

## PATIO PAVER DETAIL

## \*OR APPROVED EQUAL\*





## DP 200 Channelizer Posts & Bases Installation Procedures - Standard Base

- Installation Using 2-part Epoxy. Hot-melt Bitumen, or 1-part Urethane Adhesive 795A

  1) Adhesive will adhere well to most clean, dry and well unified surfaces. Ideal application temperature is 50° to 100° degrees F. All surfaces must be free of dust, dirt, oil and moisture. 2) Assemble posts and bases together with quick release pins provided. Wipe the spot on which the 3) Mix equal parts A & B of standard road marker epoxy and apply evenly 1/8 inch thick to the DP 200 base. Single-component hot melt bitumen or urethane Adhesive 795A may also be used. 4) Place DP 200 post & base assembly onto the roadway and apply firm downward pressure for five (5) seconds. Flat front or curved back side of post should face oncoming train 5) After application bond strength increases & achieves ultimate strength after 72 hours at 70° F. 6) Posts should be protected from traffic for a minimum of one (1) hour after installation.
- Temporary Mounting Using Butyl Adhesive Pad Adhesive will adhere well to most clean, dry and well unified surfaces. Ideal application temperature is 50° to 100° degrees F. All surfaces must be free of dust, dirt, oil and moisture. 2) Assemble posts and bases together with quick release pins provided. Wipe the spot on which the 3) Remove one side of release paper from butyl pad and apply centered on base. Press firmly onto base. Remove second side of release paper; base is now ready for installation on the road. 4) Press base onto desired location on road and apply apply firm downward pressure for five (5) seconds. Flat front or curved back side of post should face oncoming traffic. 5) Posts are now ready for traffic.
- <u>DP 200 Anchor Bolts</u>
  1) Using a standard hammer drill and 3/8" SDS bit, drill holes through the holes in each base approx. 4" into asphalt pavements (2 ½" into concrete pavements). 2) Blow the bolt holes and area below the base clean of dust, rocks or other material. 3) Insert proper length anchor bolt through holes in the base. Using an impact wrench, drill the bolt into the hole in the pavement. Begin tightening the bolt by applying slight downward pressure when engaging the first few threads. 4) Continue tightening until the head is firmly seated; do not over-tighten the bolt.
- Limitations of Adhesive System ) Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and thus improves bond strength. 2) Moisture on roadway surfaces will inhibit bonding of the adhesive. 3) Insufficient pressure will not allow the adhesive to bond properly. Placing the post incorrectly could result in adhesive failure!
- Important Notice To Purchaser
  The following is made in lieu of all warranties expressed or implied, including the implied warranties of merchantability and fitness for purpose: Seller's and manufacturers only obligation shall be to replace such quantity of the product proved to be defective. Before using, user shall determine the suitability of the product for if a intended use, and user assumes all risk and liability whatsoever in connection therewith. Neither manufacturer nor seller shall be liable either in tort or in contract for any loss or damage, direct, incidental, or consequential, arising out of the use of or the inability to use the product.

PEXCOLLC - TACOMA - 3110 70" Ave, East - Tacome WA 98424 USA - ph 253.284.8000 - fax 253.284.8080 www.davidsontraff.c.com

## ----- 12'-0" <del>----</del> MODEL 1202-WT-SAP-LR CORGAL STEEL WATER STORAGE TANK 1202-WT-SAP-IR THE DRAWING DEPICTED ON THIS PRINT AND THE INFORMATION CONTAINED HEREIN ARE PROPRIETARY TO Woter Storage Torks, Inc. AND SMALL NOT BE USED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF Water Storage Tanks, Inc.

\* BUILDING C MECHANICAL SCREENING \* SEE ARCH. PLANS FOR ADDITIONAL

CONSTRUCTION DETAILS

1. ALL PAVEMENTS SHALL BE SAW CUT WITH NEAT, UNIFORM LINES PRIOR TO EXCAVATION 2. PIPE BEDDING MATERIAL SHALL BE CRUSHER RUN (VDOT NO. 25 OR 26) OR OPEN GRADED AGGREGATE (VDOT NO. 57, 68, 7, OR 8). ALTERNATE MATERIAL MUST BE APPROVED BY THE CITY ENGINEER. 3. MAXIMUM DEPTH OF PIPE BEDDING MATERIAL IF USING OPEN GRADED AGGREGATE FOR BEDDING.

