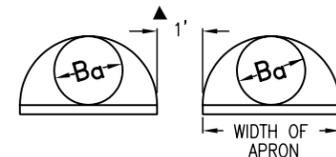


### GENERAL NOTES

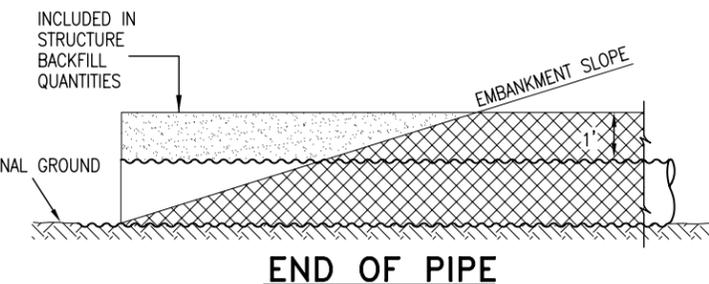
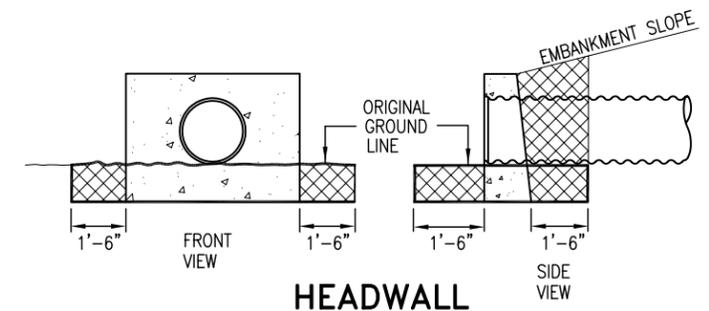
- EXCAVATION AND BACKFILL PATTERNS DIFFERENT FROM THOSE INDICATED ON THESE SHEETS WILL BE SHOWN ELSEWHERE ON THE PLANS.
- EXCAVATION FOR CHANNEL CHANGE OR CHANNEL IMPROVEMENT WILL BE EITHER UNCLASSIFIED EXCAVATION OR MUCK EXCAVATION AND WILL BE NOTED ON THE PLANS. EXCAVATION FROM THE CHANNEL FLOWLINE TO THE DEPTH REQUIRED FOR THE NEW STRUCTURE AND INCIDENTAL CHANNEL EXCAVATION WILL BE PAID FOR AS STRUCTURE EXCAVATION.
- STRUCTURE FOOTINGS WHICH ARE LOCATED IN ROCK SHALL BE POURED OUT TO UNDISTURBED ROCK WITHOUT FORMING IN CONFORMANCE WITH SUBSECTION 601.09(b).
- STRUCTURAL PLATE CULVERTS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS.
- $B_a$  EQUALS THE INSIDE DIAMETER OF A PIPE AND  $B_c$  EQUALS THE OUTSIDE DIAMETER OF A PIPE. FOR THIN WALLED PIPES, IT IS ASSUMED THAT  $B_a = B_c$ .
- APPROXIMATE STRUCTURE EXCAVATION AND BACKFILL QUANTITIES, UP TO 1 FT. OVER THE PIPE WILL BE SHOWN ON THE PLANS, FOR INFORMATION ONLY.

