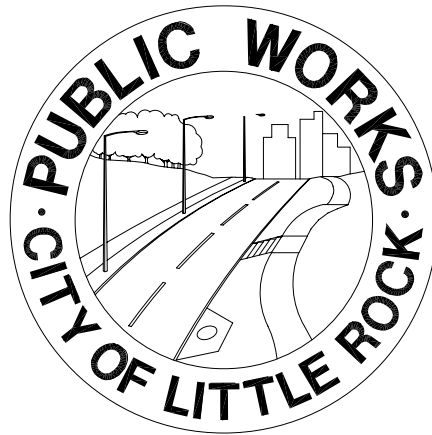
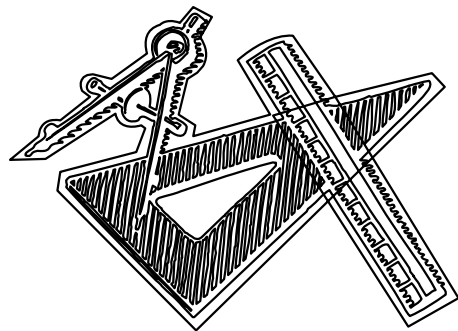
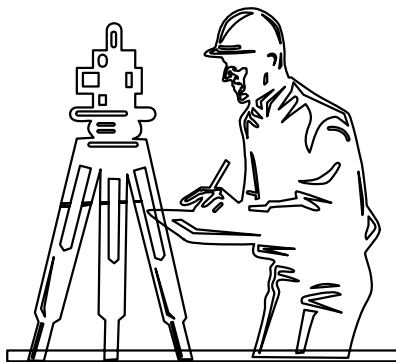


# STANDARD DETAILS



## STREET AND DRAINAGE FACILITIES IMPROVEMENTS

SEPTEMBER 2006



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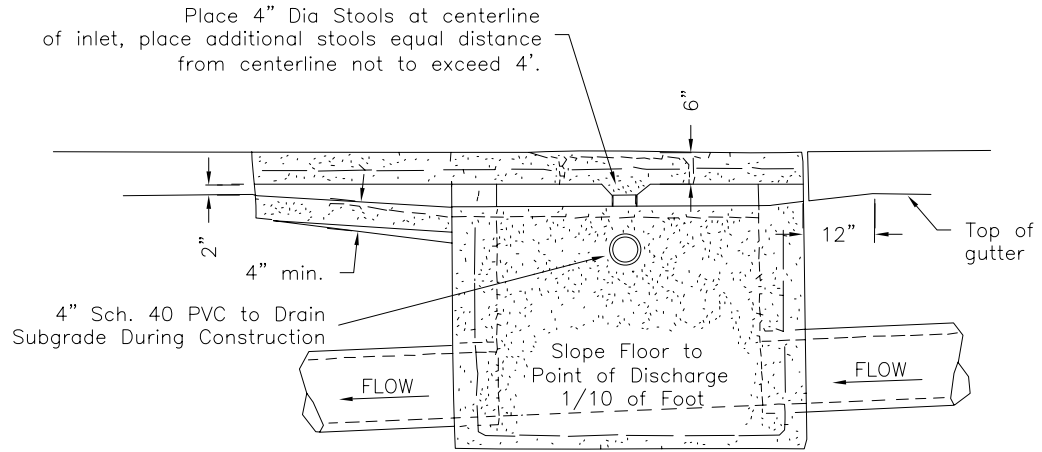
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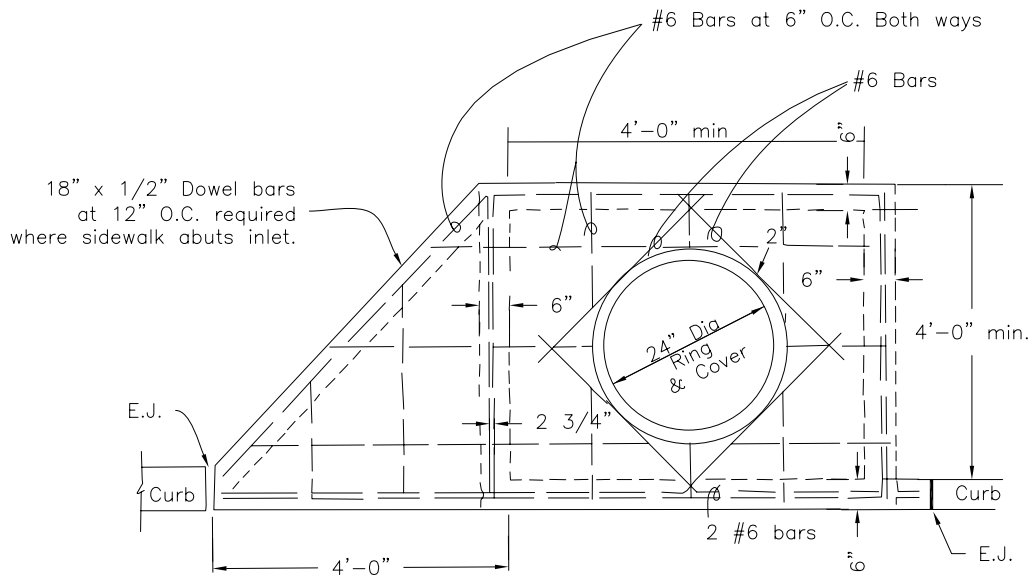


TITLE  
 CURB INLET – SINGLE WING  
 REINFORCED CONCRETE  
 CONSTRUCTION DETAILS

Issue Date	PW-1
AUG, 2006	Revision Date



ELEVATION  
 (Single-Wing Shown)



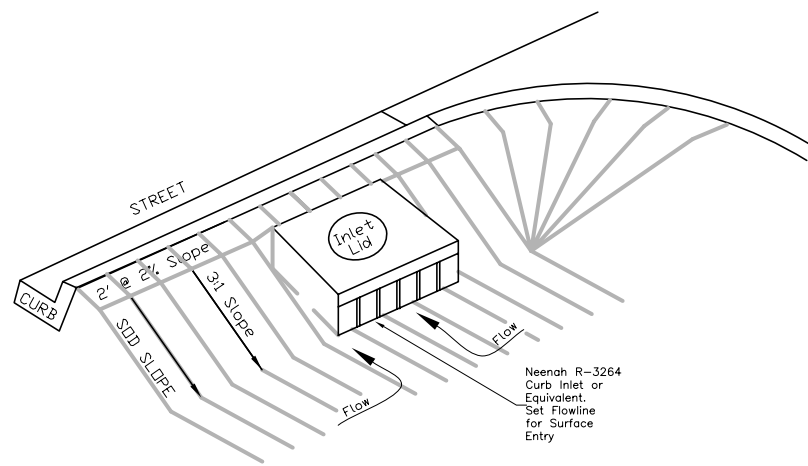
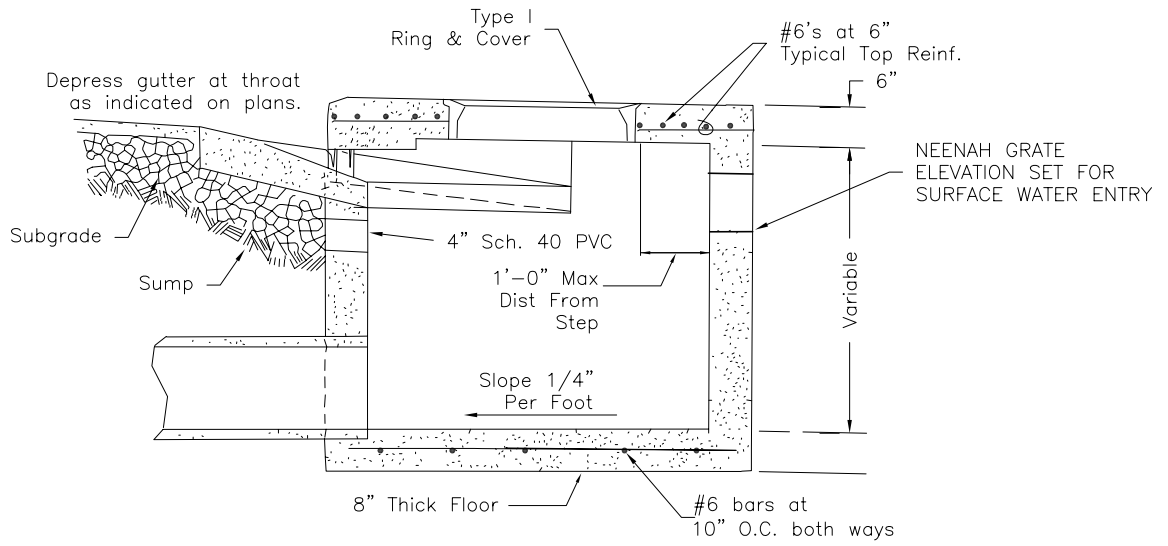
PLAN  
 (Single-Wing Shown)



TITLE  
 INLET W/ BACK OPENING  
 FOR SURFACE WATER

Issue Date  
 AUG, 2006

PW-1A  
 Revision Date



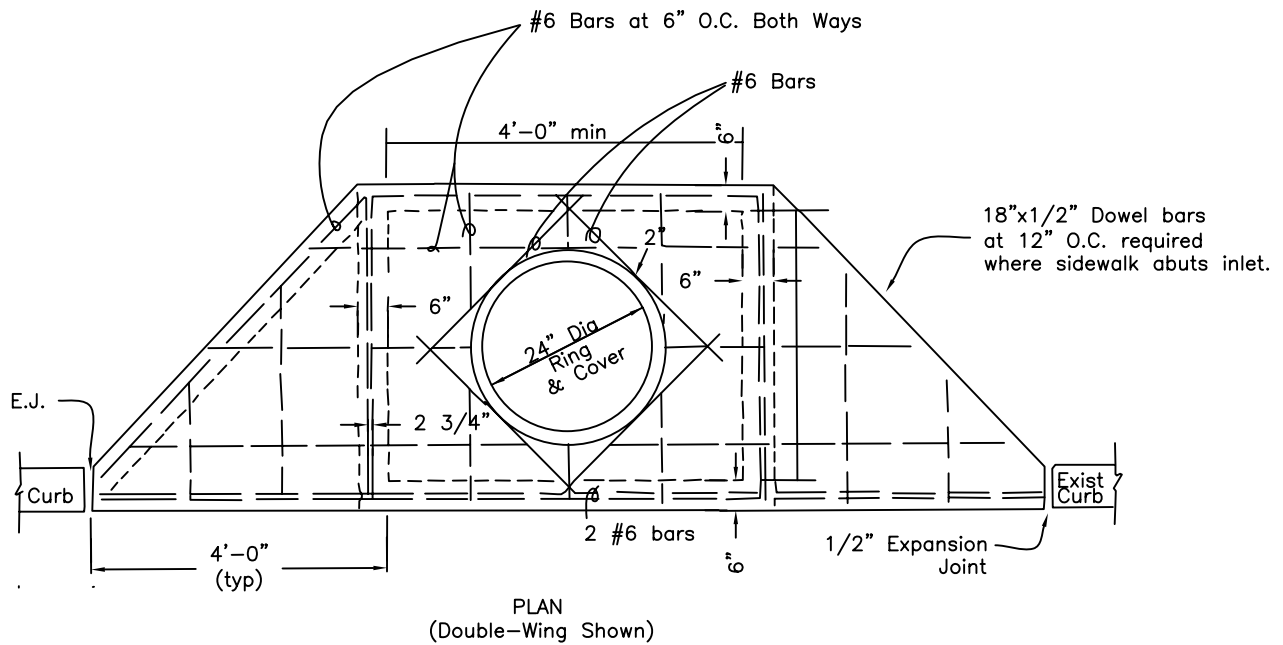
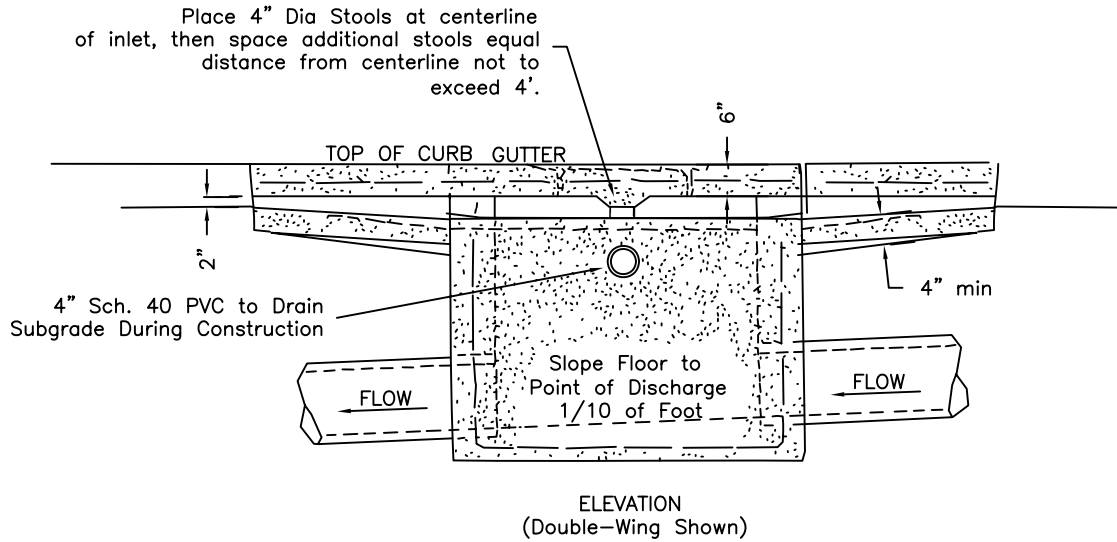
CURB INLET W/ YARD DRAINAGE



**TITLE**  
**CURB INLET - DOUBLE WING**  
**REINFORCED CONCRETE**  
**CONSTRUCTION DETAILS**

Issue Date  
 Aug 2006

PW-2  
 Revision Date

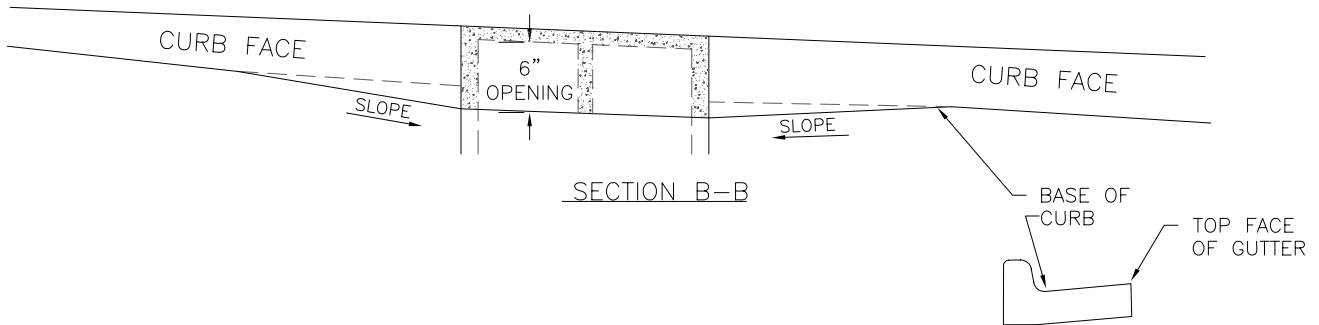
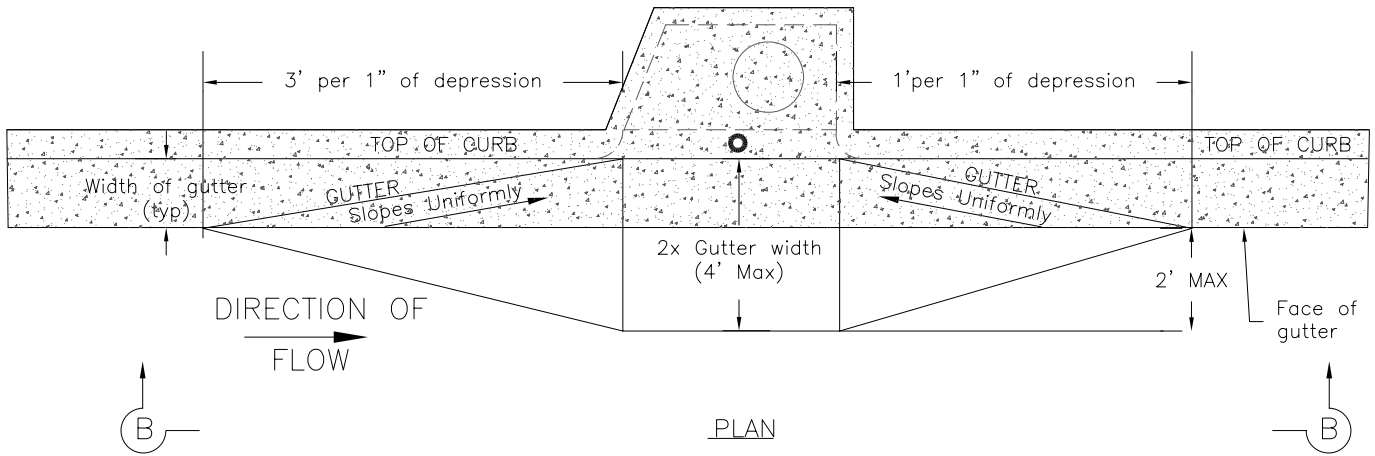




TITLE  
GUTTER DEPRESSION  
DETAIL  
TYPICAL DEPRESSION IS 4"

Issue Date  
AUG, 2006

PW-3  
Revision Date



NOTE: LOW POINT /((SAG) INLETS : SLOPE SHALL BE 1 FT PER 1" OF DEPRESSION BOTH SIDES

GUTTER DEPRESSION DETAIL

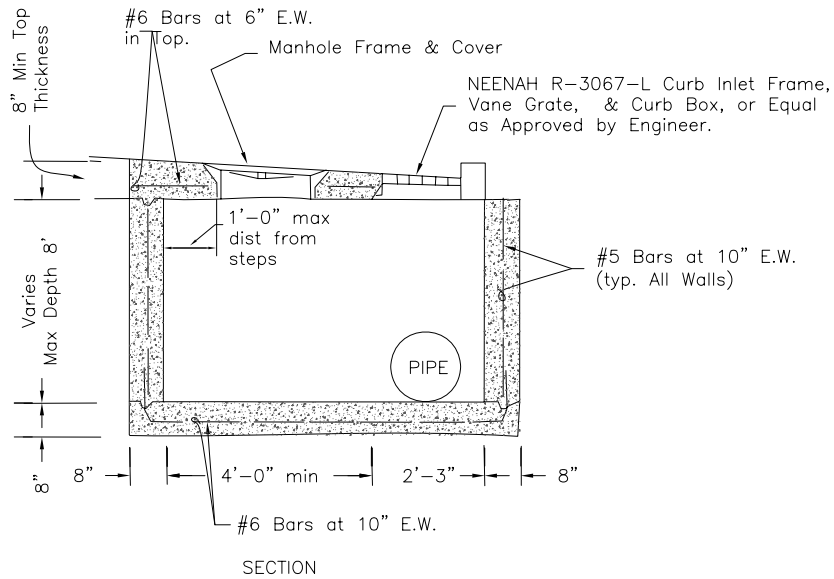
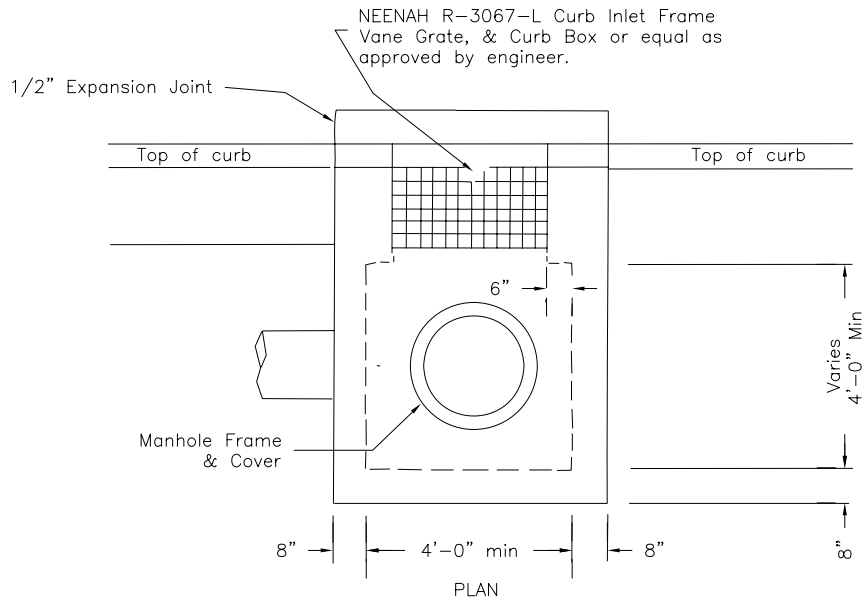
NOTE: THE TOP FACE OF GUTTER SHALL DROP 1/2 OF THE GUTTER DEPRESSION ACROSS THE INLET OPENING.



TITLE  
 CURB GRATE INLET (SINGLE)  
 REINFORCED CONCRETE  
 CONSTRUCTION DETAILS TYPE 1

Issue Date  
 AUG, 2006

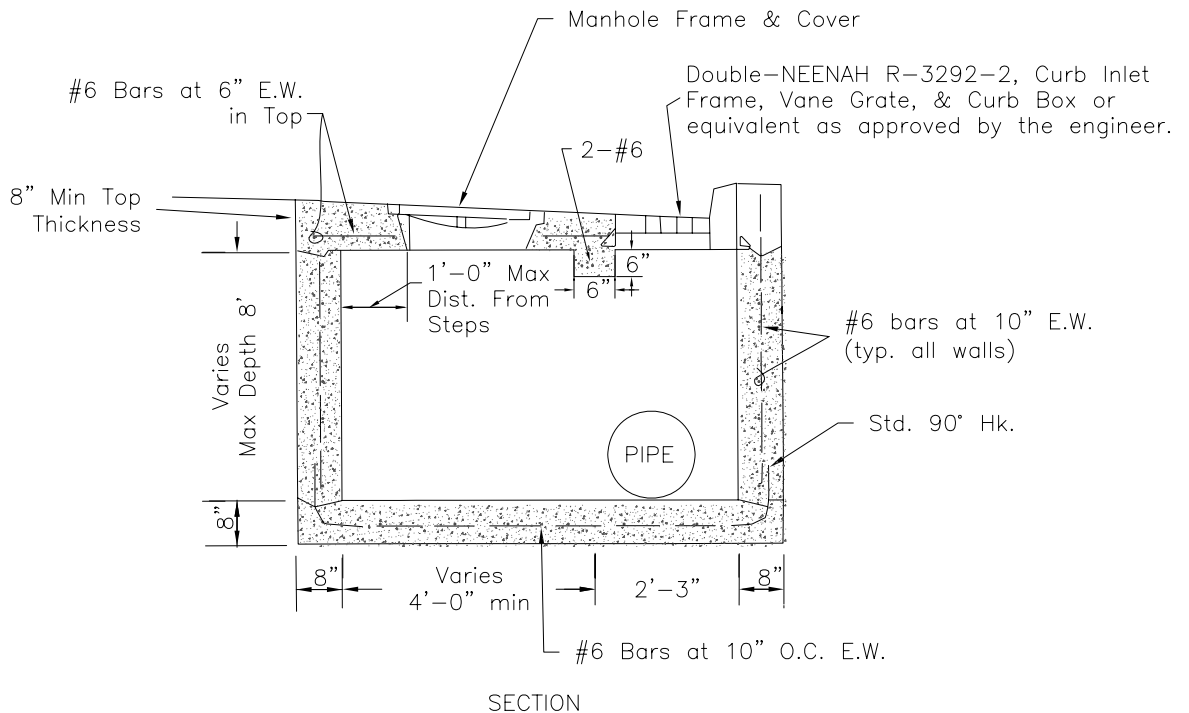
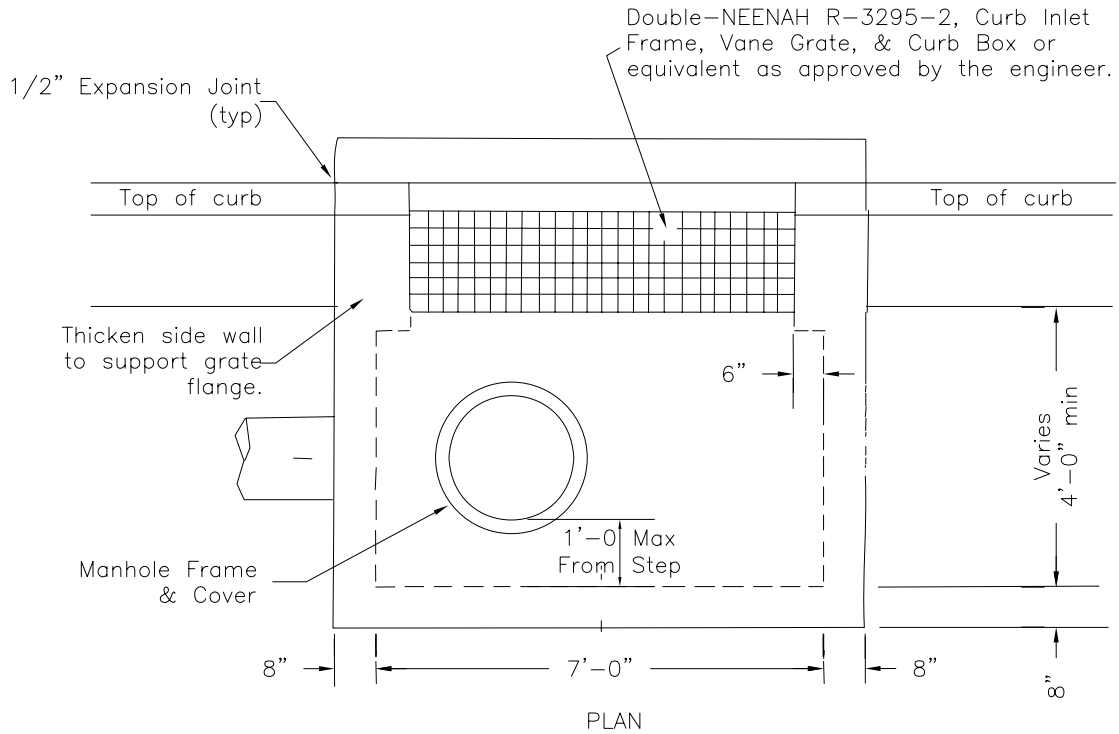
PW-4  
 Revision Date



NOTE: Construct manhole steps in all inlets over 3' in depth on most accessible wall (PW-11)



TITLE CURB GRATE INLET (DOUBLE) REINFORCED CONCRETE CONSTRUCTION DETAILS	PW-5
	Revision Date
	Issue Date AUG, 2006



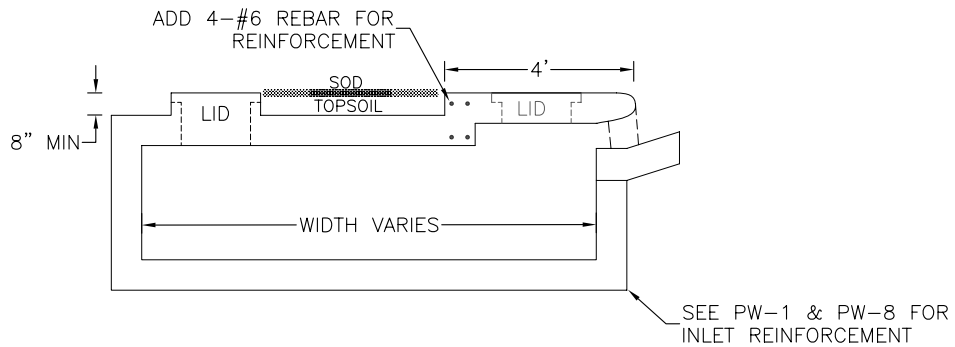
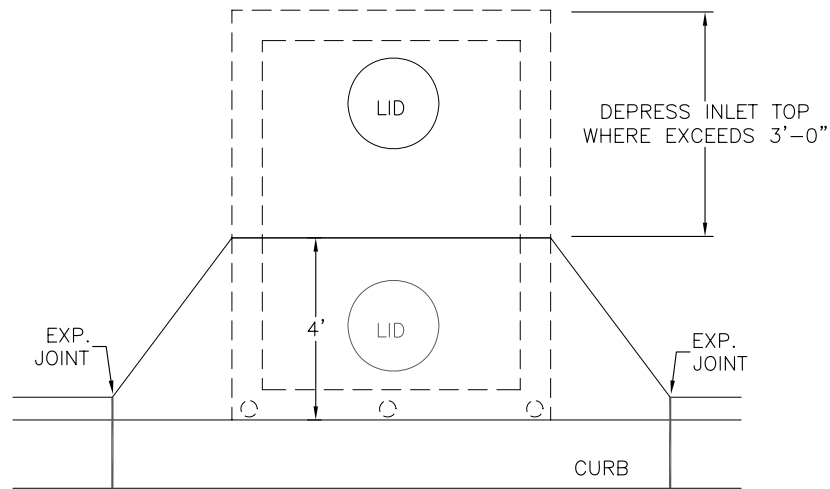
NOTE: Construct Manhole Steps in all inlets over 3' in depth on most accessible wall.



TITLE  
DOUBLE WING CURB INLET TOP  
WITH DEPRESSED TOP  
(UTILIZED FOR LARGE BOXES)

Issue Date  
AUG, 2006

PW-6  
Revision Date

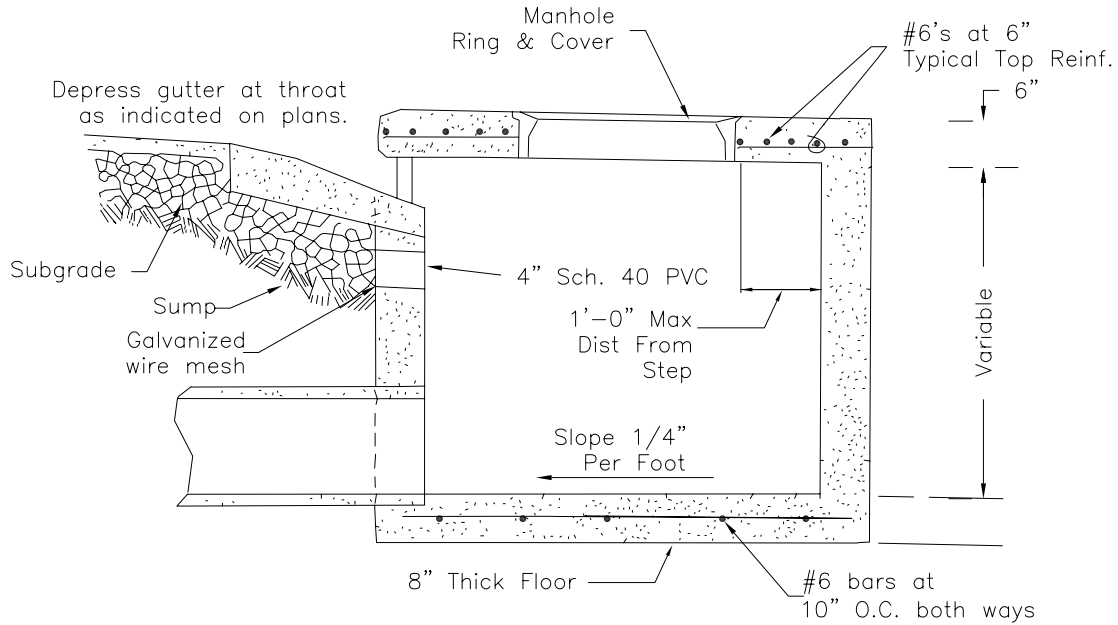


ALTERNATE LID LOCATIONS. INSTALL  
LID WHERE ACCESS TO PIPE IS BEST.



TITLE  
 CURB INLET – JUNCTION BOX  
 CIRCULAR MONOLITHIC  
 CONCRETE CONSTRUCTION  
 DETAILS

PW-7  
 Issue Date: AUG, 2006  
 Revision Date



NOTE: Steps required in all inlets exceeding 3'-0" in depth.  
 Reinforcement not required in circular inlet walls unless specified on plans.

