



**CITY OF MARTINEZ**

**CITY COUNCIL AGENDA  
July 21, 2010**

**TO:** Mayor and City Council  
**FROM:** Tim Tucker, City Engineer  
**SUBJECT:** Amending Landscape and Irrigation Standard Details  
**DATE:** July 15, 2010

**RECOMMENDATION:**

Approve motion accepting City Engineer's recommendation to adopt changes the City of Martinez "Standard Details" Landscape and Irrigation sections.

**BACKGROUND:**

As part of the development of Measure H park project the City's Landscape and Irrigation sections of the Standard Details were evaluated. Working with the Landscape Architects and Public Works Park staff needed changes and the details were identified. The details have been drafted in AutoCAD so they could easily be shared and imported into various project plans. The list of details has been expanded to cover a wider range of work. This will reduce design time and cost both for City and private development projects. Lastly, some existing details were updated to match current construction practices and preferable products. This will help the City reduce maintenance costs in the future.

Attached is a summary list of the details along with revised details for Council approval. The City of Brentwood assisted Martinez staff by providing their details in AutoCAD form to be used as a basis. This significantly reduced staff time in developing our new Standard Details.

City staff will be recommending the Municipal Code be amended, at a future time, to allow Standard Details be updated administratively. This would be consistent with the procedures used in many cities.

**FISCAL IMPACT:**

Reduction in staff and consultant design costs.

**ACTION:**

Approve motion accepting City Engineer's recommendation to adopt changes the City of Martinez "Standard Details" Landscape and Irrigation sections.

A handwritten signature in cursive script, appearing to read "Philip Vance".

**APPROVED BY:** City Manager

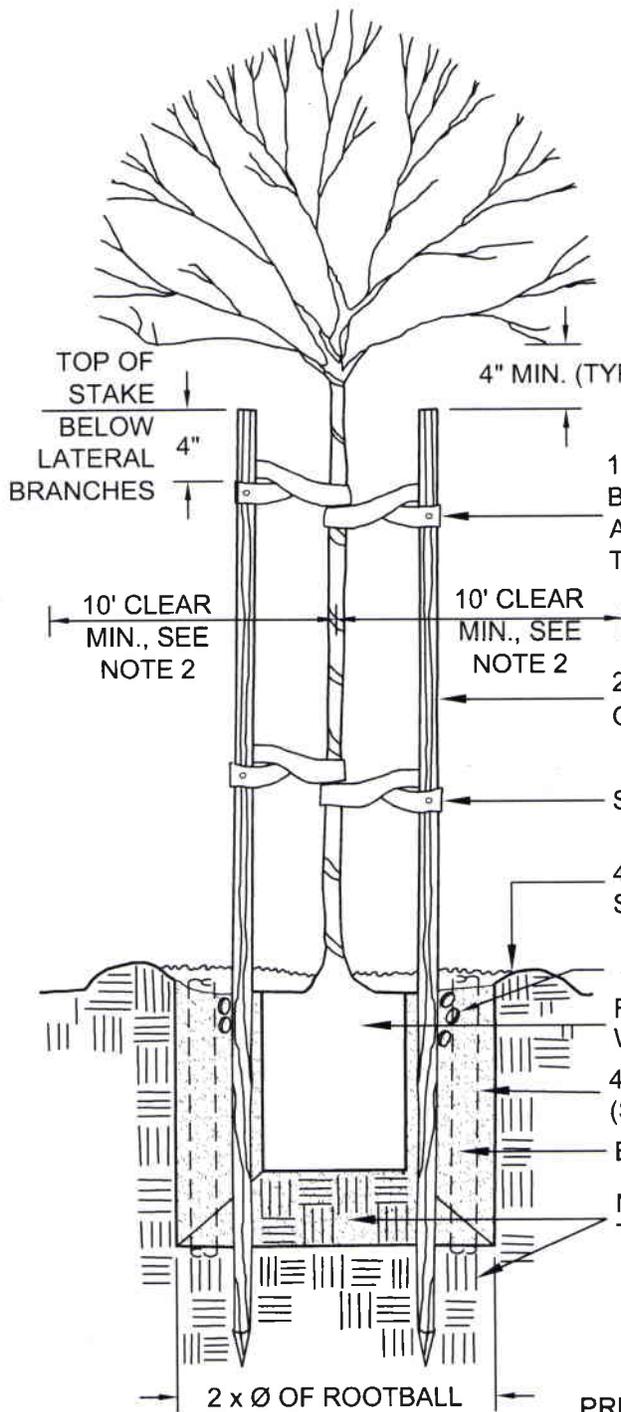
## Attachment A

### LANDSCAPING:

L-1	TREE PLANTING DETAIL	REVISED
L-2	ROOT BARRIER DETAIL	NEW
L-3	TYPICAL TREE GUYING FOR 24"BOX	NEW
L-4	SHRUB/GROUND COVER SPACING	NEW
L-5	SHRUB PLANTING DETAILS	NEW
L-6	HEADERBOARD ON PLANTING AREAS	NEW
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L-9	CONCRETE MOWING STRIP	NEW
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L-12	DRAIN SUMP	NEW
L-13	TURF CELL	NEW
L-14	PARK DISPENSER	NEW
L-15a	CHAIN LINK FENCE	NEW
L-15b	CHAIN LINK FENCE NOTES	NEW
L-16	RAIL CONCRETE FENCE	NEW
L-17	POURED IN PLACE SAFETY SURFACING	NEW
L-18	LANDSCAPE BERM DETAIL	NEW

### IRRIGATION:

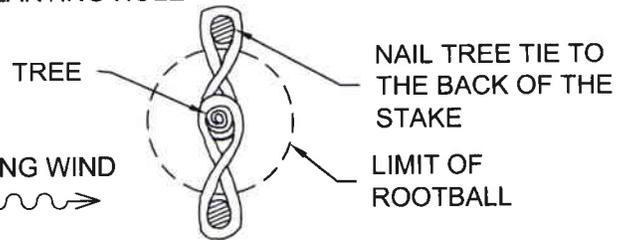
I-1	IRRIGATION EQUIPMENT LIST	REVISED
I-2	QUICK COUPLING VALVE	REVISED
I-3	IRRIGATION VALVE BOX INSTALLATION	REVISED
I-4	TREE BUBBLER-PLAN VIEW	REVISED
I-5	TREE BUBBLER AND SPRAY POP-UP HEAD	REVISED
I-6	ROTARY POP-UP HEAD	REVISED



**NOTES:**

1. SEE ROOT BARRIER DETAIL (L-2).
2. TREES SHALL BE PLANTED AT 10' MIN. CLEAR FROM WALLS, FENCES, TABLES, BENCHES, SIDEWALKS, MOWBANDS, ETC.
3. NO TREES SHALL BE PLANTED WITHIN 5' OF EXISTING OR DESIGNED JOINT TRENCH UTILITY, 35' FROM STREET INTERSECTION AND 20' FROM STREET LIGHT.

- 1" x 8" RECYCLED BLACK RUBBER TREE TIE 6" MIN. BELOW PRIMARY BRANCHES, LOOP IN A FIGURE 8 AND NAIL TO BACK OF STAKE WITH GALVANIZED THREADED NAILS
- 2" X 10' LODGEPOLE PINE STAKE ON OUTSIDE OF ROOTBALL
- SECOND SET OF TREE TIES
- 4" DEEP X 4' DIA. WATERING BASIN WITH 2" LAYER OF SHREDDED REDWOOD BARK MULCH
- 5 PLANTING TABLETS PER 15 GALLONS TREE (TYP.)
- ROOTBALL: SET 3" ABOVE GRADE; SCARIFY ROOT WALLS AND BOTTOM OF HOLE; SQUARE OFF HOLE
- 4" I.D. PVC PIPE WITH SECURED GRATE, 2 EACH (SEE I-3 FOR TREE BUBBLER)
- BACKFILL (COMPOSED OF NATIVE SOIL)
- NATIVE SOIL @ 85% RELATIVE COMPACTION BENEATH THE PLANTING HOLE



**CITY OF  
MARTINEZ**



**TREE PLANTING DETAIL**

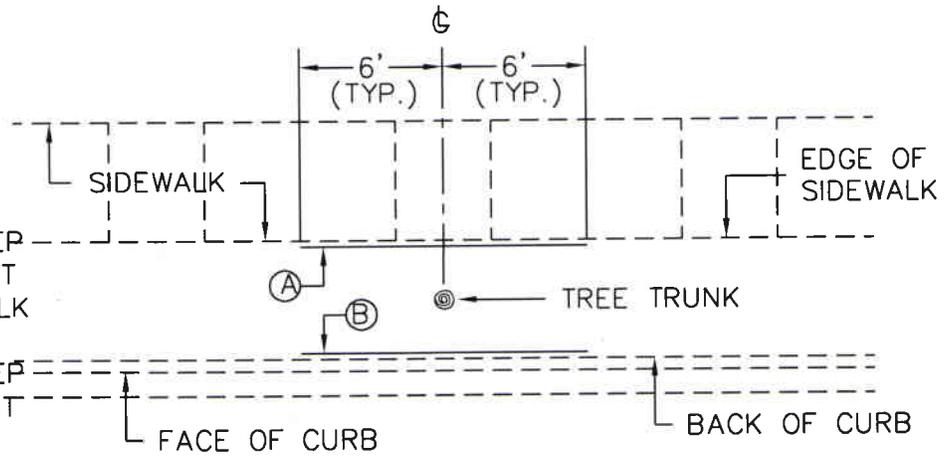
*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010  
REVISED:

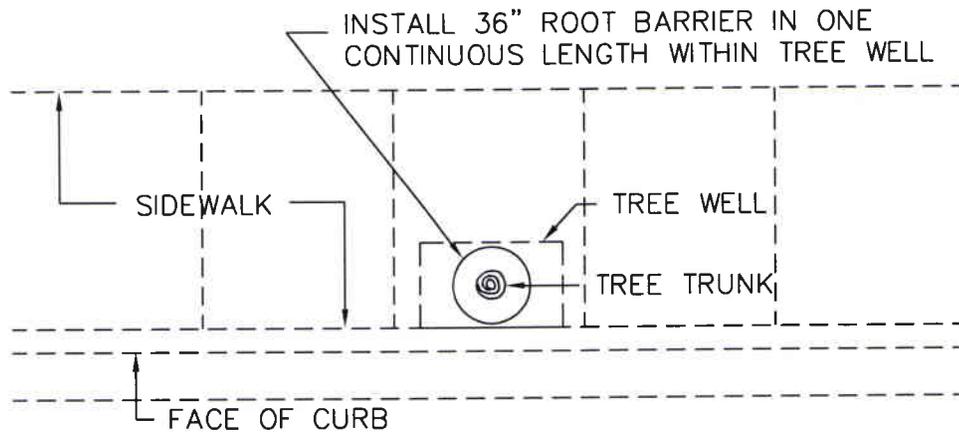
SHEET NO.  
**L-1**

**LEGEND:**

- Ⓐ - INSTALL 24" DEEP ROOT BARRIER AT EDGE OF SIDEWALK
- Ⓑ - INSTALL 36" DEEP ROOT BARRIER AT BACK OF CURB



**DETACHED SIDEWALK**



**MONOLITHIC CURB AND SIDEWALK**

**NOTES:**

1. ROOT BARRIERS SHALL BE REQUIRED FOR ALL TREES PLANTED WITHIN 5' OF HARDSCAPE.
2. 24" AND 36" ROOT BARRIER SHALL BE HIGH DENSITY AND HIGH IMPACT PLASTIC AS AVAILBLE FROM "DEEP ROOT," VESPRO, INC. OR EQUIVALENT AS APPROVED BY PARKS AND RECREATION DEPARTMENT.
3. TOP OF ROOT BARRIER SHALL BE SET  $\frac{1}{2}$ "  $\pm$  ABOVE FINISHED GRADE OF SOIL. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE TOP OF ROOT BARRIER EXTEND ABOVE ADJACENT CURB, SIDEWALK OR OTHER HARD SURFACING, AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

(Not To Scale)



