CITY OF RIVERBANK

REGULAR CITY COUNCIL AND THE LOCAL REDEVELOPMENT AUTHORITY MEETINGS

(The City Council also serves as the LRA Board)
City Hall North • Council Chambers
6707 Third Street • Suite B• Riverbank • CA • 95367

choose civility

AGENDA

TUESDAY, JANUARY 26, 2016 – 6:00 P.M.

(THE AGENDA PACKET IS POSTED AT THE CITY CLERK'S OFFICE AND AT WWW.RIVERBANK.ORG)

CALL TO ORDER: Mayor/Chair Richard D. O'Brien

FLAG SALUTE: Mayor/Chair Richard D. O'Brien

INVOCATION: Riverbank Ministerial Association

ROLL CALL:
Mayor/Chair Richard D. O'Brien
Vice Mayor/Chair Jeanine Tucker
Council/Authority Member Darlene Barber-Martinez
Council/Authority Member Cal Campbell
Council/Authority Member Leanne Jones Cruz

CONFLICT OF INTEREST
Any Council/Authority Member or Staff who has a direct Conflict of Interest on any scheduled agenda item to be considered is to declare their conflict at this time.

1. PRESENTATIONS

Item 1.1: Presentation to Recognize Ms. Patricia Hughes for her Exemplary Service as a Planning Commissioner.

Item 1.2: Administer the Oath of Office to Reappointed Planning Commissioner Joan Stewart and Newly Appointed Planning Commissioners Edward Tabacco and Larry King.

Item 1.3: Strategic Planning Update.

LRA Item 1.4: Enhanced Infrastructure Financing Districts – a Financing Option for Funding Redevelopment and Future Capital Improvements.

2. PUBLIC COMMENTS (No Action Can Be Taken)

At this time, members of the public may comment on any item not appearing on the agenda, and within the subject matter jurisdiction of the City Council/LRA Board. Individual comments will be limited to a **maximum of 5 minutes** per person and each person may speak once during this time; time cannot be yielded to another person. Under State Law, matters presented during the public comment period cannot be discussed or acted upon. For record purposes, state your name and City of residence. Please make your comments directly to the City Council/LRA Board.

3. CONSENT CALENDAR

All items listed on the Consent Calendar are to be acted upon by a single action of the City Council/LRA Board unless otherwise requested by an individual Council/Authority Member for special consideration. Otherwise, the recommendation of staff will be accepted and acted upon by roll call vote.

Item 3.A: Waive Readings. All Readings of ordinances and resolutions, except by title, are waived.

Item 3.B: Approval of the January 12, 2016, City Council and Local Redevelopment Authority Minutes.

Item 3.C: A **Resolution** of the City Council, of the City of Riverbank, California, Approving the Interim Appointment of Michelle Guzman to the Stanislaus Consolidated Fire Protection District Board of Directors as the Riverbank Representative.

Item 3.D: A **Resolution** of the City Council of the City of Riverbank, California, to Replace in its Entirety the City of Riverbank Standard Specifications Design Standards and Standard Plans for Section 1 through Section 8 with New Specifications and Drawings.

Item 3.E: Out of State Travel Request to Attend Training for the Implementation of Casselle Financial Management Software in Provo, Utah.

Item 3.F: Adjustments to 2016 City Council Meeting Schedule and Closure of City Offices from December 26 to December 30, 2016.

Item 3.G: Authorization of the Out of State Travel Made by the City Manager to attend the International City/County Management Association Annual Conference in Seattle, WA in September 2015.

Recommendation: It is recommended that City Council/LRA Board approve the Consent Calendar items by roll call vote.

4. UNFINISHED BUSINESS

There are no items to consider.

5. PUBLIC HEARINGS

There are no items to consider.

6. NEW BUSINESS

Item 6.1: **Riverbank Cheese & Wine Festival Report** – It is recommended that the City Council hear the report on the 2015 Cheese & Wine Festival and provide direction regarding the plans for the 2016 event.

Item 6.2: **Farmer's Market Update and Fee Waiver Request** – It is recommended that the City Council review the plans for the 2016 Farmer's Market and provide staff direction on the request to waive the fees for City services and if approved, authorize the reimbursement of the Enterprise Fund with a General Fund allocation.

Item 6.3: **Citywide Special Events Planning** – It is recommended that the City Council direct staff in the planning of special events for the upcoming year.

LRA Item 6.4: **Authorize the City Manager and Local Redevelopment Authority Executive Director to finalize negotiations and execute an Environmental Services Cooperative Agreement that will Remediate and/or Remove Contamination to Real Property at the (former) Riverbank Army Ammunition Plant** – It is recommended that the Local Redevelopment Authority ("LRA") Board of Directors ("BOD") authorize the City Manager and the Local Redevelopment Authority Executive Director to finalize negotiations and execute an environmental services cooperative agreement ("ESCA") with the US Army for the purpose of remediating and/or removing contamination to real property ("Project") associated with the Army's mission at the former Riverbank Army Ammunition Plant ("RAAP"), now commonly known as the Riverbank Industrial Complex.

7. COMMENTS (Information only – No action)

Item 7.1: Staff Comments

Item 7.2: Council/Authority Member Comments

Item 7.3: Mayor/Chair Comments

8. CLOSED SESSION

The public will have a limit of 5 minutes to comment on Closed Session item(s) as set forth on the agenda prior to the City Council/LRA Board recessing into Closed Session.

LRA Item 8.1: **CONFERENCE WITH REAL PROPERTY NEGOTIATORS**
Government Code Section 54956.8
Property: APN #062-031-007; 062-031-006; 062-008-009

Agency Negotiator: Jill Anderson, City Manager and Debbie Olson, LRA Executive Director
Property Negotiator: U.S. Army

LRA Item 8.2: **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**
Pursuant to Government Code § 54956.9(a)
Name of Case: In Re: AQH, LLC dba Aquifer LLC
United States Bankruptcy Court, Northern District of California
Case No. 15-50553 ASW 11

Item 8.3: **CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION**
Significant exposure to litigation pursuant to subdivision (b) of Government Code § 54956.9: 1 potential case

Recommendation: It is recommended that City Council /LRA Board provide direction to Staff on the Closed Session item(s).

9. REPORT FROM CLOSED SESSION

LRA Item 9.1: Report on Closed Session LRA Item 8.1: **CONFERENCE WITH REAL PROPERTY NEGOTIATORS**

LRA Item 9.2: Report on Closed Session LRA Item 8.2: **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**

Item 9.3: Report from Closed Session Item 8.3: **CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION**

ADJOURNMENT **(The next regular City Council meeting –Tuesday, Feb. 9 @ 6:00 p.m.)**

UPCOMING EVENTS:

Open Until Filled	▪ **Budget Advisory Committee** Applications are currently being accepted. Visit www.riverbank.org or Contact Marisela Garcia, Director of Finance, at 863-7110.
City Hall Friday Office Hours	▪ **City Offices are Closed Alternating Fridays** o **Friday: January 29 and February 12: CLOSED** o **Friday: January 22 and February 5: Hours 8:am – 5:pm**

AFFIDAVIT OF POSTING

I, Annabelle Aguilar, do hereby certify under penalty of perjury, under the laws of the State of California that the foregoing agenda was posted 72 hours prior to the meeting in accordance to the Brown Act.

Posted this 21st day of January. 2016
/s/Annabelle H. Aguilar, CMC, City Clerk /LRA Recorder

Notice Regarding Americans with Disabilities Act: In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's Office at (209) 863-7122 or cityclerk@riverbank.org. Notification 72-hours before the meeting will enable the City to make reasonable arrangements to ensure any special needs are met. [28 CFR 35.102-35.104 ADA Title II].

Notice Regarding Non-English Speakers: Pursuant to California Constitution Article III, Section IV, establishing English as the official language for the State of California, and in accordance with California Code of Civil Procedures Section 185, which requires proceedings before any State Court to be in English, notice is hereby given that all proceedings before the City of Riverbank City Council/LRA Board shall be in English and anyone wishing to address the Council is required to have a translator present who will take an oath to make an accurate translation from any language not English into the English language.

GENERAL INFORMATION

Meeting Schedule	The City Council Members also serve as the LRA Board Members. The Riverbank City Council/LRA Board meets in the City Hall North Council Chambers. Regular City Council meetings are held on the 2nd and 4th Tuesdays of each month at 6:00 p.m. The Local Redevelopment Authority Board meets on an "as needed" basis. Meetings are held as indicated, unless otherwise noticed.
City Council / LRA Agenda & Reports	The City Council/LRA Board agenda is posted pursuant to the California Brown Act, which only requires these agenda title pages to be posted near the entrance of the location where the meeting is to be held and, when available, on the City's website. Additional documents may be provided by the City in its efforts of transparency to keep the public well informed. **The agenda packet (agenda plus supporting documents) are posted for public review at the City Clerk's Office**, **6707 Third Street, Riverbank, CA and at www.riverbank.org upon distribution to a majority of the City Council/LRA Board.** A subscription to receive the agenda can be purchased for a nominal fee through the City Clerk's Office.
Public Hearings	In general, a public hearing is an open consideration within a regular meeting of the City Council or a meeting of the LRA, for which special notice has been given and may be required. During a specified portion of the hearing, any resident or concerned individual is invited to present protests or offer support for the subject under consideration.
Televised / Video of Meetings	City Council/LRA meetings are televised on Charter Channel 2 and AT&T Uverse Channel 99. Video of the meeting and the schedule of replays may be seen on the City's website, under the "Action 2" Icon. (Note: Technical difficulty occurs on occasion preventing the televising or recording of the meeting.)
Questions	Contact the City Clerk at (209) 863-7122 or aaguilar@riverbank.org

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 1.1

SECTION 1: PRESENTATIONS

Meeting Date:	January 26, 2016
Subject:	Presentation to Recognize Ms. Patricia Hughes for her Exemplary Service as a Planning Commissioner
From:	Jill Anderson, City Manager
Prepared By:	Donna Kenney, Planning and Building Manager

RECOMMENDATION:

It is recommended that the City Council present a plaque to commend Ms. Patricia "Patty" Hughes for her meritorious service to the community as a Planning Commissioner.

SUMMARY:

A presentation has been scheduled to honor Ms. Patricia Hughes for her contributions as a Planning Commissioner for the City of Riverbank from September 2008 to December 2015. Her departure leaves "big shoes to fill" as the City enters another chapter in Riverbank's history. Patricia has been a key member of the Commission, who recognized the difficulties in maintaining small town values while working with big development projects. Her experience in the fields of Planning and Law has proven invaluable and her expertise will be greatly missed. In addition to her service to the City of Riverbank, Patricia has served the community in many roles for which she has been honored to be the recipient of numerous Congressional, State, and Local commendations for Outstanding Service.

FINANCIAL IMPACT:

There is no financial impact associated with this presentation.

ATTACHMENTS:

There are no attachments to this report.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 1.2

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Administer the Oath of Office to Reappointed Planning Commissioner Joan Stewart and Newly Appointed Planning Commissioners Edward Tabacco and Larry King
From:	Jill Anderson, City Manager
Submitted by:	Annabelle Aguilar, CMC, Sr. Management Analyst/City Clerk

RECOMMENDATION

It is recommended that the City Clerk administer the Oath of Office to reappointed Planning Commissioner Joan Stewart and newly Appointed Planning Commissioners Edward Tabacco and Larry King for four-year terms each, expiring in December 2019, and issue the certificates of appointments.

SUMMARY

At the regular meeting held on January 12, 2016, the City Council approved the reappointment of Planning Commissioner Joan Stewart, and the new appointments of Mr. Edward Tabacco and Mr. Larry King to the Planning Commission. Commissioner Stewart will remain in her seat, and Mr. Tabacco and Mr. King will assume the expired seats of former Commissioners Patricia Hughes and John Degele. The four-year terms of office will expire in December 2019.

FINANCIAL IMPACT

Compensation to serve as a Planning Commissioner is $100 for attendance at a scheduled meeting, which is a fixed amount set at the discretion of the City Council. The costs associated with Planning Commission meetings are included in the City's adopted annual budget.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 1.3

SECTION 1: PRESENTATION

Meeting Date:	January 26, 2016
Subject:	Strategic Plan Update
From:	Jill Anderson, City Manager

RECOMMENDATION

It is recommended that the City Council consider a presentation on the City's Strategic Plan and provide comment as it deems appropriate.

SUMMARY

On October 15, 2015 City Council met with the management team to update the City's Strategic Plan as part of the ongoing commitment to focus resources toward the accomplishment of the City's key goals. The session included a review of the City's vision, mission, and values, as well as the City's three year goals.

Mission Statement

The City of Riverbank is committed to providing exceptional municipal services in a fiscally sound and professionally responsible manner for our community.

