## FULL SIZE

- 3.1 Mailbox Turnout in Curb and Gutter Section
- 4.1 PC Concrete Islands and Medians Accessible to the Disabled
- 5.1 Standard Outlet for Curb and Gutter
- 6.1 Precast Reinforced Concrete Flat Slab Top Centered and Offset Manhole 36" Opening
- 11.1 Concrete End Sections for Parallel Pipe Culverts 15" thru 84" Dia.
- 12.1 Concrete End Sections for Parallel Pipe Arch Culverts 15" thru 84" Dia.
- 14.1 Traversable Pipe Grate for Parallel Drainage Structure
- 20.1 Hot-Mix Asphalt Approaches and Mailbox Returns
- 25.1 Entrance Approaches Urban Area
- 26.1 ADA Curb Ramp Pavement Removal And Replacement
- 32.1 Sewer and Water Main Crossings
- 33.1 Concrete Collars for Pipe or Box Culvert Extensions
- 34.1 Work Zone Sign Details
- 35.1 Urban Lane Inside Closure, Multilane, 2W, with Mountable Median
- 36.1 Temporary Road Closure Expressway
- 37.1 Traffic Control for Three Lane Section
- 38.1 Traffic Control for Transition Areas
- 39.1 Traffic Control Typical Weave
- 40.1 Traffic Control for Road Closure
- 41.1 Typical Pavement Markings
- 53.1 Remove and Re-erect Steel Plate Beam Guardrail
- 54.1 Traffic Barrier Terminal, Type 2 (27" height)
- 55.1 Reflectors (Special)
- 68.1 Slotted Drain Pipe (Variable Height)
- 71.1 Detail of Flood Gate
- 72.1 40' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 73.1 50' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 74.1 64' Single Lane Median Crossover (45 mph Work Zone Speed Limit)
- 75.1 40' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 76.1 50' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 77.1 64' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 78.1 88' Single Lane Median Crossover (55 mph Work Zone Speed Limit)
- 79.1 40' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 80.1 50' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 81.1 64' Two Lane Median Crossover (45 mph Work Zone Speed Limit)
- 82.1 40' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 83.1 50' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 84.1 64' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 85.1 88' Two Lane Median Crossover (55 mph Work Zone Speed Limit)
- 86.1 Beveled Pipe & Guard Detail for Median Crossover
- 90.1 Traffic Barrier Terminal, Type 6B (Special)
- 92.1 Details of Planting and Bracing Trees

## District 2 Standards Designer Notes Full Size District 2 Standards

- 3.1 Use when a mailbox turnout is needed in a curb & gutter section and there isn't a parking lane or a mail delivery lane.
- 4.1 Use this when there are cross walks that will go through an island or median. Specify which option the contractor is required to use when building the Concrete Median (Special).
- 5.1 Use this when you need an outlet for curb and gutter, other than type B-6.24
- 11.1 This is to be used for pipe culverts, Class D under all sideroads.
- 12.1 This is to be used for EQRS pipe culverts, Class D under all sideroads.
- 14.1 Use this whenever you use District Standards 10.1, 11.1 & 12.1 and the culvert is within the main line clear zone.
- 20.1 Include for rural entrances and sideroads on 3R projects, reconstruction projects, or for new entrances. Do not include on 3P or Smart resurfacing projects.
- 25.1 Include for urban entrances with curb & gutter on 3R projects, reconstruction projects, or for new entrances. Do not include on 3P or Smart resurfacing projects.
- 26.1 Use this on all projects with ADA curb ramps requiring HMA replacement in front of curb & gutter.
- 32.1 Include in urban projects with proposed storm sewers or water mains.
- 33.1 Use this for pipe or box culvert extensions. Fill in the information in the table for the Bill of Materials.
- 34.1 Work Zone Sign Details. Include this when you have any of the following:
  - Include in projects where the clear width through a work zone with temporary concrete barrier wall will be 16.0 feet or less.
  - Include when using Traffic Control and Protection Standard 701316 or 701321.
  - Use this in conjunction with the special provision <u>Traffic Control for</u> <u>Narrow Lanes</u> which is under the Traffic Control Plan. Use this on one-lane stage construction jobs when the lane is less than 13'-6" measured from the toe of the barrier wall to the guardrail or bridge wall.
  - Use this when using District Standard 37.1 and 38.1.
  - Use this on low volume entrances that are between the traffic signals on Highway Standard 701316 or 701321.
  - Include this for any milling of the mainline pavement.
- 35.1 Use this when it is necessary to close the inside lane on an urban project. Also include Highway Standard 701606 and the pay item for 701606.
- 36.1 Use this district standard for any short term closure of an expressway at a diamond interchange.

## **District 2 Standards Designer Notes**

- 37.1 Use this district standard for work that will require a lane closure in a three lane section such as a truck climbing lane.
- 38.1 Use this district standard when there is a transition from a four lane section that transitions to a two lane section.
- 39.1 Include on 4 lane highways where the contractor may change a portion of the work to the opposite lane.
- 40.1 Include for a mainline road closure.
- 41.1 Include in projects with pavement marking or raised reflective pavement markers.
- 53.1 Use this to remove and re-erect an old type steel plate beam guardrail which has 6" block outs and a 27<sup>1</sup>/<sub>2</sub>" rail height.
- 54.1 Use this when installing a Traffic Barrier Terminal, Type 2 on the old type of steel plate beam guardrail with a  $27\frac{1}{2}$ " rail height.
- 55.1 This will be used on all projects with guardrail, permanent barrier wall and bridge structures. Use pay items:
  - X7820007 Guardrail Reflectors, Type C (Special)
  - X7820008 Barrier Wall Reflectors (Special)
  - X6350110 Delineators (Special)

(<u>**Do not**</u> use the pay items Guardrail Reflectors Type A & B or Barrier Wall Reflectors Type B & C)

- 68.1 This can be used to increase drainage in curb & gutter with very flat grades (less than 0.3%). Also include this when constructing median crossovers.
- 71.1 Use if a property owner has a fenced field with livestock and a stream or river. The flood gate will be placed near the right-of-way to prevent livestock from leaving the field through the waterway. During high water, the flood gate will open to let water and debris through.
- 72.1, 73.1, 74.1, Use on single lane median crossovers of the median width specified and for
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- 90.1 Use this on 4-lane highways that go under dual structures and the piers required shielding. The outside of the piers are shielded with impact attenuators. The gap between the piers is shielded using Traffic Barrier Terminal Type 6B (Special). The Traffic Barrier Terminal Type 6B (Special) is

District 2 Standards Designer Notes required on both sides of the piers. Design Note: The <u>length</u> of the double thrie beam between the piers <u>must be</u> <u>added on the elevation on the District Standard</u>.

92.1 Include when planting new ball & burlapped trees.

## <u>½ SIZE</u>

- 10.2 Inlets, Special
- 11.2 Inlets, Special (Type A Gutter)
- 12.2 Double Inlet, Special
- 13.2 Frame & Grate for Inlets, Special
- 13.2a Frame & Grate for Inlets, Special
- 13.2b Frame & Grate for Inlets, Special
- 13.2c Frame & Grate for Inlets, Special
- 13.2d Frame & Grate for Inlets, Special
- 14.2 Inlets, Special, No. 1
- 15.2 Inlets, Special, No. 2
- 20.2 Standard Inlet for Type A Gutter (Special)
- 21.2 Standard Inlet for Curb & Gutter
- 30.2 Field Tile Junction Vaults 2' and 3' Dia.
- 31.2 Treatment of Field Tile Systems Under Ditches
- 32.2 Sign Panel Type 1 (Special)
- 33.2 Special Drainage Outlet
- 34.2 Inlet Stand Pipe
- 35.2 Guardrail Erosion Control Treatments
- 36.2 Paved Ditch (Special)
- 37.2 Underdrain for Across Road (AR) Culverts
- 44.2 Reserved Parking Sign Detail
- 45.2 Superelevation Transition on Two-Lane Highway
- 46.2 Hot-Mix Asphalt Approaches and Mailbox Returns for Single Lift (SMART) Resurfacing Projects
- 47.2 Hot-Mix Asphalt Approaches and Mailbox Returns for Two Lifts (3P) Resurfacing Projects
- 48.2 Safety Edge (SMART Projects)
- 49.2 Safety Edge (3P Projects)
- 60.2 Deleted 4-15-15
- 61.2 Slotted Drain Pipe for Type A Gutter (Special)
- 63.2 Pipe Handrail for Steps
- 64.2 Pipe Handrail, Special for Retaining Walls
- 66.2 Permanent Survey Markers, Type II
- 73.2 Automatic Flap Gate
- 81.2 Riprapped Culvert Energy Basin
- 89.2 Termination of Dead End Roads
- 90.2 Mechanical Joints for Concrete Pipe and Box Culverts
- 93.2 Typical Aggregate Base Sideroad
- 94.2 Traffic Control & Protection at Turn Bays (To Remain Open to Traffic)

## 1/2 Size District 2 Standards

10.2	This is used for drainage in a curb & gutter section. The diagonal grate is included in the cost. The diagonal grate is bicycle safe. If the inlet is in a driveway which has a depressed curb, the grate on the bottom left hand side will be used. The cost of this grate is also included in the cost of the inlet special. When using this do not include 13.2, 13.2a, 13.2b, 13.2c or 13.2d.
11.2	This is used for drainage in a Type A gutter. The grate is included in the cost of the inlet.
12.2	This is used when extra inlet capacity is needed. For example, in a sag condition.
13.2 13.2a 13.2b 13.2c 13.2d	These are different types of frame & grates for inlet specials. One of these can be used to replace broken frame & grates on inlets to be adjusted or reconstructed. Select the one that matches the existing. All of them are bicycle safe.
14.2	This has been used in medians where the gutter flag is less than 24".
15.2	This has been used in medians where the curb is only 2"± high. For example, near the nose of a ramped median.
20.2	Use this on the inlet end of Type A Gutter (Special)
21.2	Use this on the inlet end of Combination Concrete Curb & Gutter
30.2	If there is existing field tile on your job or think there could be field tile, include this standard. Also include a pay item for junction vaults.
31.2	If there is storm sewer or field tile under a ditch with 24" or less of cover, include this standard. Include the pay item for Miscellaneous Concrete.
32.2	Use this where the bridge is less than 24" wider than the roadway surface. This is very rare on a state route, but should be used on bridges on detour routes on County or Township roads.
33.2	This is a special drainage outlet to be used on existing pavements with drainage problems. The existing underdrains might not be working, or there is water pumping out of the joint between the pavement and shoulder.
34.2	This can be used to replace existing field tile stand pipes. The existing stand pipe is usually an orange perforated 6" pipe, 24" to 36" high, near the outlet end of a culvert. This could also be a new installation if requested by the property owner during Phase I or during negotiations.