Depression See Detail PW-3

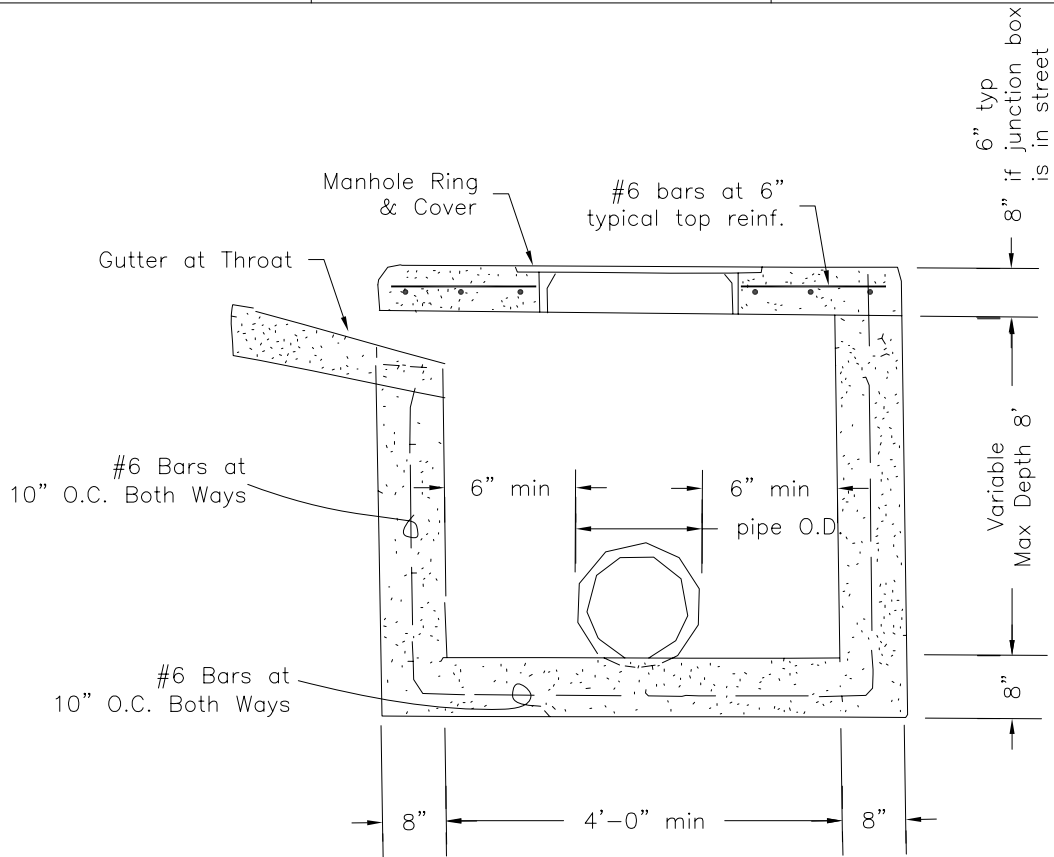
DIA. OF STRUCTURE	WALL THICKNESS	DIA. OF OUTLET PIPE
4' I.D.	6"	15" Thru 27"
5' I.D.	8"	30" Thru 42"
6' I.D.	8"	48" Thru 54"
8' I.D.	10"	60" Thru 72"



TITLE  
 CURB INLET - JUNCTION BOX  
 REINFORCED CONCRETE  
 CONSTRUCTION DETAILS

Issue Date  
 AUG, 2006

PW-8  
 Revision Date



SECTION

NOTES

1. Rings and Covers see PW-13.
  2. Refer to PW-12 detail for steps.
- \*\* Depression Detail see PW-3.

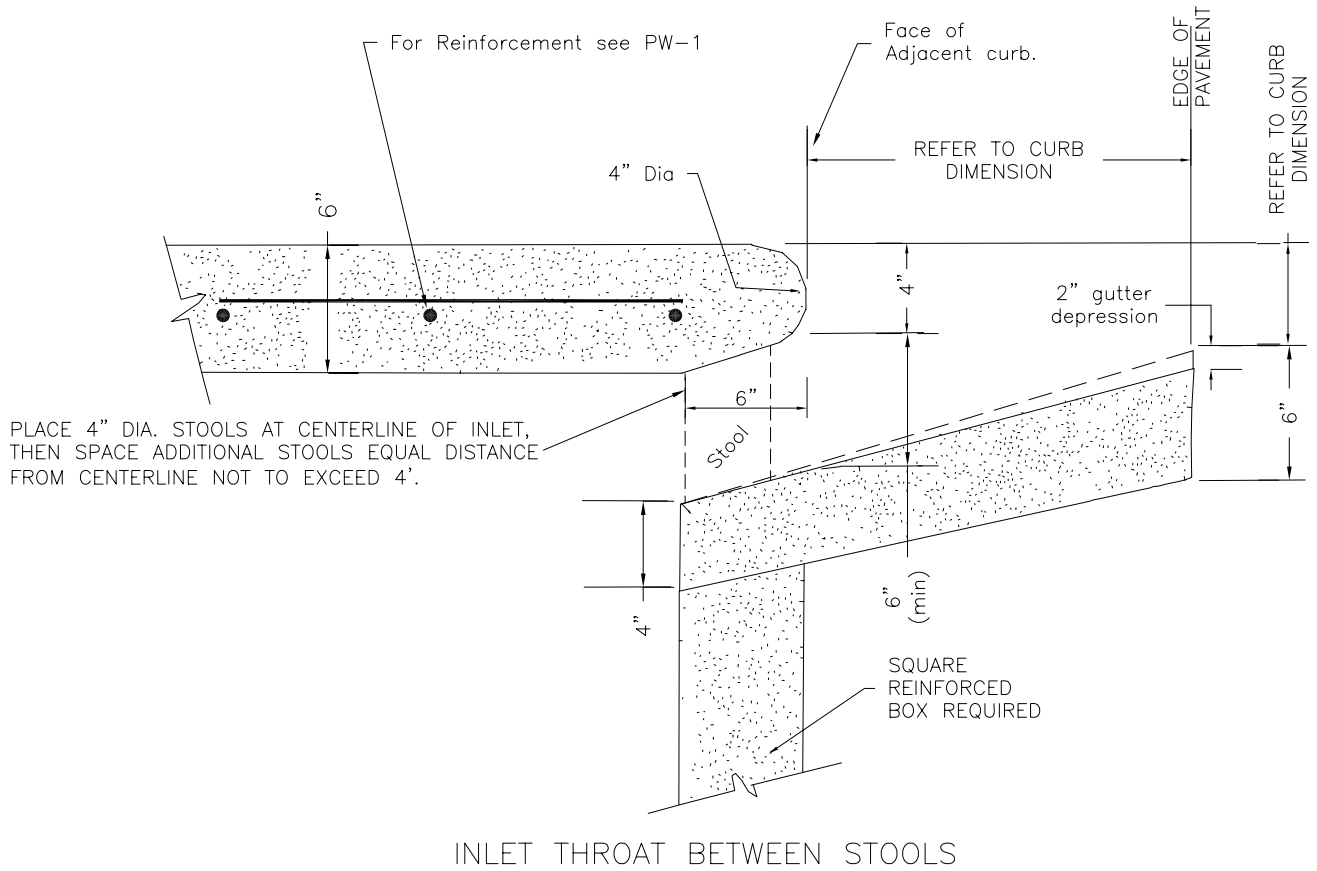


TITLE

TYPICAL DRAINAGE INLET  
THROAT OPENING DETAIL  
(NOT IN RADIUS)

Issue Date  
AUG, 2006

PW-9  
Revision Date

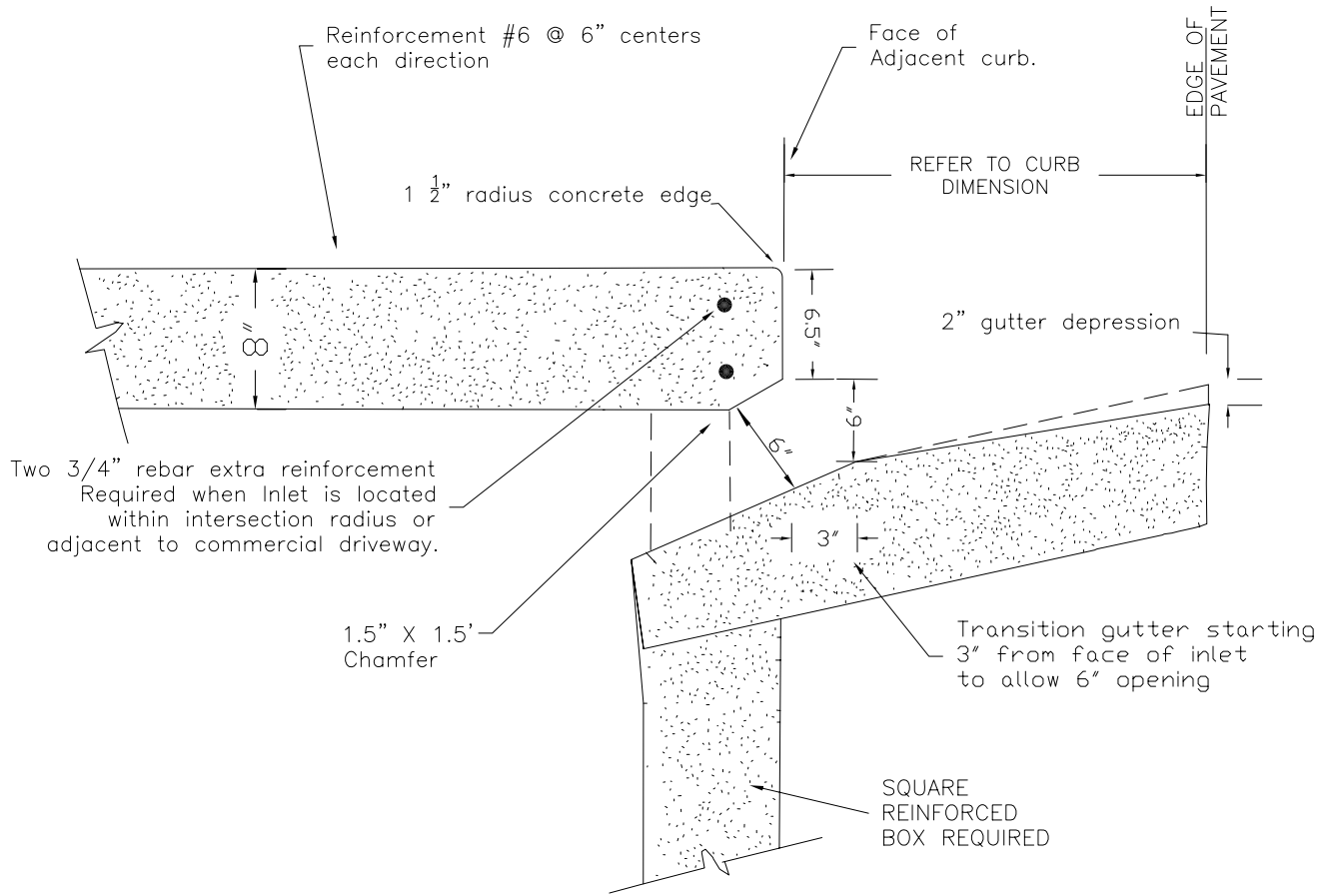


NOTE: This detail is not to be used for inlets in curb radius.  
See PW-10 for detail of inlet top in curb radius.

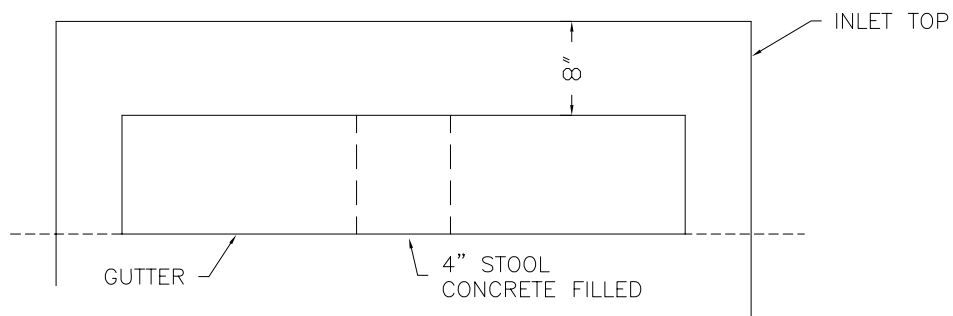


TITLE  
 TYPICAL DRAINAGE INLET  
 THROAT OPENING AND TOP  
 DETAIL WHERE IN CURB RADIUS

	PW-10
Issue Date AUG, 2006	Revision Date



INLET THROAT IN RADIUS (SIDE VIEW)



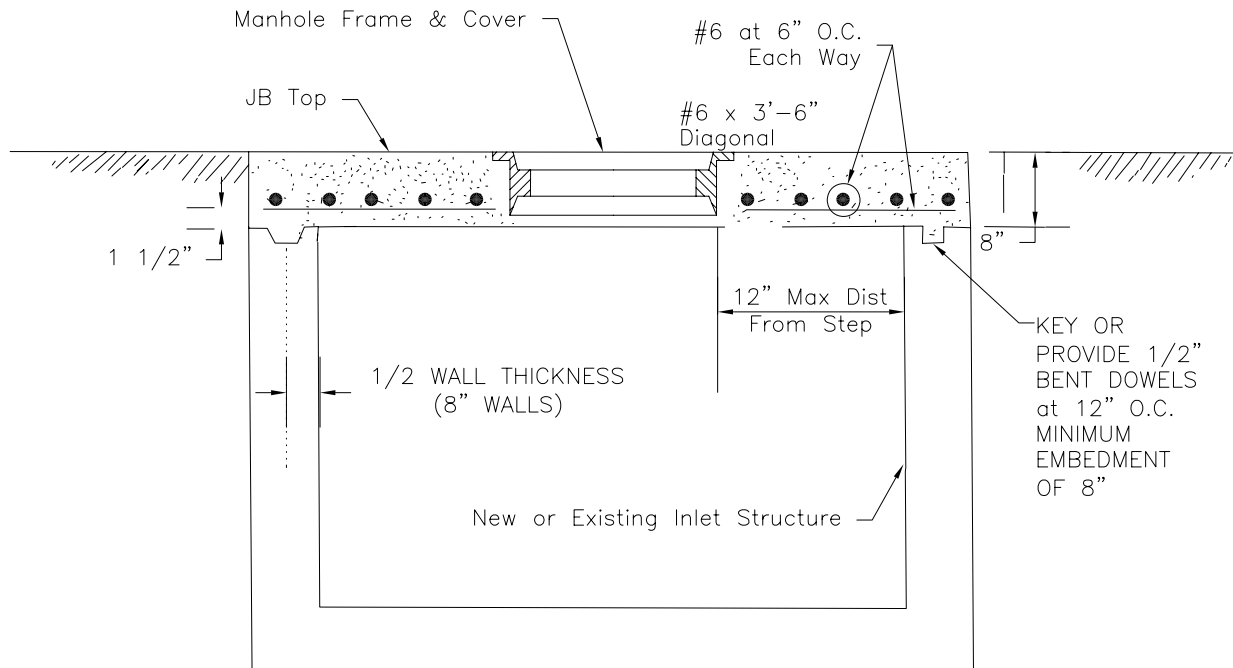
INLET THROAT IN RADIUS (FRONT VIEW)

PLACE 4" DIA. STOOLS AT CENTERLINE OF INLET,  
 THEN SPACE ADDITIONAL STOOLS EQUAL DISTANCE  
 FROM CENTERLINE NOT TO EXCEED 3'.

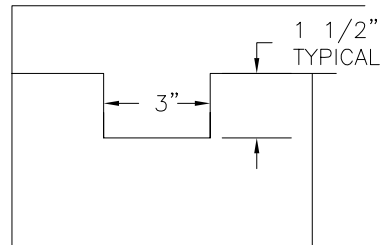


TITLE  
JUNCTION BOX  
IN ROADWAY

Issue Date	PW-11
AUG, 2006	Revision Date



NOTE: Junction box top may be held below ACHM Surface and manhole cover extended up flush with paving surface.



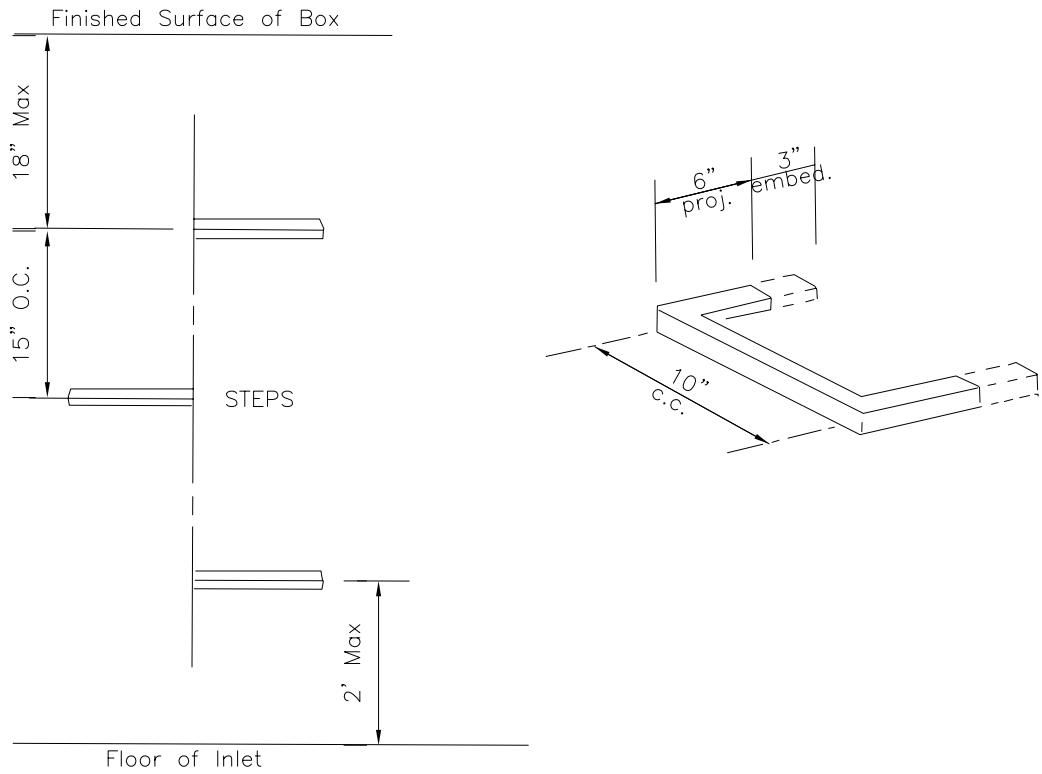
8" WALL-KEY DETAIL



TITLE  
CURB INLET STEPS

Issue Date  
AUG, 2006

PW-12  
Revision Date



- A. Manhole steps: corrosion resistant, coated, and reinforced with steel per ASTM C-478. Steel reinforcing minimum 1/2" diameter.
- B. Acceptable Manufacturers:
  - 1. Utility Products Inc. Perma Step 100-2
  - 2. ICM Inc. Polypropylene coated steps.
  - 3. M.A Industries, Inc. Polypropylene coated steps.  
#PSI-PF
  - 4. BOWCO, by H. Bowen Co.
- C. Capable of supporting minimum 300 lb. load.
- D. Non-Slip textured treads.
- E. Required in all structures 3'-0" deep or greater.



TITLE

MANHOLE FRAME & COVER

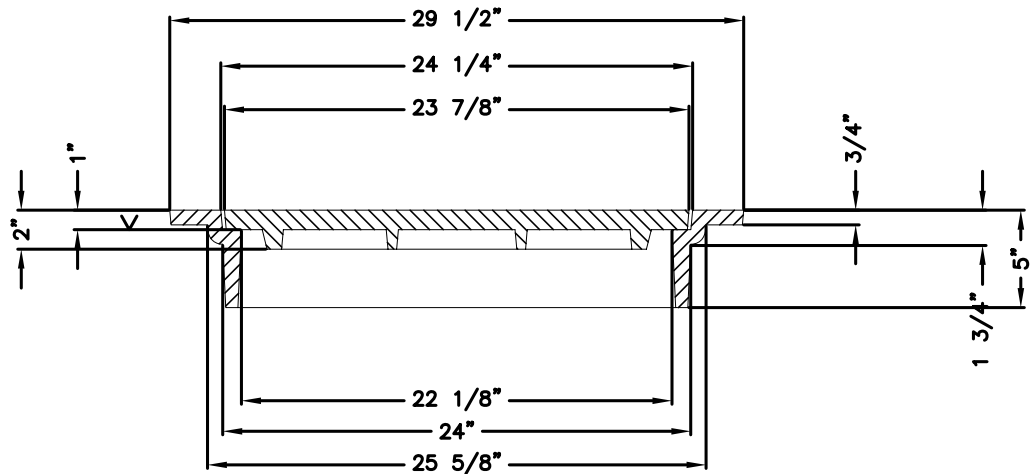
Issue Date  
AUG, 2006

PW-13  
Revision Date

7/8" BORDER



2 CONCEALED PICKS



NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.

ITEM:

1. #2018-A (ENVIRONMENTAL) AS MANUFACTURED BY DEETER FOUNDRY, INC. OR EAST JORDAN 2750A MANHOLE COVER (275-24) WITH ABOVE LETTERING, OR APPROVED EQUAL PER ENGINEER.

MATERIAL: CAST GRAY IRON ASTM A-48,  
CLASS 35B

FINISH: NO PAINT

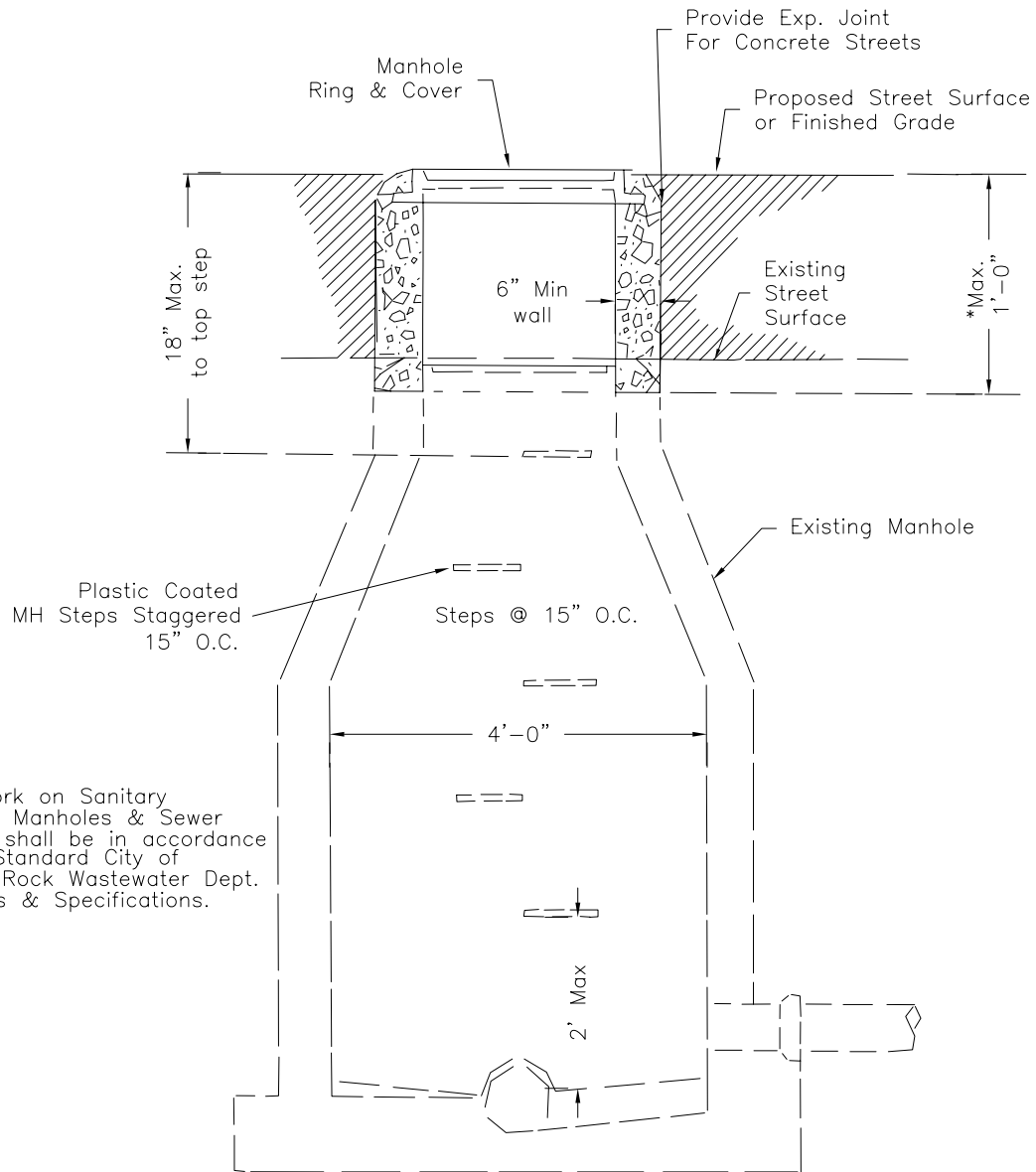
WEIGHT: COVER 140 LBS.  
FRAME 133 LBS.



TITLE  
MANHOLE TOP ADJUSTMENT  
DETAIL

Issue Date  
AUG, 2006

PW-14  
Revision Date



NOTE: All Work on Sanitary Sewer Manholes & Sewer Lines shall be in accordance with Standard City of Little Rock Wastewater Dept. Details & Specifications.

\* NOTE: Where a neck section of greater than 12" is Required to bring the Manhole up to the New Grade, the contractor shall Rebuild the Cone Section of the Manhole.

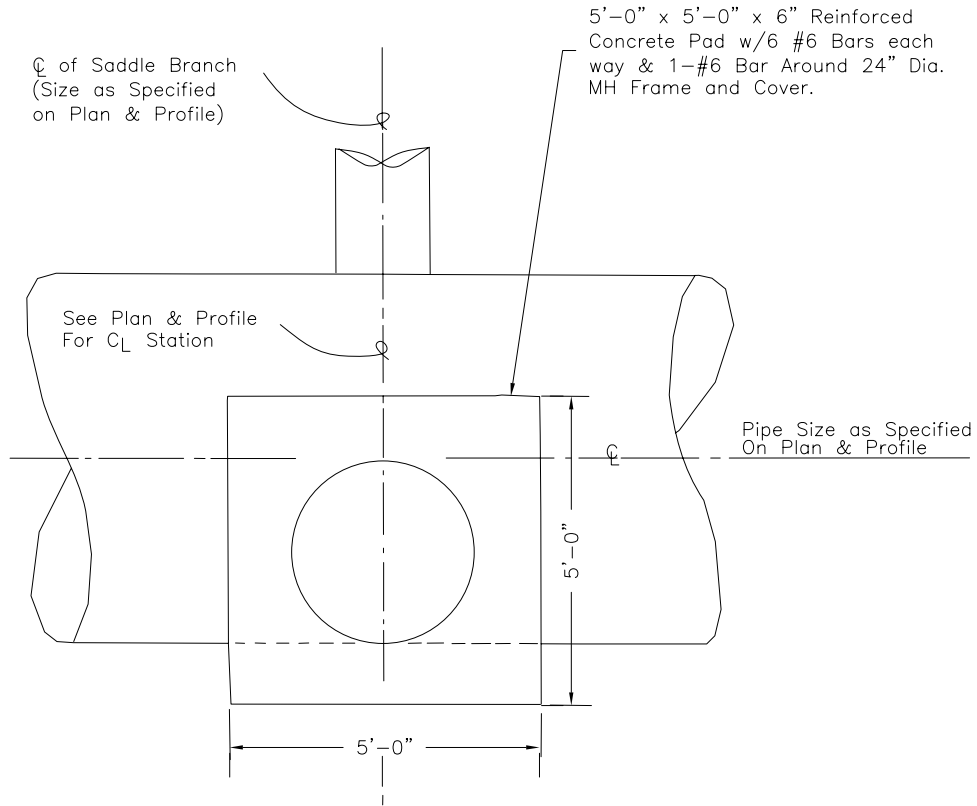


TITLE

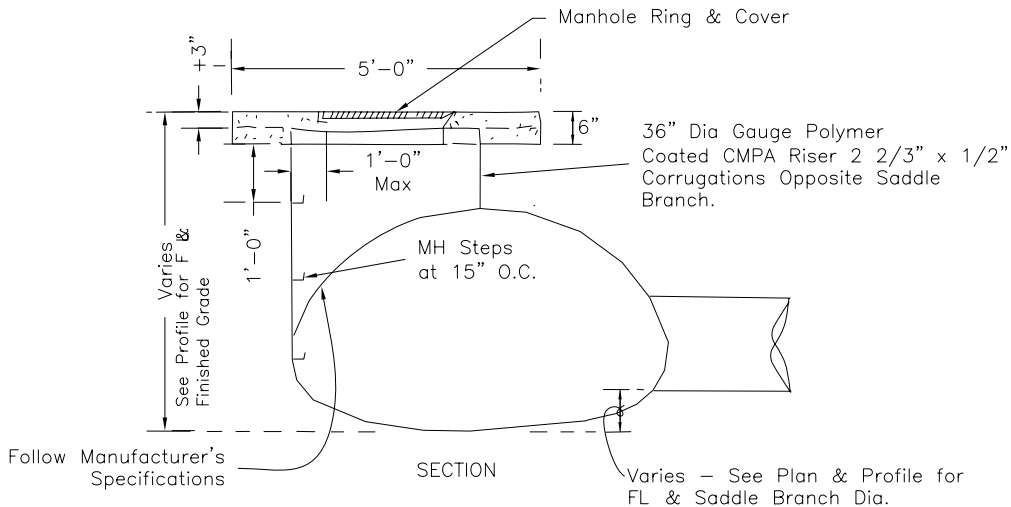
SADDLE BRANCH ON  
 CMAP W/ RISER  
 TYPICAL

Issue Date  
 AUG, 2006

PW-15  
 Revision Date



PLAN





TITLE

CORRUGATED METAL PIPE  
TYPICAL SADDLE CONNECTIONS FOR  
MAIN LINES SMALLER THAN 69"

Issue Date  
AUG, 2006

PW-16  
Revision Date

NOTES:

1. SADDLE PLATES ARE THE SAME GAUGE OR ONE GAUGE HEAVIER THAN THE MAINLINES.
2. SUPPLY ANGLE FOR OTHER THAN 90°
3.  $W \text{ OR SPAN} = (D+12")\cos$
4. FASTENERS ARE 3/8" A 307 BOLTS OR 1/4" TEK 5 SELF DRILLING SCREWS.

INSTALLATION INSTRUCTIONS:

1. PLACE THE SADDLE ON THE PIPE. MARK THE I.D. OF THE STUB MAIN.
2. CUT THE HOLE IN THE MAIN TO SAME DIAMETER AS THE MARKED I.D. OF THE STUB WITH A SABER OR A CIRCULAR SAW. ALWAYS USE GOOD VENTILATION. DO NOT USE A TORCH.
3. PLACE SEALANT BETWEEN THE SADDLE AND THE MAIN.
4. PLACE THE SADDLE OVER THE HOLE. ATTACH WITH 3/8" BOLTS OR 1/4" TEK SELF DRILLING SCREWS THROUGH THE OUTSIDE CREST PER TABLE 1.  
WHEN USING BOLTS, PLACE THE NUTS ON THE OUTSIDE OF THE SADDLE. SCREWS ARE INSERTED FROM THE OUTSIDE OF THE SADDLE.  
WHEN INSTALLING, TIGHTEN FASTENERS BY WORKING FROM THE CENTER TO THE CORNERS OF THE SADDLE.

