

# **STANDARD PLANS**



**ORANGE COUNTY**

**RESOURCES & DEVELOPMENT  
MANAGEMENT DEPARTMENT**

2006 EDITION

**BRYAN G. SPEEGLE, DIRECTOR**

ADOPTED BY RESOLUTION OF BOARD OF SUPERVISORS  
RESOLUTION NO. 06-010

# **STANDARD PLAN REFERENCE**

## **STANDARD PLANS 100 THROUGH 636**

### **STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (1997 EDITION)**

AMERICAN PUBLIC WORKS ASSOCIATION  
SOUTHERN CALIFORNIA CHAPTER

ASSOCIATED GENERAL CONTRACTORS OF CALIFORNIA  
SOUTHERN CALIFORNIA DISTRICTS

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## **STANDARD PLANS 1100 THROUGH 1809**

### **STANDARD PLANS FOR ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT**

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## PREFACE

The Standard Plans for Public Works Construction of the American Public Works Association (Southern California Chapter) and Associated General Contractors of California (Southern California District) are hereinafter called APWA.

It is Resources & Development Management Department (RDMD)'s intent to adopt the APWA Standard Plans except where current RDMD Standard Plans, or portions thereof, should be retained on the basis of cost or safety or where portions of RDMD Standard Plans can be used with APWA Standard Plans in a way that meets special RDMD needs and does not adversely affect the benefits of standardization.

There are three categories of Standard Plans:

- 1) RDMD has adopted APWA Standard Plans with or without conditions.
- 2) RDMD has a Standard Plan which addresses a subject but APWA does not.
- 3) APWA has a Standard Plan which addresses a subject but RDMD does not.

This edition of the RDMD Standard Plans includes the first two categories. The third category has not yet been adopted by RDMD. APWA has a number of Standard Plans that have no equivalent RDMD Standard Plans. Although it is intended to consider such Standard Plans for adoption by RDMD, time has precluded a review of such APWA Standard Plans and, therefore, such APWA Standard Plans shall not be used for RDMD projects at this time.

The adopted APWA Standard Plans (with and without conditions) are now included in this edition of RDMD Standard Plans. The APWA Standard Plans are copyrighted and published by Building News, Inc., (10801 National Blvd, Suite 100, Los Angeles, CA 90064; (800)-873-6397). Therefore, RDMD has included the adopted APWA Standard Plans in their entirety without making revisions directly on the APWA Standard Plans. RDMD conditions, if any, are located immediately following the APWA Standard Plans.

Construction plan call-outs should include the appropriate letter prefix: such as "Construct per APWA 312-1" or "Construct per RDMD 1101". Where the call-out omits the letter prefix, the RDMD Standard Plan shall apply unless otherwise directed by the Engineer. Where an APWA Standard Plan is called out which has been approved by RDMD with conditions, the plan call-out as an example would be identified as "RDMD 100-0-OC". In this case, the APWA Standard Plan is given the suffix OC. However, a plan call-out for an APWA Standard Plan shall automatically include the RDMD conditions, if any.

RDMD and APWA Standard Plans may be used by reference, for example, "Construct per RDMD 100-0-OC" or the standard plans may be reproduced on project drawings submitted for RDMD approval. However, where standard plans are reproduced in the drawings, the entire standard plan shall be reproduced. The APWA Standard Plans are copyrighted and may not be reproduced except for use on RDMD plans as noted above.

The users of these Standard Plans should also be aware that the APWA Standard Plans are unsigned. Where Standard Plans (either RDMD or APWA) have been approved by RDMD, RDMD's approval is an approval that the adopted Standard Plan is suitable for general RDMD use. The project proponent, by including the Standard Plans (by reference or reproduction) in project plans, assumes a professional engineer's responsibility for their use.

In addition to the adoption of a portion of APWA Standard Plans, RDMD has also adopted a portion of the Department of Transportation, State of California Standard Plans dated 2002. Due to their availability those Standard Plans are not included in this booklet. The following are the portion of Standard Plans, Department of Transportation, State of California, RDMD has adopted:

1. The portion covering "Signals, Lighting and Electrical Systems."
2. The portion covering "Bridges".
3. Standard Plans A77A through A77N covering "Metal Beam Guard Railing".

The users of the RDMD Standard Plans shall verify Standard Plans for compliance with current ADA requirements.

# TABLE OF CONTENTS

## APWA STANDARD PLANS

### SECTION 1

#### **Street Improvements**

112-1-OC	APWA Standard Plan - Curb & Sidewalk Joints
120-1-OC	APWA Standard Plan - Curb & Gutter-Barrier
122-1-OC	APWA Standard Plan - Cross and Longitudinal Gutters
133-1-OC	APWA Standard Plan - Asphalt Concrete Pavement Replacement
140-2-OC	APWA Standard Plan - Median Taper
141-1-OC	APWA Standard Plan - Median Flare

### SECTION 3

#### **Flood Control and Storm Drain Facilities**

312-2-OC	APWA Standard Plan - Catch Basin Manhole Frame & Cover
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### SECTION 5