Page 1

## **District 2 Standards Designer Notes**

- 35.2 This is an erosion control treatment at guardrail that Operations has used for years. The downside is the erosion control curb tends to further tilt the guardrail over time. This can be used to replace existing erosion control curb or at selected locations. A better treatment for slopes at guardrail is Perimeter Erosion Barrier, Special (Dist. Std. 8.4).
- 36.2 Paved ditch is rarely used in District 2. It tends to crack and water seeps under the concrete, causing it to be undermined. Once undermined it collapses, causing an erosion problem. Where it can be used is on very flat ditch grades, less than 0.2%. In this case, velocity is low, but the paved ditch could silt in. Operations could clean the paved ditch and the paved ditch establishes the grade line.
- 37.2 Include when installing or removing across road culverts in sags or on grades greater than 2%. The purpose of this is to prevent water pumping out of the joints of the pavement patch. Add the pay items for Pipe Underdrains, Type 2 and Concrete Headwalls for Pipe Drains.
- 44.2 This is to be used on all disabled parking stalls.
- 45.2 Include this on projects that correct existing superelevations, or on new pavements on superelevations. Not to be used on 3P or Smart projects because existing superelevations are not changed.
- 46.2 Include this on all Smart resurfacing projects.
- 47.2 Include this on all 3P resurfacing projects.
- 48.2 Include in Smart resurfacing projects with paved shoulders 3' or less.
- 49.2 Include in 3P resurfacing projects with paved shoulders 3' or less.
- 60.2 Deleted 4-15-15
- 61.2 This can be used to increase drainage in curb & gutter or Gutter, Type A (Special) where the longitudinal grade is less than 0.3%. Use 68.1 when constructing median crossovers.
- 63.2 Include this when constructing new steps.
- 64.2 Include this when handrails are needed on retaining walls. Not all retaining walls need handrails. Retaining walls that are supporting and adjacent to sidewalks or parking lots usually need a handrail. Landscaping walls to retain earth in front of a house usually don't need handrails.

## **District 2 Standards Designer Notes**

- 66.2 Include this when using the pay item for Permanent Survey Marks. Do not include Highway Standard 667101 because Standard 66.2 is 5' deep and requires a witness marker.
- 73.2 Use this on entrance pipes or berm pipes adjacent to a river or canal. This will prevent water from the river or canal backing up into the ditch.
- 81.2 This is one option to control erosion at the ends of culverts with very high velocities. There is a design process to determine the dimensions in the chart. Consult with the Hydraulics Engineer on its use.
- 89.2 Include this at the end of dead end roads like a cul-de-sac or hammer head turn around.
- 90.2 Use this at locations where pipe culverts or box culvert joints could separate. Most culverts do not require the ties, so this is rarely used. One application is where the culvert outlets into a river. There could be erosion at the end of the culvert so the end section or sections of the culvert could tip or fall off. In this case, only the last one or two sections were tied.
- 93.2 Include this when sideroads are constructed with 3"± of incidental on an aggregate base and the mainline has 8" HMA shoulders. This standard includes 4' HMA shoulders on the sideroad return, which will be placed monolithically when the return is resurfaced.
- 94.2 Include this on multi-lane roads when the traffic lane is closed adjacent to a <u>left</u> or <u>right</u> turn lane and the turn lane is to remain open to traffic.

## <u>1/4 SIZE</u>

- 8.4 Perimeter Erosion Barrier, Special
- 11.4 Concrete Curb (Special)
- 12.4 Concrete Curb (Special) (Adjacent to Resurfacing)
- 13.4 Combination Concrete Curb & Gutter, Type \_\_\_\_\_, Special
- 15.4 Gutter Outlet Adjacent to Stabilized Shoulders
- 16.4 Concrete Gutter, Type A, with Flume
- 17.4 Catch Basins or Inlets to be Adjusted or Reconstructed
- 18.4 Curb & Gutter Outlet, Special
- 19.4 Riprap at End Sections
- 19.4a Concrete Revetment Mat at End Sections
- 20.4 Grading Around Wingwalls
- 21.4 Aggregate Ditch for Flexible Ditch Lining
- 22.4 Hot Mix-Asphalt Shoulder
- 23.4 Detail of Hot-Mix Asphalt Shoulder at Guardrail
- 24.4 Pavement Breaking Detail
- 27.4 Concrete Headwalls for Pipe Underdrains for Structures
- 28.4 Cast-in-Place Reinforced Concrete End Sections
- 29.4 Silicone Joint Seal (Concrete Details)
- 30.4 Stone Wells, Special
- 31.4 Parking Blocks
- 32.4 Pavement Patching for Hot-Mix Asphalt Surfaced Pavement
- 33.4 Pavement Patching Detail
- 34.4 Thrust Block Details
- 35.4 Sidewalk and Driveway Pavement Pay Areas
- 36.4 Concrete Gutter, Type A (Special)
- 37.4 Delineator and Post Orientation
- 38.4 Edge of Pavement Repair
- 43.4 Required Cold Milled Surface Texture
- 44.4 Slab Movement Detection Device
- 46.4 Aerial Speed Check Zones
- 50.4 Typical Benching Detail on Existing Embankment
- 51.4 Typical Construction of Embankments with Granular Material
- 63.4 Land Section & Reference Markers
- 70.4 Tree Wall
- 71.4 Detail of Concrete Steps
- 79.4 Inlets, Special, No. 3
- 79.4a Inlets, Special, No. 4
- 79.4b Inlets, Special, No. 5
- 79.4c Inlets, Special, No. 6
- 79.4d Inlets, Special, No. 7
- 79.4e Inlets, Special, No. 8
- 79.4f Nose Type for Inlet Top Slab
- 79.4g Inlets, Special, No. 3, 4, 5, 6 Reinforcement Detail
- 79.4h Inlets, Special, No. 7 & 8 Reinforcement Detail
- 80.4 Inlets to be Reconstructed with New Standard 542546 Frame & Grate
- 83.4 Grate, Special
- 87.4 Typical Median Crossover Closure (with Emergency Opening)
- 88.4 Drain for Aggregate Bases in Urban Areas
- 91.4 Rumble Resurfacing
- 96.4 Drain for Aggregate Base Course
- 97.4 Subgrade Replacement
- 98.4 Typical Median Crossover Closure

## 1/4 Size District 2 Standards

8.4	This can be used on Smart & 3P resurfacing projects to maintain a maximum 9% cross slope on the aggregate shoulder in front of existing guardrail. The guardrail could also be removed and re-erected or replaced if it is extremely tipped, out of alignment, damaged, not to current standards, or the height is more than 3" high or low from the initial standard used to install it. Smart projects are allowed up to 15% of the total contract cost for spot safety improvements. 3P projects can also have spot safety improvements, but both projects require BDE approval. Include pay items for Steel Plate Beam Guardrail, Type A (Special), and Aggregate Wedge Shoulder, Type B.
11.4, 12.4 & 13.4	These can be used when a new median or curb & gutter is placed on bare concrete pavement. This isn't used much because the first thing necessary is bare concrete, and there isn't much bare concrete in our District.
15.4	This is used to replace existing gutter outlets adjacent to a HMA shoulder. District 2 doesn't construct new gutter adjacent to stabilized shoulders; curb & gutter is used. Therefore, when curb & gutter is constructed adjacent to a stabilized shoulder, use Highway Standard 606101.
16.4	This is a specialized gutter outlet. Do not use this on curb & gutter. An example of when it would be used is to outlet the gutter over the top of a culvert headwall.
17.4	Use this standard for adjustment of catch basins or inlets.
18.4	This is a specialized curb & gutter outlet. This can be used when there is a ditch behind the curb & gutter and there aren't any inlets with frame & grate or Winnebago's in the curb & gutter.
19.4	Use this when RIPRAP is required at culvert end section. Check the hydraulic report for the apron length and the size of the riprap to be used. Be sure to show the dimensions on the plans.
19.4a	Use this when concrete revetment mat is required at an end section. There is a table on the standard which needs to be filled out. Check the hydraulic report for the apron length. Be sure to show the dimensions on the plans.
20.4	Use this on across road culverts that have wingwalls that are not parallel with the culvert. This is a guide for the Resident Engineer & Contractor on how to construct the dirt around wingwalls.
21.4	If riprap is needed in ditches to control erosion, use this standard. Specify the pay item for Class A3 or A4. Add the dimensions to the typical section. The height of the riprap on the side slopes should extend approximately 6" higher than the computed depth of water in the ditch.
22.4	Use this for new HMA shoulders. If guardrail will be installed before the surface course is placed, like on staged bridge projects, use District Standard 23.4
23.4	Use this on projects where guardrail will be installed before the surface course is placed. This allows the guardrail to be installed and the shoulder resurfaced to the post so the posts do not have to be removed and re-erected. For example, staged bridge projects require guardrail to be installed for Stage 2, but all of the surface course is placed after the bridge is completed. If new HMA shoulders are constructed and guardrail will be installed after the HMA shoulder is installed, use District Standard 22.4.

24.4	Use this on projects with large changes in vertical alignment from the existing pavement to a new full depth pavement. This will require a thick resurfacing taper, pavement breaking, and variable depth subbase granular material.
27.4	Use this if the pipe underdrain for structures behind the bridge abutment will outlet into the riprap on the bridge cone. If not, use Highway Standard 601101.
28.4	Use this if storm sewer or field tile outlets through the backslope of the ditch. This can also be used for Cast-in-Place Reinforced Concrete End Section 8" or 10".
29.4	Include this standard if #16 Polymer Concrete is checked on the Recurring Special Provision check sheet.
30.4	This can be used in sandy soils to drain areas with poor drainage or no outlets. Materials must take soil borings to determine if the stone well will function properly.
31.4	This can be used in parking lots or for diagonal parking if there isn't a curb or curb & gutter.
32.4	Use this standard for peek-a-boo patching. Peek-a-boo patching is used to remove and replace the existing HMA on top of concrete pavement, up to a maximum of 8" thick.
33.4	Use this standard for pavement patching when the existing HMA overlay thickness is 8" or thicker.
34.4	Include this when constructing new water mains, or moving or relocating fire hydrants. <u>Do not</u> include this for the thrust blocks on Highway Standard 610001.
35.4	Use this standard in urban areas when removing and replacing sidewalk and driveway pavements.
36.4	When constructing concrete gutter, District 2 has a flat bottom gutter which is easier to construct. Do not include Highway Standard 606101. For gutter inlets, include #20.2 Standard Inlet for Type A Gutter (Special), and for outlets include #15.4 Gutter Outlet Adjacent to Stabilized Shoulder.
37.4	Include when installing new delineators. The purpose of rotating the post 180° is to give more support for the delineators so it doesn't break off.
38.4	Include this standard on 3P projects when there are areas along the edge of pavement that are badly deteriorated. Also include the appropriate Recurring Special Provision.
43.4	Include this standard if #13 HMA Surface Correction is checked on the Recurring Special Provisions check sheet. This milling is for surface corrections that will not be resurfaced. To date this has not been used in District 2.
44.4	Include this standard if #12 Subsealing of Concrete Pavements is checked on the Recurring Special Provisions check sheet. This is used with the pay items Dry Grout Solids and Holes Drilled. To date this has not been used in District 2.

