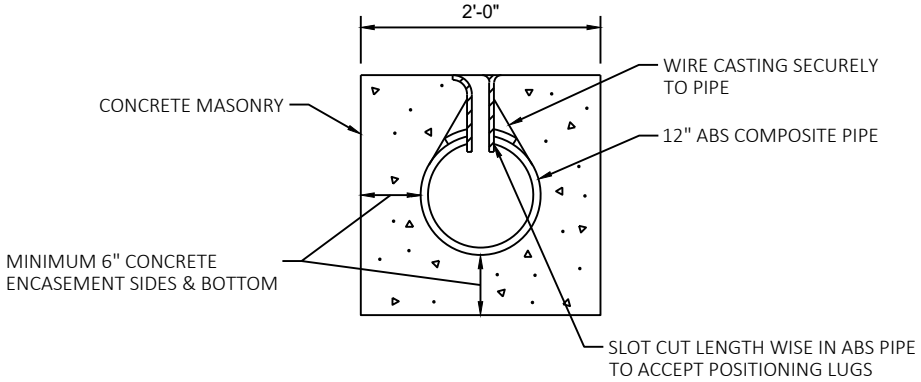


106 DETAIL FOR FRENCH DRAINS

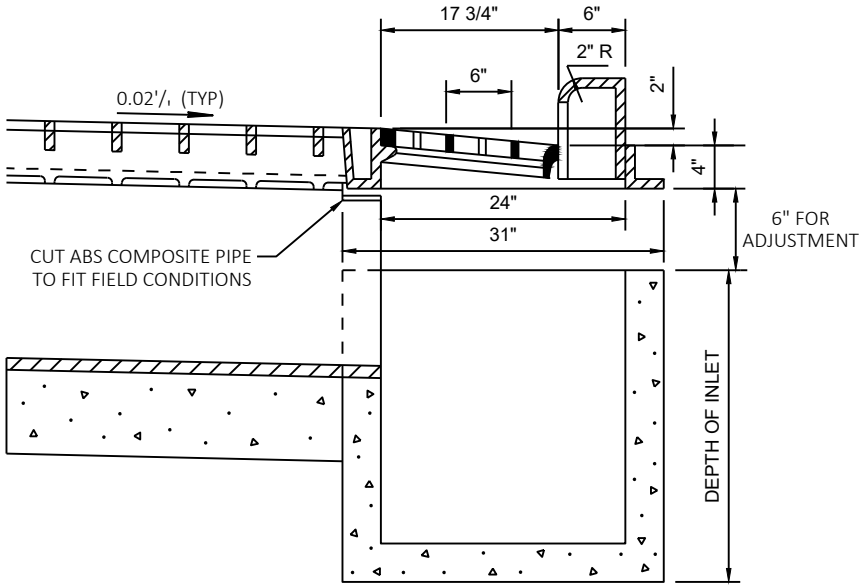
DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250'
AND AT EACH SAG VERTICAL CURVE IN THE PROFILE.

LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

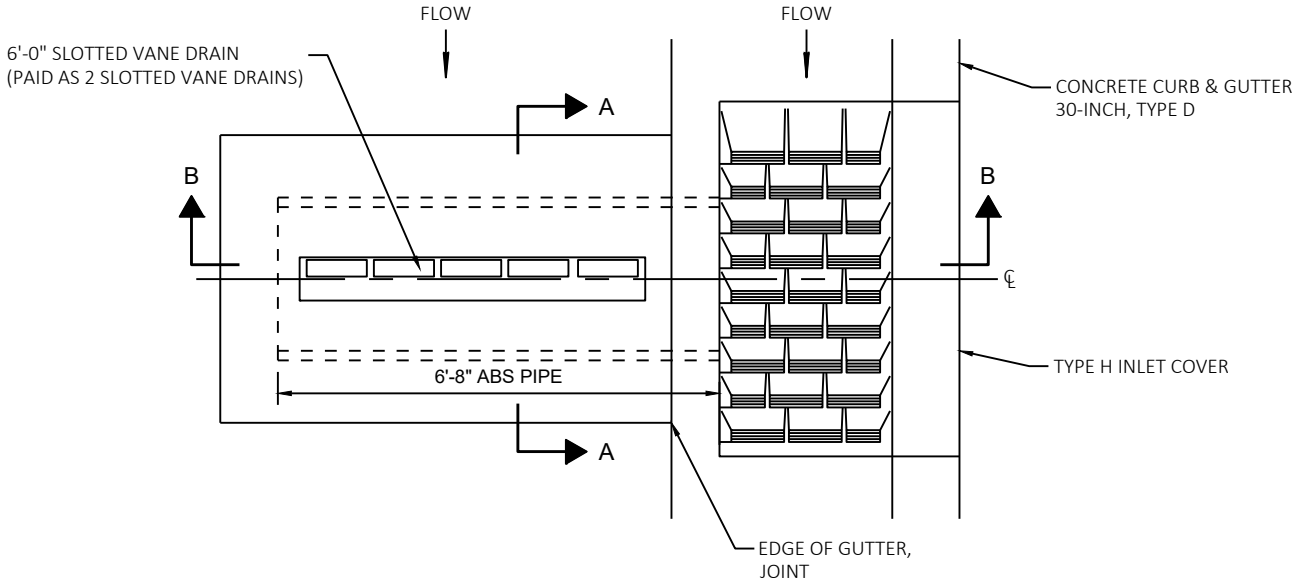
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL
BE CONSIDERED INCIDENTAL TO THE ITEM BREAKER RUN STONE.



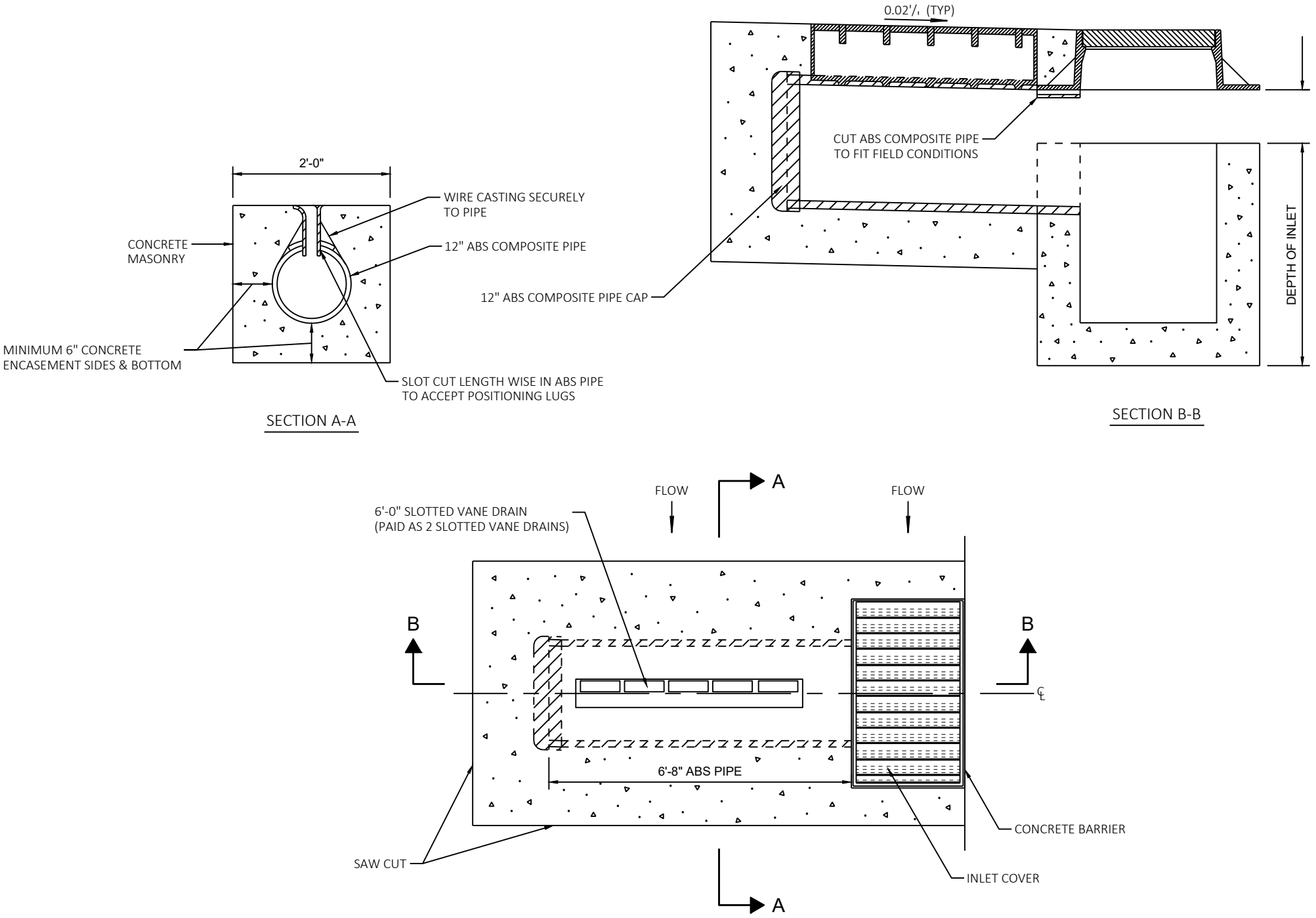
SECTION A-A



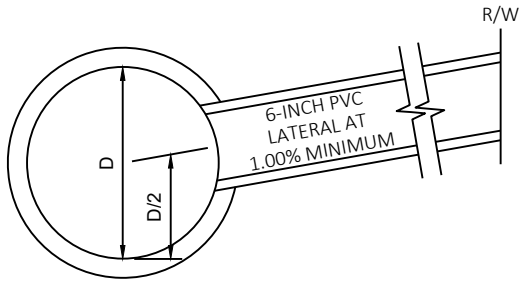
SECTION B-B



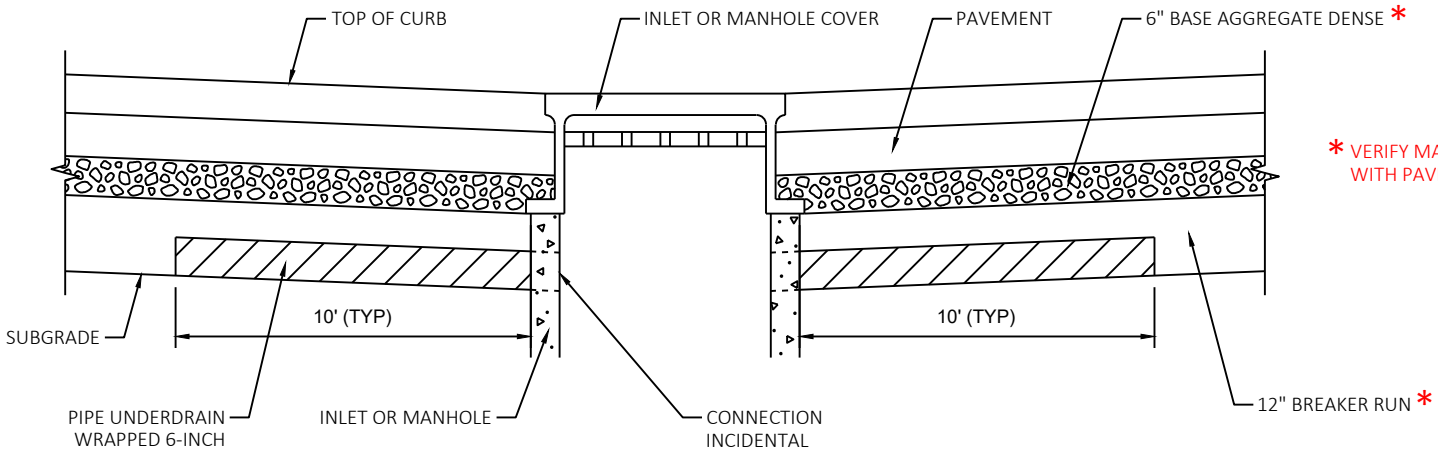
107 SLOTTED VANE DRAIN DETAIL



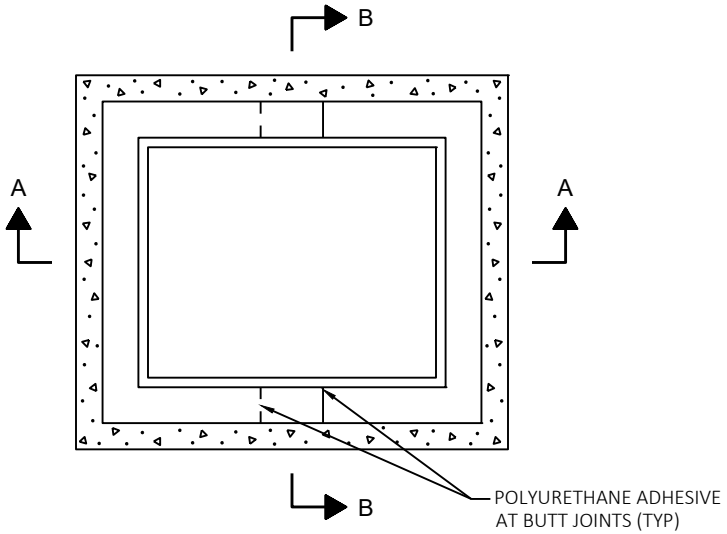
108 REPAIRING SLOTTED VANE DRAIN DETAIL



109 RESIDENTIAL STORM SEWER LATERAL, PIPE CONNECTION DETAIL



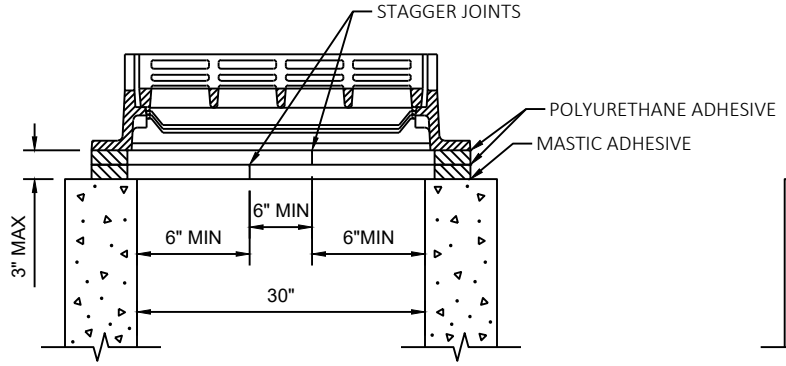
110 PIPE UNDERDRAIN DETAIL



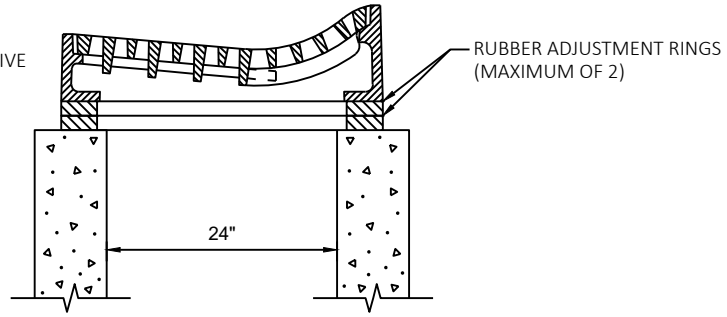
PLAN VIEW

TO BE USED WITH INLETS IN THE CIRCULATING ROADWAY OF ROUNDABOUTS AND OTHER LOCATIONS WHERE IT IS LIKELY VEHICLES WILL RUN OVER THE GRATES. INCLUDE CORRESPONDING SPV

NOTE:
ALL CUTS MADE TO RUBBER ADJUSTMENT RINGS WILL BE PERPENDICULAR AND PROVIDE A TIGHT JOINT.



SECTION A-A



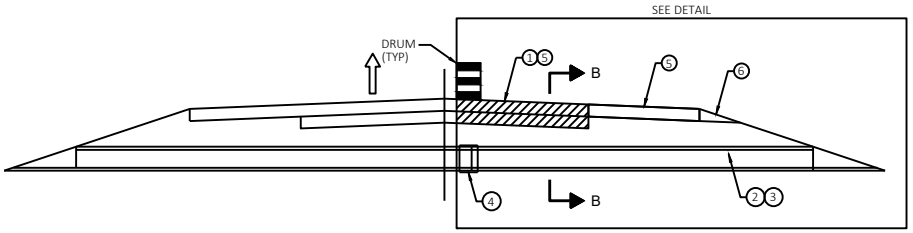
SECTION B-B

111 RUBBER RING CUTTING DETAIL FOR INLET TYPE 2, SPECIAL

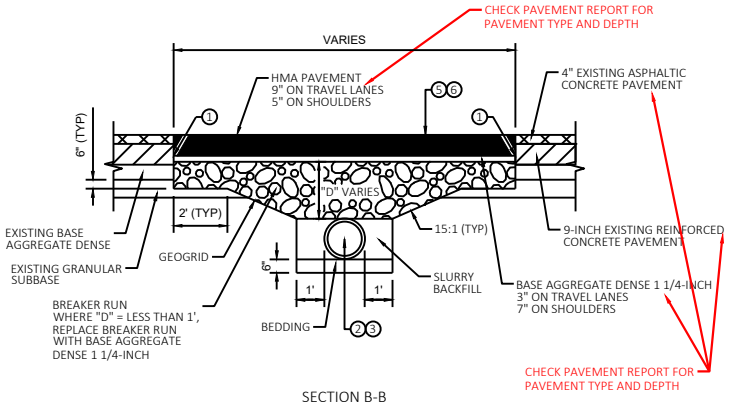
NOTE: SHOWN FOR SB LANE PIPEWORK. NB LANES SIMILAR.

WIDTHS AND SURFACE TYPE FOR SHOULDER SHOWN DEPICT FINISHED CONDITION.

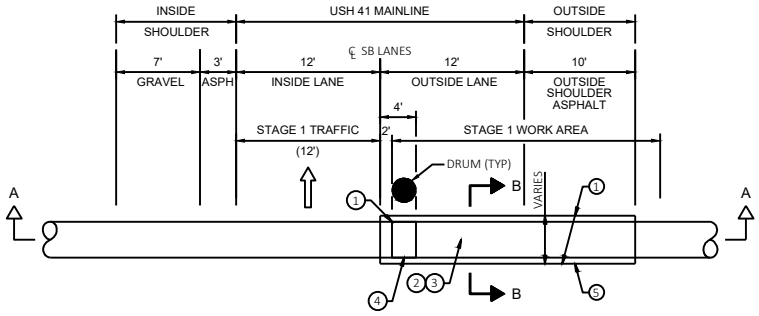
1. SAWING CONCRETE PAVEMENT FULL DEPTH.
2. REMOVE EXISTING CULVERT PIPE, OR REMOVING STORM SEWER. SEE MISCELLANEOUS QUANTITIES.
3. CONSTRUCT NEW SSPRC. SEE SECTION B-B.
4. PLACE NEW SSPRC BELL OVER EXISTING CULVERT PIPE, WRAP TEMPORARY JOINT WITH FABRIC (INCIDENTAL TO CONSTRUCTION), USE SLURRY BACKFILL.
5. PLACE GEOGRID, BREAKER RUN/BASE AGGREGATE DENSE, HMA PAVEMENT.



