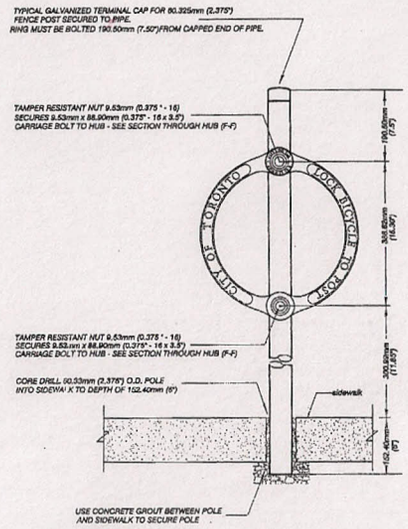
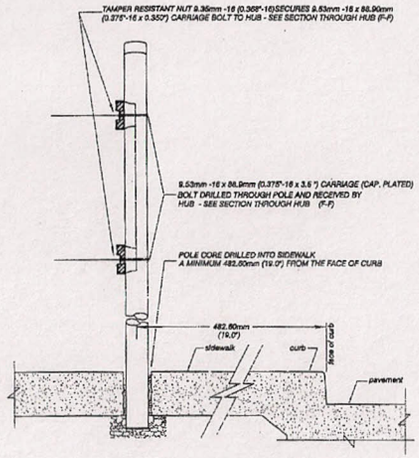


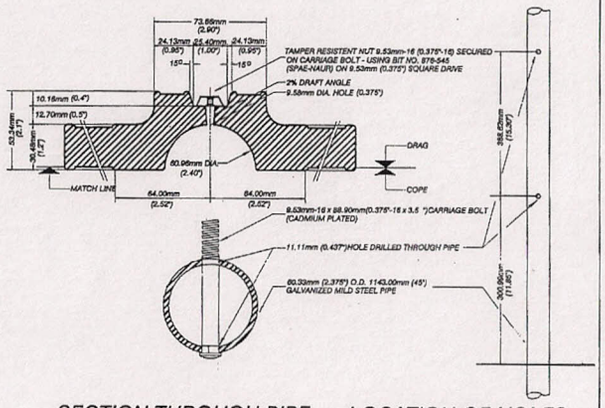
FACE ELEVATION "A"

SCALE=1:4



SIDE ELEVATION "C"

SCALE=1:4

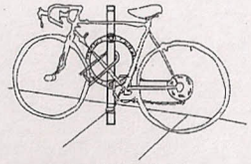


SECTION THROUGH PIPE

SCALE=1:1

LOCATION OF HOLES THROUGH PIPE

SCALE=1:4



SIDEWALK INSTALLATION

N.T.S.

NOTES FOR SIDEWALK INSTALLATION

- PIPE IS CORE DRILLED INTO SIDEWALK A MINIMUM OF 482.60mm (19.0") FROM OUTSIDE FACE OF CURB
- RING IS POSITIONED PARALLEL TO THE CURB
- PIPE MUST EXTEND 152.4mm (6") INTO CONCRETE
- CONCRETE GROUT IS TO BE USED AS REQUIRED TO SECURE PIPE INTO CONCRETE SIDEWALK
- PIPE MUST BE INSTALLED PLUMB AND TRUE

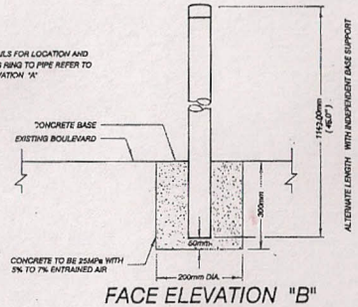
NOTES FOR BOULEVARD INSTALLATION

- PIPE TO HAVE CONCRETE BASE AS SHOWN IN DETAIL "B". (LOCATION AS DIRECTED).
- PIPE MUST EXTEND 250mm INTO CONCRETE BASE.
- PIPE MUST BE INSTALLED PLUMB AND TRUE