- 46.4 This is used when replacing existing aerial speed check zones on resurfacing projects. Field check the project to determine if any exist.
- 50.4 Include this when adding embankment on an existing slope that is 4' high or more.
- 51.4 Use on any project that will be widening the existing embankment, contact Geotech with any questions.
- 63.4 Include this if Land Sections or <sup>1</sup>/<sub>4</sub> Section Corners will be disturbed. Check with Land Acquisition for the existing section locations.
- 70.4 This can be used to save a tree on a slope that will be excavated. Usually there is a commitment in the project report to save a tree that requires a tree well.
- 71.4 Include this detail for installing or replacing steps adjacent to sidewalk.

79.4 These inlets, known as Winnebago's. No. 3 & 4, can be used with storm sewer 79.4a up to 36" diameter, No. 5 & 6 can be used with storm sewer up to 24" diameter, 79.4b No. 7 can be used with storm sewer up to 48" diameter, and No. 8 can be used 79.4c with storm sewer up to 60" diameter. No. 4 & 6 have open backs for drainage 79.4d behind the inlets. Do not use Winnebago's with curb & gutter with gutter flags 79.4e less than 24", it makes the cross slope of the gutter flag too steep. This can be 79.4f dangerous for bicyclists, or people stepping off of the curb. Instead, use an 79.4q inlet with a frame & grate to fit the curb & gutter. When using 79.4, 79.4a, 79.4ň 79.4b, or 79.4c, also include 79.4f & 79.4g. When using 79.4d & 79.4e, also include 79.4f & 79.4h.

- 80.4 This can be used to lower an existing 3' x 3' median inlet.
- 83.4 Use this to replace broken grates or to replace a grate that isn't bicycle safe. Measure the existing grate to ensure this will fit.
- 87.4 Use this on permanent median crossovers where an emergency opening is needed. If an emergency opening isn't needed, use District Standard 98.4. Check with Operations to see if an opening is needed.
- 88.4 Use this in urban areas with new pavement, subbase, and storm sewer. The purpose of this is to drain the subbase.
- 91.4 This is usually used to replace existing rumble strips in the traffic lane before stop signs. It can also be used at new locations to reduce accidents.
- 96.4 Use this on new pavements with subbase where there will be ditches. Place one in all low points and others at approximately 250' intervals.
- 97.4 Include this for full depth patching. The quantity for subgrade replacement will be approximately 10-20% of the area of the full depth patches. Remember to include the BDE special provision for Aggregate Subgrade Improvement.
- 98.4 Use this on permanent median crossovers where an emergency opening is not needed. If an emergency opening is needed, use District Standard 87.4. Check with Operations to see if an opening is needed.

Page 3



MAILBOX TURNOUT IN CURB AND GUTTER SECTION 3.1



PC CONCRETE ISLANDS AND MEDIANS ACCESSIBLE TO THE DISABLED

4.1



STANDARD OUTLET FOR CURB & GUTTER 5.1







PRECAST REINFORCED CONCRETE FLAT SLAB TOP CENTERED AND OFFSET MANHOLE – 36" OPENING SHEET 3 OF 10 6.1







PRECAST REINFORCED CONCRETE FLAT SLAB TOP CENTERED AND OFFSET MANHOLE – 36" OPENING SHEET 6 OF 10 6.1



PRECAST REINFORCED CONCRETE FLAT SLAB TOP CENTERED AND OFFSET MANHOLE – 36" OPENING SHEET 7 OF 10 6.1











## CONCRETE END SECTIONS FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.

#### **QUANTITIES**

	Tables IB. IC. IIIA. AND IIIB													
	Tables IB, IC, IIIA, AND IIIB													
Pipe I.D.		Concrete y	d <sup>3</sup>	Reinfo	rcement w Lap lbs.	thout	Reint	forcement Lap Ibs.	with					
	Slope	of End See	ction	Slope	of End Se	ction	Slope	of End Se	ction					
	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10					
15	1.4	1.9	2.8	250	330	510	270	350	540					
18	1.6	2.2	3.4	290	400	600	310	420	640					
21	2.0	2.7	4.2	330	450	690	360	480	740					
24	2.3	3.2	5.0	370	510	790	400	550	850					
30"	3.1	4.3	6.7	490	680	1060	520	720	1130					
36"	3.9	5.5	8.7	580	810	1270	620	870	1360					
42"	4.9	6.9	10.9	720	1020	1610	770	1080	1710					
48"	6.0	8.6	13.7	940	1320	2090	1010	1420	2240					
54"	6.9	9.8	15.7	1090	1540	2440	1160	1650	2610					
60"	8.1	11.6	18.6	1410	2000	3190	1530	2180	3480					
66	9.5	13.6	21.8	1650	2360	3780	1780	2560	4100					
72	10.9	15.7	25.2	1840	2630	4220	1990	2850	4580					
78"	12.4	17.9	28.9	2110	3040	4900	2280	3280	5290					
84	14.1	20.3	32.8	2710	32.8 2710 3910 6320				6950					

The above quantities are estimates and provided for information only. Actual quantities may vary depending upon the final layout of reinforcement and number of segments determined by the Contractor.

For cast-in-place construction, increase concrete volumes by approximately 12%.

REVISED 1-05-16

REVISED 5-09-14

REVISED

REVISED

USER NAME	= IDOT / DISTRICT 2	DESIGNED	•
		DRAWN	•
		CHECKED	-
			_

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	REC

SECTION

ILLINOIS FED. AID PROJEC

COUNTY

CONTRACT NO

SHEETS NO

CONCRETE END SECTIONS FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA. SHEET 3 OF 3 11.1



CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA. SHEET 1 OF 3 12.1



# CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

#### **QUANTITIES**

			Та	ib <b>l</b> e IIA, Co	rrugation:	2 × 1	6 <b>"</b>					-	īab <b>l</b> e IIA, C	orrugation	: 3"×1"			
Equivalent		Concrete y	d <sup>3</sup>	Reinfo	rcement w Lap Ibs.	Ithout	Rein	forcement Lap Ibs.	with		Concrete y	d 3	Reinfo	rcement w Lap Ibs.	/ <b>I</b> thout	Rein	forcement Lap Ibs.	with
Round Size	Slope	of End Se	ctlon	Slope	of End Se	ctlon	Slope	of End Se	ction	Slope	Slope of End Section			of End Se	ctlon	Slope of End Section		
	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10	1:4	1:6	1:10
15"	1.3	1.8	2.7	240	320	480	250	330	500	-	-	-	-	-	-	-	-	-
18"	1.5	2.1	3.2	270	360	540	290	370	570	-	-	-	-	-		-	-	-
21	1.8	2.5	3.8	310	420	630	330	450	670	-	-	-	-	-	-	-	-	-
24	2.1	2.8	4.4	360	480	730	380	510	780	-	-	-	-	-	-	-	-	-
30•	2.7	3.7	5.7	420	570	860	440	610	920	-	-	-	-	-	-	-	-	-
36•	3.4	4.6	7.2	520	700	1070	550	740	1140	3.6	5.0	7.8	560	770	1200	600	820	1270
42"	4.1	5.7	8.9	630	860	1340	660	910	1420	4.4	6.1	9.6	640	890	1380	680	940	1470
48"	5.0	7.0	11.0	740	1010	1560	780	1070	1650	5.5	7.7	12.2	800	1120	1750	840	1180	1860
54	5.9	8.4	13.2	940	1320	2060	1000	1400	2190	6.4	9.1	14.4	980	1380	2170	1050	1470	2310
60"	6.9	9.7	15.4	1050	1470	2300	1110	1560	2440	7.4	10.6	16.8	1120	1580	2500	1190	1680	2670
66	8.0	11.3	17.9	1190	1680	2630	1260	1780	2800	8.7	12.4	19.7	1320	1870	2960	1390	1980	3140
72	9.1	12.9	20.6	1540	2190	3490	1660	2350	3770	9.9	14.1	22.4	1660	2360	3760	1790	2550	4060
78	-	-	-	-	-	-	-	-	-	11.1	15.9	25.5	1880	2700	4320	2010	2900	4640
84	-	-	-	-	-	-	-	-		12.4	17.8	28.5	2050	2940	4690	2200	3150	5040

The above quantities are estimates and provided for information only. Actual quantities may vary

depending upon the final layout of reinforcement and number of segments determined by the Contractor.

For cast-in-place construction, increase concrete volumes by approximately 12%.