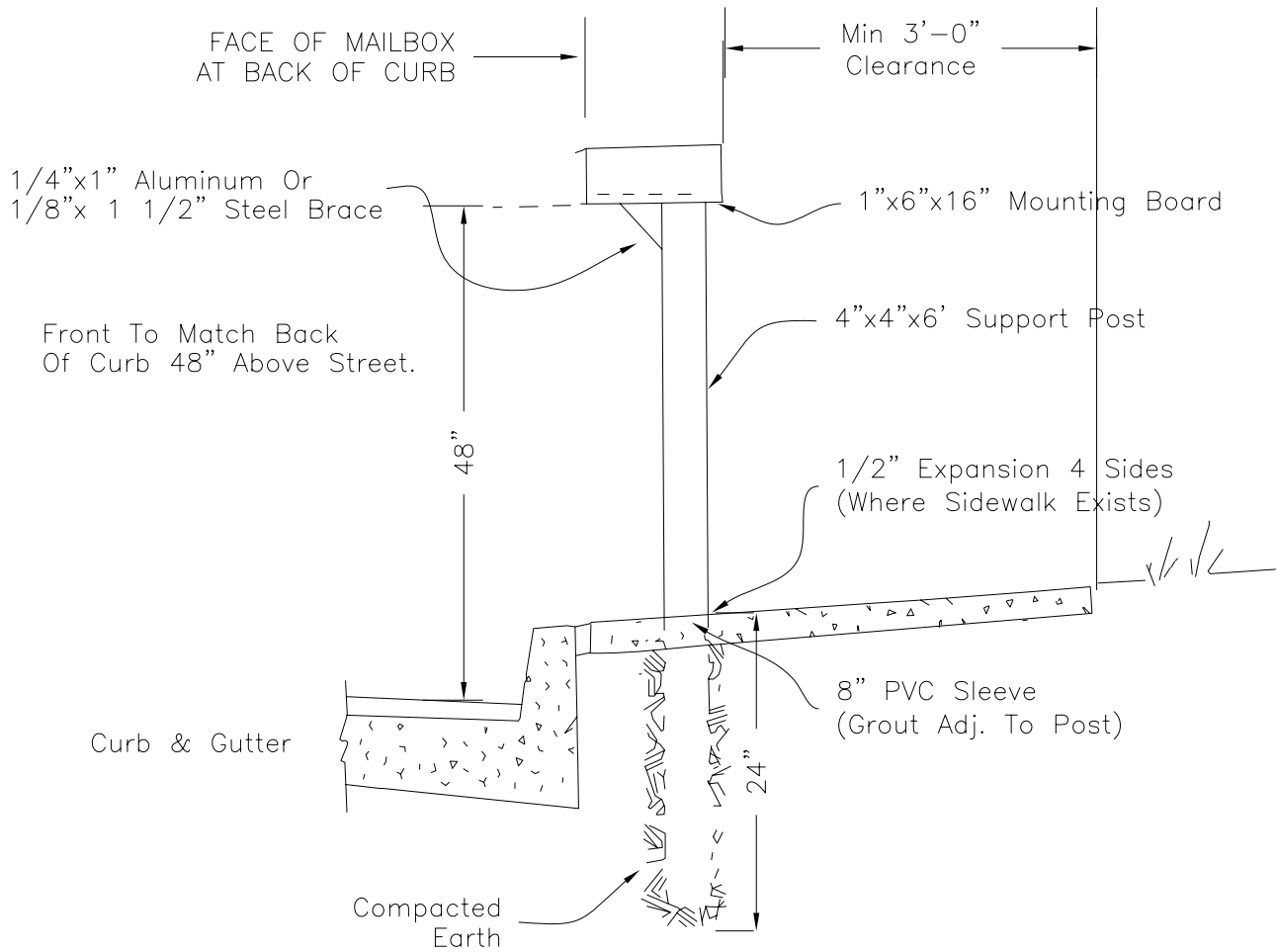


TITLE

MAIL BOX INSTALLATION  
DETAIL

Issue Date  
AUG, 2006

PW-17  
Revision Date

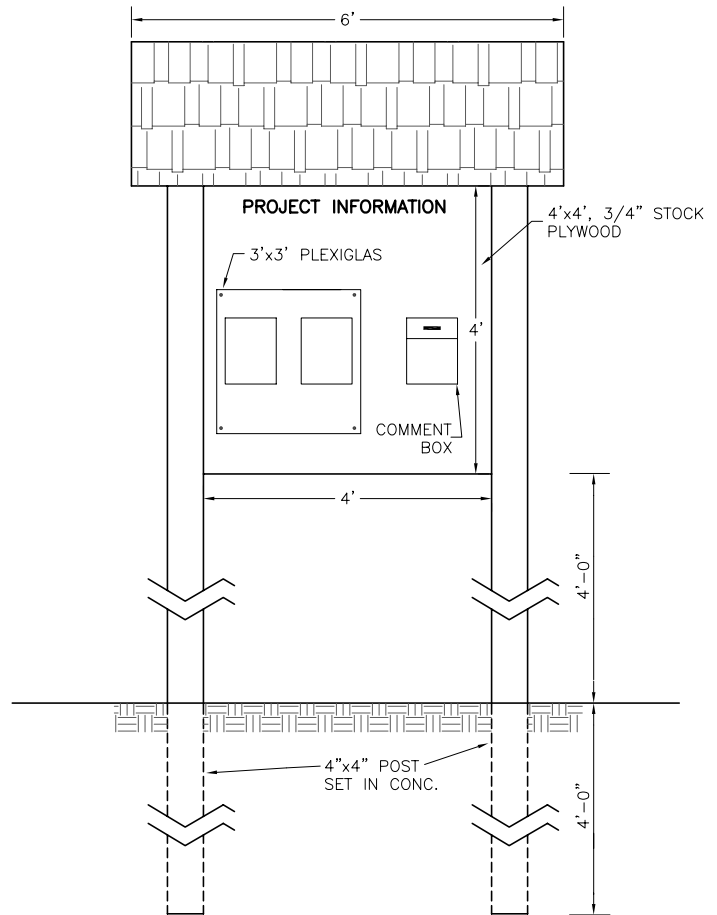
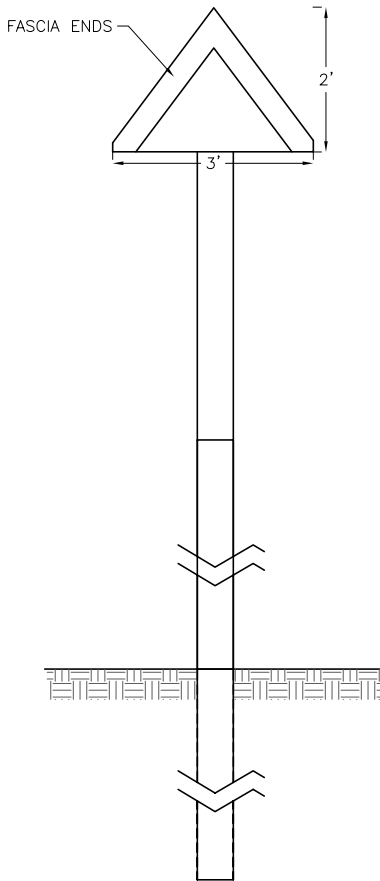




TITLE  
PROJECT KIOSK

Issue Date  
AUG, 2006

PW-18  
Revision Date



- ROOF: 1/2" BOARD SHEATHING  
RAFTERS ON 24" C-C (2"x4" HORIZONTAL)
- SHINGLES: 3-TAB SQUARE BUTT (100 LB)  
OR ROLL ROOFING ( MINERAL SURFACED)  
ROOFING FELT (15-LB)
- PAINT: (ALL EXPOSED WOOD SHALL BE PAINTED)  
LIGHT GREY, DARK ROOF  
INCLUDING UNDER EAVES.

KIOSK TO BE PLACED ON PROJECT  
AS DIRECTED BY THE ENGINEER.  
OR AS SHOWN ON PLANS.



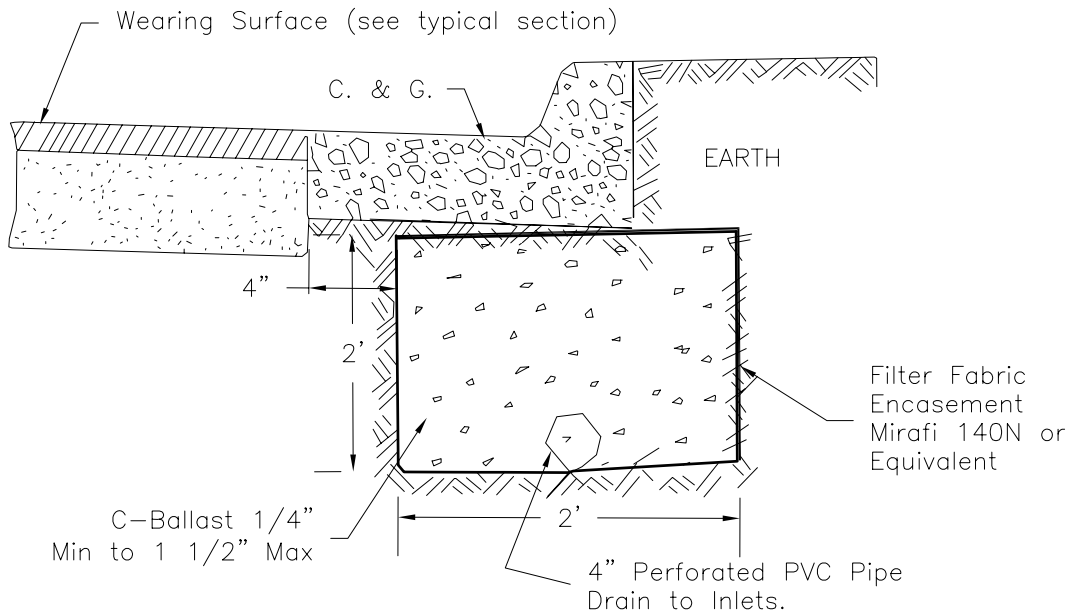
TITLE

SUB-DRAIN DETAIL

Issue Date  
AUG, 2006

PW-19  
Revision Date

NOTE: Placement and Location of Sub-Drain shall be determined by Engineer during Construction Period or as Indicated on Plans.



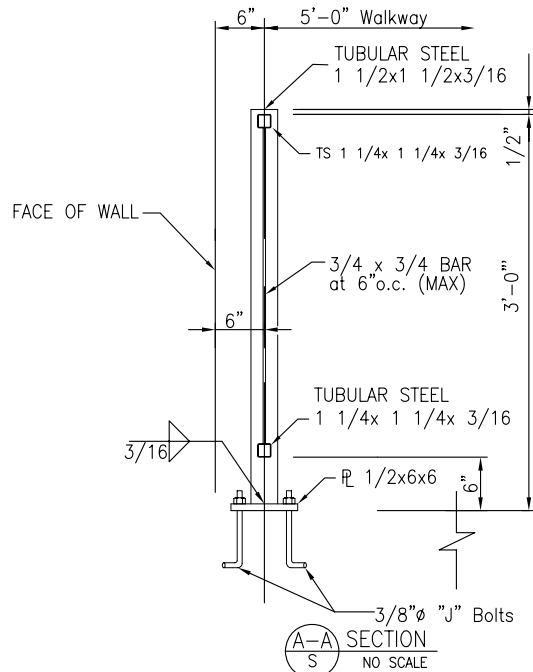
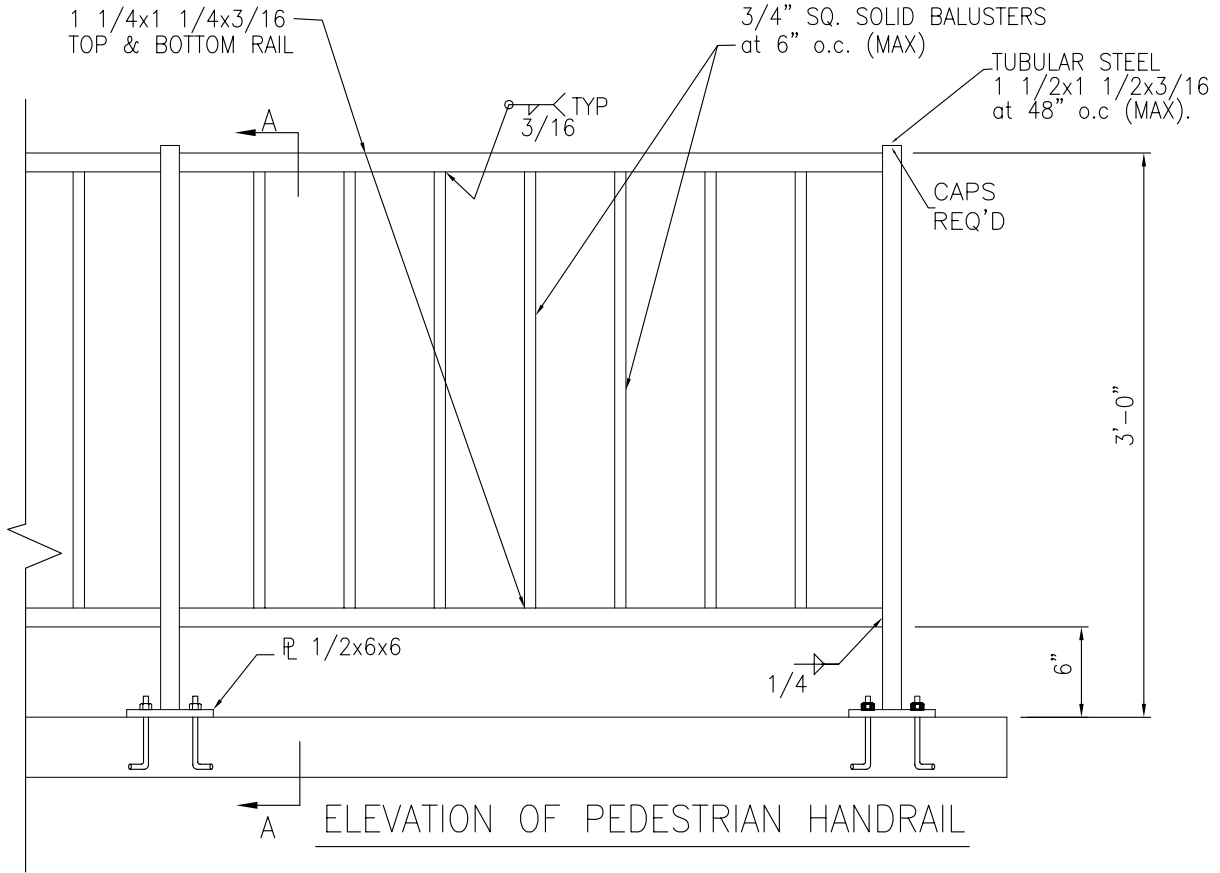
SUB-DRAIN DETAIL



TITLE  
HANDRAIL DETAIL  
ALTERNATE

Issue Date  
AUG, 2006

PW-20  
Revision Date



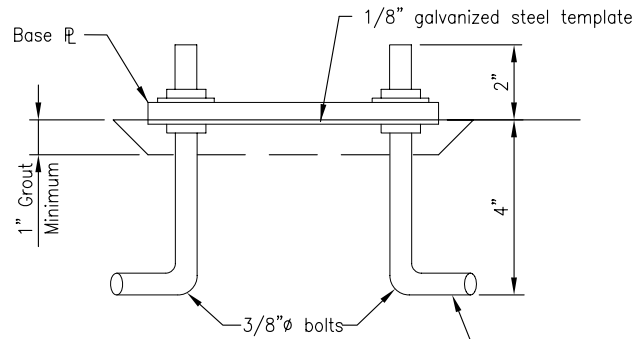
Material for pedestrian handrail shall be AASHTO M270, Gr. 36 and shall be painted (black). Nuts & washers shall be stainless steel as noted on details.



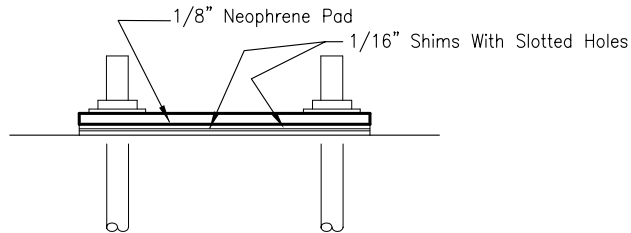
TITLE  
HANDRAIL DETAIL

Issue Date  
AUG, 2006

PW-21  
Revision Date

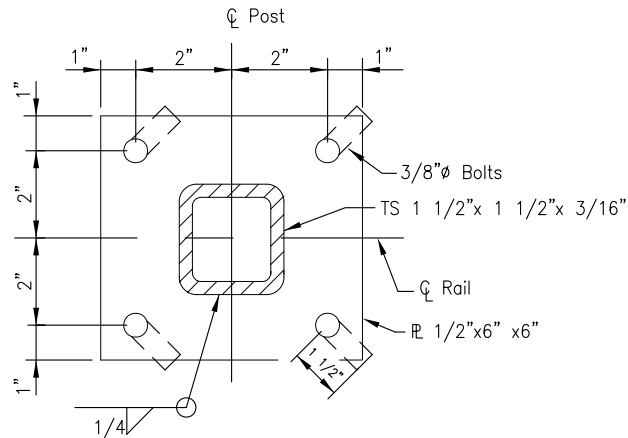


Stainless Steel Bolt ASTM A193, Grade B8 or B8A  
Stainless Steel Nut AASHTO M292, Grade 8  
Stainless Steel Washer ASTM A276, Grade 302



Contractor may place the 1/8" galvanized steel template on the finished sidewalk surface and provide shim plates and neoprene pads for leveling, in lieu of placing the template on nuts, leveling and finishing with grout.

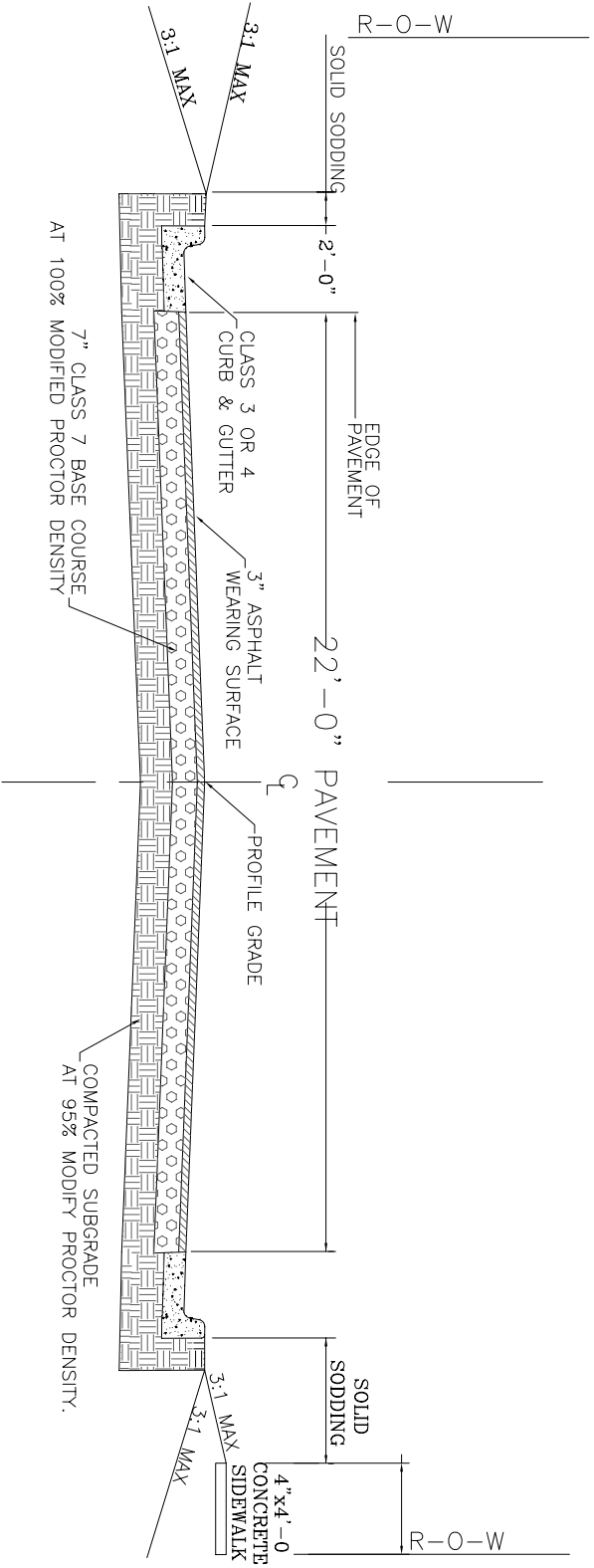
Note: All posts & balusters shall be vertical.



HANDRAIL ANCHOR BOLT ASSEMBLIES

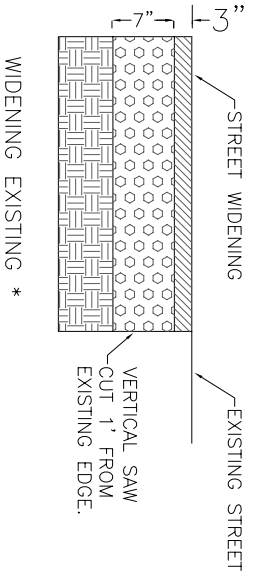


TITLE  
TYPICAL SECTION  
RESIDENTIAL STREET



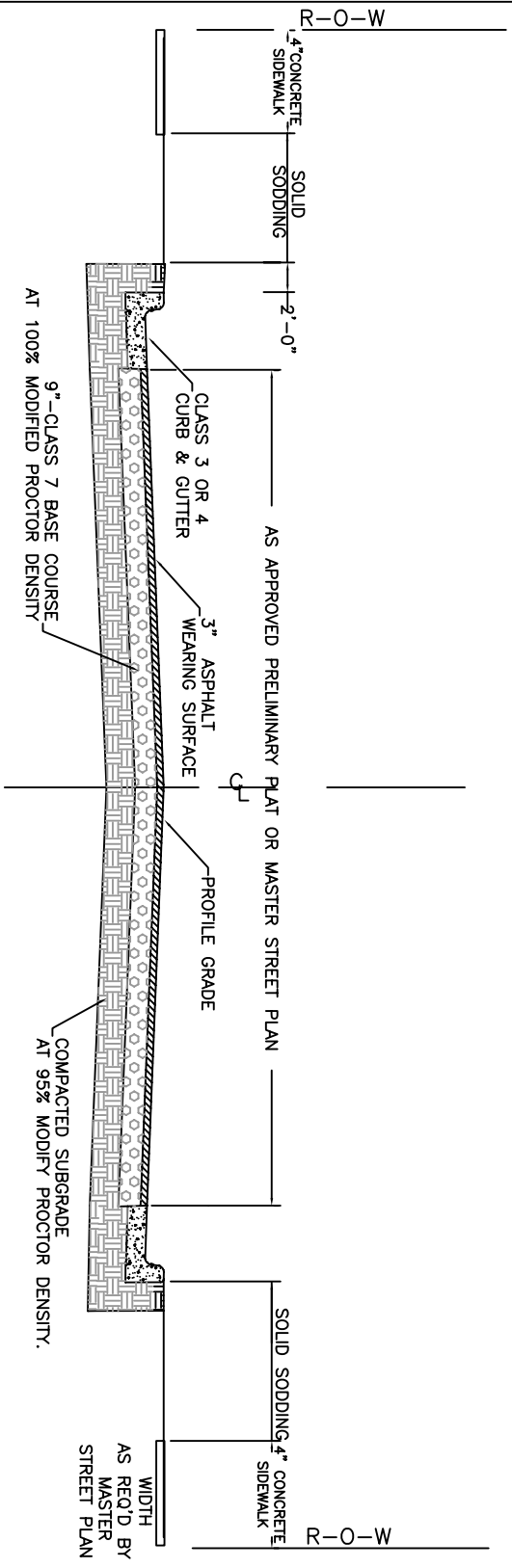
GENERAL NOTES

1. IN AREAS TO RECEIVE BITUMINOUS PAVING, CONCRETE DRIVEWAYS, OR CURB AND GUTTER, SUBGRADE SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT. (AASHTO T-180)
  2. FOR AREAS OF SUBGRADE PREPARATION TO RECEIVE CONCRETE SIDEWALKS, SUBGRADE SHALL BE COMPACTED TO A DENSITY OF 90% MAXIMUM (AASHTO T-180).
  3. CRUSHED STONE - MATERIAL IN EACH COURSE SHALL BE COMPACTED TO A DENSITY OF 100% MAXIMUM (AASHTO T-191).
  4. CENTERLINE PROFILE WILL REQUIRE HEIGHT GREATER THAN CURB FOR SOME STREETS TO MAINTAIN 2% MINIMUM CROSS-SLOPE.
- THICKNESS SHALL BE DETERMINED BY SOIL TEST AND PAVEMENT DESIGN IF REQUIRED BY DEPARTMENT OF PUBLIC WORKS.  
20'-0" PAVEMENT FOR MINOR RESIDENTIAL WHERE APPROVED BY CITY.



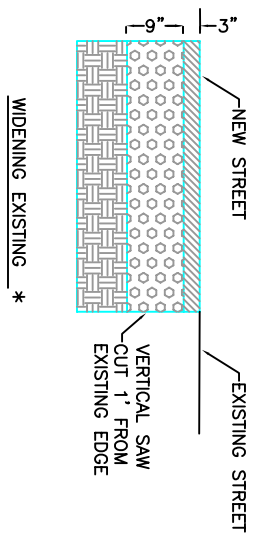
\*NOTE: PAVEMENT RECONSTRUCTION TO CENTERLINE IS REQUIRED WHEN EXISTING STREET DOES NOT MEET THESE STANDARDS.

Issue Date	AUG, 2006
	Revision Date
PW-22	



**GENERAL NOTES**

1. IN AREAS TO RECEIVE BITUMINOUS PAVING, CONCRETE DRIVEWAYS, OR CURB AND GUTTER, SUBGRADE SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT. (AASHTO T-180)
  2. FOR AREAS OF SUBGRADE PREPARATION TO RECEIVE CONCRETE SIDEWALKS, SUBGRADE SHALL BE COMPACTED TO A DENSITY 90% MAXIMUM (AASHTO T-180).
  3. CRUSHED STONE - DENSITY OF COMPACTED MATERIAL IN EACH COURSE SHALL BE COMPACTED TO A DENSITY 100% MAXIMUM (AASHTO T-191).
  4. CENTERLINE PROFILE WILL REQUIRE HEIGHT GREATER THAN CURB STREETS TO MAINTAIN 2% MINIMUM CROSS-SLOPE.
- THICKNESS SHALL BE DETERMINED BY SOIL TEST AND PAVEMENT DESIGN IF REQUIRED BY DEPARTMENT OF PUBLIC WORKS.
- NOTE:  
 \* 8" CONCRETE W/ 3" AGHM (1 1/2 BINDER / 1 1/2 SURFACE) AS APPROVED BY PUBLIC WORKS AS SUBSTITUTE CONSTRUCTION.  
 \* PAVEMENT RECONSTRUCTION TO CENTERLINE IS REQUIRED, IF EXISTING PAVEMENT DOES NOT CONFORM TO THESE STANDARDS.



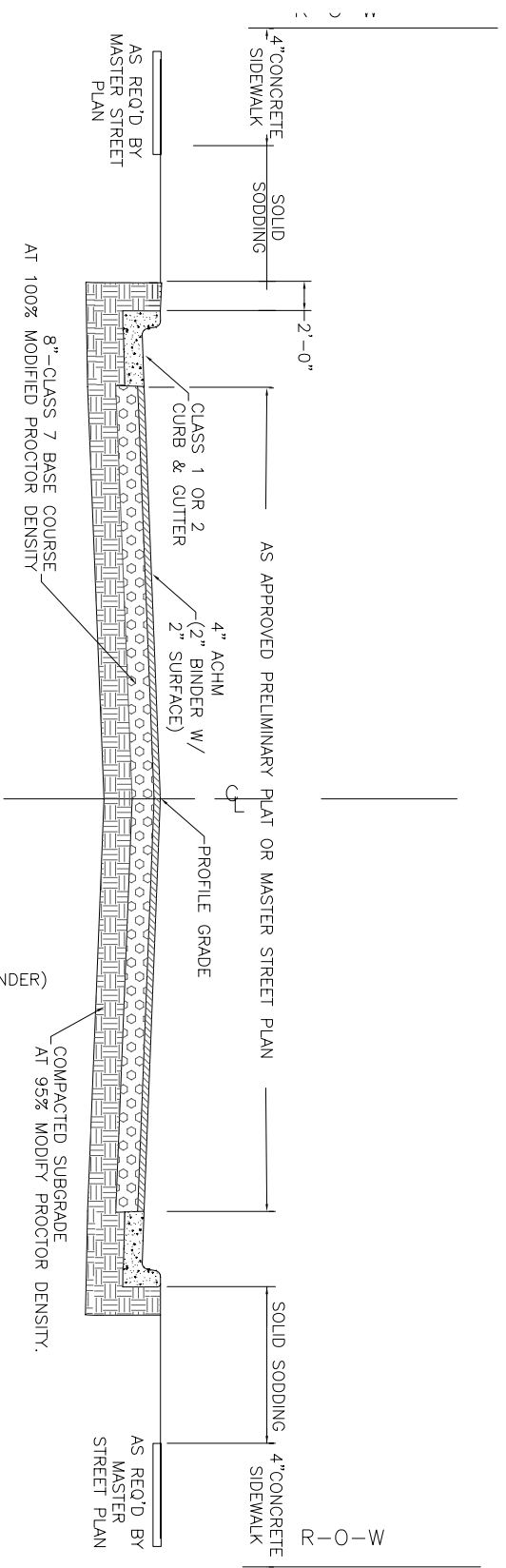
TITLE  
 TYPICAL SECTION  
 COLLECTOR OR COMMERCIAL  
 STREET

Issue Date  
 AUG, 2006

Revision Date  
 PW-23

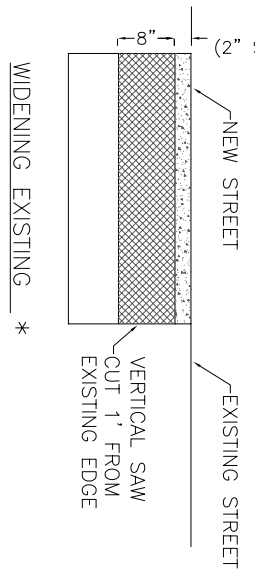


R-O-W



GENERAL NOTES

1. IN AREAS TO RECEIVE BITUMINOUS PAVING, CONCRETE DRIVEWAYS, OR CURB AND GUTTER, SUBGRADE SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF MAXIMUM DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT. (ASHTO T-180)
  2. FOR AREAS OF SUBGRADE PREPARATION TO RECEIVE CONCRETE SIDEWALKS, THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF 95% OF THE MAXIMUM (ASHTO T-180).
  3. CRUSHED STONE- DENSITY OF COMPACTED MATERIAL IN EACH COURSE SHALL BE COMPACTED TO A DENSITY 100% MAXIMUM (ASHTO T-191).
  4. CENTERLINE PROFILE WILL REQUIRE HEIGHT GREATER THAN CURB FOR SOME STREETS TO MAINTAIN 2% MINIMUM CROSS-SLOPE.
  5. WIDENING REQUIRES BUTT JOINTS SAW CUT WHERE NEW WIDENING ABUTS OLD.
- ALL THICKNESS SHALL BE DETERMINED BY SOIL TEST AND PAVEMENT DESIGN IF REQUIRED BY DEPARTMENT OF PUBLIC WORKS.
- NOTE:  
 \* 8" CONCRETE W/ 4" ACHM (2" BINDER/2" SURFACE) FOR AREA AS APPROVED BY PUBLIC WORKS AS SUBSTITUTE CONSTRUCTION. PAVEMENT RECONSTRUCTION TO CENTERLINE IS REQUIRED, IF EXISTING PAVEMENT DOES NOT CONFORM TO THESE STANDARDS.