NOTES FOR FASTENING (SECURING) RING TO PIPE

- PIPE IS TO BE NEW PIPE
- PIPE IS TO BE GALVANIZED, FREE OF IMPERFECTIONS
- PIPE IS TO HAVE AN 60.33mm (2.375") O.D. AND 53.34mm (2.10")I.D., 1041.40mm (41") LENGTH, ALL EDGES TO BE DEBURRED
- 2 HOLES DRILLED THROUGH PIPE MUST CORRESPOND WITH 2 HOLES THROUGH THE RING
- 2 HOLES TO BE 11.11mm (0.437") DIAMETER AND SHALL BE FREE OF BURRS
- TYPICAL GALVANIZED TERMINAL CAP FOR 60.33mm (2.375") O.D. FENCE POST TO BE SECURED TO INDICATED END OF PIPE
- RING IS SECURED TO PIPE USING 2-9.53mm x 88.90mm (0-0.375"-16 x 3.5 ") CARRIAGE BOLTS CADMIUM PLATED (SPAE-NAUR STOCK NO. CB-54),3- 9.53mm (2-0.375 x 16) TAMPER RESISTANT NUT (SPAE-NAUR STOCK NO. 238-306)
- NUT SECURED ON CARRIAGE BOLT USING BIT NO. 878-545 FOR (SPAE-NAUR) TAMPER PROOF BOLTS

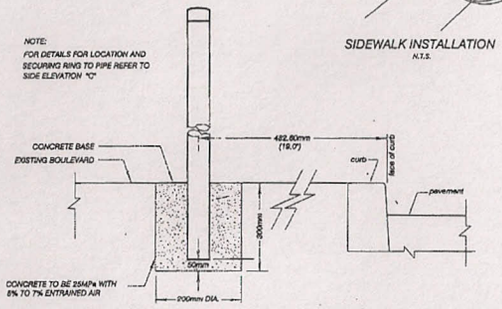
NOTE:
FOR DETAILS FOR LOCATION AND
SECURING RING TO PIPE REFER TO
FACE ELEVATION "A"



FACE ELEVATION "B"

SCALE=1:4

NOTE:
FOR DETAILS FOR LOCATION AND
SECURING RING TO PIPE REFER TO
SIDE ELEVATION "C"



SIDE ELEVATION "D"

SCALE=1:4

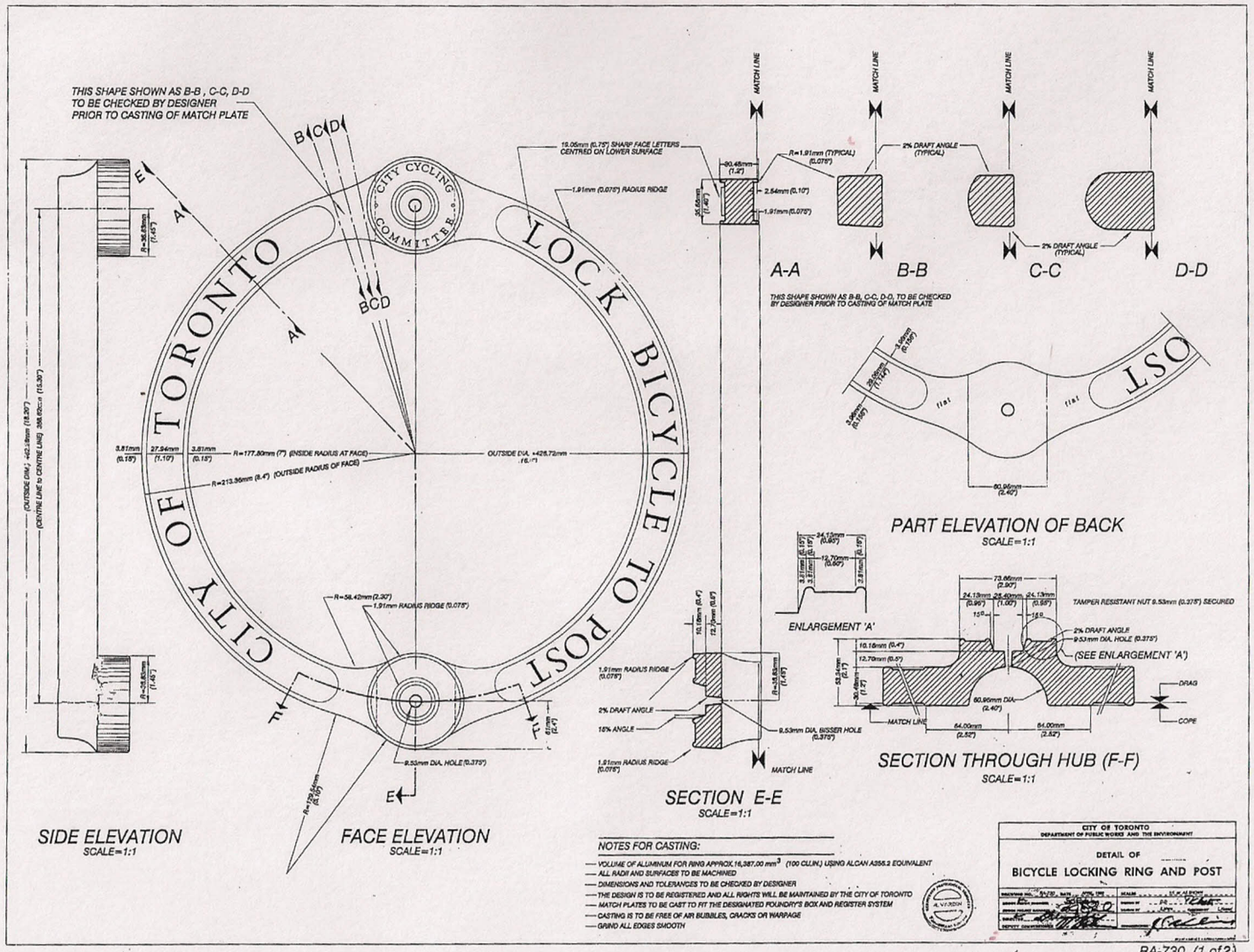
REVISED:
REVISION OF DETAILS AND NOTES, DEC. 8 1995.