### LEGEND

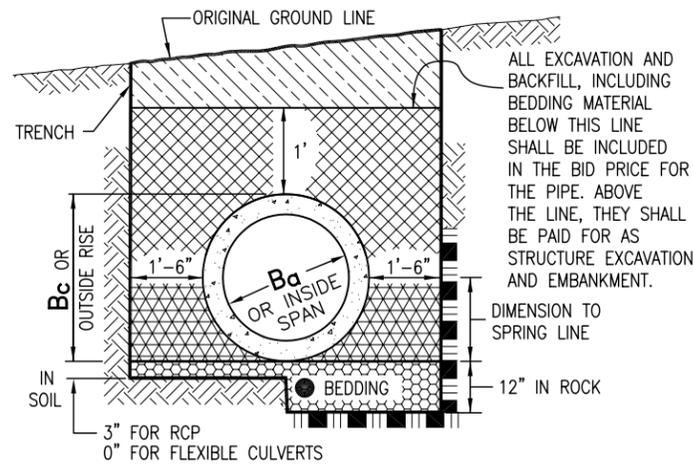
	STRUCTURE EXCAVATION LIMITS		ROCK
	STRUCTURE BACKFILL, CLASS 1 OR 2, AS SHOWN ON PLANS		BEDDING
	STRUCTURE BACKFILL, CLASS 1		CONCRETE
	EMBANKMENT MATERIAL		= WHEN FLOW LINE OF CULVERT IS LESS THAN $0.3 B_c$ BELOW THE ORIGINAL GROUND LINE, EMBANKMENT SHALL BE BUILT UP TO $0.3 B_c$ ABOVE THE FLOW LINE AND TRENCH EXCAVATED TO THE BOTTOM OF PIPE OR AS SHOWN.
	EARTH		



### CONDUIT WITH END SECTIONS

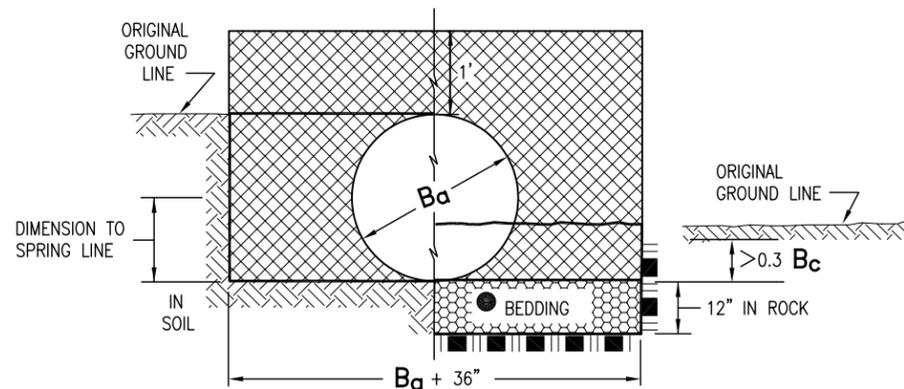


### END OF PIPE



### PIPE IN TRENCH

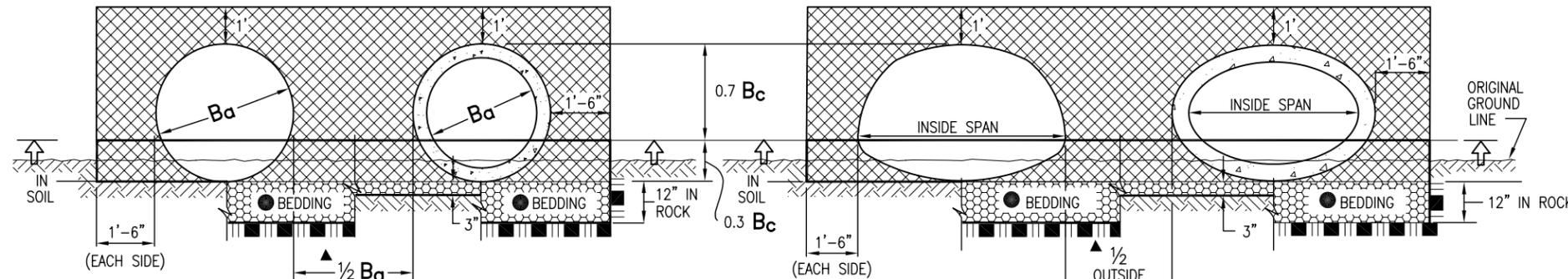
- THE BEDDING MATERIAL FOR RIGID PIPE IN SOIL SHALL BE 3 IN. OF LOOSE STRUCTURE BACKFILL (CLASS 1 OR 2). BEDDING IS NOT REQUIRED FOR FLEXIBLE PIPE IN SOIL. BEDDING MATERIAL FOR RIGID OR FLEXIBLE PIPE IN ROCK SHALL BE 12 IN. OF LOOSE STRUCTURE BACKFILL, CLASS 1.