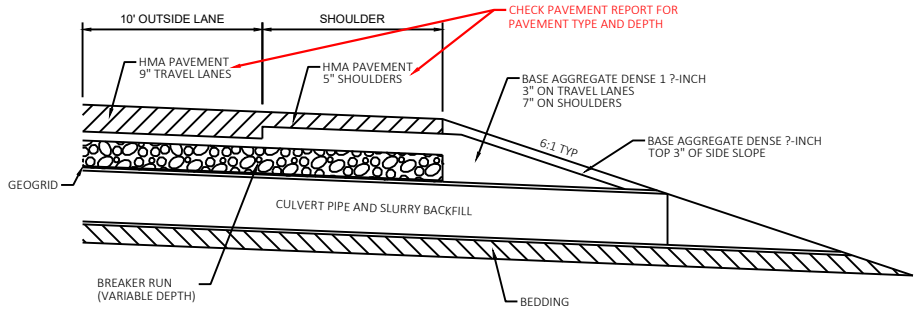
STAGE 1 - SECTION A-A



SECTION B-B



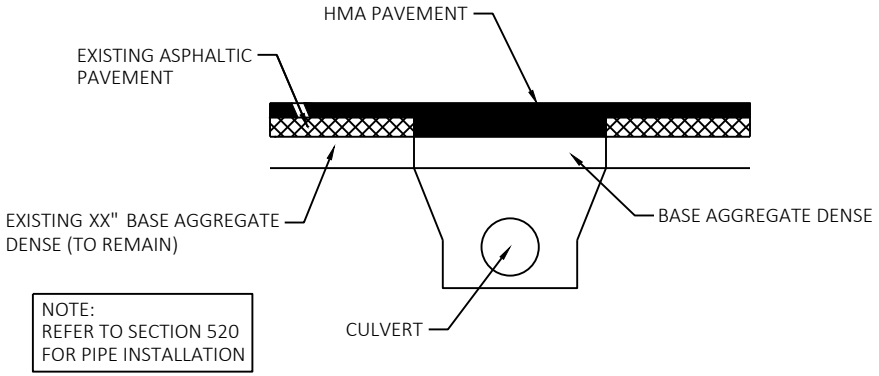
STAGE 1 - PLAN VIEW



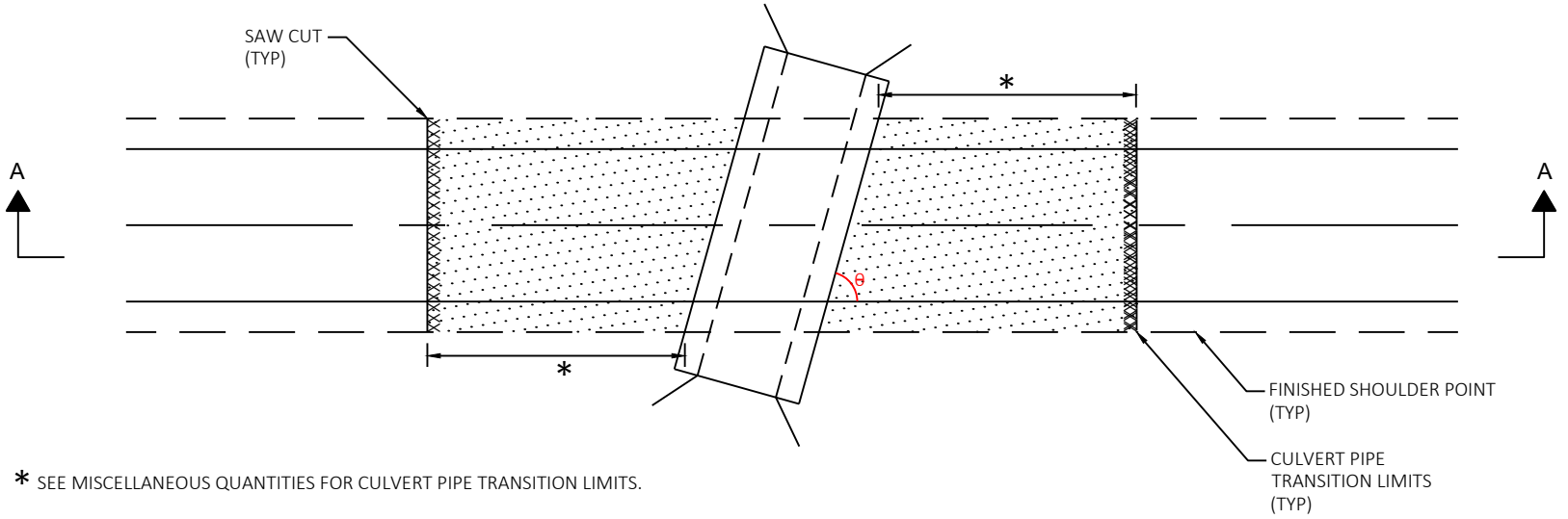
STAGE 1 DETAIL

150 CULVERT PIPE REPLACEMENT WITH SLURRY

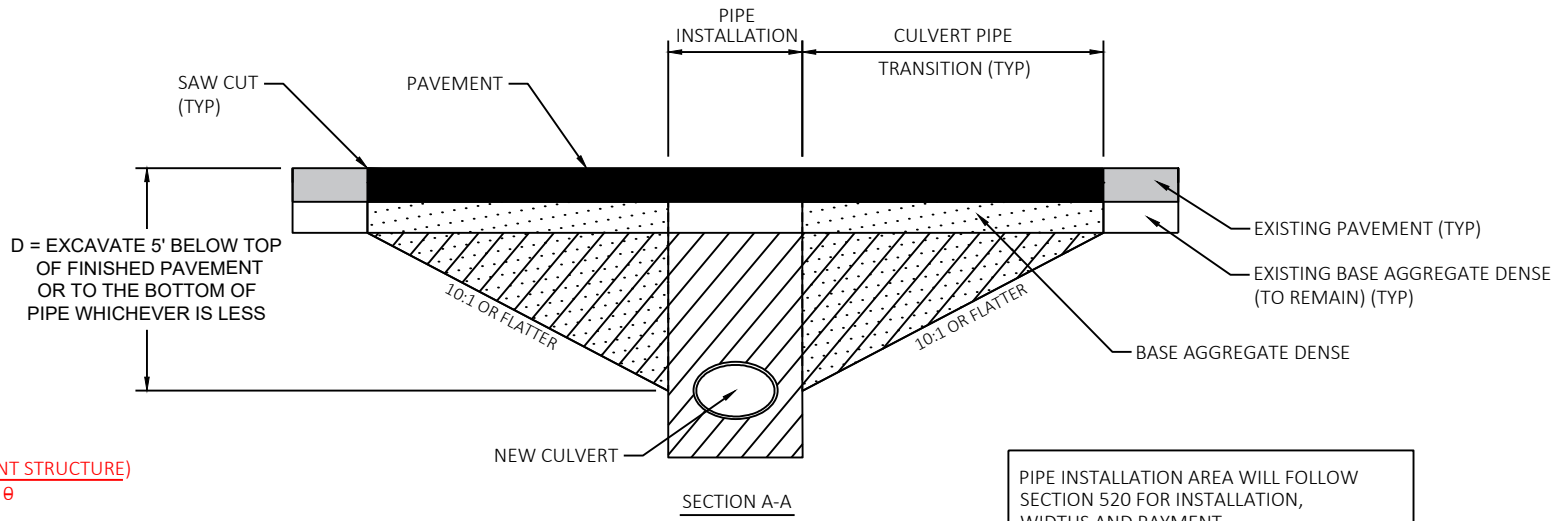
(4 LANE HIGHWAY)



151 PAVEMENT AT CULVERT REPLACEMENTS



* SEE MISCELLANEOUS QUANTITIES FOR CULVERT PIPE TRANSITION LIMITS.



SECTION A-A

COMMON EXCAVATION

FOUNDATION BACKFILL

CALCULATE * BY THE FOLLOWING EQUATION:

$$\text{CULVERT TRANSITION LIMITS} = \frac{10(D - \text{PAVEMENT STRUCTURE})}{\sin\theta}$$

USE THIS DETAIL IF TOP OF PROPOSED PIPE IS 4-FT OR LESS FROM TOP OF FINISHED PAVEMENT.

DISCUSS INSTALLATIONS WITH SOILS ENGINEER WHEN THE PIPE:

- HAS SHARP SKEW (θ APPROXIMATELY 50° OR LESS)
- LONG CULVERT PIPE INSTALLATION
- PIPE INSTALLATION IMPACTS AN INTERSECTION
- ANY UNIQUE SITUATIONS

USE EXCEL SHEET "SHALLOW CULVERT TRANSITION EXCAVATION WORKSHEET" FOUND IN THE ESTIMATING FOLDER IN THE RESOURCE LIBRARY, FOR BID ITEM QUANTITIES.

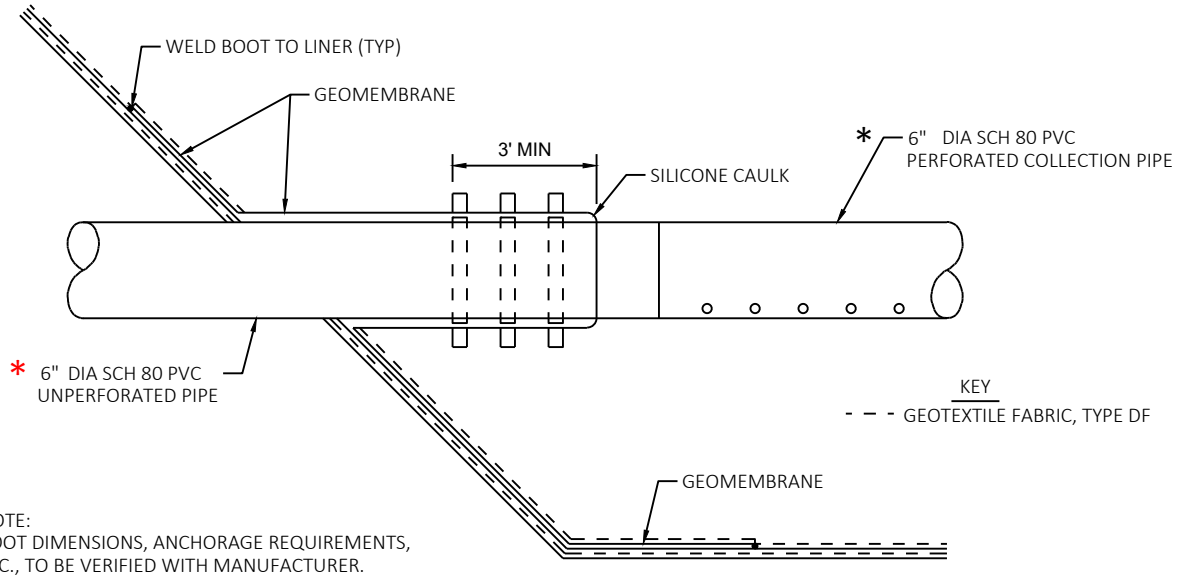
PIPE INSTALLATION AREA WILL FOLLOW SECTION 520 FOR INSTALLATION, WIDTHS AND PAYMENT.

CONSTRUCT TRANSITION PERPENDICULAR TO CULVERT PIPE.

CULVERT PIPE TRANSITION AREAS WILL BE PAID BY COMMON EXCAVATION & SPV FOUNDATION BACKFILL.

PAVEMENT SAW CUT TO BE PERPENDICULAR TO ROADWAY ALIGNMENT.

152 NEW CULVERT PIPES WITH TRANSITION

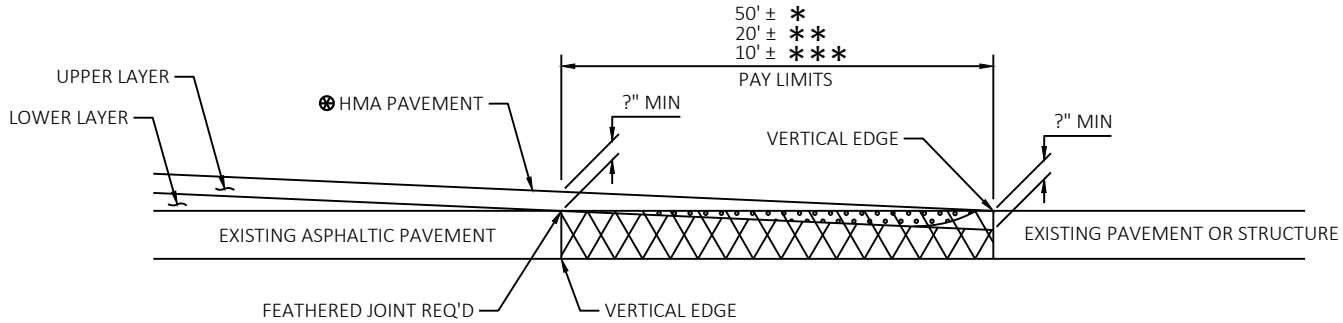


NOTE:
BOOT DIMENSIONS, ANCHORAGE REQUIREMENTS, ETC., TO BE VERIFIED WITH MANUFACTURER.

* REVISE PVC SIZES AS NECESSARY

153

TYPICAL GEOMEMBRANE PIPE BOOT DETAIL



⊛SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

REMOVING ASPHALTIC SURFACE, BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

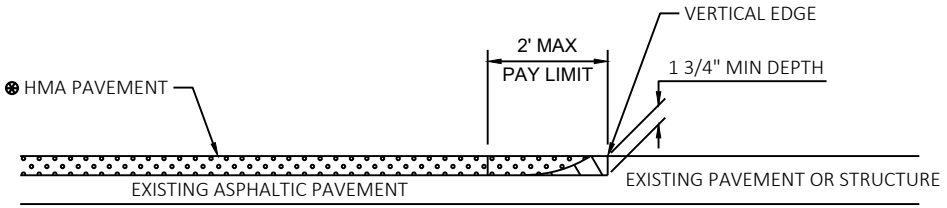
ASPHALTIC WEDGING (FULL DEPTH REMOVAL OPTION)

REMOVING ASPHALTIC SURFACE, BUTT JOINTS (MILLING OPTION)

202

BUTT JOINT DETAIL FOR NON MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES

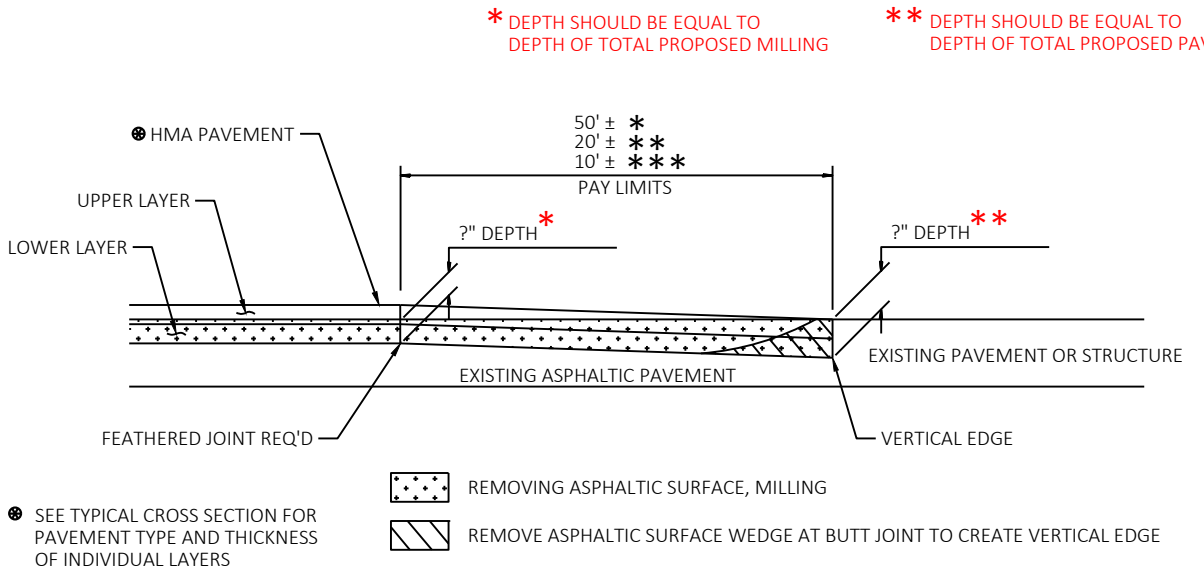


REMOVING ASPHALTIC SURFACE, MILLING

REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

HMA SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

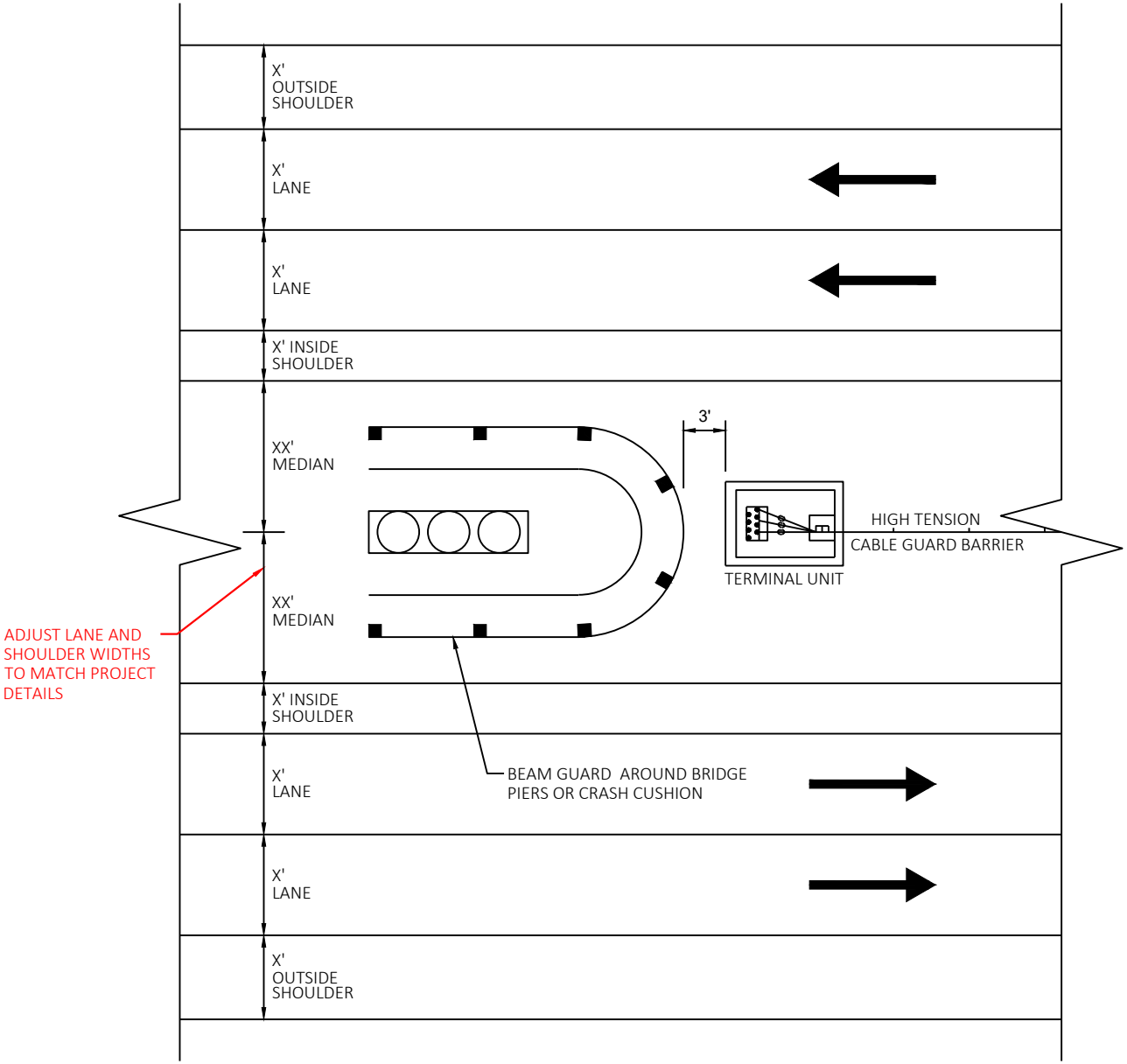
203 BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



204

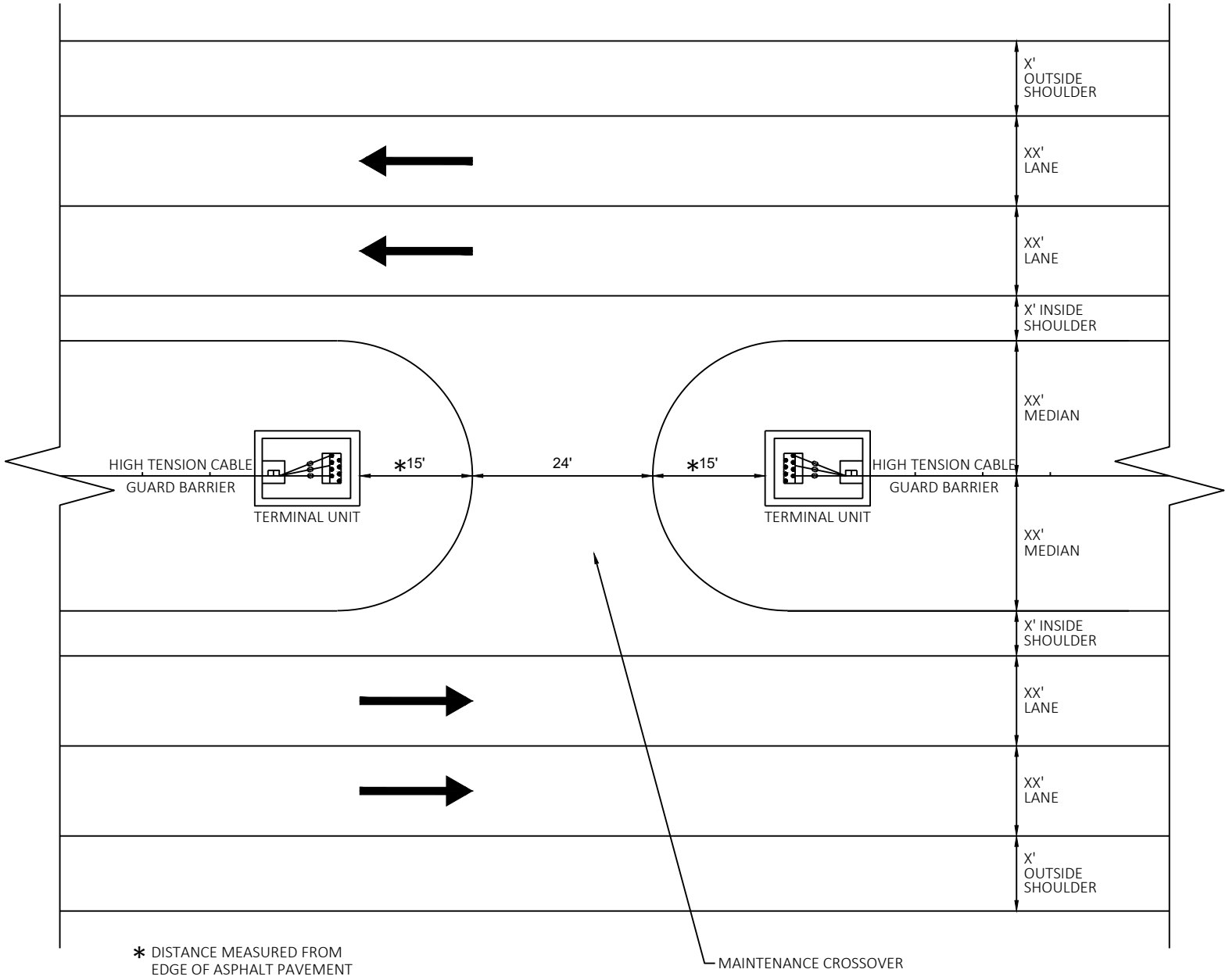
BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS (PROFILE CHANGE)

