

PROPRIETARY ITEM – FINDING IN THE PUBLIC INTEREST (FIPI)

INSTRUCTIONS:

A specific patented or proprietary material, specification, or process shall not be required on a contract except as permitted in Section 8.16 of the Project Development Manual (PDM). Use this form to obtain approval of the use of a proprietary feature on a project or group of projects.

PROPRIETARY ITEM OR PROCESS:

Name of proprietary item or process:	Manufacturer name, address & phone No.:
Irrigation Products for Denver Parks Department	See Attached Sheet Dated August 28 th , 2009

NEED FOR PROPRIETARY ITEM:

Check only one	LOCATION
<input type="checkbox"/> Project Specific	Provide Project No., Project Code, and Location:
<input type="checkbox"/> Corridor Specific	Provide Corridor Description:
<input checked="" type="checkbox"/> Region-wide	Identify CDOT Region: Region 6 for Denver Parks Irrigation System
<input type="checkbox"/> Statewide	

For a corridor, region-wide, or statewide request, a finding in the public interest will have a term of: (Check only one)

<input checked="" type="checkbox"/> 3 Years (maximum allowable)	Specify dates of term: 10/1/2009-10/1/2012
<input type="checkbox"/> Other (specify term)	Specify dates of term:

CERTIFICATION

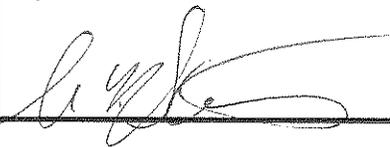
I hereby certify that it is in the public interest to specify the above named proprietary item or process for the following reasons: (Check all that apply)

- It is essential for synchronization.
- No equally suitable alternative exists.
- It will be used for research or experimental purposes on short sections of road. (Such use must be processed through the Research Branch of DTD. Attach documentation from DTD.)

JUSTIFICATION (required). Justification consists of information that documents the reasons marked above for use of the proprietary item or process. For research or experimentation include a work plan that describes how the research or experimental feature will be used and evaluated. Attach additional pages and documentation as necessary.

See Attached

APPLICANT SIGNATURE

Name Tony Stewart	Title (CDOT Project Engineer, Branch Manager, or Program Engineer as appropriate; see flowchart in section 8.16 of the PDM): Resident Engineer	Signature 
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APPROVAL SIGNATURES:

Signature	CDOT Resident Engineer (Required on project specific or corridor FIPs)	Date
Signature	CDOT Research Engineer (Required for research and experimentation FIPs)	Date
Signature 	FHWA Operations Engineer (Required for all region-wide and statewide FIPs and FHWA oversight project level FIPs)	Date 10/29/09
Signature	Other (specify) Fed Specifications Engineer	Date

COPIES OF APPROVED FORM TO (as appropriate):

CDOT Project Engineer: Kurt Kionka	CDOT Resident Engineer: Tony Stewart
CDOT Program Engineer: Jim Bemelen	CDOT Research Engineer:
CDOT Standards and Specifications Engineer (all, with draft of any required specification change): Larry Brinck	FHWA Operations Engineer: Chris Horn



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Department

Capital Project Management - Dept. 506
720.913.4501
Development Engineering Services - Dept. 507
720.865.3100
Infrastructure Planning & Programming - Dept. 509
720.865.3150
Traffic Engineering Services - Dept. 508
720.865.3150

201 W. Colfax Avenue
Denver, CO 80202
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August 28, 2009

Mr. Chris Horn
FHWA-Colorado Division
12,300 W. Dakota Ave., Suite 180
Lakewood, Colorado 80228

RE: Project Nos. STU M320-050, SA 16220 and STU M320-049, SA 16178
Finding in the Public Interest – Denver Parks Irrigation Products

Mr. Horn:

The City and County of Denver and CDOT Region 6 have been discussing irrigation products which Denver's Parks Department uses on all Denver Parks project. The City and CDOT R6 are completing several projects including Colfax/Tremont/13th/Delaware Intersection Improvements and South Broadway Reconstruction, Yale Avenue to Wesley Avenue, which include federal funding and CDOT oversight. CDOT recommended Denver submit a request to FHWA for approval of a master list of proprietary irrigation products, similar to the master list CDOT R6 has for CDOT's own irrigation products. This letter requests approval for proprietary irrigation products.