#### **Landscaping and Irrigation Systems**

500-0	APWA Standard Plan - Landscape Irrigation Symbols
501-1-OC	APWA Standard Plan - Electrical Service
502-1-OC	APWA Standard Plan - Angle Valve
503-1-OC	APWA Standard Plan - Gate Valve
504-1-OC	APWA Standard Plan - Quick Coupler Valve
505-1-OC	APWA Standard Plan - Hose Bibb Valve
506-1-OC	APWA Standard Plan - Remote Control Valve
507-1-OC	APWA Standard Plan - Remote Control Valve with Quick Coupler
508-1-OC	APWA Standard Plan - Thrust Blocks for Plastic Pipe
509-1-OC	APWA Standard Plan - Irrigation Sprinkler Head
510-1-OC	APWA Standard Plan - Vacuum Breaker Assembly
512-1-OC	APWA Standard Plan - Backflow Preventer Assembly (Reduced Pressure Type)
513-1-OC	APWA Standard Plan - Electrical Pull Box
514-1-OC	APWA Standard Plan - Electrical Irrigation Controller
515-1	APWA Standard Plan - Pipe Pinning
516-1-OC	APWA Standard Plan - Security Enclosure
517-1-OC	APWA Standard Plan - Swing Joint Assembly
518-2-OC	APWA Standard Plan - Tree Staking
519-3-OC	APWA Standard Plan - Tree Well
520-2-OC	APWA Standard Plan - Tree Planting
521-1-OC	APWA Standard Plan - Pressure Regulator Installation

# APWA STANDARD PLANS (Continued)

## SECTION 6

### **General Facilities**

#### **Protective Facilities**

600-1-OC APWA Standard Plan - Chain Link Fence and Gates

#### **Retaining Structures**

616-1-OC APWA Standard Plan - Reinforced Concrete Retaining Wall Type 7

618-1-OC APWA Standard Plan - Masonry Retaining Wall

#### **Subsurface Access**

630-2-OC APWA Standard Plan - 24" Manhole Frame & Cover

633-1-OC APWA Standard Plan - 36" Manhole Frame & Cover

636-1 APWA Standard Plan - Polypropylene Plastic Step

# TABLE OF CONTENTS

## RDMD STANDARD PLANS

### **Standard Street Sections**

1100	Principal Highway Typical Sections
1101	Major Highway Typical Sections
1102	Major Highway Bridge Sections
1103	Primary Highway Typical Sections
1104	Primary Highway Bridge Sections
1105	Secondary Highway Typical Sections
1106	Secondary Highway Bridge Sections
1107	Other Street Improvements
1108	Rural Secondary Highway Typical Sections
1109	Rural Local Street Typical Section
1110	Rural Local Street Typical Section
1111	Sidewalk Returns & Curb Radius
1112	Standard Knuckle
1113	Standard Cul-De-Sac (Symmetrical and Unsymmetrical Pkwy.)
1114	Landscaped Median Typical Section
1115	Curb Ramp
1117	Intersection Sight Distance
1118	Left-Turn-In Only Median Opening
1119	Raised Median Nose Location
1120	Bus Turnouts

### **Curb, Sidewalk, Apron, Gutter and Mailbox Details**

1201	Concrete Rolled Curb, Private Street
1205	Sidewalk Details
1206	Alley Intersection
1208	Special Cross Gutter (Steep Grades)
1209	Depressed Curb Driveway Approach
1210	Flared Depressed Curb Driveway Approach
1211	Single Unit Mailbox Detail
1212	Multi Unit Mailbox Detail

### **Grading and Drainage Details**

1301	Inlet Type I
1302	Inlet Type II
1303	Inlet Type III
1304	Inlet Type IV
1305	Inlet Type V
1306	Miscellaneous Curb Inlet Details and Notes
1307	Miscellaneous Inlet Details and Notes
1308	Local Depression
1309	Parkway Culvert - Type "A", "B" & "C"

## RDMD STANDARD PLANS (Continued)

### **Grading and Drainage Details (Cont'd)**

1310	Junction Structure - Type I
1311	Junction Structure - Type II
1312	Junction Structure - Type III
1313	Junction Structure - Type IV
1314	Junction Structure - Type V
1315	Junction Structure - Type VI
1317	Reinforced Concrete Collar-Notes
1318	Transverse Joint Details
1319	Reinforced Concrete Pipe - Bedding Detail
1320	Hillside Lot and Common Sideyard Drainage
1321	Terrace and Down Drain
1322	Benching for Compacted Fill
1323	Canyon Subdrain
1324	Culvert Debris Wall
1325	Channel Weepholes
1326	Pipe Entrance to Earth Channel
1327	Desilting Basin
1328	Sandbag Velocity Reducer
1329	Street Desilting Basin - Vehicle Access Ramp
1330	Temporary Drainage Inlet
1331	Downdrain to Pipe Transition
1332	Interceptor Drain
1333	Concrete Pipe Slope Anchor
1334	Overside Drains

### **Signs, Barricades, Monuments, Lighting Details & Fencing**

1401	Dead End & Widened Section Signing
1402	Markers
1404	Timber Barricade - Type III
1405	Survey Monument Type "A"
1406	Survey Monument Type "B"
1407	Special Provisions - Street Name Sign
1408	Advance Street Name Sign
1409	Traffic Sign Placement
1410	Parkway Obstruction
1411	Street Lighting
1413	Guard Cable Fence
1414	6' Block Wall - 6" Block
1415	6' Block Wall - 4" Block/Pilaster
1416	Crosswalk Detail
1417	Sign Post Installation
1418	Project Information Sign
1419	Road/Trail Closure Sign



## RDMD STANDARD PLANS (Continued)

### **Manhole Details**

1501	Non-Reinforced Concrete Concentric Cone Manhole
1502	Non-Reinforced Concrete Eccentric Cone Manhole
1503	36" Reinforced Concrete Manhole
1504	48" Reinforced Concrete Manhole
1505	Flat Top Manhole Covers
1506	Reinforced Concrete Box Manhole
1507	Manhole Steps
1508	Deep Manhole Landings