Core Values

Professionalism	***Transparency***
Teamwork	***Respectful Behavior***
Fiscal Responsibility	***Integrity and Ethical Behavior***

Three-Year Goals (2013-2016)

Enhance Public Safety
Improve and maintain infrastructure and facilities
Enhance professionalism and customer service
Achieve and maintain financial stability and sustainability
Retain and attract businesses

For each goal, specific, measurable objectives have been established for the six-month planning period. This presentation has been scheduled to report on the progress being made toward accomplishing those goals. The reports provide the City Council and staff an opportunity to monitor progress, as well as revise objectives and timelines as conditions warrant. The City's next strategic planning session is scheduled for Tuesday, April 5, 2016.

FINANCIAL IMPACT

There is no financial impact associated with the presentation of the Strategic Plan.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK CITY COUNCIL / LRA BOARD AGENDA ITEM NO. 1.4

SECTION 1: PRESENTATIONS

Meeting Date:	January 26, 2016
Subject:	Enhanced Infrastructure Financing Districts – a Financing Option for Funding Redevelopment and Future Capital Improvements
From:	Jill Anderson, City Manager
Submitted by:	Debbie Olson, Executive Director

RECOMMENDATION

It is recommended that the City Council / Local Redevelopment Authority Board receive a presentation from Jamie Gomes, Managing Principal of Economic & Planning Systems, Inc. regarding a financing option available to local government for financing of redevelopment and capital improvement projects.

SUMMARY

Tonight's presentation is an overview of a relatively new option for financing redevelopment and capital improvement projects called Enhanced Infrastructure Financing Districts ("EIFDs").

BACKGROUND

Senate Bill 628, authorized the creation of EIFDs. It was signed into law by Governor Brown on September 29, 2014. This new legislation provides local governments the ability to finance a broad range of infrastructure work as well as affordable housing and transit oriented development projects through tax increment, generated from the growth in property taxes collected from the affected area.

These funds can only be collected from those local governmental agencies that voluntarily agree to contribute their funds. EIFDs are also authorized to combine tax increment funding with other permitted funding sources, including bond issuance. The creation of an EIFD will enhance redevelopment at the Riverbank Industrial Complex and other sites around the City by providing access to a broader range of financing options now that legal constraints have been placed on Redevelopment Agencies

STRATEGIC PLAN ALIGNMENT

This utilization of financing tools, such as EIFDs, support several strategic goals. In particular, it could allow the City to improve and maintain infrastructure and facilities as well as better utilize resources, maintain financial stability and accelerate other key City initiatives.

FINANCIAL IMPACT

No fiscal impact associated with this presentation.

ATTACHMENT

None

RIVERBANK CITY COUNCIL / LRA AGENDA ITEM NO. 3.A

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Waiver of Readings
From:	Jill Anderson, City Manager
Submitted by:	Annabelle Aguilar, CMC, City Clerk / LRA Recorder

RECOMMENDATION

It is recommended that the City Council / LRA Board approve the waiver of readings of Ordinances and Resolutions, except by title.

SUMMARY

The approval of the waiver of readings will allow Ordinances and Resolutions to be introduced by title only and acted upon without the need to read the entire text of the item into the public record. The documents related to proposed Ordinances and Resolutions are available for review by the public on the City's website and in the City Clerk's office at City Hall (North).

FINANCIAL IMPACT

There is no financial impact to this item.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK CITY COUNCIL / LOCAL REDEVELOPMENT AUTHORITY
AGENDA ITEM NO. 3.B

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Approval of the January 12, 2016, City Council and Local Redevelopment Authority Minutes
From:	Jill Anderson, City Manager
Submitted by:	Annabelle Aguilar, CMC, City Clerk / LRA Recorder

RECOMMENDATION

It is recommended that the City Council / Local Redevelopment Authority Board approve the City Council /LRA Meeting Minutes as presented.

SUMMARY

The Draft Minutes of the January 12, 2016, regular City Council and the Local Redevelopment Authority Board meetings have been prepared for review and approval.

FINANCIAL IMPACT

There is no financial impact to this item.

ATTACHMENT

1. January 12, 2016, City Council and LRA Minutes

City of Riverbank

REGULAR CITY COUNCIL AND LOCAL REDEVELOPMENT AUTHORITY MEETINGS

(The City Council also serves as the LRA Board)

MINUTES

TUESDAY, JANUARY 12, 2016

CALL TO ORDER:

The City Council and Local Redevelopment Authority Board of the City of Riverbank met at 6:00 p.m. on this date at the Riverbank City Council Chambers, 6707 Third Street, Suite B, Riverbank, California, with Mayor/Chair Richard D. O'Brien presiding.

FLAG SALUTE: Mayor/Chair Richard D. O'Brien

INVOCATION: Reverend Charles Neal

ROLL CALL:
Present: Mayor/Chair Richard D. O'Brien
Vice Mayor/Chair Darlene Barber-Martinez
Council/Authority Member Cal Campbell, Leanne Jones Cruz, and Jeanine Tucker

CONFLICT OF INTEREST
Any Council/Authority Member or Staff who has a direct Conflict of Interest on any scheduled agenda item to be considered is to declare their conflict at this time.

No one spoke.

1. PRESENTATIONS

There were no presentations.

2. PUBLIC COMMENTS (No Action Can Be Taken)

At this time, members of the public may comment on any item not appearing on the agenda, and within the subject matter jurisdiction of the City Council/LRA Board. Individual comments will be limited to a **maximum of 5 minutes** per person and each person may speak once during this time; time cannot be yielded to another person. Under State Law, matters presented during the public comment period cannot be discussed or acted upon. For record purposes, state your name and City of residence. Please make your comments directly to the City Council/LRA Board.

- ***Vicky Holt, Riverbank Library Manager, provided an update on library activities.***
- ***David Taylor, homeless, spoke in regards to being harassed by the Police dept.***

3. CONSENT CALENDAR

All items listed on the Consent Calendar are to be acted upon by a single action of the City Council/LRA Board unless otherwise requested by an individual Council/Authority Member for special consideration. Otherwise, the recommendation of staff will be accepted and acted upon by roll call vote.

Item 3.A: Waive Readings. All Readings of ordinances and resolutions, except by title, are waived.

Item 3.B: Approval of the December 8, 2015, City Council and Local Redevelopment Authority Minutes.

Item 3.C: A **Resolution [No. 2016-001]** of the City Council of the City of Riverbank, California, to Authorize the City Manager to Execute an Agreement with Willdan Financial Services to Assist with the Formation of a Community Facilities District and Subsequent Annexations to Fund Services and Maintenance Associated with New Development.

Item 3.D: A **Resolution [No. 2016-002]** of the City Council of the City of Riverbank, California, Adopting the Final Riverbank Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan Update and Appendices.

Item 3.E: A **Resolution [No. 2016-003]** of the City Council, of the City of Riverbank, California, Approving the Reappointment of Joan Stewart, and the New Appointments of Edward Tabacco, and Larry King to the Planning Commission to Serve a Four-Year Term Expiring December 2019.

Recommendation: It is recommended that City Council/LRA Board approve the Consent Calendar items by roll call vote.

ACTION: ***By motion moved and seconded (Tucker / Barber-Martinez /passed 5-0) to approve Items 3.A through 3.E as presented. Motion carried by unanimous City Council and LRA Board roll call vote.***
AYES: Campbell, Jones Cruz, Tucker, Barber-Martinez, and Mayor O'Brien
NAYS: None, ABSENT: None, ABSTAINED: None

4. UNFINISHED BUSINESS

Item 4.1: **Second Reading by Title Only and Adoption of Proposed Ordinance No. 2016-001 of the City Council of the City of Riverbank, California, Amending the Riverbank Municipal Code by repealing in its Entirety Chapter 120: Medical Marijuana Dispensary Ban of Title XI: Business Regulations and Substituting it with a New Chapter 120: Ban On Medical Marijuana Dispensaries and Commercial and Outdoor Marijuana Cultivation** – It is recommended that the City Council conduct the second reading by title only of proposed Ordinance No. 2016-001 and consider its adoption by roll call vote.

City Manager Jill Anderson presented the staff report. Mayor O'Brien opened the item for discussion; no one spoke.

ACTION: ***By motion moved and seconded (Jones Cruz / Campbell/ passed 5-0) to approve the Second Reading and Adoption of Ordinance No. 2016-001 as presented. Motion carried by unanimous City Council roll call vote.***
AYES: Campbell, Jones Cruz, Tucker, Barber-Martinez, and Mayor O'Brien
NAYS: None, ABSENT: None, ABSTAINED: None

5. PUBLIC HEARINGS There are no items to consider.

6. NEW BUSINESS

Item 6.1: **City Council Appointments to Intergovernmental Boards and Committees and City Council/LRA Appointments to Internal City Committees for the Year 2016** – It is recommended that the City Council / Local Redevelopment Authority Board:
1) review the appointment lists; 2) volunteer or nominate a member of the City Council/LRA to serve as the representative; and 3) by roll call vote, ratify the appointments for the year 2016.

City Council unanimously agreed to keep the current appointments as presented.

ACTION: ***By motion moved and seconded (Barber-Martinez / Campbell / passed 5-0) to approve and ratify the appointments as presented with no changes to the Boards, Commissions, and Committees lists (lists attached). Motion carried by unanimous City Council roll call vote.***
AYES: Campbell, Jones Cruz, Tucker, Barber-Martinez, and Mayor O'Brien
NAYS: None, ABSENT: None, ABSTAINED: None

Item 6.2: **Annual Nomination and Appointment of the Vice Mayor** – It is recommended that the Mayor nominate a Councilmember to serve as Vice Mayor and the City Council, by motion for approval, make the appointment for a one-year term.

City Manager Jill Anderson presented the staff report. Mayor O'Brien nominated Councilmember Tucker to serve as Vice Mayor for the year 2016.

ACTION: ***By motion moved and seconded (Jones Cruz / Campbell / passed 5-0) to approve the appointment of Councilmember Tucker as Vice Mayor for the year 2016. Motion carried by unanimous City Council roll call vote.***
AYES: Campbell, Jones Cruz, Tucker, Barber-Martinez, and Mayor O'Brien
NAYS: None, ABSENT: None, ABSTAINED: None

Item 6.3: **Request to Reconsider Regulations Relating to Outdoor Watering Hours** – It is recommended that the City Council consider a request from Councilmember Campbell to reconsider the hours that the City allows outdoor watering to occur.

City Council and Staff discussed the item; no action was taken.

7. COMMENTS (Information only – No action)

Item 7.1: Staff Comments

- ***Director of Finance Marisela Garcia announced the Budget Advisory Committee meeting and provided an update on the Del Rio Theater property.***
- ***Michael Riddell provided an update on the City's water conservation efforts.***

7.2: Council/Authority Member Comments

- ***Council/Authority Member Barber-Martinez reported on her attendance of the Stanislaus County Office of Emergency Training, and announced the Citizen of the Year Awards event.***

Item 7.3: Mayor/Chair Comments

- ***Mayor/Chair O'Brien commented on the delayed development of the park as part of the KB Homes Development and on the need for city signage to guide people to the downtown businesses.***

8. CLOSED SESSION

The public will have a limit of 5 minutes to comment on Closed Session item(s) as set forth on the agenda prior to the City Council/LRA Board recessing into Closed Session.

Mayor/Chair O'Brien announced the Closed Session item and asked for public comment; no one spoke. The meetings were recessed and City Council went into Closed Session at 6:50 p.m.

Item 8.1: **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**
Pursuant to Government Code § 54956.9(a)
Name of Case: City of Riverbank v. Riverbank Oil Transfer, LLC
Stanislaus County Superior Court Case No. 2012779

9. REPORT FROM CLOSED SESSION

Mayor/Chair O'Brien reconvened the meetings at 7:10 p.m.

Item 9.1: Report from Closed Session Item 8.1: **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**

Mayor O'Brien reported that direction was given to staff.

ADJOURNMENT

There being no further business, Mayor/Chair O'Brien adjourned the meetings at 7:10 p.m.

ATTEST: (*Adopted 01/26/2016*)

_____

Annabelle H. Aguilar, CMC
City Clerk / LRA Recorder

APPROVED:

_____

Richard D. O'Brien
Mayor / Chair

Attachments: Item 6.1 – Boards/Commissions/Committee lists

CITY COUNCIL
INTERGOVERNMENTAL BOARDS & COMMITTEES

(Last revised and ratified on 01/12/2016)

BOARD / COMMITTEE	COUNCIL REPRESENTATIVE (2016 - Appointments)
LEAGUE OF CALIFORNIA CITIES CENTRAL VALLEY DIVISION EXECUTIVE COMMITTEE **Meets:** Quarterly, TBD when scheduled **Location:** It rotates among the Northern and Southern central valley cities, TBD. (Annual breakfast meeting of the year takes place at the League's Annual Conference in September) The Central Valley Division (CVD) is lead by an executive committee made up of local government officials who provide overall guidance and direction for CVD activities. These activities provide a variety of avenues for individuals to take the opportunity to exchange ideas and information and share the advantages of cooperative advocacy.	Councilmember Cal Campbell Mayor Richard D. O'Brien (alt.)
LEAGUE OF CALIFORNIA CITIES ANNUAL CONFERENCE VOTING DELEGATE(S) The League of California Cities is an association of California City Officials who work together to enhance their knowledge & skills, and exchange information & combine resources so that they may influence policy decisions that affect cities.	Primary and Alternate to be determined in June. (The appointment is typically made in June upon the League's request.)
NORTH COUNTY CORRIDOR TRANSPORTATION EXPRESSWAY AUTHORITY BOARD **Meets:** 3rd Wed. of every alternate month; 4:30-6:pm **Location:** Tenth Street Place, Board Chambers, 1010 10th Street (basement), Modesto The North County Corridor Transportation Expressway Authority (Authority) is the lead implementing agency for the North County Corridor State Route 108 East Route Adoption. The Authority leads the overall effort. These meetings pertain to locating the best route for the northern expressway from Hwy 99 to the eastern side of Oakdale.	Mayor Richard D. O'Brien Councilmember Darlene Barber-Martinez (alt.)