- Hill																	
ü	USER NAME = IDOT / DISTRICT 2	DESIGNED -	REVISED 5-09-14									F.A.		SECTION	COUNTY	TOTAL	SHEE
AAM		DRAWN -	REVISED .	STATE OF ILLINOIS		RE	GION 2 /	DISTRI	CT 2	STANDARD		-				Unice TO	- 110.
Ē		CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION								<u> </u>			CONTRAC'	T NO.	
u.	PLOT DATE = 4/17/2025	DATE -	REVISED		SCALE:	SHEET	OF	SHE	ETS	STA.	TO STA.		-	ILLINOIS FED. AI	PROJECT		

CONCRETE END SECTIONS FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA. SHEET 3 OF 3 12.1



TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE SHEET 1 OF 5 14.1

				(<2 FT COVER	)					
			S	LOPE OF END SEC	TION					
BOX	SIZE	1	:4		1:6		1:10			
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe			
3	2	5 @ 2'-7"	12-11	8 @ 2 -7	20'-8"	12 @ 2'-7"	31-0"			
3	3	7 @ 2'-7"	18'-1"	11 @ 2 -7	28-5"	17 @ 2'-7"	43-11			
4	2	5 @ 3'-7"	17-11"	8 @ 3 7	28'-8"	13 @ 3'-7"	46'-7"			
4	3	8 @ 3'-7"	28'-8"	11 @ 3 <b>'-7"</b>	39'-5"	18 @ 3'-7"	64'-6"			
4	4	10 @ 3'-7"	35'-10"	14 @ 3 <b>'-7'</b>	50'-2"	23 @ 3'-7"	82'-5"			
5	2	6 @ 4 -7	27'-6"	8@4-7	36'-8"	13 @ 4'-7"	59'-7"			
5	3	8 @ 4'-7"	36'-8"	11 @ 4-7	50'-5"	18 @ 4'-7"	82'-6"			
5	4	10 @ 4 -7	45'-10"	14 @ 4 7	64-2"	23 @ 4'-7"	105-5			
5	5	12 @ 4'-7"	55'-0"	17 @ 4 -7	77-11"	28 @ 4'-7"	128'-4"			
6	2	6 @ 5 -7	33'-6"	8 @ 5 7	44-8"	13 @ 5'-7"	72'-7"			
6	3	8 @ 5'-7"	44'-8"	11 @ 5 -7	61-5	18 @ 5'-7"	100'-6"			
6	4	10 @ 5'-7"	55'-10"	14 @ 5 7	78'-2"	23 @ 5'-7"	128'-5"			
6	5	12 @ 5'-7"	67'-0"	17 @ 5 -7	94-11"	28 @ 5'-7"	156'-4"			
6	6	14 @ 5'-7"	78'-2"	20 @ 5 <b>-7</b>	111-8"	33 @ 5'-7"	184'-3"			
7	2	6@6-7	39'-6"	8@6-7	52-8	13@6'-7"	85'-7"			
7	3	8 @ 6'-7"	52'-8"	11 @ 6 <b>'</b> -7 <b>'</b>	72'-5"	18 @ 6'-7"	118'-6"			
7	4	10 @ 6 -7	65-10"	14 @ 6 7	92'-2"	23 @ 6'-7"	151-5			
7	5	12 @ 6'-7"	79'-0"	17 @ 6 <b>'-7"</b>	111 11	28 @ 6'-7"	184'-4"			
7	6	14 @ 6 7	92'-2"	20 @ 6 <b>'-7'</b>	131-8	33 @ 6'-7"	217-3"			
7	7	16 @ 6'-7"	105'-4"	23 @ 6 -7	151-5	38 @ 6'-7"	250'-2"			
8	2	6 @ 7 -7	45'-6"	8 @ 7 -7	60'-8"	13 @ 7'-7"	98'-7"			
8	3	8 @ 7 -7	60'-8"	11 @ 7 -7	83-5"	18 @ 7'-7"	136'-6"			
8	4	10 @ 7'-7"	75'-10"	14 @ 7 <b>-</b> 7	106'-2"	23 @ 7'-7"	174'-5"			
8	5	12 @ 7'-7"	91'-0"	17 @ 7 -7	128 11	28 @ 7'-7"	212 - 4			
8	6	14 @ 7 -7"	106'-2"	20 @ 7 -7	151-8"	33 @ 7'-7"	250'-3"			
8	7	16 @ 7 -7	121'-4"	23 @ 7 <b>-</b> 7	174-5	38 @ 7'-7"	288-2			
8	8	18 @ 7'-7"	136'-6"	26 @ 7 <b>'</b> -7 <b>'</b>	197'-2"	43 @ 7'-7"	326'-1"			
9	2	6 @ 8'-7"	51'-6"	8 @ 8 -7	68'-8"	13 @ 8'-7"	111 7			
9	3	8@8-7	68'-8"	11 @ 8 <b>'</b> -7"	94-5"	18 @ 8'-7"	154'-6'			
9	4	10 @ 8'-7"	85-10"	14 @ 8 <b>'-7"</b>	120-2"	23 @ 8'-7"	197-5			
9	5	12 @ 8'-7"	103'-0"	17 @ 8 <b>'-7"</b>	145 11	28 @ 8'-7"	240-4			
9	6	14 @ 8'-7"	120'-2"	20 @ 8 <b>'-7"</b>	171-8"	33 @ 8'-7"	283-3"			
9	7	16 @ 8'-7"	137'-4"	23 @ 8 <b>'</b> -7 <b>'</b>	197'-5"	38 @ 8'-7"	326'-2"			
9	8	18 @ 8'-7"	154'-6"	26 @ 8 <b>'-7'</b>	223'-2"	43 @ 8'-7"	369 1			
9	9	20 @ 8'-7"	171'-8"	30 @ 8 <b>'-7'</b>	257 <b>-</b> 6"	48 @ 8'-7"	412 0			
10	2	6 @ 9'-7"	57'-6"	9 @ 9-7	86'-3"	14 @ 9'-7"	134'-2"			
10	3	8@9-7"	76'-8"	12 @ 9 7	115'-0"	19@9-7	182 1			
10	4	10 @ 9'-7"	95'-10"	15 @ 9'-7"	143'-9"	24 @ 9'-7"	230'-0"			
10	5	12 @ 9'-7"	115'-0"	18 @ 9 7	172'-6"	29 @ 9'-7'	277-11"			
10	6	14 @ 9'-7"	134'-2"	21 @ 9'-7"	201-3"	34 @ 9'-7"	325'-10"			
10	7	16 @ 9'-7"	153'-4"	24 @ 9 7 230 0		39 @ 9'-7"	9'-7" 373'-9"			
10	8	18 @ 9'-7"	172'-6"	27 @ 9-7	258'-9"	44 @ 9'-7"	421-8			
10	9	20 @ 9'-7"	191'-8"	30 @ 9 7	287'-5"	49 @ 9'-7'	469 7			
10	10	22 @ 9'-7"	210-10	33 @ 9 7	316-3	54 @ 9 -7	517-6			

### PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

#### PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

	(<2 FT COVER)													
	0.75		SI	OPE OF END SEC	TION									
BOX	SIZE	1	:4		1:6	1:10								
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe							
11	2	6 @ 10 7	63'-6"	9@10-7	95 -3	14 @ 10 7	148-2							
11	3	8@10-7	84-8	12 @ 10'-7"	127'-0"	19 @ 10 7	201-1							
11	4	10 @ 10 7	105-10	15 @ 10'-7"	158'-9''	24 @ 10 7	254 -0							
11	6	14 @ 10 7	148-2	21 @ 10'-7"	222'-3"	34 @ 10 -7	359'-10"							
11	8	18 @ 10 7	190'-6"	27 @ 10'-7"	285'-9"	44 @ 10 7	465 - 8"							
11	10	23 @ 10 7	243 5	33 @ 10 -7	349'-3"	54 @ 10 7	571-6							
11	11	25 @ 10'-7"	264-7"	36 @ 10'-7"	381'-0"	59 @ 10 -7	624-5							
12	2	6 @ 11 -7	69'-6"	9@11-7	104'-3''	15 @ 11 7	173-9							
12	3	8@11-7	92-8	12 @ 11'-7"	139'-0"	20 @ 11 -7	231-8							
12	4	10 @ 11 7	115-10	15 @ 11 -7	173'-9''	25 @ 11 7	289-7							
12	6	15 @ 11 -7	173-9	21 @ 11'-7"	243'-3"	35 @ 11 -7	405 -5							
12	8	19 @ 11 -7	220 1	27 @ 11'-7"	312'-9''	45 @ 11 -7	521-3							
12	10	23 @ 11 7	266 5	33 @ 11 -7	382'-3"	55 @ 11 7	637-1							
12	12	27 @ 11 7"	312 9	39 @ 11 -7"	451'-9"	65 @ 11 -7	752 -11							

#### PIPE GRATE SCHEDULE FOR PARALLEL BOX CULVERTS

	(>2 FT COVER)													
	6175		SI	LOPE OF END SEC	TION									
BOX	SIZE	1	L:4		1:6	1:10								
SPAN (FT.)	RISE (FT.)	Pipes No. / Length	Total Length of Pipe	Pipes No. / Length	Pipes No. / Length	Total Length of Pipe								
3	2	5 @ 2 7	12 11	7 @ 2'-7"	18-1	11 @ 2'-7"	28-5							
3	3	7 @ 2 - 7"	18-1	10 @ 2 -7	25'-10"	16 @ 2 -7	41-4							
4	2	5 @ 3•7"	17-11	7 @ 3'-7"	25'-1	12 @ 3 -7"	43-0							
4	3	7 @ 3'-7"	25-1"	10 @ 3 -7	35'-10"	17 @ 3 -7	60 <b>'</b> -11 <b>''</b>							
4	4	9 @ 3 7	32-3	13@3-7	46 -7	22 @ 3 -7"	78 <b>'-10"</b>							
5	2	5 @ 4 7	22 11	7 @ 4'-7"	32 -1	12 @ 4 7	55'-0"							
5	3	7 @ 4 -7	32-1	11 @ 4 -7	50 -5	17 @ 4 -7	77-11							
5	4	9 @ 4 7	41'-3"	14 @ 4 -7	64 -2	22 @ 4 7	100'-10"							
5	5	11 @ 4 -7	50-5	17 @ 4 -7	77'-11"	27 @ 4'-7"	123'-9 <b>"</b>							
6	2	5 @ 5 -7	27-11	8 @ 5'-7"	44 -8	12 @ 5 7	67 <b>-</b> 0 <b>-</b>							
6	3	7 @ 5 7	39-1	11 @ 5 -7	61-5	17 @ 5 -7	94'-11"							
6	4	10 @ 5 7	55-10	14 @ 5 -7	78-2	23 @ 5 -7"	128-5							
6	5	12 @ 5-7	67'-0"	17@5-7	94'-11''	28 @ 5 -7	156-4							
6	6	14 @ 5 7	78-2"	20 @ 5'-7"	111'-8"	33 @ 5 -7"	184-3							
Fol	ow (<2 F	T Cover) table for	all other sizes											

USER NAME = IDOT / DISTRICT 2	DESIGNED -	REVISED 5-09-14									F.A. RTE	SECTION	COUNTY	TOTAL	SHEET
	DRAWN -	REVISED .	STATE OF ILLINOIS		REGIO	ON 2 / D	ISTRICT	2 STA	NDARD		Term.			0.0010	
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION										CONTRAC	T NO.	
PLOT DATE - 4/17/2025	DATE -	REVISED		SCALE:	SHEET	OF	SHEETS	S STA.		TO STA.		ILLINOIS FED. AI	D PROJECT		