### **Standard Park Details**

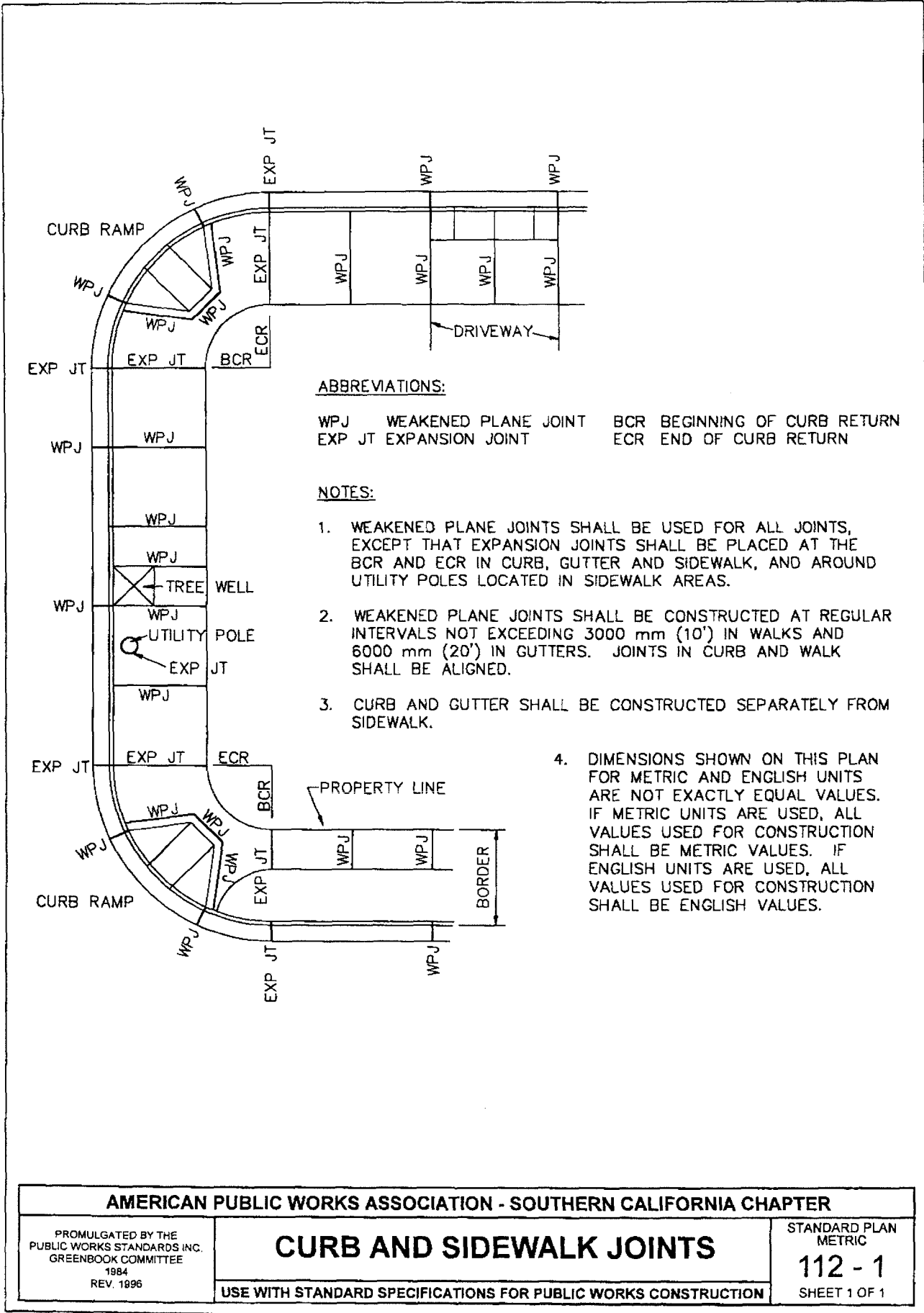
1601	Park Security Light
1602	Buried Electrical Wiring on Park Property
1603	Security Enclosure
1611	Picnic Table Slab
1612	Trash Receptacle Installation
1613	Drinking Fountain and Sump
1621	Asphalt and Concrete Walks
1631	Play Lot Drain
1641	Sign Footing
1682	Header Details
1685	Mow Strip
1690	Baseball Diamond Drainage Patterns
1692	Parking Meter Installation

### **Landscape and Irrigation Details**

1700	Street Tree List
1701	Drought Tolerant Plants
1705	Protective Staking
1708	Tree Root Barrier
1753	Rotary Pop-Up Head
1760	Irrigation Line Trenching

### **Notes, Special Provisions and Miscellaneous Details**

1801	Spec. Prov. - General Notes
1802	Spec. Prov. - Lime Treated Soil
1803	Spec. Prov. - Portland Cement Concrete
1804	Spec. Prov. - Untreated Base Materials
1805	Spec. Prov. - Asphalt Concrete
1806	Spec. Prov. - Earthwork
1807	Spec. Prov. - Concrete Median Paving
1808	Spec. Prov. - Geotextiles
1809	Spec. Prov. - Stonework



<b>AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER</b>		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996	<h2 style="margin: 0;">CURB AND SIDEWALK JOINTS</h2>	STANDARD PLAN METRIC <h1 style="margin: 0;">112 - 1</h1>
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION		SHEET 1 OF 1

**SEE RDMD STANDARD PLAN 112-1-OC FOR CONDITIONS**

The following Standard Plans for Public Works Construction, 1997 Edition, of the American Public Works Association (Southern California Chapter) and Associated General Contractors of California (Southern California Districts) have been adopted by Orange County Resources & Development Management Department (RDMD) with conditions which shall apply to RDMD use. The conditions are listed below.

