1. **TYPICAL STREET CROSS-SECTION**
   (AT BOVENTON AREA)
   STA. 6+82 TO 26+00

   **CASINO NELA TO HOLY CROSS - NORTH ENTRANCE**

2. **TYPICAL STREET CROSS-SECTION**
   (BETWEEN BOVENTON AREA)
   STA. 26+00 TO 30+400

   **HOLY CROSS - NORTH ENTRANCE TO HOLY CROSS - SOUTH ENTRANCE**

**NOTES:**

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

2. TO THE BEST OF THE TOYON KNOWLEDGE, THE DEPTH OF EXISTING ASPHALT CONCRETE IS AS SHOWN ON THESE DETAIL SHEETS. HOWEVER, THE TOYON CAN NOT WARRANT THAT THE DEPTH IS COMPLETELY UNIFORM THROUGHOUT. SANDING EXISTING SECTION PROFESSIONAL SHALL MAKE NO FUTURE ASPHALT CONCRETE TO ABOVE HARDWARE AND MAY BE MORE THAN WHAT IS SHOWN ON THESE DETAIL SHEETS.

3. EXISTING UTILITIES ARE NOT SHOWN FOR DETAIL 3 WITH THE EXCLUSION OF FLATWORK WORK IN DETAIL 3.

4. LOCATIONS OF UTILITIES IN DETAIL 4 & 5 ARE APPROXIMATE. CONTRACTOR SHALL CONFIRM EXACT LOCATIONS OF EXISTING UTILITIES.
STORM WATER POLLUTION PREVENTION PLAN

RAIN PROTECTION PER DRAWINGS 2 & 3 - SHEET 23
CULVERT MAINTENANCE/RAINFALL, CAUTIONARY, SEE SHEET 1 - SHEET 23

MISSON ROAD
SHEET 7 - 22'
Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Materials & Waste Management
- Non-Hazardous Materials
  - Dewatering of baﬄes, concrete, and concrete supports, as well as all other materials used in the construction of the project.
  - Use of recycled materials on-site.
  - Use of locally sourced materials.
  - Use of water-efficient fixtures.

Equipment Management & Spill Control
- Maintenance and Parking
  - Regular maintenance of all vehicles and equipment.
  - Immediate repair of issues that affect their performance.

Earthmoving
- Employ BMPs to control sediment and water quality.

Paving/Asphalt Work
- Use of BMPs to control sediment and water quality.

Concrete, Grout & Mortar Application
- Use of BMPs to control sediment and water quality.

Painting & Paint Removal
- Use of BMPs to control sediment and water quality.

Dewatering
- Use of BMPs to control sediment and water quality.

Storm drain polluters may be liable for fines of up to $10,000 per day!
1. Slab Cover for Inlet Modification - Double

2. Slab Cover for Inlet Modification - Single

3. Slab Cover for Inlet Modification - Single

4. Slab Cover for Inlet Modification - Double

NOTES:
1. Existing structure shall be a cast-in-place structure placed with existing inlet on each side. shim or support of existing inlet on each side to accommodate existing structure. Shims will be placed on bottom of inlet to accommodate shim and existing structure.

2. Contractor shall verify the clearance between the existing inlet and new structure parallel to existing inlet to ensure proper location.
1 DECORATIVE STREET LIGHT — SINGLE FIXTURE

2 DECORATIVE STREET LIGHT FOUNDATION

TYPICAL FOUNDATION LAYOUT

FOUNDATION LAYOUT WITH LIMITED ROW

GENERAL NOTES:
1. LUMINAIRES MOUNTED ON ALL LINES IN THE SPECIFICATIONS.
2. LUMINAIRE SHADOWS SHALL BE PLACED AT THE END OF EACH LUMINAIRE.
3. LUMINAIRES SHALL BE MOUNTED TO A MOUNTING BASE.
4. EACH STREETLIGHT MOUNTING BASE SHALL BE CONNECTED WITH a NO. 3-1/2 STEELanchoring bolt and a threaded-steel connector.
5. EACH MOUNTING INCLUDED 
   anchoring bolt shall be connected with a threaded-steel connector.
6. STREET LIGHT MOUNTING BASE SHALL BE TO THE SPECIFICATIONS.
7. LUMINAIRES MOUNTED ON ALL LINES IN THE SPECIFICATIONS.
8. STREET LIGHT MOUNTING BASE SHALL BE TO THE SPECIFICATIONS.
IRRIGATION NOTES

19. Irrigation demand: refer to irrigation points of connection.

In addition to the sleeves and conduits shown on the drawings, the irrigation contractor shall be responsible for coordinating the installation of sleeves and conduits of sufficient size under all paved areas.