— D + 24" MIN. ——

NOTES:

- ASPHALT SURFACE LAYER, MIN. 2"

NOTE 5

-NOTE 4

BITUMINOUS

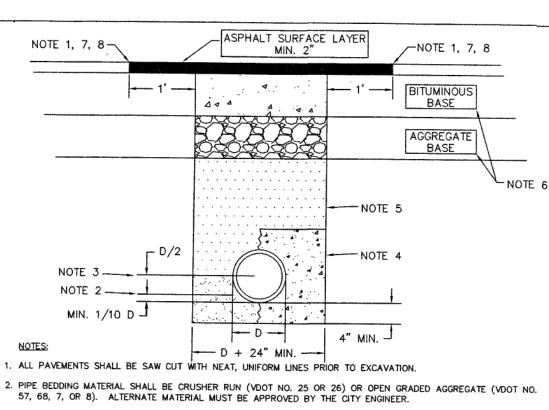
BASE\_

AGGREGATE

BASE

- 4. OPTIONAL CONCRETE ENCASEMENT FOR POWER OR COMMUNICATION CONDUIT. PROVIDE A MINIMUM OF 4" CONCRETE 5. BACKFILL MATERIAL SHALL BE VDOT NO. 21A AGGREGATE, PLACED IN LOOSE LIFTS NOT EXCEEDING 6". AND
- COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE (VTM-1)
  WITH THE USE OF MECHANICAL TAMPERS OR VIBRATORY ROLLERS. WATER COMPACTION IS NOT PERMITTED. TYPE I
  SELECT MATERIAL MAY BE USED AS BACKFILL UPON PRIOR APPROVAL BY THE CITY ENGINEER. MATERIAL
  CLASSIFICATION SHALL BE PERFORMED ON THE ACTUAL SOIL TO VERIFY THAT SOIL MEETS VDOT SPECIFICATIONS FOR
  TYPE I SELECT MATERIAL BY A QUALIFIED TESTING LABORATORY AND TEST RESULTS SHALL BE CERTIFIED BY A
  ADDITIONAL DESCRIPTION PROCESSIONAL ENGINEER. MOISTURE VIRGINIA REGISTERED PROFESSIONAL ENGINEER. DENSITY REQUIREMENS ARE THE SAME AS ABOVE, HOWEVER, MOISTURE CONTENT FOR SOILS MAY WITH WITHIN 20% OF OPTIMUM.
- ALL TESTING SHALL BE PERFORMED AND CERTIFIED BY A GEOTECHNICAL ENGINEER OR A VDOT-CERTIFIED TECHNICIAN.
  RESULTS SHALL BE PROVIDED TO THE INSPECTOR WITHIN 24 HOURS OF TESTING COMPLETION. THE COST OF ALL
  TESTING IS THE RESPONSIBILITY OF THE PERMITTEE. FIELD DENSITY TESTING METHODS SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO PERFORMING ANY TESTING.
- 6. ALL PAVEMENTS SHALL BE RESTORED TO MATCH DEPTHS OF EXISTING SURFACE, BASE, AND AGGREGATE LAYERS. TH ASPHALT SURFACE LAYER SHALL BE A MINIMUM OF 2" THICK AND EXTEND OVER UNDISTURBED BASE A MINIMUM OF 12" ON ALL SIDES. ALL PAVEMENT MATERIALS SHALL MEET VOOT REQUIREMENTS FOR SURFACE MIX (SM-9.5AL, SM-9.5A, OR SM-12.5D), BASE MIX (BM-25), AND STONE AGGREGATE (21A OR 21B). PLANT CERTIFICATION FOR EACH MIX INCORPORATED INTO THE WORK SHALL BE PROVIDED TO THE INSPECTOR. WHEN MATCHING NON-STANDARD MATERIALS, THE INSPECTOR SHALL DETERMINE AN ACCEPTABLE MATERIAL.
- 7. THE REPAIR SHALL BE RECTANGULAR AND SAW CUT IN STRAIGHT, UNIFORM LINES THAT ARE ALIGNED WITH THE STREET CENTERLINE. WHEN EDGES OF PAVEMENT HAVE BEEN UNDERMINED, PAVEMENT SHALL BE REMOVED TO A NEAT LINE 12" BEYOND THE UNDERMINED AREA. THE FINISHED PATCH SURFACE SHALL BE WITHIN 1/4 INCH AT ANY POINT ACROSS THE PATCH AS IT RELATES TO THE SURROUNDING STREET SURFACE.