<u>APWA #</u>	<u>RDMD #</u>	<u>Name and Conditions</u>
112-1	112-1-0C	<u>Curb and Sidewalk Joints</u>

1. Weakened plane joints (WPJ) shall be constructed in curb and gutters not to exceed 10 feet (3m).
2. WPJ shall be a depth of 1/4" (6mm) to 1/3" (8mm) of the concrete thickness.
3. Expansion joint (Exp JT) shall be full depth.
4. a. Sidewalk:  
WPJ shall be quickjoints and finished with a butterfly tool (R=1/8" (3mm))
- b. Formed Curb and Gutter:  
Exp JT shall be 1/4" (6mm) thick premolded filler (asphalt saturated fiber) in the top of curb, face of curb and across the gutter, as required by the Engineer.
- c. Extruded Curb and Gutter:  
Exp JT shall be cut (hand tooled) in the top of curb, face of curb, and across the gutter or sawcut (within 24 hours).
- d. Gutter Transition:  
Exp JT shall 1/4" (6mm) thick premolded filler, as required by the Engineer.
5. No WPJ or monolithic concrete placement shall be allowed between driveways and sidewalk, sidewalk and driveway approach, driveway approach and curb, or curb and sidewalk.
6. Meter boxes and vaults shall have WPJ similar to tree well detail.
7. Premolded Filler (1/4" (6mm) thick asphalt saturated fiber) shall be placed between sidewalk return and curb (see S.P. IIII).

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

Approved

*H. I. Nakasone*  
H. I. Nakasone, Chief Engineer

Adopted: Res. 91-1481

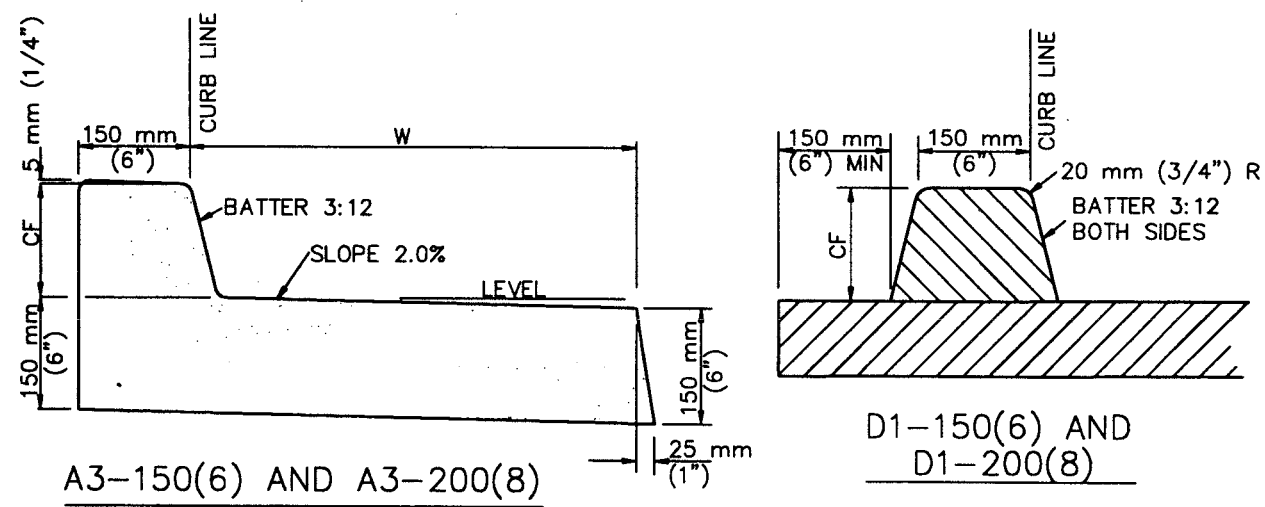
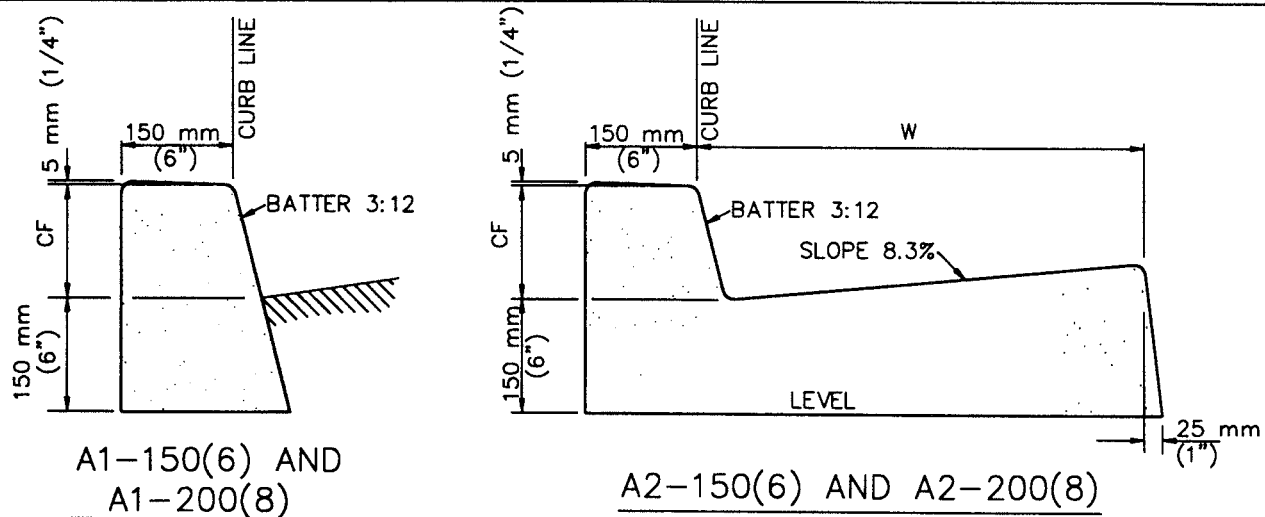
Revised: Res. 96-546; 06-010