20. Locate hose bibs a minimum of 10' from hard landscaped area.

21. Thoroughly flush main line before installing valves.

22. All sprinkler heads shall be set perpendicular to finish grade of the area to be irrigated unless otherwise designated on the plans.

23. In locations where low head drainage will cause erosion and excess water, install Hawaii BRS. CV series check valves in lateral lines for every 1' of elevation change.

24. Flush and adjust all sprinkler heads for optimum performance and to prevent overspray into walkways, roadways and buildings as much as possible. Throttle the flow control at each valve to obtain the optimum operating pressure for each system. All main lines shall be flushed prior to installation of irrigation heads. At 30 days after installation each system shall be flushed to eliminate glue and dirt particles from the lines.

25. When vertical obstructions (street lights, trees, fire hydrants, etc.) interfere with the spray pattern of the heads so as to prevent proper coverage, field adjust the sprinkler system by installing a quartet, third or half circle head at the sides of the obstruction so as to provide proper coverage. All adjustments shall be made at no additional cost to the owner.

26. All valves shown as temporary (temp) are for establishment only. These valves will be disconnected from the controller after 2 years.

27. Not all irrigation lines are shown on the drawings. The irrigation contractor shall be responsible for coordinating the installation of the sleeves and conduits of sufficient size under all paved areas.

28. Edifices are to be filled with compacted backfill. Backfill material shall be the hard excavated from the trench of free and boxes. The irrigation contractor shall be responsible for coordinating the installation of sleeves and conduits of sufficient size under all paved areas.

29. All constant-pressure valves shall be tested at a minimum of 125 PSI for two hours. Center load piping with a small amount of backfill to prevent overspray on sprinklers. Irrigation heads with 1½” shutoff valves shall be covered. Before faulty joints with main water shut off valves do not use cement to repair leaks. Where it is necessary to excavate adjacent to existing trees, use all possible care to avoid injury to trees and tree roots. Excavation in areas where 2 inch or larger roots occur shall be done by hand. Route a lining and larger diameter shall be wrapped in a plastic bag and secured with a number two wire. Trenched adjacent to trees should be closed within 24 hours. When this is not possible, the side of the trench adjacent to the tree shall be kept open with bare earth or mulch.

20. The sprinkler system design is based on the water pressure indicated on the drawings. Verify water pressure prior to construction. Report any difference between the water pressure indicated on the drawings and the actual pressure readings at the irrigation point of connection to the owner’s authorized representative.

Irrigation Demand Notes

1. Plans are diagrammatic. Install demand and components per manufacturer’s instructions and specifications. Adjacent sprinkler heads 5' apart shall be made at no additional cost to the owner.

2. Install demand a minimum of 12' apart with emitters triangle spaced. Install 2" from perimeter of planted area. There should be a minimum of two emitters in each planted area. Demand shall be installed at a consistent depth throughout the circuit.

3. Place arborvitae relief valves at the highest points of each zone and just below check valves on all lateral lines. One arborvitae relief valve for every 1" of ½" total demand. Place flush valves at the hydraulic center of the exhaust header or at low point on slopes.

4. Install inline check valves on slopes greater than 5% and where low line drainage could cause wet areas in the lowest areas of irrigation zones. Check valves shall be placed every 4-5 feet between lateral lines and before the flush valve.

5. On all slopes and mounds, place the drip lines laterally parallel to the slope contour where possible. Increase the lateral spacing by 25% in the lower one-third of the slope to avoid excess drainage.

6. PVC supply and flush line sizing guide (all supply and flush lines shall be the same size for the entire zone):
   - 0-6 GPM = 3/4”
   - 6-12 GPM = 1”
   - 12-18 GPM = 1 1/4”

7. Fittings shall be of the same manufacturer as the line.

8. Thoroughly flush each installation segment to ensure no debris contamination occurs.

9. Run the irrigation system every day or every other day to establish plant material. Maintain a consistent moisture balance in the soil. It is important to keep the soil moist without saturation.