CITY COUNCIL
INTERGOVERNMENTAL BOARDS & COMMITTEES
(Last revised and ratified on 01/12/2016)

BOARD / COMMITTEE	COUNCIL REPRESENTATIVE (2016- Appointments)
San Joaquin Valley Air Pollution Control District Special City Selection Committee **Meets:** At least once annually and as needed **Location:** Northern Region Office, 4800 Enterprise Way, Modesto This Committee's purpose is to appoint (5) Council Members to the San Joaquin Valley Air Pollution Control District's Governing Board.	Councilmember Darlene Barber-Martinez Councilmember Leanne Jones Cruz (alternate)
STANCOG – POLICY BOARD **Meets:** The 3rd Wednesday of each month; 6:pm **Location:** 1111 I Street, Suite 308, Modesto To work together with local cities to enhance communication, cooperation and comprehensive planning in dealing with regional issues.	Mayor Richard D. O'Brien Councilmember Cal Campbell (alt.)
STANISLAUS OFFICE OF EMERGENCY SERVICES DISASTER COUNCIL **Meets:** Twice a year or as necessary, at 1:30 pm **Location:** Ray Simon Training Center, 3800 Cornucopia Way, Bldg A, Modesto To make recommendations to local governing agencies on matters pertinent to development of mitigation, disaster preparedness, response & recovery plans, and programs for any potential local emergency.	Vice Mayor Jeanine Tucker Councilmember Darlene Barber-Martinez (alt.) (The appointed Councilmember serves a 2-year term; ending 12/2016.)
STANISLAUS BUSINESS ALLIANCE BOARD (due to official name change, July 2014) **Meets:** The 3rd Monday of every *odd* month; the Executive Board meets on the 3rd Monday of every *even* month. **Location:** TBD The Alliance serves both county residents and businesses by helping attract jobs to Stanislaus and assisting local companies that want to expand. It also addresses employers' workforce needs and helps entrepreneurs turn their ideas into viable businesses.	Councilmember Cal Campbell Mayor Richard D. O'Brien (alt.)

CITY COUNCIL
INTERGOVERNMENTAL BOARDS & COMMITTEES

(Last revised and ratified on 01/12/2016)

BOARD / COMMITTEE	COUNCIL REPRESENTATIVE (2016- Appointments)
Lower Stanislaus River Trail Improvement Plan Committee (Resolution No. 2013-069) **Meets:** TBD **Location:** TBD Representatives of the Cities of Riverbank, Oakdale, and Ripon and the Local Government Commission and the National Park Service will be working together to enhance public use and stewardship of the lower Stanislaus River.	Councilmember Cal Campbell Councilmember Darlene Barber-Martinez (alt.)

CITY COUNCIL / LOCAL REDEVELOPMENT AUTHORITY BOARD
INTERNAL CITY COMMITTEES

(Last revised and ratified on 01/12/2016)

CITY/LRA COMMITTEES	COUNCIL/LRA LIAISON (2016 – Appointments)
BUDGET ADVISORY COMMITTEE (BAC) **Meets:** As needed **Location:** City Hall Council Chambers or City Hall South Conference Room This (7) resident member advisory committee, including (1) non-voting Council representative and a Council alternate, reviews and discusses the City's operating budget and makes recommendations on projects, programs, and policies to the City Council.	Councilmember Leanne Jones Cruz Vice Mayor Jeanine Tucker (alternate)
FRIENDS OF JACOB MYERS PARK (JMP) (A non-profit organization) **Meets:** On a monthly basis **Location:** City Hall Council Chambers Works on projects, park planning, and fundraising events.	Councilmember Leanne Jones Cruz Councilmember Darlene Barber-Martinez (alt.)
LOCAL REDEVELOPMENT AUTHORITY (LRA) COMMUNITY ADVISORY COMMITTEE **Meets:** As needed. **Location:** LRA Conference Room, 5300 Claus Road, Building 17, Modesto, CA 95357 The (12) member Committee provides feedback and recommendations to the LRA Board and staff regarding the reuse and redevelopment of the Riverbank Army Ammunition Plant, and to promote interest and involvement by the community in the project.	Authority Member Darlene Barber-Martinez Vice Chair Jeanine Tucker (alternate)
SISTER CITY COMMITTEE **Meets:** As needed **Location:** TBD Appointed Members of the City Council will serve in a liaison capacity. The Sister City relationships with Tamazula, Mexico and Fuyang, China was formed to foster understanding between these Cities and Riverbank and to engage in common efforts to promote the cultural understanding and awareness for the mutual good of each City. The Committees purpose is to facilitate and carry out these objectives.	Vice Mayor Jeanine Tucker Councilmember Darlene Barber-Martinez (alt.) Councilmember Leanne Jones Cruz (2nd alt.)

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 3.C

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26 2016
Subject:	A **Resolution** of the City Council, of the City of Riverbank, California, Approving the Interim Appointment of Michelle Guzman to the Stanislaus Consolidated Fire Protection District Board of Directors as the Riverbank Representative
From:	Jill Anderson, City Manager
Submitted by:	Annabelle Aguilar, CMC, Sr. Management Analyst/City Clerk

RECOMMENDATION

It is recommended that the City Council adopt the resolution to approve the interim appointment of Michelle Guzman whose term expired as the City of Riverbank's representative on December, 2015.

SUMMARY

The City of Riverbank Representative Michelle Guzman, whose four-year term on the Stanislaus Consolidated Fire Protection District (SCFPD) Board of Directors expired as of December, 2015, has informed staff that she is willing to continue to serve on the Board on an interim basis until the City Council approves a new appointment to fill the vacancy for a new term beginning January 2016 to December 2019.

A recruitment and selection process will be conducted to allow the citizens of Riverbank the opportunity to serve their community by participating as a member of a board, commission, or committee for the City of Riverbank.

The SCFPD Board of Directors is a five-member board that serves as a unit of authority within the District. Their primary responsibility is the formulation and evaluation of policy, and monitoring the District's progress in attaining its goals and objectives, while pursuing its' mission. Board Members serve a four-year term, with a two-term limit.

A recruitment and selection process is anticipated to open by Monday, January 25, 2016, and close on February 15, 2016, to present a recommendation of appointment to the City Council at its regular meeting on February 23, 2016.

FINANCIAL IMPACT

Compensation to serve on the SCFPD Board of Directors is $100 for attendance at a scheduled meeting.

ATTACHMENT

1. Resolution
2. Description of SCFPD Board of Directors

CITY OF RIVERBANK

RESOLUTION NO. 2016-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, APPROVING THE INTERIM APPOINTMENT OF MICHELLE GUZMAN TO THE SCFPD BOARD OF DIRECTORS AS THE RIVERBANK REPRESENTATIVE

WHEREAS, the Stanislaus Consolidated Fire Protection Board (SPFPD) was established March of 1995; and

WHEREAS, the legal authority of the Board is under California Health and Safety Code, Section 13800, known as the Fire Protection District Law of 1987 and Reorganization procedures complied with the California Government Code, Section 56001, Cortese-Knox Reorganization Act; and

WHEREAS, the Board of Directors is a five-member board, who serve four-year terms, with a two-term limit, of which one member is a Riverbank citizen appointed by the City Council to represent the City of Riverbank; and

WHEREAS, the four-year term of Riverbank Representative Michelle Guzman expired December 2015, however, she has agreed to continue to serve on an interim basis; and

WHEREAS, in accordance with the California Maddy Act, a recruitment and selection process will be conducted to allow the opportunity for Riverbank citizens to apply and be considered to fill the current vacancy; and

WHEREAS, upon the approval of a new appointment made by the City Council, and ratified by the Stanislaus County Board of Supervisors, the interim appointment of Michelle Guzman, shall cease at the time the new appointee assumes his/her Board seat.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves the interim appointment of Michelle Guzman to the SCFPD Board of Directors as the Riverbank Representative until the new appointee assumes his/her Board seat.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of January, 2016; motioned by Councilmember _____, seconded by Councilmember _____, and upon roll call was carried by the following vote of ___:

AYES:
NAYS:
ABSENT:
ABSTAINED:

ATTEST:

_____
Annabelle H. Aguilar, CMC
City Clerk

APPROVED:

_____
Richard D. O'Brien
Mayor

COMMITTEE FACT SHEET

NAME: **STANISLAUS CONSOLIDATED FIRE PROTECTION DISTRICT**
ESTABLISHED: March 3, 1995

COMPENSATION: $100.00 per meeting

Members of this board are required to file Conflict of Interest Disclosure Statements

LEGAL AUTHORITY: California Health and Safety Code, Section 13800, know as the Fire Protection District Law of 1987. Reorganization procedures complied with the California Government Code, Section 56001, Cortese-Knox Reorganization Act.

MEMBERSHIP:
QUALIFICATION:
AND RESIDENCY
REQUIREMENTS:

5 Directors, comprised of:
1 Director appointed by City of Riverbank
1 Director appointed by City of Waterford
1 resident in the old Empire Fire Protection District appointed by Board of Supervisors
2 Public members-at-large (residents of the district) appointed by Board of Supervisors

TERM: 4 Year Term with two term limitation

DUTIES: Fire protection

MEETINGS: Second Thursday of each month at 6:00 p.m.
3324 Topeka St., Riverbank

CONTACT:
Carissa Higginbotham
3324 Topeka St.
Riverbank, CA 95367
Phone: 869-7470
Fax: 869-7475
Email: chigginbotham@scfpd.us or bhannah @scfpd.us
Website: http://www.scfpd.net

(This district is the consolidation of
Riverbank, Empire, and Waterford-Hickman Fire Protection Districts)

FILE #: **DF20**
BYLAWS:
VERIFICATION REQUESTED: 1/25/12
VERIFICATION DATE: 2/17/12 Betty Hannah

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 3.D

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	A **Resolution** of the City Council of the City of Riverbank, California, to Replace in its Entirety the City of Riverbank Standard Specifications Design Standards and Standard Plans for Section 1 through Section 8 with New Specifications and Drawings
From:	Jill Anderson, City Manager
Prepared by:	Marisela Garcia, Director of Finance Kathleen Cleek, Development Services Administration Manager William Kull, Contract City Engineer

RECOMMENDATION:

It is recommended that the City Council adopt a resolution to replace in its entirety the CITY OF RIVERBANK STANDARD SPECIFICATIONS – Design Standards and Standard Plans for Section 1 through Section 8 with new specifications and drawings of the Public Works Construction Standards, which have been updated to represent the current construction industry and design parameters as well as all federal and state requirements for construction of public works projects.

BACKGROUND:

The City of Riverbank's Standard Specifications consist of 8 Sections. Section 1 – Preface, Section 2 – Safety, Section 3 – Streets, Section 4 – Lighting, Section 5 – Water, Section 6 – Wastewater, Section 7 – Storm Drains, and Section 8 – Parking. The standards in these Sections were adopted to aid all persons engaged in construction of public works projects within the city limits of Riverbank. All construction work in the public right-of-way within the City of Riverbank shall conform to these standards. As the construction industry and design parameters change, revisions to these standards need to be adopted.

On September 23, 2014, the City Council adopted revisions to Section 5 – Design Standards for Water and Section 6 – Design Standards for Wastewater. At the March 24, 2015 City Council meeting the City Council adopted new specifications and drawings, which were added to the Complete Street Standards - Section 3 – Streets. Staff stated at that time that a thorough review of all standards would be completed and brought before Council at a future date.

The remaining City Standards contained standards dated back to July 1994 and May 2007. An extensive and thorough review has been completed and each Section has been updated to conform to the latest construction industry and design parameter changes. The standards also meet all new federal and state requirements.

It is recommended that the City Council adopt a Resolution to replace in its entirety the City of Riverbank's Standard Specifications. Construction industry and design parameter changes will continue to be monitored, as well as any changes that may need to be made in the future to meet state and federal requirements.

FINANCIAL IMPACT:

There are no costs to the City associated with the report on the adoption of the new standards.