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE SHEET 2 OF 5 14.1

	SLOPE OF END SECTION											
04.10	1	:4		1:6	1:10							
Pipe I.D.	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe						
15	3 @ 0'-11"	2'-9"	4 @ 0'-11"	3'-8"	6 @ 0'-11 <b>"</b>	5'-6"						
18"	3@1-1	3'-3"	5 @ 1 <b>'-1"</b>	5'-5"	7 @ 1 <b>'-1"</b>	7'-7"						
21"	4 @ 1'-5"	5'-8"	5 @ 1 <b>'-5"</b>	7'-1"	9 @ 1 <b>'-5"</b>	12'-9"						
24"	5@1-7	7-11	6 @ 1 -7	9-6	10 @ 1 <b>'-7"</b>	15'-10						
30 <b>"</b>	6 @ 2 <b>'-1</b> '	12'-6"	8 @ 2 <b>'-1</b> "	16-8	13 @ 2-1	27 <b>-</b> 1						
36"	7 @ 2 <b>'-7"</b>	18'-1 <b>''</b>	10 @ 2 <b>'</b> -7 <b>'</b>	25-10	15 @ 2-7	38 <b>-</b> 9						
42"	8 @ 3 -1	24'-8"	11 @ 3'-1 <b>"</b>	33-11	18 @ 3 <b>'</b> -1 <b>'</b>	55-6						
48"	9@3-7	32-3	13 @ 3'-7 <b>'</b>	46 7	21 @ 3 <b>'-7</b> '	75-3						
54 <b>"</b>	10 @ 4 <b>'</b> -1"	40'-10"	14 @ 4 <b>'</b> -1"	57-2	23 @ 4-1	93-11						
60 <b>"</b>	11 @ 4-7	50 <b>'-5</b> "	15 @ 4 7	68 <b>'</b> -9 <b>'</b>	25 @ 4-7	114-7						
66"	12 @ 5-1	61'-0"	17 @ 5' 1 <b>'</b>	86'5	28 @ 5-1	142 4						
72"	13 @ 5 7	72 -7	18 @ 5 7	100-6	30 @ 5 7	167-6						
78	14@6-1	85 -2	20 @ 6'-1"	121-8	33 @ 6-1	200'-9"						
84	15 @ 6 7	98'-9"	21@6•7	138-3	35 @ 6-7	230'-5"						

#### PIPE GRATE SCHEDULE FOR PARALLEL PIPE CULVERTS 15" THRU 84" DIA.

1_sheet3 0ISTRICT															
14pt		USER NAME = IDOT / DISTRICT 2	DESIGNED -	REVISED 5-09-14							F.A.	SECTION	COUNT	TOTA	AL SHEE
AM I			DRAWN -	REVISED	STATE OF ILLINOIS	REGION 2 / DISTRICT 2 STANDARD								- Of Rate	10 110.
Ë 9			CHECKED -	CHECKED - DEPARTMENT OF TRANSPORTATION									CONTR	ACT NO.	_
210	(E	PLOT DATE = 4/17/2025	DATE -	REVISED		SCALE:	SHEET OF	SHEETS	S STA.	TO STA.		ILLINOIS F	ED. AID PROJECT		

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE SHEET 3 OF 5 14.1

	-	lable IIA, Corrugati							
Dist	1	:4		1:6	1:10				
Pipe I.D.	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe	Pipes No. / Length	Total Length of Pipe			
15"	2 @ 1'-1"	2'-2"	3 @ 1'-1"	3'-3"	5 @ 1'-1"	5'-5"			
18"	3 @ 1'-5"	4'-3"	4 @ 1'-5"	5'-8"	6 @ 1-5"	8'-6"			
21"	3 @ 1'-7"	4'-9"	5 @ 1'-7"	7'-11"	7 @ 1'-7"	11'-1"			
24"	4 @ 1'-11"	7'-8"	5 @ 1 -11	9'-7"	8@1'-11"	15'-4"			
30"	4 @ 2"-7"	10'-4"	10'-4" 6 @ 2'-7" 15'-6"		10 @ 2 7	25'-10"			
36"	5 @ 3'-1"	15'-5"	7 @ 3'-1"	21'-7"	12 @ 3'-1"	37"-0"			
42"	6 @ 3'-9"	22'-6"	9 @ 3'-9"	33'-9"	14 @ 3'-9"	52'-6"			
48"	7 @ 4'-5"	30'-11'	10 @ 4'-5 <b>'</b>	44'-2	16 @ 4'-5"	70'-8"			
54"	8 @ 4'-11"	39-4"	11 @ 4'-11"	54-1	18 @ 4'-11'	88'-6"			
60"	8 @ 5'-7"	44'-8"	12 @ 5'-7	67'-0 <b>"</b>	20 @ 5'-7"	111'-8"			
66"	9@6'-1"	54-9"	13 @ 6 1	79-1	22 @ 6'-1"	133-10			
72"	10 @ 6'-7"	65-10	15 @ 6 -7	98-9	24 @ 6 7	158-0			
78"	-	-	-	-	-	-			
84"	-	-	-	-	-	-			

## PIPE GRATE SCHEDULE FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

#### PIPE GRATE SCHEDULE FOR PARALLEL PIPE ARCH CULVERTS 15" THRU 84" DIA.

SLOPE OF END SECTION												
	Table IIA, Corrugation : 3" x 1"											
Disal D	1	:4		1:6	1:10							
Pipe I.D.	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe						
15"	-	-	-	-	-	-						
18"	-	-	-	-	-	-						
21"	-	-	-	-	-	-						
24"	-	-	-	-	-	-						
30"	-	2'-11' 17'-6' 8 @ 2'-11' 23'-4'		-	-							
36"	6@2.11			23'-4"	13 @ 2 <b>'</b> -11	37-11"						
42"	7 @ 3 <b>'-5</b> "	23'-11"	10 @ 3 <b>'</b> -5 <b>'</b>	34'-2"	15 @ 3 <b>'-5</b> "	51'-3"						
48"	8 @ 4 -1	32'-8"	11 @ 4'-1"	44-11	18 @ 4'-1"	73'-6"						
54"	9 @ 4 <b>'-7"</b>	41'-3"	12 @ 4 7	55 <b>'-0"</b>	20 @ 4'-7"	91'-10"						
60 <b>"</b>	9 @ 5'-1 <b>'</b>	45 <b>'</b> -9 <b>'</b>	14 @ 5'-1"	71-2	22 @ 5'-1"	111-10"						
66"	10 @ 5 <b>'-9"</b>	57-6	15 @ 5 <b>'-9"</b>	86'-3"	24 @ 5 <b>'-9"</b>	138-0"						
72"	11 @ 6'-5"	70'-7"	16 @ 6'-5"	102-8	26 @ 6 <b>'-5</b> "	166'10"						
78•	12 @ 6 -11	83'-0"	17 @ 6 11	117-7	28 @ 6 -11	193-8"						
84"	12 @ 7'-7"	91'-0"	18 @ 7'-7"	136-6	30 @ 7 - 7	227-6"						

USER NAME = IDOT / DISTRICT 2	DESIGNED -	REVISED 5-09-14									SECTION	COUNTY	TOTAL	SHEET
	DRAWN -	REVISED	STATE OF ILLINOIS	REGION 2 / DISTRICT 2 STANDARD					)	Kile.			Unice TO	110.
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION							<u> </u>		CONTRAC	T NO.	
PLOT DATE - 4/17/2025 DATE - REVISED -				SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. A	D PROJECT		

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE SHEET 4 OF 5 14.1

	SLOPE OF END SECTION												
0	1	:4		1:6	1:10								
Pipe I.D.	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe	Plpes No. / Length	Total Length of Pipe							
15"	3 @ 2 -7	7'-9"	5@2-7	12 -11	7 @ 2 -7	18-1							
18"	3 @ 2 -7	7'-9"	5 @ 2 - 7	12 11	7 @ 2 -7	18-1							
21"	5@3-3	16-3	7 @ 3 - 3	22'-9"	12 @ 3-3	39-0							
24	5@3-3	16'-3"	7 @ 3 - 3	22'-9"	12 @ 3 <b>'</b> -3 <b>'</b>	39-0							
27"	6 @ 3 <b>'-7"</b>	21'-6"	8 @ 3 <b>'-7"</b>	28 <b>-</b> 8	13 @ 3-7	46 <b>-</b> 7							
30"	6 @ 3'-11"	23'-6"	9 @ 3 <b>-</b> 11	35-3	14 @ 3 -11	54'-10 <b>"</b>							
36"	7 @ 4 <b>'</b> -7 <b>'</b>	32'-1"	10 @ 4 <b>'</b> -7 <b>'</b>	45 <b>'</b> -10 <b>''</b>	16 @ 4 <b>-</b> 7 <b>-</b>	73-4							
42"	8 @ 5'-5"	43'-4"	11 @ 5 <b>'</b> -5 <b>'</b>	59'-7"	18 @ 5 <b>'-5</b> "	97-6							
48"	9@6-1	54'-9"	13 @ 6'-1 <b>'</b>	79'-1"	20 @ 6 <b>'-1</b> "	121-8							
54"	10 @ 6 <b>'</b> -9 <b>'</b>	67'-6"	14 @ 6'-9 <b>'</b>	94'-6"	23 @ 6-9	155'-3"							
60"	11 @ 7 7	83 <b>'-5</b> "	15 @ 7 7	113-9	25 @ 7 7	189-7							
66	11 @ 8'-3"	90'-9"	17 @ 8'-3"	140-3	27 @ 8-3	222-9							
72"	12 @ 8'-11 <b>"</b>	107'-0"	18 @ 8'-11"	160'-6"	30 @ 8'-11 <b>"</b>	267'-6"							

#### PIPE GRATE SCHEDULE FOR PARALLEL ELLIPTICAL PIPE CULVERTS 15" THRU 72" DIA.

2 11	PL	PLOT DATE = 4/17/2025	DATE -	REVISED		SCALE: SHEET OF SHEETS STA				STA.	TO STA.		ILLINOIS FED.	AID PROJECT		
물빌			CHECKED -	REVISED	DEPARTMENT OF TRANSPORTATION									CONTRAC	T NO.	
EL:			DRAWN	REVISED	STATE OF ILLINOIS	REGION 2 / DISTRICT 2 STANDARD										(
14p /E: E		USER NAME = IDOT / DISTRICT 2	DESIGNED	REVISED 5-09-14		1						F.A. RTE	SECTION	COUNTY	SHEETS	SHEET NO.
t1_sheet5 DISTRICT																