STD. PLAN

112-1-0C

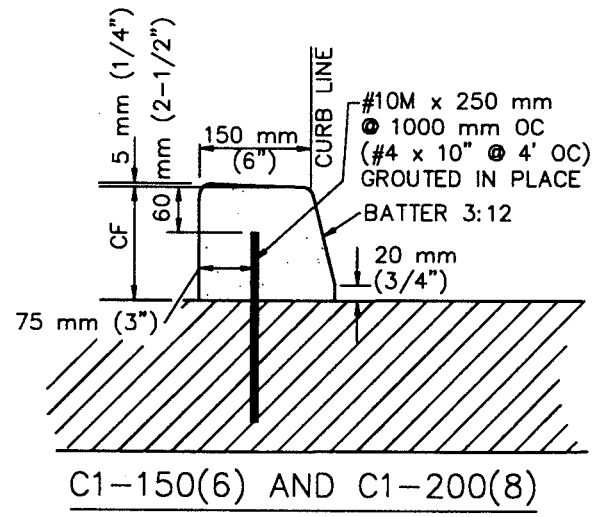
APWA STANDARD PLANS - CURB & SIDEWALK JOINTS

SHT. 1 OF 1



NOTES:

1. THE LAST NUMBER IN THE DESIGNATION IS THE CURB FACE (CF) HEIGHT, mm (INCHES).
2. GUTTER WIDTH, W, IS 600 mm (24") UNLESS OTHERWISE SPECIFIED.
3. TYPES A1, A2, A3 AND C1 SHALL BE CONSTRUCTED FROM PCC.
4. TYPE D1 CURB SHALL BE CONSTRUCTED FROM ASPHALT CONCRETE.
5. TYPE C1 CURB SHALL BE ANCHORED WITH STEEL DOWELS AS SHOWN OR WITH AN EPOXY APPROVED BY THE ENGINEER.
6. ALL EXPOSED CORNERS ON PCC CURBS AND GUTTERS SHALL BE ROUNDED WITH A 15 mm (1/2") RADIUS.
7. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. USE EITHER METRIC OR ENGLISH VALUES, AS REQUIRED, BUT NOT BOTH, EXCEPT THAT ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.



<b>AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER</b>		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996	<b>CURB AND GUTTER — BARRIER</b>	STANDARD PLAN METRIC <b>120 - 1</b> SHEET 1 OF 1
USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION		

SEE RDMD STANDARD PLAN 120-1-OC FOR CONDITIONS

The following Standard Plans for Public Works Construction, 1997 Edition, of the American Public Works Association (Southern California Chapter) and Associated General Contractors of California (Southern California Districts) have been adopted by the Orange County Resources & Development Management Department (RDMD) with conditions which shall apply to RDMD use. The conditions are listed below.

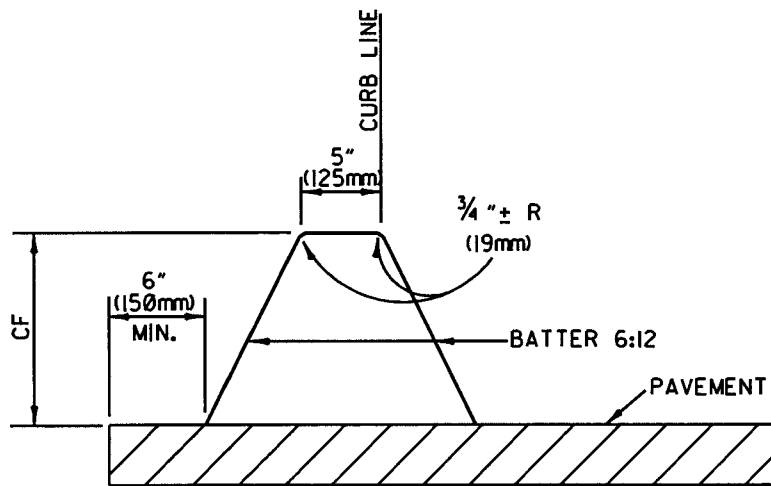
APWA #      RDMD #      Name and Conditions

120-1              120-1-0C              Curb and Gutter-Barrier

1. Type A-2. Place asphalt concrete surfacing  $\frac{3}{8}$ " (9mm) above P.C.C. gutter.
2. Type D-1. Tack A.C. pavement with emulsified asphalt at rate of 0.05 gallon/square yard (0.23 liters/square meter) prior to placing A.C. curb. Alternate D1 curb may be constructed using a batter of 6:12 and 5" (125mm) top width as shown below .