### CIRCULAR PIPE

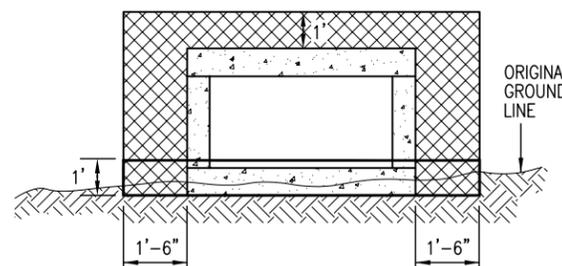
(WHERE ORIGINAL GROUND LINE IS BETWEEN  $0.3 B_c$  AND  $B_c + 1$  FT. ABOVE FLOWLINE)

- WHEN TWO OR MORE CONDUITS ARE LAID SIDE-BY-SIDE, THEY SHALL BE PLACED SO THAT THEY ARE  $1/2$  OUTSIDE DIAMETER, OR  $1/2$  OUTSIDE SPAN, OR 3 FT. APART, WHICHEVER IS LESS. HOWEVER, IF END SECTIONS ARE USED, THE MINIMUM SPACING SHALL BE 1 FT. BETWEEN END SECTIONS.



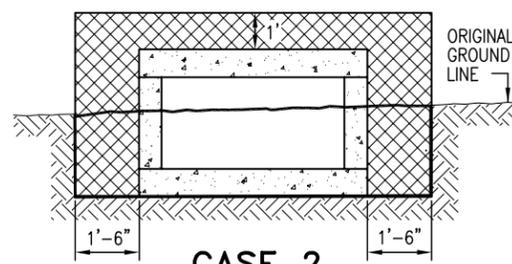
### CIRCULAR PIPE IN FILL

### ARCH OR ELLIPTICAL PIPE IN FILL



### CASE 1

APPLIES WHEN THE ORIGINAL GROUND LINE IS LESS THAN 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT. THE EMBANKMENT SHALL BE BUILT UP TO 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT AND THEN EXCAVATED TO THE BOTTOM OF THE BOX CULVERT. THIS EMBANKMENT AND EXCAVATION WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

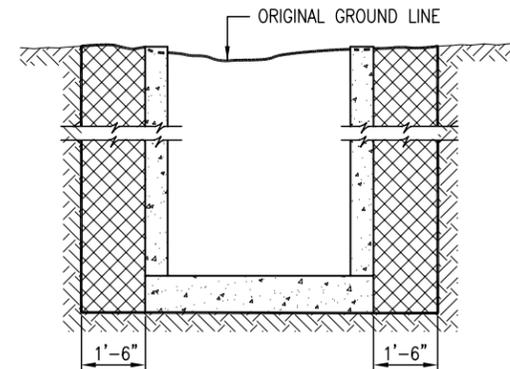


### CASE 2

APPLIES WHEN THE ORIGINAL GROUND LINE IS MORE THAN 1 FT. ABOVE THE BOTTOM OF THE BOX CULVERT.

### CONCRETE BOX CULVERT

IN BOTH CASES, THE TRENCH (OUTLINED BY THE THICK SOLID LINE) SHALL THEN BE EXCAVATED TO ACCOMMODATE CONSTRUCTION OF THE BOX CULVERT.



### DROP INLETS AND DIVISION BOXES

#### Computer File Information

Creation Date: 07/04/06 Initials: SJR  
 Last Modification Date: 07/04/06 Initials: LTA  
 Full Path: www.dot.state.co.us/DesignSupport/  
 Drawing File Name: 206010102.dwg  
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

#### Sheet Revisions

Date:	Comments:
(R-X)	
(R-X)	
(R-X)	
(R-X)	

#### Colorado Department of Transportation

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Project Development Branch SRJ/LTA