**CITY OF  
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**ROOT BARRIER DETAIL**

TIMOTHY M. TUCKER

CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

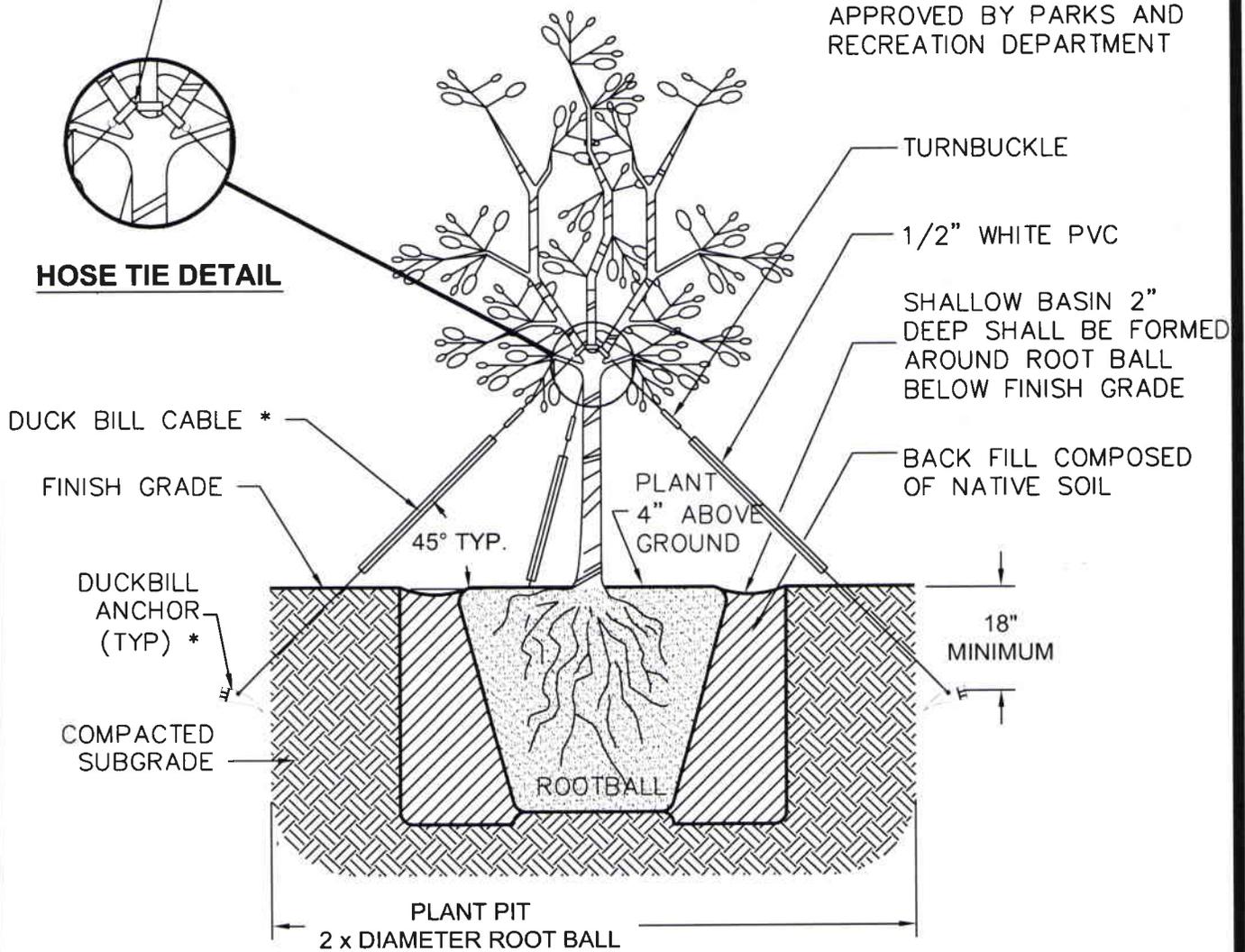
SHEET NO.

**L-2**

COVER WIRE: 1/2"-3/4" DIAMETER 2-PLY REINFORCED  
RUBBER OR PLASTIC GARDEN HOSE

\* OR EQUIVALENT AS  
APPROVED BY PARKS AND  
RECREATION DEPARTMENT

**HOSE TIE DETAIL**



**NOTE:**

ALL 30" BOX TREES OR LARGER, INCLUDING MULTI-TRUNK SPECIMENS,  
SHALL BE GUYED AS SHOWN.

(Not To Scale)



**CITY OF  
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**TYPICAL TREE GUYING FOR 24" BOX**

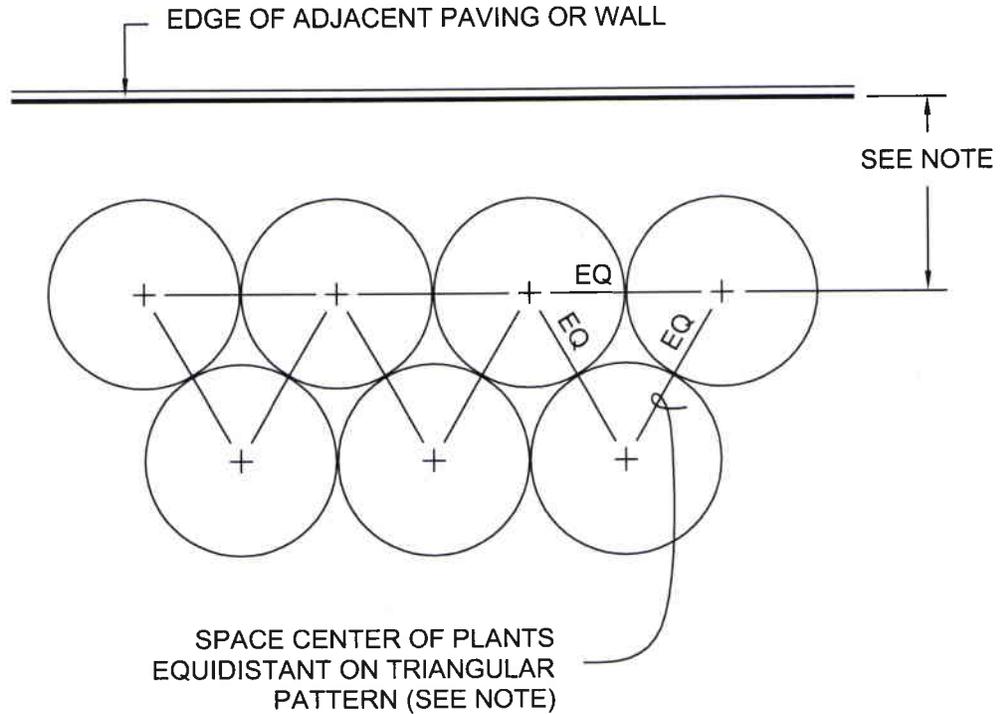
*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-3**



**NOTE:**

PLANTING DISTANCE OF THE PLANT MATERIAL TO THE SIDEWALK, CURB, AND/OR HARDSCAPED AREAS SHALL BE DETERMINED BY THE MAXIMUM SPREAD AT MATURITY OF SHRUBS AND GROUND COVER.

(Not To Scale)



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**SHRUB/GROUND COVER SPACING**

*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

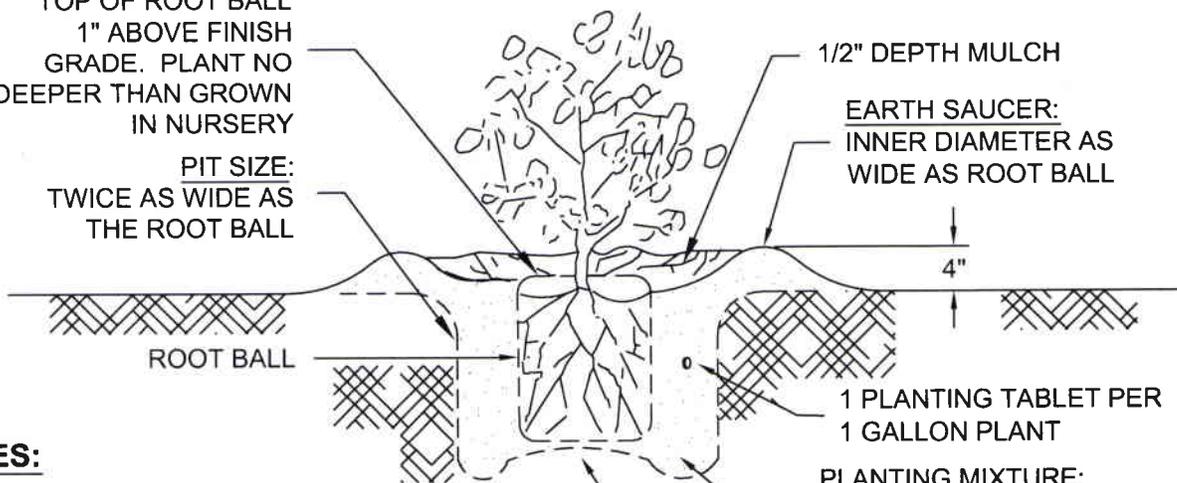
REVISED:

SHEET NO.

**L-4**

**PLANTING DEPTH:**  
TOP OF ROOT BALL  
1" ABOVE FINISH  
GRADE. PLANT NO  
DEEPER THAN GROWN  
IN NURSERY

**PIT SIZE:**  
TWICE AS WIDE AS  
THE ROOT BALL



1/2" DEPTH MULCH

**EARTH SAUCER:**  
INNER DIAMETER AS  
WIDE AS ROOT BALL

4"

ROOT BALL

1 PLANTING TABLET PER  
1 GALLON PLANT

**NOTES:**

1. PROVIDE CITY WITH PLANTING MIXTURE SPECIFICATIONS.
2. PLANTER AREA SHALL HAVE PRE-EMERGENT HERBICIDE APPLIED BEFORE PLANTING TO PREVENT GERMINATION WEED SEEDS.

PLANT CROWN 2" ABOVE  
GRADE FOR SETTLEMENT

**PLANTING MIXTURE:**  
PROVIDE SPECIFICATIONS FOR  
BACKFILL; CROWN, THEN FILL  
TO REDUCE SETTLING

**PIT BOTTOM:**  
RAISE SLIGHTLY FOR  
PROPER DRAINAGE

MULCH TOP 3" WITH SOIL  
AMENDMENT

4" BERM

FINISHED GRADE

FINISHED GRADE

SCARIFY SIDES IF  
AUGER IS USED

ROOTBALL

SCARIFY HOLE  
(BOTTOM AND SIDES)

2 x DIA. OF THE  
ROOT BALL

2 PLANTING TABLETS/  
5 GALLON PLANT

FILL AROUND ROOT BALL WITH  
A MIXTURE OF SOIL AMENDMENT  
AND EXCAVATED SOIL. MIXTURE:  
70% EXCAVATED SOIL; 30% SOIL  
AMENDMENT

(Not To Scale)