ATTACHMENTS:

The following items are attached to this report:

1) Resolution
2) City of Riverbank Standard Specifications:
   Section 1 – Preface
   Section 2 – Safety
   Section 3 – Streets
   Section 4 – Lighting
   Section 5 – Water
   Section 6 – Wastewater
   Section 7 – Storm Drain
   Section 8 – Parking

CITY OF RIVERBANK

RESOLUTION NO. 2016-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, TO REPLACE IN ITS ENTIRETY THE CITY OF RIVERBANK STANDARD SPECIFICATIONS DESIGN STANDARDS AND STANDARD PLANS FOR SECTION 1 THROUGH SECTION 8 WITH NEW SPECIFICATIONS AND DRAWINGS

WHEREAS, the City Council of the City of Riverbank directed staff to review and update City standard specifications and drawings to represent the current industry and design parameters; and

WHEREAS, City staff reviewed the standard specifications and drawings within Section 1 through Section 8 and determined all Sections needed to be updated and replaced; and

WHEREAS, Section 1 - Preface, Section 2 - Safety, Section 3 - Streets, Section 4 - Lighting, Section 5 - Water, Section 6 - Wastewater, Section 7 - Storm Drain, and Section 8 - Parking are replaced in their entirety to reflect industry standards and the City's required design parameters; and

WHEREAS, Section 1 - Preface, Section 2 - Safety, Section 3 - Streets, Section 4 - Lighting, Section 5 - Water, Section 6 - Wastewater, Section 7 - Storm Drain, and Section 8 - Parking are replaced in their entirety to meet all current state and federal requirements.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves to replace, in its entirety, the City of Riverbank Standard Specifications – Design Standards and Standard Plans for Section 1 through Section 8 of the Public Works Construction Standards as outlined in attached **Exhibit A**.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of January, 2016; motioned by Councilmember _____, seconded by Councilmember _____, and upon roll call was carried by the following City Council vote of ___:

AYES:
NAYS:
ABSENT:
ABSTAINED:

ATTEST:

_____
Annabelle Aguilar, CMC
City Clerk

APPROVED:

_____
Richard D. O'Brien
Mayor

Attachment: Exhibit A – Riverbank Standards Specifications

EXHIBIT - A

CITY OF RIVERBANK

STANDARD SPECIFICATIONS

DEVELOPMENT SERVICES DEPARTMENT

6707 Third Street

Riverbank, California 95367

Phone: (209) 863-7128

Fax: (209) 869-1849

www.riverbank.org

Adopted by the City Council
January 26, 2016

CITY OF RIVERBANK
STANDARD SPECIFICATIONS

TABLE OF CONTENTS

City of Riverbank
DESIGN SPECIFICATIONS

PREFACE

TABLE OF CONTENTS

SECTION 1 – PREFACE

1.101 GENERAL

The Standards of the City of Riverbank include specifications and drawings as contained herein. All work done in the public rights-of-way within the City of Riverbank shall conform to these Standards, and the Riverbank Municipal Code which includes insurance and business license requirements.

Developers are advised to have their representatives contact the engineer during design to ensure conformance with these Standards.

Work requiring plans prepared by a registered engineer such as improvements for subdivisions, parcel maps, and planned developments shall conform to these Standards, even though reference to these Standards is not made on such plans.

Work not requiring Improvement Plans prepared by a registered engineer shall conform to these Standards, and it shall be the responsibility of the developer to determine the requirements.

1.102 DEFINITIONS

The following shall apply to these Standards:

CITY:	City of Riverbank.
DEVELOPER:	Subdivider, developer, property owner, registered engineer or contractor proposing to design work or do work in the City of Riverbank public rights-of-way.
CONSTRUCTION INSPECTOR:	Construction Inspector of the City of Riverbank.
ENGINEER:	The Contract City Engineer of the City of Riverbank or their authorized representative.
O.I.D:	Oakdale Irrigation District.
M.I.D:	Modesto Irrigation District.
PLANS:	Improvement Plans prepared by the developer or the engineer (Department of Public Works) for a specific project.

PUBLIC WORKS DEPARTMENT: Development Services of the City of Riverbank.

SPECIAL PROVISIONS: Specifications accompanying contract documents.

UTILITY: City Sewer, City Storm Drain, City Water, Cable, Pacific Gas and Electric Company, AT&T, Railroads, Hetch Hetchy, Oakdale Irrigation District, and Modesto Irrigation District.

1.103 PLANS

Improvement Plans shall be prepared by the Developer and shall be submitted to the Construction Inspector and the City Engineer for approval prior to commencement of any work. The Improvement Plans shall be 24 inches by 36 inches, minimum. Submittal to the City Engineer shall allow a minimum of two weeks for review. After approval, the Developer shall provide two sets of the approved plans to the Construction Inspector and one set to the City Engineer.

The Developer shall be responsible for the design and construction of all improvements except gas lines, utility owned electric lines, telephone lines and cable television lines.

Within 2 weeks after completion of the work, and prior to final acceptance the Developer shall submit one set of plans and one digital copy(AutoCAD or PDF) marked "As Built", to the Construction Inspector. See Section 1.04, Item G.

1.104 STANDARDS

Subdivision improvements shall conform to the following minimum requirements and to any local standards and to any special standards as prepared or referred to by the Construction Inspector, recommended by the Planning Commission and adopted by the City Council.

A. Subdividers shall have their contractors for subdivision improvements consult with the Director of Public Works before any construction is started, to arrive at an understanding as to the requirements and the schedule of inspections required.

B. All required improvements shall be constructed under the inspection of and to the approval of the Department head or their authorized representative.

C. Plans and profiles for proposed and existing improvements shall be submitted to and approved by the City Engineer prior to the commencement of construction. A plan of the entire subdivision shall be shown on the first sheet.

D. Plans and profiles shall be on 24 inch by 36 inch paper, minimum.

E. Cross sections or profiles beyond the boundary of the subdivision may be required to clarify drainage or road design.

F. A plan check and inspection fee shall be charged the subdivider, equal to 3% of the Engineers's Estimate of the improvements.

G. The subdivider shall direct his engineer to furnish the city one complete set of improvement plans in paper format and digital format (AutoCAD or PDF) after completion of improvements. These plans shall show any corrections as to location and grade of improvements, including water, sewage, and storm drains, or "No Corrections," whichever is applicable. Such plans shall be marked "As Built" and submitted to the Construction Inspector prior to acceptance of improvements by the City Council (Ord. No. 267, 7.1; Ord. No. 594, 1,).

H. The Developer shall direct his Engineer or Land Surveyor to establish a benchmark within the boundary of the subdivision to the satisfaction of the Construction Inspector or the City Engineer.

1.105 PRIORITY OF WORK

All underground utilities shall be constructed prior to installation of curbs, gutters, sidewalks, and surfacing of streets or rights-of-way. The Developer shall be responsible for making payments as necessary with utility companies to insure that the necessary underground utilities are constructed.

1.106 STAKING

The Developer's Engineer shall provide survey stakes for work shown on plans prepared by said Engineer.

The City Engineer will stake a city funded project in a manner needed by the City Contractor and as specified by the City Engineer or the Construction Inspector. Costs of restaking may be billed to the City Contractor.

1.107 INSPECTION

The City Engineer or Construction Inspector shall perform inspection of the work to determine conformance with these Standards.

The Developer or Contractor shall request inspections 48 hours in advance to permit scheduling of inspection by the City Engineer or Construction Inspector.

The cost of inspection shall be paid by the Developer in the case of subdivisions or when so specified by agreement or by the Riverbank City Code (see Section 1.04, Item F). The cost of inspection on City contract projects will be borne by the City. Reference section 31-37 City Code.

All work rejected by the City Engineer or Construction Inspector shall be remedied, removed or replaced by the Developer or Contractor on private work or City Contractor on City contracts. Any work done beyond that shown on the plans approved by the City Engineer may be ordered at the Developer's or City Contractor's expense.

1.108 CONCRETE

Portland cement concrete, unless otherwise specified in the Special Provisions, shall be Class B as defined in the State Standards with a 28-day compressive strength of 2,500 pounds per square inch and a maximum slump of 3 inches. Concrete shall consist of Portland Cement, water, and aggregate. Portland cement shall be Type II. Aggregates shall be washed before use and be free from any foreign matter.

The aggregate shall be graded to provide a plastic, workable mixture of maximum density with a maximum size aggregate of 3/4 inches. The water shall be potable and no admixtures shall be used without approval of the City Engineer or Construction Inspector.

The cement, water and aggregates shall be combined at the batch plant and be thoroughly mixed. No water shall be added to the mixture after leaving the batch plant without approval of the City Engineer or Construction Inspector. All concrete shall be placed within 90 minutes after the introduction of water to the cement. The temperature of the concrete shall be not less than 50 degrees F. and not more than 90 degrees F.

The concrete shall be consolidated by tamping or vibrating. Concrete which has cracks, rock pockets or honey combing after curing shall be removed and replaced.

All concrete shall be cured in accordance with Section 907.01 B of the State Standards.

1.109 DUST CONTROL

Dust control shall be the responsibility of the Developer, Contractor, or City Contractor. However, the City Engineer or Construction Inspector may perform emergency dust control and the cost shall be borne by the Developer, Contractor, or City Contractor.

On existing streets the dust shall be controlled by sweeping and removal of the dirt before it leaves the site or enters the storm drain system.

In the work area, the dust may be controlled by use of water, but the storm drain system must be protected.

Water from City fire hydrants must be metered through a meter installed by the City. There is a charge for the water to the Developer. The charge rate will be set by the City of Riverbank City Council.

1.110 SURFACE RESTORATION

The surface of the work area shall be restored to its original condition with material as described in each trench section drawing.

Work in easement areas must be confined to the easement and the surface must compacted, be reseeded, leveled, and all undesirable material removed.

Written agreements must be made with the property owners if work or equipment is to go outside the easement. The surface of the area outside the easement must be restored to the satisfaction of the property owner.

In the case of paved areas, excavations that leave 3 feet or less of existing surfacing shall have the remaining surfacing removed and repaved with the same material as the trench section.

Excavations in the shoulder area located with 3 feet beyond the edge of pavement shall be restored with a minimum of 8 inches of aggregate base material. The City Engineer may require a full structural section if the existing surfacing is at approximate ultimate of grade.

The Developer is responsible for obtaining from the City Engineer the resurfacing requirements for each project when the plans are drawn or an encroachment permit is obtained.

Prior to any paving, all uneven or loose edges shall be trimmed in true and even lines parallel to the center line of the work, by saw cut method. Wheel cutting is not allowed. The aggregate base shall conform to the requirements of Section 3.7 of these Standards.

A paint binder as specified in Section 3.10 of these Standards shall be applied to all existing vertical surfaces arid construction joints prior to placing asphalt concrete.

The asphalt concrete shall conform to the requirements of Section 3.9 of these Standards. The asphalt concrete shall be per CALTRANS standards. 1/2 inch, or 3/4 inch-maximum, whichever is required by the City Engineer or Construction Inspector.

1.111 CLEANUP

The Developer, Contractor, or City Contractor shall, at least once each week, or as requested by the City Engineer, clean up the dirt and debris in all of the adjacent streets caused by the construction. All sidewalks, curbs, and gutters, approaches, crosswalks, existing and new drain inlets, lawns, etc., shall be kept free of excess dirt and rubbish and kept in a clean and neat condition.

Before a final inspection of a project is requested, the following shall be completed:

A. All of the right of way, adjacent property, adjacent streets and alleys and all areas used by the Developer or City Contractor in connection with this project shall be cleared of all debris and excess material, and left in a neat and presentable condition.

B. All paved areas and gutters shall be free of dirt and dust.

C. All concrete surfaces shall be left free of excess concrete, paving materials, liquid asphalt, dirt and dust. All expansion joints shall be trimmed flush with the concrete, all paint and reference marks will be removed.

D. All old and new drain inlet bottoms and outlet pipes shall be left free of all dirt and debris. If water is used to clean streets, care shall be taken to keep sand and silt out of storm system. Any storm drain facilities affected by the work shall be cleaned by the Developer, Contractor, or City Contractor.

E. All sewer and storm drain manhole bottoms shall be cleaned of all foreign matter and covers shall have all paving asphalt removed.

F. Slurry seal all pavement prior to bond release. Restripe as required by the City Engineer or Construction Inspector.

G. All striping shall be Thermoplastic.

The Developer, Contractor, or City Contractor shall not remove temporary warning, regulatory, and guide signs prior to formal acceptance by the City Council. Such signs shall be removed when directed by the City Engineer or Construction Inspector.

1.112 DEVIATIONS

These Standards may be deviated from, if in the opinion of the City Engineer or Construction Inspector, a proposed deviation meets or exceeds the quality of these Standards, or minor deviations which meet the spirit of these Standards.

Work in developed areas may require conforming to existing work in lieu of conforming to these Standards. All such deviations shall be approved by the City Engineer or Construction Inspector.

Materials proposed for use and not specified herein shall be submitted for approval by the City Engineer prior to ordering such material.