TITLE

TYPICAL SECTION

ARTERIAL STREET

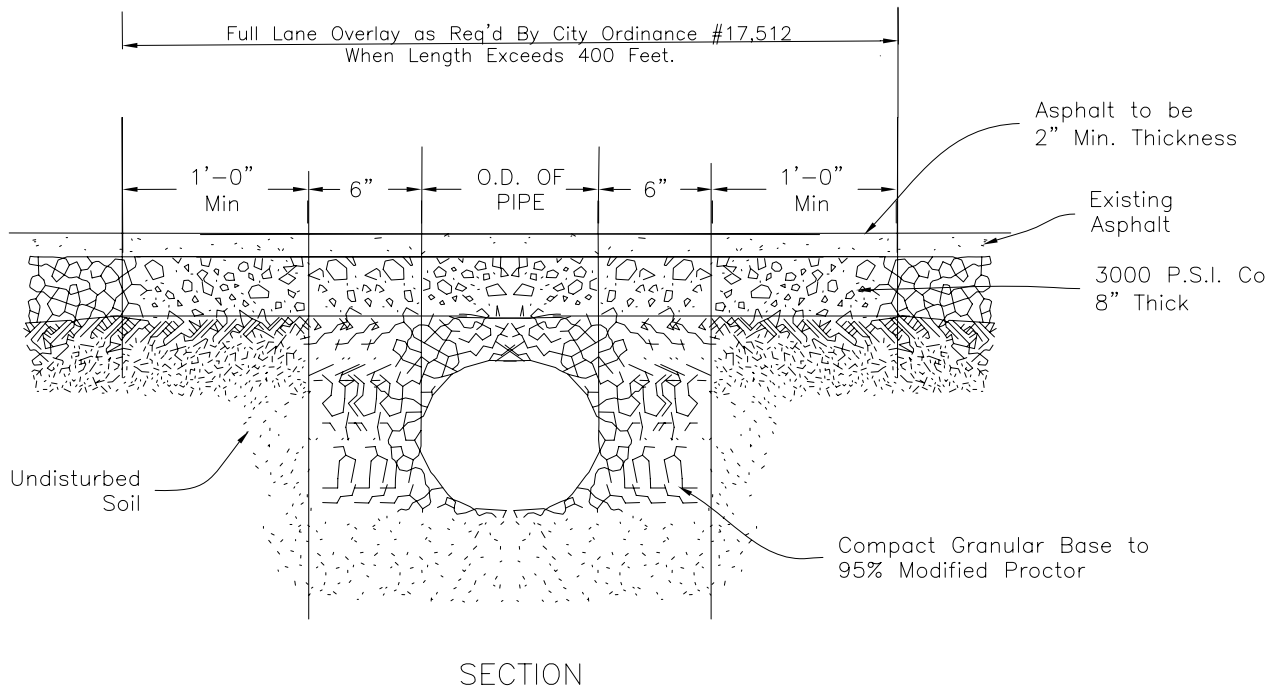
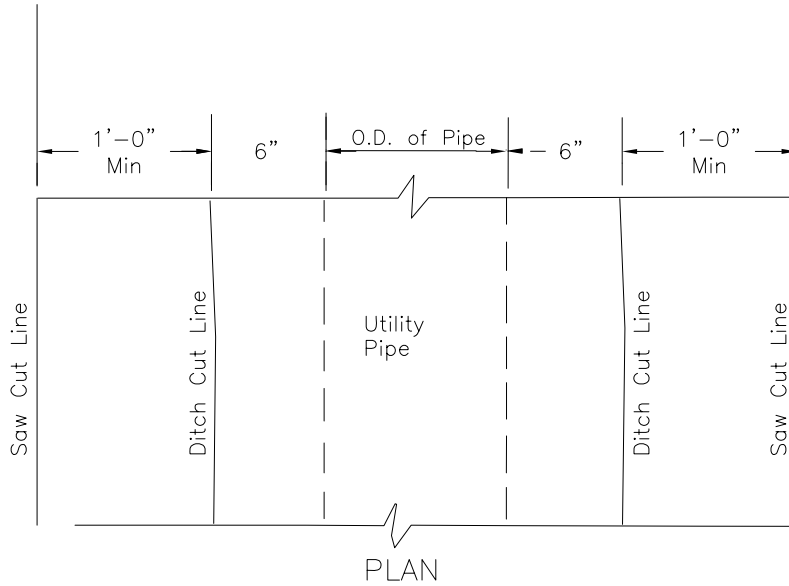
Issue Date	AUG, 2006
Revision Date	PW-24



TITLE  
UTILITY CUT-PAVEMENT  
REPLACEMENT ON EXISTING  
ASPHALT STREET

Issue Date  
AUG, 2006

PW-25  
Revision Date

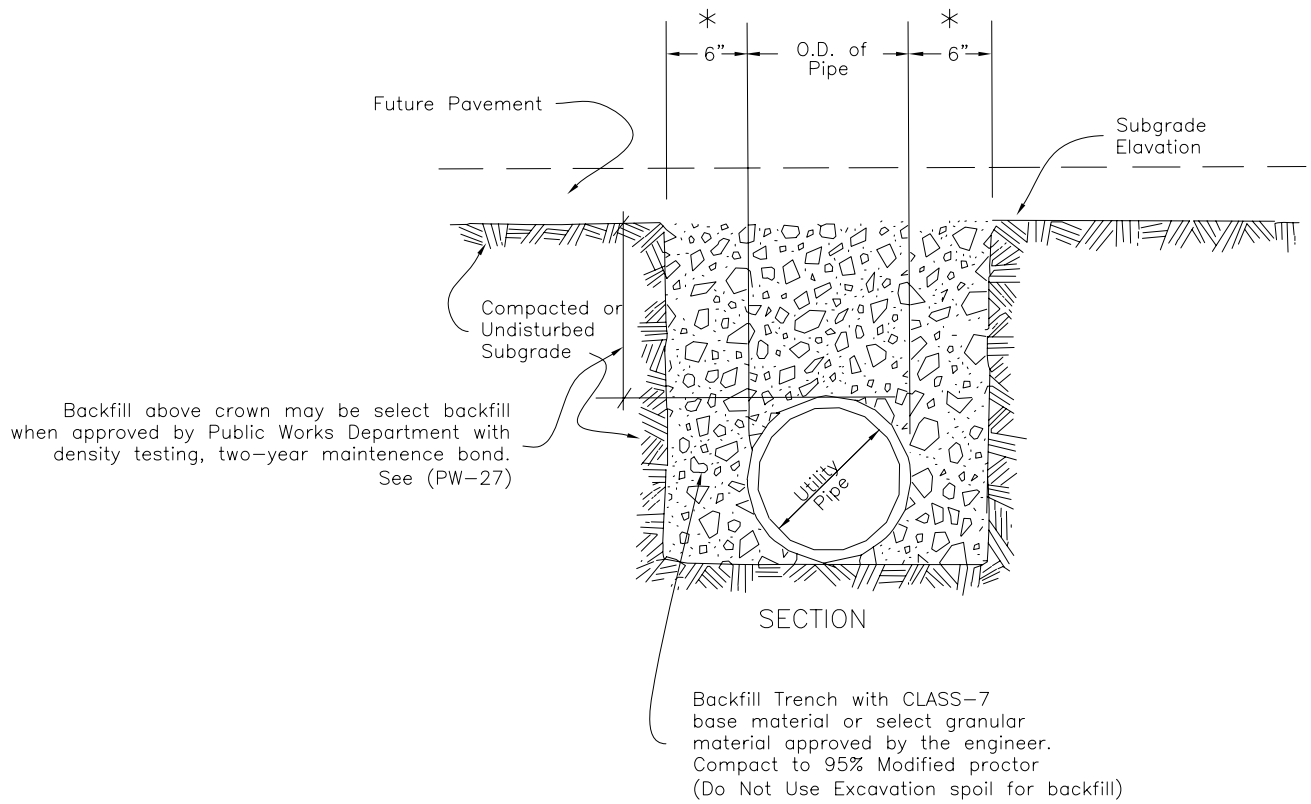




TITLE  
DRAINAGE AND  
UTILITY CUT BACKFILL  
ON STREET UNDER  
NEW CONSTRUCTION

Issue Date  
AUG, 2006

PW-26  
Revision Date



NOTE: This backfill procedure shall be utilized for all trenches excavated in area to be paved.

\* SEE PUBLIC WORKS STANDARD SPECIFICATIONS FOR TRENCH WIDTH AND DEPTH REQUIRED FOR STORM DRAIN APPLICATIONS.



TITLE

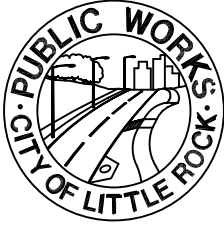
TRENCH BACKFILL REQUIREMENTS  
(NEW STREETS)

Issue Date  
JAN, 2003

PW-27  
Revision Date

The City will allow Contractor to backfill utility and stormdrain installations under a planned new street with select material or approved borrow material providing Engineer of Record and Contractor comply with following:

- \* Engineer of Record must submit a request in writing to Department of Public Works. Letter must note agreement with conditions of this memorandum.
- \* Trench backfill with other than aggregate per current City standard is not allowed in cuts of existing street, on projects where street construction is a partial widening (boundary street widening), or a street extension less than 300 feet in length. Locations must be approved prior to start of construction.
- \* A two year maintenance bond for one-half project's construction cost shall be provided and shall cover all construction associated with project (curbs, base, ACHM surface, drainage inlets, stormdrain, sidewalks, and other improvements in right-of-way).
- \* Trenches shall be a minimum of eighteen inches in width to allow for proper compaction.
- \* Aggregate material as approved by Department of Public Works shall be used to crown of pipe.
- \* Material used for backfilling may be suitable excavated material, and it may be necessary to stockpile a part or all of this suitable material for later use. Material shall be free of frozen material, trash, lumber, broken concrete having a dimension larger than two inches, or other debris. Such material shall be capable of being compacted to a density of not less than ninety-five (95) percent of maximum density, at optimum moisture, obtained in laboratory in accordance with AASHTO-Designation T-180. All tests are to be at expense of Developer or Contractor.
- \* A letter certifying compaction of backfill in trenches shall be furnished for a minimum of every third lift with eight inch lifts maximum (one test per two feet of fill). Test locations shall be spaced no further than one hundred feet, one per street crossing, or as required by Engineer of Record or City staff.
- \* Failure to provide satisfactory density testing of backfill for each trench will require one of three options of Contractor: A. Removal and re-compaction with certified testing. B. A maintenance bond for five (5) years shall be furnished for total project. C. A 3000 psi seven inch thick concrete cap two feet wider than trench may be installed below base course similar to Public Works Standard Detail PW-25.

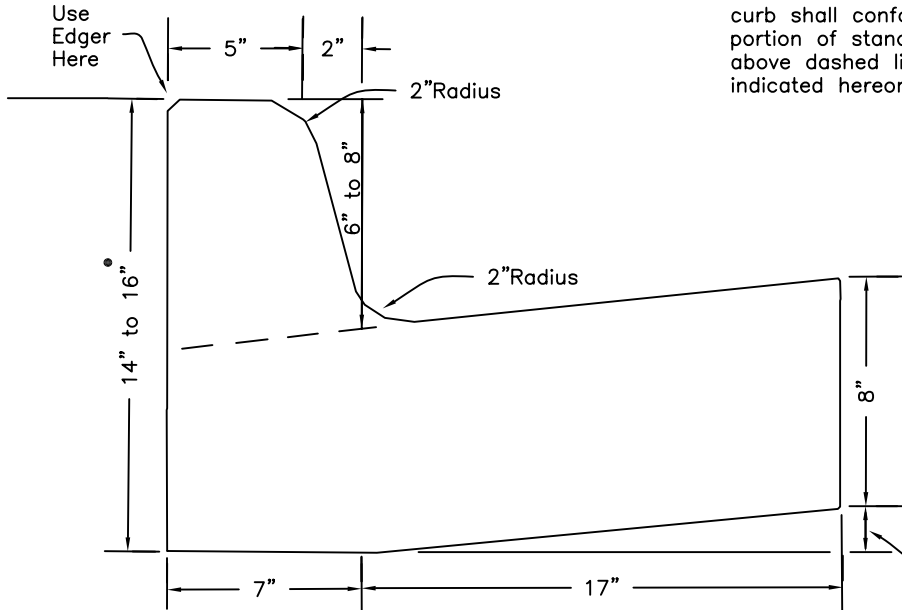


TITLE  
CURB & GUTTER SECTIONS  
ARTERIAL STREETS

Issue Date  
AUG, 2006

PW-28  
Revision Date

UPRIGHT  
CLASS I

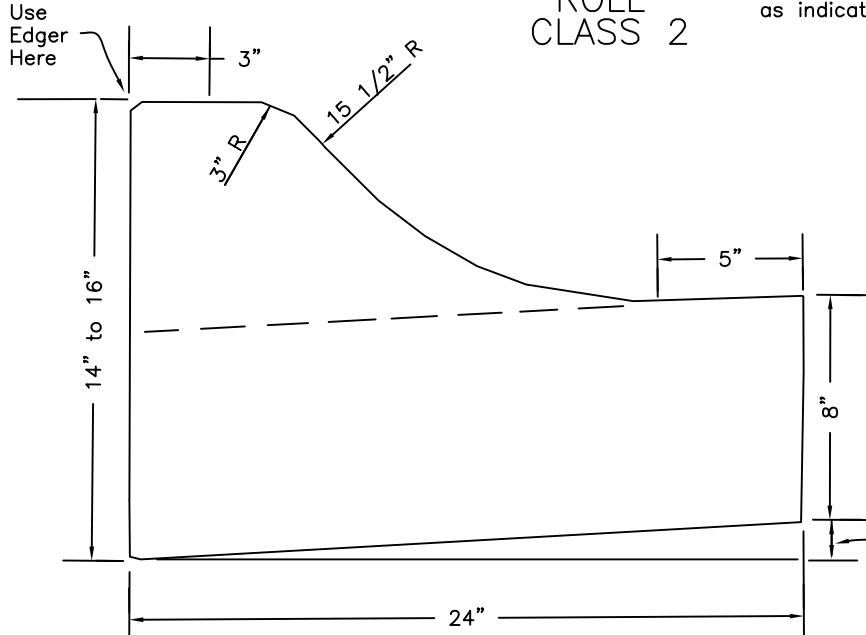


Standard section for integral curb shall conform to that portion of standard section above dashed line as indicated hereon.

1.5" for normal crown section.  
For warped crown sections, this dimension may vary from 1" to 2.5"

• REQUIRED ON CHENAL PARKWAY

ROLL  
CLASS 2



Standard section for integral curb shall conform to that portion of standard section above dashed line as indicated hereon.

1.5" for normal crown section.  
For warped crown sections, this dimension may vary from 1" to 2.5"

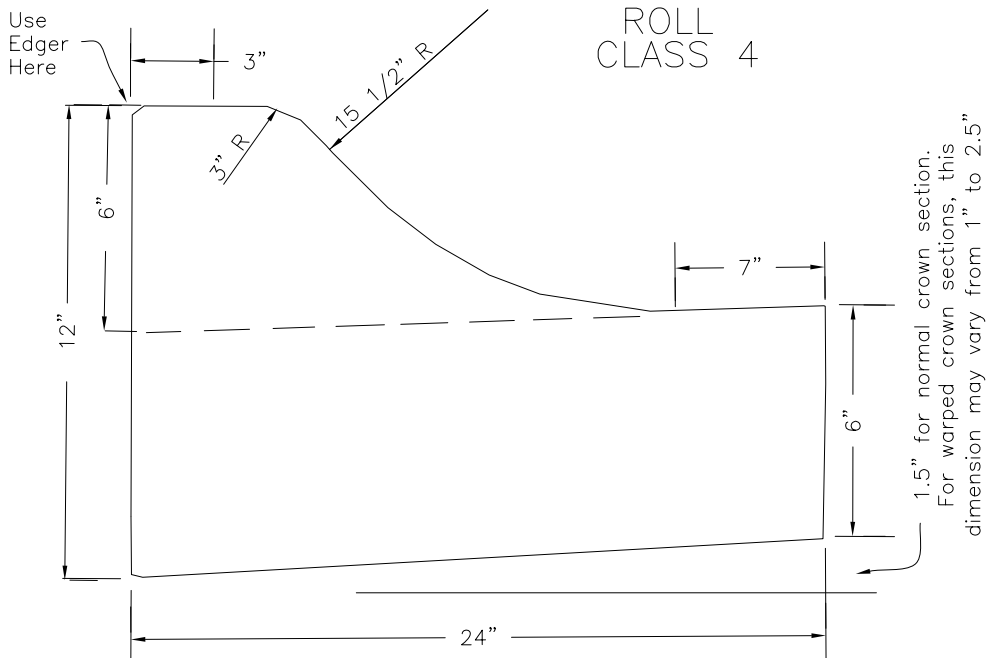
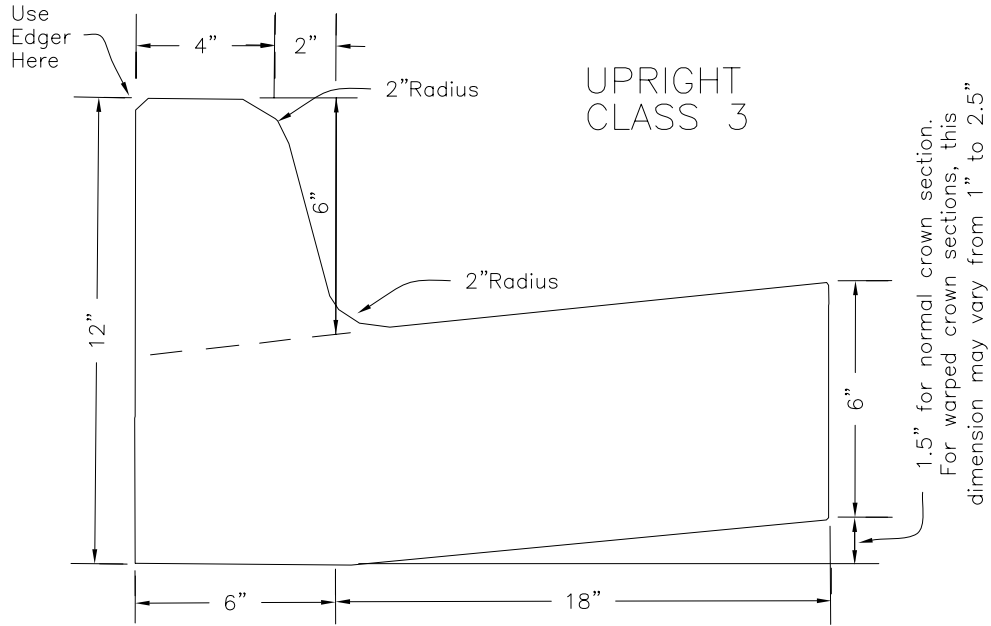
Install 1/2" Bituminous Expansion Joint Material At 100' Max. Intervals Or At Tie Ins To Boxes, Radius Returns Or Driveway Aprons. Control Joints 15' Max. O.C.  
Joint Sealant Shall be Sonneborn SL2 Self Leveling Urethane as Manufactured by Chemrex or Equivalent.



TITLE  
 CURB & GUTTER SECTIONS  
 RESIDENTIAL &  
 COLLECTOR STREETS

Issue Date  
 AUG, 2006

PW-29  
 Revision Date



Install 1/2" Bituminous Expansion Joint Material  
 At 100' Max. Intervals Or At Tie Ins To Boxes,  
 Radius Returns Or Driveway Aprons. Control Joints  
 15' Max. O.C.

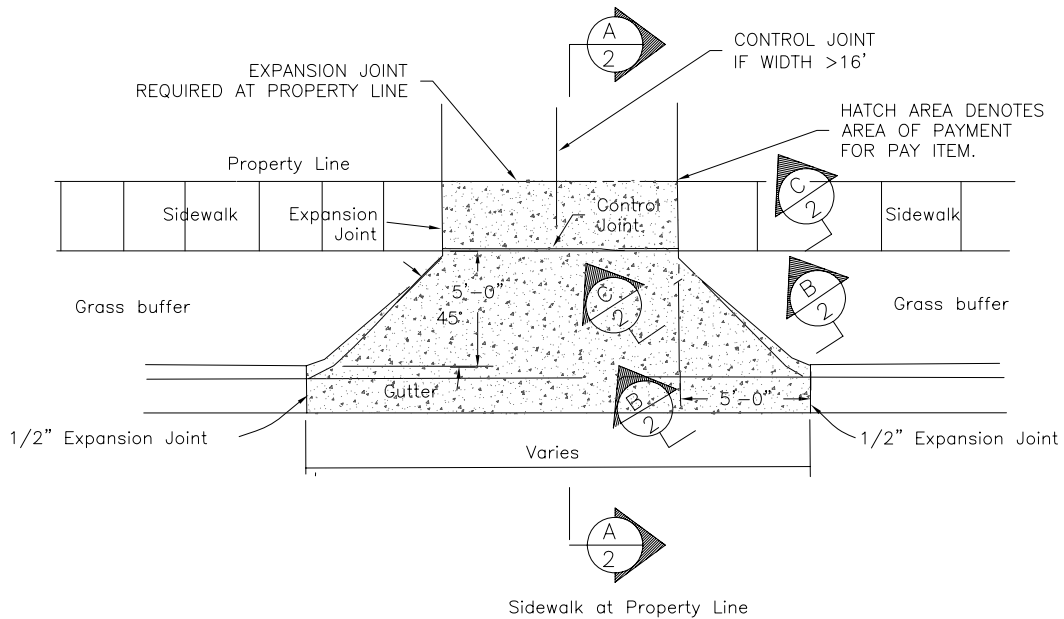
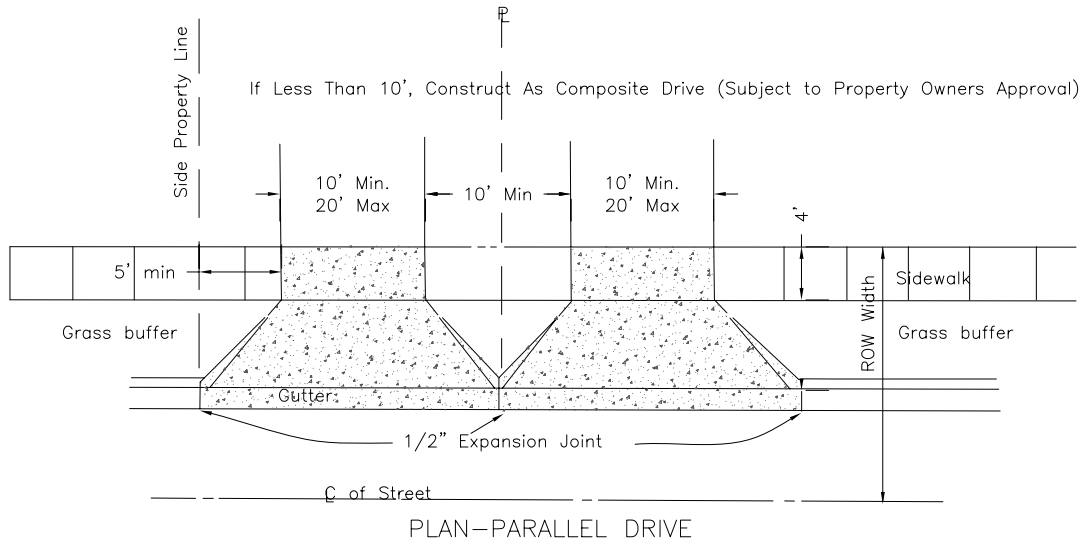
Joint Sealant Shall be Sonneborn SL2 Self Leveling Urethane  
 as Manufactured by Chemrex or Equivalent.



TITLE  
RESIDENTIAL DRIVEWAY  
DETAILS  
(BUFFERED SIDEWALK)

Issue Date  
AUG, 2006

PW-30  
Revision Date



NOTE:

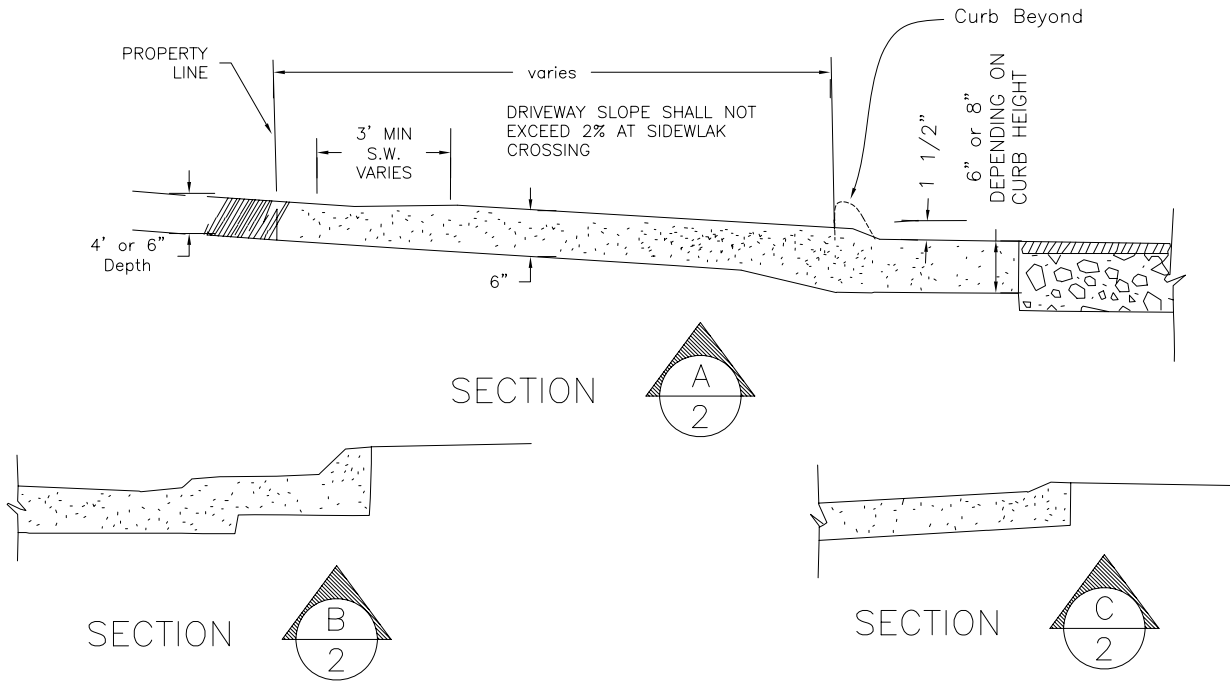
1. CONTROL JOINTS REQUIRED IN ALL DRIVEWAYS AT 12'-0" O.C. EACH WAY OR SPACED EQUAL TO THE WIDTH OF DRIVEWAY WHICHEVER IS LESS.
2. SECTIONS ARE ON PW-31.
3. GRASS BUFFER TO BE 5' WIDE UNLESS APPROVED BY CITY TO BE MODIFIED. GRASS BUFFER MAY BE REDUCED TO MINIMUM 36" WITH CITY APPROVAL.
4. DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.



TITLE  
RESIDENTIAL DRIVEWAY  
DETAILS AND NOTES

Issue Date  
AUG, 2006

PW-31  
Revision Date



1. Driveway Grade Not To Exceed City Ordinance Requirements Stated in Section 31-210. Field Adjustment May Be Required At Certain Locations To Insure Proper Relation Between Driveway and Street Grades.
2. Driveways Shall Be Constructed To Property Line With Concrete Where Sidewalk Exists. Asphalt Permitted Where Sidewalk Does Not Exist.
3. Driveway Apron Shall Be Constructed Monolithically With Gutter Section, Unless Dowled Into Gutter Section With 1/2" Dowels 18" Long at 12" on Center and Approved by Engineer.
4. DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.

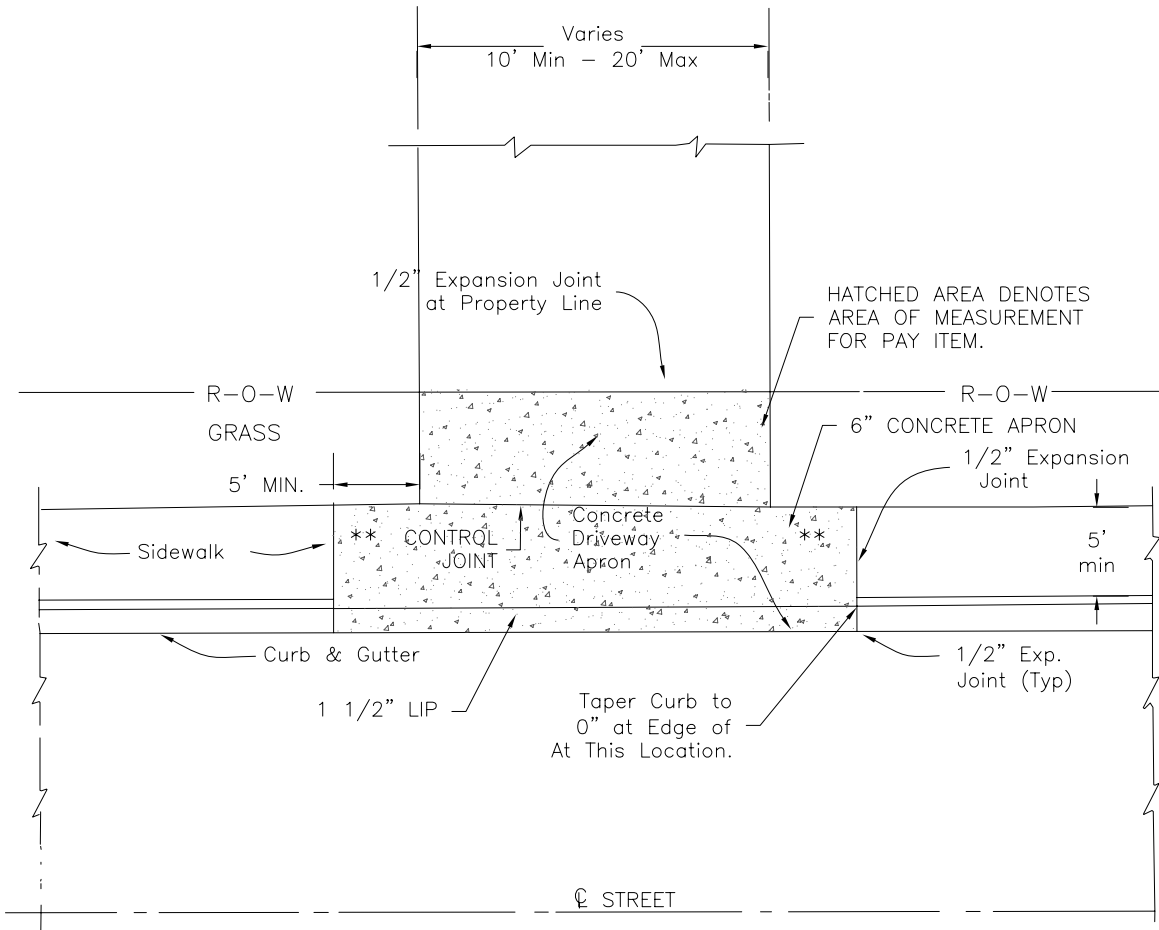


TITLE  
 DRIVEWAY DETAIL  
 FOR RESIDENTIAL DRIVEWAYS  
 (SIDEWALK AT BACK OF CURB)

Issue Date  
 AUG, 2006

PW-32  
 Revision Date

Spacing Per City Ordinance 31-210



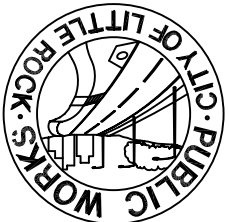
\* Sidewalks at back of curb by permission of Department of Public Works (only when conditions dictate).

\*\* Sidewalk area at driveway shall have cross slope of 1:50. See City Ordinance Section 31-210 for permissible driveway slopes.

Thickness and reinforcements are required for conditions & expected wheel loading - 6" minimum thickness.

DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.