3.      TABLE OF CURB TYPE AND W FOR USE WITH  
RDMD STANDARD ROADWAY TYPICAL SECTION

STD 120-1	"W"
A3-200(8)	1'
A2-200(8)	2'
A2-150(6)	1'-6"



ALTERNATE D1-150(6) & D1-200(8)

ORANGE COUNTY RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

Approved

*H. I. Nakasone*  
H. I. Nakasone, Chief Engineer

Adopted: Res. 91-1481

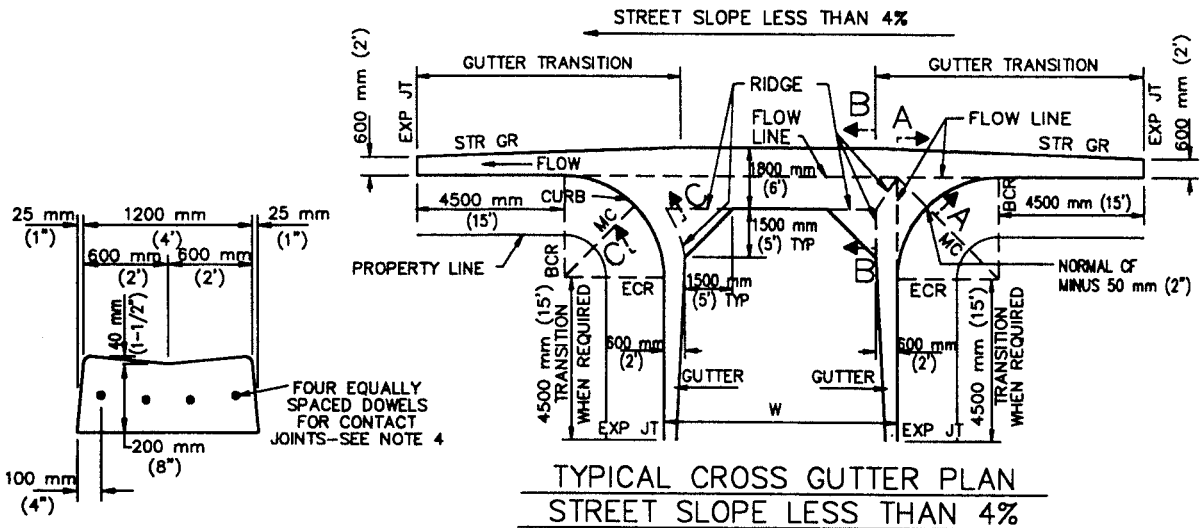
Revised: Res. 96-546; 06-010

STD. PLAN

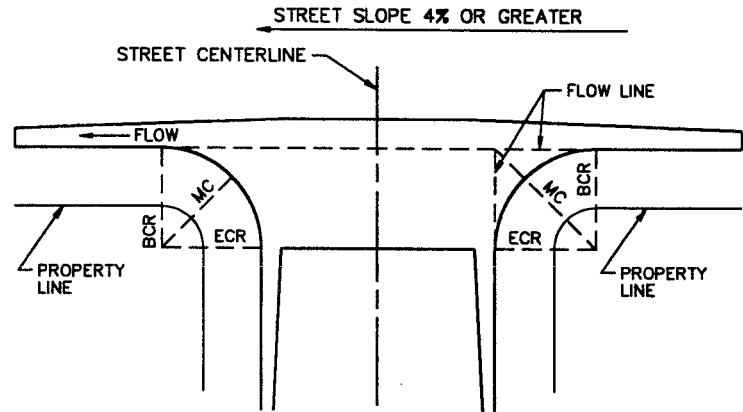
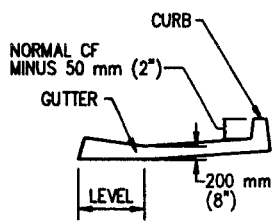
120-1-0C

APWA STANDARD PLAN - CURB AND GUTTER-BARRIER

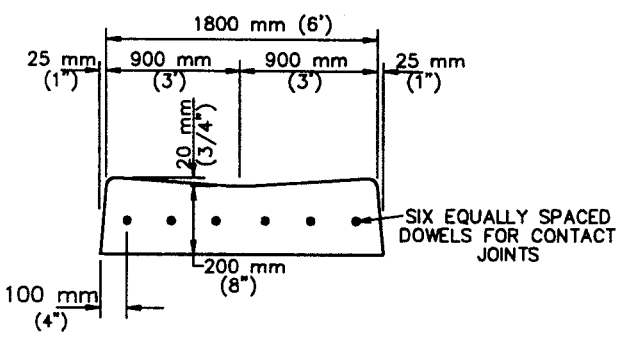
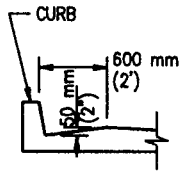
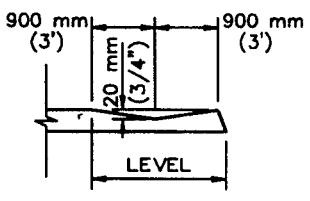
SHT. 1 OF 1