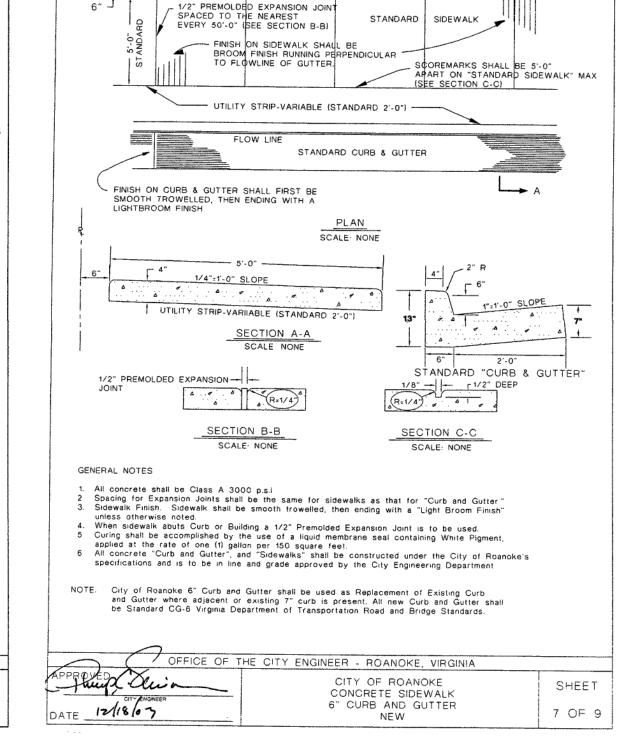
MONOGO MIL TATON AS IT RELATES TO	THE SURROUNDING STREET SURFACE.	
8. A FULL COVERAGE TACK COAT IS REQU	IRED ON ALL SURFACES THAT WILL CONTACT THE NEW SURFACE	LAYER.
OFFICE OF T	HE CITY ENGINEER - ROANOKE, VIRGINIA	
APPROVED Chirm	UTILITY TRENCH REPAIR IN PAVEMENT	
DATE: 12/01/04	USING VDOT NO. 21A AGGREGATE	3 OF 9