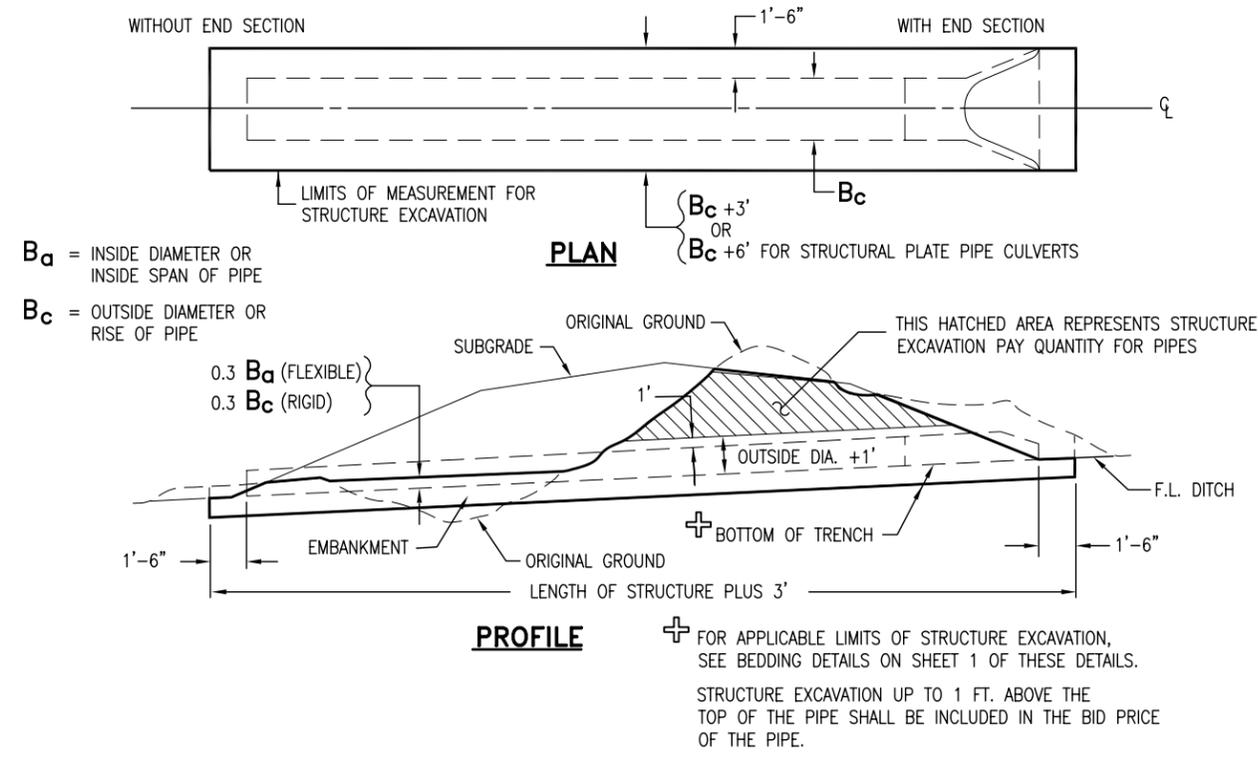
### EXCAVATION AND BACKFILL FOR STRUCTURES

Issued By: Project