LONGITUDINAL  
GUTTER

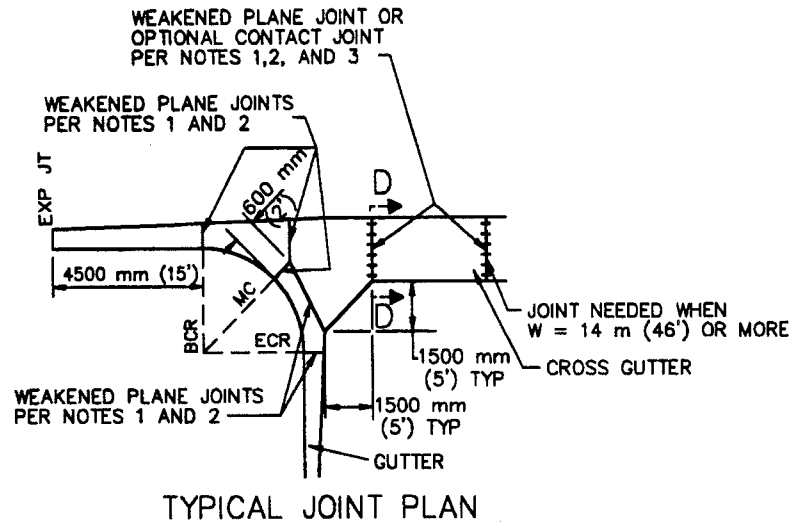


TYPICAL CROSS GUTTER PLAN  
STREET SLOPE MORE THAN 4%



<b>AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER</b>		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1996	<h2 style="margin: 0;">CROSS AND LONGITUDINAL GUTTERS</h2> <p style="margin: 0;">USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION</p>	STANDARD PLAN METRIC <h1 style="margin: 0;">122 - 1</h1> SHEET 1 OF 2

SEE RDMD STANDARD PLAN 122-1-OC FOR CONDITIONS



**NOTES:**

1. WEAKENED PLANE AND/OR CONTACT JOINTS SHALL BE PLACED IN CURB AND GUTTER AT LOCATIONS SHOWN ON THE TYPICAL JOINT PLAN HEREON.
2. WEAKENED PLANE JOINTS SHALL BE PLASTIC CONTROL JOINTS OR 40 mm (1-1/2") DEEP SAW CUTS. CONCRETE SAWING SHALL TAKE PLACE WITHIN 24 HOURS AFTER CONCRETE IS PLACED.
3. DOWELS FOR CONTACT JOINTS SHALL BE #15M BARS 450 mm LONG (#4 BARS 18" LONG).
4. PLACE A WEAKENED PLANE OR CONTACT JOINT WHERE LONGITUDINAL ALLEY GUTTER JOINS CONCRETE ALLEY INTERSECTION.
5. ALL EXPOSED CORNERS ON PCC GUTTERS SHALL BE ROUNDED WITH 15 mm (1/2") RADIUS.
6. CONCRETE SHALL BE INTEGRAL WITH CURB UNLESS OTHERWISE SPECIFIED.
7. DIMENSIONS SHOWN ON THIS PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES. HOWEVER, ASTM 615 REINFORCING STEEL MAY BE SUBSTITUTED FOR ASTM 615M STEEL.

**AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER**

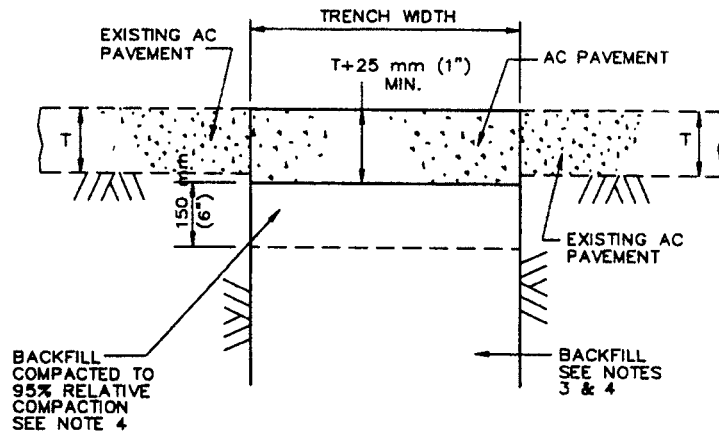
STANDARD PLAN  
METRIC

**CROSS AND LONGITUDINAL GUTTERS**

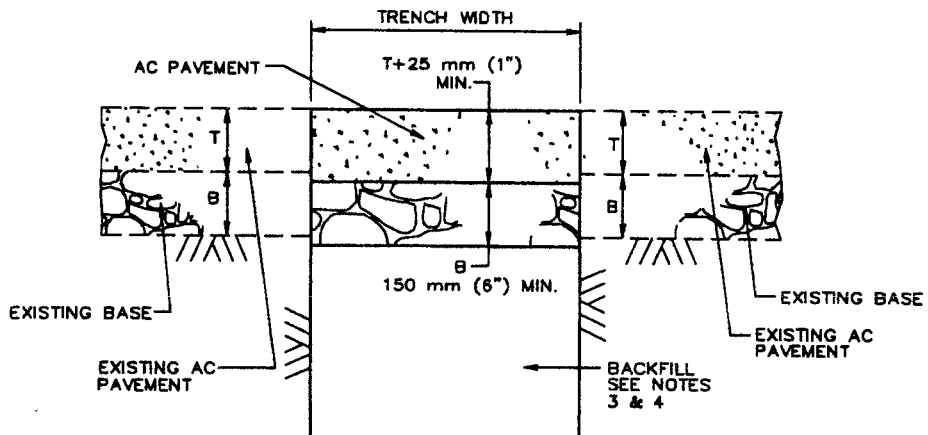
**122 - 1**  
SHEET 2 OF 2



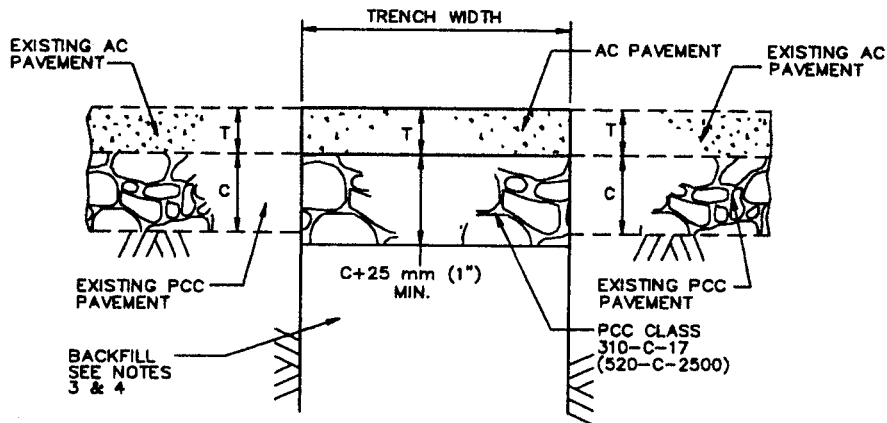




**CASE I: (WITHOUT BASE)**



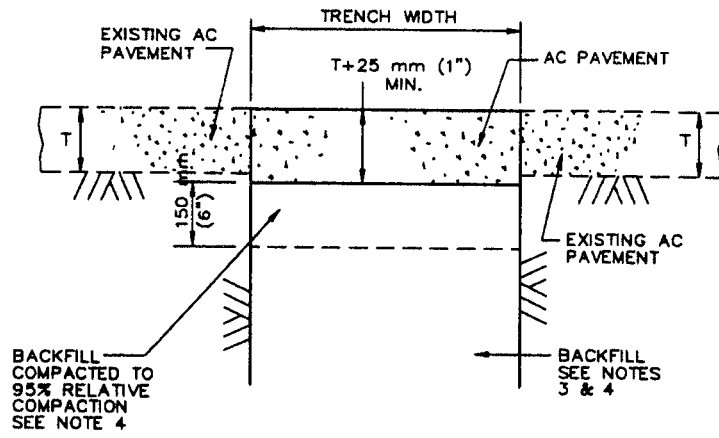
**CASE II: (WITH BASE)**



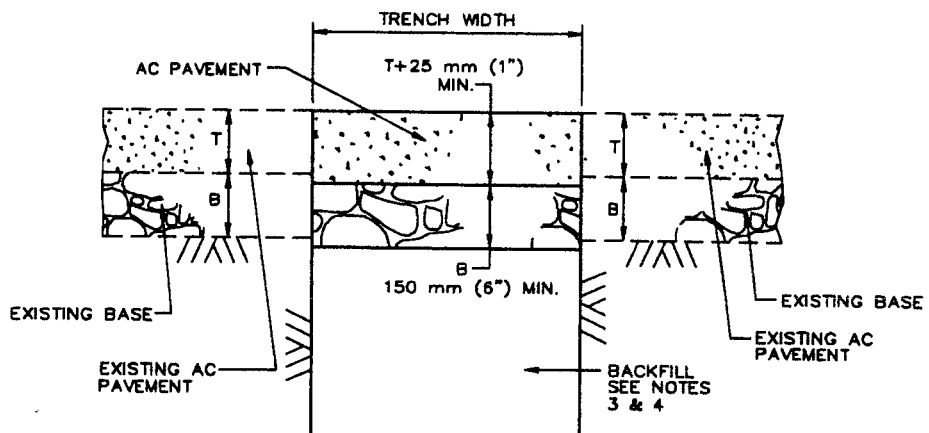
**CASE III: (WITH AC PVMT ON PCC PVMT)**

<b>AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER</b>		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1993 REV. 1996	<h2 style="margin: 0;">ASPHALT CONCRETE PAVEMENT REPLACEMENT</h2>	STANDARD PLAN METRIC <h1 style="margin: 0;">133 - 1</h1> SHEET 1 OF 2
<b>USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION</b>		

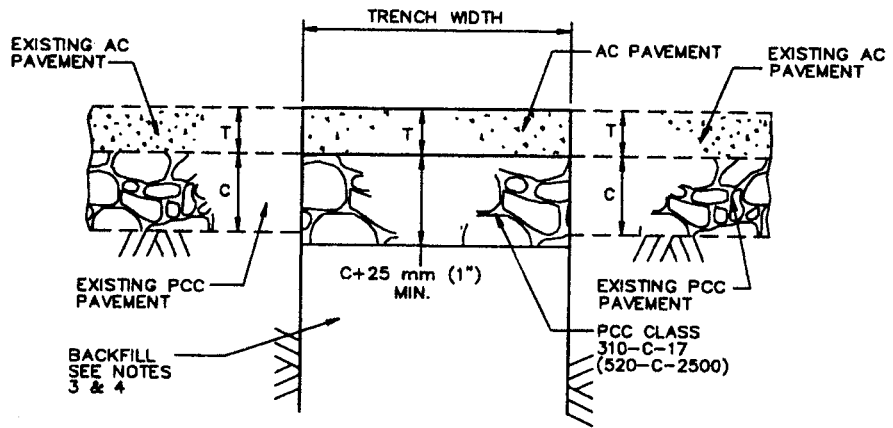
**SEE RDMD STANDARD PLAN 133-1-OC FOR CONDITIONS**



**CASE I: (WITHOUT BASE)**



**CASE II: (WITH BASE)**



**CASE III: (WITH AC PVMT ON PCC PVMT)**

<b>AMERICAN PUBLIC WORKS ASSOCIATION - SOUTHERN CALIFORNIA CHAPTER</b>		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1983 REV. 1996	<h2 style="margin: 0;">ASPHALT CONCRETE PAVEMENT REPLACEMENT</h2>	STANDARD PLAN METRIC <h1 style="margin: 0;">133 - 1</h1>
<b>USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION</b>		
SHEET 1 OF 2		

SEE RDMD STANDARD PLAN 133-1-OC FOR CONDITIONS











































































































































































































































































































































































































































































































































































































































































































































