**CITY OF  
MARTINEZ**



**SHRUB PLANTING DETAILS**

TIMOTHY M. TUCKER

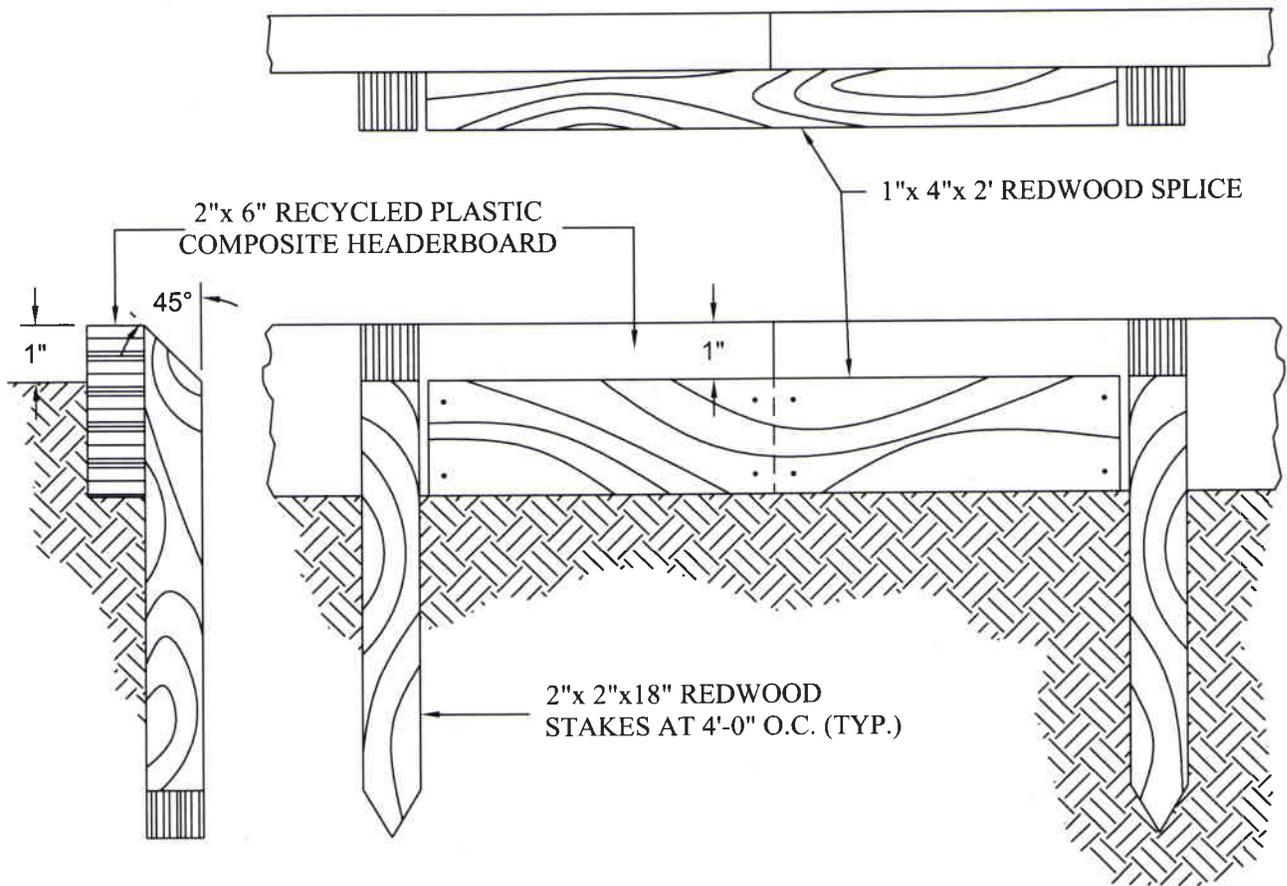
CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-5**



NOTES:

1. INSTALL ALL STAKES AND SPLICES ON PLANTING SIDE OF HEADERBOARD.
2. FASTEN HEADERBOARD WITH GALVANIZED DECK SCREWS.

(Not To Scale)



**CITY OF  
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**HEADERBOARD ON PLANTING AREAS**

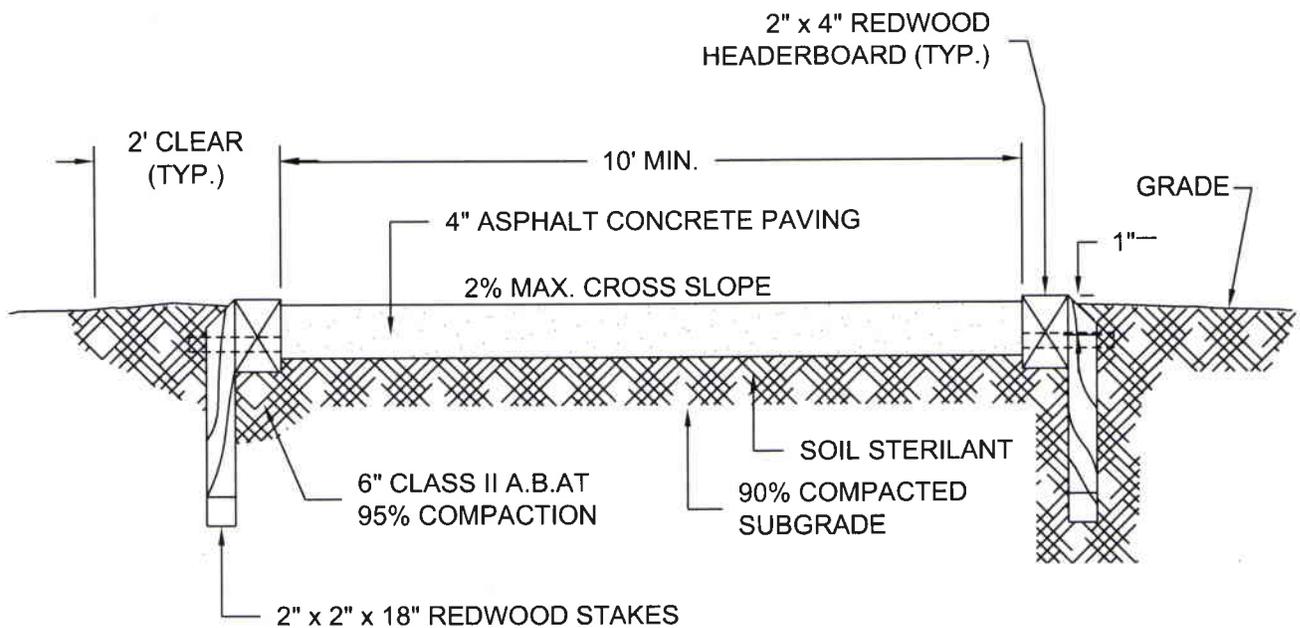
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TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-6**



**NOTES:**

1. HEADERBOARD SHALL BE REDWOOD, ROUGH, CONTRUCTION HEART GRADE, IN ACCORDANCE TO CALIFORNIA ASSOCIATION GRADING RULES.
2. ALL NAILS SHALL BE GALVANIZED.
3. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.
4. FOR ADDITIONAL REQUIREMENTS, SEE THE CURRENT "CREEK TRAILS AND REVEGETATION MASTER PLAN."

(Not To Scale)



**CITY OF  
MARTINEZ**



**ASPHALTIC CONCRETE WALK DETAIL**

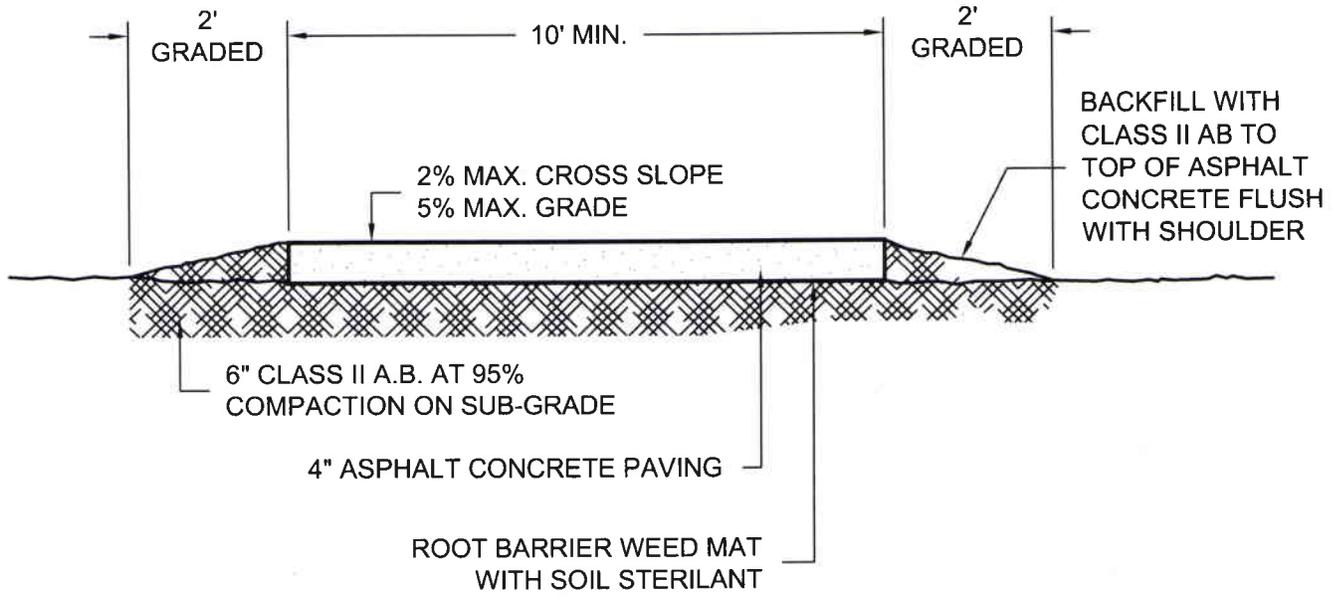
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TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-7**



**NOTES:**

1. BIKE TRAIL SHALL BE CLASS 1 BIKEWAY.
2. BIKE PATHS CLOSER THAN 5' FROM THE EDGE OF THE TRAVEL WAY SHALL INCLUDE AN APPROVED PHYSICAL BARRIER (I.E. CHAINLINK FENCES OF DENSE SHRUBS) TO PREVENT BICYCLISTS FROM ENCROACHING INTO THE TRAVEL WAY.
3. THE USE OF RECYCLED A.B. SHALL NOT BE ALLOWED.

(Not To Scale)



**CITY OF  
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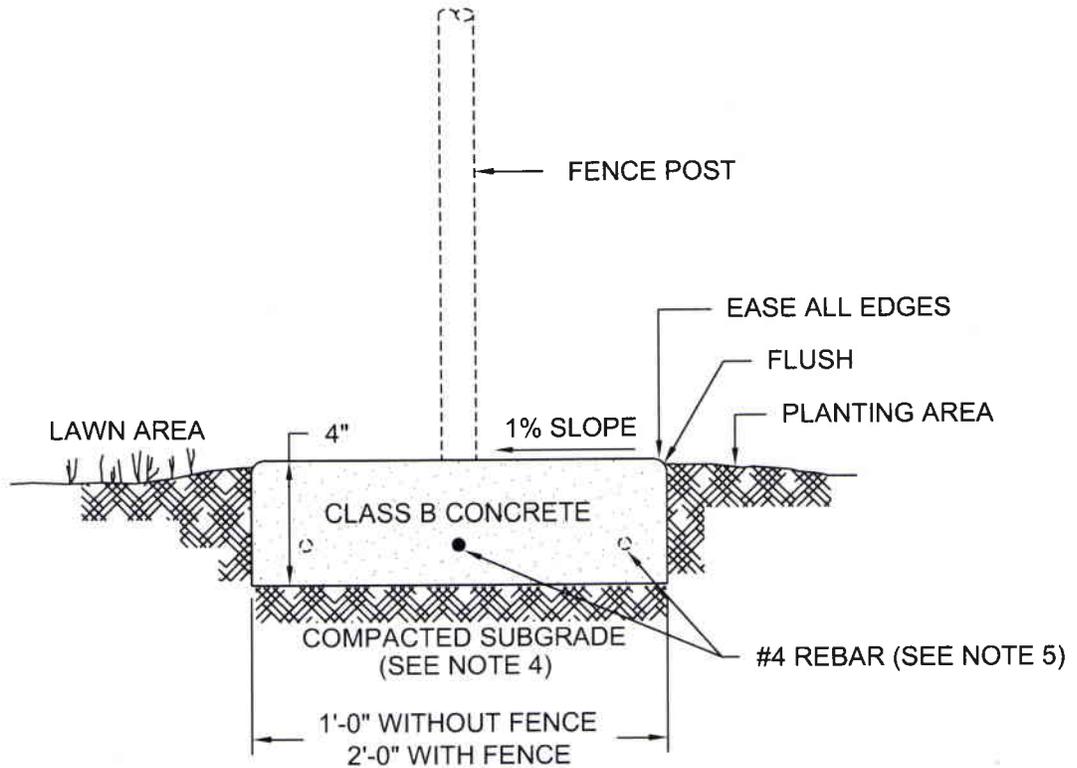


**BIKE TRAIL PAVING DETAIL**

*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010  
REVISED:

SHEET NO.  
**L-8**



**NOTES:**

1. PROVIDE WEAKENED PLANE JOINTS 1" DEEP AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 10'-0" INTERVALS AND WHERE CONCRETE WALK JOINS ANOTHER.
3. BROOM FINISH UNLESS OTHERWISE SPECIFIED.
4. COMPACT SUBGRADE TO 90% OF RELATIVE COMPACTION AND WITHIN 3% OF OPTIMUM MOISTURE.
5. PROVIDE 1-#4 REBAR FOR 1'-0" AND 2-#4 REBAR ON 2'-0" MOWBAND.