* MAINLINE
** SIDEROADS
*** PRIVATE ENTRANCES



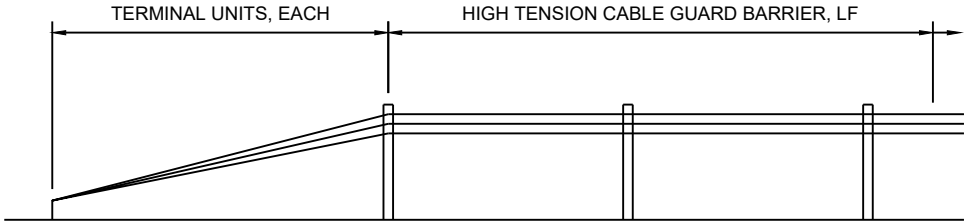
250 HIGH TENSION CABLE GUARD BARRIER TERMINAL END

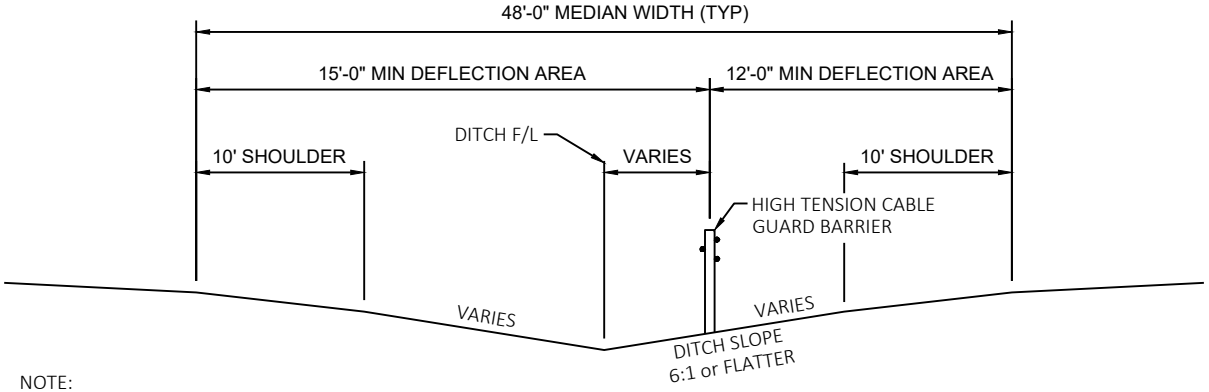
DETAIL A



251 HIGH TENSION CABLE GUARD BARRIER TERMINAL END

DETAIL B

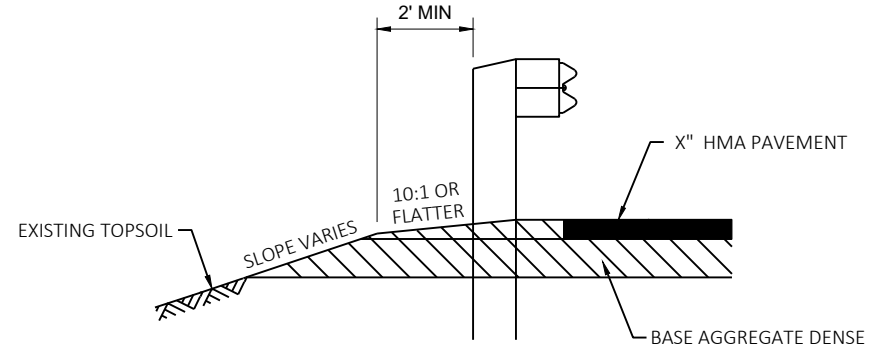




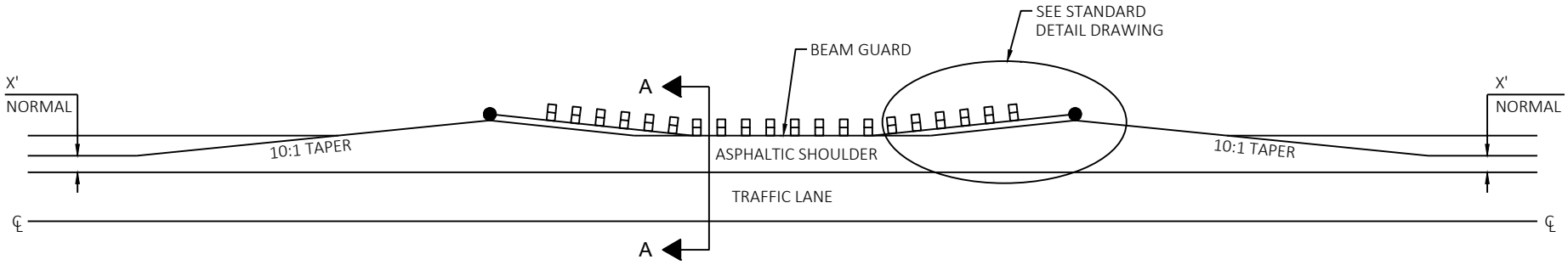
NOTE:
REFER TO SDD CABLE BARRIER TYPE 1

252 HIGH TENSION CABLE GUARD BARRIER OFFSET LOCATIONS

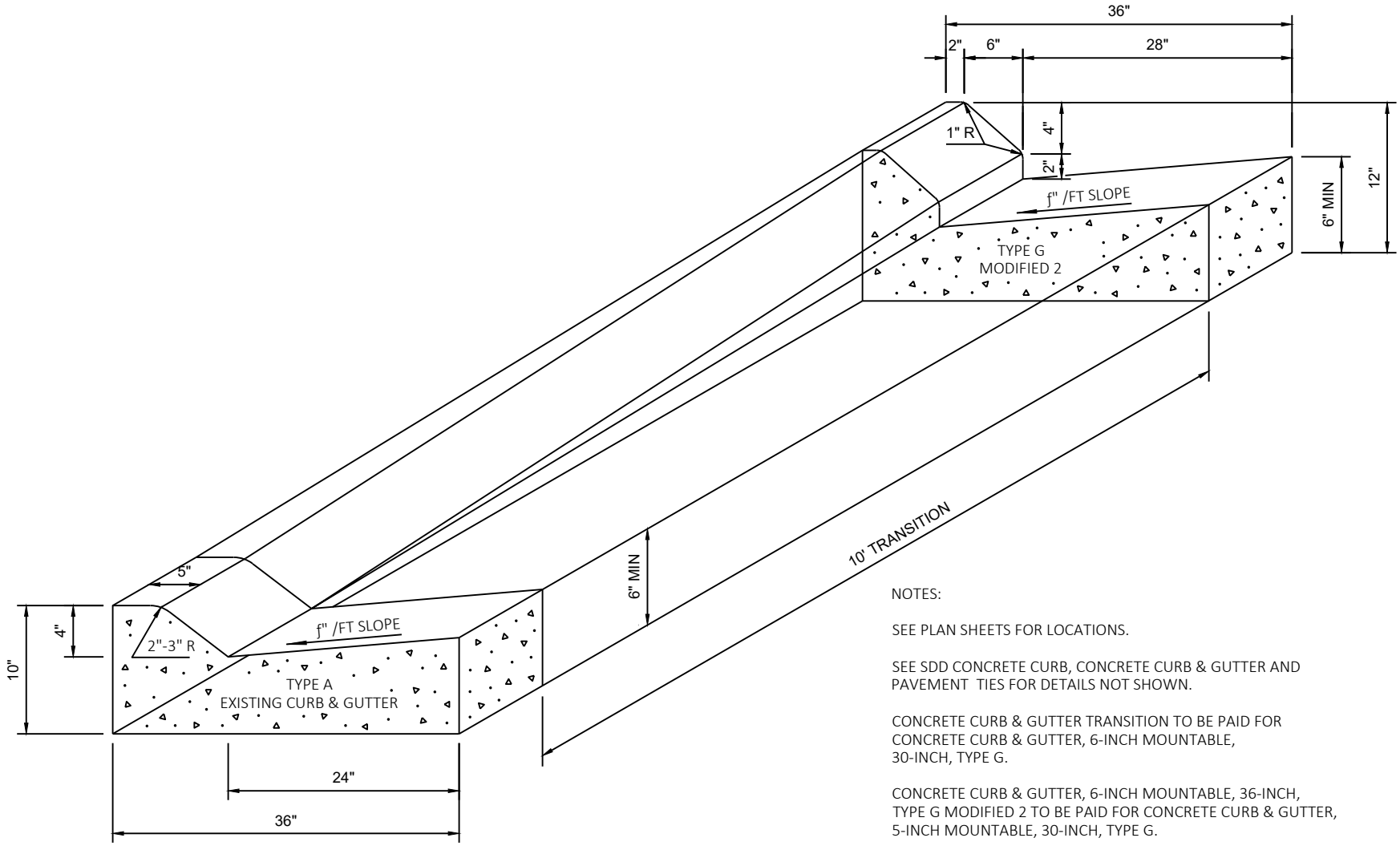
(TYP)



SECTION A-A



253 DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



NOTES:

SEE PLAN SHEETS FOR LOCATIONS.

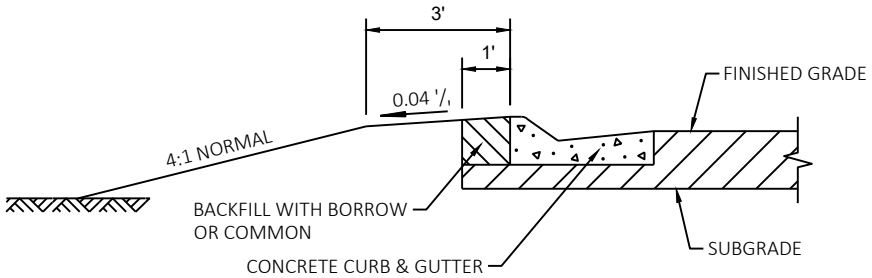
SEE SDD CONCRETE CURB, CONCRETE CURB & GUTTER AND PAVEMENT TIES FOR DETAILS NOT SHOWN.

CONCRETE CURB & GUTTER TRANSITION TO BE PAID FOR CONCRETE CURB & GUTTER, 6-INCH MOUNTABLE, 30-INCH, TYPE G.

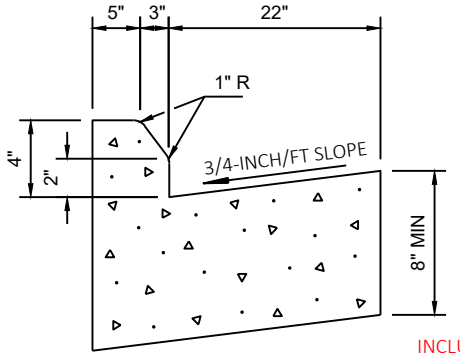
CONCRETE CURB & GUTTER, 6-INCH MOUNTABLE, 36-INCH, TYPE G MODIFIED 2 TO BE PAID FOR CONCRETE CURB & GUTTER, 5-INCH MOUNTABLE, 30-INCH, TYPE G.

301 CONCRETE CURB & GUTTER TRANSITION DETAIL

NOTE: MODIFY CURB TYPE AND NOTES TO REPRESENT PROJECT SITUATION

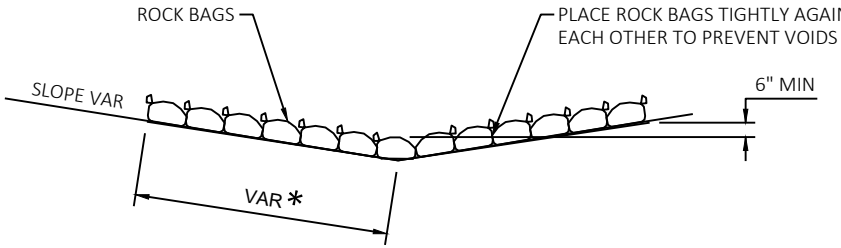


302 BERM DETAIL BEHIND CURB & GUTTER

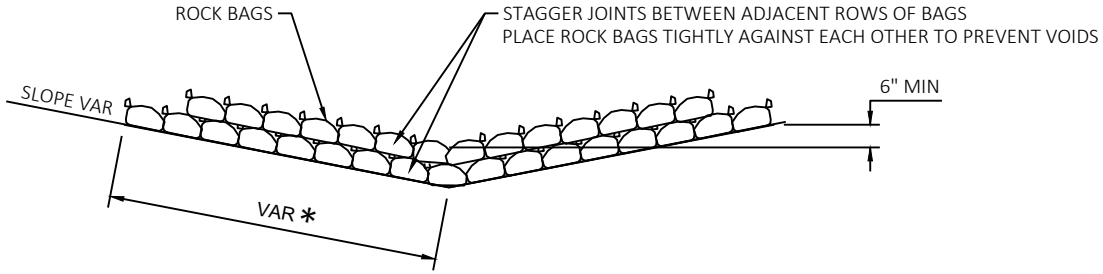


INCLUDE NER SPV IN
SPECIAL PROVISIONS

304 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G SPECIAL



SIDE VIEW (SINGLE LAYER)



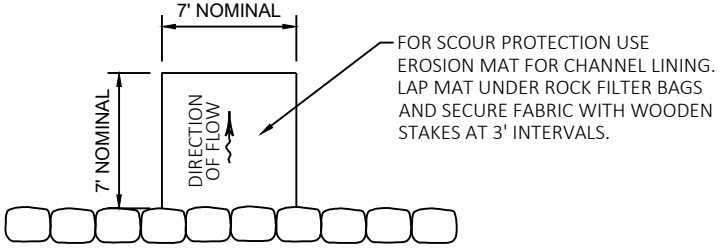
* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL

SIDE VIEW (MULTIPLE LAYER)

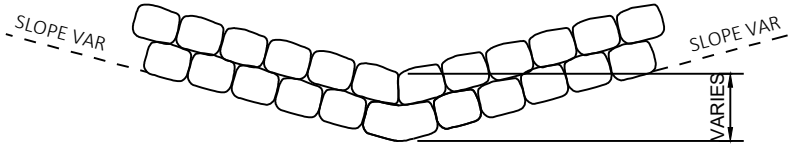
350

ROCK BAGS DITCH CHECK

PAID AS ROCK BAGS



PLAN VIEW



FRONT ELEVATION

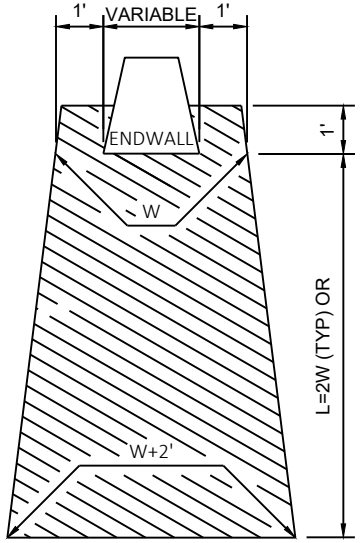
NOTES:

1. PLACE ROCK FILTER BAGS TIGHTLY AGAINST EACH OTHER TO PREVENT VOIDS.
2. STAGGER JOINTS BETWEEN BOTTOM AND TOP ROWS.
3. BOTTOM ELEVATION OF END FILTER BAG SHALL BE EQUAL TO OR GREATER THAN TOP OF LOWEST FILTER BAG.
4. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DETAIL SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