IRRIGATION LEGEND

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>XCH-600-SS/ XCHSPOLE</td>
<td>Hunter XC HYBRID 6 STATION BATTERY OPERATED CONTROLLER WITH STAINLESS STEEL ENCLOSURE, HUNTER INSTALLED AND MAINTENANCE CONTROL PORT</td>
</tr>
<tr>
<td>T</td>
<td>T-YD-500-34</td>
<td>TORO DL2000 POP-UP OPERATION INDICATOR</td>
</tr>
<tr>
<td>G</td>
<td>WSS-SEN</td>
<td>NIBCO GATE VALVE WITH CROSS HANDLE (LINE SIZE) AND PRESET PRESSURE REGULATOR / KBI PVC BALL VALVE</td>
</tr>
<tr>
<td>K</td>
<td>T-DL-MP9</td>
<td>TORO QUICK COUPLING VALVE WITH 3/4&quot; HOSE SWIVEL</td>
</tr>
<tr>
<td>B</td>
<td>XCH</td>
<td>CHEMISTRY CONSUMABLE BOX FOR SLEEVE FURMATION</td>
</tr>
<tr>
<td>C</td>
<td>WSS-SEN</td>
<td>NIBCO GATE VALVE WITH CROSS HANDLE (LINE SIZE) AND PRESET PRESSURE REGULATOR / KBI PVC BALL VALVE</td>
</tr>
<tr>
<td>W</td>
<td>WSS-SEN</td>
<td>NIBCO GATE VALVE WITH CROSS HANDLE (LINE SIZE) AND PRESET PRESSURE REGULATOR / KBI PVC BALL VALVE</td>
</tr>
<tr>
<td>T</td>
<td>WSS-SEN</td>
<td>NIBCO GATE VALVE WITH CROSS HANDLE (LINE SIZE) AND PRESET PRESSURE REGULATOR / KBI PVC BALL VALVE</td>
</tr>
<tr>
<td>X</td>
<td>XCH-600-SS/ XCHSPOLE</td>
<td>Hunter XC HYBRID 6 STATION BATTERY OPERATED CONTROLLER WITH STAINLESS STEEL ENCLOSURE, HUNTER INSTALLED AND MAINTENANCE CONTROL PORT</td>
</tr>
</tbody>
</table>

IRRIGATION DRIPLINE NOTES

1. Plans are diagrammatic. Install drip and components per manufacturer’s instructions and specifications. Adjacent drip heads 5' apart shall be made at no additional cost to the owner.

2. Drip lateral header and emitters shall be spaced 12" on center. DO NOT INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER, THIRD OR HALF CIRCLE HEAD AT THE SIDES OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL LATERAL LINES SHALL BE CLOSED AT THE ELEVATIONS INTENDED AND TO PERMIT SPACE FOR JOINING.

3. Place arborvitae relief valves at the highest points of each zone and just below check valves on all lateral lines. One arborvitae relief valve for every 1" of ½" total demand. Place flush valves at the hydraulic center of the exhaust header or at low point on slopes.

4. Install inline check valves on slopes greater than 5% and where low line drainage could cause wet areas in the lowest areas of irrigation zones. Check valves shall be placed every 4-5 feet between lateral lines and before the flush valve.

5. On all slopes and mounds, place the drip lines laterally parallel to the slope contour where possible. Increase the lateral spacing by 25% in the lower one-third of the slope to avoid excess drainage.

6. PVC supply and flush line sizing guide (all supply and flush lines shall be the same size for the entire zone):
   - 0-6 GPM = 3/4”
   - 6-12 GPM = 1”
   - 12-18 GPM = 1 1/4”

7. Fittings shall be of the same manufacturer as the line.

8. Thoroughly flush each installation segment to ensure no debris contamination occurs.

9. Run the irrigation system every day or every other day to establish plant material. Maintain a consistent moisture balance in the soil. It is important to keep the soil moist without saturation.
CONNECT NEW MAINLINE TO EXISTING WATER MAIN. FIELD VERIFY THE LOCATION OF THE WATER MAIN PRIOR TO START OF WORK.
WATER METER BOX DIMENSIONS = 19 3/4" x 14 1/4"

3/4" REDUCED PRESSURE BACKFLOW PREVENTER ON CONCRETE PAD - PAD DIMENSIONS = 20" W x 32" L

IRRIGATION CONTROLLER 'A' (7 3/8" W x 4 1/4" D)

MAINLINE CONTINUES UNDER NEW SIDEWALK TO BIORETENTION AREA #2. INSTALL IN 4" SLEEVE.

REFER TO SHEET 2/L3 FOR CONTINUATION OF MAINLINE TO BIORETENTION AREA #2

INSTALL A 14 X 19 CONCRETE VALVE BOX OVER FITTING

STUB-OUT MAINLINE AND 3 WIRES IN A PULL BOX AT THIS LOCATION.