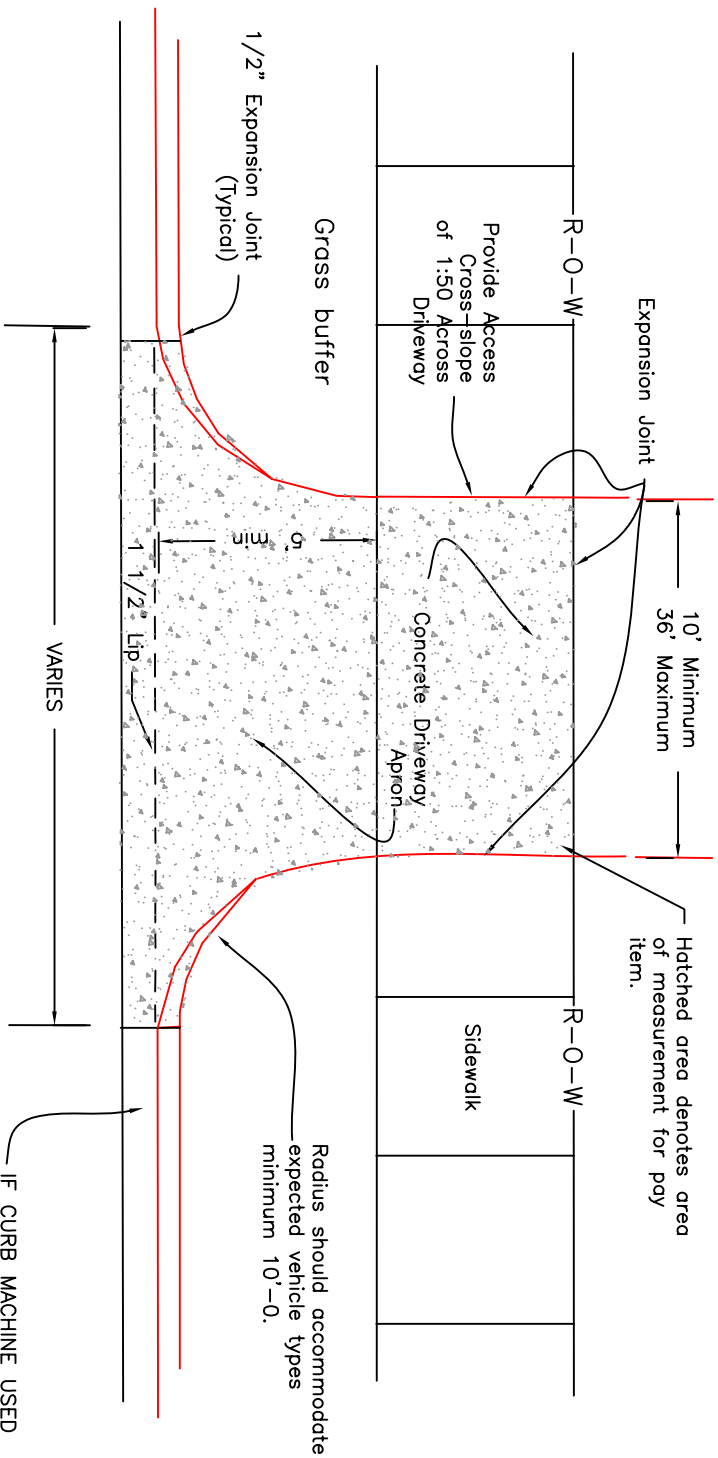


RADIUS DRIVEWAY DETAIL  
FOR COMMERCIAL DRIVEWAYS  
(SIDEWALK AWAY FROM CURB)

TITLE

Issue Date  
AUG, 2006

Revision Date  
PW-34



Thickness and reinforcements are required for conditions & expected wheel loading - 8" minimum thickness.

NOTE: Chenal Parkway Design Standards Required for Commercial Drives on Chenal Parkway. (See Master Street Plan)

DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.

IF CURB MACHINE USED (MUST STOP AT JOINT)

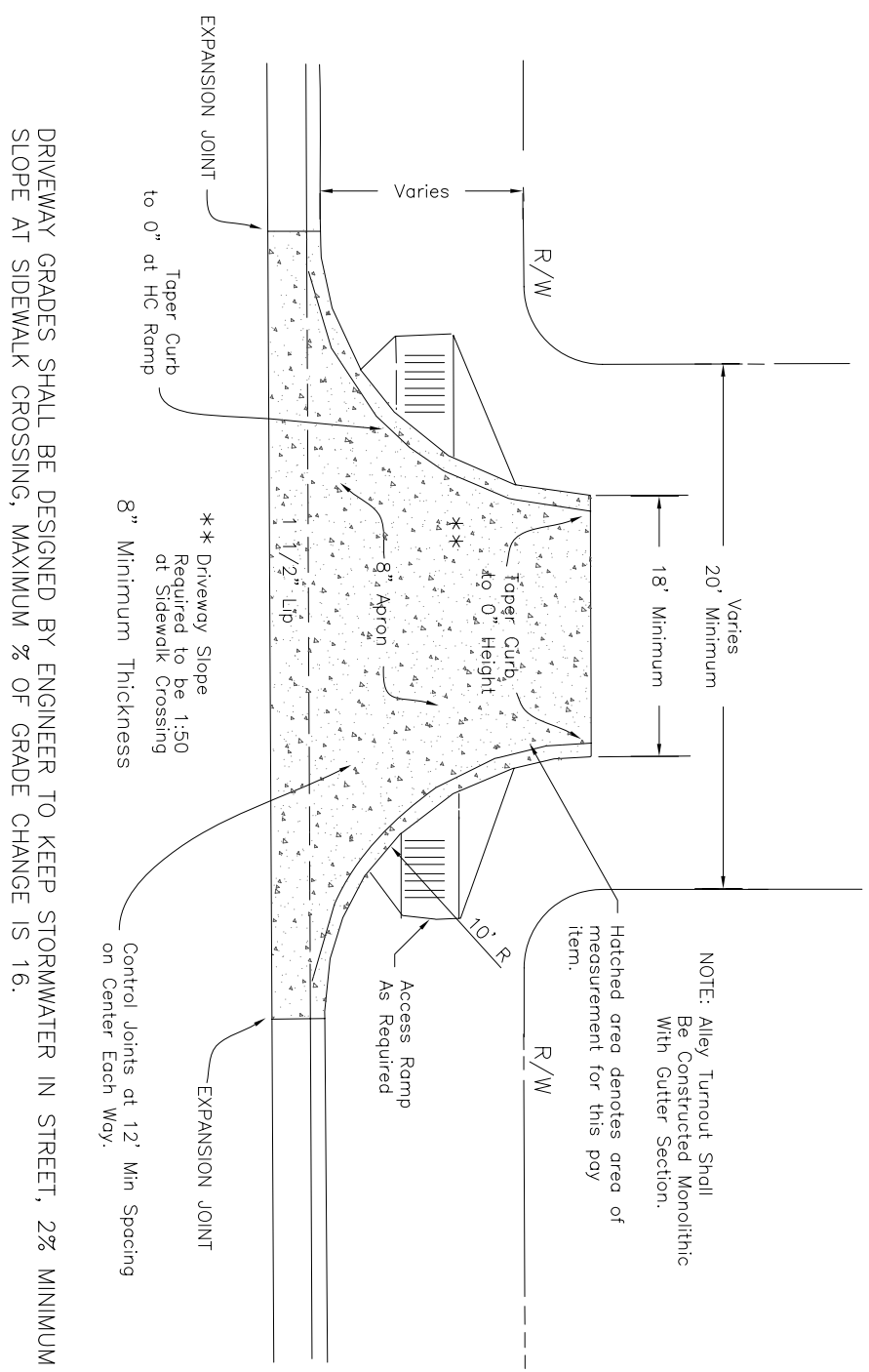


TITLE

ALLEY TURNOUT

AUG, 2006

PW-35  
Revision Date



DRIVEWAY GRADES SHALL BE DESIGNED BY ENGINEER TO KEEP STORMWATER IN STREET, 2% MINIMUM SLOPE AT SIDEWALK CROSSING, MAXIMUM % OF GRADE CHANGE IS 16.

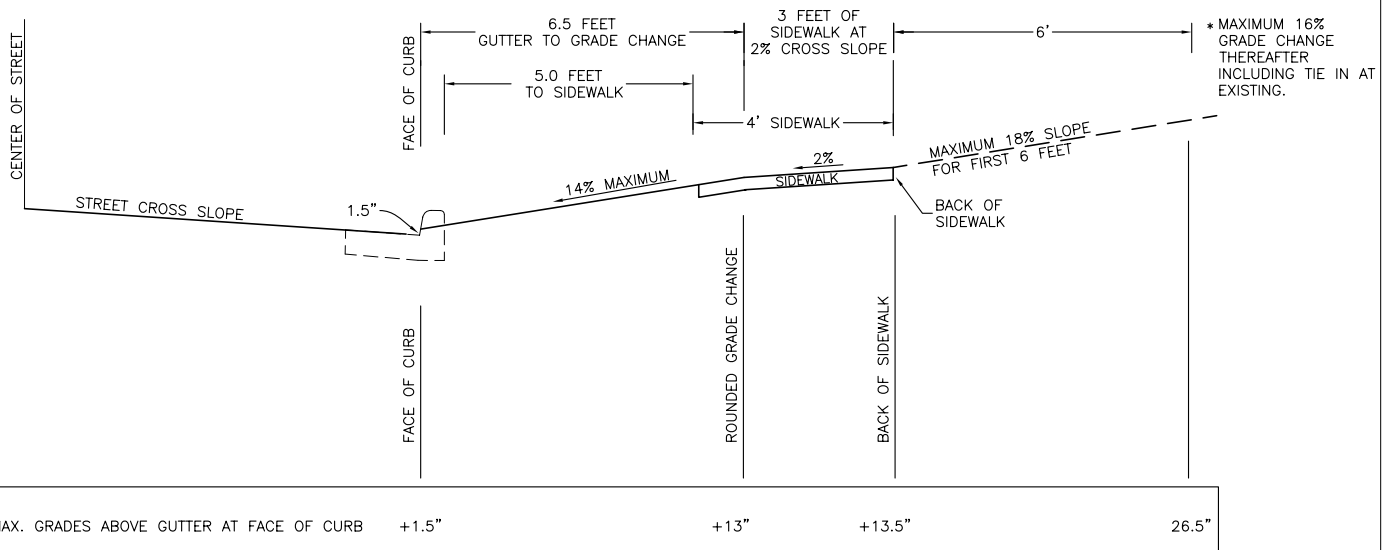


TITLE  
MAXIMUM GRADE  
DETAIL A

Issue Date  
AUG, 2006

PW-36  
Revision Date

MAXIMUM GRADES FOR DRIVEWAY WITH 4 FEET  
SIDEWALK WHICH IS 5 FEET OFF BACK OF CURB



- NOTE: 1. ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS.  
 2. THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%.  
 3. GRADES SHOWN ARE THE MAXIMUM ALLOWED TO AVOID DRAGGING A VEHICLE.  
 THE GRADES SHALL NOT BE DESIGNED OR USED EXCEPT IN EXTREME CONDITIONS.

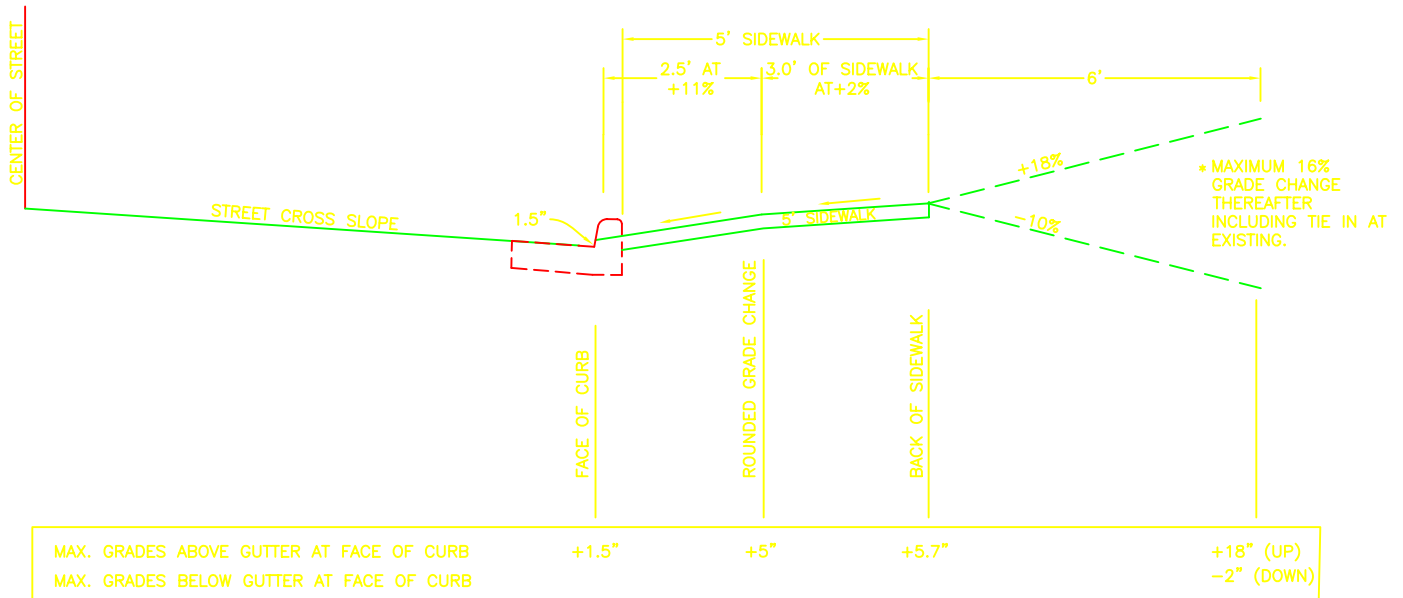


TITLE  
 MAXIMUM GRADES  
 DETAIL B

Issue Date  
 AUG, 2006

PW-37  
 Revision Date

MAXIMUM GRADES FOR DRIVEWAY WITH  
 SIDEWALK 5 FEET WIDE AT BACK OF CURB



- NOTE: 1. ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS.  
 2. THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%.  
 3. GRADES SHOWN ARE THE MAXIMUM ALLOWED TO AVOID DRAGGING A VEHICLE.  
 THE GRADES SHALL NOT BE DESIGNED OR USED EXCEPT IN EXTREME CONDITIONS.

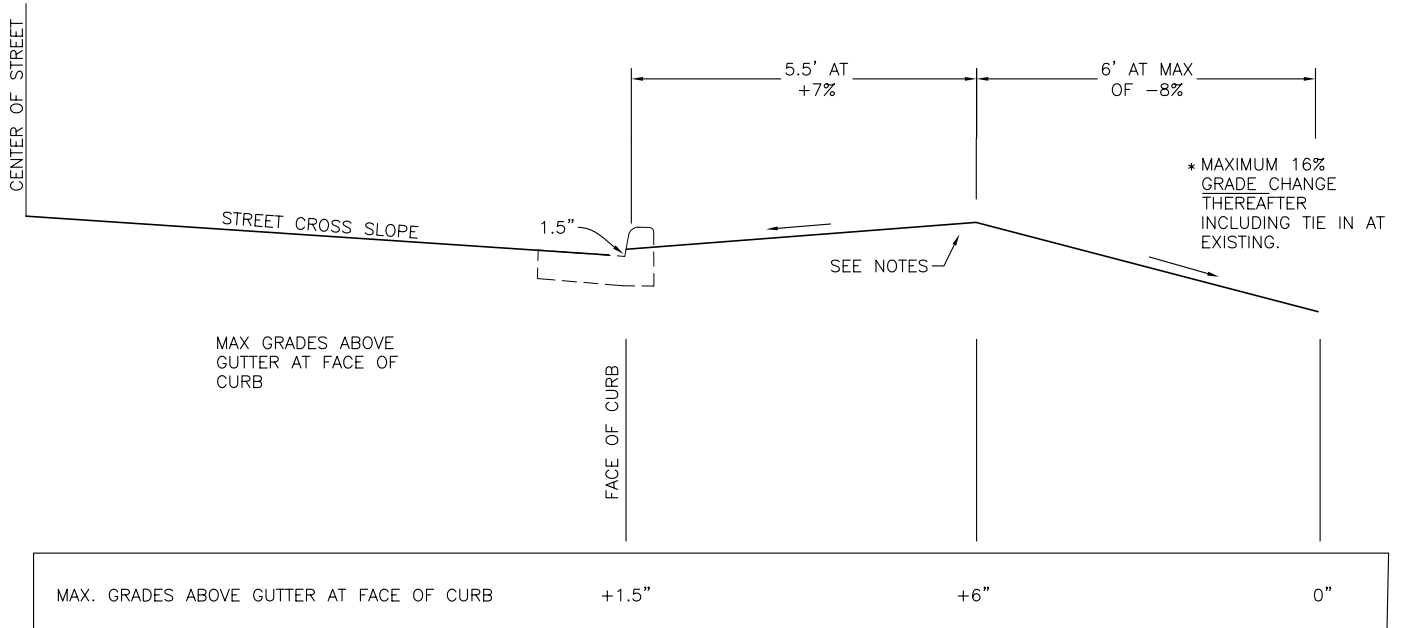


TITLE  
 MAXIMUM GRADES  
 DETAIL C

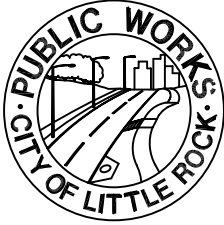
Issue Date  
 AUG, 2006

PW-38  
 Revision Date

MAXIMUM GRADES FOR DRIVEWAY WHEN GROUND FALLS AWAY FROM STREET WITH NO SIDEWALK



- NOTE (1) DRIVEWAY AT 5.5' FROM FACE OF CURB SHALL BE LEVEL WITH TOP OF CURB TO KEEP WATER IN STREET. ANY VARIATION REQUIRES APPROVAL FROM ENGINEER.
- (2) ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS.
- (3) THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%.
- (4) GRADES SHOWN ARE THE MAXIMUM ALLOWED TO AVOID DRAGGING A VEHICLE. THE GRADES SHALL NOT BE DESIGNED OR USED EXCEPT IN EXTREME CONDITIONS.

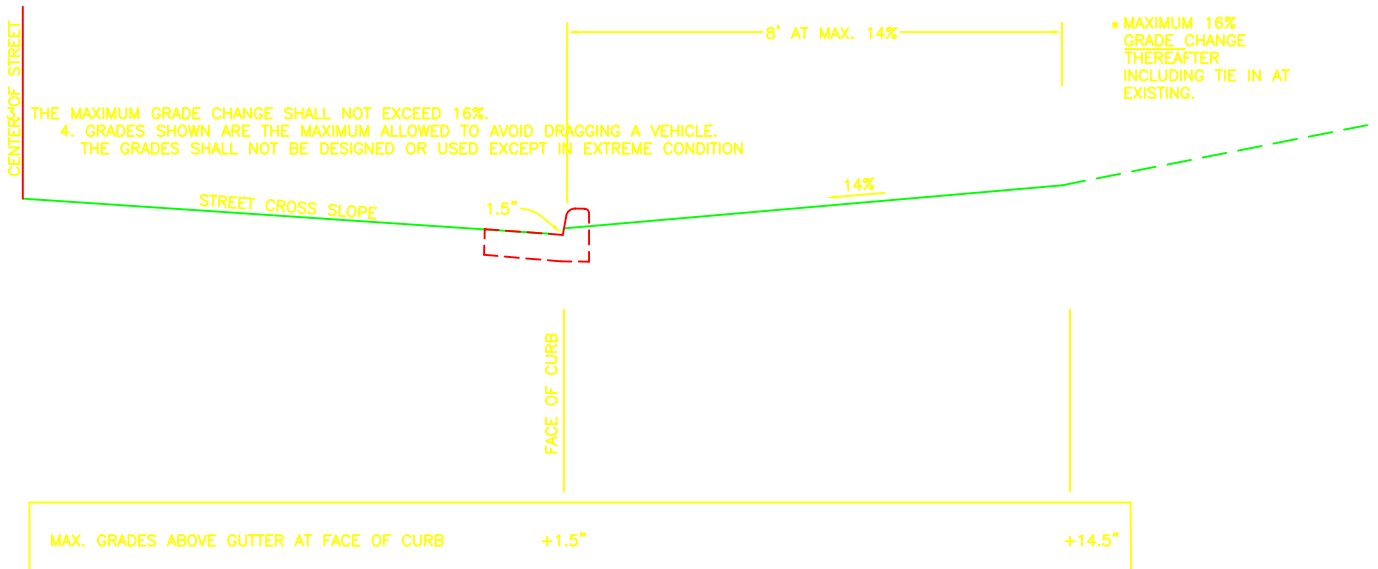


TITLE  
 MAXIMUM GRADES  
 DETAIL D

Issue Date  
 AUG, 2006

PW-39  
 Revision Date

MAXIMUM GRADES FOR DRIVEWAY WHEN GROUND  
 RISES FROM STREET WITH NO SIDEWALK



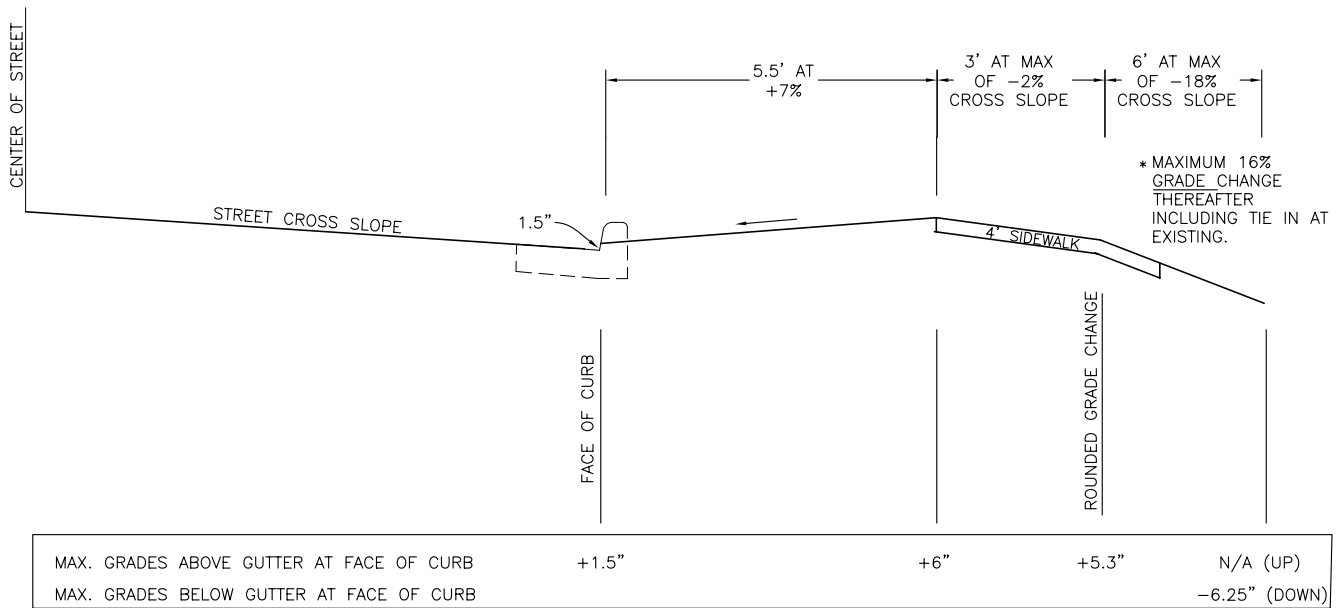
- NOTE: 1. ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS.  
 2. THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%.  
 3. GRADES SHOWN ARE THE MAXIMUM ALLOWED TO AVOID DRAGGING A VEHICLE.  
 THE GRADES SHALL NOT BE DESIGNED OR USED EXCEPT IN EXTREME CONDITIONS.



TITLE  
 MAXIMUM GRADES  
 DETAIL E

Issue Date	PW-40
AUG, 2006	Revision Date

MAXIMUM GRADES FOR DRIVEWAY WHEN GROUND FALLS AWAY FROM STREET WITH 4' SIDEWALK 5' OFF BACK OF CURB



- NOTE (1) DRIVEWAY AT 5.5' FROM FACE OF CURB SHALL BE LEVEL WITH TOP OF CURB TO KEEP WATER IN STREET. ANY VARIATION REQUIRES APPROVAL FROM ENGINEER.
- (2) ALL GRADE CHANGES SHALL BE ROUNDED OFF WITH A 2' RADIUS.
- (3). THE MAXIMUM GRADE CHANGE SHALL NOT EXCEED 16%.
- (4). GRADES SHOWN ARE THE MAXIMUM ALLOWED TO AVOID DRAGGING A VEHICLE. THE GRADES SHALL NOT BE DESIGNED OR USED EXCEPT IN EXTREME CONDITIONS.



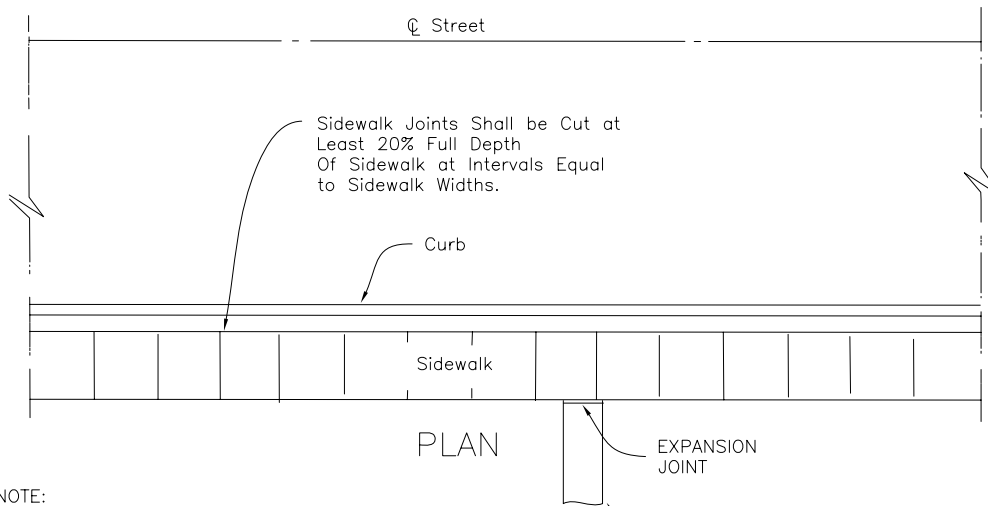
TITLE

SIDEWALK DETAILS

PW-41

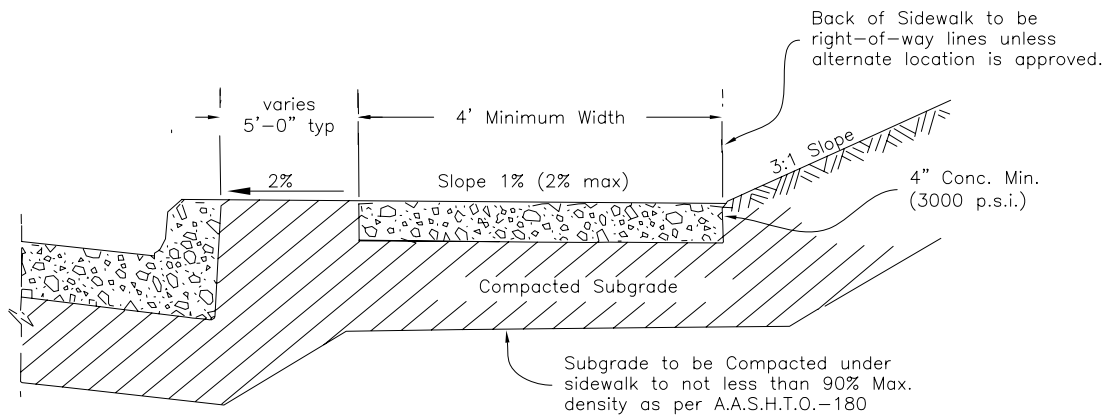
Issue Date  
AUG, 2006

Revision Date



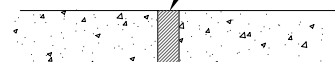
NOTE:

- (1). 1/2" Expansion Joint Spacing at 60' Or adjacent to Structures and Drives.
  - (2). Sidewalk Expansion Material is Not Required Between Sidewalk and Curb Unless Noted on Plans.
  - (3). Dowel bars with Expansion Joint Material required at inlets.
- See PW-42.
- Existing Residential Walk. Joint Sealant Shall be Sonneborn SL2 Self Leveling Urethane as Manufactured by Chemrex or Equivalent.



Expansion joint shall be installed between public and private sidewalk, buildings or driveways.

FULL DEPTH REQUIRED



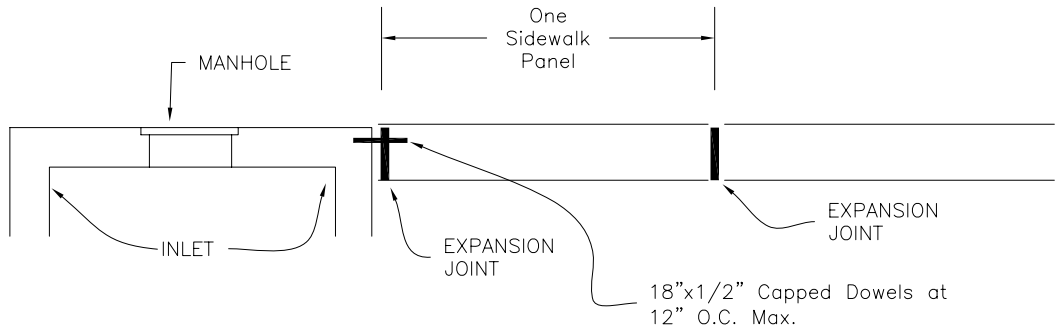
EXPANSION DETAIL



TITLE  
 SIDEWALK ADJACENT TO CURB  
 (AT-GRADE SECTION)

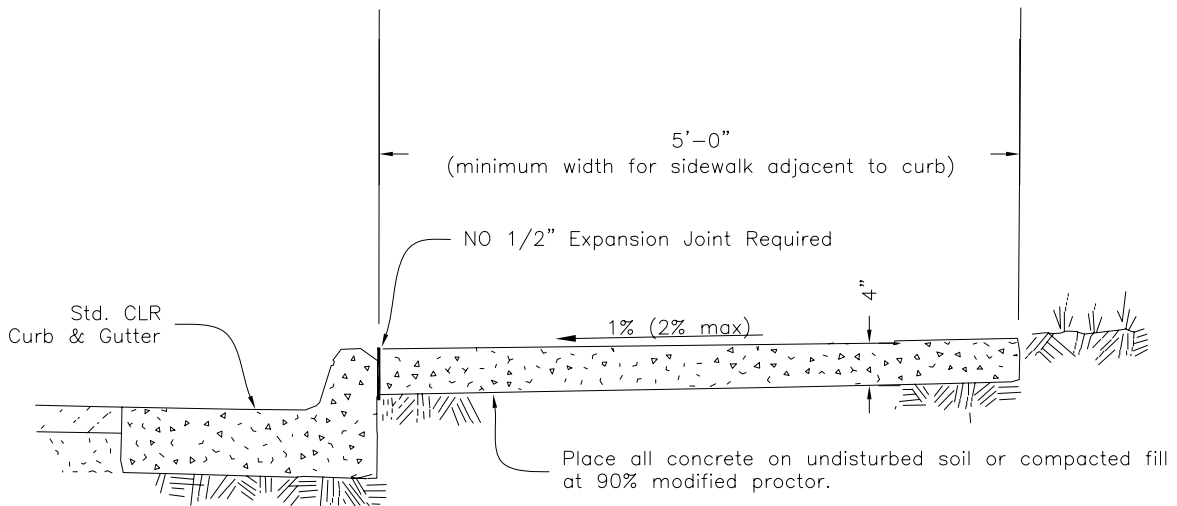
	PW-42
Issue Date AUG, 2006	Revision Date

GENERAL NOTE: PUBLIC SIDEWALK SHALL BE BUFFERED FROM STREET. SIDEWALK MAY BE INSTALLED ADJACENT TO CURB ONLY UPON RECEIVING WRITTEN AUTHORIZATION FROM PUBLIC WORKS.



SIDEWALK AT INLETS

NOTE:  
 1/2" Expansion Joint Spacing at 60' Or adjacent to Structures and Drives.  
 Sidewalk Expansion Material is Required Between Sidewalks and Inlets.  
 Dowel bars with Expansion Joint Material required at Inlets.