Underground work shall not be backfilled or covered until an inspection by the City Engineer or Construction Inspector has been made and the work approved. Any work that is covered without inspection shall be uncovered at the Developer's, Contractor's, or City Contractor's expense in order for an inspection to be made. The City Engineer or Construction Inspector shall have access to the work at all times and shall be furnished every reasonable facility for ascertaining that the work done, materials used, and workmanship performed are in accordance with the requirements and intentions of these Standards. Failure of the City Engineer or Construction Inspector to note faulty material or workmanship during construction or on material submittals shall not relieve the Developer, Contractor, or City Contractor of the responsibility for correcting such deficiencies at his expense.

1.113 SPECIAL CONDITIONS

Cold mix or cutback shall be required on all trenches on existing roadway if the project will not be complete within forty-eight (48) hours.

Require that a street must pass a water test to ensure that there will be no standing water in the flow line of the curb and gutter.

Lasers shall be used to set grades and install sewer and storm drain lines, unless otherwise approved by the City Engineer or Construction Inspector.

City of Riverbank
DESIGN SPECIFICATIONS

SAFETY

SECTION 2- SAFETY

2.100 Specifications

2.101 GENERAL
2.102 TRAFFIC CONTROL
2.103 SIGNS
2.104 BARRICADES
2.105 FLASHER SUPPORTS
2.106 DELINEATORS
2.107 FLAGGER
2.108 WARNING LIGHTS
2.109 STREET CLOSURES
2.110 RULES AND REGULATIONS.
2.111 UNDERGROUND SERVICE ALERT - USA

2.101 GENERAL

This Safety Section is intended to establish general principles of traffic control, worker protection and public safety measures to be taken in the performance of all work covered by these Standards.

No Specification contained herein shall be deemed to create a legal standard of conduct or duty toward the public nor shall it limit the City in the exercise of powers conferred by law in modifying these specifications under special conditions.

The requirements of the State of California, Department of Transportation, CA MUTCD, Caltrans Traffic Manual, Manual of Traffic Controls for Construction and Maintenance of Work Zones and the Uniform Sign Chart shall take precedence over the requirements of this Safety Section.

2.102 TRAFFIC CONTROL

The Safe movement of traffic through construction areas depends upon communicating concise and proper information to the public by signs, barricades, delineators, flaggers and warning lights. All such devices necessary during construction shall be furnished by the Developer or City Contractor.

The size, shape, and color of such devices as shown herein shall be as required by the State of California, Department of Transportation and CA MUTCD.

All posts, signs or other obstructions must be FHWA350 tested.

A traffic control plan is required for all road or lane closures. The plan must be submitted and approved prior to construction.

2.103 SIGNS

The types of signs shown are typical under normal conditions.

Warning signs used for night time conditions shall be reflectorized or illuminated. The use of orange flags in conjunction with signs is permitted if they do not at any time interfere with a clear view of the sign face.

Reflectorized signs fastened to barricades or similar supports shall have the face of the sign vertical and normal to the direction of traffic for effective visibility.

Signs are to be used only as long as necessary and then removed. During periods when the signs are temporarily unnecessary, they shall be removed or have their message covered.

2.104 BARRICADES

Barricades are intended to impose an obstacle in or close off the normal flow of travel. Approved barricades are shown on Drawing Nos. 2-E and 2-F.

Barricades shall not be used unless they are needed to separate the motorist from objects of greater hazard than the barricades themselves. Barricades should never be used primarily for delineation. The use of nonstandard types of barricades, such as drums, buckets, sandbags, etc., can be hazardous and their use is prohibited.

2.105 FLASHER SUPPORTS

Portable flasher supports shall be as required by the State Department of Transportation.

2.106 DELINEATORS

The function of delineators is to channelize traffic. They shall consist of post and paddle type markers or cylindrical or cone shaped objects 18 to 48 inches in height.

Delineators should be uniformly positioned laterally and longitudinally relative to the line of traffic and they must be maintained in an erect position.

Delineators for night time use shall be reflectorized or illuminated to be visible from 500 feet under normal atmospheric conditions.

When placed in close proximity to the edge of a traffic lane, delineators should be made of a material that will withstand impact without damage to them or the striking vehicle. Consideration must also be given to the necessity for stability against knockdown from wind or from the wash of passing traffic.

2.107 FLAGGER

A flagger is one of the oldest and most basic means of controlling traffic. A flagger can observe changing conditions and transmit information to the motorist based on current conditions. The flagger can also act as a guard in advance of a work party by observing approaching traffic, and being prepared to warn the workers.

A flagger should be used only when such discretionary capability is required, and not as a substitute for other warning signs and devices.

When a flagger is necessary, the flagger must convey a message, and the message must be timely and accurate. The flagger's effectiveness and the safety of the traffic and their fellow workers depend upon the way the flagger works. Standard hand signals shall be used as shown in the State Traffic Manual and CA MUTCD.

2.108 WARNING LIGHTS

Warning lights shall be electric lanterns, electric markers or flashers provided to indicate an obstruction or restriction during periods of low visibility. Warning lights shall be placed to mark the location of obstructions. Motion may be incorporated into warning lights.

Flashing lights for delineating the path the traffic is to follow shall be uniformly spaced as approved by City Engineer or Director of Public Works.

Warning lights may be fastened to signs, barricades and portable flasher supports in a manner satisfactory to the City Engineer or Director of Public Works.

2.109 STREET CLOSURES

Partial temporary street closures shall be made as per the City Engineer or the Director of Public Works. One lane for each direction of through traffic must be maintained except where flaggers are provided to control traffic, then one lane may serve both directions.

When trenching is necessary across intersecting streets, the work shall be done in such a manner to maintain two-way traffic on cross streets at all times.

Where the trench line crosses an entrance to private property, access to the property shall be maintained at all times by means of a suitable bridge, until the trench may be backfilled. Such bridges shall be properly guarded and illuminated at night. Where any crosswalk is cut by the trench, suitable bridging shall be constructed. Such bridging shall be at least 4 feet in width, shall have suitable hand railing, shall be properly guarded and illuminated at night and shall be made immediately in cases where backfill material is suitable for jetting. The City Engineer shall determine which backfill material is suitable.

The complete closure of a street is allowed only when authorized in writing by the City Engineer or Director of Public Works, as provided by the City of Riverbank Code. Such closure shall be accomplished only through the use of Type III barricades.

Permanent street closures as per City Council: Temporary closures in new developments at dead end streets and where pavement transitions match existing pavement at the edge of the development shall be constructed as per Drawing No. 205.

2.110 RULES AND REGULATIONS

All work performed and all materials used by the Developer or Contractor shall comply with the following: the State Labor Code, the California Administrative Code, Construction Safety Order, Title 8, Subchapter 4, Caltrans and all other applicable Federal, State and Local Laws and regulations.

Specifically, the Developer or Contractor shall furnish, install and maintain all shoring, bracing and sheeting. Any damage resulting from a lack of adequate shoring, bracing or sheeting shall be repaired at the Developers' or Contractors' expense.

Additional requirements may be imposed by the City Engineer or Director of Public Works in the interest of public safety.

2.111 UNDERGROUND SERVICE ALERT - USA

USA is a "One Call Notification Center" used for identifying any underground facilities prior to digging. The Developer or Contractor shall call USA at 800-642-2444 at least 48 hours prior to the start of any excavation, with the City Limits. All participating members not including the City of Riverbank will be informed by USA of the location, date, time and description of the proposed excavation. Any existing underground facilities will then be located and marked in the field by the appropriate USA member organization(s). Requests for field meeting shall be included in the initial call to USA. For further information, contact the City of Riverbank Public Works Department at 869-7128.

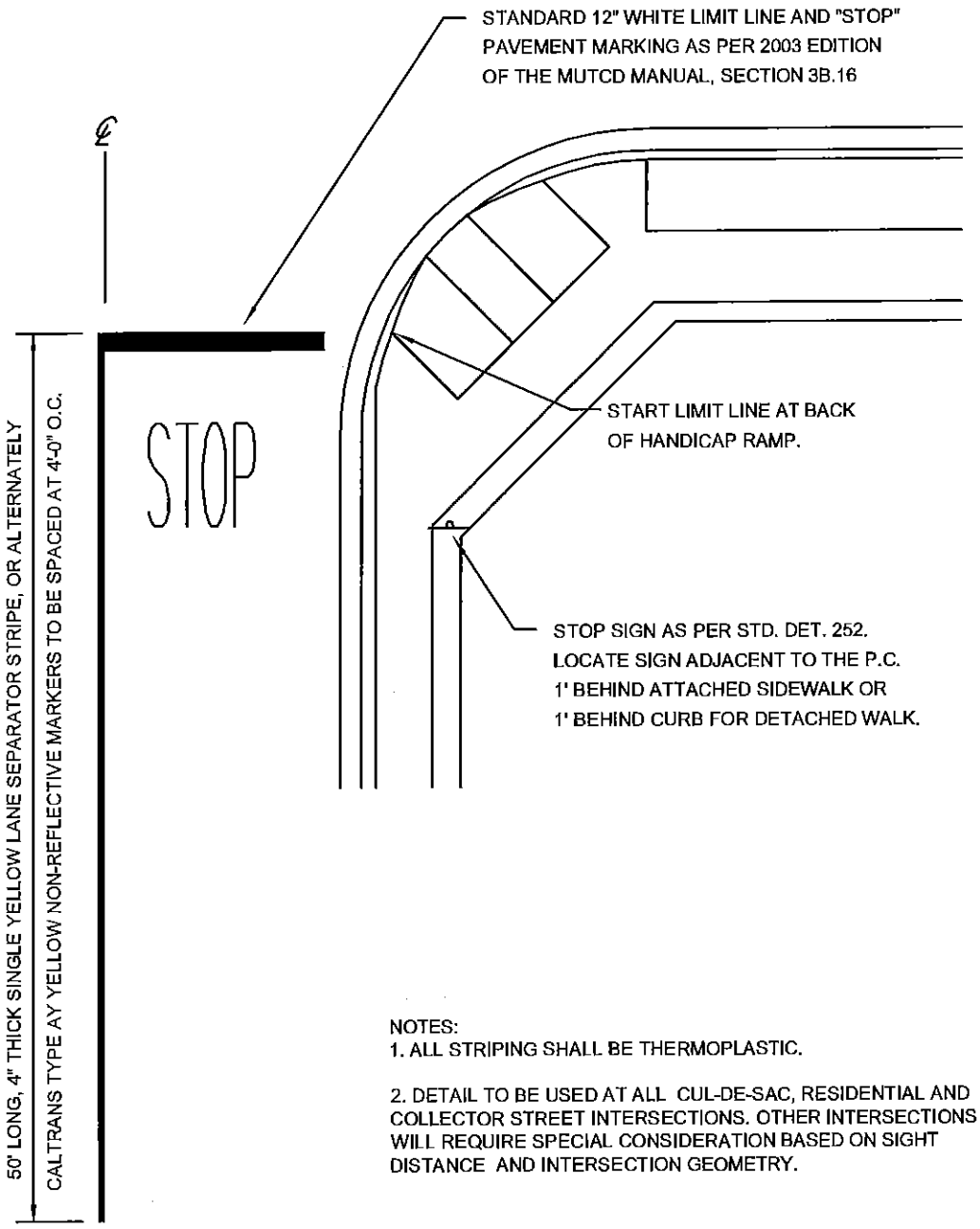
The Developer or Contractor shall be responsible for the preservation of, and any damage to, both private and public property in accordance with the current Caltrans Standards - Section 7-1.