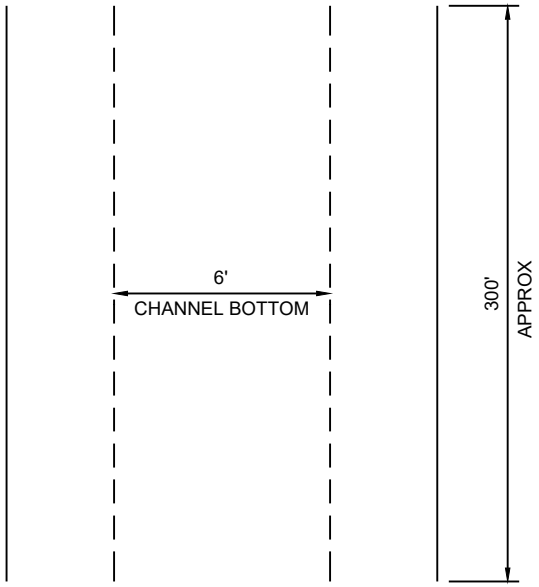
351

ROCK FILTER BAG DITCH CHECK DETAIL

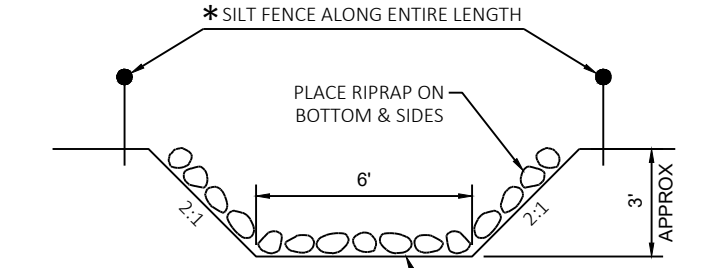
SEE EROSION CONTROL PLANS FOR LOCATIONS



352 EROSION MAT TREATMENT AT CULVERTS



TOP VIEW



* PAID FOR SEPARATELY

** DIMENSIONS ARE APPROXIMATE AND SHOULD BE VERIFIED

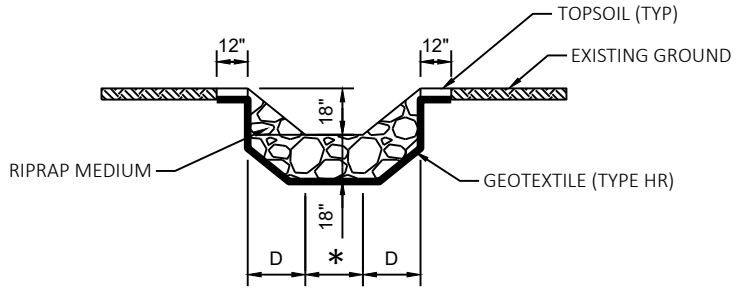
SIDE VIEW

APPROXIMATE QUANTITIES
FOR INFORMATION ONLY

EXCAVATION	= XXXX
GEOTEXTILE TYPE HR	= XXXX
RIPRAP	= XXXX

353

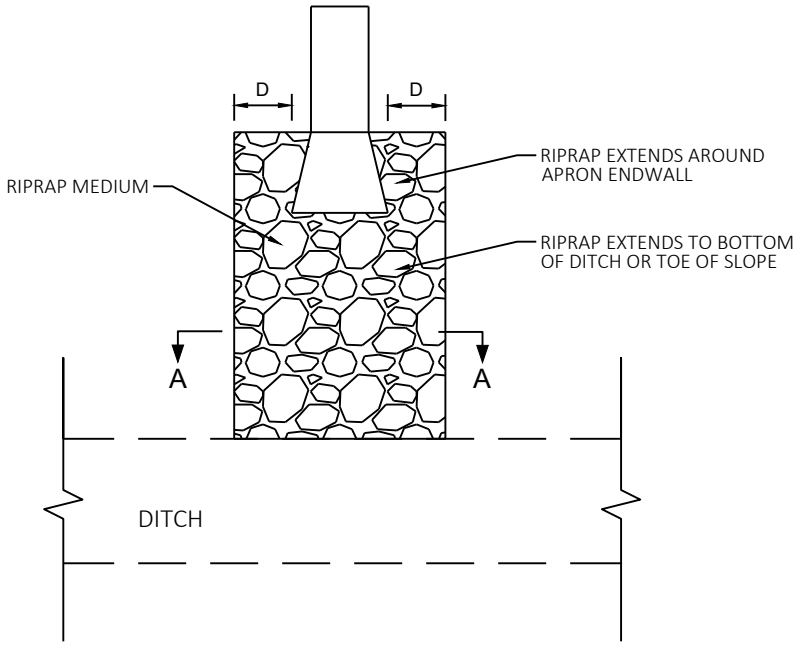
DIVERSION CHANNEL DETAIL



SECTION A-A

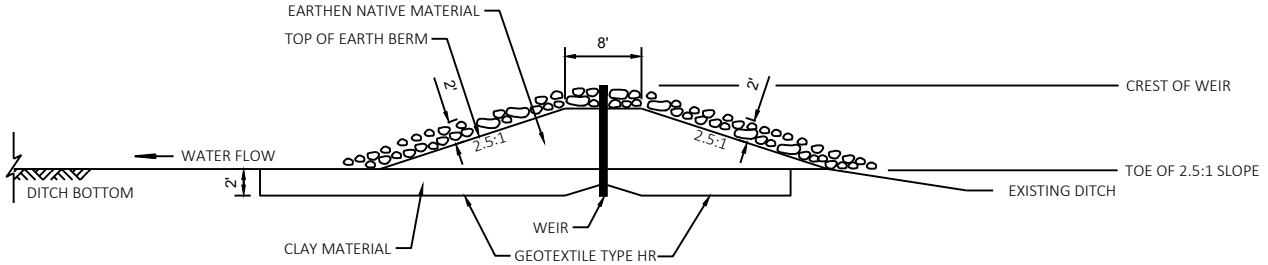
* APRON ENDWALL WIDTH

D = PIPE DIAMETER

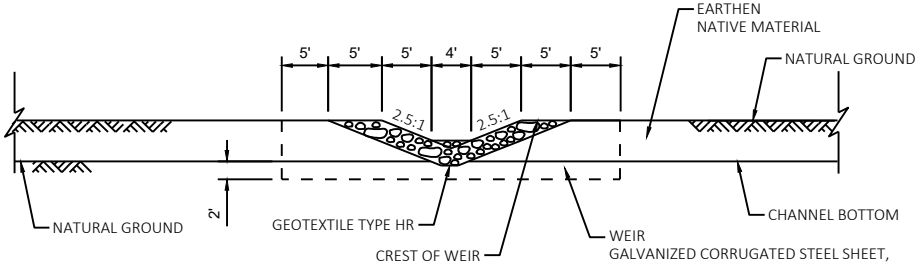


PLAN VIEW

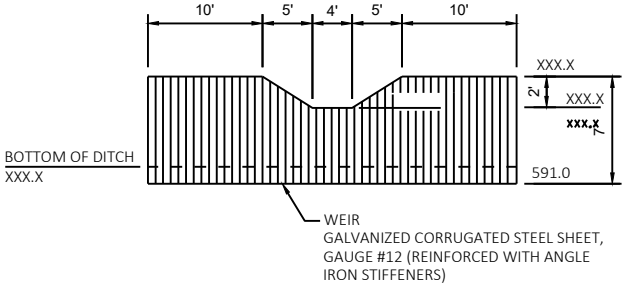
354 RIPRAP TREATMENT AT STORM SEWER OUTFALLS



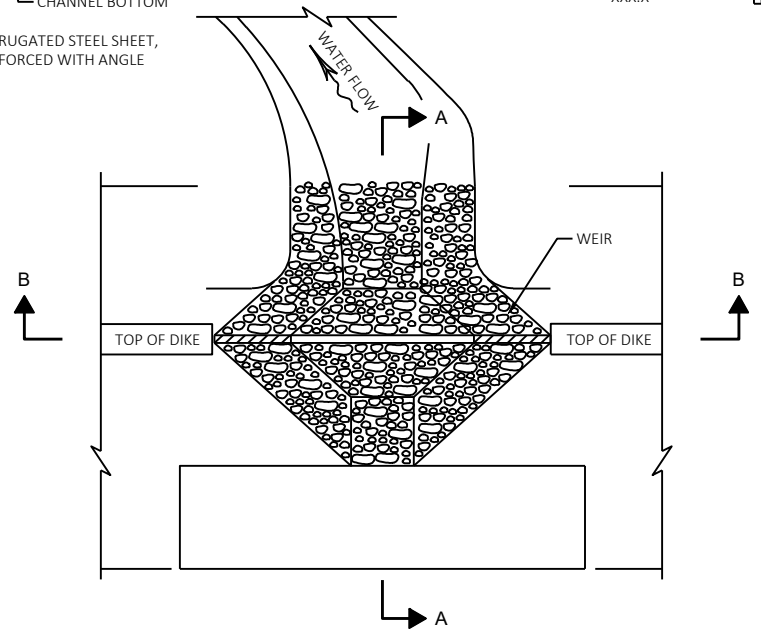
SECTION A-A



SECTION B-B



WEIR PLATE



TOP VIEW

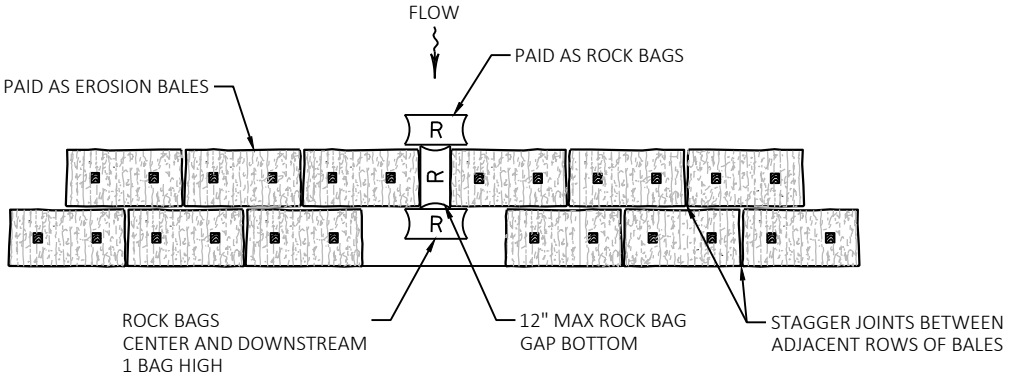
LEGEND

RIPRAP MEDIUM

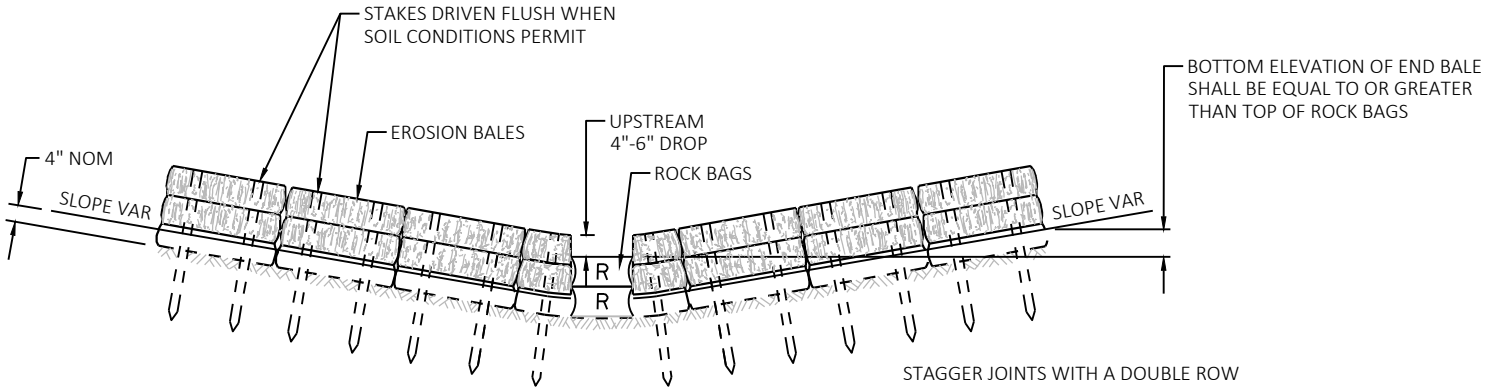
356

WEIR DETAIL FOR WETLAND MITIGATION SITE

XX+XX XX.XX FT LT or RT



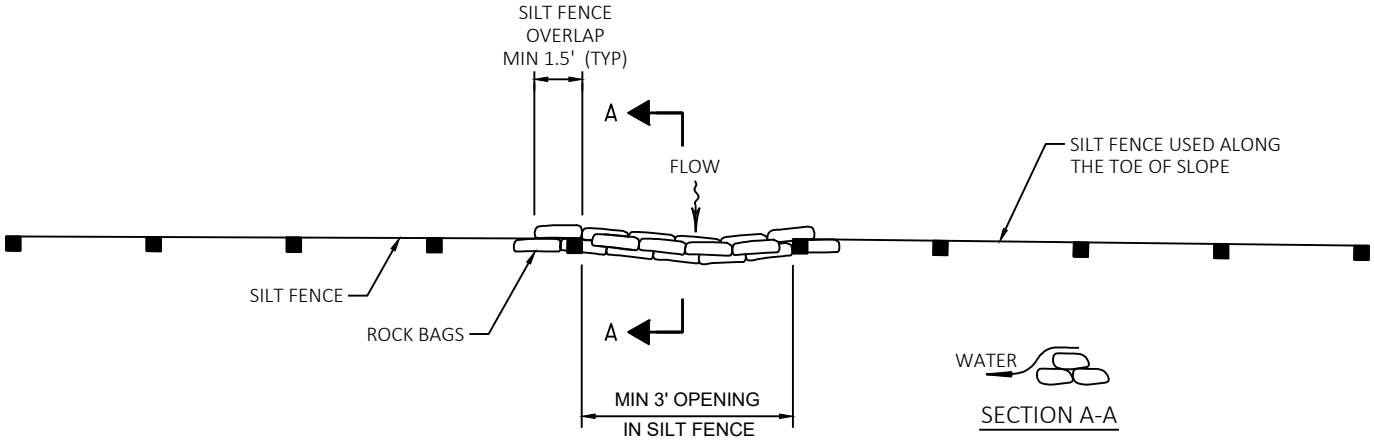
PLAN VIEW



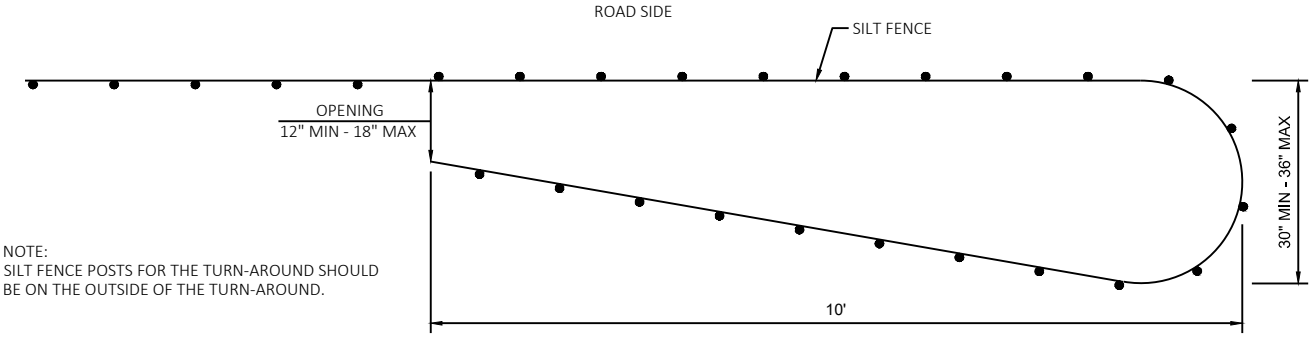
FRONT ELEVATION

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

358 EROSION BALES WITH ROCK BAG RELIEF

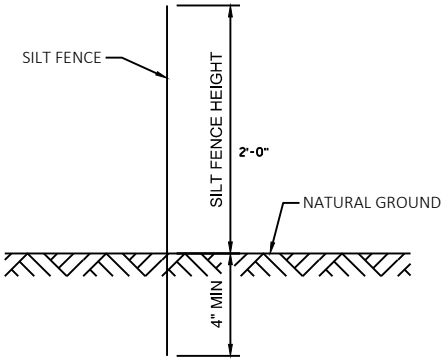


359 ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL



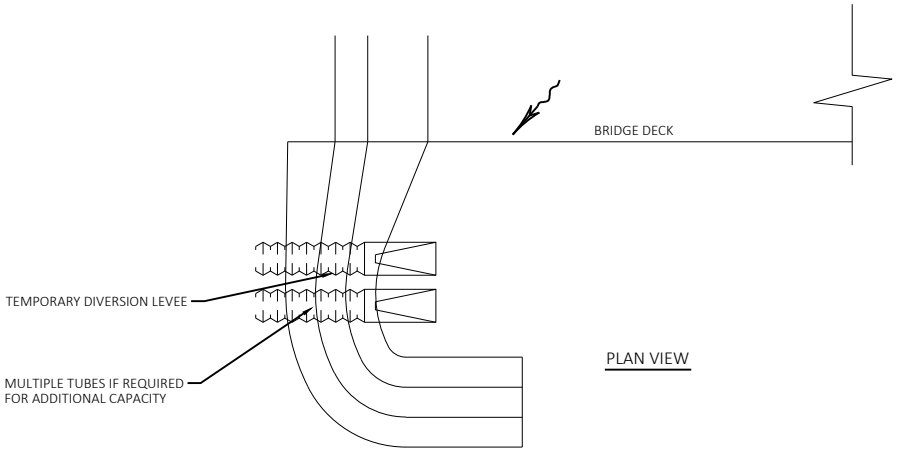
NOTE:
SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND.

PLAN VIEW

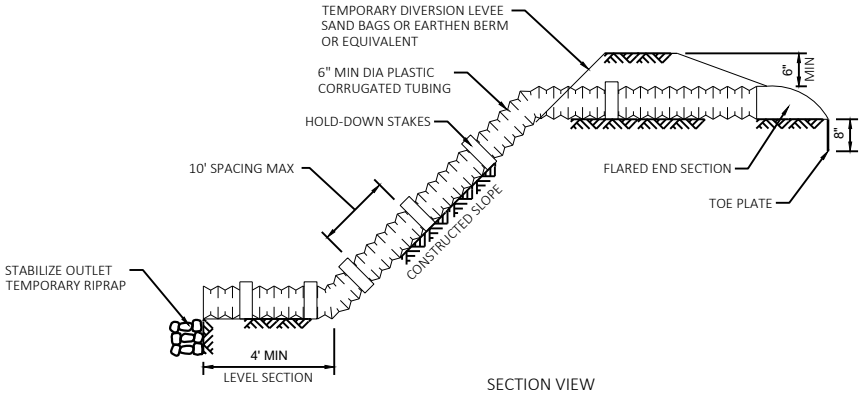


SIDE VIEW

360 SILT FENCE TURN-AROUND DETAIL



PLAN VIEW

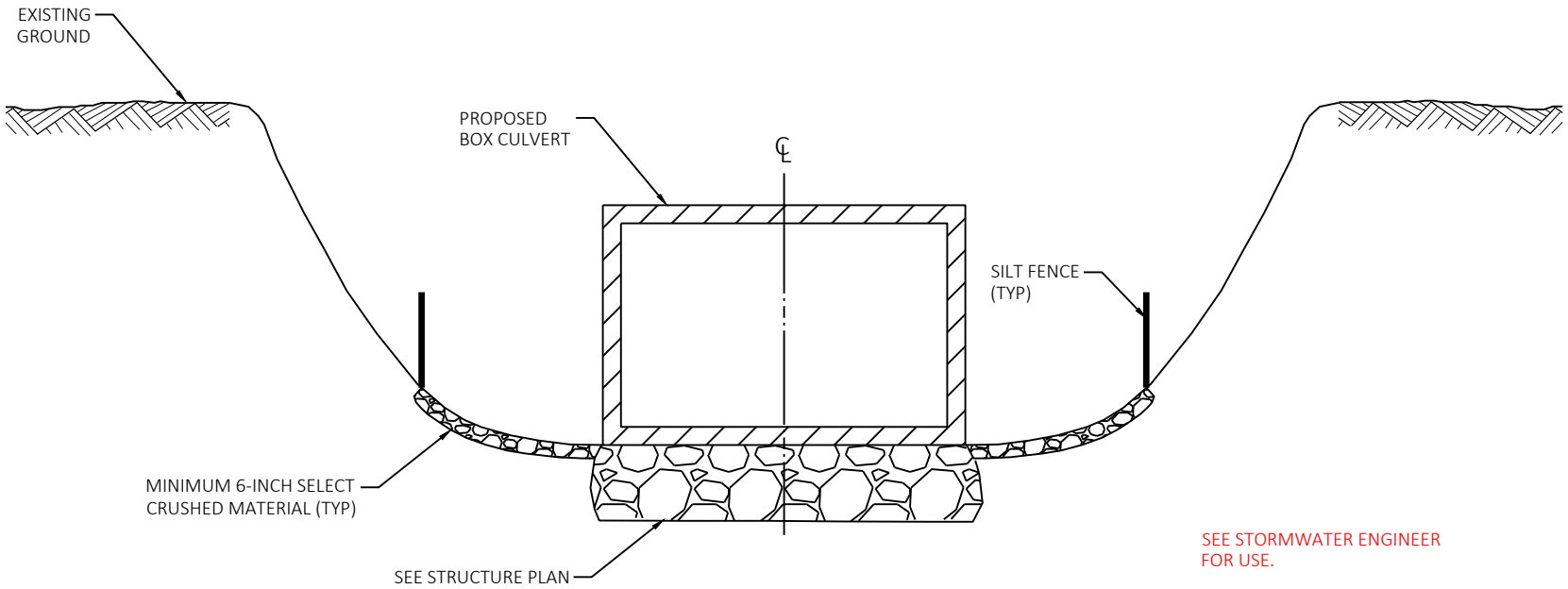


SECTION VIEW

NOTES:

1. TEMPORARY LEVEE SHALL BE CONSTRUCTED FROM EARTHEN BERM, SAND BAGS, OR OTHER EQUIVALENT MATERIAL TO TEMPORARILY DIVERT WATER ALONG THE TOP OF SLOPE.
2. CONDUIT MATERIAL SHALL BE HEAVY DUTY FLEXIBLE MATERIAL SUCH AS NON-PERFORATED CORRUGATED PLASTIC TUBING OR SPECIALLY DESIGNED FLEXIBLE TUBING.
3. THE FLARED END SECTION AT THE INLET SHALL BE WATER-TIGHT WITH HAND COMPACTED MATERIAL AROUND THE PIPE AND END SECTION.
4. THE SOIL MATERIAL AROUND THE PIPE SHALL BE COMPACTED IN 6" LIFTS TO FILL ALL VOIDS IN THE TUBING CORRUGATIONS.
5. REMOVE TEMPORARY DRAINS AND TEMPORARY LEVEES AFTER SLOPE IS FULLY STABILIZED WITH VEGETATION AND EROSION CONTROL FEATURES.
6. TEMPORARY OUTLET STABILIZATION SUCH AS RIPRAP OR OTHER APPROVED METHOD IS INCIDENTAL TO THE TEMPORARY SLOPE DRAIN ITEM.

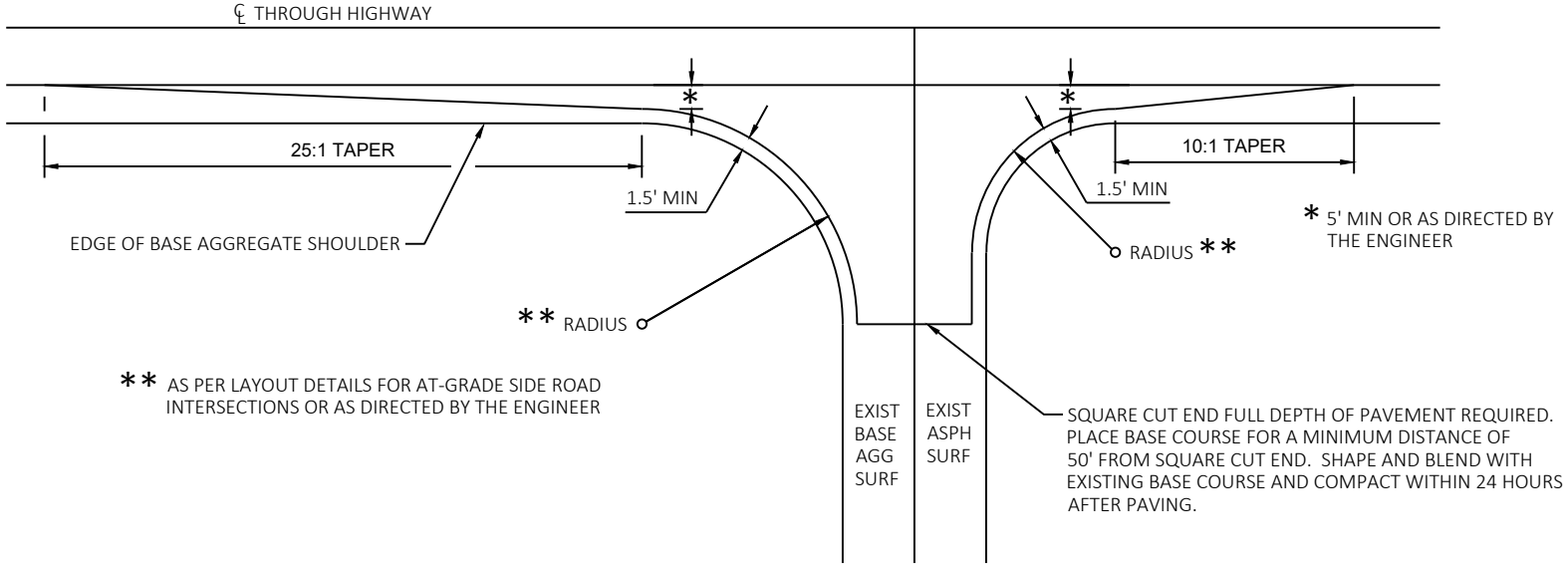
361 TEMPORARY SLOPE DRAIN DETAIL



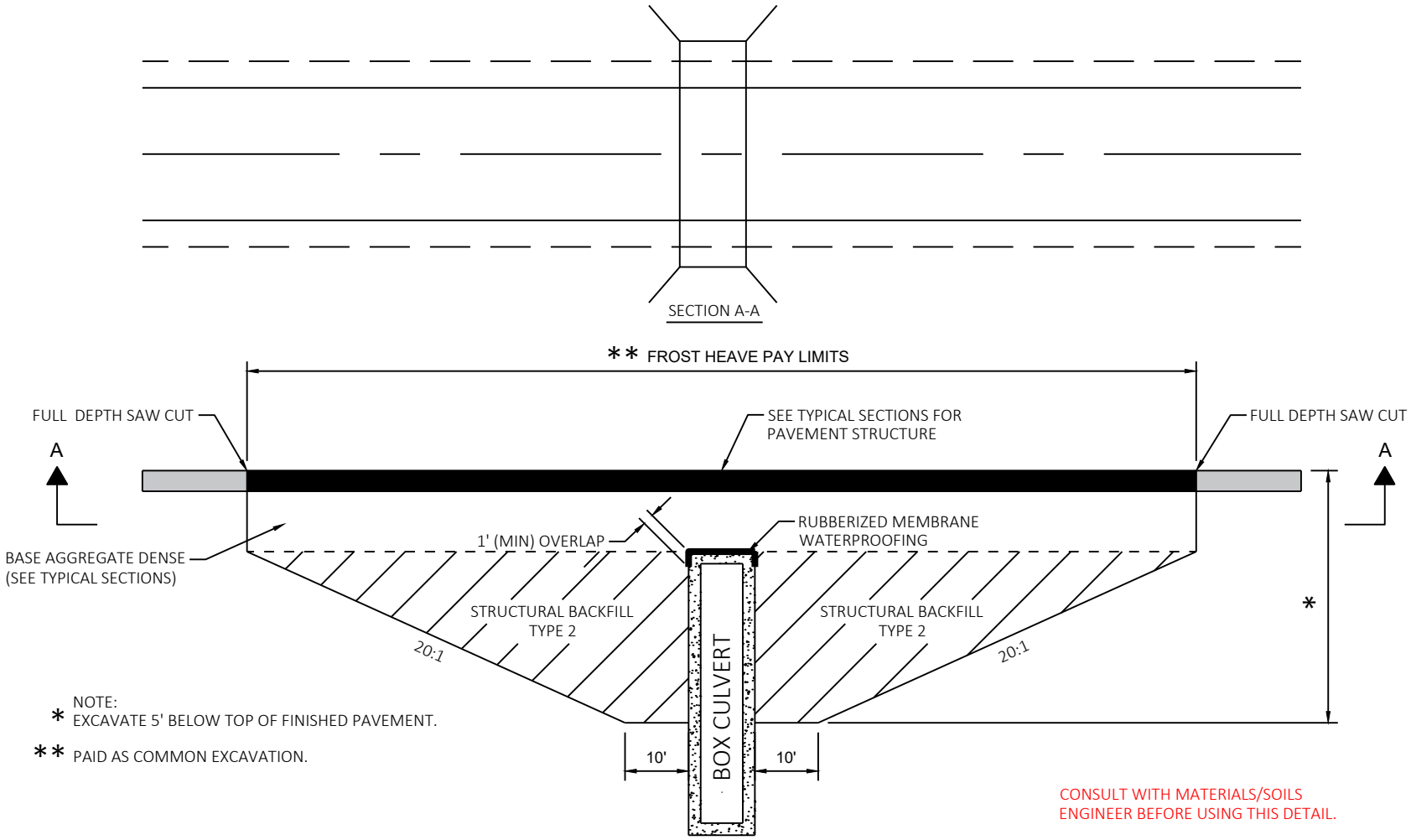
SEE STORMWATER ENGINEER
FOR USE.