**CITY OF  
MARTINEZ**



**CONCRETE MOWING STRIP**

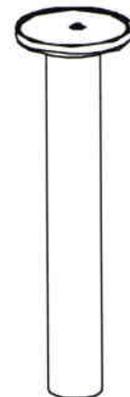
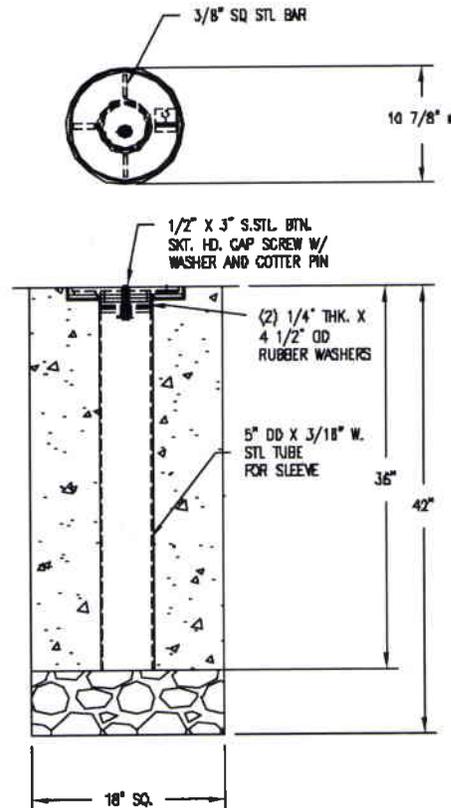
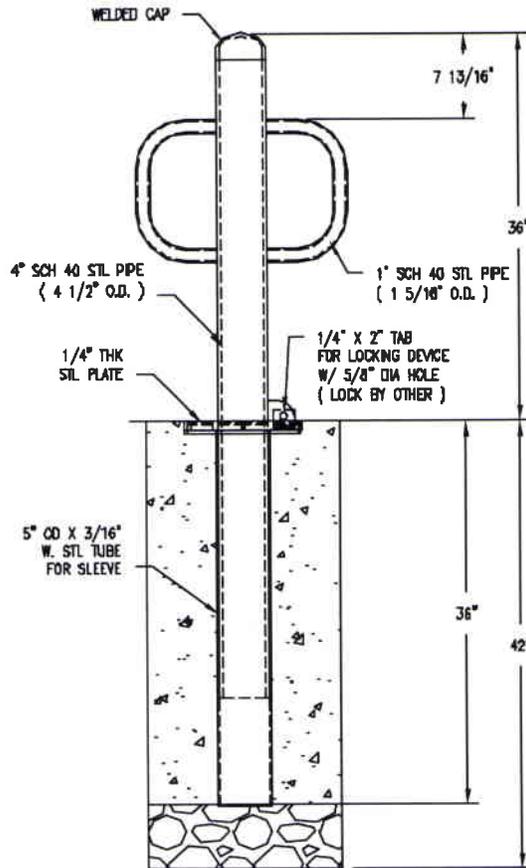
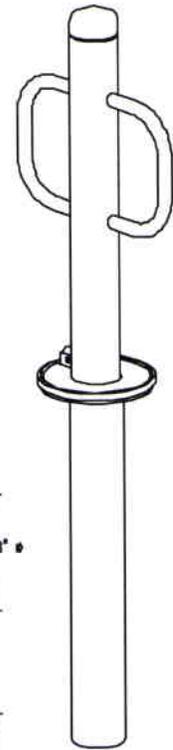
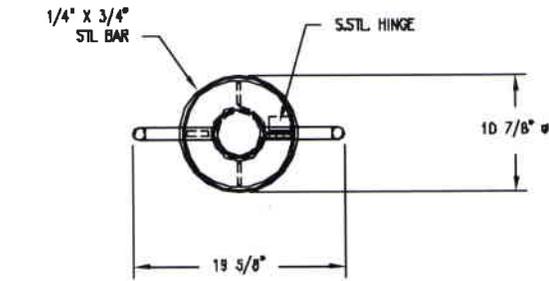
*Tim Tucker*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-9**



DETAIL OF BOLLARD WITH SLEEVE

DETAIL OF CAP WITH SLEEVE

**NOTES:**

1. STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
2. MANUFACTURER: DUMOR INC. OR EQUAL.

(Not To Scale)



# CITY OF MARTINEZ



## REMOVABLE METAL BOLLARD

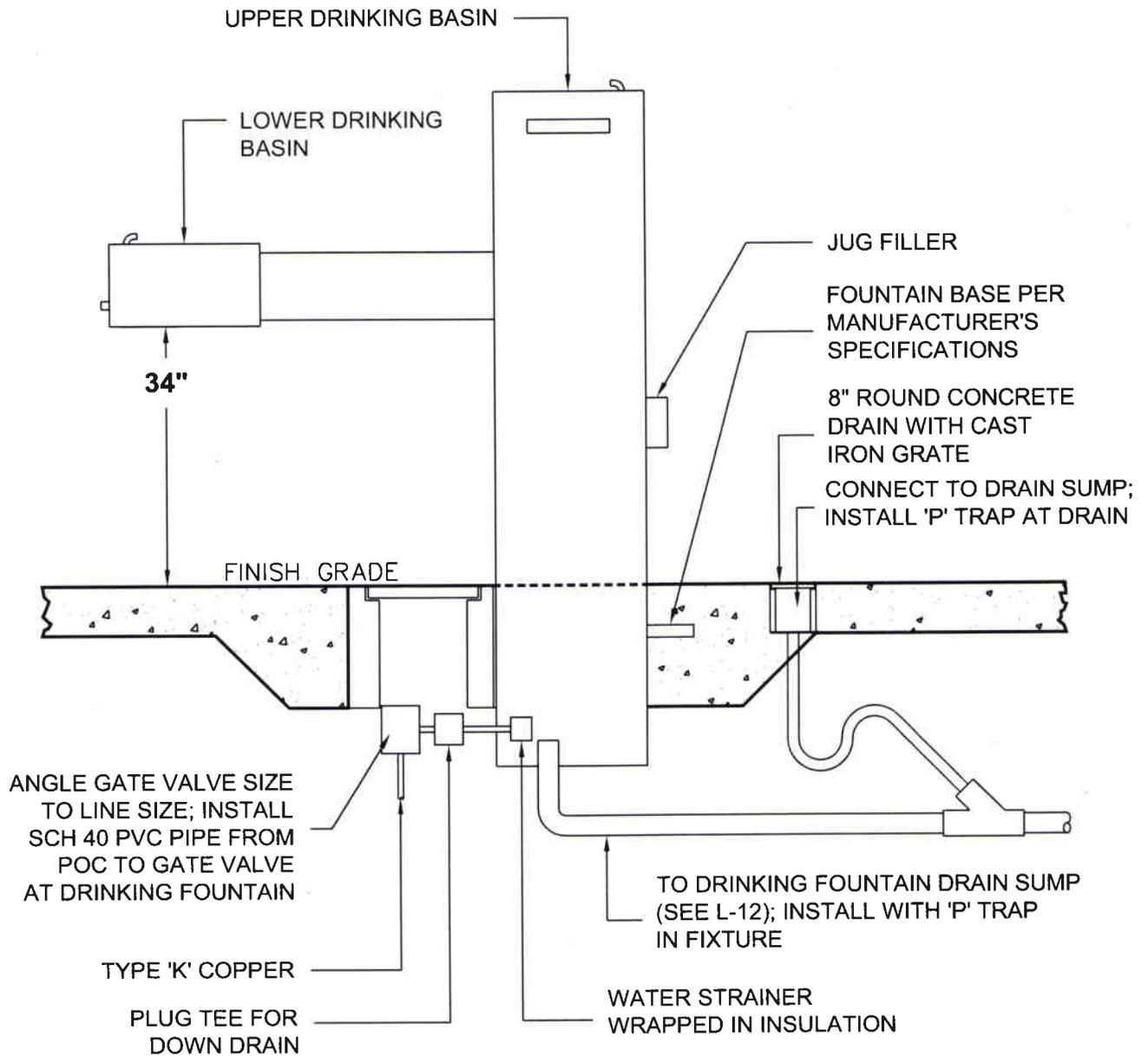
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TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-10**



**NOTES:**

1. PLACEMENT OF DRINKING FOUNTAIN SHALL BE APPROVED BY THE PARKS AND RECREATION DEPARTMENT PRIOR TO INSTALLATION.
2. PROVIDE A MINIMUM CLEARANCE OF 3' ON ALL SIDES OF THE DRINKING FOUNTAIN.

(Not To Scale)



**CITY OF  
MARTINEZ**



**STAINLESS STEEL DRINKING FOUNTAIN**

TIMOTHY M. TUCKER

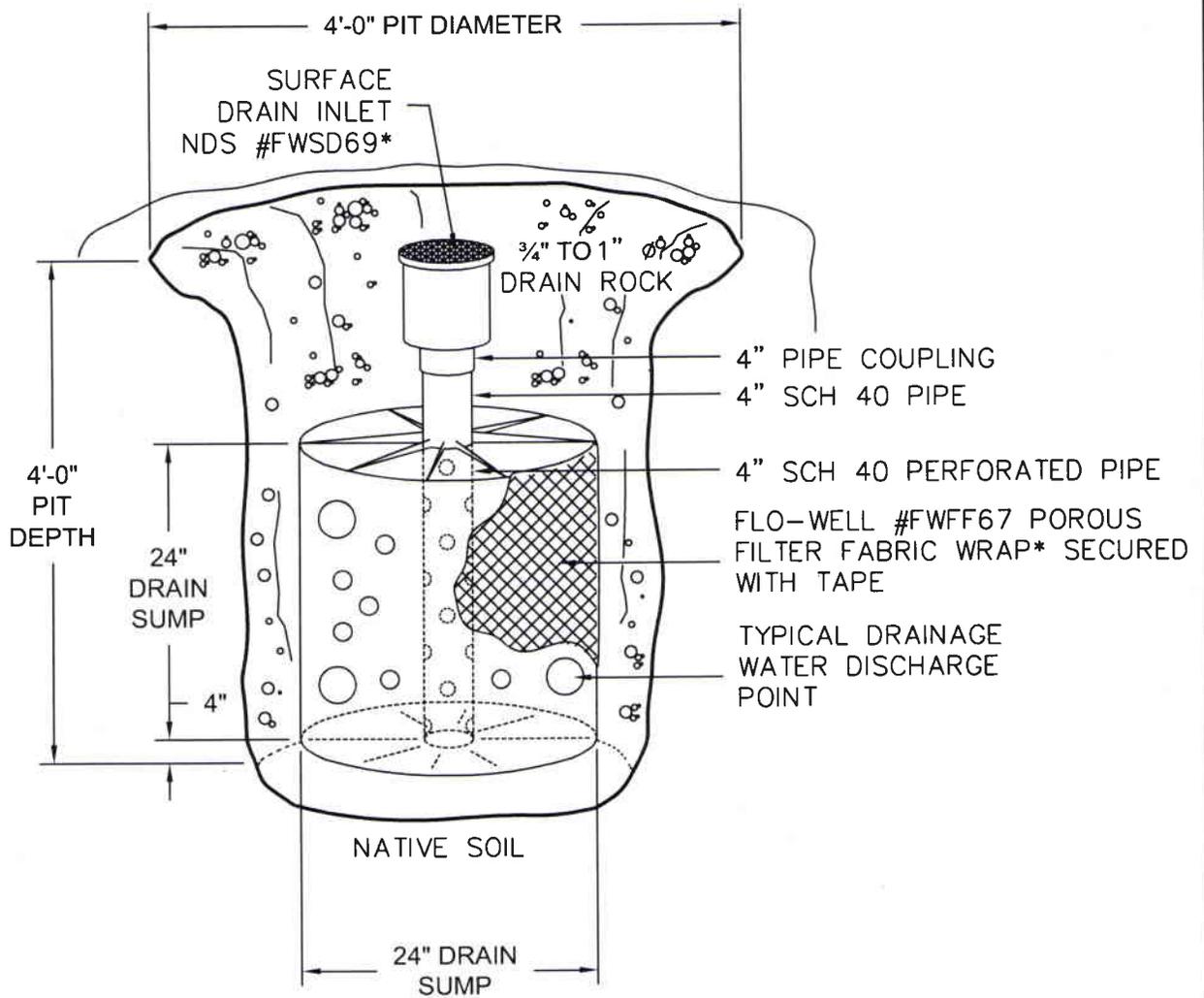
CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-11**



\* OR AS APPROVED BY THE PARKS AND RECREATION DEPARTMENT.