Development Branch on July 04, 2006

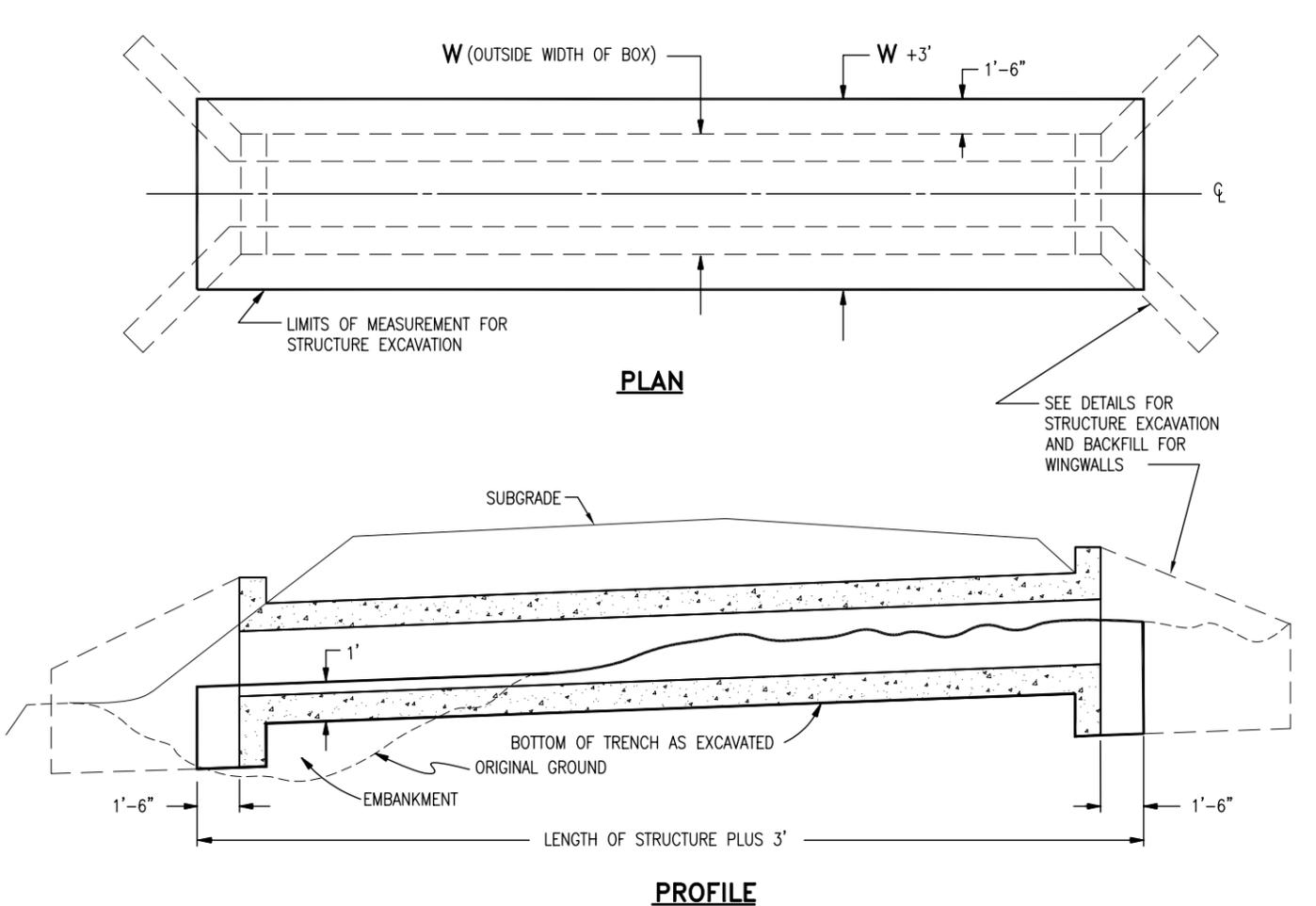
#### STANDARD PLAN NO.