CITY OF TORONTO
DEPARTMENT OF PUBLIC WORKS AND THE ENVIRONMENT

DETAIL OF
BICYCLE LOCKING RING AND POST

DRAWING NO. RA-730 SCALE: 1:1 AS SHOWN
DRAWN BY: T.F. SPECTOR
CHECKED BY: R.J.
DIRECTOR
DEPUTY DEPARTMENT HEAD

RA-730 (2 of 2)



NOTES FOR CASTING:

- VOLUME OF ALUMINUM FOR RING APPROX.16,387.00 mm^3 (100 CU.IN.) USING ALCAN A356.2 EQUIVALENT
- ALL RADII AND SURFACES TO BE MACHINED
- DIMENSIONS AND TOLERANCES TO BE CHECKED BY DESIGNER
- THE DESIGN IS TO BE REGISTERED AND ALL RIGHTS WILL BE MAINTAINED BY THE CITY OF TORONTO
- MATCH PLATES TO BE CAST TO FIT THE DESIGNATED FOUNDRY'S BOX AND REGISTER SYSTEM
- CASTING IS TO BE FREE OF AIR BUBBLES, CRACKS OR WARPAGE
- GRIND ALL EDGES SMOOTH

CITY OF TORONTO
DEPARTMENT OF PUBLIC WORKS AND THE ENVIRONMENT

DETAIL OF

BICYCLE LOCKING RING AND POST

RA-730 (1 of 2)

This Specification forms part of our Quotation No. «Last_Quote»

SPECIFICATION FOR THE INSTALLATION AND ASSEMBLY OF BICYCLE LOCKING RING AND POST

1.0 DESCRIPTION:

Supply all labour, supervision, materials and equipment necessary for the assembly and installation of bicycle racks in the Toronto area in accordance with this specification and City of Toronto, Works and Emergency Services Drawing RA-730 (2 of 2) attached to the quotation document.

Note:

1. The cast aluminum rings will be supplied by the City of Toronto.
2. Approximately ten percent (10%) of the rings are to be mounted directly to existing parking meter posts.

2.0 GENERAL REQUIREMENTS:

2.1 Bidder must obtain and pay for all necessary inspections and permits, where required

SPECIFY:_____

2.2 Installations and modifications must comply with all local and provincial regulations

SPECIFY:_____

2.3 Location of installation and quantity shall be as specified in the quotation document

SPECIFY:_____

2.4 Work is to be performed by experienced staff fully competent and licensed to perform all required work

SPECIFY:_____

2.5 Upon completion of work, the installation/modifications must be inspected and approved by the local authorities. It is the responsibility of the bidder to ensure that this is done