(Not To Scale)



# CITY OF MARTINEZ

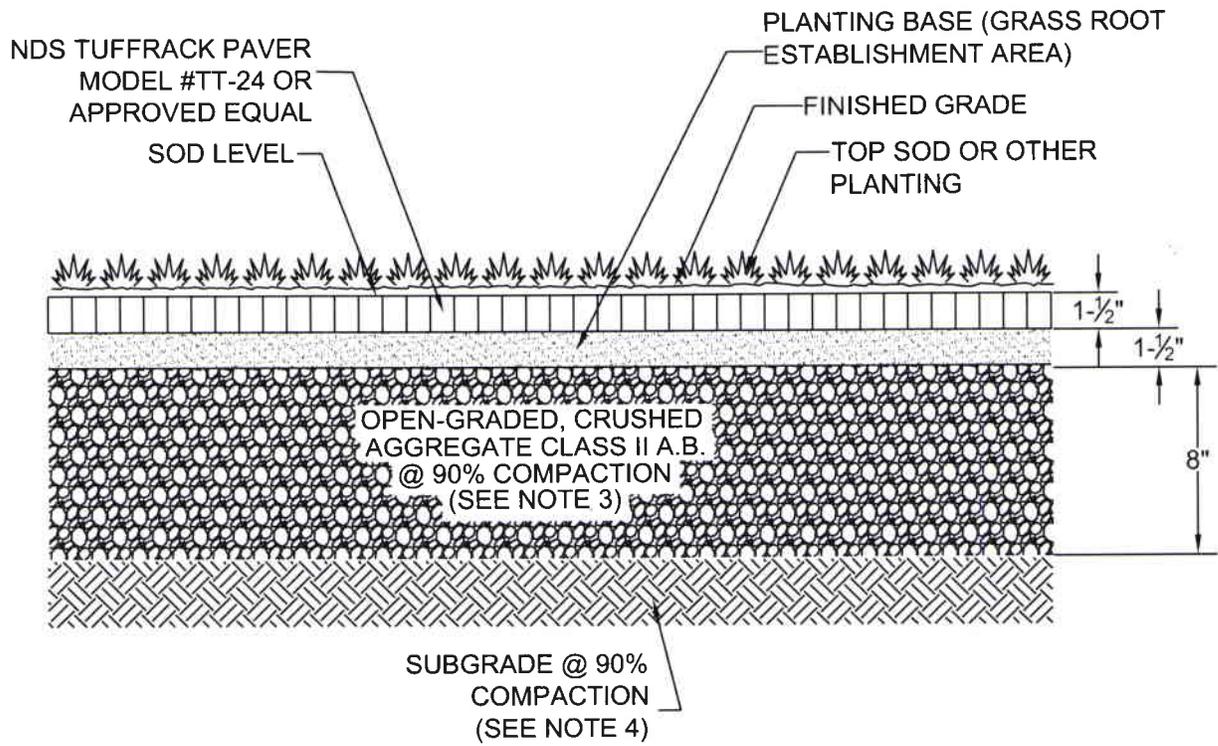


## DRAIN SUMP

*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010  
REVISED:

SHEET NO.  
**L-12**



**NOTES:**

1. TURF CELLS SHALL BE USED WHERE TURF AREAS ARE USED WITH VEHICULAR ACCESS AND INFREQUENT PARKING SUCH AS RESIDENTIAL DRIVEWAYS, OVERFLOW PARKING AREAS, THE OUTER 1/3 OF COMMERCIAL AND RETAIL DEVELOPMENTS WHERE PARKING SPACE IS USED LESS OFTEN AND FOR SHORTER PERIODS OF TIME, FIRE/ EMERGENCY ACCESS ROADS, UTILITY ROADS, STREET SHOULDERS.
2. SLOPE SHALL BE EQUAL TO OR LESS THAN 5%.
3. BASE COURSE SHALL BE OPEN-GRADED AND COMPOSED OF CRUSHED ROCK (NOT ROUNDED).
4. SUBGRADE SHALL BE DESIGNED FOR ANTICIPATED LOADS.
5. WHERE THERE ARE NO DEEP PERMEABLE SOILS, UNDERDRAIN SYSTEM SHALL BE PROVIDED.
6. IRRIGATION SHALL BE REQUIRED TO MAINTAIN TURF.

(Not To Scale)



**CITY OF  
MARTINEZ**



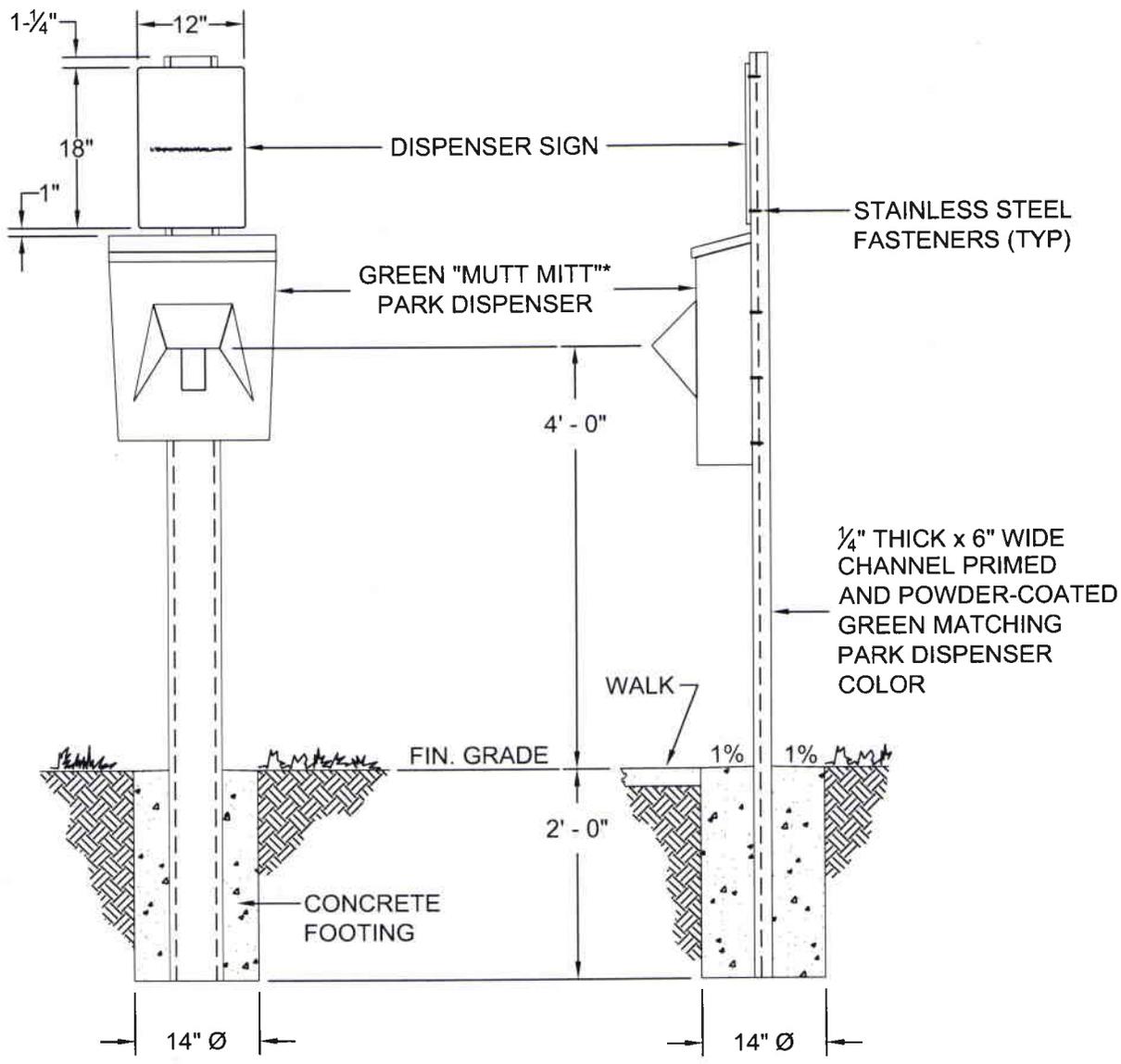
**TURF CELL**

*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.  
**L-13**



**FRONT ELEVATION**

**SIDE ELEVATION**

\* OR EQUIVALENT AS APPROVED BY THE PARKS AND RECREATION DEPARTMENT.

(Not to Scale)



**CITY OF  
MARTINEZ**

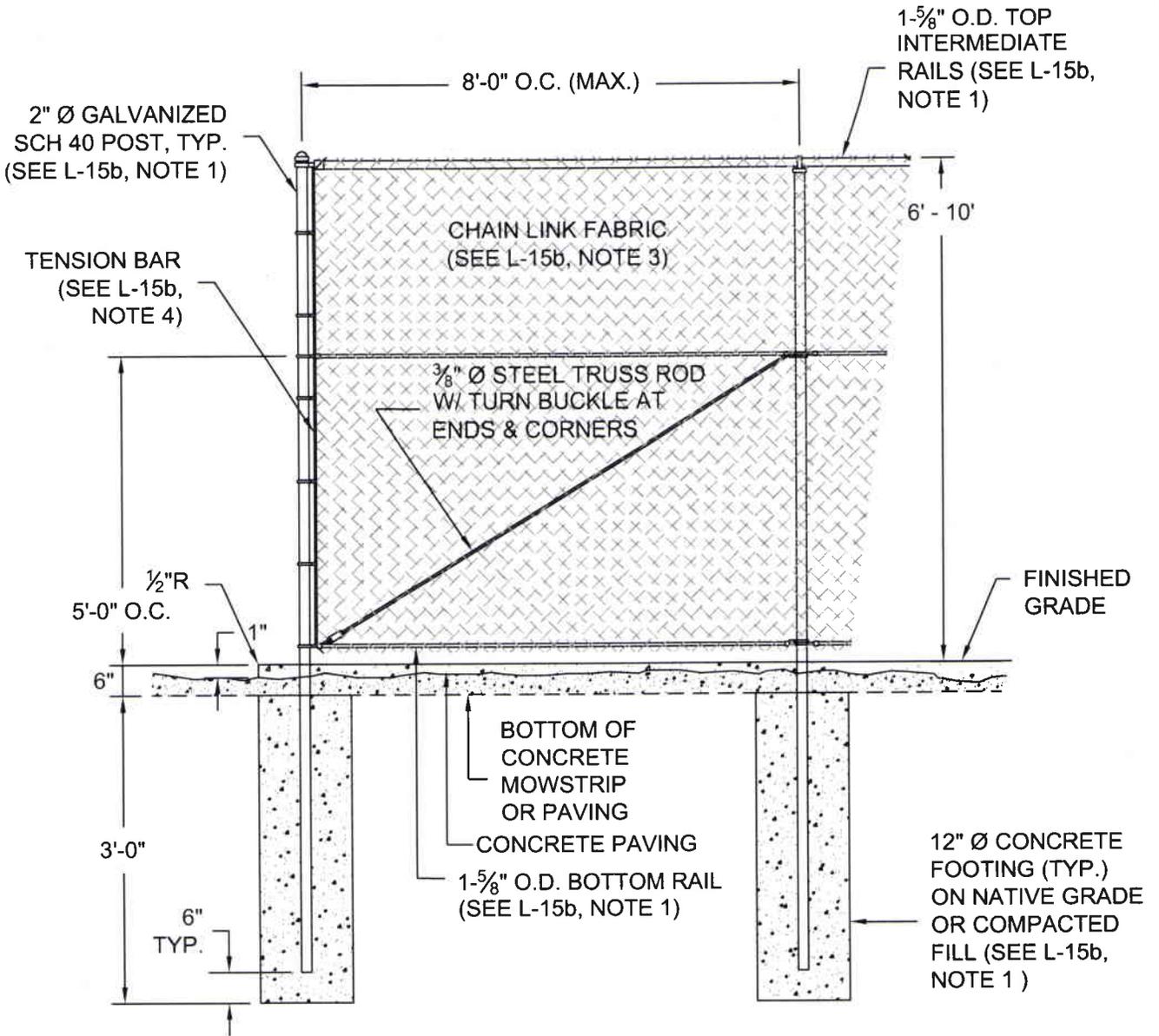


**PARK DISPENSER**

*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010  
REVISED:

SHEET NO.  
**L-14**



**CITY OF  
MARTINEZ**



**CHAIN LINK FENCE**

*Timothy M. Tucker*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.  
**L-15a**

NOTES:

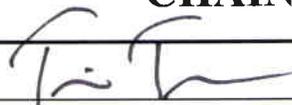
1. INTERMEDIATE & BOTTOM RAILS SHALL BE CUT AND INSTALLED WITH 180° 2-WAY BRACE BANDS AND RAIL ENDS AT THE LINE POSTS; STANDARD BRACE BANDS AND RAIL ENDS AT THE TERMINAL POSTS.
2. ALL METAL MATERIALS SHALL BE BLACK VINYL COATED. ANY MATERIALS WITH DAMAGE TO THE VINYL COATING SHALL EITHER BE REMOVED & REPLACED OR RECOATED IN THE FIELD TO THE SATISFACTION OF THE CITY ENGINEER.
3. CHAIN LINK FABRIC SHALL BE 9 GAUGE CORE, 2" MESH WITH KNUCKLED FINISH TOP & BOTTOM EDGES. IT SHALL BE FASTENED TO END AND CORNER POSTS WITH  $\frac{3}{16}$ " x  $\frac{3}{4}$ " HIGH CARBON STEEL.
4. TENSION BAR SHALL HAVE 9 GAUGE CORE BANDS AT 16" INTERVAL.
5. FOOTING SHALL BE 5'-0" DEEP AND 18" IN DIAMETER WHEN THE CHAIN LINK IS 10'-0" IN HEIGHT, IS SLATTED OR HAS A WINDSCREEN APPLIED AND/OR IS RECOMMENDED BY GEOTECHNICAL CONDITIONS.



**CITY OF  
MARTINEZ**



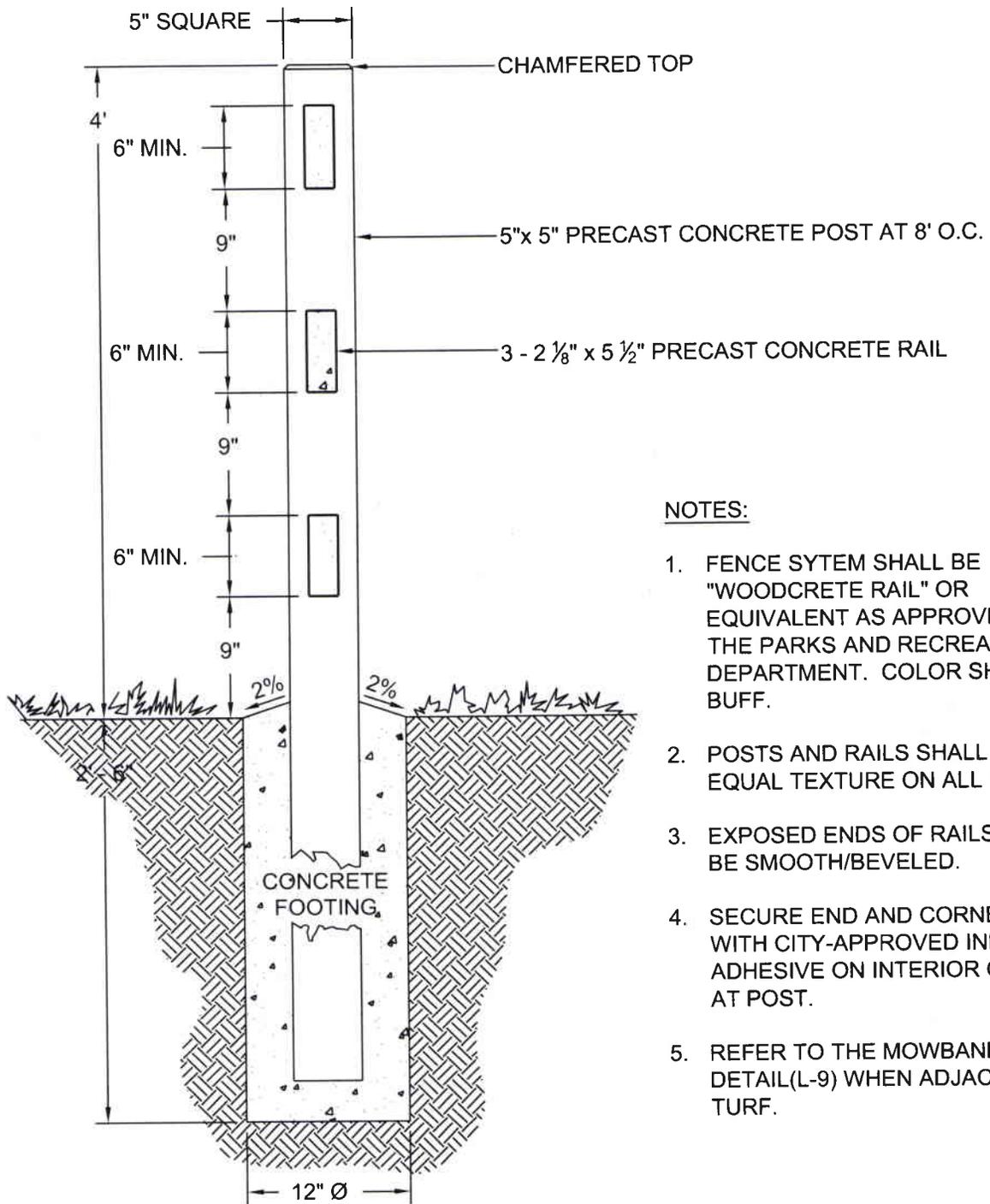
**CHAIN LINK FENCE NOTES**

  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.  
**L-15b**



**NOTES:**

1. FENCE SYTEM SHALL BE "WOODCRETE RAIL" OR EQUIVALENT AS APPROVED BY THE PARKS AND RECREATION DEPARTMENT. COLOR SHALL BE BUFF.
2. POSTS AND RAILS SHALL HAVE EQUAL TEXTURE ON ALL SIDES.
3. EXPOSED ENDS OF RAILS SHALL BE SMOOTH/BEVELED.
4. SECURE END AND CORNER RAILS WITH CITY-APPROVED INDUSTRIAL ADHESIVE ON INTERIOR OF RAIL AT POST.
5. REFER TO THE MOWBAND DETAIL(L-9) WHEN ADJACENT TO TURF.



**CITY OF  
MARTINEZ**



**RAIL CONCRETE FENCE**

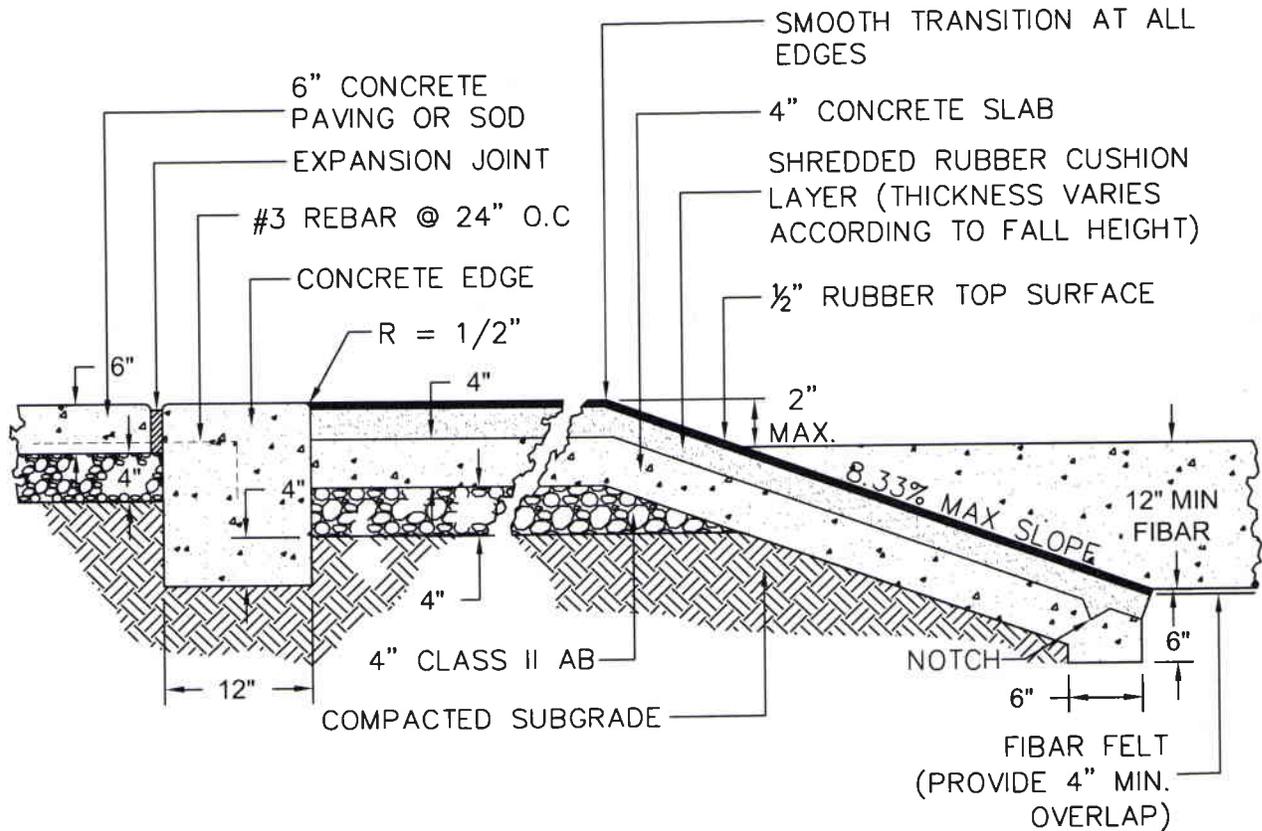
*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-16**



**NOTE:**

THIS STANDARD SHALL BE USED ON ALL PLAY AREAS AND PARK PLAYGROUND.