M-206-1

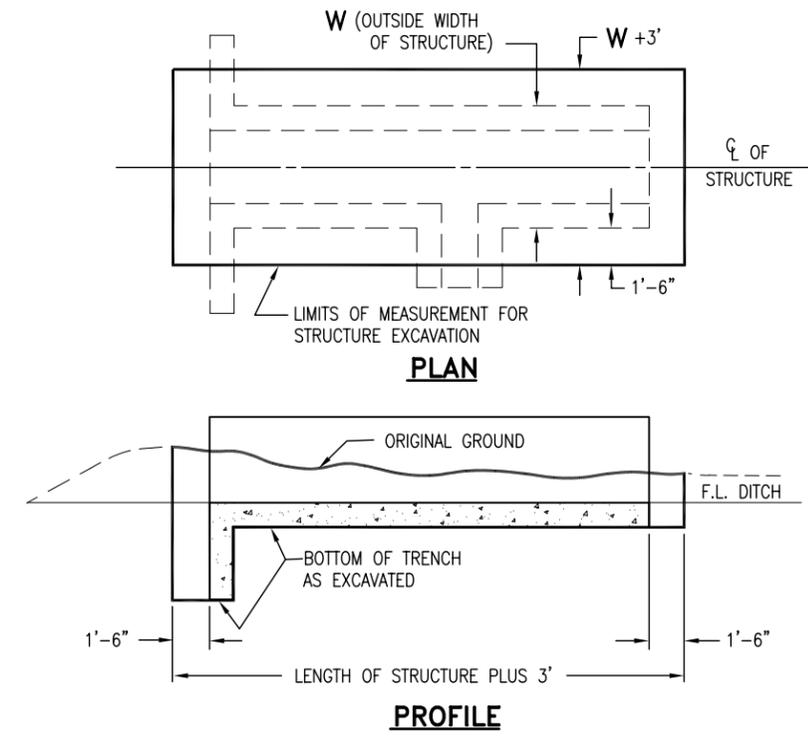
Sheet No. 1 of 2



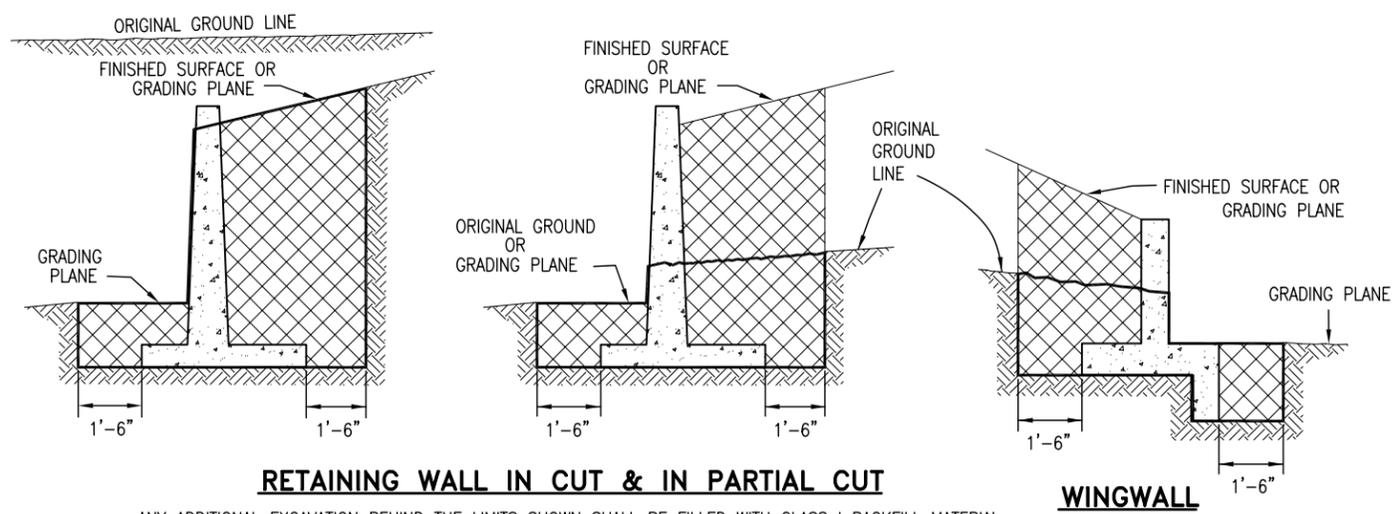
**STRUCTURE EXCAVATION MEASUREMENT FOR PIPE CULVERTS**



**STRUCTURE EXCAVATION MEASUREMENT FOR CONCRETE BOX CULVERTS**



**STRUCTURE EXCAVATION MEASUREMENT FOR DIVISION BOXES**



ANY ADDITIONAL EXCAVATION BEHIND THE LIMITS SHOWN SHALL BE FILLED WITH CLASS 1 BACKFILL MATERIAL. THE ADDITIONAL EXCAVATION AND BACKFILL WILL NOT BE MEASURED AND PAID FOR.

**LEGEND**

	STRUCTURE EXCAVATION LIMITS
	STRUCTURE BACKFILL, CLASS 1 OR 2, AS SHOWN ON PLANS
	CONCRETE

**Computer File Information**

Creation Date: 07/04/06	Initials: SJR
Last Modification Date: 07/04/06	Initials: LTA
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: 206010202.dwg	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

**Sheet Revisions**

Date:	Comments
(R-X)	
(R-X)	
(R-X)	
(R-X)	

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**STANDARD PLAN NO.**  
 M-206-1  
 Sheet No. 2 of 2