PROPOSED STORM DRAIN

HOLY CROSS CEMETARY MAIN ENTRANCE
## Mission Road Bicycle & Pedestrian Improvement Project

### Water Efficient Landscape Worksheet

**Reference Evapotranspiration (Etr)**: 39.1

### Regular Landscape Area

<table>
<thead>
<tr>
<th>Zone NO</th>
<th>Plant Type</th>
<th>Hydrozone*</th>
<th>Plant Factor (PF)</th>
<th>Irrigation Method*</th>
<th>Irrigation Efficiency (IE)</th>
<th>ETWF</th>
<th>Hydrozone Area (A) (Pf IE)</th>
<th>ET W</th>
<th>ETM</th>
<th>TOTAL WATER USE (W)</th>
<th>LANDSCAPE AREA (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Shrub</td>
<td>BR</td>
<td>2.00</td>
<td>DG</td>
<td>0.91</td>
<td>7.05</td>
<td>0.91 279</td>
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<tr>
<td>1.2</td>
<td>Shrub</td>
<td>BR</td>
<td>2.00</td>
<td>DG</td>
<td>0.91</td>
<td>7.05</td>
<td>0.91 279</td>
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<td>1.3</td>
<td>Shrub</td>
<td>BR</td>
<td>2.00</td>
<td>DG</td>
<td>0.91</td>
<td>7.05</td>
<td>0.91 279</td>
<td>592</td>
<td>100</td>
<td>592</td>
<td>23.0%</td>
</tr>
<tr>
<td>1.4</td>
<td>Shrub</td>
<td>BR</td>
<td>2.00</td>
<td>DG</td>
<td>0.91</td>
<td>7.05</td>
<td>0.91 279</td>
<td>664</td>
<td>100</td>
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<td>23.0%</td>
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<tr>
<td>1.5</td>
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<td>BR</td>
<td>2.00</td>
<td>DG</td>
<td>0.91</td>
<td>7.05</td>
<td>0.91 279</td>
<td>658</td>
<td>100</td>
<td>658</td>
<td>23.0%</td>
</tr>
</tbody>
</table>

**TOTAL (REGULAR LANDSCAPE AREA)**: 1,166 sq ft 13,885 sq ft (99.0%)

### Special Landscape Area

<table>
<thead>
<tr>
<th>Zone NO</th>
<th>Hydrozone Area (A)</th>
<th>ET W</th>
<th>ETM</th>
<th>TOTAL WATER USE (W)</th>
<th>LANDSCAPE AREA (%)</th>
</tr>
</thead>
</table>

**TOTAL (SPECIAL LANDSCAPE AREA)**: 0 sq ft 0 sq ft (0.0%)

**TOTALS FOR ALL AREAS**: 2,225 sq ft 13,885 sq ft (99.0%)

---

**Hydrozone Summary**

<table>
<thead>
<tr>
<th>Hydrozone Description</th>
<th>Total sq. ft</th>
<th>% of Landscape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cool Season Taw (CST)</td>
<td>2,389</td>
<td>100.0%</td>
</tr>
<tr>
<td>Warm Season Taw (WST)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>High Water Use Plants (HWU)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Low Water Use Plants (LWP)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Non-Landscape Area (NLA)</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**TOTAL**: 2,389 sq ft 100.0%

---

**Irrigation Method Summary**

<table>
<thead>
<tr>
<th>Irrigation Method</th>
<th>Total sq. ft</th>
<th>% of Landscape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riser (RCR)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Drip (D)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Sprinkle (SP)</td>
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<td>0.0%</td>
</tr>
<tr>
<td>Chor (CH)</td>
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<td>0.0%</td>
</tr>
<tr>
<td>Yuma Sprinkler (Y)</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Other (O)</td>
<td>0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

**TOTAL**: 0 sq ft 0.0%

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**City of Pleasanton, California 94566**

**Irrigation Consultants**

**480 St. John Street, Suite 220**

**E-mail** Janet@Brookwater.com

**Telephone** 925.855.0417  **Facsimile** 925.855.0357

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*Signed*

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**Project Number**: Mission Road Bicycle & Pedestrian Improvement Project

**Project Address**: Mission Road

**Prepared By**: Janet L. Lucas, CEC, GSA, ASLA

**Spreadsheet Bellini, Wilcox Consultants**

**480 St. John Street, Suite 200**

**Pleasanton, CA 94566**

**Water Efficient Landscape Ordinance**

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*Signed*

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**Bid Set**

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**4/22/20**

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**4/17/20**

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