362 EXCAVATION PROTECTION AT BOX CULVERTS

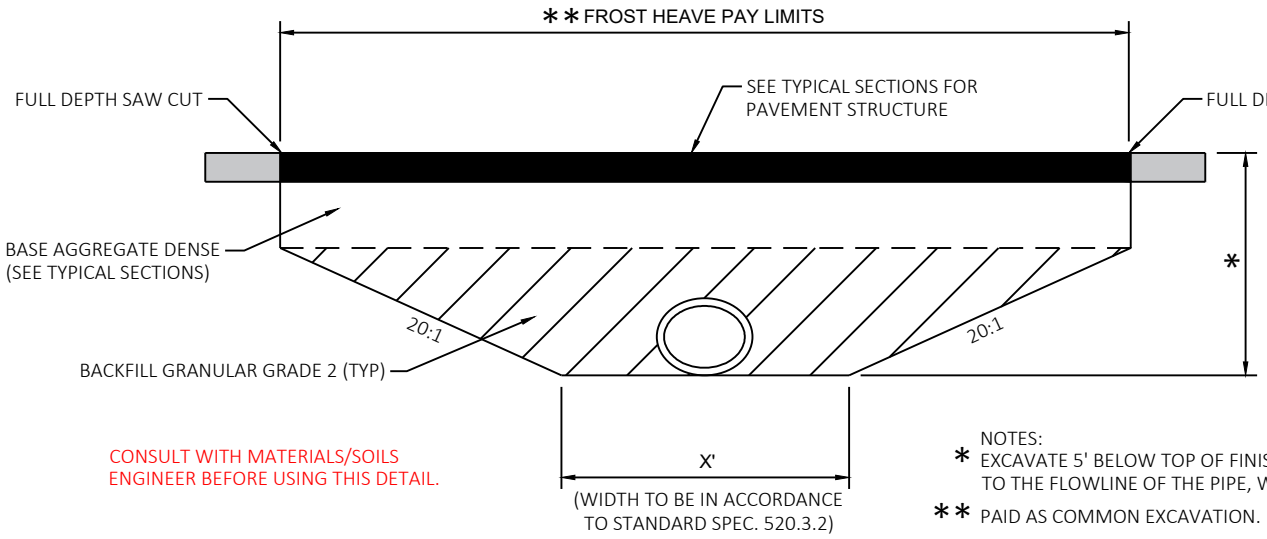
(NOT TO SCALE)
INFORMATION ONLY



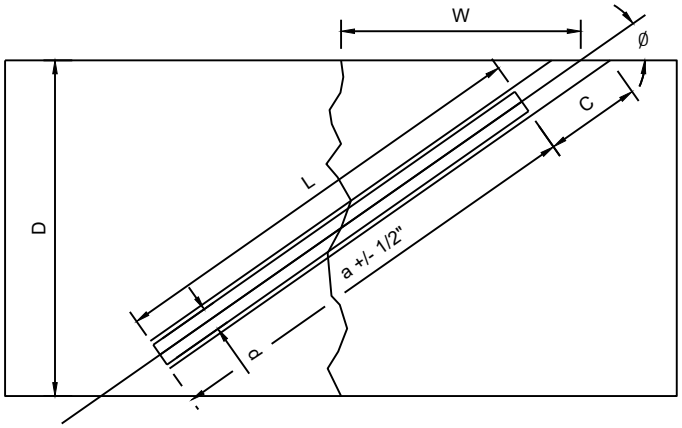
400 INTERSECTION DETAIL TYPE C MODIFIED



401 LONGITUDINAL DETAIL FOR BOX CULVERT FROST HEAVE REPAIR AREA



402 LONGITUDINAL DETAIL FOR CULVERT PIPE FROST HEAVE REPAIR AREA

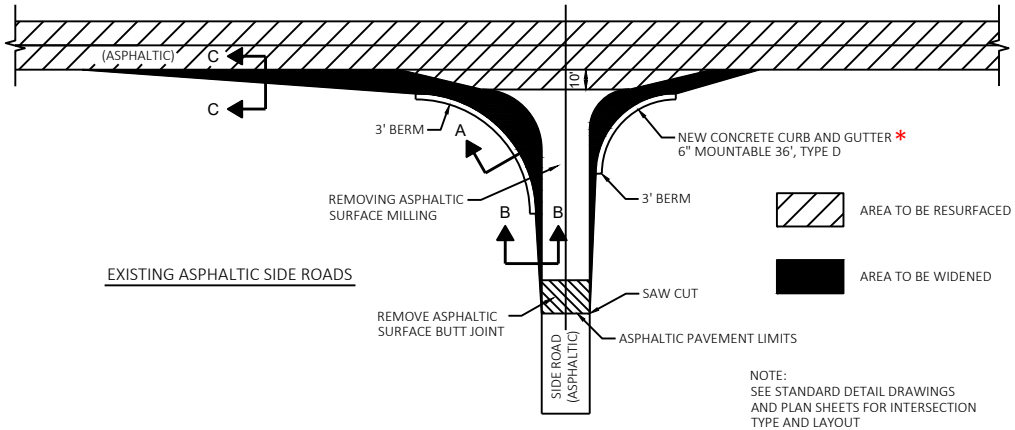


SLAB THICKNESS D (IN)	ANGLE Ø (DEG)	OFFSET W (IN)	BAR DIAMETER d (IN)	LENGTH OF BAR L (IN)	DEPTH OF SLOT a (IN)	MINIMUM DEPTH TO BAR c (IN)
9.00	35	6.50	0.75	10.50	14.00	3.00
10.00	35	7.25	0.75	12.50	16.00	3.00

NOTE:

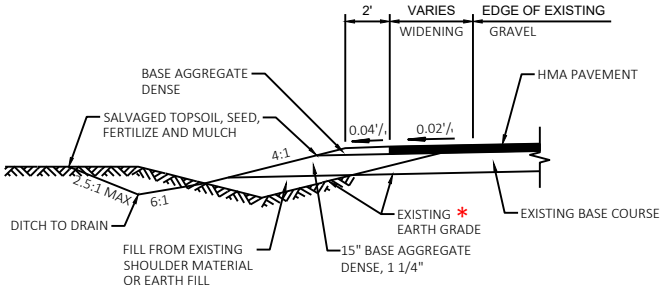
- MINIMUM OF 1/2" OF COVER ON BOTTOM OF BAR IS REQUIRED.
- MINIMUM OF 1" OF COVER ON TOP OF BAR IS REQUIRED.
- SLOT DEPTH HAS A TOLERANCE OF +/- 1/2".
- BAR LENGTH MEASURED IN 1/2" INCREMENTS.
- DISTANCE BETWEEN HOLES WILL BE 36" FOR 10" THICK PCCP AND LESS.
- DRILL DIAMETER WILL BE NO MORE THAN 3/8" LARGER THAN THE TIE BAR DIAMETER.

403 CROSS-STITCHING DETAILS



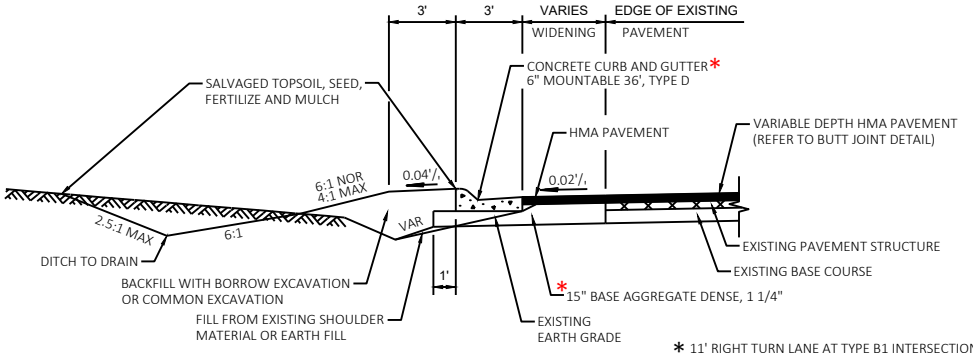
EXISTING ASPHALTIC SIDE ROADS

NOTE:
SEE STANDARD DETAIL DRAWINGS
AND PLAN SHEETS FOR INTERSECTION
TYPE AND LAYOUT



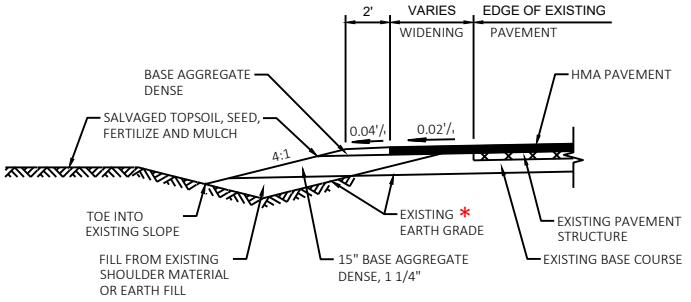
SECTION FOR WIDENING SIDE ROAD INTERSECTIONS AND TAPERS
(B-B SECTION)

404 GRADING INTERSECTIONS FOR TYPE B OR D INTERSECTIONS



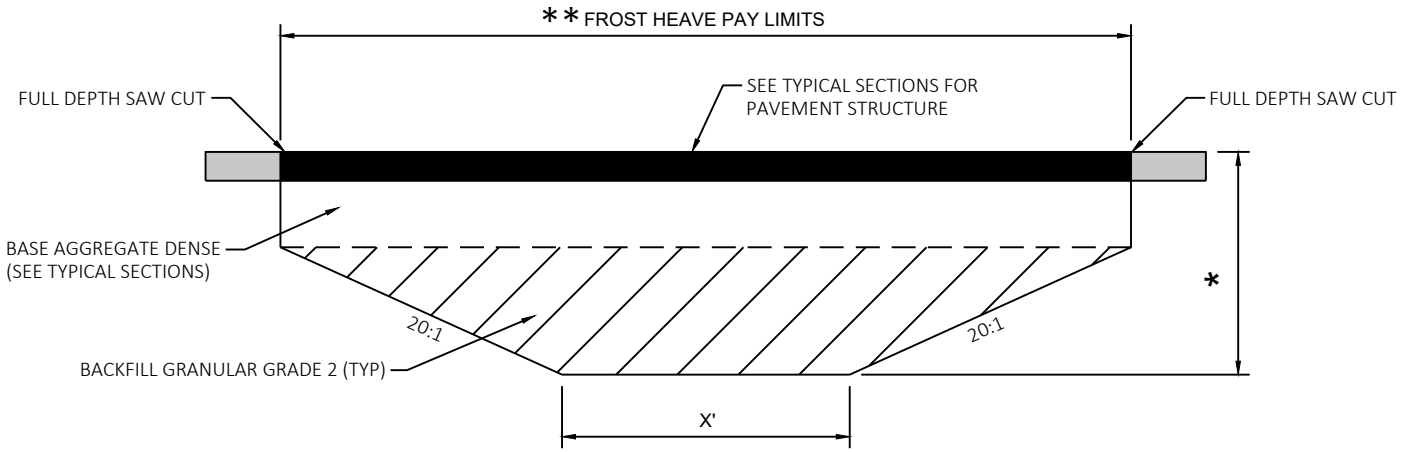
* 11' RIGHT TURN LANE AT TYPE B1 INTERSECTIONS

BERM DETAIL FOR INTERSECTION WIDENING IN RESURFACING SECTIONS
(A-A SECTION)



SECTION FOR WIDENING ALONG MAINLINE TAPERS
(C-C SECTION)

* CHECK THAT DIMENSIONS MATCH PLAN DETAILS

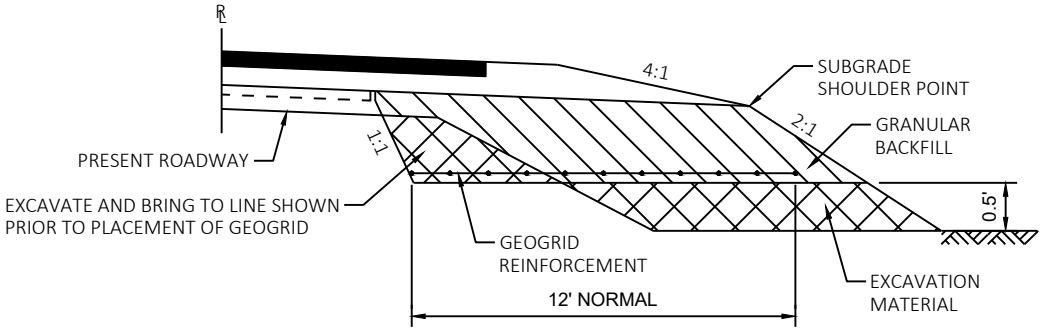


CONSULT WITH MATERIALS/SOILS ENGINEER BEFORE USING THIS DETAIL..
VERIFY DIMENSIONS.

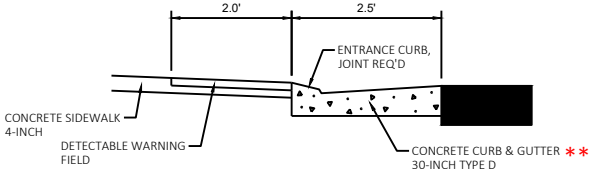
NOTE:
* EXCAVATE 5' BELOW TOP OF FINISHED PAVEMENT.

** PAID AS COMMON EXCAVATION.

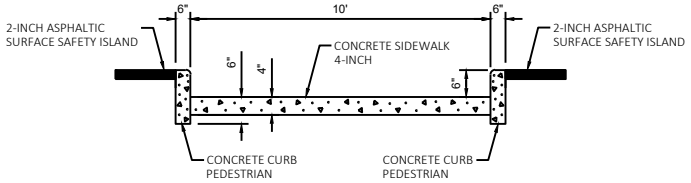
405 LONGITUDINAL DETAIL FOR FROST HEAVE REPAIR AREA WITHOUT PIPE



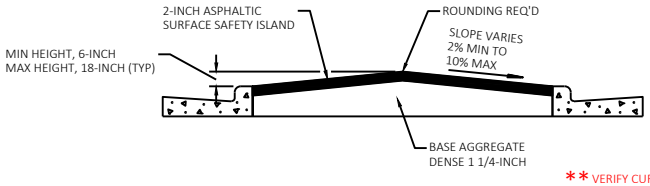
406 MARSH TREATMENT WITH GEOGRID



SECTION A-A



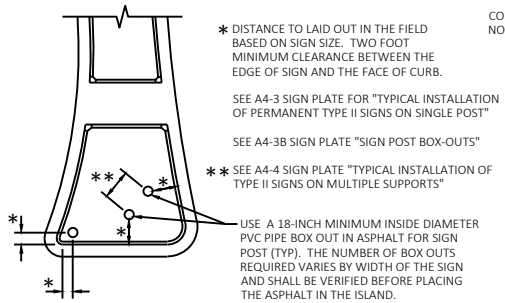
SECTION B-B



SECTION C-C

** VERIFY CURB AND GUTTER TYPE AND UPDATE AS NEEDED

THIS UPDATED DETAIL PROVIDES ADDITIONAL INFORMATION FOR THE SIGNING BOXOUTS AND CURB NOSES AT THE CROSSWALKS THROUGH THE ISLANDS. IT ALSO CALLS FOR PEDESTRIAN CURB ADJACENT TO THE CROSSWALK THROUGH THE ISLAND.



* DISTANCE TO LAID OUT IN THE FIELD BASED ON SIGN SIZE. TWO FOOT MINIMUM CLEARANCE BETWEEN THE EDGE OF SIGN AND THE FACE OF CURB.

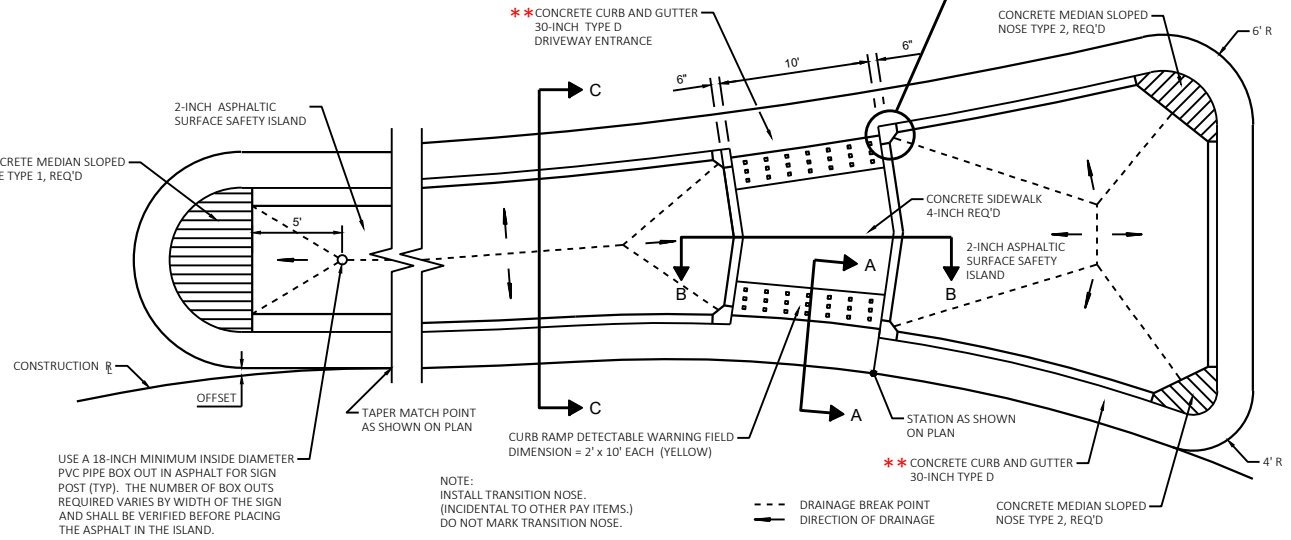
SEE A4-3 SIGN PLATE FOR "TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POST"

SEE A4-3B SIGN PLATE "SIGN POST BOX-OUTS"

** SEE A4-4 SIGN PLATE "TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE SUPPORTS"

USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN ASPHALT FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE ASPHALT IN THE ISLAND.

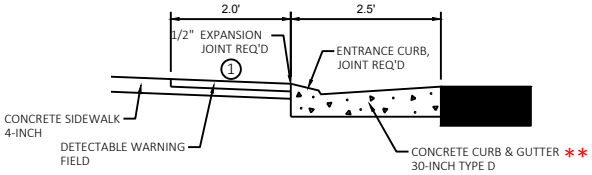
ISLAND SIGN LOCATION DETAIL (TYP)



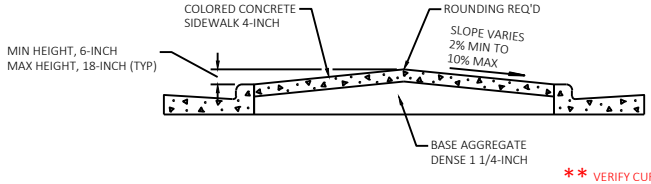
USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN ASPHALT FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE ASPHALT IN THE ISLAND.

NOTE:
INSTALL TRANSITION NOSE.
(INCIDENTAL TO OTHER PAY ITEMS.)
DO NOT MARK TRANSITION NOSE.

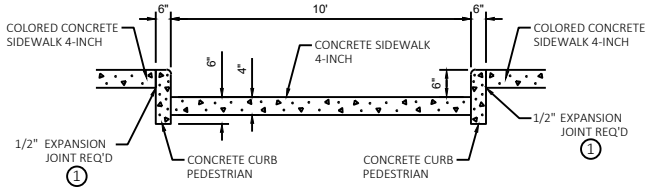
407 ASPHALT SPLITTER ISLAND DETAIL WITH CROSSWALK



SECTION A-A



SECTION C-C



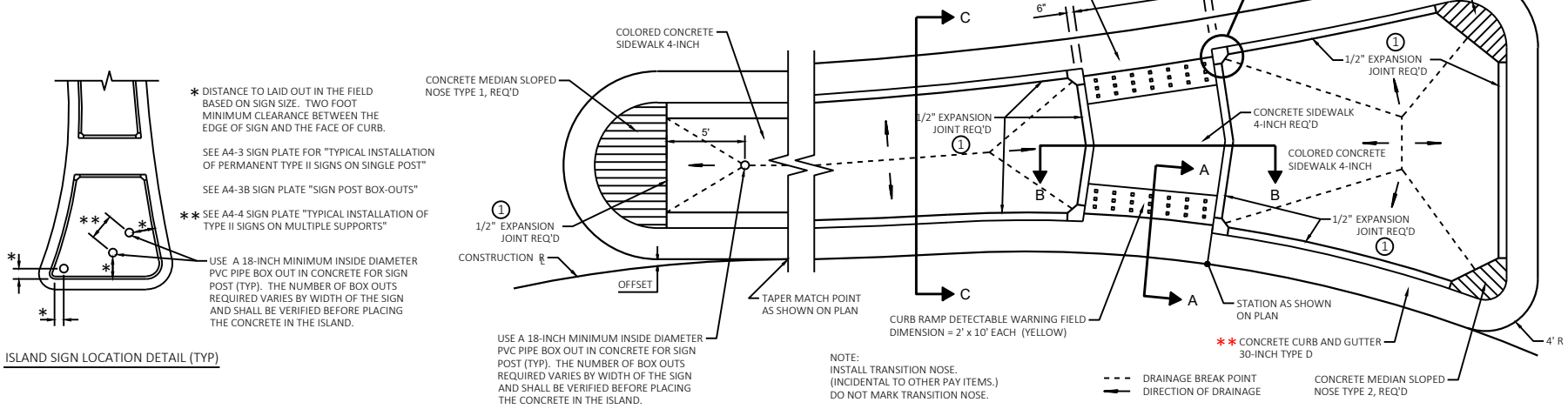
SECTION B-B

** VERIFY CURB AND GUTTER TYPE AND UPDATE AS NEEDED

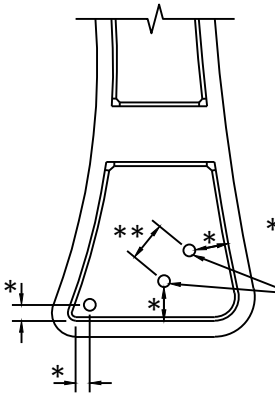
THIS UPDATED DETAIL PROVIDES ADDITIONAL INFORMATION FOR THE SIGNING BOXOUTS AND CURB NOSES AT THE CROSSWALKS THROUGH THE ISLANDS. IT ALSO CALLS FOR PEDESTRIAN CURB ADJACENT TO THE CROSSWALK THROUGH THE ISLAND.

1 EXPANSION MATERIAL TO BE 1" LONGER THAN ABUTTING MEDIAN CONCRETE THICKNESS. (i.e. 5" IN HEIGHT WHEN ADJACENT TO CONCRETE SIDEWALK 4-INCH)

ISLAND SIGN LOCATION DETAIL (TYP)



408 CONCRETE SPLITTER ISLAND DETAIL WITH CROSSWALK



* DISTANCE TO LAID OUT IN THE FIELD BASED ON SIGN SIZE. TWO FOOT MINIMUM CLEARANCE BETWEEN THE EDGE OF SIGN AND THE FACE OF CURB.

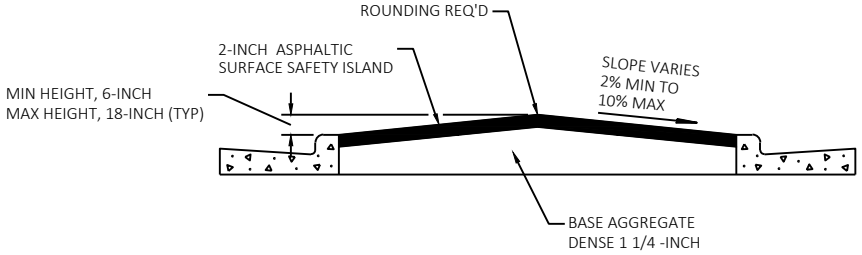
SEE A4-3 SIGN PLATE FOR "TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POST"

SEE A4-3B SIGN PLATE "SIGN POST BOX-OUTS"

** SEE A4-4 SIGN PLATE "TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE SUPPORTS"

USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN ASPHALT FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE ASPHALT IN THE ISLAND.