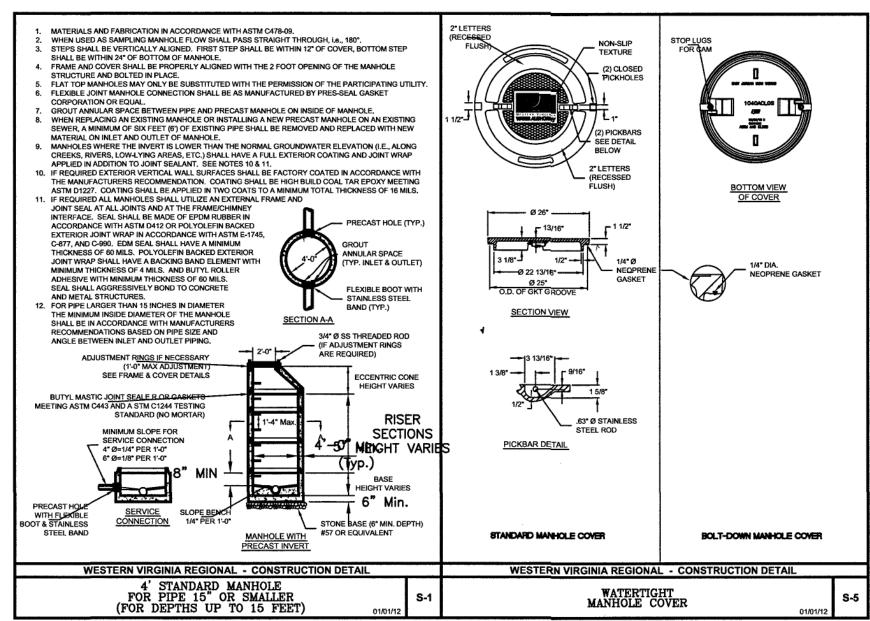


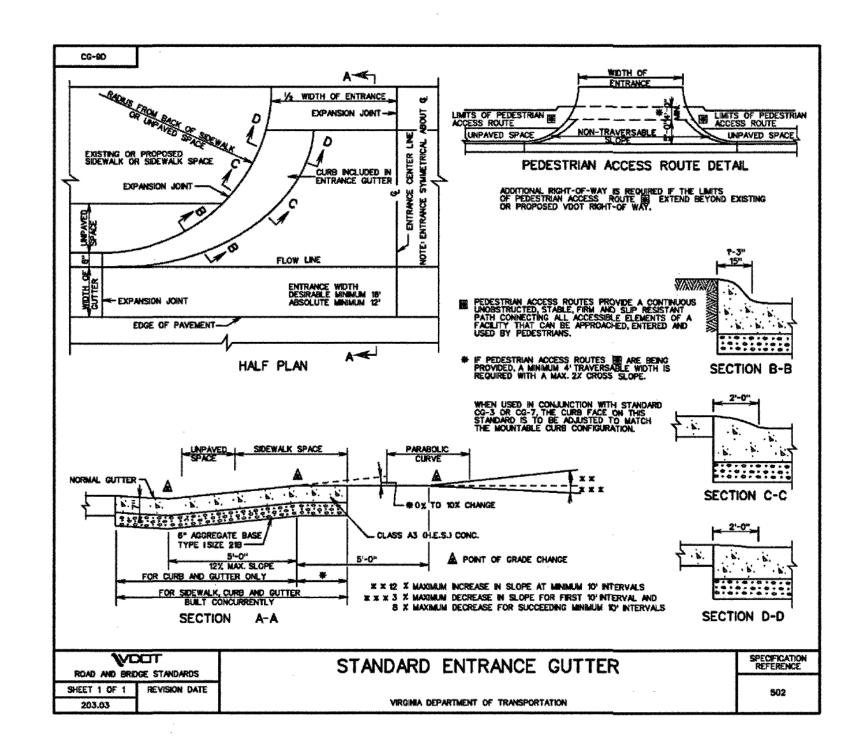
- 5. MAXIMUM DEPTH OF PIPE BEDDING MATERIAL IF USING OPEN GRADED AGGREGATE FOR BEDDING. OPTIONAL CONCRETE ENCASEMENT FOR POWER OR COMMUNICATION CONDUIT. PROVIDE A MINIMUM OF 4" CONCRETE COVER FROM ALL SIDES OF CONDUIT.
- BACKFILL MATERIAL SHALL BE FLOWABLE FILL MEETING THE REQUIREMENTS OF VDOT SPECIAL PROVISION FOR FLOWABLE BACKFILL. THE MATERIAL MUST BE PLANT—CERTIFIED TO PROVIDE A 28—DAY COMPRESSIVE STRENGTH BETWEEN 30 AND 200 PSI. A CERTIFICATE OF MIX DESIGN MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO PLACING THE MATERIAL IN THE TRENCH.
- A MINIMUM OF FOUR 6x12 TEST CYLINDERS SHALL BE TAKEN EVERY 50 CY OF PLACEMENT. CYLINDERS SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY FOR 28—DAY STRENGTH. RESULTS SHALL BE PROVIDED TO THE INSPECTOR WITHIN 24 HOURS OF TESTING COMPLETION. THE COST OF ALL TESTING IS THE RESPONSIBILITY OF THE PERMITTEE. IF THE REPORT INDICATES THE COMPRESSIVE STRENGTHS ARE NOT BETWEEN 30 AND 200 PSI, THE PERMITTEE WILL BE RESPONSIBLE FOR REMOVING AND REPLACING THE BACKFILL WITH ACCEPTABLE BACKFILL AND COMPLETING THE RESTORATION OF THE STREET AT NO COST TO THE CITY.
- ALL PAVEMENTS SHALL BE RESTORED TO MATCH DEPTHS OF EXISTING SURFACE, BASE, AND AGGREGATE LAYERS. THE ASPHALT SURFACE LAYER SHALL BE A MINIMUM OF 2" THICK AND EXTEND OVER UNDISTURBED BASE A MINIMUM OF 12" ON ALL SIDES. ALL PAVEMENT MATERIALS SHALL MEET VOOT REQUIREMENTS FOR SURFACE MIX (SM-9.5AL, SM-9.5A, OR SM-12.5D), BASE MIX (BM-25), AND STONE AGGREGATE (21A OR 21B). PLANT CERTIFICATION FOR EACH MIX INCORPORATED INTO THE WORK SHALL BE PROVIDED TO THE INSPECTOR. WHEN MATCHING NON-STANDARD MATERIALS, THE INSPECTOR SHALL DETERMINE AN ACCEPTABLE MATERIAL.
- 7. THE REPAIR SHALL BE RECTANGULAR AND SAW CUT IN STRAIGHT, UNIFORM LINES THAT ARE ALIGNED WITH THE STREET CENTERLINE. WHEN EDGES OF PAVEMENT HAVE BEEN UNDERMINED, PAVEMENT SHALL BE REMOVED TO A NEAT LINE 12" BEYOND THE UNDERMINED AREA. THE FINISHED PATCH SURFACE SHALL BE WITHIN 1/4 INCH AT ANY POINT ACROSS THE PATCH AS IT RELATES TO THE SURROUNDING STREET SURFACE. 8. A FULL COVERAGE TACK COAT IS REQUIRED ON ALL SURFACES THAT WILL CONTACT THE NEW SURFACE LAYER.