Expansion joint shall be installed between public sidewalks and private sidewalks, buildings or driveways.



TITLE

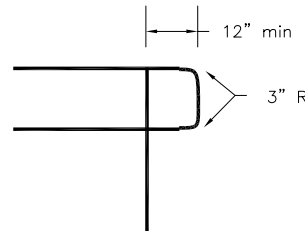
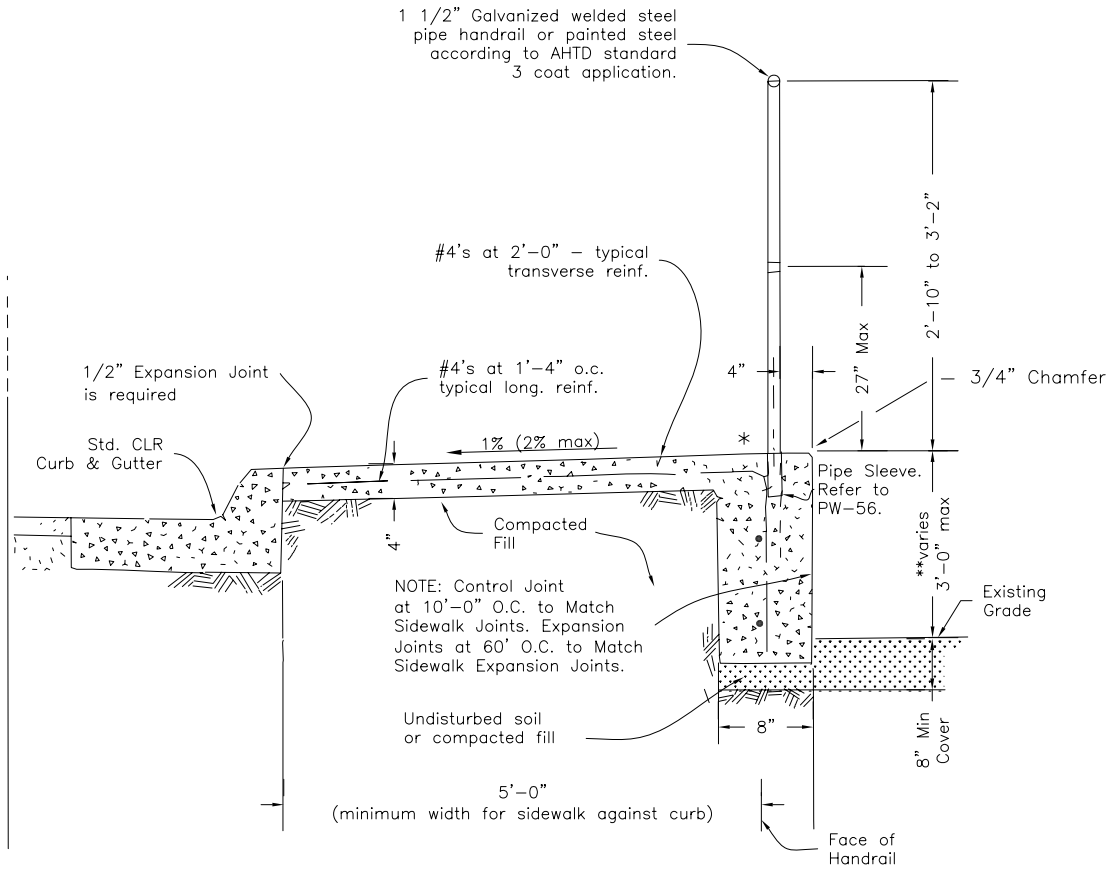
SIDEWALK ADJACENT  
TO CURB  
(FILL SECTION)

PW-43

Issue Date  
AUG, 2006

Revision Date

GENERAL NOTE: PUBLIC SIDEWALK SHALL BE BUFFERED FROM STREET.  
SIDEWALK MAY BE INSTALLED ADJACENT TO CURB ONLY  
UPON RECEIVING WRITTEN AUTHORIZATION FROM PUBLIC  
WORKS.



HANDRAIL TERMINATION  
DETAIL

\*NOTE: SUBSTITUTE 6" CURB FOR HANDRAIL WHEN HEIGHT IS LESS THAN 24" ABOVE GRADE.

\*\* INTERGRAL TURNDOWN WALL SHALL NOT EXCEED 3'-0" IN HEIGHT. IF HEIGHTS EXCEEDS 3'-0" THEN RETAINING WALL WITH FOOTING SHALL BE PROVIDED

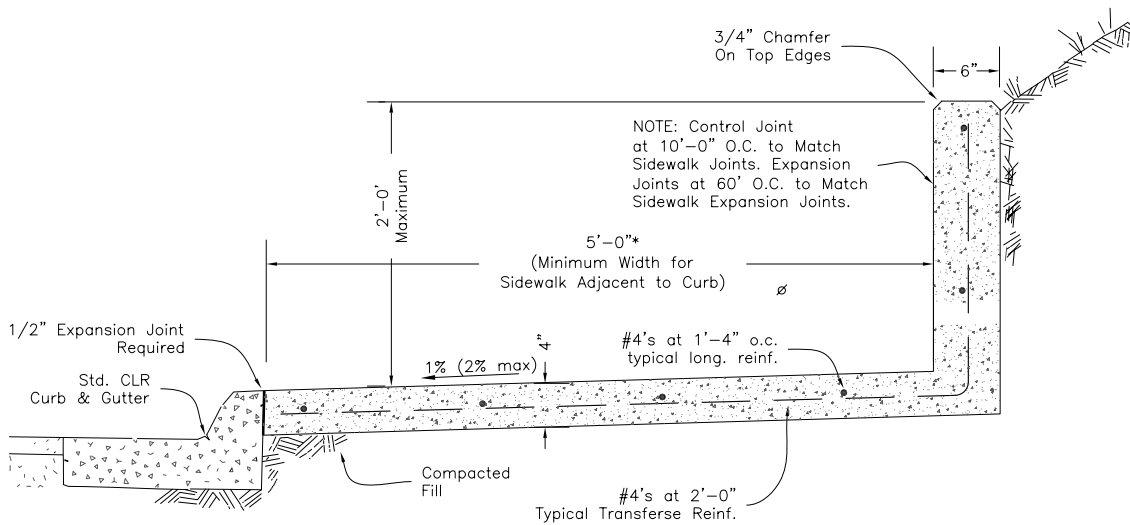


TITLE

SIDEWALK ADJACENT  
(CUT SECTION)

Issue Date  
AUG, 2006

PW-44  
Revision Date



\* Minimum Width For Sidewalk Adjacent to Curb On State Or U.S. Highway is 6'-0"

NOTES: Weep holes not required in turnout wall. If height exceeds 2'-0", then this detail is not used. Retaining walls with footing required where height of turnout exceeds 2'-0". Handrail or fencing required where height of turnout exceeds 2'-0".

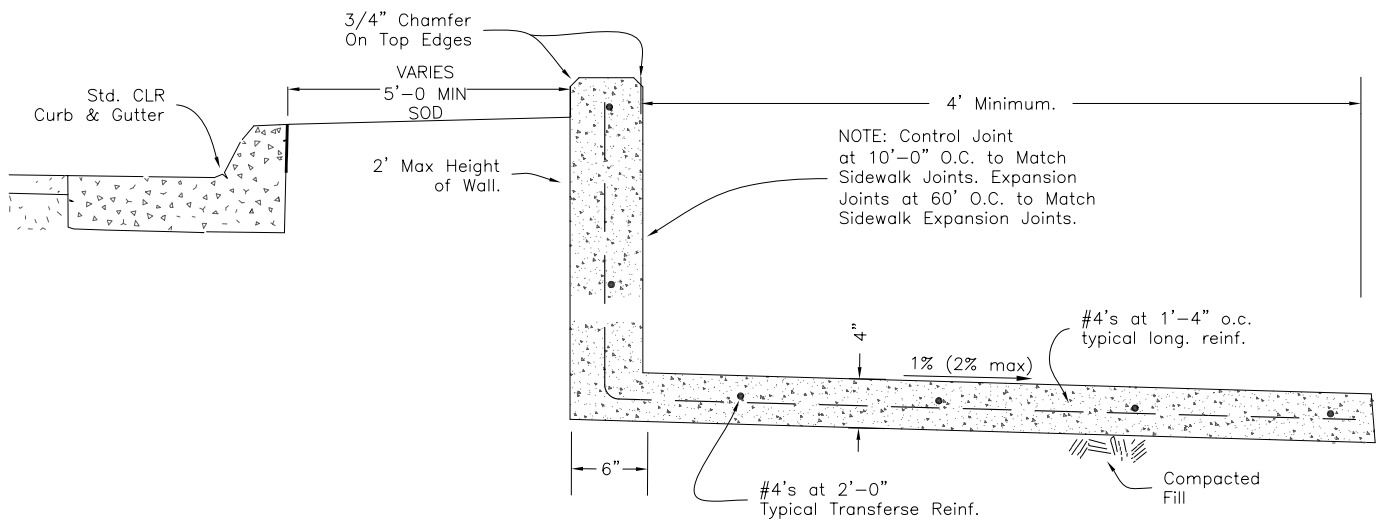


TITLE  
 SIDEWALK  
 (FILL SECTION)

Issue Date  
 AUG, 2006

PW-45  
 Revision Date

USE OF THIS DETAIL IS DISCOURAGED AND REQUIRES WRITTEN AUTHORIZATION OF PUBLIC WORKS FOR SPECIAL CONDITIONS ONLY.



NOTES: Weep holes not required in turnup wall. If height exceeds 2'-0", then this detail is not used. Retaining walls with footing required where height of turnup exceeds 2'-0". Handrail or fencing required where height of turnup exceeds 2'-0".

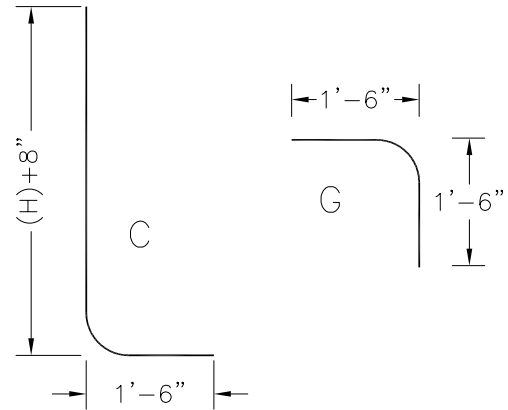
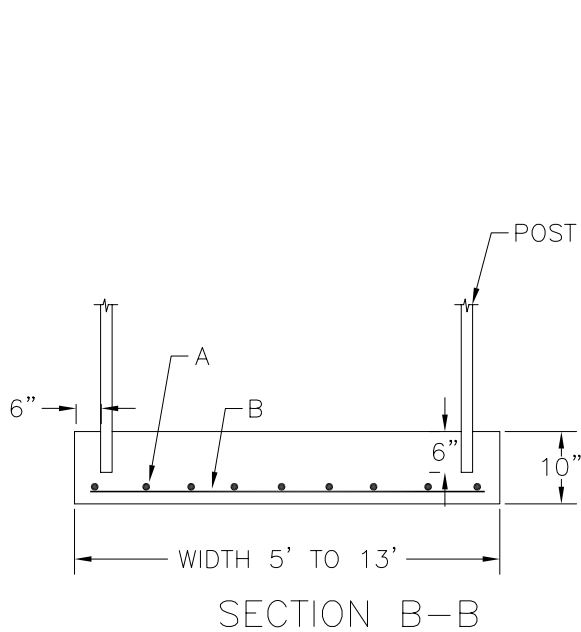


TITLE

SIDEWALK CROSSOVER BRIDGE  
DESIGNED FOR 500 L.B. VEHICLE LOAD

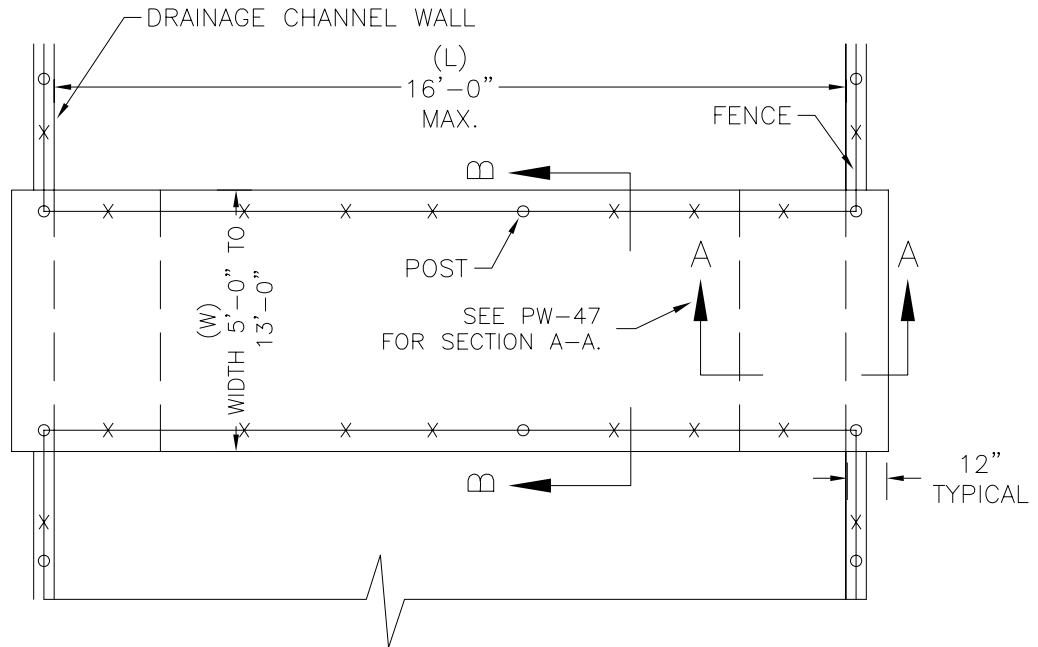
Issue Date  
AUG, 2006

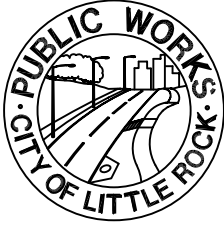
PW-46  
Revision Date



BAR	L	No.
A	(L)+1'-6"	#7@4"
B	(W)-3"	#4@12"
C	(H)+2'-2"	#4@8"
D	(W)-2"	#4@10"
E	3'-10"	#4@8"
F	(W)-3"	#4@12"
G	3'	#4@8"

L : LENGTH OF BRIDGE  
W : WIDTH OF BRIDGE





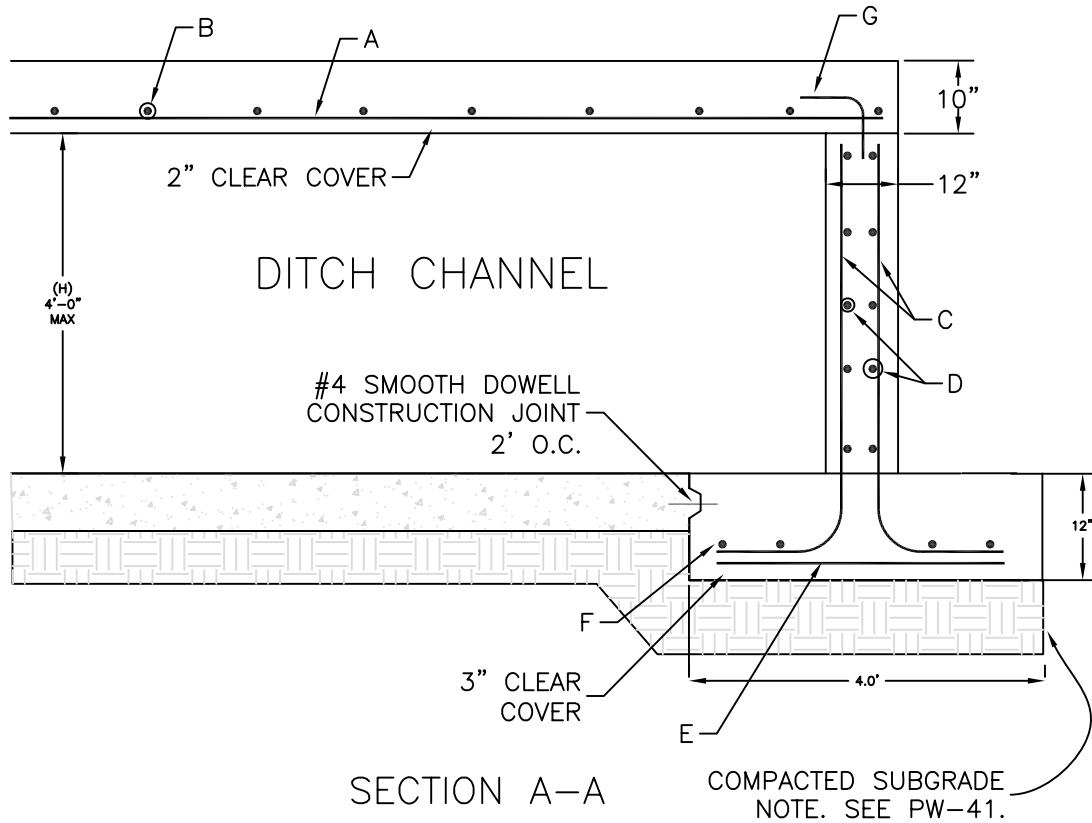
TITLE

SIDEWALK CROSSOVER BRIDGE  
DESIGNED FOR 500 L.B. VEHICLE LOAD

Issue Date  
AUG, 2006

PW-47  
Revision Date

1. SPLICE LENGTH PERMITTED FOR "B", "D", AND "F" BARS ONLY AND SHALL BE 18".
2. COMPRESSIVE STRENGTH OF CONCRETE SHALL BE NOT LESS THAN  
4000 p.s.i. FOR BRIDGE SLAB  
3500 p.s.i. FOR BRIDGE FOOTINGS AT PIERS
3. USE DEFORMED BARS GRADE 60
4. ALLOWABLE SOIL BEARING PRESSURE SHALL BE NOT LESS THAN 1000 lb PER SQ.FT.
5. SEE PW-46 FOR REBAR INFORMATION





TITLE  
ACCESS RAMP  
(GENERAL NOTES & RAMP CRITERIA)

Issue Date	PW-48
AUG, 2006	Revision Date

- (A) THE SLOPE OF THE RAMP SHALL NOT EXCEED 1:12 (8.33%). CONTRACTORS SHOULD FORM RAMPS AT A GRADE LOWER THAN 8.33% TO ALLOW ROOM FOR CONSTRUCTION TOLERANCES. POURING AND FINISHING RAMPS WITHOUT THE AID OF A DIGITAL LEVEL IN CHECKING GRADES IS DISCOURAGED, BECAUSE CONTRACTORS WILL BE REQUIRED TO REMOVE ANY RAMP WITH GRADES EXCEEDING REQUIREMENTS SHOWN IN STANDARD DETAILS. RAMP SURFACE SHALL BE COURSE BROOMED TRANSVERSE TO THE SLOPE. GROOVES/JOINTS ARE NOT TO BE INSTALLED IN THE RAMP SURFACE.
- (B) THE MINIMUM THICKNESS OF RAMPS, SIDEWALKS AND LANDING AREAS SHALL BE 4 INCHES. CONCRETE TO BE MINIMUM 3000 p.s.i.. EXPOSED AGGREGATE CONCRETE SHALL NOT BE USED ON SURFACE RAMPS. WIRE REINFORCEMENT IS NOT REQUIRED IN RAMPS OR SIDEWALKS UNLESS SPECIFICALLY STATED IN DESIGN PLANS.
- (C) THE MAXIMUM RAMP AND LANDING CROSS-SLOPE SHALL BE 2.0% UNLESS THE STREET GRADE EXCEEDS 2.0%, THEN THE CROSS-SLOPE OF THE RAMP SHALL MATCH THE STREET RUNNING GRADE. DO NOT PROVIDE TRANSITIONAL WARPS IN THE GUTTER, RAMP SURFACE OR LANDING AREA. THE STREET RUNNING GRADE IS MEASURED DIRECTLY IN FRONT OF THE RAMP WITH A 4 FOOT DIGITAL LEVEL AND IS THE GRADE OF THE STREET PERPENDICULAR TO THE RAMP RUNNING SLOPE WHERE THE ASPHALT ABUTS THE GUTTER.
- (D) GUTTER SHALL NOT EXCEED 5.0% DIRECTLY IN FRONT OF A CURB RAMP. NO LIP OR VERTICLE SEPARATION SHALL BE INSTALLED BETWEEN THE GUTTER AND THE RAMP.
- (E) THE MINIMUM RAMP WIDTH SHALL BE 4 FEET. A THREE FOOT WIDE RAMP IS ACCEPTABLE ONLY IN THE CASE OF AN OBSTRUCTION AND WITH PUBLIC WORKS WRITTEN APPROVAL. CURB RAMPS, SIDEWALKS, MEDIAN CUTS AND CROSSWALKS SHALL BE ALIGNED UNLESS NOT POSSIBLE TO AID IMPAIRED USERS.
- (F) RAMP SIDE FLARES SHALL NOT EXCEED 10.0% RELATIVE TO THE STREET. (EXAMPLE: IF THE STREET SLOPE IS 5.0% THEN THE SIDE FLARE SLOPE MAY BE UP TO 15.0% ON THE LOW SIDE TO ALLOW THE THE FLARE TO MATCH CURB HEIGHT IN A REASONABLE DISTANCE. THE SIDE FLARE SLOPE ON THE HIGH SIDE OF THE RAMP WOULD REMAIN AT 10.0% OR LESS GRADE SINCE IT WILL MATCH CURB HEIGHT QUICKLY).
- (G) A MINIMUM 3 FOOT LONG SIDEWALK TRANSITION SHALL BE PROVIDED WHEN MATCHING CURB RAMP/LEVEL LANDING TO EXISTING SIDEWALKS WITH CROSS SLOPE EXCEEDING 2.0%. ADDITIONAL TRANSITION LENGTH MAY BE REQUIRED WHEN MATCHING TO EXISTING SIDEWALK WITH SEVERE CROSS SLOPE.
- (H) MEDIAN CUTS: SHALL BE 6 FEET WIDE FOR TWO-WAY PEDESTRIAN TRAFFIC ALIGNED WITH CROSSING. MEDIAN CUT CROSS SLOPE SHALL BE MAXIMUM 2.0% OR MATCH STREET GRADE WHEN ROADWAY SLOPE EXCEEDS 2.0%.

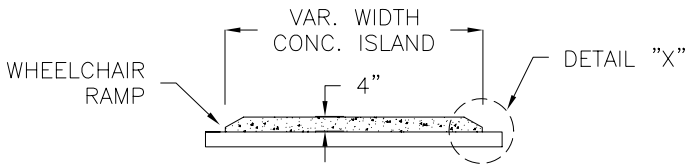
FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH WALK ADJACENT TO CURB BOTH NEW CONSTRUCTION AND ALTERATIONS
	TYPE 2	CORNER LOCATIONS WITH WALK OFFSET FROM CURB A DISTANCE INSUFFICIENT TO ALLOW REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS)
	TYPE 3	CORNER LOCATIONS WITH WALK OFFSET FROM CURB A DISTANCE SUFFICIENT TO ALLOW REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS)
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS)
SECOND	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY)



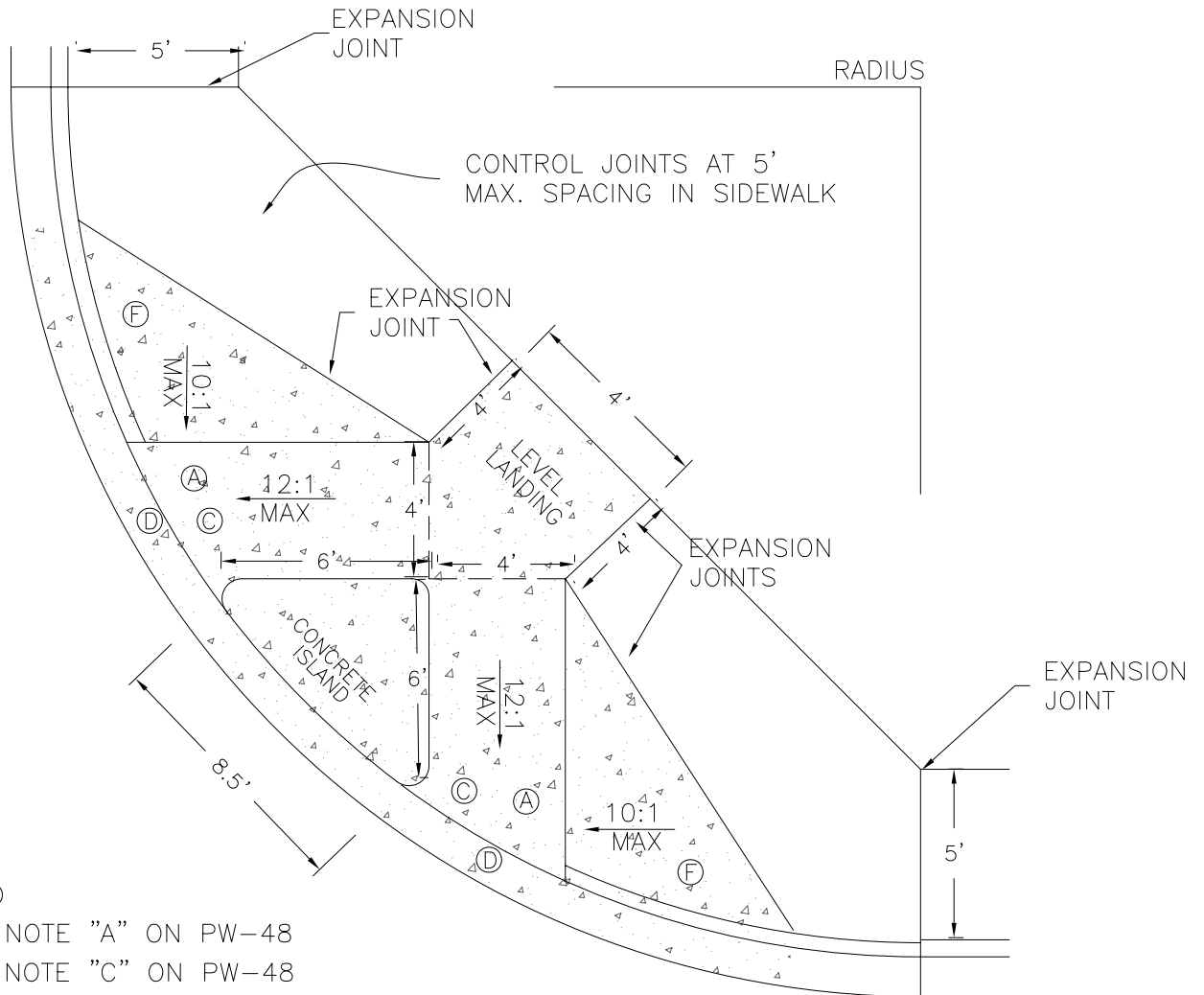
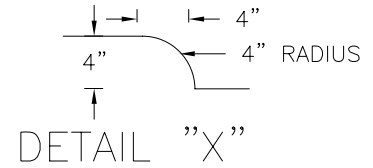
TITLE  
ACCESS RAMP DETAIL  
TYPE 1

Issue Date  
AUG, 2006

PW-49  
Revision Date

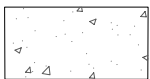


CONCRETE ISLAND DETAIL



LEGEND

- Ⓐ SEE NOTE "A" ON PW-48
- Ⓒ SEE NOTE "C" ON PW-48
- Ⓓ SEE NOTE "D" ON PW-48
- Ⓕ SEE NOTE "F" ON PW-48



DENOTES ACCESS RAMP UNIT PAY AREA

TYPE 1 RAMP  
(WALK ADJACENT TO CURB)



TITLE

ACCESS RAMP DETAIL  
TYPE 2 & TYPE 4

PW-50

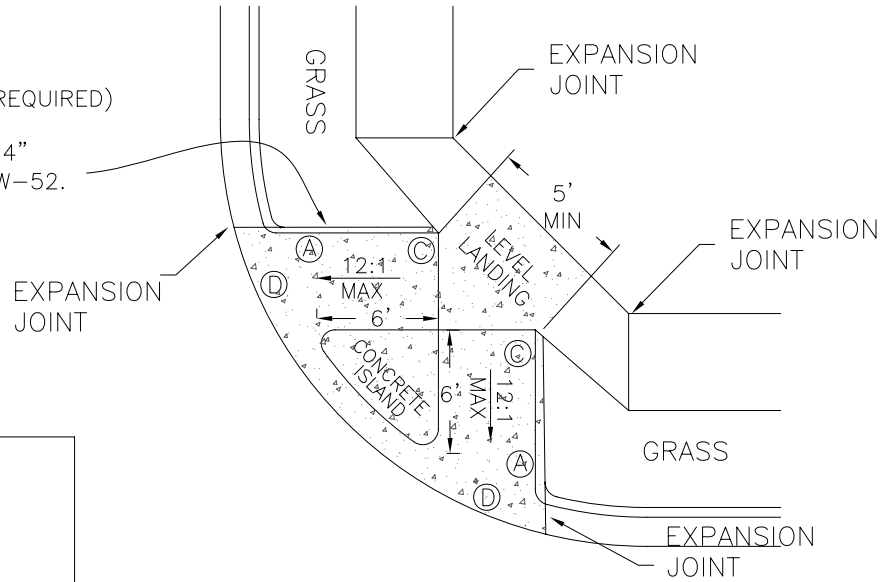
Issue Date  
AUG, 2006

Revision Date

TYPE 2 RAMP

(WALK OFFSET FROM CURB-LANDING REQUIRED)

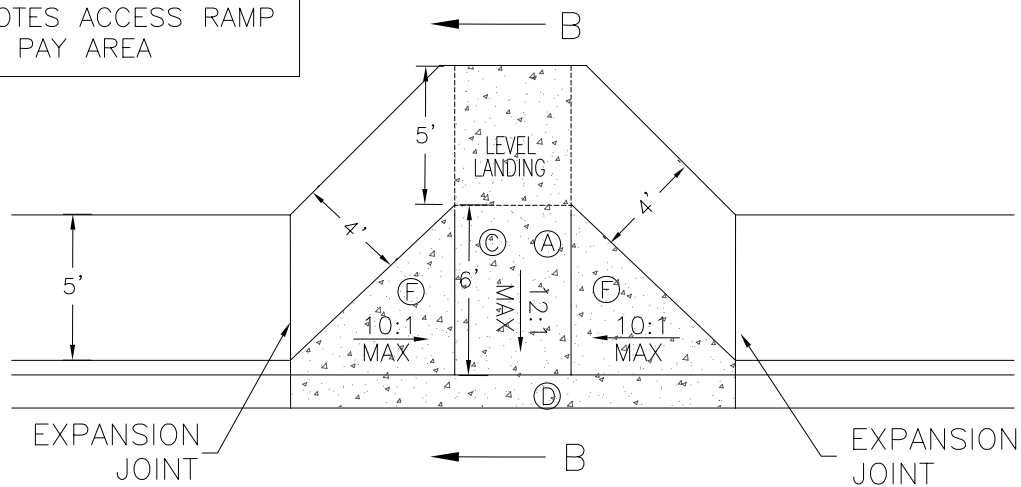
RAMPS ADJACENT TO GRASS REQUIRE 4" CURB OR 1' FLARE PER PW-51 & PW-52.