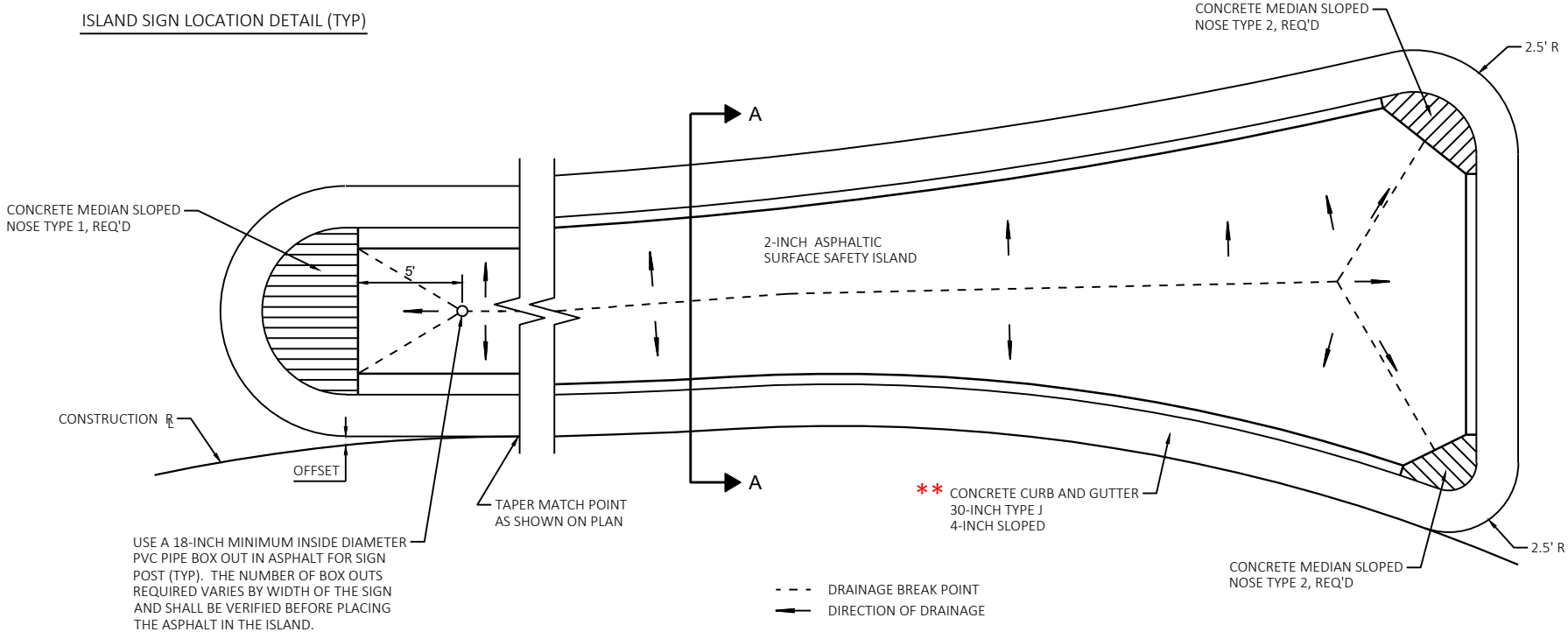
ISLAND SIGN LOCATION DETAIL (TYP)



SECTION A-A

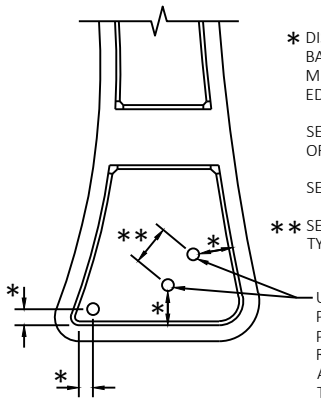
** VERIFY CURB AND GUTTER TYPE AND UPDATE AS NEEDED

THIS UPDATED DETAIL PROVIDES ADDITIONAL INFORMATION FOR THE SIGNING BOX-OUTS.



409

ASPHALT SPLITTER ISLAND DETAIL WITHOUT CROSSWALK



* DISTANCE TO LAID OUT IN THE FIELD BASED ON SIGN SIZE. TWO FOOT MINIMUM CLEARANCE BETWEEN THE EDGE OF SIGN AND THE FACE OF CURB.

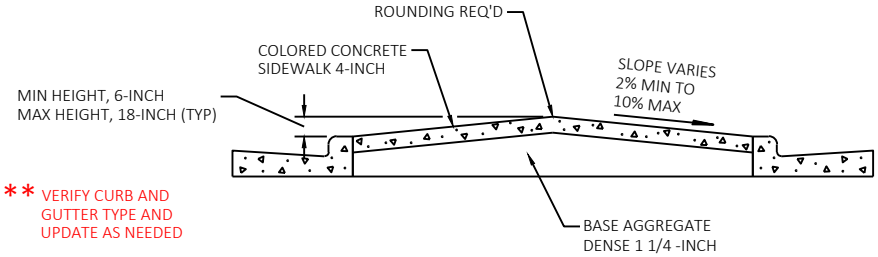
SEE A4-3 SIGN PLATE FOR "TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POST"

SEE A4-3B SIGN PLATE "SIGN POST BOX-OUTS"

** SEE A4-4 SIGN PLATE "TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE SUPPORTS"

USE A 18-INCH MINIMUM INSIDE DIAMETER PVC PIPE BOX OUT IN CONCRETE FOR SIGN POST (TYP). THE NUMBER OF BOX OUTS REQUIRED VARIES BY WIDTH OF THE SIGN AND SHALL BE VERIFIED BEFORE PLACING THE CONCRETE IN THE ISLAND.

ISLAND SIGN LOCATION DETAIL (TYP)

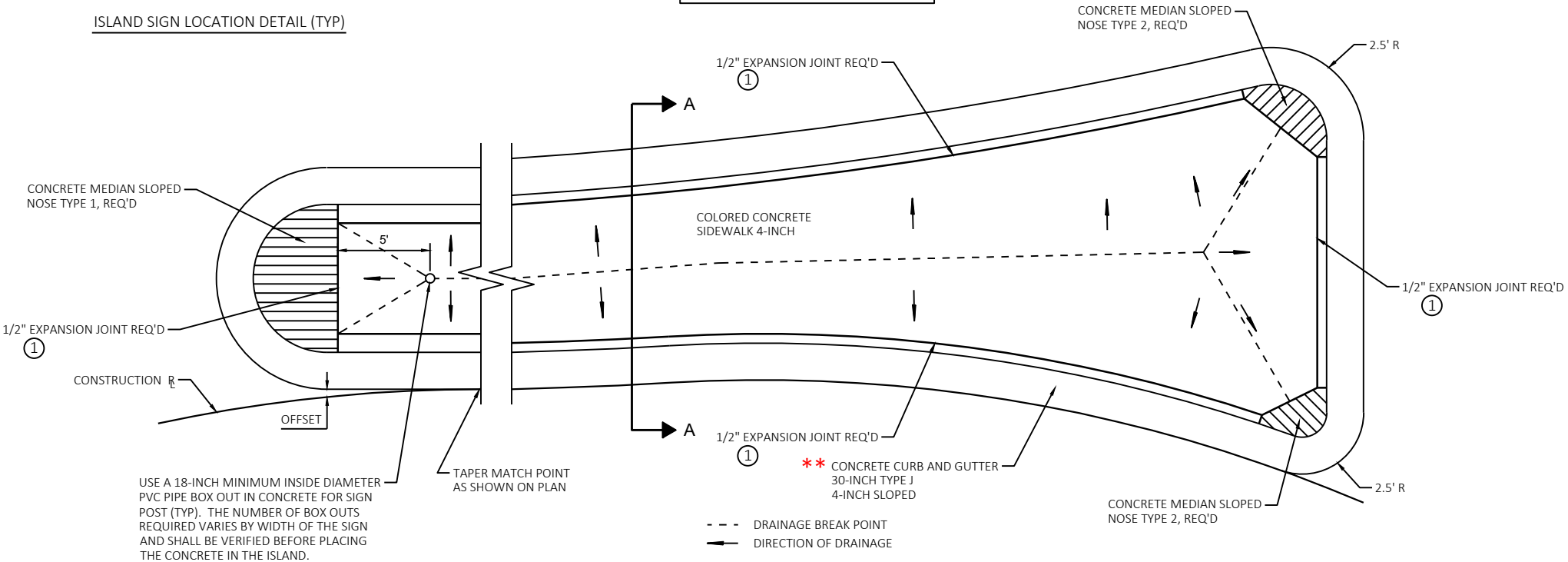


** VERIFY CURB AND GUTTER TYPE AND UPDATE AS NEEDED

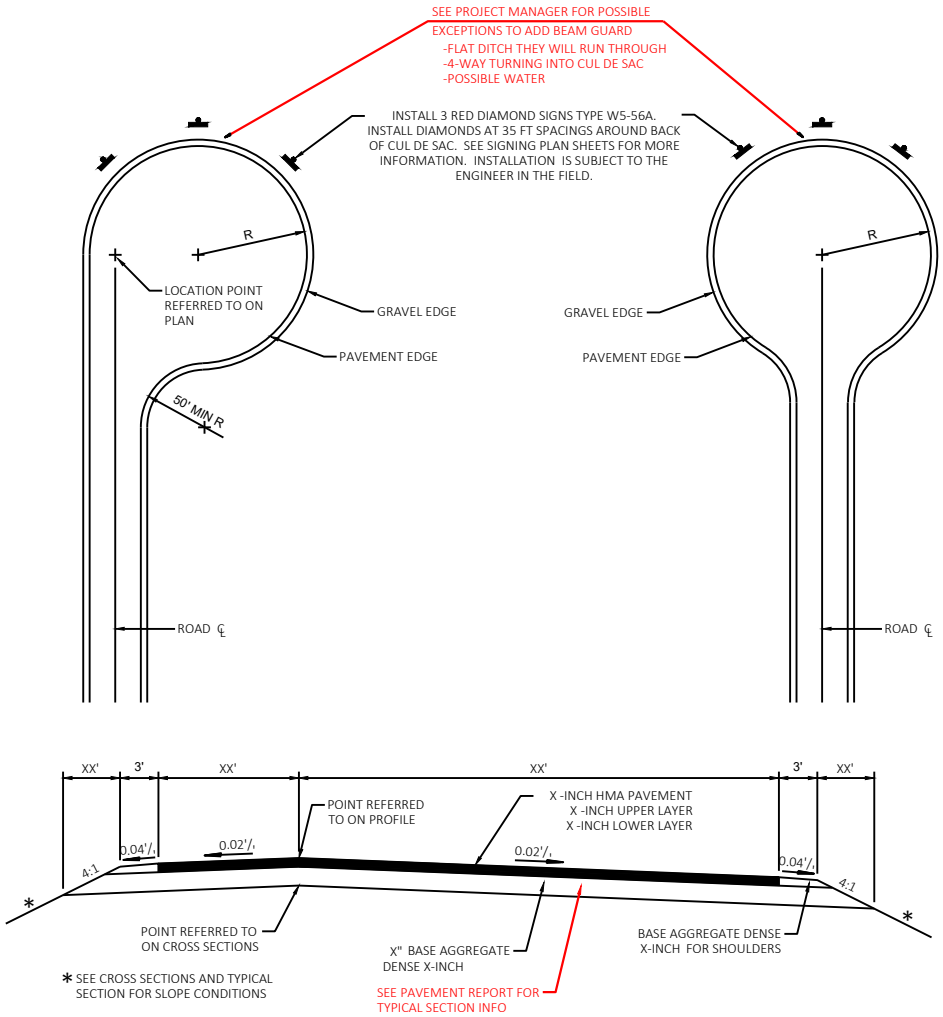
THIS UPDATED DETAIL PROVIDES ADDITIONAL INFORMATION FOR THE SIGNING BOX-OUTS.

SECTION A-A

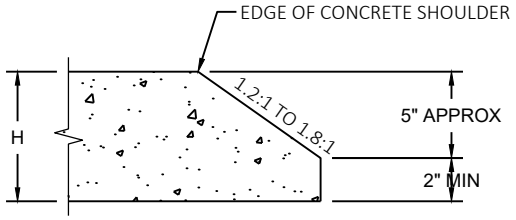
① EXPANSION MATERIAL TO BE 1" LONGER THAN ABUTTING MEDIAN CONCRETE THICKNESS. (i.e. 5" IN HEIGHT WHEN ADJACENT TO CONCRETE SIDEWALK 4-INCH)



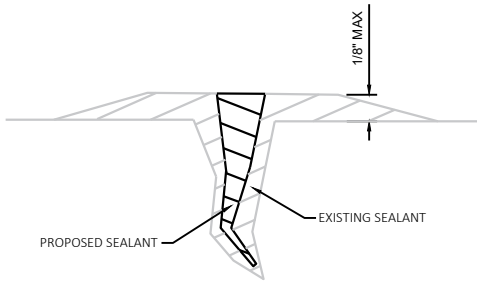
410 CONCRETE SPLITTER ISLAND DETAIL WITHOUT CROSSWALK



411 CUL DE SAC DETAILS

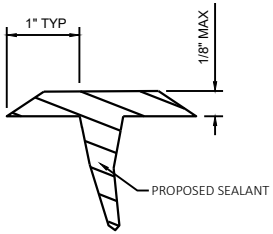


412 CONCRETE PAVEMENT AND CONCRETE OVERLAY SAFETY EDGE



NOTE:
FOR COHESION LOSS

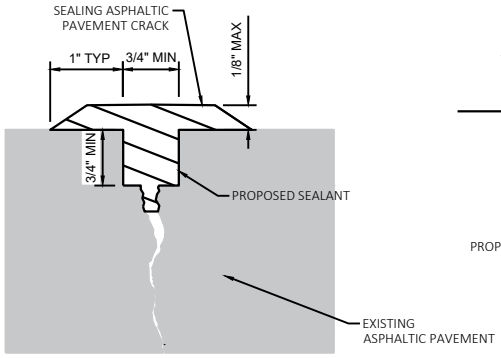
CLEAN AND RE-FILL DETAIL



NOTE:
FOR EDGE AND FATIGUE CRACKING

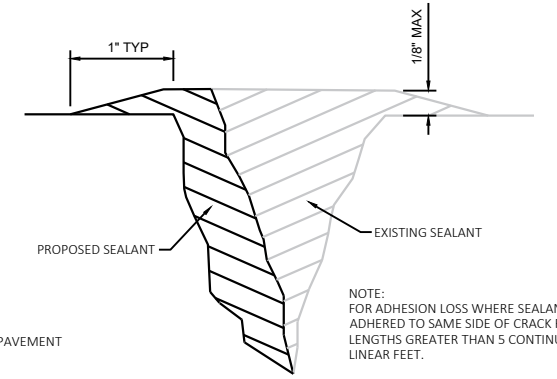
CRACKS GREATER THAN 3/4"

CLEAN AND FILL DETAIL



NOTE:
CRACKS LESS THAN 3/4"

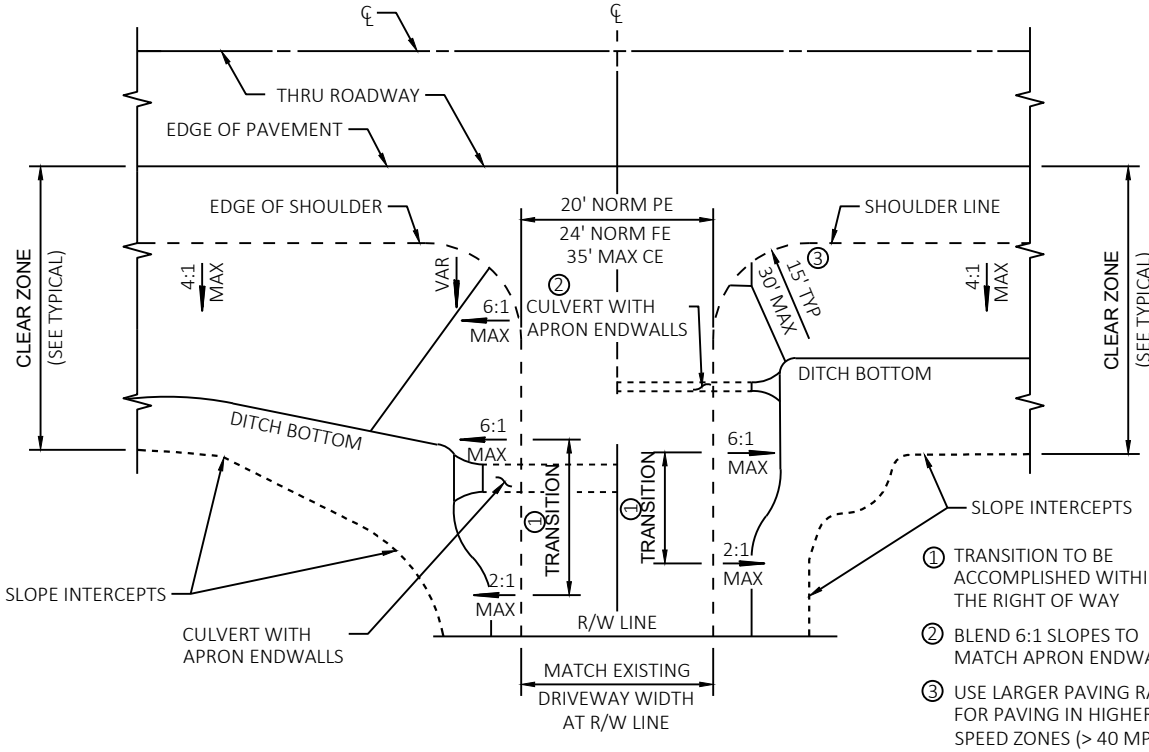
ROUT AND SEAL DETAIL



NOTE:
FOR ADHESION LOSS WHERE SEALANT IS NOT ADHERED TO SAME SIDE OF CRACK FOR LENGTHS GREATER THAN 5 CONTINUOUS LINEAR FEET.

CLEAN AND RE-FILL DETAIL

413 CRACK SEALING AND FILLING DETAILS

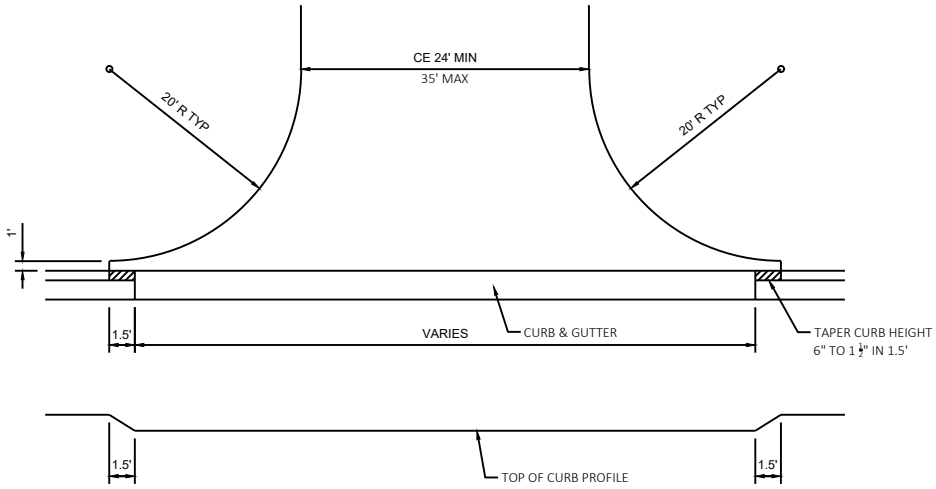


FOR CULVERTS OVER 24" DIAMETER

FOR CULVERTS 24" DIAMETER & LESS

PLAN VIEW

450 RURAL DRIVEWAY GRADING AND/OR PAVING DETAIL



COMMERCIAL ENTRANCES

NOTES:
NON-PAVED DRIVEWAYS SHALL CONSIST OF 6" OF BASE AGGREGATE DENSE.

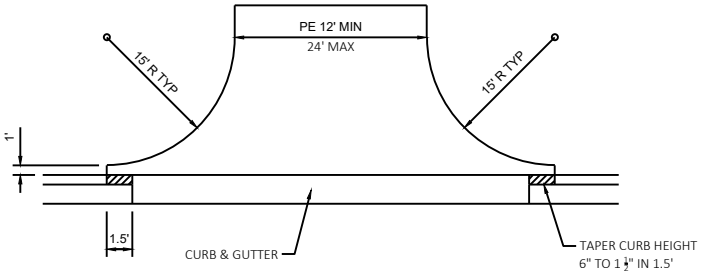
RESIDENTIAL ENTRANCE ASPHALTIC DRIVEWAYS SHALL CONSIST OF 6" BASE AGGREGATE DENSE AND 3" OF ASPHALTIC PAVEMENT.

COMMERCIAL ENTRANCE ASPHALTIC DRIVEWAYS SHALL CONSIST OF 12" BASE AGGREGATE DENSE AND 4" OF ASPHALTIC PAVEMENT

6" CONCRETE DRIVEWAY FOR RESIDENTIAL ENTRANCES.

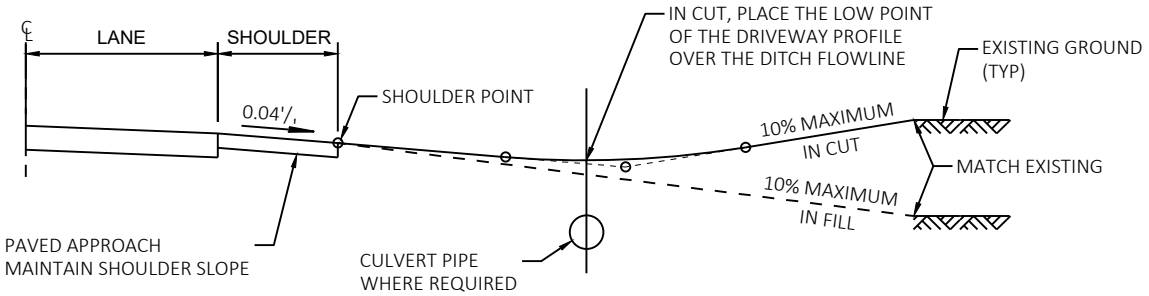
(1) A LARGER PAVING RADIUS FOR PAVING IN HIGHER SPEED ZONE (> 40 MPH) CAN BE USED IF WARRANTED.