City of Riverbank
STANDARD PLANS

SAFETY

SECTION 2- SAFETY

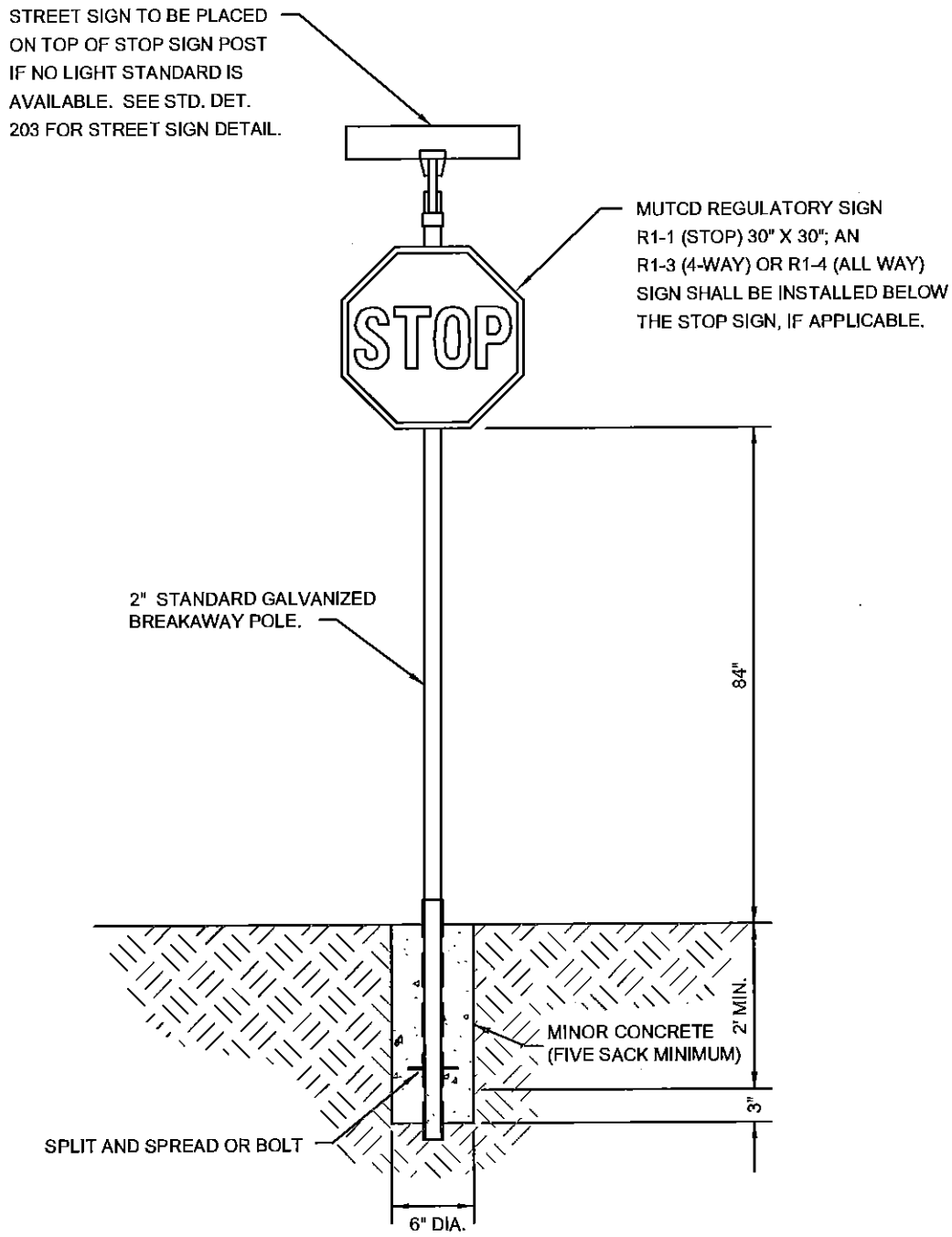
Drawing No	Description
201	STOP SIGN, STOP BAR, AND LANE SEPARATION LOCATIONS
202	STOP SIGN INSTALLATION
203	STREET SIGN
204	STANDARD REFLECTOR PADDLE BOARD
205	BARRICADES
206	BARRICADES- PORTABLE



NOTES:
1. ALL STRIPING SHALL BE THERMOPLASTIC.

2. DETAIL TO BE USED AT ALL CUL-DE-SAC, RESIDENTIAL AND COLLECTOR STREET INTERSECTIONS. OTHER INTERSECTIONS WILL REQUIRE SPECIAL CONSIDERATION BASED ON SIGHT DISTANCE AND INTERSECTION GEOMETRY.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			STOP SIGN, STOP BAR AND 56' R.O.W. - CUL-DE-SAC LOCATIONS	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 9/28/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 201
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 201.DWG		

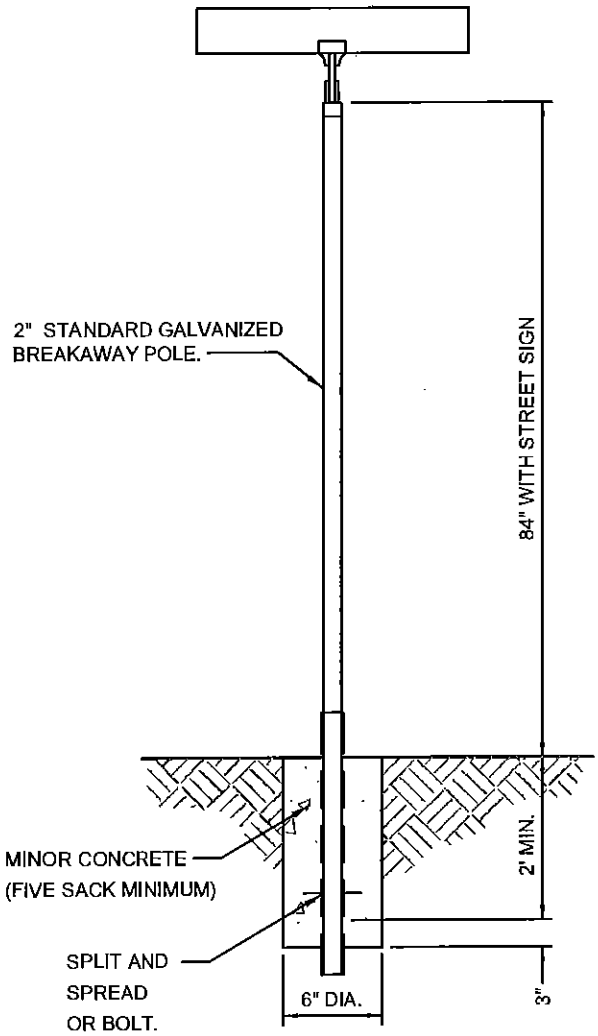


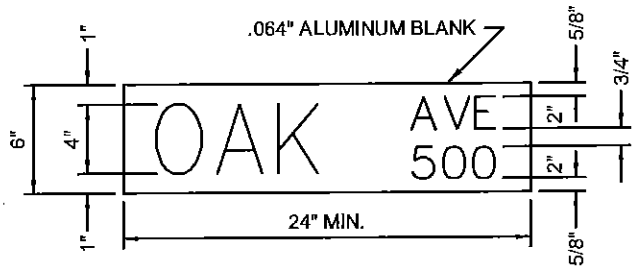
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

STOP SIGN INSTALLATION

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	9/28/15	NTS	__-__-15	202
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 202.DWG		





"SCOTCHLITE" (OR APPROVED EQUAL REFLECTIVE FACE).

GREEN REVERSED SCREENED BACKGROUND WITH SILVER COPY ON BOTH SIDES, UPPER CASE LETTERING ONLY.

NOTES:

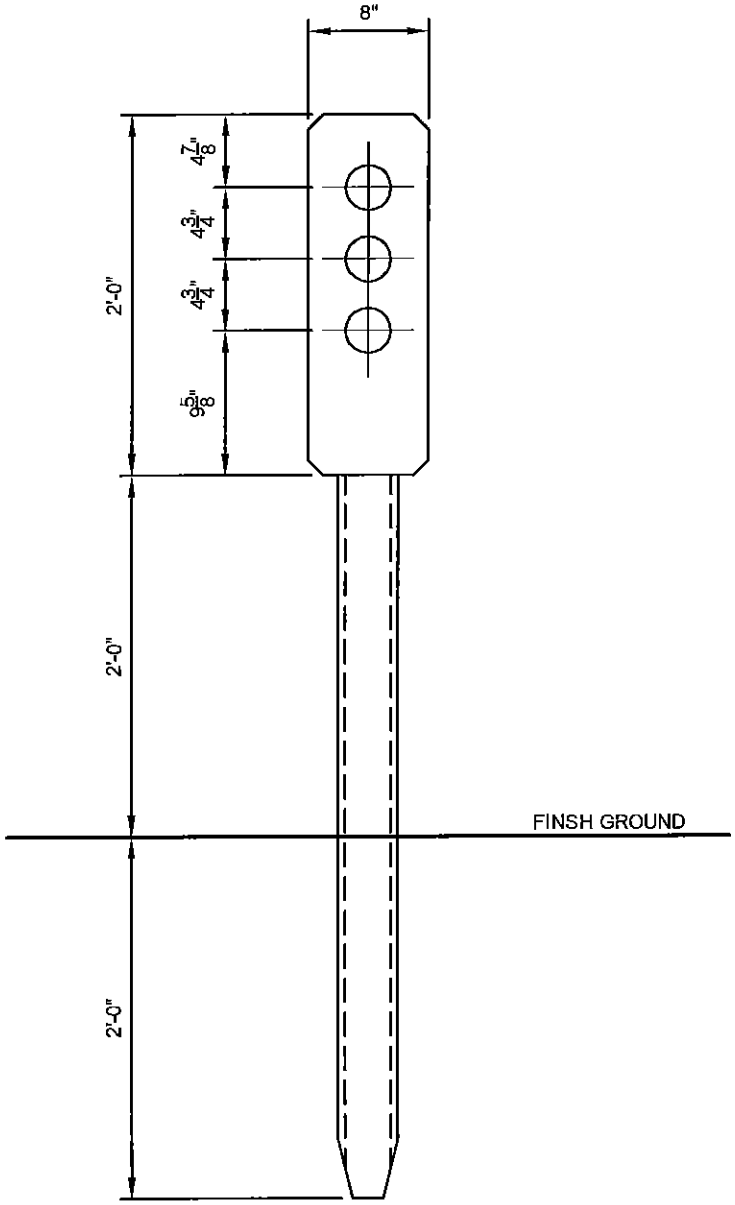
1. STREET SIGNS SHALL BE PLACED ON LIGHT STANDARD WHENEVER POSSIBLE.
2. STREET SIGN SHALL BE PLACED ON STOP SIGN TOP IF NO LIGHT STANDARD IS AVAILABLE.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

STREET SIGN

CITY ENGINEER - WILLIAM F. KULL

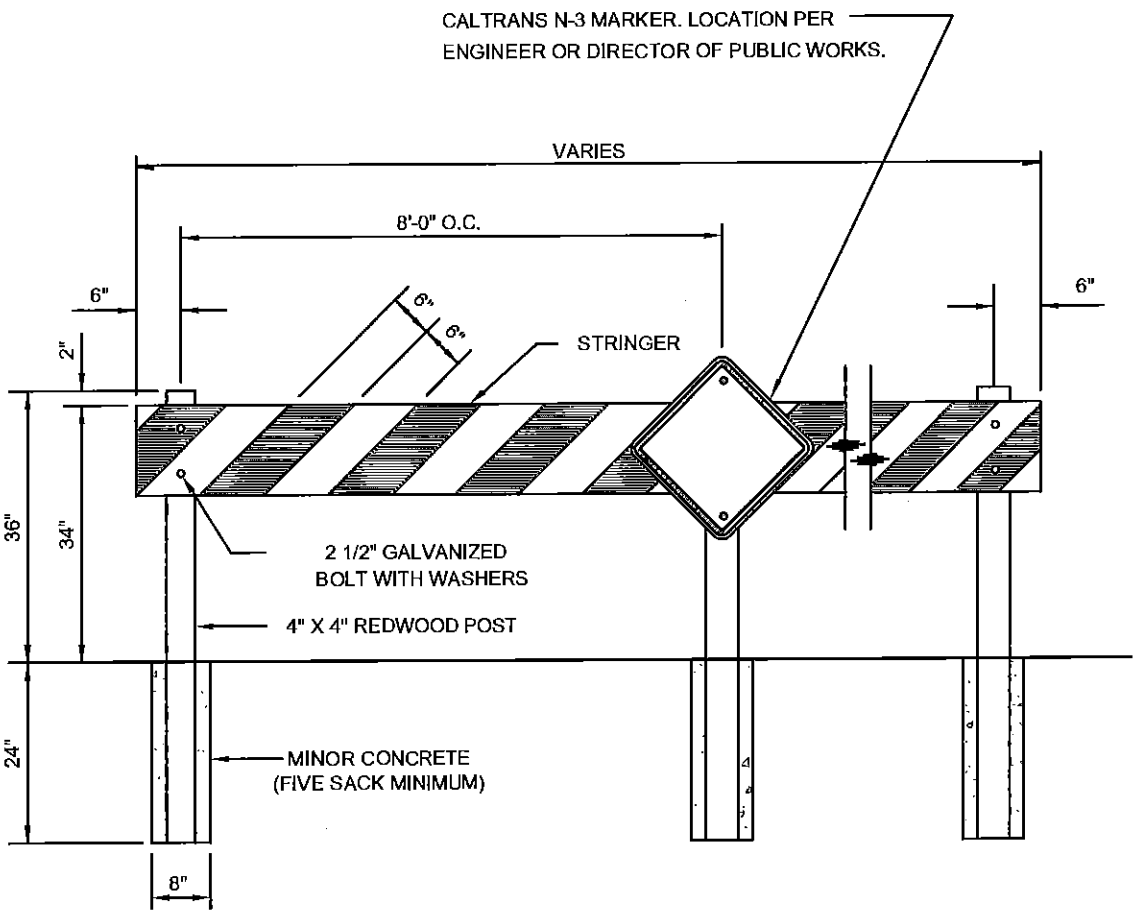
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	9/28/15	NTS	___-___-15	203
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 203.DWG		



NOTES:

1. CONFORMS TO STATE STANDARD
2. SPACING SHALL BE AT 5' INTERVALS OR AS REQUIRED BY ENGINEER / DIRECTOR
3. STANDARD REFLECTOR SHALL BE CONSTRUCTED IF HIGH IMPACT PLASTIC.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			STANDARD REFLECTOR PADDLE BOARD	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 9/28/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 204
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 204.DWG		



NOTES:

1. STRINGER TO BE 2" X 12" DOUGLAS FIR WITH ALTERNATING WHITE AND REFLECTIVE ORANGE TAPE (CODIT OR EQUAL), AND POST TO BE 5' X 4' REDWOOD AND PAINTED WHITE.
2. ALIGNMENT TO BE DETERMINED BY THE CITY OF RIVERBANK.
3. STRINGER TO BE KILN DRIED LUMBER REQUIRED.
4. IF STRINGER JOINTS ARE BETWEEN POSTS, THERE WILL BE 4" X 10" X 1/4" STEEL STRAP INSTALLED.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

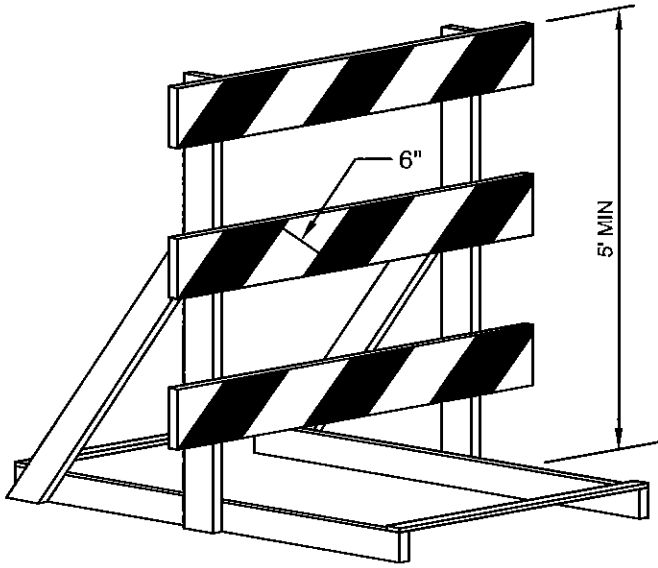
BARRICADES

CITY ENGINEER - WILLIAM F. KULL

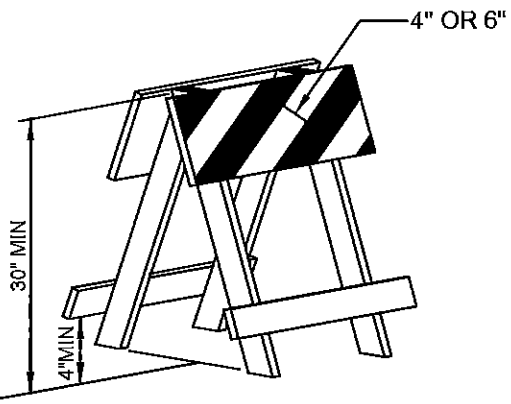
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	9/28/15	NTS	__-__-15	205
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 205.DWG		

BARRICADE AND PORTABLE FLASHER SUPPORT CHARACTERISTICS

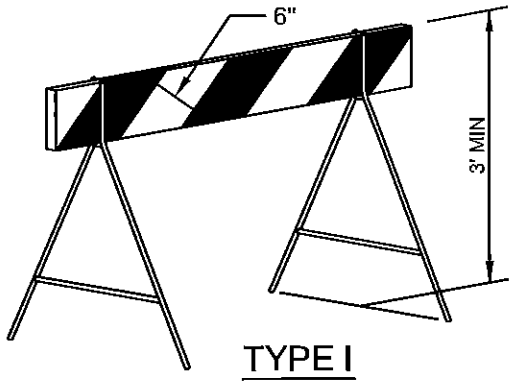
TYPE	I	II	III	PORTABLE FLASHER SUPPORT
LENGTH OF RAIL	2' MIN	32" - 4'	3' MIN	31" MAX
WIDTH OF STRIPE	6"	6"	6"	4" OR 6"
WIDTH OF RAIL	8" - 12"	8" - 12"	8" - 12"	TOP - 8" TO 12" BOTTOM - 4" MIN
HEIGHT	3' MIN	3' MIN	5' MIN	30" MIN
NUMBER OF RAIL FACES REFLECTORIZED	2	4	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS	2 IF TOP RAIL IS 12"WIDE 4 IF TOP RAIL IS LESS THAN 12" WIDE



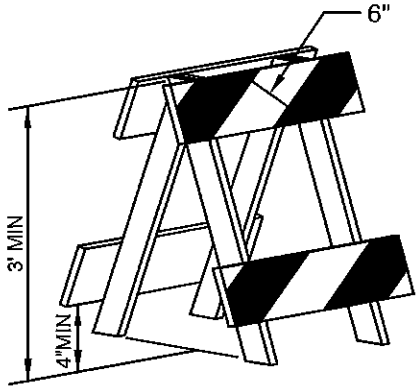
TYPE III



PORTABLE FLASHER SUPPORT



TYPE I



TYPE II

NOTES:

1. IF THE TOP BOARD OF A PORTABLE FLASHER SUPPORT IS LESS THAN 12" WIDE, THE BOTTOM BOARD SHALL BE 8" WIDE, STRIPED, AND REFLECTORIZED.

2. REFLECTORS AS REQUIRED BY THE CITY ENGINEER OR DIRECTOR OF PUBLIC WORKS.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

BARRICADES

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	9/28/15	NTS	___-___-15	206
REVISIONS: NONE	SECTION: SAFETY	DRAWING NAME: 206.DWG		

City of Riverbank
DESIGN SPECIFICATIONS

STREETS

SECTION 3 – STREETS

3.100 Specifications

3.101 General

Street improvements in the public right of way shall be constructed by the Developer or City Contractor to conform to these Standards.

Only a Developer or City Contractor with an appropriate license and required insurance may perform the work described herein.

The Developer shall improve all existing streets bordering on his development.

Any street improvement damaged by the Developer or City Contractor shall be repaired by the Developer or City Contractor as required by the City Engineer.

3.102 Geometric Design

The street widths shall conform to Drawing Nos. 3-A, 3-B, 3-C, 3-D, 3-E, and 3-F. Cul-de-sac and knuckle design shall conform to Drawing Nos. 3-G, 3-H, 3-1, and 3-J.

The gutter slope shall not be less than 0.20% without the approval of the City Engineer and the Director of Public Works.

The street cross slope grades shall be 2% on all new streets. Where matching existing pavement, cross slopes shall be 2% minimum and 4% maximum, unless approved by the City Engineer and Director of Public Works.

The streets shall be designed to collect storm water at intersections whenever possible. Horizontal curves shall conform to the following criteria:

A. Maximum length of street without horizontal curvature shall be 500 Feet.
B. Minimum horizontal curve radii shall be 300 feet on centerline

Design Speed (mph)	Minimum Radius of Curve (ft)
30 or less	300
40	550
50	850

C. Street intersections shall be as near right angles as practical. In no case shall the angle of intersection be less than 70 degrees.

3.103 Structural Section

The R-value design method used by the California Department of Transportation shall be used as a basis to determine the structural section of the streets. Whenever the pavement calculations produce more than 8" of base rock, a safety factor may be used at the option of the City Engineer.

The Traffic Index (T.I.) shall be determined from traffic counts where they are available, or as determined by the City Engineer. A 20-year design life shall be used.

Where sufficient information is not available to determine the structural section using the above data, the following minimums may be used with the approval of the City Engineer:

Street		Aggregate Base (inches)	Asphalt Concrete (Inches)
Major	9	8	3
Collector	7	6	3
Industrial	8	6	3
Residential	6	6	2
Cul-de-sac	5	6	2

The City Engineer shall require the Developer to collect data for the R-value design method. All soil samples shall be collected in the presence of the City Inspector.

3.104 Clearing

Clearing and grubbing shall be done in accordance with Sections 16-1.01, 16-1.02, and 16-1.03 of the State Standards.

3.105 Earthwork

Earthwork shall be performed as set forth in Sections 19-1.01, 19-2.01, and 19-2.05 of the State Standards and the City of Riverbank Grading Ordinance, except that it shall further include the shaping of ground in the park strip and fill areas.

All embankment or fill materials shall be placed and compacted in accordance with Section 19-5.02, 19-5.03 and 19-5.04 of the State Standards, except that the City Contractor or Developer will only be required to strip the original ground of vegetation and compact the top 6 inches of original ground in place to not less than 95% relative compaction in accordance with Test Methods No. California 216 or 231-1978, a nuclear density-moisture gauge, before the fill is placed.

The Developer or City Contractor shall obtain a disposal site for all of the roadway excavation not used on the job site. The Developer or City Contractor shall obtain and file with the City a letter showing permission and conditions for use of the disposal site. The Developer or City Contractor shall control dust at the disposal site and keep any streets used free of excess material.

3.106 Subgrade

All clods shall be broken and all rocks, hard ribs, and earth lumps over 2-1/2 inches in greatest dimension and other unsuitable material such as roots shall be removed from the job site. The subgrade material shall be compacted to a firm, stable condition with approved equipment until a relative compaction of not less than 95% has been obtained to a depth of 6 inches. Special provisions may require a greater depth for 95% compaction.

All street subgrades shall be tested by a geotechnical engineer at a maximum interval of 300 feet. All street testing shall be at the Developer's expense prior to final acceptance by the City (see Section 3-18).

The finished subgrade shall not vary more than 0.05 foot above or below the planned grade at any point. Care shall be taken to obtain compaction around existing manholes and water gate valves.

Relative compaction shall be tested by the City Engineer in accordance with Test Methods No. California 216 or 231-1978.

3.107 Aggregate Base

The aggregate base material shall conform to the requirements of Section 26-1.01, 26-1.028, 26-1.03, 26-1.035, 26-1.04, 26-1.048, and 26-1.05 of the State Standards for 3/4 inch maximum combined grading.

An exception to Section 26-1.04 shall be that a single layer up to 0.7 foot shall be permitted.

Motor grader shall be permitted to spread and shape the aggregate base materials. The aggregate base shall be maintained in a well mixed optimum moisture condition.

All aggregate bases shall be tested by a geotechnical engineer at a maximum interval of 300 feet. All street testing shall be at the developer's expense prior to final acceptance by the City Council (see Section 3-18).

3.108 Prime Coat

A liquid asphalt prime coat shall be applied in conformance with Section 39-4.02 of the State Standards. The liquid asphalt prime coat grade shall be approved by the City Engineer.

When directed by the City Engineer, a sand cover shall be spread over the prime coat at approaches and side streets in order to maintain use. Before through traffic is permitted on the prime coat, all wet spots shall be covered with sand. All loose sand shall be completely removed from the treated areas before the placing of any surfacing materials.

If, in the opinion of the City Engineer, conditions are such that this work is not feasible, the prime coat may be deleted.

3.109 Asphalt Concrete

The asphalt concrete shall conform to the requirements of Sections 39-2, 39-3 and 39-6.03 of the State Standards. Asphalt concrete used in the base course shall be Type B with 3/4 inch medium grading. Asphalt concrete used in the final course shall be Type B as follows:

Major, Collector and Industrial Streets - 3/4 inch, medium grading Residential Streets - 1/2 inch, maximum medium grading.

Aggregate for 1 inch overlays shall as specified in the Special Provisions for each project.

The asphalt grade shall be AR 4000 as specified by the latest revision of the State Standards unless otherwise approved by the City Engineer.

A. The base course may be placed in any reasonable number of passes and widths except that the center line of the street shall be either on the edge of the center pass or in the center of one pass. The base course may be placed with a motor grader.

   The spreading of the base course shall be as required for Class 2 aggregate base in Section 26-1.04 of the State Standards.

B. The final surface course shall be paved in the number of passes approved by the City Engineer, starting from the curb and paving toward the center line.

C. When paving the final surfacing course, there shall be a minimum to two rakers and one screed man per paving machine.

D. Rolling equipment shall conform to the requirements of Section 39-6.03 of the State Standards. Vibratory rollers may be approved by the City Engineer.

E. The surface course shall be laid with a paving machine except when permitted otherwise by the City Engineer in difficult areas.

F. Paving machines shall have automatic joint control.

G. Extensions or wings shall not be permitted except as approved by the City Engineer.

H. Temperature requirements shall conform to the requirements of Section 39-6.01 of the State Standards.

I. Deep strength or full depth asphalt concrete shall conform to the Special Provisions of the particular project.

Excerpt from Caltrans Standards 39-6 - Spreading and Compacting:

General Requirements- 39-6.01: Unless lower temperatures are directed by the Engineer, all mixtures, except open graded asphalt concrete, shall be spread and the first coverage of initial or breakdown compaction shall be performed when the temperature of the mixture is not less than 250 degrees F., and all breakdown compaction shall be completed before the temperature of the mixture drops below 200 degrees F. Open graded asphalt concrete' shall be

spread at a temperature of not less than 200 degrees F., and not more than 250 degrees F., measured in the hopper of the paving machine. Open graded asphalt concrete shall be compacted as soon as possible after spreading.
Type A and Type B asphalt shall be placed only when the atmospheric temperature is above 50 degrees F. Asphalt concrete base shall be placed only when the atmospheric temperature is above 40 degrees F.