SPECIFY:_____

2.6 All work to be done during normal working hours whenever possible

SPECIFY:_____

3.0 SCOPE OF WORK:

The work for this contract shall include but not be limited to the following:

4.0 MATERIALS:

The bidder will be responsible for providing the following:

Galvanized steel pipe as required (as per drawing attached to quotation document)

SPECIFY:_____

Pipe must be new pipe

SPECIFY:_____

Pipe must have an outside diameter of 60.33 mm (2.375") and an inside diameter of 53.33 mm (2.10") (as per drawing attached to quotation document)

SPECIFY:_____

Pipe must be 1041.40 mm (41") in length for concrete installations

SPECIFY:_____

Pipe must be 1143.80 mm (45") in length for installations other than concrete (see drawing attached to quotation document)

SPECIFY:_____

All edges to be de-burred

SPECIFY:_____

Frost fence aluminum terminal caps, as required, to be friction fit on 60.33 mm (2.375") outside diameter steel pipe

SPECIFY:_____

9.53 mm (3/8" - 16) x 88.90 mm (3-1/2") carriage bolts, as required, Spar-Naur Stock Number CB-54 or approved equivalent (plated, grade 2 or better)

SPECIFY:_____

9.53 mm (3/8" - 16) tamper-resistant nuts, as required, case hardened steel and plated, Spar-Naur Stock Number 226-306, or approved equivalent

SPECIFY:_____

One(1) bit to tighten tamper resistant nut, Spar-Naur bit Number 876-545 or approved equivalent

SPECIFY:_____

4.1 DRILLING HOLES - (REFER TO DRAWING ATTACHED TO QUOTATION DOCUMENT):

Two(2) 11.11 mm (7/16") diameter holes are to be drilled through the supplied pipe to correspond exactly with the two holes through the hubs of the cast aluminum ring

SPECIFY:_____

For New Post Installations:

The first 11.11 mm (7/16") hole to be drilled 190.5 mm (7.5") from the end of the pipe that will be capped (top end)

SPECIFY:_____

For Installations on Existing Parking Meter Posts:

The first 11.11 mm (7/16") hole to be drilled 690 mm (27.17") from ground level

SPECIFY:_____

One(1) of the rings hubs to be centred over this hole and the location of the second hole marked corresponding to the hole in the second hub

SPECIFY:_____

The second 11.11 mm (7/16") hole to be drilled through the marked location

SPECIFY:_____

Two(2) 63.5 mm (1/4") diameter holes to be drilled through the pipe for air circulation and drainage (does not apply to parking meter posts)

SPECIFY:_____

The first 63.5 mm (1/4") diameter hole to be drilled 787.4 mm (31") from the end of the pipe that will be capped (top end)

SPECIFY:_____

The second 63.55 mm (1/4") diameter hole to be drilled 152.4 mm (6") from the end of the pipe that will be capped (top end)

SPECIFY:_____

All drilled holes must be de-burred

SPECIFY:_____

4.2 SECURING RING TO PIPE - (REFER TO DRAWING ATTACHED TO QUOTATION DOCUMENT):

The cast aluminum ring is to be secured to the pipe using two 9.53 mm (3/8"-16) x 88.90 mm (3-1/2") carriage bolts and two 9.53 mm (3/8"-16) tamper proof nuts

SPECIFY:_____

The two(2) bolts are to be placed through the two 11.11 mm (7/16") diameter holes in the pipe

SPECIFY:_____

The cast aluminum ring is to be placed on the pipe centring the carriage bolts with the holes through the 2 hubs of the ring

SPECIFY:_____

The two(2) tamper proof nuts must be secured to the two carriage bolts using the supplied bit which can be attached to a 9.53 mm (3/8") square drive

SPECIFY:_____

The nuts are to be tightened as well as possible

SPECIFY:_____

That portion of each carriage bolt which extends past the nut is to be flattened using a hammer so that a) the bolt does not protrude beyond the face of the aluminum ring, and b) the nut cannot be easily removed

SPECIFY:_____

4.3 SECURING TERMINAL CAP TO POST - (REFER TO DRAWING ATTACHED TO QUOTATION DOCUMENT):

The aluminum cap is to be secured to the pipe using a hammer. The bidder must ensure that the cap is secured to the top end of the pipe which is 190.50 mm (7.5") from the hub of the ring