(Not To Scale)



**CITY OF  
MARTINEZ**



**POURED IN PLACE SAFETY SURFACING**

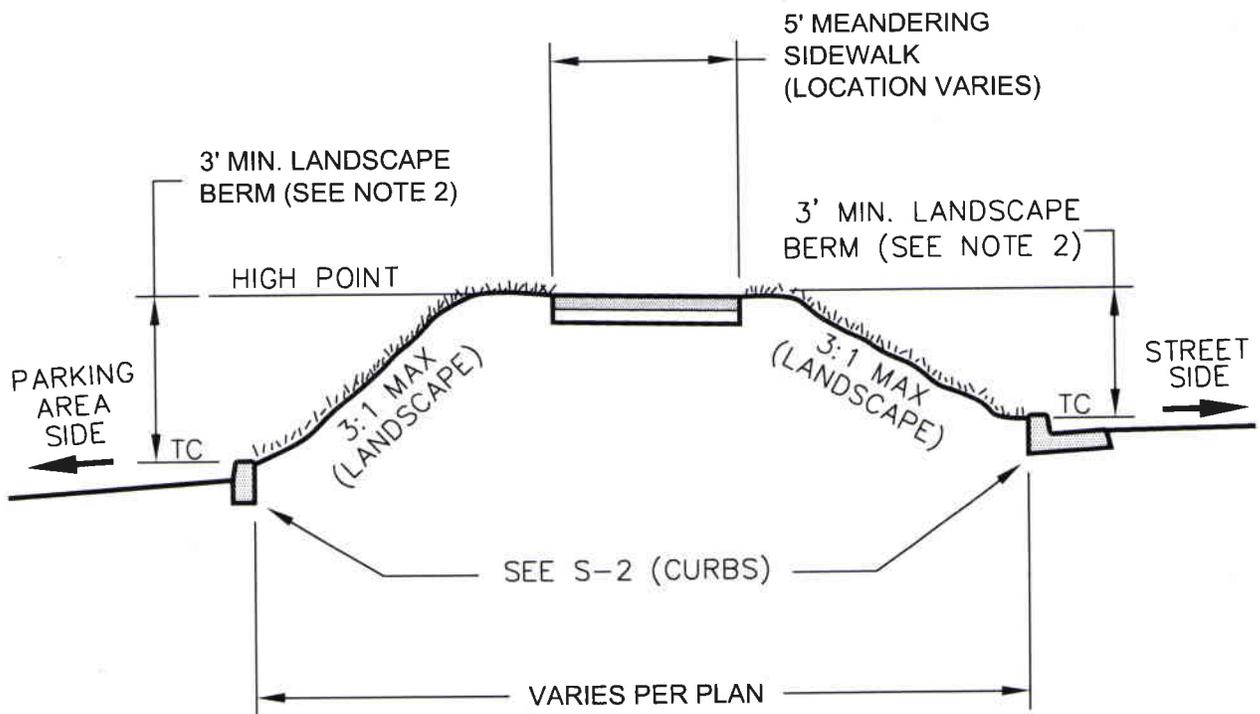
*[Signature]*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-17**



**NOTES:**

1. A LANDSCAPE BERM INSTALLATION SHALL BE REQUIRED BETWEEN THE STREET AND PARKING AREAS PER THIS STANDARD.
2. HEIGHT OF LANDSCAPE BERM SHALL BE 3' MINIMUM FROM THE TOP OF CURB (TC) TO THE HIGH POINT ON EITHER THE PARKING AREA SIDE OR STREET SIDE, WHICHEVER SIDE IS HIGHER IN ELEVATION.

(Not To Scale)



**CITY OF  
MARTINEZ**



**LANDSCAPE BERM DETAIL**

*Tim Tucker*  
TIMOTHY M. TUCKER CITY ENGINEER

DATE: JUNE 4, 2010

REVISED:

SHEET NO.

**L-18**

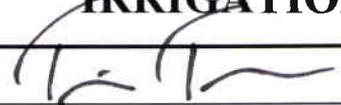
ITEM	MANUFACTURER/MODEL (OR APPROVED EQUAL)
BACKFLOW PREVENTER	FEBCO 825-BV
GATE VALVE	NIBCO 619 RW
BALL VALVE	WATTS FBV4 FULL PORT
QC VALVE	RAINBIRD 44 LRC
PRESSURE REDUCING VALVE	WILKINS
REMOTE CONTROL VALVE	RAINBIRD EFB-GB SERIES
VALVE BOXES IN PLANTING AREAS W/ SS LOCK-DOWN BOLTS	BROOKS 1419-12
GATE & QC VALVE BOX W/ SS LOCK-DOWN BOLTS	BROOKS 10" ROUND (# 1100 OR # 910)
VALVE BOXES IN PAVED AREAS CONTROLLER	CHRISTY, B9X W/ C.I. TRAFFIC LID HUNTER ACC-1200
CONTROLLER ENCLOSURE	LEMEUR-SS OR STRONG BOX-SS
BACKFLOW ENCLOSURE	LEMEUR, GUARD SHACK CGS SERIES OR STRONGBOX-SS
SHRUB STREAM ROTOR	HUNTER PGS (ADJ)
POP-UP ROTOR	HUNTER I-40 SERIES
LAWN POP-UP SPRAY	RAINBIRD 1800 (PRS)
SHRUB POP-UP SPRAY	RAINBIRD 1800 (PA8)
BUBBLER	RAINBIRD 1400 SERIES



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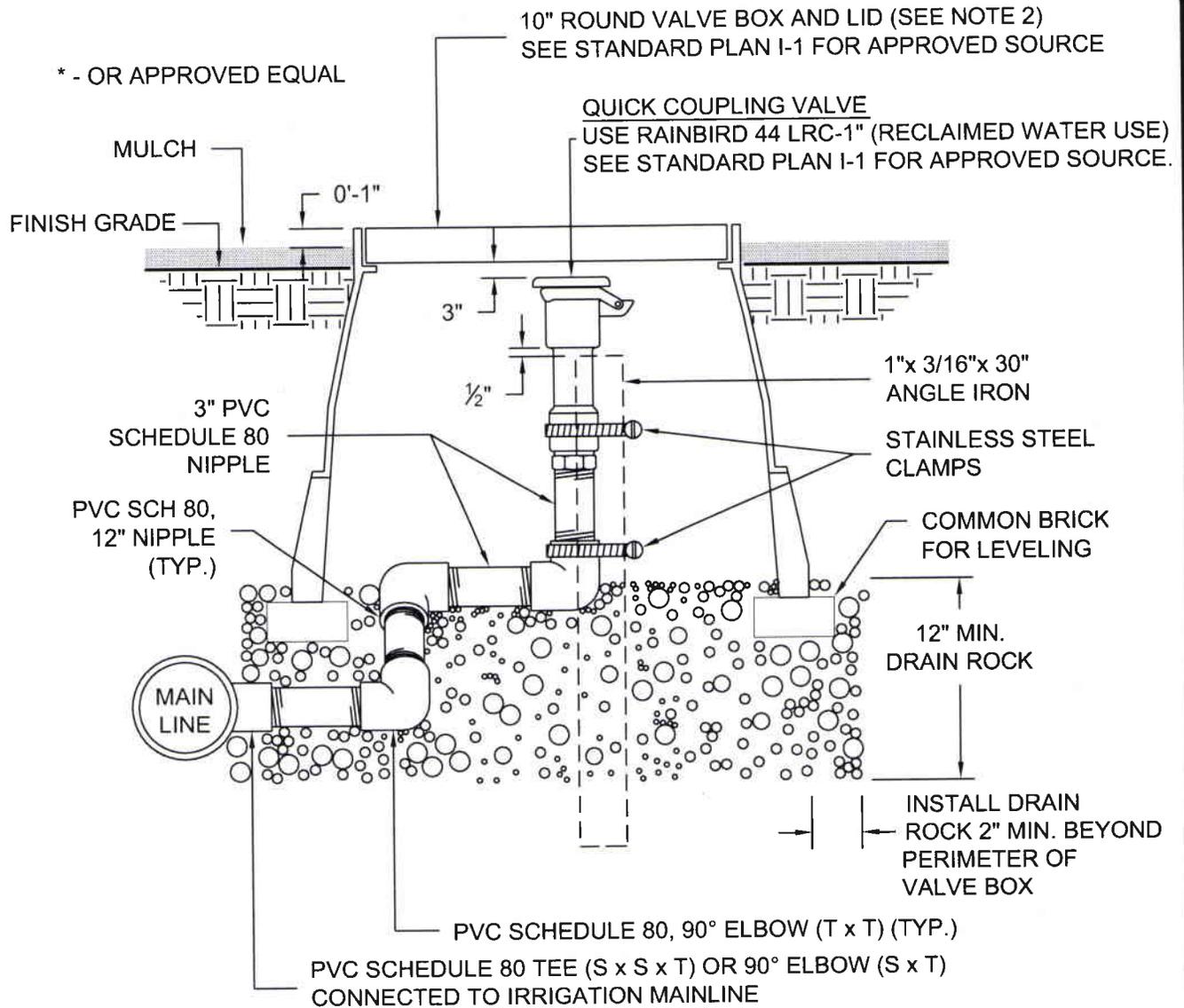


**IRRIGATION EQUIPMENT LIST**

  
 TIMOTHY M. TUCKER      CITY ENGINEER

DATE:      JUNE 4, 2010  
 REVISED:

SHEET NO.  
**I-1**



**NOTES:**

1. SET TOP OF BOX EVEN WITH FINISH GRADES IN TURF AREAS.
2. VALVE BOX LIDS SHALL BE TAGGED AND HEAT BRANDED WITH STATION NUMBERS.
3. INSTALL STAINLESS STEEL BOLT IN LOCKING COVER.
4. WHEN USED WITH RECLAIMED WATER, DESIGNATE PURPLE COLOR-CODING ON APPROPRIATE APPURTENANCE.



# CITY OF MARTINEZ



## QUICK COUPLING VALVE

*[Signature]*  
TIMOTHY M. TUCKER

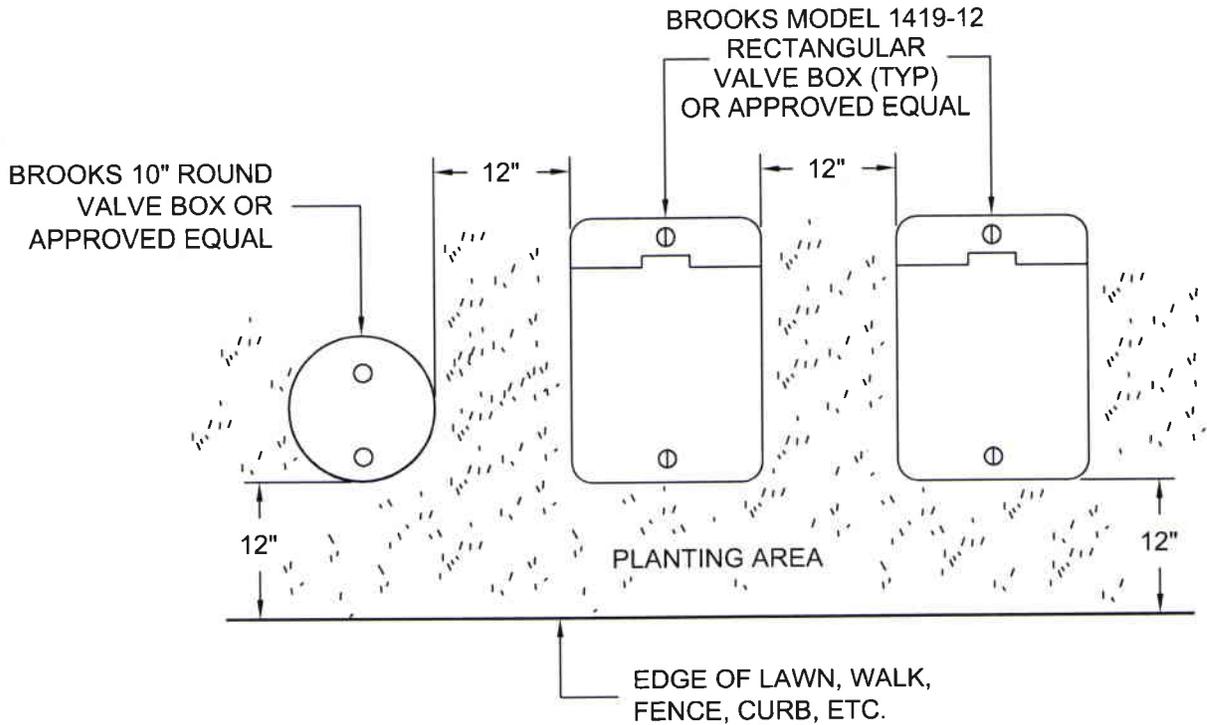
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I-2



**INSTALLATION NOTES:**

1. CENTER BOXES OVER VALVES.
2. SET BOXES IN GROUND COVER/SHRUB WHERE POSSIBLE.
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. AVOID HEAVILY COMPACTING SOIL AROUND BOXES TO PREVENT DAMAGING VALVE BOXES.
5. TAG VALVES WITH STATION NUMBERS.
6. HEAT BRAND STATION NUMBER TO LID CONTROL VALVE COVER WITH 1¼" LETTERS.
7. INSTALL STAINLESS STEEL BOLTS IN LOCKING COVER.
8. WHEN USED AS RECLAIMED WATER, LIDS SHALL BE COLOR-CODED PURPLE.
9. FOR ALL VALVES 1 ½" AND LARGER, JUMBO BOX SHALL BE USED.