Justification

The City and County of Denver Department of Parks and Recreation standardized their irrigation approach and equipment so that items are compatible with existing irrigation systems City wide and overall maintenance cost have been minimized with fewer replacement components, keys, and parts to inventory. This approach minimizes the "stock-keeping units" associated with long-term irrigation system maintenance and results in the lowest possible life-cycle cost to the City and County of Denver and the public. Actual equipment repair time, staff training time, inventory tracking, and equipment part cost are minimized. Overall costs to utilize and maintain these items will result in substantial savings to taxpayers.

The following is a list of proprietary irrigation products which are consistent with product used throughout Denver's park system.

Irrigation Products

Controllers

Central control: (one controller per tap)

Toro Sentinel (wireless with wireless output board)

Rainmaster Eagle-i with I-Central communication card up to 36 zones (48 zones Fall 09)

Systems over 24 stations, not central control:



Protecting the Present & Building the Future
Accountability, Innovation, Empowerment, Performance, Integrity,
Diversity, Teamwork, Respect, Excellence, Safety

Rainmaster Eagle-i with capability to accept central control card up to 36 zones (48 spring 09)
Hunter ACC series

Systems under 24 stations, not central control:

**Must have capability for flow sensor, independent programming and minimum 40 VA transformer rating.

Rainmaster Eagle-i Series

Hunter ACC series

Battery operated controllers: For use only when AC is not available or feasible

Leit Control System by DIG (replaces Solotrol)

Controller Enclosures:

Strongbox or Hoffman stainless steel, Tiger Drylack powder coating finish color 6005

Sentinel stainless steel, federal or forest green powder coat finish (special order)

Heads (specify purple cap for non-potable use)

Spray:

RainBird 1800 series SAM-PRS, (1804 only on narrow tree-lawns)

U-series nozzles

MPR Strip series nozzles, Rainbird MPR nozzles, where application requires

Rain Bird rotary nozzles in applications of seeding on slopes & retrofits of brass nozzles > 15'

Rotor, short range:

Rain Bird 3500 series SAM (radius 15' to 30')

Rain Bird 5000 Plus series SAM-PRS-SS with MPR nozzles (radius 30' - 50')

Rotor, medium range:

Rain Bird 5500 series SS

Hunter I-20 series SS (radius up to 45')

Rotor, long range:

RainBird 7005 series SS

RainBird 8005 series SS

Hunter I-25 series SS (radius 40' to 70')

Hunter I-40 series SS (radius 45-65')

Master Valves and Flow Sensor (for Central Control):

Master Valve:

Bermad 410-Y or 710 -Y, normally open (add PRV if necessary) for larger than 3" mainline

For 3" and under, use a normally open Superior 3100 series valve

Flow sensor:

Data Industrial model 220-B mounted with a Harco tapping saddle for 3" and larger mainlines

Data Industrial model 228-B-2 for 2" mainlines.

Rainmaster controllers: use Rainmaster flow sensor with EB-CAB sensor cable

Rain Sensor: (wireless mounted on light pole preferred)

Wired: Hunter Mini-Clik with bypass switch box and Sensor Guard (mounted on 1-1/2" galvanized

pipe at a minimum height of 10' and above spray from heads)

Wireless: Hunter Rain-Clik (must be mounted within 200 ft of controller, minimum 15' above ground) with by-pass switch

Valves

Irrigation:

RainBird PEB-PRS-D for potable water
RainBird PESB-PRS-D for non-potable water
Hunter ICV Filter Sentry with purple handle for reclaimed water

Quick coupler:

Buckner "Wing-Thing" Q44LRCAR10 (If used for winterization, use all brass fittings to mainline)

Angle valve for valve clusters:

Champion brass body 300-RS with integral brass union

Manual Drains on mainlines (cross handles are not acceptable):

Mueller H10284 stop and waste

MacDonald AY 1" 3061 with brass swing joint assembly

Gate/Isolation:

Cast-iron flanged with a left-hand opening nut (such as 10RT Ring Tite by Matco-Norca)

Pressure reducing:

Watts commercial grade or equal

Air Relief: (for larger systems with booster pumps)

Bermad 4415M cast-iron double purpose air/vacuum relief valve

Pipe & Fittings

Main line 2-1/2" or larger:

SDR-21 CL-200 PVC-RT with ductile iron gasketed fittings and Leemco pipe restraints

Main line 2" and under:

CL 200-PVC BE, solvent weld, schedule 80 PVC fittings with thrust blocks

Lateral (non-pressure) lines:

100 PSI High Density NSF polyethylene pipe (min 1" diameter)

PVC insert fittings, double-clamped with stainless steel worm gear screw clamps

Brass:

85% red brass, ANSI Schedule 40 screwed pipe

Medium brass, 125# class screwed fittings

Sleeves:

CL-200 PVC BE

HDPE pipe can be used with boring

Swing pipe/joints:

1/2" RainBird SPX-100 (for 1/2" pop-up heads unless dynamic pressure at head exceeds 80 PSI)

RainBird SBE-050 spiral barbed ells for use with swing pipe

Rotor swing joints: fabricated out of Schedule 80 PVC nipples and Marlex street ells

Low-Flow Irrigation

Bubblers:

RainBird 1400 series with 1402 nozzle

Sub-surface irrigation (only for non-turf areas; review with District Superintendent before specifying):

Netafim Techline CV with Techline fittings

Netafim filter, root intrusion filter in 10" box

Flush valve: Netafim or ball valve in 10" box

Valve to be RainBird PEB-PRS-D

Backflow & Covers:

Febco, Wilkins or Watts devices
Guardshack or Hotbox enclosures (Forest Green) with Lock Shield Brackets by BPD
On new pads: Sentry #SC75-200 2" AND SMALLER

Boxes

Carson: 3 and 4 valve clusters: Super Jumbo 1730-18 with 3B flush corner hex bolt down lid
valve clusters of less than 3: Valve Box 1324 3B with flush corner hex bolt-down lid
Isolation, quick couplers, drains, wire splices, ground rods: 910-10 with 910-4 bolt down T-
cover Wire splices, less than 20 wires: 910-10 with 910-4 bolt down T-cover
Wire splices, more than 20 wires: 1419 Standard Valve box with flush corner hex bolt-down
lid

Rainbird Super Jumbo Box with VB-LOCK-P option

Wiring, Wire Nuts, Grounding Rod/Wire

Control wire: Golf Course UL approved direct burial solid conductor copper wiring, polyethylene
insulation

Smaller than 14AWG solid HDPE wire not allowed; no multi-strand wire.

Use valve manufacturer wire sizing recommendations. Runs listed below are general guidelines.

Control wire: minimum AWG #14 black (spare red)

24 V: For runs up to 1,210 lf use #14 AWG; up to 1,350 lf use #12; up to 1,460 lf use #10.

Common wire: minimum AWG #12 white (spare purple)

#12 AWG up to 1,350 lf; #10 AWG up to 1,460 lf

Data wire: #14 Green and Blue

Tracer wire:

#10-1 UFUL, yellow. Poly marker tape required.

Connectors:

Waterproof pre-filled nuts only, such as King, and DBY and DBR connectors by 3-M

Grounding:

Rod and wire must provide 7 OHMS or less resistance

(use manufacturer recommendation for central control)

Conduit: Schedule 40 PVC

FINDING IN PUBLIC INTEREST:

The above proprietary products have been specified because the City and County of Denver Department of Parks and Recreation standardized their irrigation approach and equipment. These proprietary items are compatible with existing irrigation systems City wide and overall maintenance cost have been minimized with fewer replacement components, keys, and parts to inventory. This approach minimizes the "stock-keeping units" associated with long-term irrigation system maintenance and results in the lowest possible life-cycle cost to the City and County of Denver and the public. Actual equipment repair time, staff training time, inventory tracking, and equipment part cost are minimized. Overall costs to utilize and maintain these items will result in substantial savings to taxpayers.

These proprietary items meet the Buy American requirements in the CDOT Standard Special Provisions.

If you need additional information concerning this matter, please contact Ms. Debrah Binard at Denver Parks and Recreation (720-913-0673), Mr. John La Sala at Denver Capital Projects (720-913-4534), or Ms. Susan Smith of CDOT Region 6 Environmental (303-757-9932).

Sincerely,

A handwritten signature in cursive script, appearing to read "John C. La Sala".

John C. La Sala, PE, PTOE
Project Manager
City and County of Denver, Dept. of Public Works, Capital Projects Management
(720) 913-4534