LEGEND

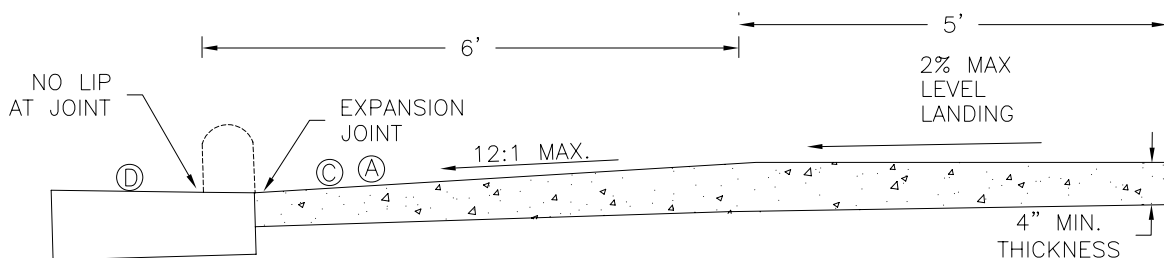
- Ⓐ SEE NOTE "A" ON PW-48
- Ⓒ SEE NOTE "C" ON PW-48
- Ⓓ SEE NOTE "D" ON PW-48
- Ⓕ SEE NOTE "F" ON PW-48

DENOTES ACCESS RAMP UNIT PAY AREA



TYPE 4 RAMP

(WALK ADJACENT TO CURB)



SECTION B-B



TITLE

ACCESS RAMP DETAIL  
TYPE 3 EXPANSION JOINT

Issue Date  
AUG, 2006

PW-51  
Revision Date

Ramp must cross street perpendicular to center line unless otherwise approved by the Public Works Department.

CURB THIS LOCATION MUST BE POURED WITH GUTTER AS MONLOTHIC UNIT.

EXPANSION JOINT

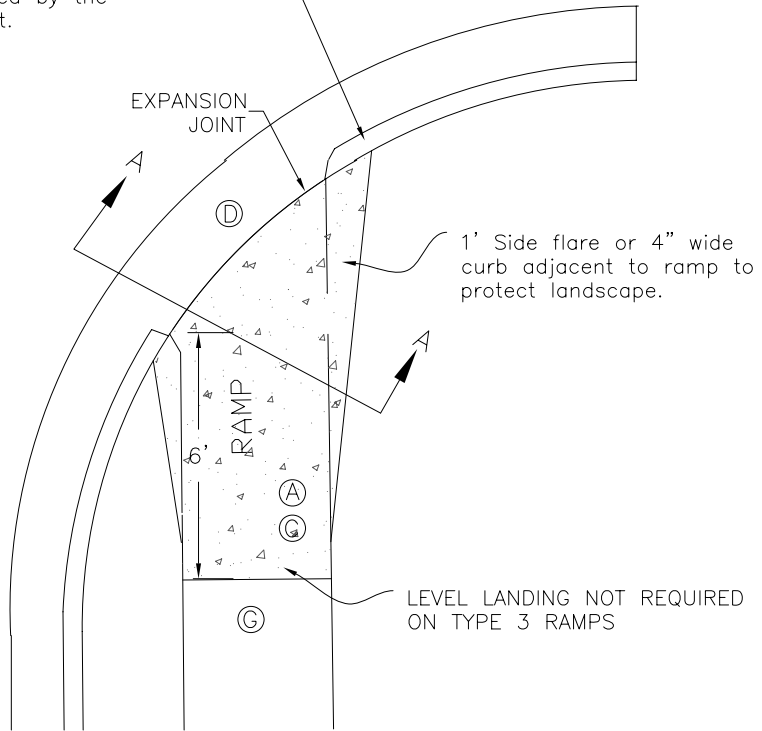
1' Side flare or 4" wide curb adjacent to ramp to protect landscape.

LEVEL LANDING NOT REQUIRED ON TYPE 3 RAMPS

LEGEND

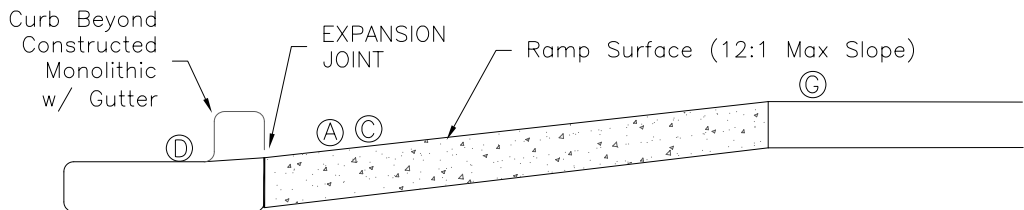
- Ⓐ SEE NOTE "A" ON PW-48
- Ⓒ SEE NOTE "C" ON PW-48
- Ⓓ SEE NOTE "D" ON PW-48
- Ⓔ SEE NOTE "G" ON PW-48

 DENOTES ACCESS RAMP UNIT PAY AREA



TYPE 3 RAMP PLAN

EXPANSION JOINT ALTERNATE 1



SECTION A-A



TITLE

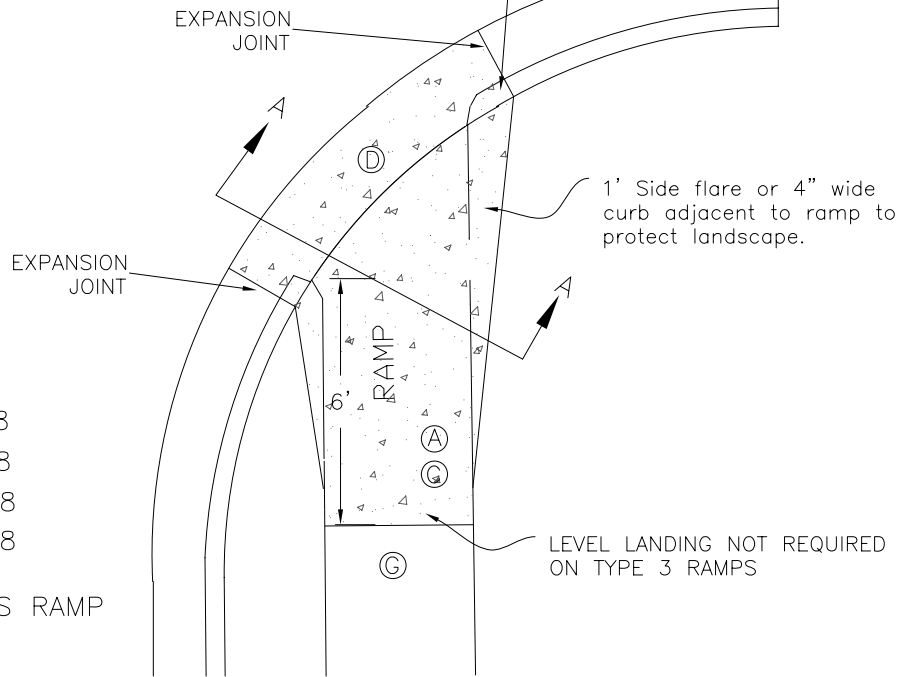
ACCESS RAMP DETAIL  
TYPE 3 EXPANSION JOINT

Issue Date  
AUG, 2006

PW-52  
Revision Date

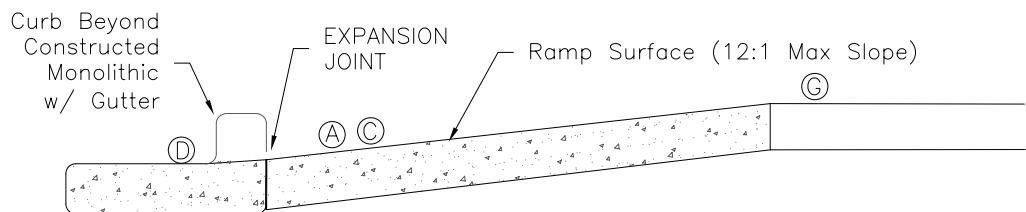
Ramp must cross street perpendicular to center line unless otherwise approved by the Public Works Department.

CURB THIS LOCATION MUST BE POURED WITH GUTTER AS MONLOTHIC UNIT.



TYPE 3 RAMP  
PLAN

EXPANSION JOINT  
ALTERNATE 2



SECTION A-A



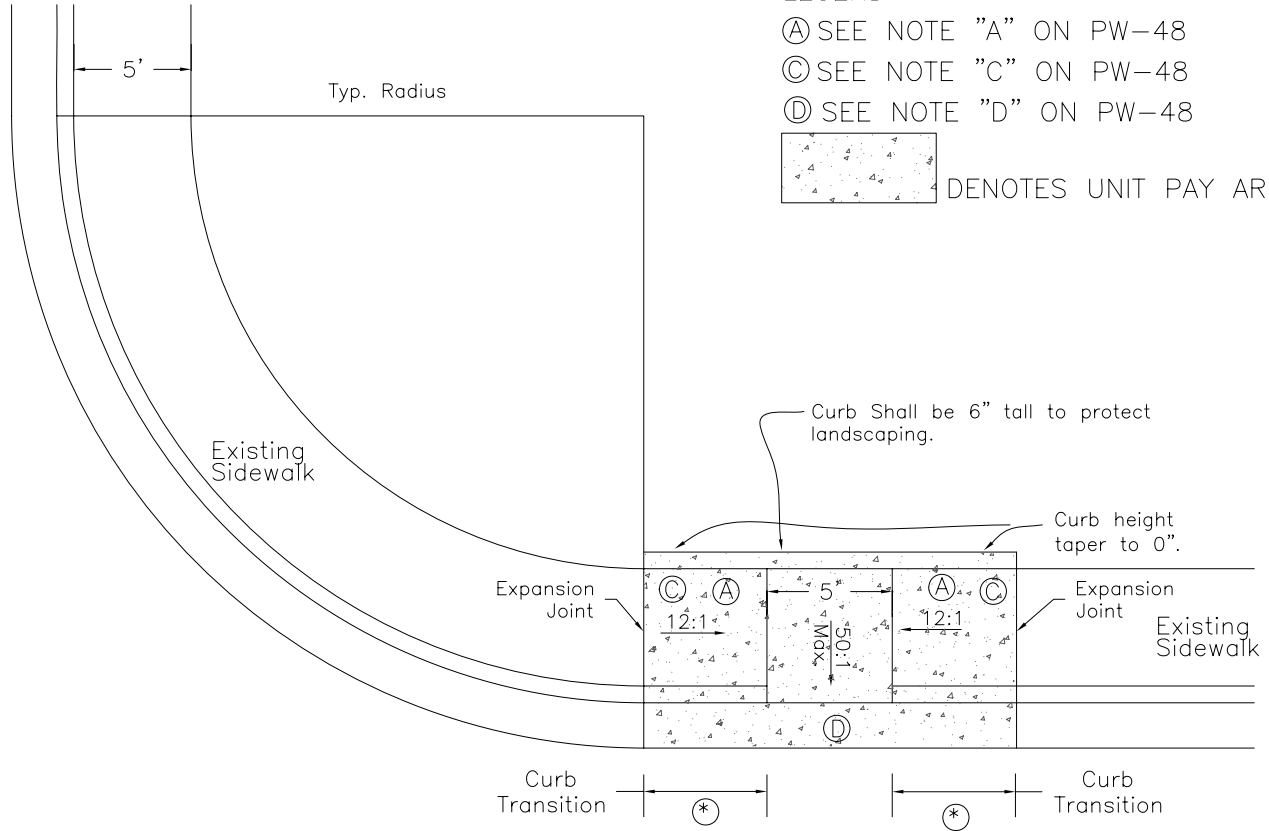
TITLE  
ACCESS RAMP DETAIL  
TYPE 5

Issue Date	PW-53 Revision Date
AUG, 2006	

LEGEND

- Ⓐ SEE NOTE "A" ON PW-48
- Ⓒ SEE NOTE "C" ON PW-48
- Ⓓ SEE NOTE "D" ON PW-48

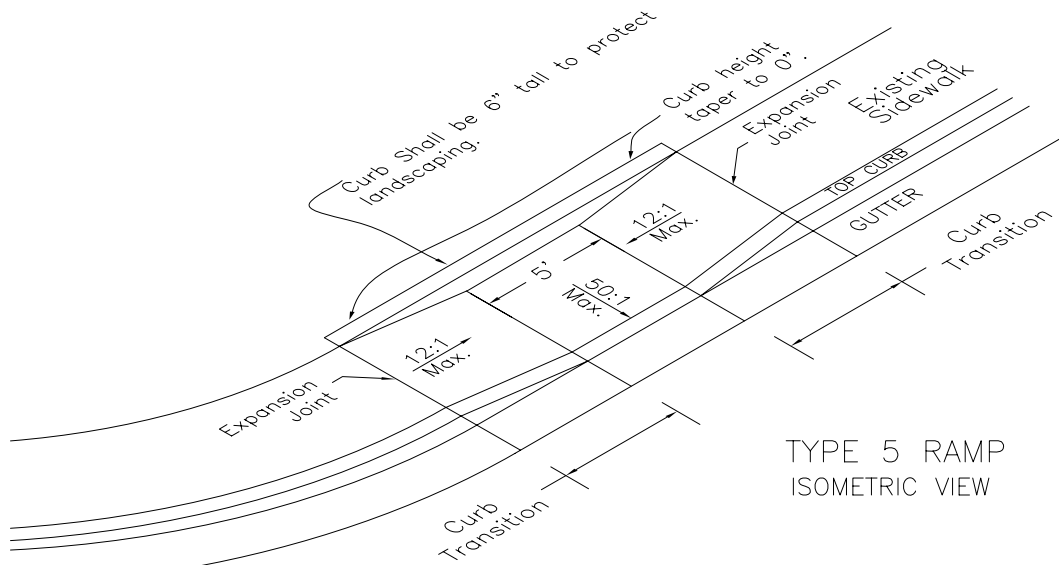
 DENOTES UNIT PAY AREA



TYPE 5 RAMP

THIS RAMP REQUIRES APPROVAL FROM PUBLIC WORKS DEPARTMENT.

⊛ RAMP LENGTH IS NEEDED TO OBTAIN GRADE LESS THAN 12:1 SLOPE, BUT MAXIMUM LENGTH SHALL BE 15 FEET.



TYPE 5 RAMP  
ISOMETRIC VIEW



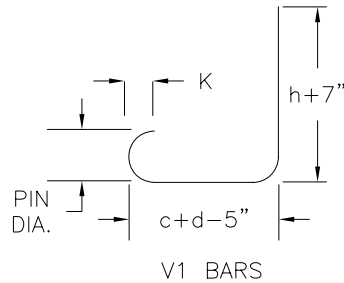
TITLE

RETAINING WALL DETAILS  
(8' MAXIMUM HEIGHT)

Issue Date  
AUG, 2006

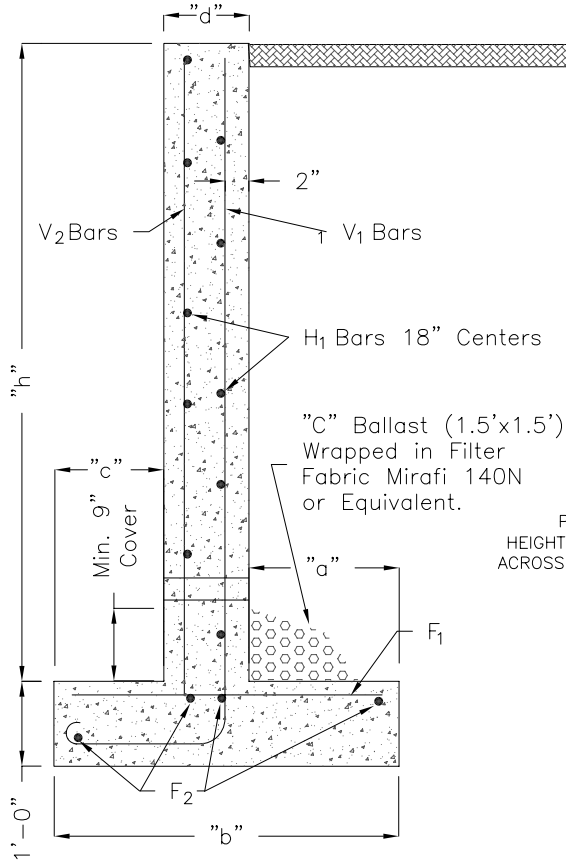
PW-54  
Revision Date

NOTE: IF WALL HEIGHT EXCEEDS 8' OR IF RETAINED EARTH SLOPES UP EXCEEDING 10% GRADE, THE WALL SHALL BE DESIGNED BY PROFESSIONAL ENGINEER WITH GEOTECHNICAL STUDY.



BENDING DIAGRAM

BAR SIZE	BAR	PIN DIA.
#4	4 1/2"	2 1/2"
#5	5"	3"

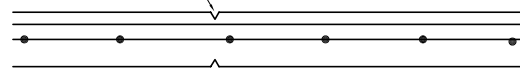


PROVIDE KEYWAY AT BASE OF WALL. KEYWAY NOT REQUIRED ON WALLS LESS THAN 4'.

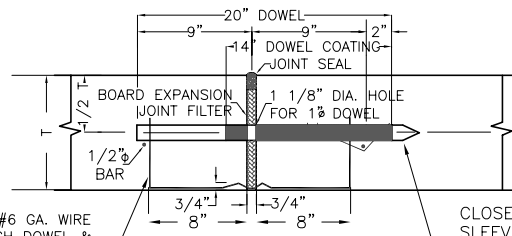
STEEL SCHEDULE

"h"	"c"	"d"	"a"	"b"	V <sub>1</sub> bars		F <sub>1</sub> bars		H <sub>1</sub> V <sub>2</sub> F <sub>2</sub>		
					Size	Spacing	Size	Spacing	#4 bars		
					Size	Spacing	Size	Spacing	Spac.	Spac.	Depth
1'-0"	8"	8"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
2'-0"	8"	8"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
3'-0"	8"	8"	8"	2'-0"	#4	12"	#4	18"	18"	18"	5
4'-0"	8"	8"	1'-2"	2'-6"	#4	12"	#4	12"	18"	18"	5
5'-0"	8"	8"	1'-8"	3'-0"	#4	9"	#4	9"	18"	18"	5
6'-0"	8"	8"	2'-2"	3'-6"	#4	6"	#4	6"	18"	18"	6
7'-0"	12"	8"	2'-4"	4'-0"	#4	6"	#4	6"	18"	18"	6
8'-0"	12"	8"	2'-10"	4'-6"	#4	6"	#4	6"	18"	18"	6

PROVIDE 3/4" CHAMFER FULL HEIGHT OF WALL (EACH FACE) AND, ACROSS TOP. TOOL JOINT CONCRETE CHANNEL BASE.



CONTROL JOINT  
USED AT 10' O.C. EACH SIDE  
(TO ALIGN WITH FENCE POSTS)



DOWEL BAR CONSISTING OF MIN. #6 GA. WIRE CHAIR & DOWEL WOLDER AT EACH DOWEL & TWO 1/2" STEEL BARS AT EACH CHAIR. 3/4" EXPANSION JOINT AT 80' O.C.

EXPANSION JOINT  
(DOWEL BARS TO BE 12" ON CENTER)

CLOSED END DOWEL BAR SLEEVE TO FIT DOWEL AND BE SECURED BY BAR TIE OR WELDING.

REINFORCED CONCRETE RETAINING WALL

2" WEEP HOLES (MAX. SPACING 10'-0" CTRS.) TO BE PLACED TO ALIGN WITH CONTROL JOINTS. ALL EXPOSED EDGES TO BE CHAMFERED 3/4".

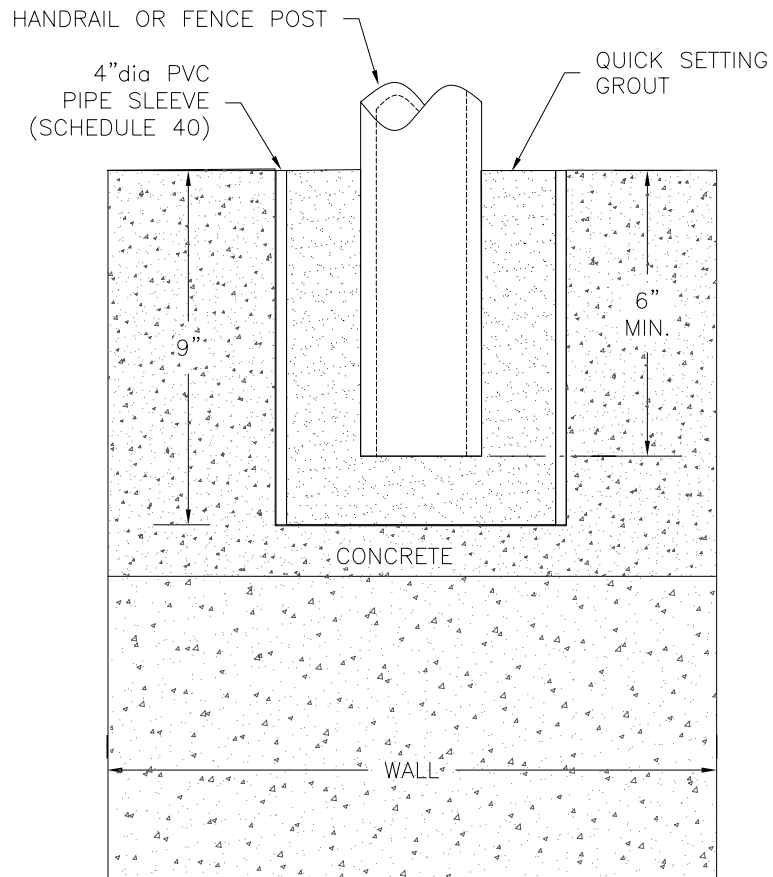


TITLE  
PIPE SLEEVE DETAIL

Issue Date  
AUG, 2006

PW-56  
Revision Date

FENCE POST TO BE ALIGNED WITH CONTROL JOINTS.  
SEE PW-59 FOR DETAIL OF FENCE POST AT EXPANSION  
JOINT.





TITLE

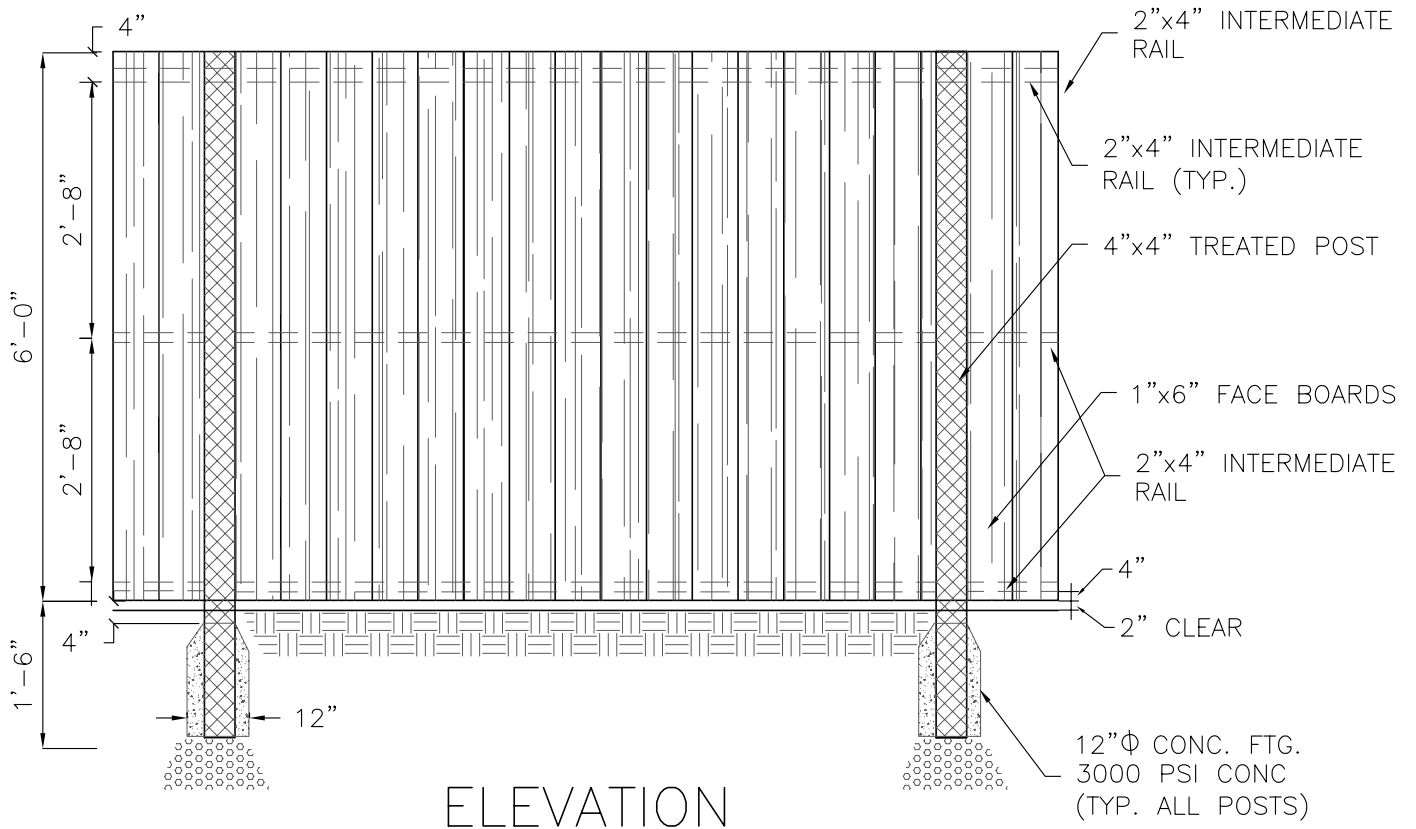
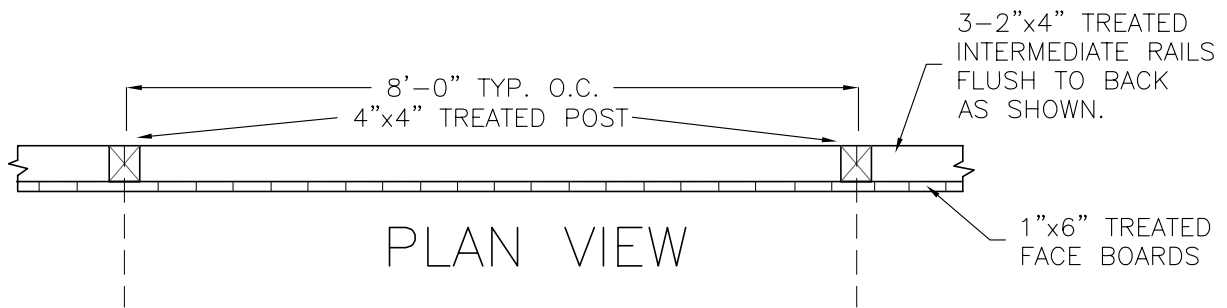
WOOD FENCE DETAIL  
(WITH WOOD POST)

Issue Date  
AUG, 2006

PW-57  
Revision Date

NOTES:

- \*ALL FASTENING HARDWARE TO BE NON-CORROSIVE
- \*CONTRACTOR SHALL USE 8p. GALVANIZED SIDING NAILS OR 2" GALVANIZED SCREWS THROUGHOUT.
- \*ALL WOOD MEMBERS SHALL BE TREATED.



N.T.S.



TITLE

WOOD FENCE DETAIL  
(WITH METAL POST)

Issue Date  
AUG, 2006

PW-58  
Revision Date

NOTES:

- \*ALL FASTENING HARDWARE TO BE NON-CORROSIVE
- \*CONTRACTOR SHALL USE 8p. GALVANIZED SIDING NAILS OR 2" GALVANIZED SCREWS THROUGHOUT.
- \*ALL WOOD MEMBERS SHALL BE TREATED.

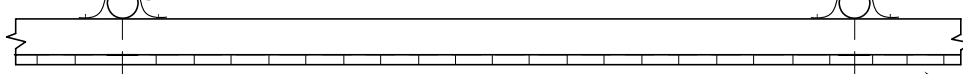
ROUND HEAD SHEET METAL  
BLUNT POINT HARDENED  
SELF TAPPING 20 GA.#10.

2 HOLE ELECTRICAL  
METALLIC CONDUIT  
STRAP 2" WIDE

5/8"x1 1/2"  
LAG BOLTS  
(EACH SIDE)

GALVANIZED 2 7/8" O.D.  
SCH. 40 ASTM A53  
GRADE 8 METAL POSTS  
MAXIMUM 8' O.C.

8'-0" TYP. O.C.  
METAL POST



PLAN VIEW

1"x6" TREATED  
FACE BOARDS

2"x4" INTERMEDIATE  
RAIL

2"x4" INTERMEDIATE  
RAIL (TYP.)

METAL POST

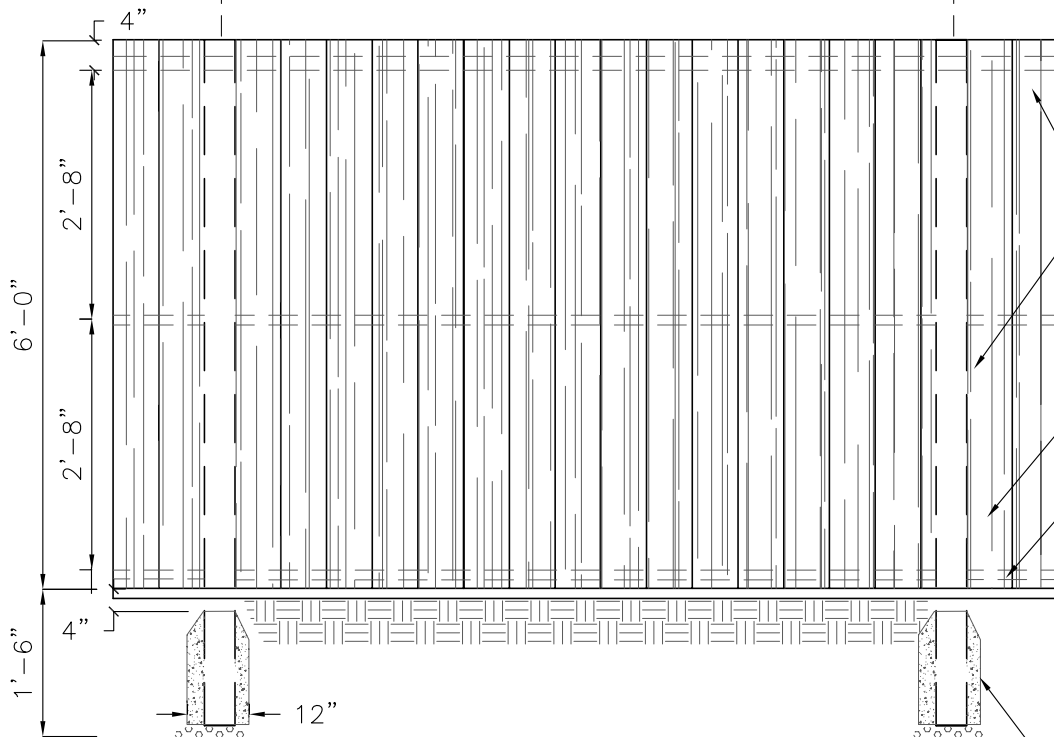
2"x4" INTERMEDIATE  
RAIL

1"x6" FACE BOARDS

2"x4" INTERMEDIATE  
RAIL

4"

2" CLEAR



12"Φ CONC. FTG.  
3000 PSI CONC  
(TYP. ALL POSTS)

ELEVATION

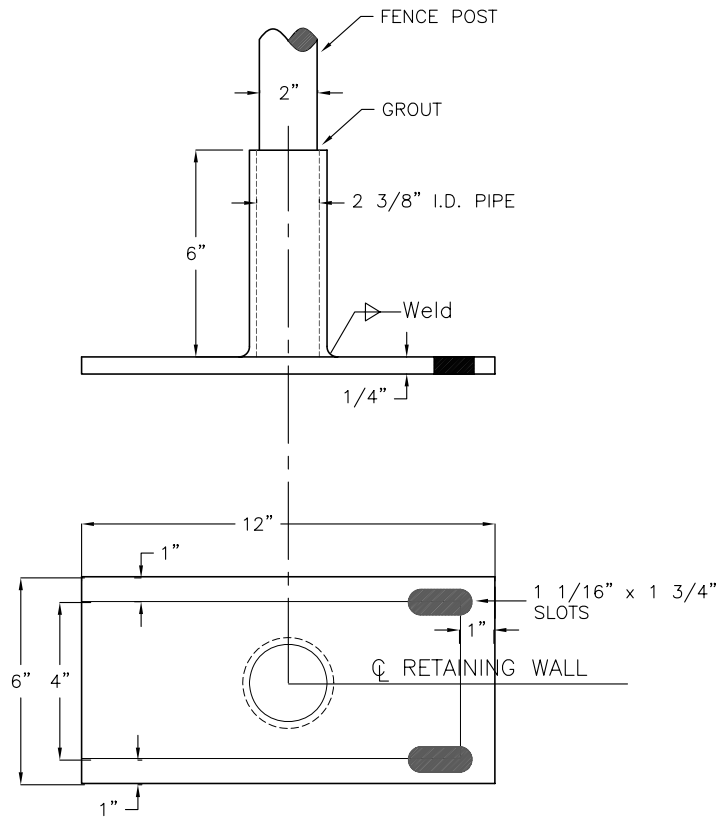
N.T.S.