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**IRRIGATION VALVE BOX INSTALLATION**

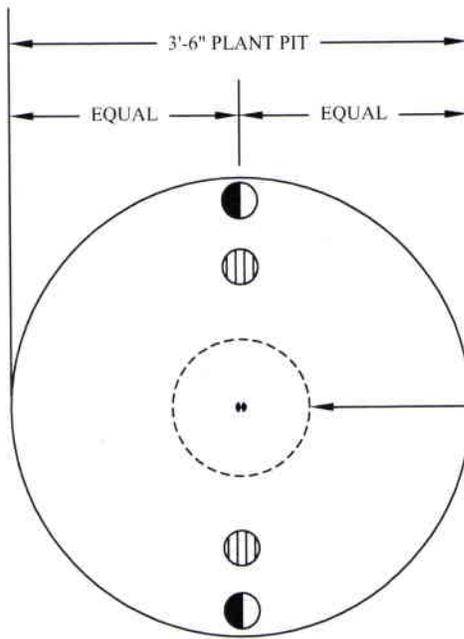
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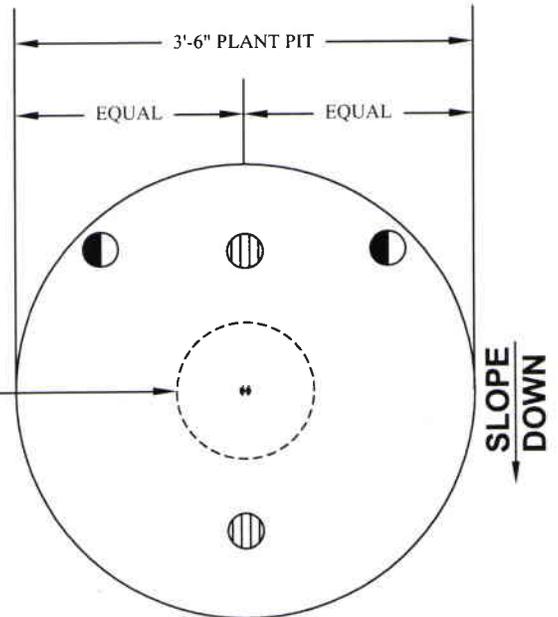


**NOTE:**

REFER TO I-5 FOR THE POP-UP TREE BUBBLER.

ROOTBALL

**ON FLAT GRADE (TYP.)**



**ON SLOPES**

**LEGEND:**

- TREE TRUNK
- ◐ 2- 4" PERFORATED DRAIN PIPES AND GRATES SECURED WITH 2 SELF-TAPPING SCREWS
- ◑ 2- 4" POP-UP IRRIGATION HEAD LOCATION

ROOTBALL

SLOPE  
DOWN

(Not To Scale)



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**TREE BUBBLER-PLAN VIEW**

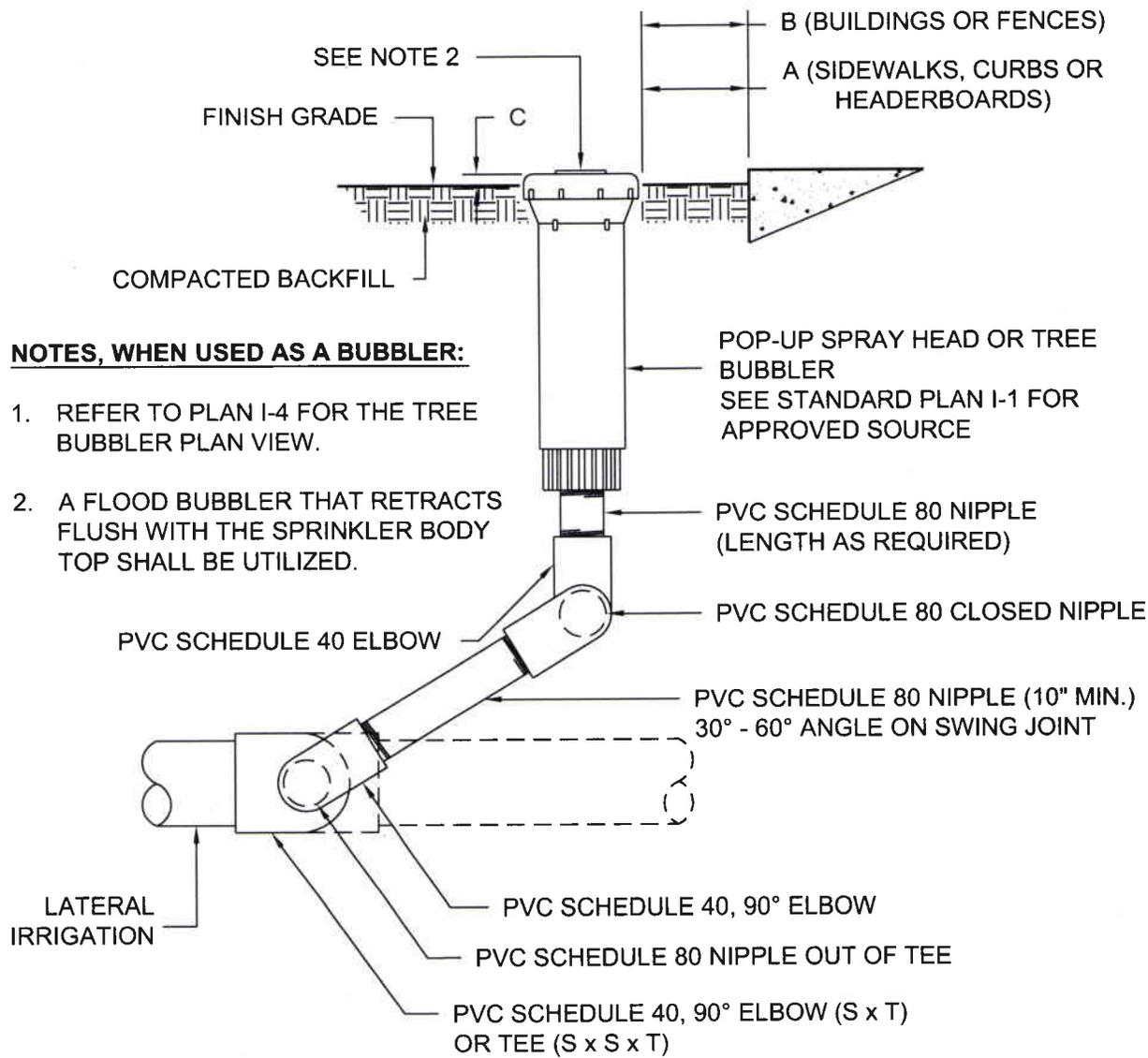
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**NOTES, WHEN USED AS A BUBBLER:**

1. REFER TO PLAN I-4 FOR THE TREE BUBBLER PLAN VIEW.
2. A FLOOD BUBBLER THAT RETRACTS FLUSH WITH THE SPRINKLER BODY TOP SHALL BE UTILIZED.

POP-UP HEAD	D I S T A N C E		
	A	B	C
4"	2"±1/2"	N.A.	FLUSH WITH GRADE
6" & 12"	6"±1/2"	12"±1"	1/2" IN GROUND COVER AREAS



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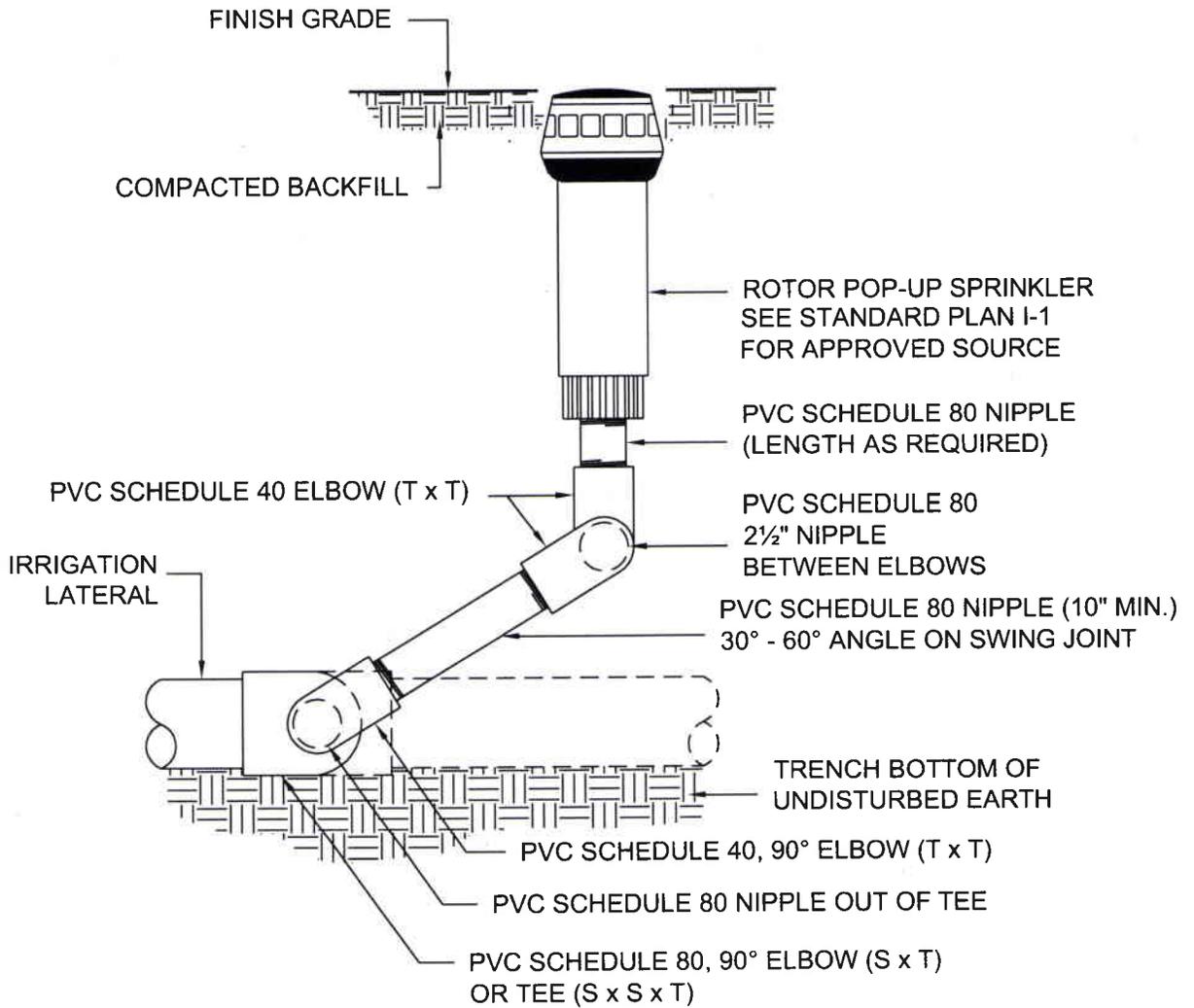


**TREE BUBBLER AND SPRAY POP-UP HEAD**

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**NOTE:**  
WHEN USED WITH RECLAIMED WATER SOURCE, SPRINKLER BODY SHALL BE  
COLOR-CODED PURPLE.



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**ROTARY POP-UP HEAD**

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