IF POSTED SPEED IS >40MPH CONSIDER USING THIS DETAIL ESPECIALLY FOR COMMERCIAL ENTRANCES

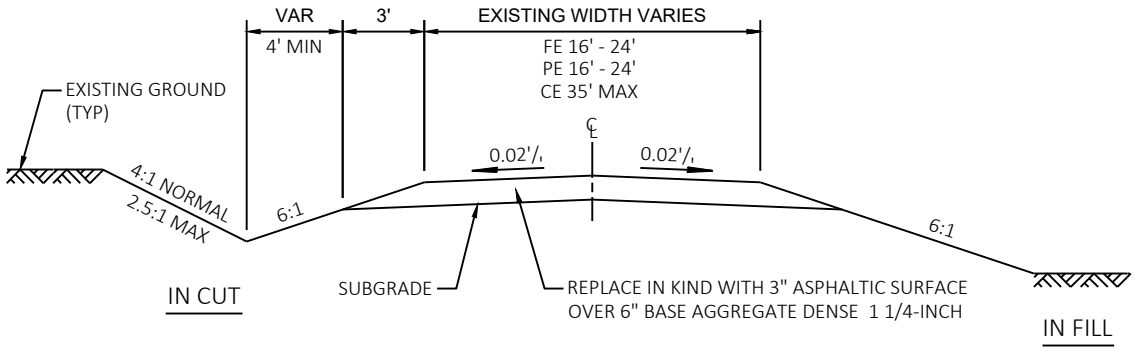


PRIVATE ENTRANCES

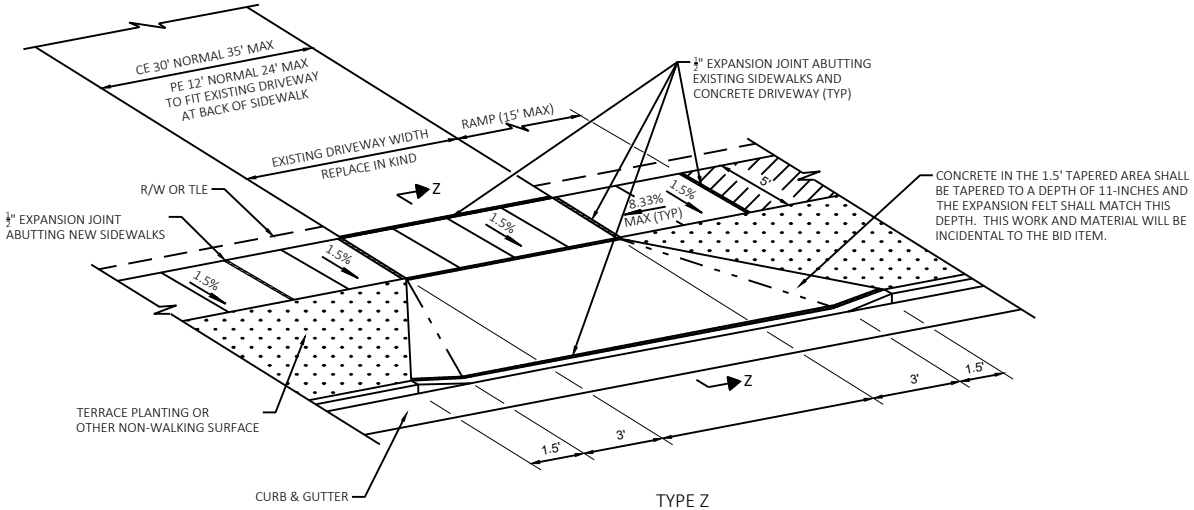
451 RURAL DRIVEWAYS WITH CURB & GUTTER



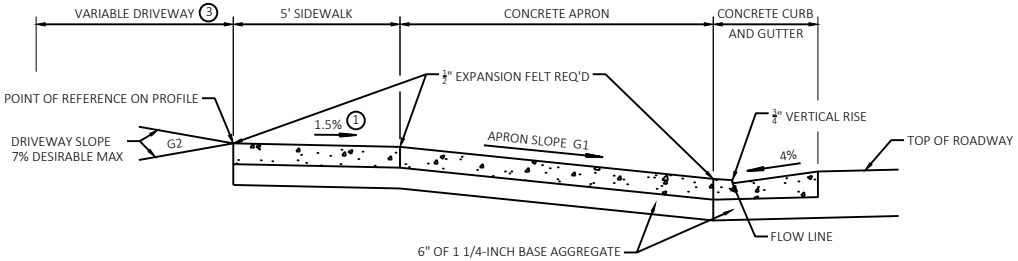
452 TYPICAL DRIVEWAY PROFILES



453 TYPICAL CROSS SECTION FOR DRIVEWAYS



TYPE Z
SIDEWALK WITH WIDER TERRACE
TERRACE VARIES 3 TO 8 FEET



SECTION Z-Z

THE SIDEWALK RAMP MAXIMUM RUNNING SLOPE SHALL NOT REQUIRE THE RAMP LENGTH TO EXCEED 15 FEET TO AVOID CHASING THE SLOPE INDEFINITELY WHEN CONNECTING TO STEEP GRADES. WHEN APPLYING THE 15 FOOT MAXIMUM LENGTH, THE RUNNING SLOPE OF THE SIDEWALK SHALL BE AS FLAT AS FEASIBLE AND NOT EXCEED THE LONGITUDINAL GRADE OF THE ROADWAY.

SEE PLAN FOR ADDITIONAL INFORMATION

GENERAL NOTES

CONSTRUCTION TOLERANCE OF +/- 0.5% FOR SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

12' MAXIMUM SPACING FOR CONTRACTION JOINTS IN DRIVEWAY APPROACHES.

OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN IN THE PLAN.

SIDEWALK AND APRON WITHIN THE LIMITS OF THE DRIVEWAY PAID FOR AS CONCRETE DRIVEWAY, 6-INCH.

USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN PLANS.

DRIVEWAY TYPES

- 6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH.
- 3-INCH ASPHALTIC SURFACE OVER 6" BASE AGGREGATE DENSE 1 1/4-INCH.
- 6-INCH BASE AGGREGATE DENSE 3/4-INCH.

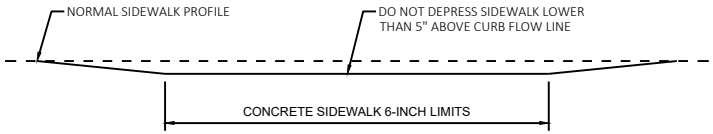
TERRACE WIDTH	APRON SLOPE G1		
	MIN %	DESIRABLE %	MAXIMUM %
3 FT	7.0	8.5	10.0
4 FT	5.0	7.0	10.0
5 FT	4.0	7.0	10.0
6 FT	4.0	7.0	10.0
7 FT	3.5	7.0	10.0
8 FT	3.0	7.0	10.0

NOTE:

ALGEBRAIC DIFFERENCE BETWEEN TANGENT GRADES G1 & G2 NOT TO EXCEED 10% DESIRABLE MAXIMUM.

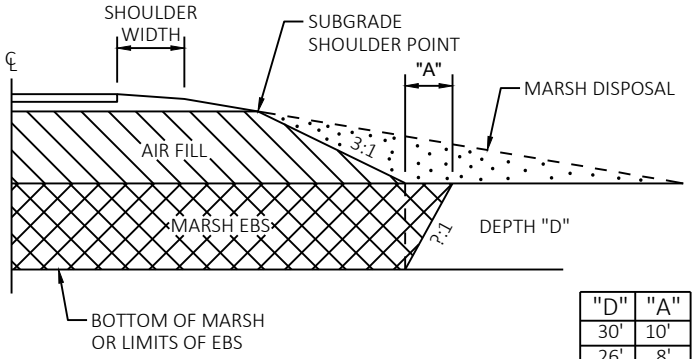
DEPRESS SIDEWALK PROFILE IF DRIVEWAY APRON EXCEEDS MAXIMUM SLOPE.

SEPARATE PAYMENT FOR BASE AGGREGATE WILL BE MADE.



DEPRESSED SIDEWALK PROFILE DETAIL

DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER

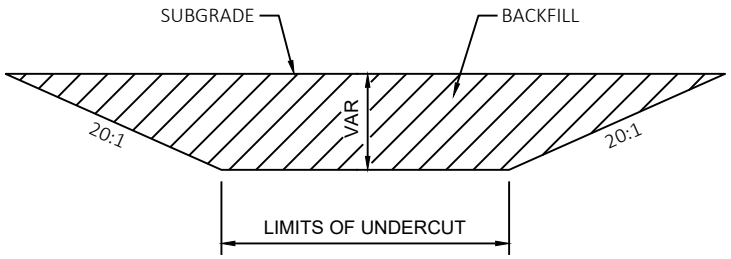


"D"	"A"
30'	10'
26'	8'
22'	6'
18'	4'
14'	2'
10'	0'
<10'	0'

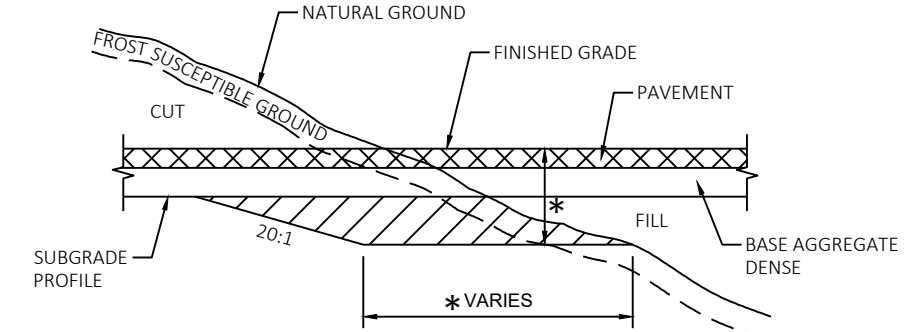
"D" = DEPTH OF MARSH EXCAVATION
"A" = DISTANCE OFFSET OUTSIDE SLOPE INTERCEPT

NOTE:
LIMIT OF MARSH EXCAVATION SHOULD EXTEND TO SLOPE INTERCEPT AS A MINIMUM. FOR MARSH DEPTHS GREATER THAN 10-FT SEE TABLE FOR DISTANCE OFFSET.

500 TYPICAL MARSH EXCAVATION



501 LONGITUDINAL SECTION FOR UNDERCUT AREAS (EBS) AND MARSH EXCAVATION

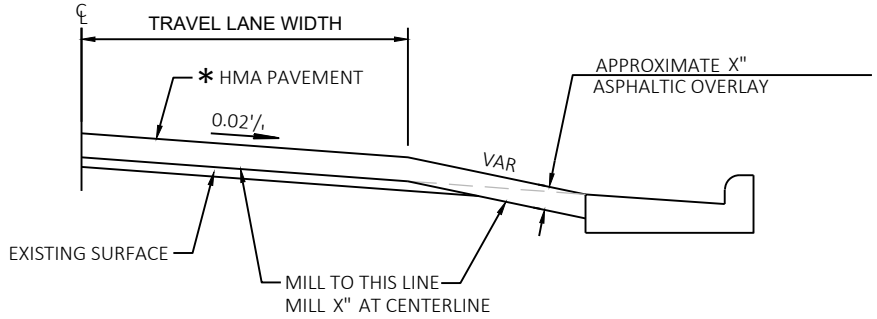


* DISTANCE/DEPTH TO BE DETERMINED BY ENGINEER IN THE FIELD

PROFILE VIEW

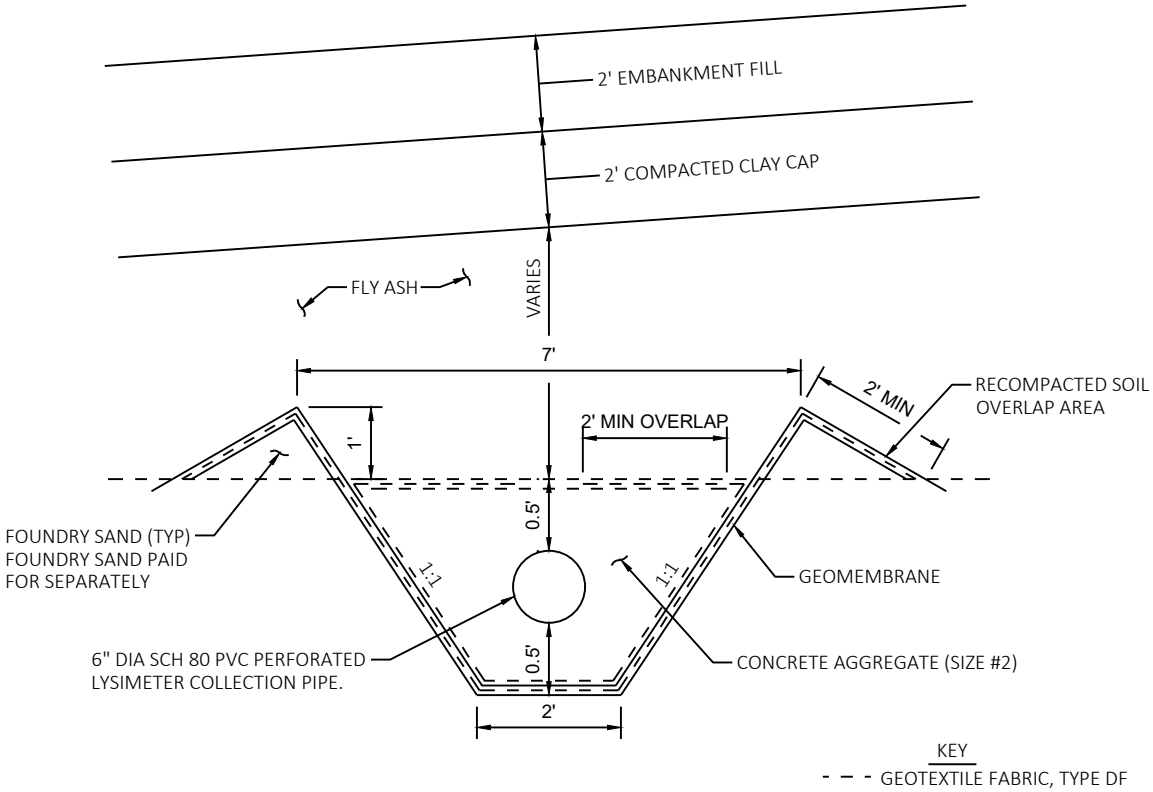
502 EXCAVATION BELOW SUBGRADE (EBS)

EXACT LOCATION OF EXCAVATION BELOW SUBGRADE (EBS) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. EBS AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER.



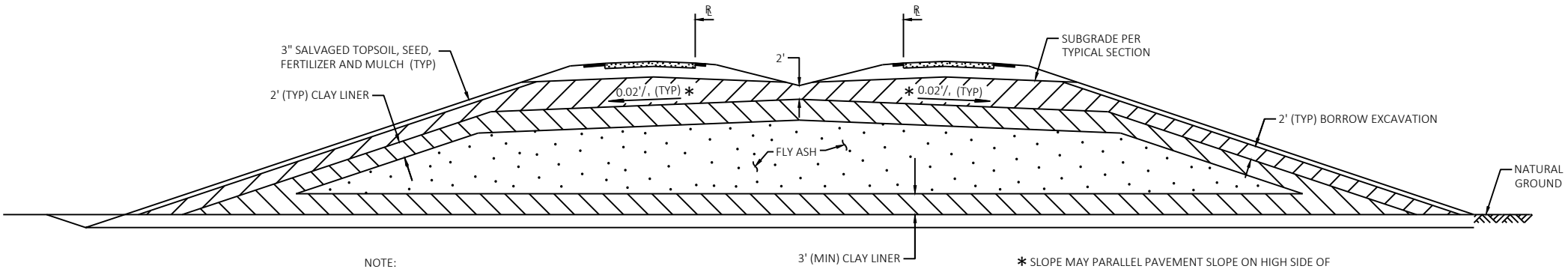
* SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

550 TYPICAL CROSS SECTION WITH CURB & GUTTER (MILLED)



NOTE: AREA OF BASIN LYSIMETER SHALL BE 100 SQUARE FEET

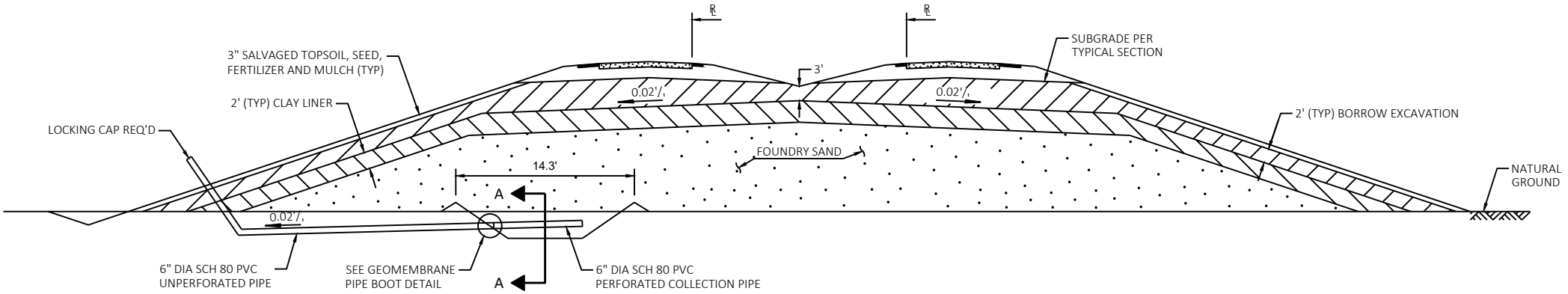
551 TYPICAL SECTION THRU BASIN LYSIMETER BELOW FOUNDRY SAND STRUCTURAL FILL



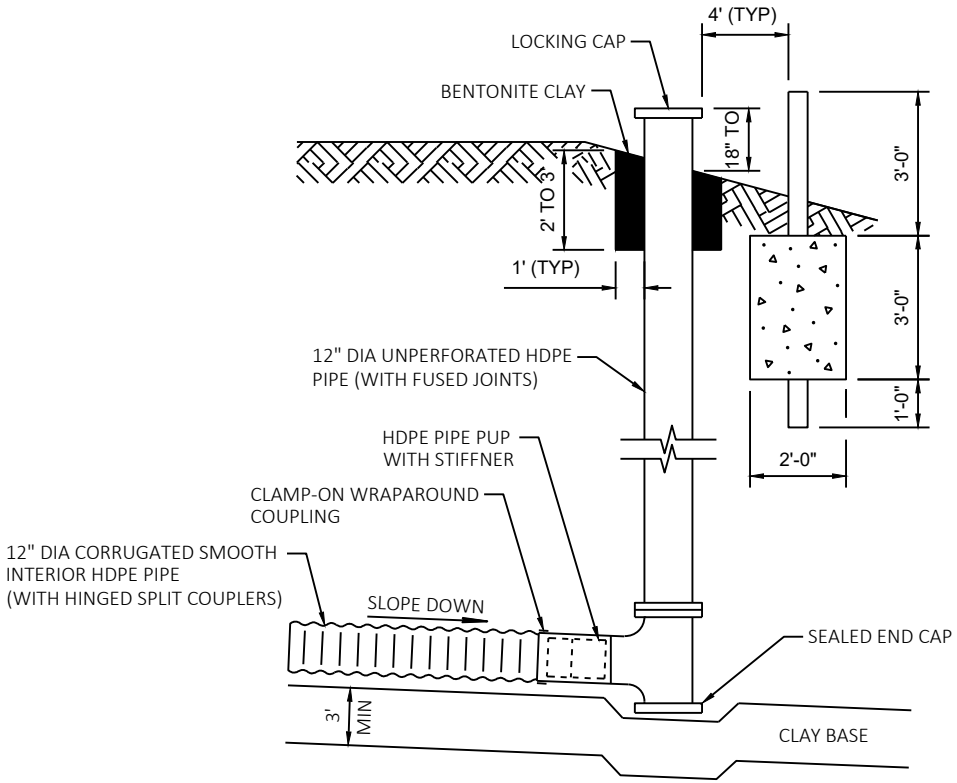
NOTE:
ENDS OF FLY ASH CELL SHALL BE CLOSED BY 10 FOOT WIDE VERTICAL CLAY WALLS.

* SLOPE MAY PARALLEL PAVEMENT SLOPE ON HIGH SIDE OF ROADWAY IN SUPERELEVATED SECTIONS - SEE CROSS SECTIONS.

552 TYPICAL CROSS SECTION FOR FLY ASH PLACEMENT

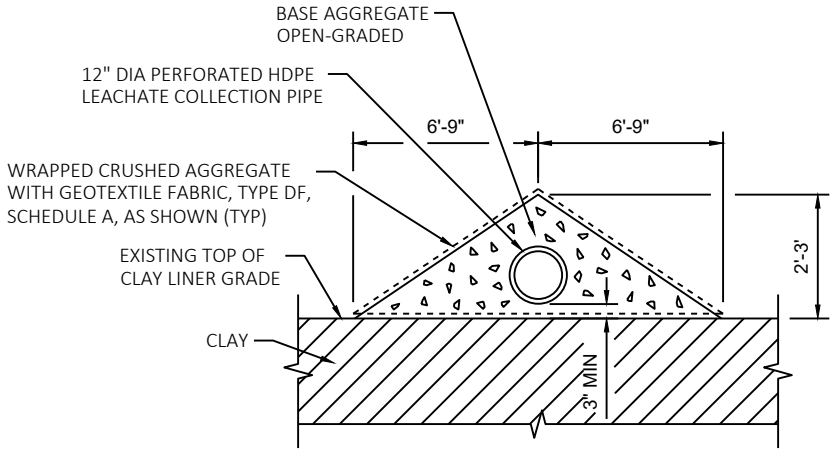


553 TYPICAL CROSS SECTION FOR FOUNDRY SAND PLACEMENT (WAUPACA FOUNDRY)



* EXCAVATE UNDER CLAY LAYER AT HEADWALL TO MAINTAIN A 3 FOOT DEPTH OF BASE CLAY LAYER.