SPECIFY:_____

4.4 INSTALLATION OF BICYCLE RING AND POST INTO SIDEWALK/BOULEVARD:

4.4.1 Core Drilling of Concrete:

Before any core drilling of the sidewalk/boulevard occurs it is the responsibility of the bidder to notify public utilities for installation approval at the locations indicated

SPECIFY:_____

The exact locations to core drill the sidewalk/boulevard will be spray painted on the sidewalk by City staff. These locations must be verified with the bidder before any drilling occurs

SPECIFY:_____

The required number of assembled bicycle rings and posts will be transported by the bidder to the locations indicated

SPECIFY:_____

Using a 101.6 mm (4") bit in a core drill machine a hole is to be drilled through the concrete sidewalk/boulevard to a depth of 152.4 mm (6"), no less than 483 mm (19") from the outside face of the curb

SPECIFY:_____

The steel pipe is to be placed in the hole to depth of no greater than 152.4 mm (6")

SPECIFY:_____

Anchorite grout or equivalent is then to be used to fill the gap between the post and the sidewalk. The pipe must be installed plumb and true

SPECIFY:_____

The existing surrounding surface material shall be restored to original condition

SPECIFY:_____

4.4.2 Installation in Unit Pavers Laid Over Concrete:
Before any core drilling of the sidewalk/ boulevard occurs it is the responsibility of the bidder to notify public utilities for installation approval at the locations indicated

SPECIFY:_____

The exact installation locations will be spray painted on the sidewalk/boulevard by City staff. These locations must be verified by the bidder before any drilling occurs

SPECIFY:_____

The required number of assembled bicycle rings and posts (1143 mm (45″) in length) will be transported by the bidder to the locations indicated

SPECIFY:_____

Using a 101.6 mm (4″) bit in a core drilling machine, a hole is to be drilled through the paving stone and concrete base to a depth of no less than 203.5 mm (8″), or completely through the concrete base, whichever is less. Alternatively, the paving stone may be lifted out, and a hole then drilled into the concrete base to a depth of 203.5 mm (8″) from the pavement surface, or completely through the concrete base, whichever is less.

SPECIFY:_____

The steel pipe is to be placed in the hole to depth of 250 mm (9-7/8")

SPECIFY:_____

Concrete, 25 MPA with 5% to 7% entrained air is then to be used to fill the gap between the post and the sidewalk/boulevard. If the paving stone has been removed, concrete is to be used to fill the space between the post and the surrounding unit pavers, to the level of the sidewalk/boulevard surface. The pipe must be installed plumb and true

SPECIFY:_____

The existing surrounding surface material shall be restored to original condition

4.4.3 Installation in Asphalt or Unit Pavers Laid Over Gravel Base
Before any core drilling of the sidewalk/boulevard occurs it is the responsibility of the bidder to notify public utilities for installation approval at the locations indicated

SPECIFY:_____

The exact locations to core drill the sidewalk/boulevard will be spray painted on the sidewalk by City staff. These locations must be verified with the bidder before any drilling occurs

SPECIFY:_____

The required number of assembled bicycle rings and posts

(1143 mm (45″) in length) will be transported by the bidder to the locations indicated

SPECIFY:_____

Using the appropriate equipment, drill or cut through the surface material to a depth of 305 mm (12″), no less than 203.5 mm (8″) in diameter.

SPECIFY:_____

The steel pipe is to be placed in the hole to depth of no greater than 250 mm (9-7/8")

SPECIFY:_____

Concrete, 25 MPA with 5% to 7% entrained air is then to be used to fill the gap between the post and the sidewalk/ boulevard. The pipe must be installed plumb and true.

SPECIFY:_____

The existing surrounding surface material shall be restored to original condition

SPECIFY:_____

5.0 CLEANING:

Rubbish to be removed from locations and premises to be left in a clean and tidy condition

SPECIFY:_____

6.0 WARRANTY:

Bidders must state period of warranty on all parts and labour

SPECIFY:_____

7.0 DELIVERY:

Bidder to state time required for completion of work after receipt of purchase order

SPECIFY:_____

8.0 NOTE:

Bidders must complete the column indicated "SPECIFY:_____" after each specification statement

9.0 PERFORMANCE EVALUATION:

Bidders shall be prepared if required, to arrange for a demonstration of the product offered within five(5) working days of such a request, at no cost to the City of Toronto.