TITLE  
 FENCE POST FLANGE DETAIL  
 AT EXPANSION JOINT

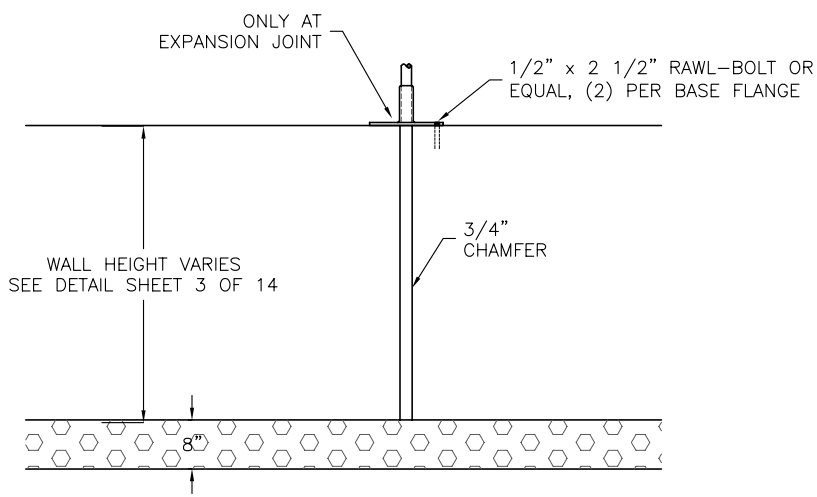
Issue Date  
 AUG, 2006

PW-59  
 Revision Date



BASE FLANGE

BASE FLANGE SHALL BE GALVANIZED



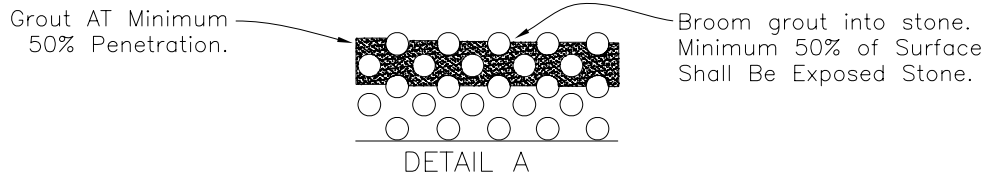
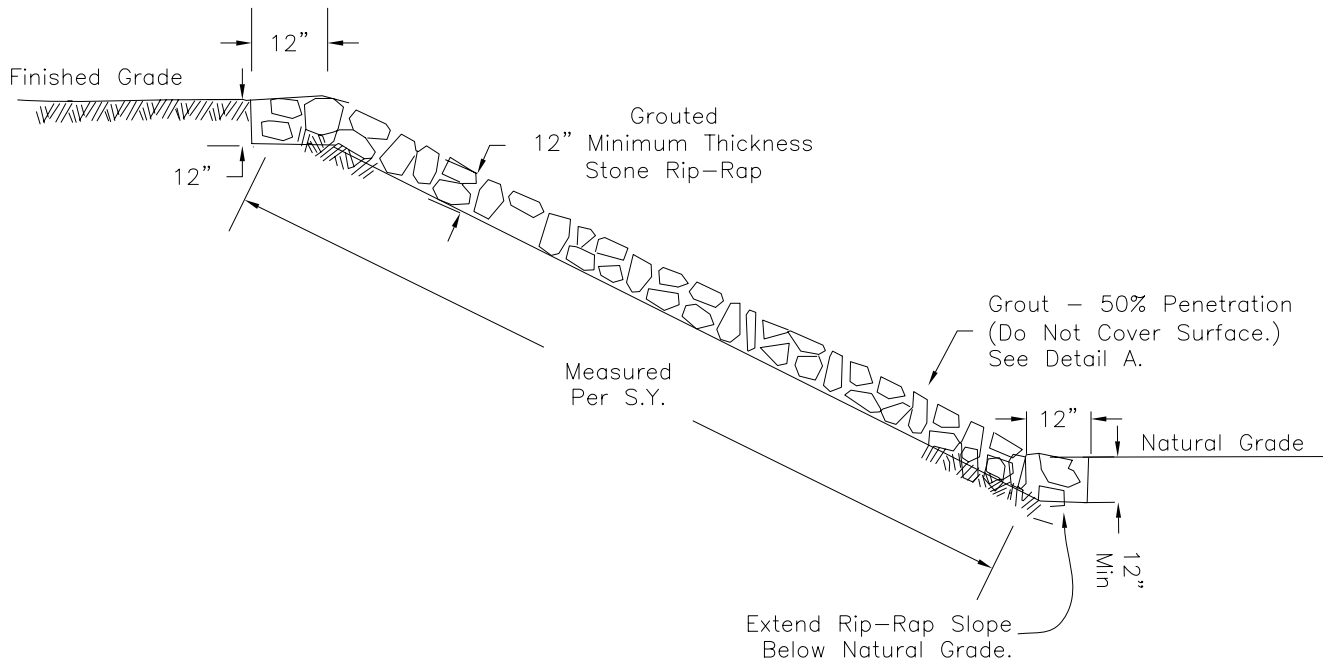
BASE FLANGE LOCATION



TITLE  
GROUTED RIP-RAP  
DETAILS

Issue Date  
AUG, 2006

PW-60  
Revision Date



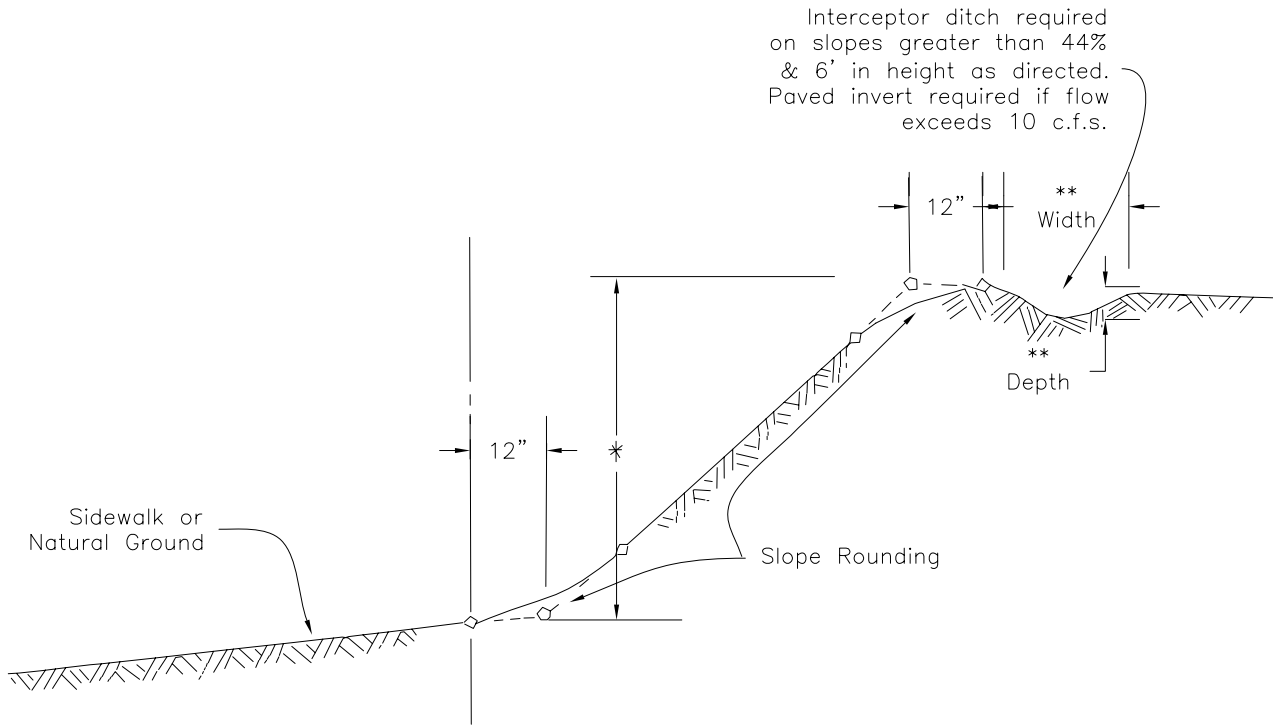
% STONE	WEIGHT OF PIECES IN POUNDS
NOT MORE THAN 15	75-150
40-45	25-75
30-35	6-25
NOT MORE THAN 15	LESS THAN 6



TITLE  
SLOPE ROUNDING  
DETAIL

Issue Date  
AUG, 2006

PW-61  
Revision Date



SLOPE ROUNDING  
(TYPICAL ON ALL CUT OR FILL SLOPES)

\* Maximum height 15'-0" unless midheight 10' terraces utilized according to Section 29 of Little Rock Code of Ordinances.

\*\* INTERCEPTOR DITCH SIZE SHALL BE DETERMINED BY ENGINEER

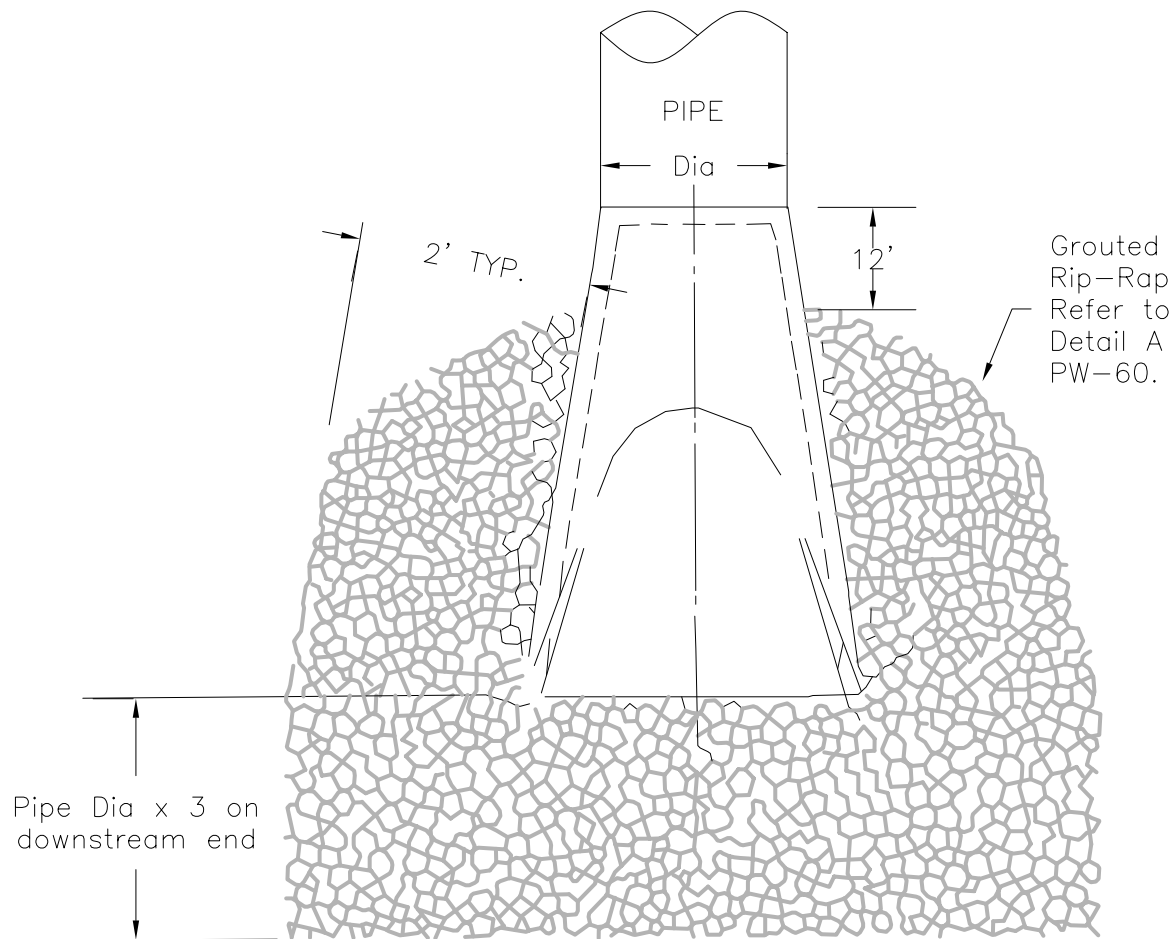


TITLE

FLARED END SECTION  
RIP RAP PLACEMENT  
DOWNSTREAM END

Issue Date  
AUG, 2006

PW-62  
Revision Date



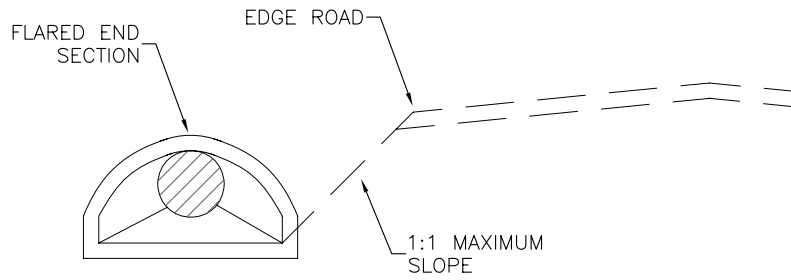
Note: Similar construction required for other headwalls.  
See PW-62A for FES installation requirements.



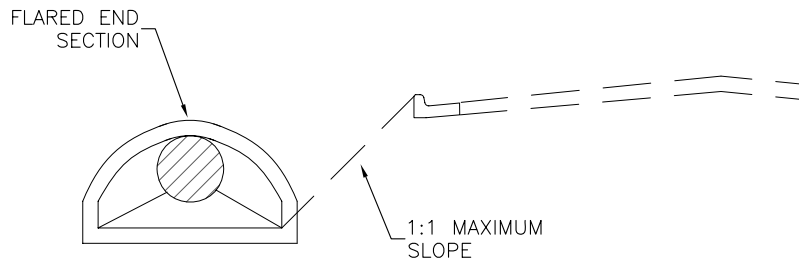
TITLE  
FLARED END SECTION  
BESIDE STREET

Issue Date  
AUG, 2006

PW-62A  
Revision Date



STREET WITHOUT CURB AT  
FLARED END SECTION



STREET WITH CURB AT  
FLARED AND SECTION

\*NOTE: IF LOCATION AND ELEVATION GIVEN ON PLANS CAUSE FLARED END SECTION INSTALLATION TO EXCEED A 1:1 SLOPE FROM FLARED END SECTION FLOWLINE TO STREET, THEN ENGINEER SHOULD IMMEDIATELY BE CONTACTED AND INSTALLATION OF FLARED END SECTION IS TO STOP UNTIL FURTHER NOTICE.

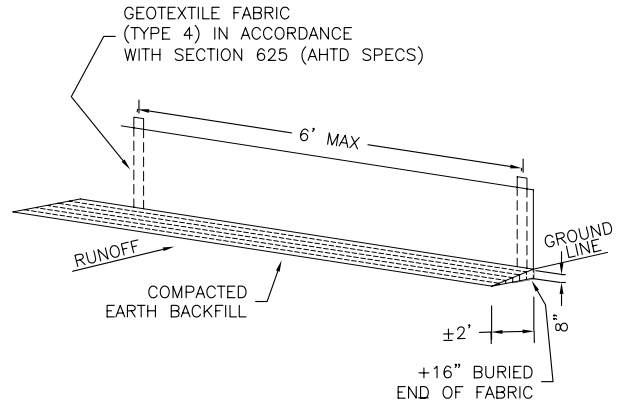
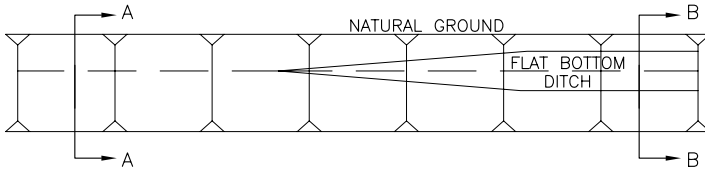


TITLE  
 TEMPORARY EROSION  
 CONTROL DEVICES

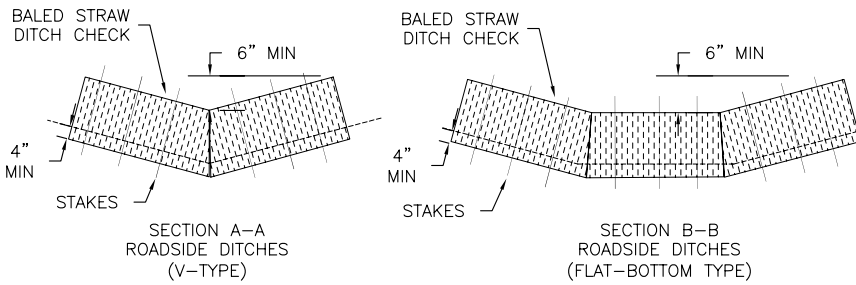
Issue Date  
 AUG, 2006

PW-63  
 Revision Date

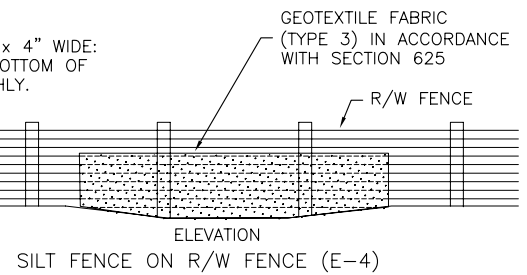
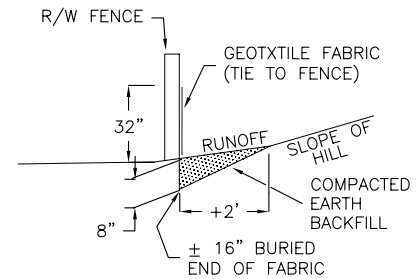
- GENERAL NOTES
1. STRAW BALES SHALL BE INSTALLED SO BINDINGS ARE ORIENTED AROUND SIDES RATHER THAN ALONG TOPS AND BOTTOMS OF BALES. BALES SHALL BE A MINIMUM OF 30" IN LENGTH.
  2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4" AND NO CAPS SHALL BE LEFT BETWEEN BALES.



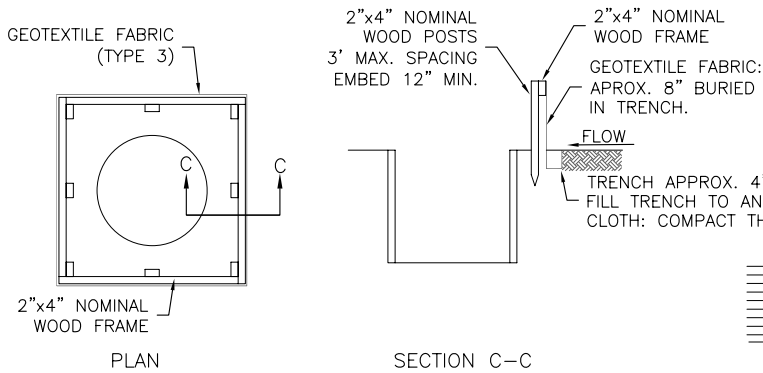
SILT FENCE (E-11)



BALED STRAW DITCH CHECK (E-1)

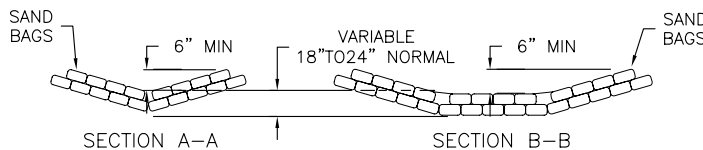
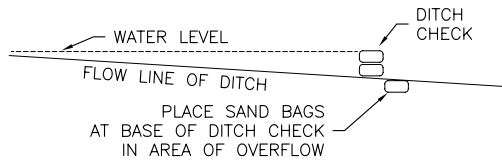


SILT FENCE ON R/W FENCE (E-4)

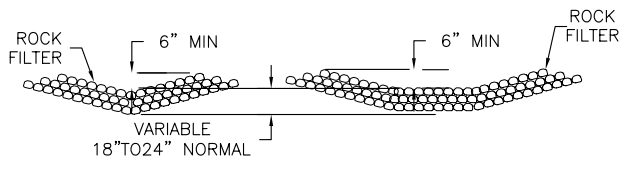
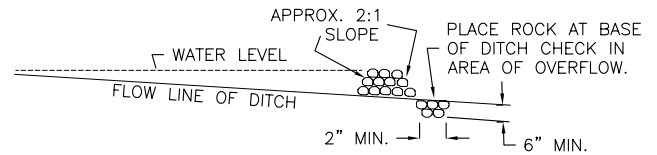


DROP INLET SILT FENCE (E-7)

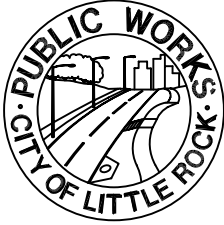
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



SAND BAG DITCH CHECK (E-5)



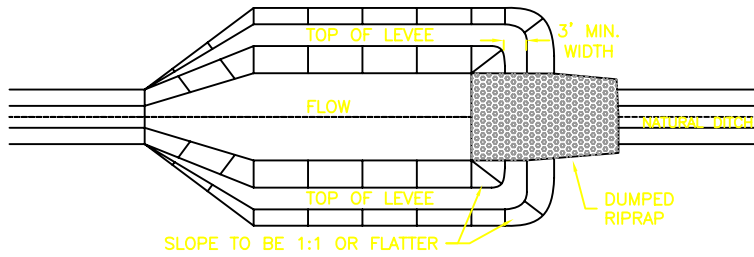
ROCK DITCH CHECK (E-5)



TITLE  
 TEMPORARY EROSION  
 CONTROL DEVICES

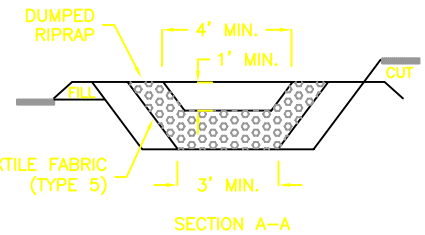
Issue Date  
 AUG, 2006

PW-64  
 Revision Date

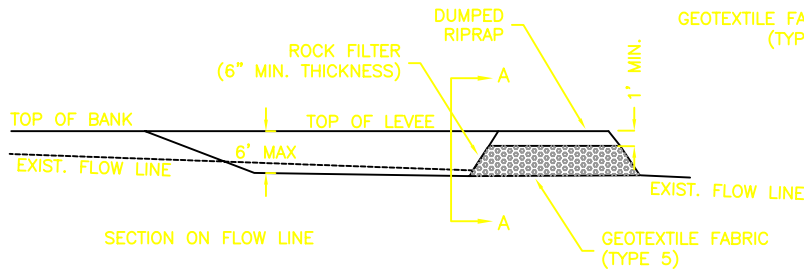


PLAN

NOTE:  
 SIZE OF BASIN TO BE DETERMINED  
 BY VOLUME REQUIRED, HOWEVER, A  
 MINIMUM LENGTH-TO-WIDTH RATIO OF  
 2:1 SHALL BE MAINTAINED.

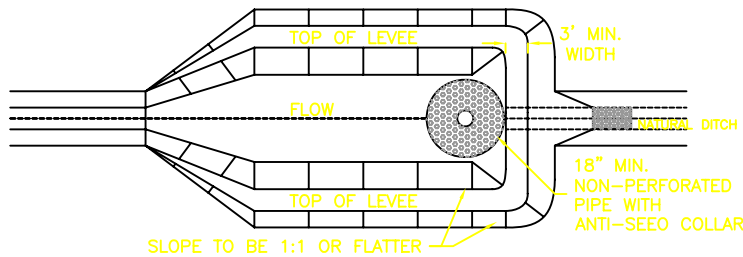


SECTION A-A



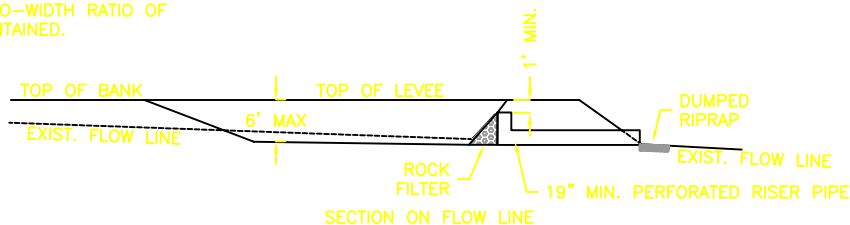
SECTION ON FLOW LINE

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



PLAN

NOTE:  
 SIZE OF BASIN TO BE DETERMINED  
 BY VOLUME REQUIRED, HOWEVER, A  
 MINIMUM LENGTH-TO-WIDTH RATIO OF  
 2:1 SHALL BE MAINTAINED.



SECTION ON FLOW LINE

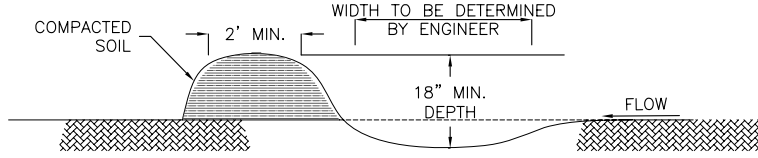
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



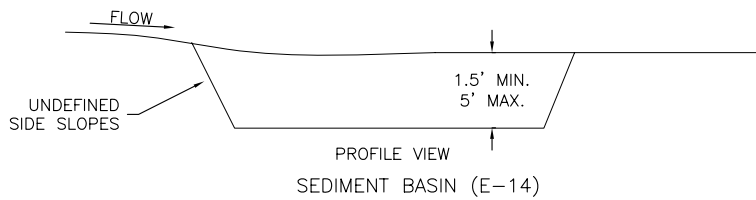
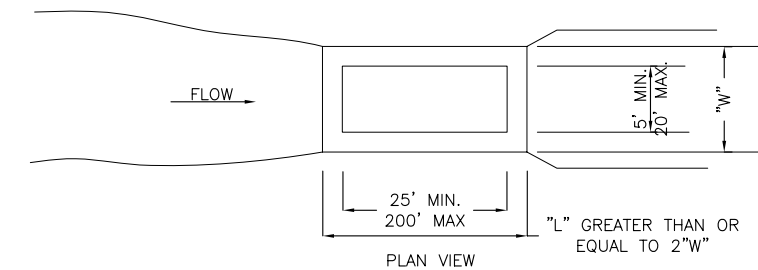
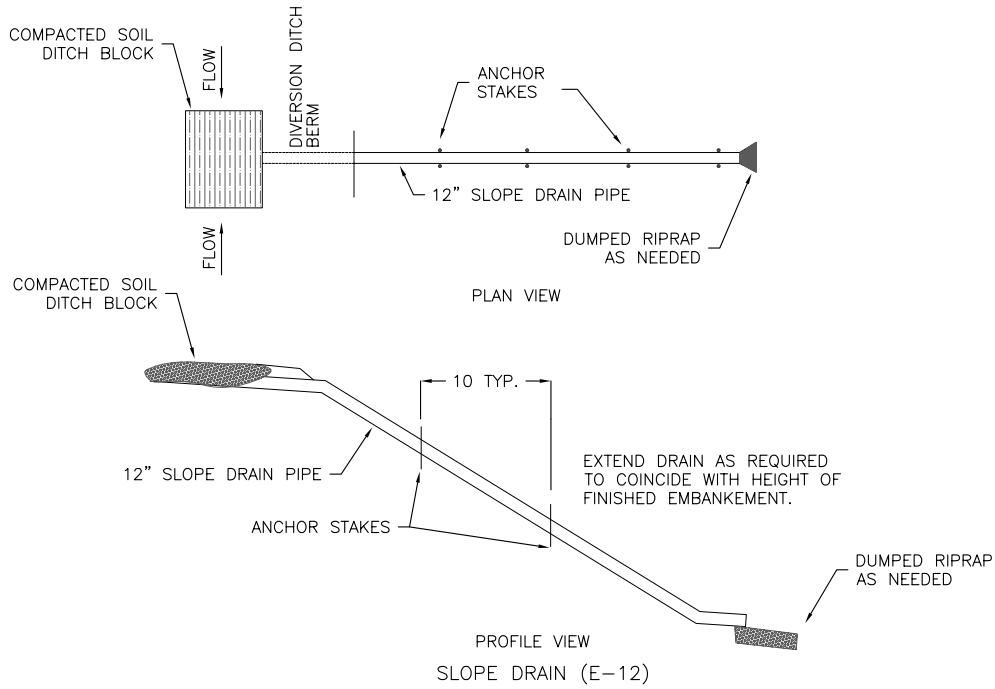
TITLE  
 TEMPORARY EROSION  
 CONTROL DEVICES

Issue Date  
 AUG, 2006

PW-65  
 Revision Date



NOTE: DIVERSION DITCH (E-8)  
 A T-SECTION SHALL BE USED AT THE  
 INLET FOR TWO-DIRECTIONAL FLOW.  
 AN ELBOW SHALL BE USED FOR ONE  
 DIRECTIONAL FLOW.

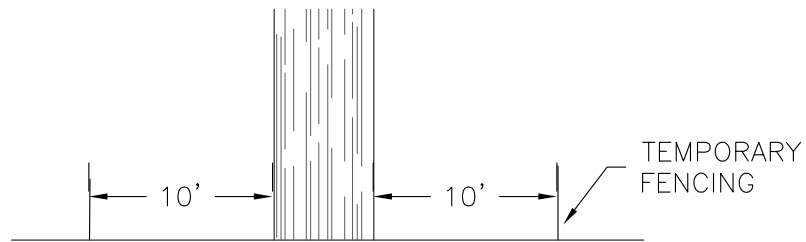
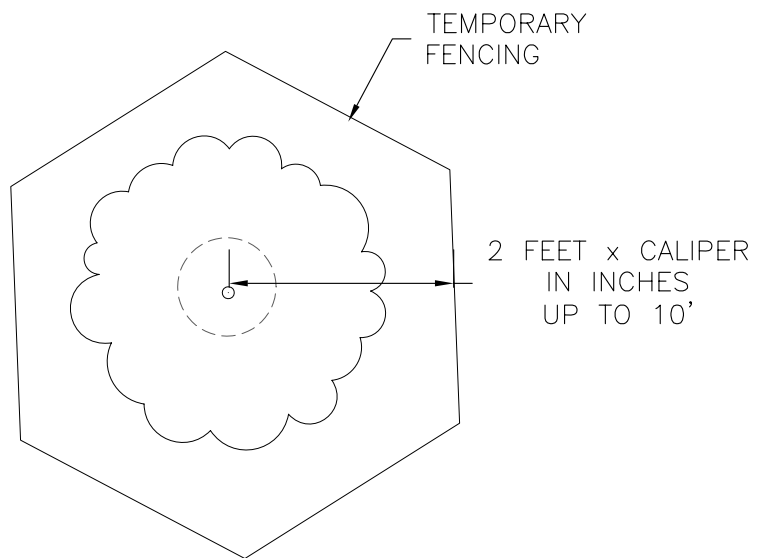




TITLE  
TREE PROTECTION

Issue Date  
AUG, 2006

PW-66  
Revision Date



NO FILL WITHIN  
10' OF TRUNK OF  
TREE

NOTE: TEMPORARY FENCING SHALL BE PLACED PRIOR TO CONSTRUCTION IN AREA.



TITLE

FRAME BARRICADE TYPE 3  
PERMANENT INSTALLATION

Issue Date  
AUG, 2006

PW-67  
Revision Date

NOTE:

FASTEN TREATED LUMBER WITH  $\frac{3}{8}$ "x6" LAG  
SCREWS, WITH WASHERS 2 EACH SIDES

BARRICADE SHALL CONFORM TO THE  
MANUAL ON UNIFORM TRAFFIC CONTROL  
DEVICES. SECTION 3F.01