TYPICAL LEACHATE COLLECTION HEADWELL

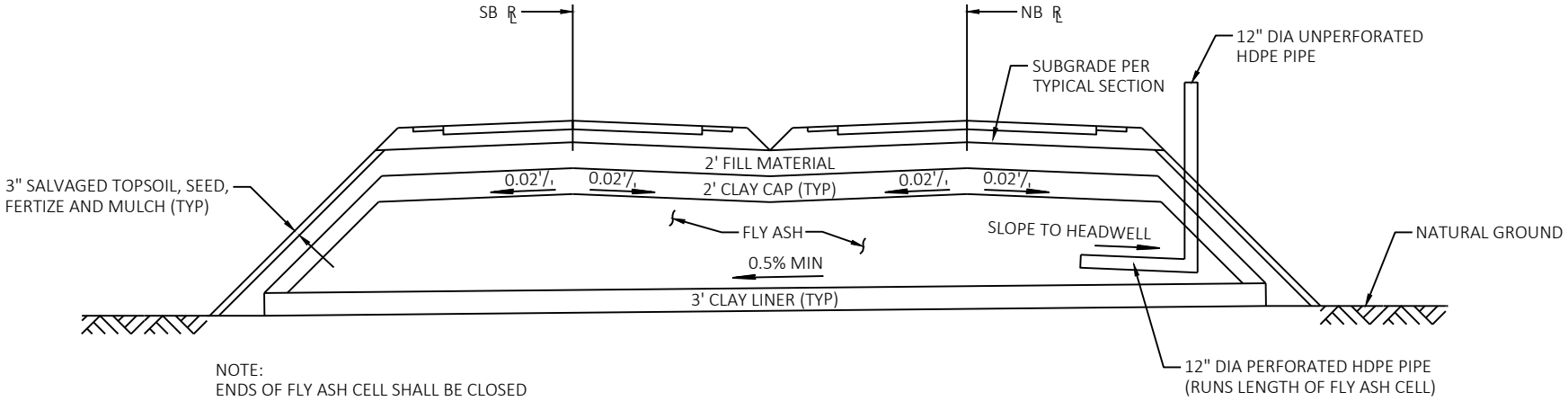


QUANTITIES FOR LEACHATE COLLECTION DETAIL

	XXXXX	XXXXX
12" DIA HDPE PIPE (LF)	XXXXX	XXXXX
BASE AGGREGATE, OPEN GRADED (TON)	XXXXX	XXXXX
GEOTEXTILE FABRIC, TYPE DF SCHEDULE A (SY)	XXXXX	XXXXX

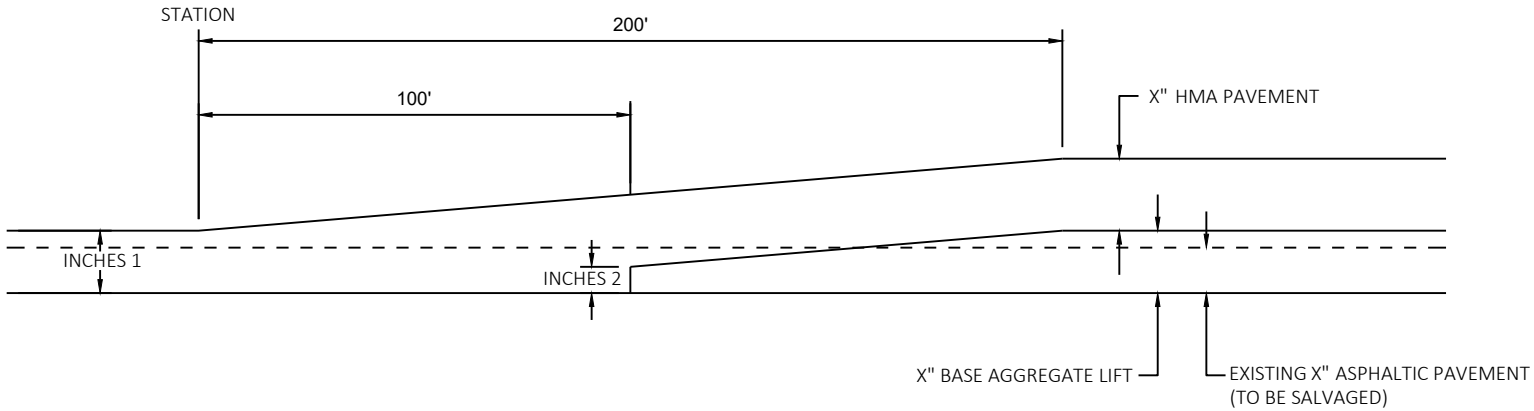
(FOR INFORMATION ONLY)

TYPICAL LEACHATE COLLECTION PIPE BEDDING DETAIL

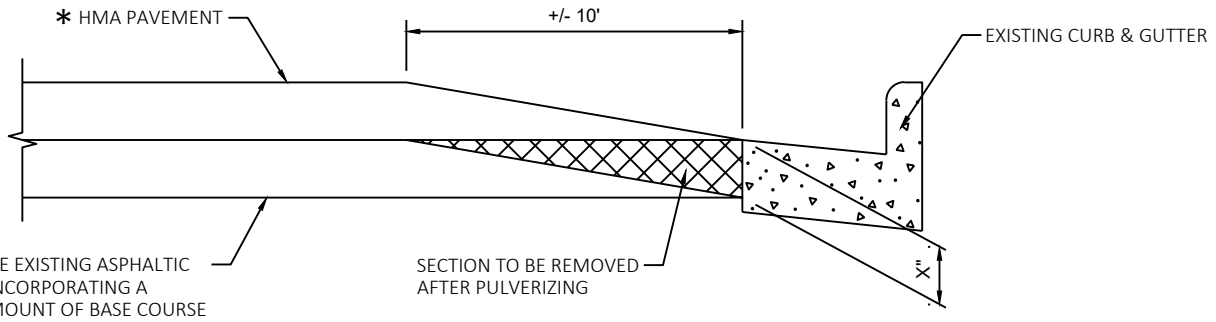


NOTE:
ENDS OF FLY ASH CELL SHALL BE CLOSED
BY 2' THICK CLAY CAP AT A 2:1 SLOPE

FLY ASH PLACEMENT DETAIL (WPS)



555 DETAIL FOR TRANSITION TO BASE AGGREGATE LIFT



* SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

556 TYPICAL CROSS SECTION WITH CURB AND GUTTER (PULVERIZED)

TRAFFIC CONTROL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, 500 FEET DESIRABLE, DISTANCE TO EXISTING SIGNS.

THIS SHOULDER CLOSURE IS TYPICAL FOR CLOSING RIGHT SHOULDER - REVERSE FOR CLOSING LEFT SHOULDER.

ALL SIGNS ARE 48' x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON 'COVERED" OR "DOWNED" SIGNS.

FOR A SHOULDER CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCE WARNING SIGNS MAY BE MOUNTED ON PORTABLE CRASHWORTHY SUPPORTS.

REDUCED SPEED AHEAD, AND ALL SPEED LIMIT SIGNS MUST BE POST MOUNTED.

SPEED LIMIT SIGNS SHALL ALSO BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND AT 0.5 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

THE LOCATION OF THE FIRST SIGN INDICATING THE 55 OR 60 MPH REGULATORY SPEED LIMIT IS REFERENCED FROM BEGINNING OF SHOULDER CLOSURE TAPER. THE 55 OR 60 MPH REGULATORY SPEED LIMIT SIGN LOCATION MUST BE ADJUSTED WHEN CONSTRUCTION ACTIVITIES REQUIRE THE SHOULDER CLOSURE START LOCATION TO CHANGE.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION,THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY $\frac{1}{2}$ MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE SHOULDER CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE $\frac{1}{2}$ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

* PROVIDE ITEM WHEN SPECIFIED IN MISCELLANEOUS QUANTITIES OR SPECIAL PROVISIONS.

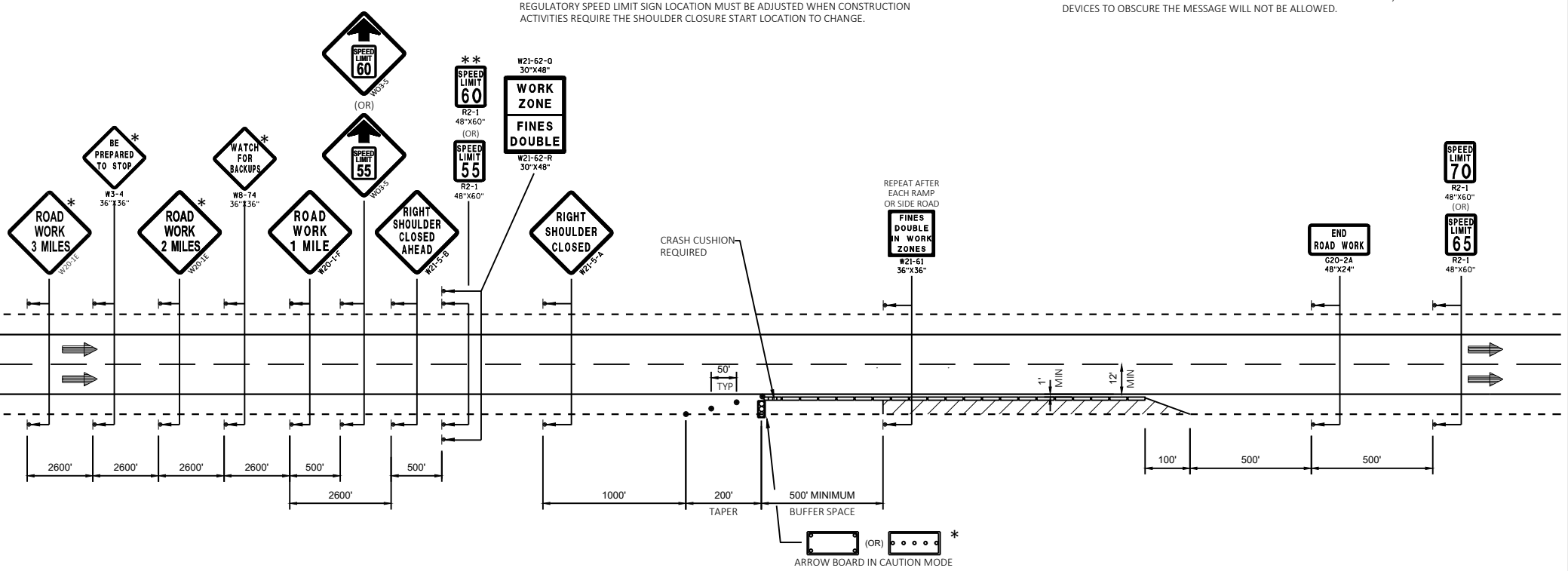
** SEE REQUIREMENT FOR TEMPORARY REGULATORY SPEED REDUCTION IN THE SPECIAL PROVISIONS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

TRAFFIC CONTROL DEVICES NOT IN USE SHALL LAID DOWN OR REMOVED, TURNING OF DEVICES TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

LEGEND

- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- TEMPORARY PRECAST CONCRETE BARRIER
- WORK AREA



600

SHOULDER CLOSURE - REGULATORY SPEED REDUCTION WITH BARRIER

LEGEND

- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, 500 FEET DESIRABLE, DISTANCE TO EXISTING SIGNS.

THIS SHOULDER CLOSURE IS TYPICAL FOR CLOSING RIGHT SHOULDER - REVERSE FOR CLOSING LEFT SHOULDER.

ALL SIGNS ARE 48' x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON 'COVERED" OR "DOWNED" SIGNS.

FOR A SHOULDER CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCE WARNING SIGNS MAY BE MOUNTED ON PORTABLE CRASHWORTHY SUPPORTS.

REDUCED SPEED AHEAD, AND ALL SPEED LIMIT SIGNS MUST BE POST MOUNTED.

SPEED LIMIT SIGNS SHALL ALSO BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND AT 0.5 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

THE LOCATION OF THE FIRST SIGN INDICATING THE 55 OR 60 MPH REGULATORY SPEED LIMIT IS REFERENCED FROM BEGINNING OF SHOULDER CLOSURE TAPER. THE 55 OR 60 MPH REGULATORY SPEED LIMIT SIGN LOCATION MUST BE ADJUSTED WHEN CONSTRUCTION ACTIVITIES REQUIRE THE SHOULDER CLOSURE START LOCATION TO CHANGE.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION,THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY ½ MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE SHOULDER CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ½ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

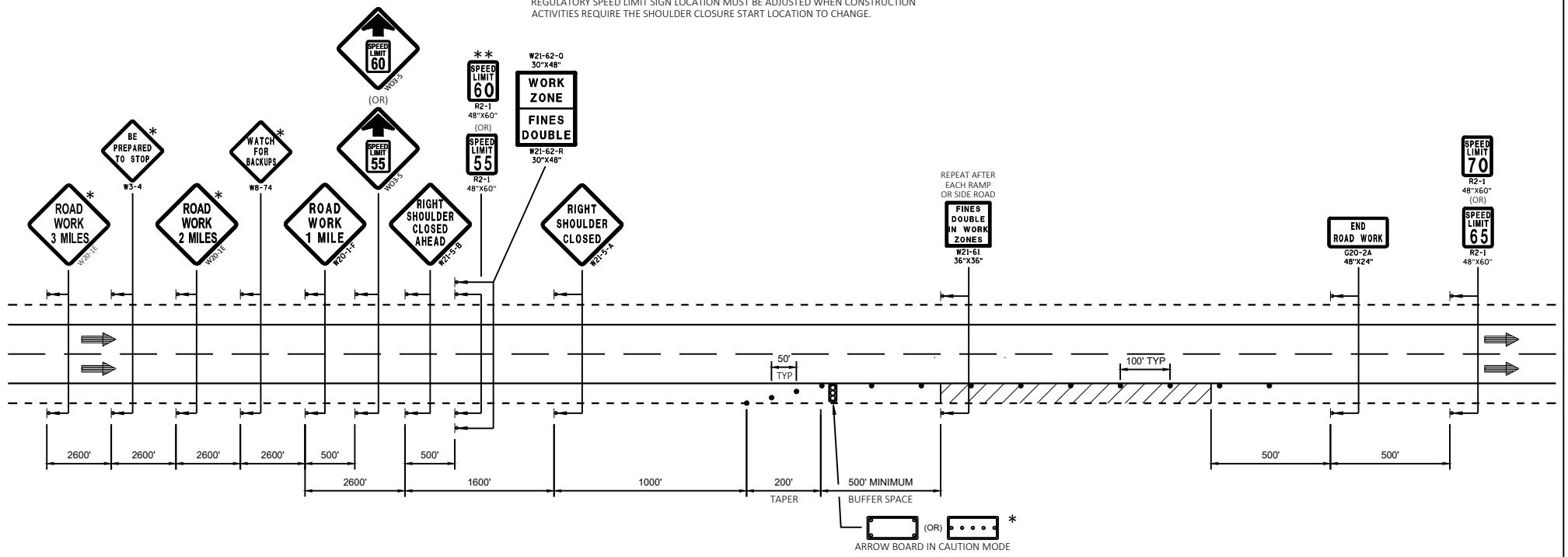
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

* PROVIDE ITEM WHEN SPECIFIED IN MISCELLANEOUS QUANTITIES OR SPECIAL PROVISIONS.

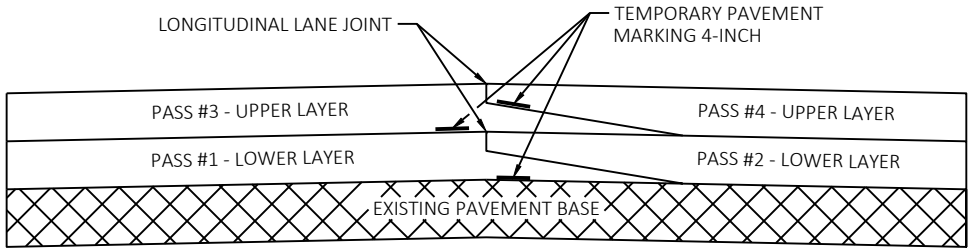
** SEE REQUIREMENT FOR TEMPORARY REGULATORY SPEED REDUCTION IN THE SPECIAL PROVISIONS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

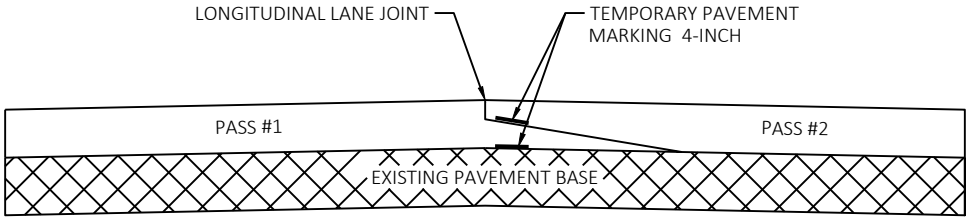
TRAFFIC CONTROL DEVICES NOT IN USE SHALL LAID DOWN OR REMOVED, TURNING OF DEVICES TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.



601 SHOULDER CLOSURE - REGULATORY SPEED REDUCTION WITHOUT BARRIER



602 PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS



603 PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK AREA

TRAFFIC CONTROL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, 500 FEET DESIRABLE, DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48' x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON 'COVERED" OR "DOWNED" SIGNS.

REDUCED SPEED AHEAD, AND ALL SPEED LIMIT SIGNS MUST BE POST MOUNTED.

SPEED LIMIT SIGNS SHALL ALSO BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND AT 0.5 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

THE LOCATION OF THE FIRST SIGN INDICATING THE 55 OR 60 MPH REGULATORY SPEED LIMIT IS REFERENCED FROM BEGINNING OF LANE CLOSURE TAPER. THE 55 OR 60 MPH REGULATORY SPEED LIMIT SIGN LOCATION MUST BE ADJUSTED WHEN CONSTRUCTION ACTIVITIES REQUIRE THE LANE CLOSURE START LOCATION TO CHANGE.

TRAFFIC CONTROL DEVICES NOT IN USE SHALL BE LAID DOWN OR REMOVED, TURNING OF DEVICES TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION,THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ½ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

** CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

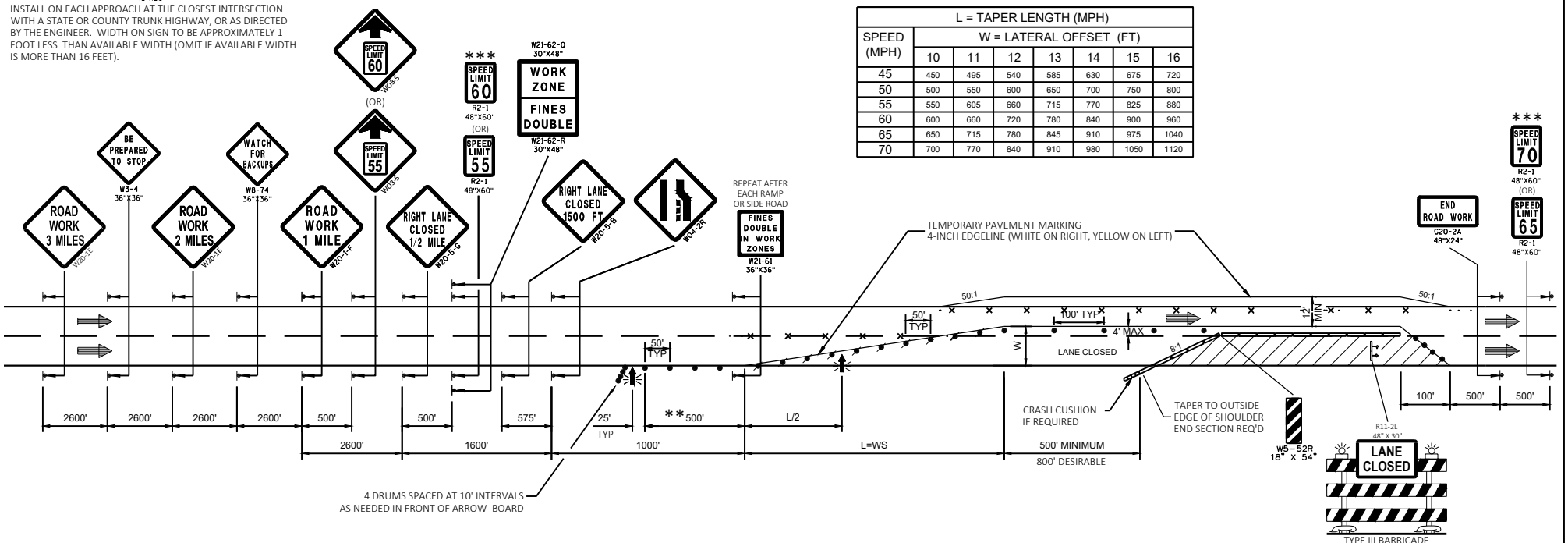
*** SEE REQUIREMENT FOR TEMPORARY REGULATORY SPEED REDUCTION IN THE SPECIAL PROVISIONS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

MAX. XX' WIDTH
W12-52
XX MILES AHEAD
W057-52
48"X36"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROXIMATELY 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

L = TAPER LENGTH (MPH)							
SPEED (MPH)	W = LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120



LANE CLOSURE - REGULATORY SPEED REDUCTION WITH BARRIER

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK AREA

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROXIMATELY 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

TRAFFIC CONTROL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, 500 FEET DESIRABLE, DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48' x 48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON 'COVERED" OR "DOWNED" SIGNS.

REDUCED SPEED AHEAD, AND ALL SPEED LIMIT SIGNS MUST BE POST MOUNTED.

SPEED LIMIT SIGNS SHALL ALSO BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND AT 0.5 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

THE LOCATION OF THE FIRST SIGN INDICATING THE 55 OR 60 MPH REGULATORY SPEED LIMIT IS REFERENCED FROM BEGINNING OF LANE CLOSURE TAPER. THE 55 OR 60 MPH REGULATORY SPEED LIMIT SIGN LOCATION MUST BE ADJUSTED WHEN CONSTRUCTION ACTIVITIES REQUIRE THE LANE CLOSURE START LOCATION TO CHANGE.

TRAFFIC CONTROL DEVICES NOT IN USE SHALL BE LAID DOWN OR REMOVED, TURNING OF DEVICES TO OBSCURE THE MESSAGE WILL NOT BE ALLOWED.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION,THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

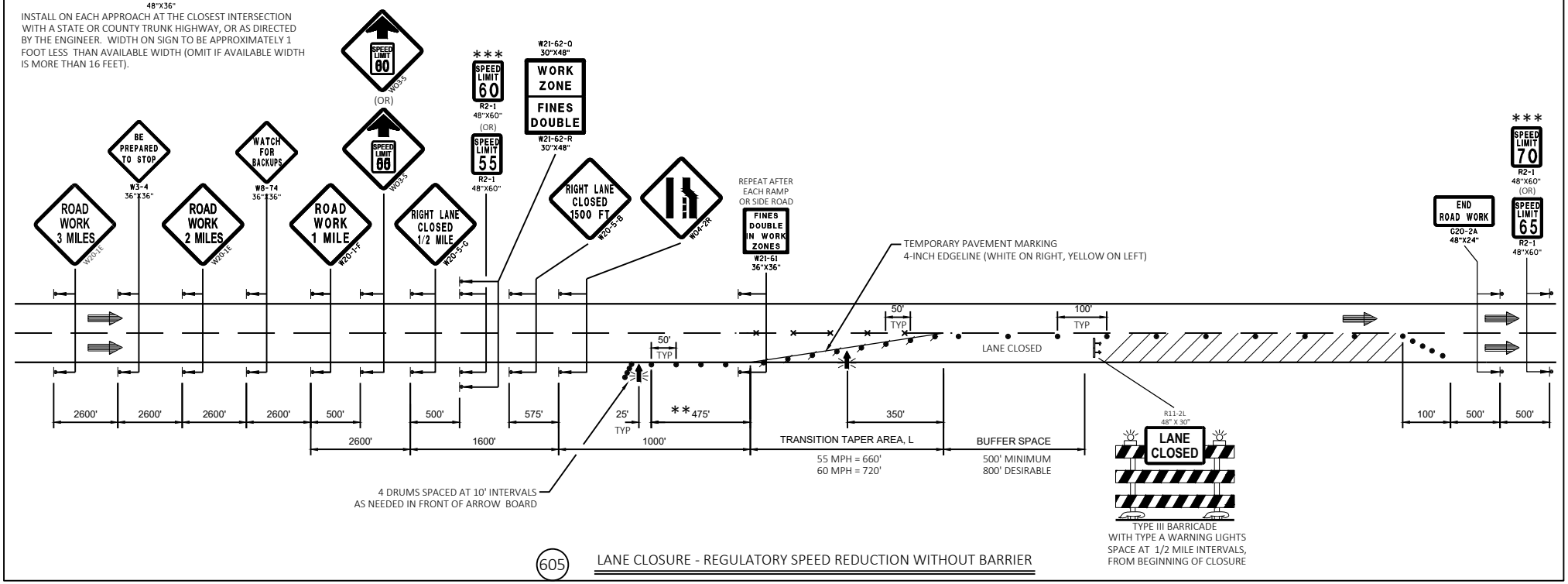
IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY ½ MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ½ THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

** CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF THE DRUMS.

*** SEE REQUIREMENT FOR TEMPORARY REGULATORY SPEED REDUCTION IN THE SPECIAL PROVISIONS.

COVERING AND REMOVAL OF MATERIAL COVERING TEMPORARY REGULATORY SPEED LIMIT SIGNS AND EXISTING SPEED LIMIT SIGNS RELATED TO TEMPORARY AND/OR PERIODIC LANE CLOSURES SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.



605 LANE CLOSURE - REGULATORY SPEED REDUCTION WITHOUT BARRIER