TRAVERSABLE PIPE GRATE FOR PARALLEL DRAINAGE STRUCTURE SHEET 5 OF 5 14.1


HOT-MIX ASPHALT APPROACHES AND MAILBOX RETURNS 20.1



ENTRANCE APPROACHES – URBAN AREA 25.1

# ADA CURB RAMP PAVEMENT REMOVAL AND REPLACEMENT Combination Curb And Gutter Removal GENERAL NOTES: - Full Depth Pavement Removal \*\* SEE STANDARD 606001 FOR CONCRETE CURB AND COMBINATION CURB AND GUTTER DETAILS NOT SHOWN. - Saw Cut/ Scored Edge \*\* SEE STANDARD 420001 FOR KEYED CONSTRUCTION JOINT DETAILS – Hot-mix Asphalt Surface Removal, 3 SAW CUTTING/ SCORING SHALL BE INCLUDED IN THE UNIT COST OF HOT-MIX ASPHALT Saw Cut/ Scored Edge \*\* SURFACE REMOVAL. VAR FULL DEPTH PAVEMENT REMOVAL SHALL BE INCLUDED IN THE UNIT COST OF COMBINATION CURB AND GUTTER REMOVAL. PORTLAND CEMENT CONCRETE NEEDED TO FILL IN THE FORMWORK AREA IN FRONT OF THE COMBINATION CURB AND GUTTER SHALL BE INCLUDED IN THE UNIT COST OF COMBINATION VAR. 12" Min. CONCRETE CURB AND GUTTER. - Existing Pavement (Exisitng Conditions vary per Project) IF THERE IS A CHANGE IN RADIUS AND THE DISTANCE BETWEEN THE NEW COMBINATION

# PAVEMENT REMOVAL



WODEL:

IF THERE IS A CHANGE IN RADIUS AND THE DISTANCE BETWEEN THE NEW COMBINATION CURB AND GUTTER AND THE EXISTING PAVEMENT IS 4FT OF GREATER, THE PCC IN FRONT OF THE CURB AND GUTTER SHALL BE THED TO THE NEW COMBINATION CURB AND GUTTER AND THE EXISTING PAVEMENT WITH THE BARS. THE BARS SHALL BE INCLUDED IN THE UNIT COST OF COMBINATION CONCRETE CURB AND GUTTER.

### CONSTRUCTION SEQUENCE

REMOVE EXISTING FULL DEPTH PAVEMENT AND CURB AND GUTTER
REPLACE FULL DEPTH PAVEMENT WITH PORTLAND CEMENT CONCRETE
(UP TO 3" FROM FINISHED SURFACE ELVATION TO ALLOW FOR HMA OVERLAY)
4. HOT-MIX ASPHALT REMOVAL AND REPLACEMENT.

NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED

\*\* COST INCLUDED IN OTHER PAY ITEMS PER GENERAL NOTES

\*\*\* IF W > 24" TIE BARS SHALL BE USED INSTEAD OF A KEYED CONSTRUCTION JOINT

USER NAME = IDOT / DISTRICT 2	DESIGNED -	REVISED 1-10-22								F.A. RTE	SECTION	COUNTY	TOTAL SI	HEET
	DRAWN -	REVISED	STATE OF ILLINOIS		REGIC	ON 2 / DIS	TRICT 2	2 STANDARD		1.1.4				
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION							<u> </u>		CONTRAC	T NO.	
PLOT DATE = 4/17/2025	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED.	AID PROJECT		

ADA CURB RAMP PAVEMENT REMOVAL AND REPLACEMENT 26.1



SEWER AND WATER MAIN CROSSINGS 32.1



CONCRETE COLLARS FOR PIPE OR BOX CULVERT EXTENSIONS 33.1

W	ORK ZONE SIGN DE	TAILS
ILLINOIS STANDARD G20-1100		ILLINOIS STANDARD W8-I107
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	. <u>M</u> 50 10.00 GENEBAL NOTES	COLOR LEGEND AND BORDER BLACK NON-REFLECTORIZED BACKGROUND BACKGROUND BLACK ORANGE REFLECTORIZED SIGN SIZE DIMENSIONS A B C D E F G H J
60 x 36     5C     5C     5C     0.625     0.875       Sign not to scale	All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be pald separately. All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.	48 x 48   48.00   3.00   25.00   34.80   34.20   24.94   9.00   1.00   10.00     SIGN SIZE   SERIES BY LINE   MARGIN   BORDER     1   2   3   0.00   0.00   0.00   0.00
	signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications. All dimensions are in inches unless otherwise noted.	48 x 48     7C     7C     7C     1.250     0.750       Sign not to scale
USER NAME = IDDT/DISTRICT 2 DESIGNED REVISED 2-02.16		F.A. SPCTION CONINTY TOTAL SHEET



#### WORK ZONE SIGN DETAILS SHEET 2 OF 4

34.1

WORK ZONE SIGN DE	ETAILS
<u>ROAD CLOSED TO OVERSIZED LOADS</u>	STOP LINE SIGN FOR TEMPORARY SIGNALS
2.6 <b>NO OVERSIZE</b> - <b>NO OVERSIZE</b> - <b>OVERWEIGHT LOADS</b> 7.6 10.7 7 25.6 7 30.5 7.6 9 <b>XX MILES AHEAD</b> 7 11.7 7	TO ACTIVATE SIGNAL
COLOR LEGEND AND BORDER BLACK NON-REFLECTORIZED   Permit Loads - Loads Over 13 Feet; 3.0" Radius, 1.3" Border; [NO OVERSUZE -] D; (OVERWEIGHT LOADS) D 85% spacing; [XX MILES AHEAD] D;   Table of letter and object lefts.   N O V E R S I Z E -   11.7 18.1 30.0 36.2 42.8 48.4 54.4 60.7 63.5 69.5 80.8	COLOR LEGEND AND BORDER BACKGROUND BLACK WHITE NON-REFLECTORIZED REFLECTORIZED   SIGN SIZE SERIES BY LINE 1 2 3   24 x 24 4c 4c 4c 4c
O     V     E     R     W     E     I     G     H     T     L     O     A     D     S       2.6     8.6     15.0     20.4     26.2     33.4     38.8     41.3     47.4     53.2     64.5     69.9     75.9     82.9     88.7     All work to furnish included in the correction of standards       X     X     M     I     L     E     S     A     H     E     A     D     S     All work to furnish included in the correction of standards       X     X     M     I     L     E     S     A     H     E     A     D     S     All work to furnish included in the correction of the full in effect on the dards     All fullions Standards     All fullions Standards     All fullions Standards     All fullion of the full in effect on the dards     All fullion of the full in effect on the dards     Sign shall meet t and 720 of the Standards     All dimensions are     All dimensions are	GENERAL NOTES and install these signs shall be st of the specified traffic and shall not be pald separately. d signs shall conform to the latest hold Standard Highway Signs Book" ate of invitation for bids. he applicable portions of Sections 701 andard Specifications. et in inches unless otherwise noted.
Bit State     User NAME     E ID017 / Distributer 2     DESIGNED     ReVISED     3-02-16       State     ORVWN     REVISED     STATE OF ILLINOIS       OPE     OFECNED     REVISED     DEPARTMENT OF TRANSPORTATION       PL07DATE     - 417/2025     DATE     REVISED     DEPARTMENT OF TRANSPORTATION	REGION 2 / DISTRICT 2 STANDARD



WORK ZONE SIGN DETAILS SHEET 4 OF 4 34.1



URBAN LANE INSIDE CLOSURE, MULTILANE, 2–WAY, WITH MOUNTABLE MEDIAN 35.1



TEMPORARY ROAD CLOSURE EXPRESSWAY 36.1



TRAFFIC CONTROL FOR THREE LANE SECTION SHEET 1 OF 4 37.1







TRAFFIC CONTROL FOR THREE LANE SECTION SHEET 4 OF 4 37.1











## TRAFFIC CONTROL TYPICAL WEAVE 39.1



TRAFFIC CONTROL FOR ROAD CLOSURE 40.1





TYPICAL PAVEMENT MARKINGS SHEET 2 OF 5 41.1



TYPICAL PAVEMENT MARKINGS SHEET 3 OF 5 41.1





TYPICAL PAVEMENT MARKINGS SHEET 5 OF 5 41.1

LILLINOIS FE

TO STA.

SHEET 50 OF SHEETS STA.

SCALE:

EL. 41pt1 sheet

LOT DATE = 4/17/2025

DATE

REVISED







REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL SHEET 3 of 4 53.1







REFLECTORS (SPECIAL) 55.1



SLOTTED DRAIN PIPE 68.1



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STATE OF ILLINOIS
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DETAIL OF FLOOD GATE 71.1





<sup>50&#</sup>x27; SINGLE LANE MEDIAN CROSSOVER (45 MPH WORK ZONE SPEED LIMIT) 73.1


<sup>64&#</sup>x27; SINGLE LANE MEDIAN CROSSOVER (45 MPH WORK ZONE SPEED LIMIT) 74.1

























## **BEVELED PIPE & GUARD DETAIL FOR MEDIAN CROSSOVER**

86.1



TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL) SHEET 1 OF 2 90.1

DDEL: 90pt1\_shee





DETAILS OF PLANTING AND BRACING TREES 92.1



**INLETS, SPECIAL** 10.2





**DOUBLE INLET, SPECIAL** 12.2



FRAME AND GRATE FOR INLETS, SPECIAL 13.2



13pt2a

NODEL:



13pt2b

NODEL:

FRAME AND GRATE FOR INLETS, SPECIAL 13.2b







**INLETS, SPECIAL, NUMBER 1** 14.2





STANDARD INLET FOR TYPE A GUTTER (SPECIAL) 20.2



STANDARD INLET FOR CURB & GUTTER

21.2



FIELD TILE JUNCTION VAULTS 2' AND 3' DIA. 30.2





SIGN PANEL – TYPE 1 (SPECIAL) 32.2



## SPECIAL DRAINAGE OUTLET 33.2



**INLET STAND PIPE** 34.2



MODEL:

35.2



PAVED	DITCH	(SDECIAL)	36

## UNDERDRAIN FOR ACROSS ROAD (AR) CULVERTS












48pt2



49pt2

MODEL:





REVISED -

SHEET

SCALE:

OF SHEETS STA. TO STA. CONTRACT NO. ILLINOIS FED. AID PROJECT

PIPE HANDRAILS FOR STEPS 63.2

## PIPE HANDRAIL, SPECIAL – FOR RETAINING WALLS







MODEL: 73pt2 FILE NAME: DISTRICT 2 STANDARD PLOT DATE = 4/17/2025

AUTOMATIC FLAP GATE 7

73.2





MODEL:

89.2



MECHANICAL JOINTS FOR CONCRETE PIPE AND BOX CULVERTS

90.2







## PERIMETER EROSION BARRIER, SPECIAL 8.4

		CON	ICRE	TE	CURB	<b>(S</b>	PI	ECIAL)	3"	-			
						NO. 4-		$ \begin{array}{c}                                     $					
	CONCRETE CURB (SPEC	CIAL) SHALL BE CON	ISTRUCTED IN AC	CORDANCE	REINFORC	EMENT BAR							
	WITH SECTION 606 OF SPECIFICATIONS, STAN	THE STANDARD SPE DARD 606001 AND	CIFICATIONS, SU THIS DRAWING.	PPLEMENTAL		, /	/ /						
	CLASS SI CONCRETE SH	HALL BE USED THRC	DUGHOUT.				PAVEME	NT		GROUT			
	HOLES 1-1/2"Ø AND 5" CONCRETE PAVEMENT A REINFORCEMENT BARS AND A NO. 4 REINFORC LONGITUDINALLY IN TH	DEEP SHALL BE DR AT 5'-0" CENTERS. N ( ) LONG SHALL EMENT BAR SHALL E CURB.	ILLED IN THE EXIS NO. 4 BE GROUTED IN T BE INSTALLED	STING HE HOLES				5" - 1					
JARD	JOINTS OF A TYPE SIMIL (EXPANSION OR CONTR CURB IN ALIGNMENT W	AR TO THAT IN THE ACTION) SHALL BE ITH THE JOINTS IN 1	UNDERLYING PAV INSTALLED IN TH THE PAVEMENT.	/EMENT E CONCRETE									
STRICT 2 STANL 4/17/2025	THE COST OF ALL MATE JOINTS AND REINFORCE IN THE CONTRACT UNIT (SPECIAL).	ERIALS AND LABOR EMENT BARS IN THE PRICE FOOT FOR C	REQUIRED TO INS CURB SHALL BE CONCRETE CURB	TALL THE INCLUDED	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.								
ц	REVISED - 6-27-14						F.A.	SECTION	COUNTY	TOTAL SHEET			
DAT DAT	REVISED - 9-16-11		<b>REGION 2 / DI</b>	STRICT 2 ST	FANDARD					SHELTS NO.			
щĘ	REVISED -								CONTRACT	NO.			
	REVISED - SCA	LE: SHE	EET OF	SHEETS ST	A. TO STA			ILLINOIS FED.	AID PROJECT				

MODEL: 11pt4

		CO	NCRE (ADJA	ETE CEN	СL т то	JRB (S RESURF	SPEC Acing		3"	►		
						NO. REINFORCEMENT BAR	4 4 4 4 7_	$ \begin{array}{c}                                     $			)	
	CONCRETE CURB (SPECIAL) SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING. CLASS SI CONCRETE SHALL BE USED THROUGHOUT. HOLES 1-1/2"Ø AND 5" DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE PAVEMENT AT 5'-0" CENTERS. NO. 4 REINFORCEMENT BARS ( ) LONG SHALL BE GROUTED IN THE HOLES					$HMA = \begin{bmatrix} y & y & y & y & y \\ y & y & y & y & y \\ y & y &$						
ANDARD	LONGITUDINALLY JOINTS OF A TYPE (EXPANSION OR C CURB IN ALIGNME THE COST OF ALL	IN THE CURB. SIMILAR TO THAT IN ONTRACTION) SHALI INT WITH THE JOINTS MATERIALS AND LAB	THE UNDERLYING F L BE INSTALLED IN T S IN THE PAVEMENT.	ΓΕ	EXIS	TING PAVEMENT			GROUT	/		
014 DISTRICT 2 ST/ = 4/17/2025	JOINTS AND REINF IN THE CONTRACT (SPECIAL).	ORCEMENT BARS IN	THE CURB SHALL B OR CONCRETE CUR	E INCLUDED	ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.							
DEL 12p E NAME 1 DT DATE	REVISED -         6-27-14           REVISED -         9-16-11           REVISED -         -		REGION 2/	DISTRICT	2 STANDAR	RD	F.A. RTE	SECTION		TOTAL SHEETS	SHEET NO.	
PLE	REVISED -	SCALE:	SHEET OF	SHEETS	STA.	TO STA.		ILLINOIS FED. A		JVU.		

CONCRETE CURB (SPECIAL) (ADJACENT TO RESURFACING) 12.4

# **COMBINATION CONCRETE CURB** & GUTTER, TYPE , SPECIAL

COMBINATION CONCRETE CURB AND GUTTER, TYPE SPECIAL SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 606 OF THE STANDARD SPECIFICATIONS, SUPPLIMENTAL SPECIFICATIONS, STANDARD 606001 AND THIS DRAWING.

HOLES 1-1/2" Ø AND 5" DEEP SHALL BE DRILLED IN THE EXISTING CONCRETE PAVEMENT AT 5'-0" CENTERS. NO. 4 REINFORCEMENT BARS "LONG SHALL BE GROUTED IN THE HOLES AND A NO. 4 REINFORCEMENT BAR SHALL BE INSTALLED LONGITUDINALLY IN THE CURB.

JOINTS OF A TYPE SIMILAR TO THAT IN THE UNDERLYING PAVEMENT (EXPANSION OR CONTRACTION) SHALL BE INSTALLED IN THE CONCRETE CURB AND GUTTER IN ALIGNMENT WITH THE JOINTS IN THE PAVEMENT.

GUTTER FLAG 12" OR GREATER IN WIDTH SHALL BE REINFORCED WITH WELDED WIRE REINFORCEMENT, 6 x 6 MESH NO. 4 WIRE, NOT WEIGHING LESS THAN 58 lbs/100 sq. ft.

THE COST OF ALL MATERIALS AND LABOR REQUIRED TO INSTALL THE JOINTS, REINFORCEMENT BARS AND WELDED WIRE REINFORCEMENT IN THE CURB AND GUTTER SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR COMBINATION CONCRETE CURB AND GUTTER, TYPE , SPECIAL.

CLASS SI CONCRETE SHALL BE USED THROUGHOUT.

STRICT 2 STANDARD



#### ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

13.4

13pt ME: D	REVISED - 1-05-16		F.A. RTE	SECTIO	ON	COUNTY	TOTAL SHEETS	SHEET NO.					
D/D	REVISED - 9-16-11		REGION 2 / DISTRICT 2 STANDARD										
	REVISED -			CONTRACT NO.									
질린	REVISED -	SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		IL	D PROJECT	PROJECT		

COMBINATION CONCRETE CURB & GUTTER, TYPE , SPECIAL

#### **GUTTER OUTLET ADJACENT TO STABILIZED SHOULDER** NOTE: 40'-0" IF THE AVERAGE GRADE OF PAVEMENT FOR THE DISTANCE A-C EXCEEDS 12'-0" 12'-0" 2%, THIS DISTANCE SHALL BE В 🔫 Α-C -INCREASED 6' FOR EACH 1% D-EDGE OF PAVED SHOULDER INCREASE IN GRADE. 10" 3 % 30' 2.93 CU. YD. FLOW LINE 3.51 CU. YD. 4 % 36' 5 % 42' 4.10 CU. YD. EDGE OF OUTLET 6 % 48' 4.68 CU, YD, TO CONFORM A -TO SIDE SLOPE В – - QUANTITIES -WELDED WIRE REINFORCEMENT C SECTIONS A-A TO C-C AND WEIGHING NOT LESS C OF OUTLET CURTAIN WALL 2.34 CU. YDS. THAN 58 lbs./100 sq. ft. TO BEGIN HERE. CLASS SI CONCRETE SECTION D-D = 0.079 CU. YDS./ft. D1 Ç DITCH 24 34 3 R 3 R 3 R 19Đ 22đ 18 18 (6b) 7 - 1/47-1/4 6 T 12 12b 36 R WELDED 16 R - २ 8 R -/ L 51/8 WIRE SECTION C-C REINFORCEMENT SECTION A-A SECTION B-B 36 R 3 R 8 - 6 R 8'-0" 24 24 4'-0" ...... 3 R 3-18 STRICT 2 STANDARD 4/17/2025 - 6 SECTIONS AT END OF OUTLET 3 SECTION D-D NOTES: WELDED WIRE REINFORCEMENT CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE GUTTER OUTLET WILL BE PAID FOR AT THE CONTRACT UNIT ALL DIMENSIONS ARE IN INCHES UNLESS PRICE PER CU. YD. FOR CLASS SI CONCRETE (OUTLETS), WHICH OTHERWISE NOTED. PRICE SHALL INCLUDE THE COST OF THE WELDED WIRE REINFORCEMENT MODEL: 15pt4 FILE NAME: DIS PLOT DATE = 4 TOTAL SHEET SHEETS NO. REVISED -1-05-16 COUNTY SECTION RTE. **REGION 2 / DISTRICT 2 STANDARD** REVISED -9-30-11 REVISED -CONTRACT NO SCALE: SHEET OF TO STA. REVISED . SHEETS STA. ILLINOIS FED. AID PROJECT

GUTTER OUTLET ADJACENT TO STABILIZED SHOULDER 15.4

#### **CONCRETE GUTTER, TYPE A, WITH FLUME** - C 8'-0" 18 18 $C = \frac{1}{4}$ 6 c = ± = = c = ± 36 DOWEL BARS AT ,0, \$ 30 R SECTION A-A CONSTRUCTION JOINTS WELDED WIRE 30 R REINFORCEMENT CONCAVE SURFACE 5'-0" А А EDGE OF PAVEMENT TO SECTION A-A INCLUDING TWO CUTOFF WALLS 1.02 CU YDS SECTION B-B В в SECTION B-B 0.059 CU. YD./FT. NOTES: EDGE OF PAVEMENT CLASS SI CONCRETE SHALL BE USED THROUGHOUT. THE GUTTER SHALL BE TIED TO ITS FLUME AS SHOWN. THE FLUME SHALL BE REINFORCED WITH WELDED WIRE REINFORCEMENT HAVING A WEIGHT OF AT LEAST 58 lbs/100 sq. ft.. WITH 6 x 6 MESH, NO. 4 WIRE. 36 EXISTING-FLUME SHALL ALSO HAVE TWO CUTOFF WALLS AS SHOWN. STRICT 2 STANDARD INLET COST OF FLUME PORTION INCLUDING ALL MATERIALS WELDED WIRE AND LABOR SHALL BE PAID FOR AT THE CONTRACT REINFORCEMENT UNIT PRICE PER CU. YD. FOR CLASS SI CONCRETE (OUTLET). TYPE A GUTTER CURVED TO FIT SLOPE ALL DIMENSIONS ARE IN INCHES UNLESS SECTION C-C OTHERWISE NOTED. 16pt4 1E: DIS TOTAL SHEET SHEETS NO. REVISED -1-05-16 F.A. RTE SECTION COUNTY AODEL: 1 **REGION 2 / DISTRICT 2 STANDARD** REVISED -6-27-14 REVISED -9-30-11 CONTRACT NO. SCALE: SHEET OF SHEETS STA. TO STA. REVISED . ILLINOIS FED. AID PROJECT