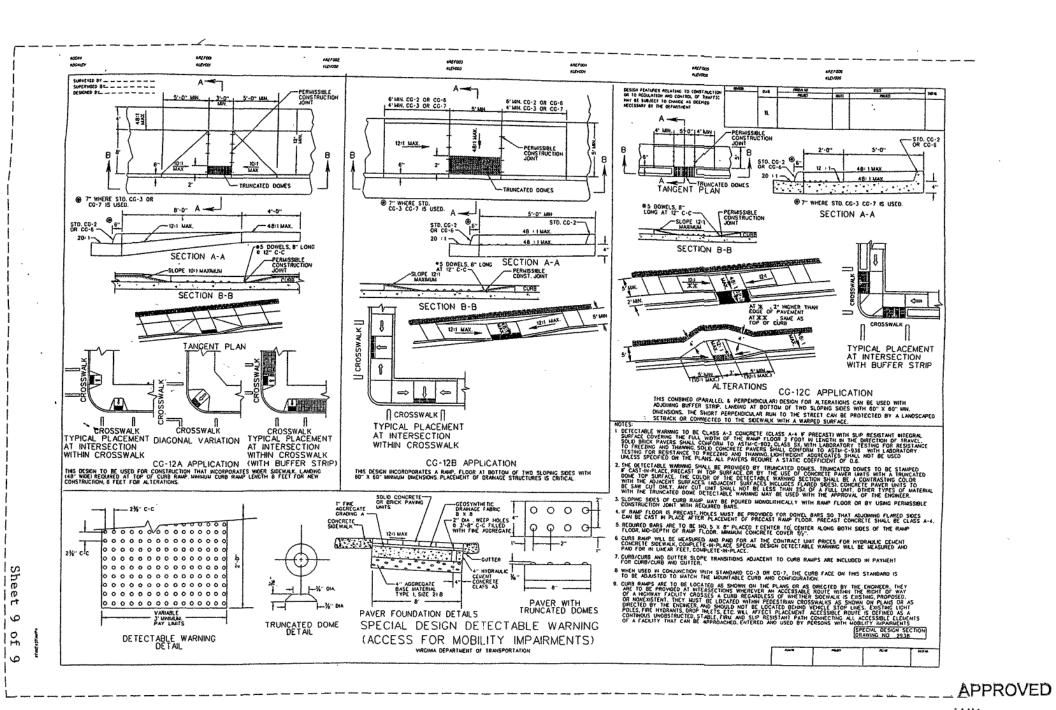
  OFFICE OF THE CITY ENGINEER - ROANOKE VIRGINIA

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TROYED Cluiru	UTILITY TRENCH REPAIR IN PAVEMENT USING CONTROLLED DENSITY FILL	4 OF 9









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> Richmond Roanoke Shenandoah Valley RESIDENTIAL LAND DEVELOPMENT ENGINEERING SITE DEVELOPMENT ENGINEERING LAND USE PLANNING & ZONING LANDSCAPE ARCHITECTURE

**New River Valley** 

LAND SURVEYING ARCHITECTURE STRUCTURAL ENGINEERING TRANSPORTATION ENGINEERING ENVIRONMENTAL & SOIL SCIENCE WETLAND DELINEATIONS & STREAM EVALUATIONS

Balzer and Associates, Inc. 1208 Corporate Circle

> Roanoke, VA 24018 540-772-9580 FAX 540-772-8050

5/20/13

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DRAWN BY DESIGNED BY CHECKED BY 2-8-2013

**REVISIONS:** 

4-5-2013 4-19-2013 5-20-2013