#### CONCRETE GUTTER, TYPE A, WITH FLUME 16.4

## CATCH BASIN OR INLETS TO BE ADJUSTED OR RECONSTRUCTED (DETAILS FOR CURB & GUTTER REPLACEMENT)

	CONCRETE CURB AN IN ACCORDANCE WI SPECIFICATIONS, SI STANDARD 606001	ND GUTTER SHALL BE TH SECTION 606 OF JPPLEMENTAL SPECIF AND THIS DRAWING.	E CONSTRUCTE THE STANDARE FICATIONS,	D D	SAWED JOINT (FULL DEPTH)	OR TO A JU	24 DINT	PROPOSED CURB	ND REPLACE S	SOD		
	CLASS SI CONCRETE A HOLE 1-1/2 IN DIA BE DRILLED IN THE SHOWN. A 1-1/4 X 1 SHALL BE GROUTED	E SHALL BE USED THI METER AND 9 DEEP EXISTING CONCRETE 8 SMOOTH DOWEL B 1 N THE HOLE LONGI	ROUGHOUT. SHALL CURB AS GAR TUDINALLY.	CU	EXISTING RB AND GUTTER		1 1/4 Ø COATED SMOOTH DOWEL BAR WITH CAP TO PROVIDE 1" EXPANSION FRAME AND GRATE					
	JOINTS OF A TYPE SI LYING PAVEMENT (E BE INSTALLED IN TH WITH THE JOINTS IN	IMILAR TO THAT IN TH XPANSION OR CONTR IE CONCRETE CURB II THE PAVEMENT.	HE UNDER- ACTION) SHALI N ALIGNMENT	L	9	9				· · · · · · · · · · · · · · · · · · ·	-	
	THE PROPOSED CON GUTTER SHALL MAT	NFIGURATION OF THE CH THAT REMOVED.	CURB AND					4 BARS				
	THE LOCATION OF T BY THE ENGINEER.	HE DOWEL BAR SHAI	L BE DETERMI	NED	1" PREFORMED EXPANSION JOINT						_	
	ALL EXISTING TIE BA	ARS IN EDGE OF PAVE T AREA SHALL BE CU	MENT SLAB T OFF.		IS WI FILLE	THIN 5'-0" THE JOINT R SHALL BE ELIMINA				-		
2 STANDARD 25	THE WORK SHALL B SECTION 602 OF TH AND INCLUDES THE OF SOD, CONCRETE GUTTER ADJACENT TO BE ADJUSTED OF BE INCLUDED IN TH	E DONE IN ACCORDA E STANDARD SPECIFI REMOVAL AND REPL PAVEMENT AND/OR TO CATCH BASINS OR RECONSTRUCTED A E DAY ITEM OF CATCH	NCE WITH CATIONS ACEMENT CURB AND INLETS ND SHALL		WHEN "A" IS GREA 2 , 2-NO. 4 BARS SHALL BE PLACED	TER THAN AS SHOWN.		SAME REPAIR AS INDICATED ON OTHER SIDE OF FRAME AND GRA	TE.			
4 ISTRICT : 4/17/202	OR INLETS TO BE AL AS SPECIFIED.	DJUSTED OR RECONS	TRUCTED			AL OT	ISIONS ARE IN INCHES UN SE NOTED.	ONS ARE IN INCHES UNLESS NOTED.				
17pt	REVISED - 9-30-11				F.A.	SECTION	COUNTY	TOTAL	SHEET			
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CATCH BASIN OR INLETS TO BE ADJUSTED OR RECONSTRUCTED 17.4



CURB AND GUTTER OUTLET, SPECIAL 18.4





CONCRETE REVETMENT MAT AT END SECTIONS 19.4a



#### GRADING AROUND WINGWALLS 20.4



AGGREGATE DITCH FOR FLEXIBLE DITCH LINING 21.4

# **HOT-MIX ASPHALT SHOULDER**



#### GENERAL NOTES

THE HOT-MIX ASPHALT SHOULDER SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 482 EXCEPT THE TOP LIFT SHALL BE HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50. THE WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 AND SQUARE YARD FOR HOT-MIX ASPHALT SHOULDERS OF THE THICKNESS SPECIFIED.

USE HOT-MIX ASPHALT SURFACE COURSE. MIX "C". N50. WHEN RESURFACING EXISTING HOT-MIX ASPHALT SHOULDERS. THE THICKNESS IS SHOWN ON THE TYPICAL SECTIONS. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON FOR HOT-MIX ASPHALT SURFACE COURSE. MIX "C", N50.

REMOVAL OF MATERIAL FOR PLACEMENT OF THE HOT-MIX ASPHALT SHOULDER TO BE PAID FOR IN UNITS FOR EXCAVATING AND GRADING EXISTING SHOULDERS OR IN CUBIC YARDS FOR EARTH EXCAVATION OR EARTH EXCAVATION WIDENING.

\* 4% WHEN MAINLINE IS ON TANGENT. FOR CROSS SLOPE ON SUPERELEVATION SECTION. SEE HIGHWAY STANDARD 482001 OR 482006.

22pt4 IE: DI\$ TE =	REVISED - 1-05-16					F.A. BTE	F.A. SECTION			COUNTY TOTAL SHEETS				
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#### DETAIL OF HOT-MIX ASPHALT SHOULDER AT GUARDRAIL 23.4



## PAVEMENT BREAKING DETAIL 24.4



#### CONCRETE HEADWALLS FOR PIPE UNDERDRAINS FOR STRUCTURES 27.4



CAST-IN-PLACE REINFORCED CONCRETE END SECTIONS 28.4



SILICONE JOINT SEAL (CONCRETE DETAILS) 29.4



## STONE WELLS, SPECIAL 30.4


### PAVEMENT PATCHING FOR HOT-MIX ASPHALT SURFACED PAVEMENT



PAVEMENT PATCHING FOR HOT-MIX ASPHALT SURFACED PAVEMENT 32.4



#### PAVEMENT PATCHING DETAIL 33.4



THRUST BLOCK DETAILS 34.4



SIDEWALK AND DRIVEWAY PAVEMENT PAY AREAS 35.4



#### CONCRETE GUTTER, TYPE A (SPECIAL) 36.4



#### DELINEATOR AND POST ORIENTATION 37.4



#### EDGE OF PAVEMENT REPAIR 38.4



**REQUIRED COLD MILLED SURFACE TEXTURE** 43.4



#### SLAB MOVEMENT DETECTION DEVICE 44.4





## **TYPICAL CONSTRUCTION OF EMBANKMENTS WITH GRANULAR MATERIAL**



WHEN THE CONTRACTOR ELECTS TO USE A GRANULAR TYPE OF MATERIAL TO CONSTRUCT THE NEW EMBANKEMENT. A 3' THICK COHESIVE MATERIAL WILL BE REQUIRED ON THE SLOPE CONSTRUCTED CONCURRENTLY WITH THE GRANULAR EMBANKMENT

IF THE CONTRACTOR SWITCHES BETWEEN GRANULAR TYPES OF MATERIAL LIFTS AND COHESIVE MATERIAL LIFTS IN THE NEWER EMBANKMENT, FRENCH DRAINS SHALL BE CONSTRUCTED EVERY 250' ACCORDING TO ARTICLE 601.06. THE COST OF MATERIALS AND LABOR WILL BE INCLUDED IN THE CONTRACT UNIT PRICE OF EARTH EXCAVATION.



FRENCH DRAIN DETAIL



TYPICAL CONSTRUCTION OF EMBANKMENTS WITH GRANULAR MATERIAL 51.4



TREE WALL 70.4

# **DETAIL OF CONCRETE STEPS**



### TABLE OF TREADS & RISERS SLOPE TREAD RISER 1:2 12" 6" 1:3 15" 5"

4 1/4"

17"

WHERE SLOPES FALL BETWEEN THOSE SHOWN IN THE TABLE ABOVE, THE STAIR RAIL SHOULD FIT THE SLOPE AND THE TREAD IN INCHES X THE RISER IN INCHES SHOULD BE BETWEEN 72 AND 78.

1:4

#### EXAMPLE:

FOR A 1:4 SLOPE USE  $y = RISER HEIGHT 4y = 7^{2}5"$ . SOLVING  $y \stackrel{2}{=} 7\frac{5"}{4}$ , y = 4.3" (USE 4 1/4" FOR CONVENIENCE.)

TREAD WOULD THEN BE 4 1/4" x 4 = 17"

COST OF REINFORCEMENT BARS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LBS FOR REINFORCEMENT BARS.

CLASS SI CONCRETE SHALL BE USED THROUGHTOUT, WHICH SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR CONCRETE STEPS

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

71 Dt	REVISED - 8-27-13	REGION 2 / DISTRICT 2 STANDARD							SEC	TION		COUNTY	TOTAL SHEETS	SHEET NO.
IODEL: ILE NAN LOT DA	REVISED - 10-03-11													
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#### DETAIL OF CONCRETE STEPS 71.4



#### INLETS, SPECIAL, NO. 3 79.4



#### INLETS, SPECIAL, NO. 4 79.4a



#### INLETS, SPECIAL, NO. 5 79.4b



#### INLETS, SPECIAL, NO. 6 79.4c



#### INLETS, SPECIAL, NO. 7 79.4d



#### INLETS, SPECIAL, NO. 8 79.4e



NOSE TYPE FOR INLET TOP SLAB 79.4f





INLETS, SPECIAL, NO. 7 & 8 REINFORCEMENT DETAIL 79.4h

### INLETS TO BE RECONSTRUCTED WITH NEW STANDARD 542546 FRAME AND GRATE



INLETS TO BE RECONSTRUCTED WITH NEW STANDARD 542546 FRAME AND GRATE 80.4



### TYPICAL MEDIAN CROSSOVER CLOSURE (WITH EMERGENCY OPENING)



TYPICAL MEDIAN CROSSOVER CLOSURE (WITH EMERGENCY OPENING) 87.4



DRAIN FOR AGGREGATE BASES IN URBAN AREAS 88.4



#### RUMBLE RESURFACING 91.4





#### SUBGRADE REPLACEMENT 97.4

## **TYPICAL MEDIAN CROSSOVER CLOSURE**

#### GENERAL NOTES



TYPICAL MEDIAN CROSSOVER CLOSURE98.4