Open graded asphalt concrete shall be placed only when the atmospheric temperature is above 50 degrees F., and where placement is to be on bridges or other structures, when surface temperature of such structure is above 60 degrees F.

Asphalt concrete and asphalt concrete base shall not be placed when the underlying layer or surface is frozen, or when, in the opinion of the Engineer, weather conditions will prevent the proper handling or finishing.

3.110 Asphalt Paint Binder

As asphalt paint binder shall be applied in conformance with Section 39-4.02 of the State Standards to all existing vertical surfaces and construction joints prior to placing asphalt concrete.

3.111 Header Boards

Header Boards shall be constructed to protect the edges of the asphalt concrete where streets are partially complete

The Boards shall be 2" X 6" dimensioned of appropriate redwood or treated Douglas fir.

3.112 Curbs and Sidewalks

Curbs and sidewalks shall be constructed and repaired in accordance with the Drawings of this section and the requirements of City of Riverbank Municipal Code.

Concrete delivery tickets with weighmasters' certificates or certificates of compliance may be required by the City Engineer.

The construction shall conform to Sections 73-1.02, 73-1 .03, 73-1 .04, 73-1.05 and 73-1.06, of the State Standards, except for references to payments. Curbs shall be measured continuous through approaches. Approaches shall be measured to the "back of curb line", when payment is made by the square foot.

Special surface finishes or features such as exposed aggregate, color additives and redwood dividers require the written approval of the City Engineer.

Sidewalk shall have a cross slope toward the curb face of 1/4 inch per foot minimum to 1/2 inch per foot maximum.

Traffic parking and street name signs on city streets which require relocations because of the work will be relocated by the City but two working days advance notice is required. Traffic signs on state highways and stop signs on streets entering state highways must be relocated by Caltrans. Utility poles which require relocation because of the work shall be relocated by the utility company owning the poles. The Developer or City Contractor shall be responsible for coordinating this work, for protecting the work against damage, and for insuring the safety of the public.

Sidewalks which are required against the property line shall be placed 1 inch from the property line to provide space for lot corner monuments.

A gutter drainage test will be performed as per the Engineer and Director of Public Works.

3.113 Approaches

Approaches shall be constructed and repaired in accordance with the Drawing Nos. 3-K, 3-L, 3-M, and 3-N, and the Riverbank Municipal Code.

The construction shall conform to Sections 73-1.02, 73-1.03, 73-1.04, 73-1.05 and 73- 1.06, of the State Standards, except for references to payments. Curbs shall be measured continuous through approaches. Approaches shall be measured to the "back of the curb line" when payment is made by the square foot.

The total width of approaches serving a parcel of land shall not exceed the following limits:

A. For frontages having a vertical curb, the limit shall be 40% of the street frontage of the property or 36 feet, whichever is greater. In the case of corner lots, the limitation shall apply to each street frontage.

The minimum distance between approaches serving the same parcel of land shall be 20 feet. The minimum distance between approaches on adjacent parcels shall be 10 feet.

Approaches shall be located so they will not interfere with intersecting sidewalks, traffic signals, light poles, fire hydrants, or other public improvements unless specific approval is given by the City Engineer and the necessary adjustments to the improvements are accomplished without cost to the City.

3.114 Alleys

Alley approach driveway shall be constructed in accordance with these Standards and Drawing No. 3-K.

The concrete gutter for alley approach driveway shall be constructed as shown on Drawing No. 3-M and the concrete shall be as required in Section 1.8 of these Standards.

The subgrade shall be constructed as required in Section 3.6 of these Standards.

The aggregate base for the alley approach driveway shall be constructed as required in Section 3.7 of these Standards.

3.115 Valley Gutters

Valley Gutters in street right-of-ways are not allowed in the City of Riverbank.

3.116 Wheelchair Ramps

Wheelchair ramps shall be constructed at all intersections as shown on Drawing Nos. 3- AA through 3-HH.

The ramps must comply with Section 19956.5 of the State Health and Safety Code.

3.117 Raising Utility Boxes

Utility boxes and manholes shall be raised by the Developer or City Contractor to conform to these Standards. Utility boxes include, but are not limited to, sewer manholes, water valves, storm drain manholes, and survey monuments.

Where existing utility boxes are in the work area, their frames and covers shall be removed before subgrade compaction is made and a cover shall be placed to prevent dirt and loose material from entering the facility.

Base and surface material shall be placed over the covers, after which the frames and covers shall be set to finish grade as shown in these Specifications.

3.118 Testing

Testing of materials supplied for the work required in this section shall be performed by the City on City contract projects. On all other projects the testing of material shall be performed by the Developer and submitted to the City Engineer for approval.

Where approved by the City Engineer, certificates of compliance may be submitted in lieu of actual tests, as outlined below:

A. 95% Compaction of subgrade at 300 foot maximum testing intervals.
B. 95% Compaction of base at 300 foot maximum testing intervals.
C. 90% Compaction of trenching at two feet of depth at 300 foot maximum intervals.
D. 95% Compaction of trenching at less than two feet of depth {subgrade} at 300 foot maximum intervals.
E. 90% Compaction on all "engineered fills" in excess of one foot of fill.

Compaction and in-place moisture may be determined by use of a nuclear density moisture gauge.

3.119 Inspection

The Developer or City Contractor shall request inspections as follows: Before backfilling of any utilities lines.

A. Completion of subgrade preparation
B. Completion of form installation
C. During placement of concrete
D. During placement of aggregate base
E. Completion of aggregate base grade
F. During placement of asphalt concrete
G. Completion of rock well drilling before placement of drain rock
H. Completion of final clean up.

Other inspections to cover special items shall be requested by the Developer or City Contractor as needed.

3.120 Street Monuments

Street monuments shall be placed on the centerline of each street at the following locations:

A. Intersections
B. Beginnings and ends of curves
C. Changes of directions
D. Other points deemed necessary by the City Engineer

Final Maps or recorded maps shall show where monuments are to be set. Monuments when deemed by the City Engineer will be of the Standard Well Type as shown on detail No. 3-W.

The monuments shall consist of durable new material. They shall be 1 inch O.D. x 24 inch long galvanized iron pipe or approved equal. The monument shall be tagged as required by the State of California Land Surveyor's Act.

3.121 Boundary Monuments

Boundary monuments shall be placed on the exterior boundary of the subdivision at the following locations:

A. Changes of direction
B. Beginnings and ends of curves
C. Other points deemed necessary by the City Engineer.

Boundary monuments shall be placed in the same manner and of the same material as street monuments except that in unpaved areas the top shall be at least 1 foot below the finished grade.

3.122 Block Corner Monuments

Corner monuments shall be placed at all Block corners and alley corners.

Block corner monuments shall be placed in the same manner and of the same material as street monuments except the top shall be set at least 1 foot below the ground surface.

3.123 Lot Corner Monuments

Lot corner monuments shall be placed in the same manner and of the same material as street monuments except that they may be 3/4 inch O.D. and, in unpaved areas, the top shall be at least 1 foot below the finished grade.

The basic criteria for the location shall be as follows:

A. Lots shall have a monument at each corner except as otherwise provided by this section.

B. Lots that are created with zero back or side yards may have lot corners under building foundations deleted except those corners that are Block or alley corners.

C. Lots that are created as a part of townhouse or condominium development where land is to be owned in fee by the individual lot owner shall be monumented using a minimum of 4 monuments for each contiguous group of lots. Contiguous groups of lots containing 10 lots shall have additional monuments as required by the City Engineer.

D. Condominium airspace developments where land is not to be owned in fee by the individual lot owner shall have the exterior boundary monumented as required by Section 3.21 Boundary Monuments.

3.124 Concrete

Portland cement concrete, unless otherwise specified in the Special Provisions, shall be in accordance with Section 1.8 of these Specifications.

3.125 All Weather Roads

Prior to issuing a building permit, the City of Riverbank Building Inspection Department shall receive written confirmation from the City Public Works Department and the Riverbank Fire Protection District that all streets within the development meet the "All Weather Road" standards.

To be considered an "All Weather Road" the following criteria shall be met:

1. All curb, gutter, and sidewalk shall be installed in accordance with project plans and specifications.

2. Fire hydrants and water systems shall be pressure tested, bacteriological tested and approved. Blank plates and jumpers shall be removed to provide an approved water supply capable of supplying the required fire flow for fire protection to all premises upon which buildings or portions of buildings are hereafter constructed, in accordance with the current "Uniform Fire Code."

3. Sewer and storm drain system shall be installed, tested, and approved.

4. All other utilities (e.g. electricity, gas, cable, television, and telephone) shall be installed within the appropriate public utilities easement adjacent to the street right- of-way.

5. The street section shall meet the following requirements.

   A. The subgrade shall have a 95% compaction based on appropriate testing.
   B. The AB rock grade shall have a 95% compaction based on appropriate testing.
   C. The AC grade shall be at least 0.10 foot.

6. When utilities are placed in existing roadways, cold mix will be used to secure trenches until roadway is paved. This will be done in order to make roadways safe.

The City Engineer or Fire Chief shall have authority to terminate the construction at any time if any of the aforementioned conditions are violated.

City of Riverbank
STANDARD PLANS

STREETS

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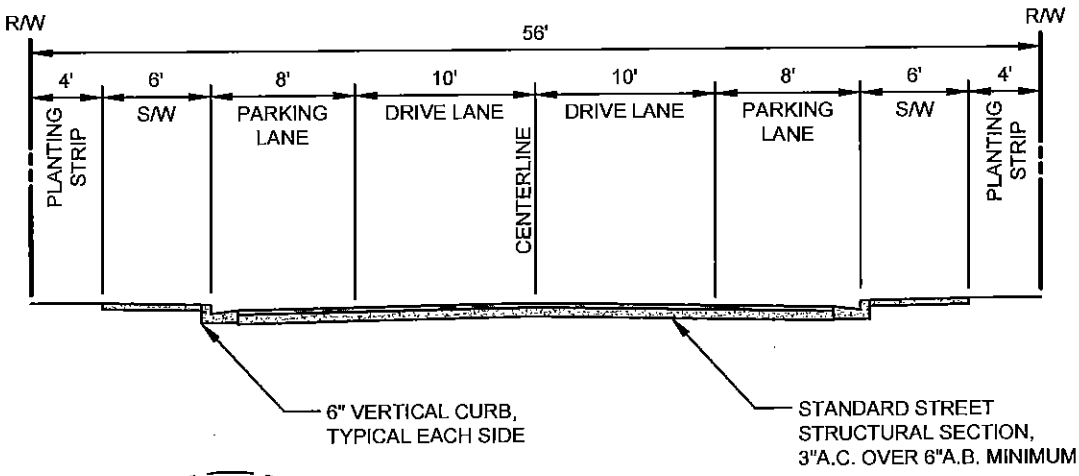
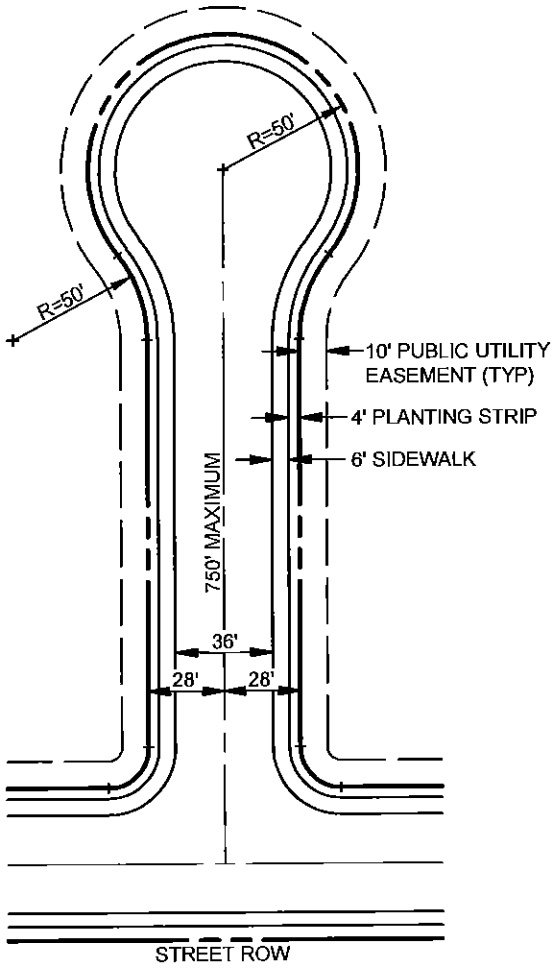




LEGEND:

P/S	PARKING STRIP
R	RADIUS
R/W	RIGHT OF WAY
S/W	SIDEWALK

NOTES:

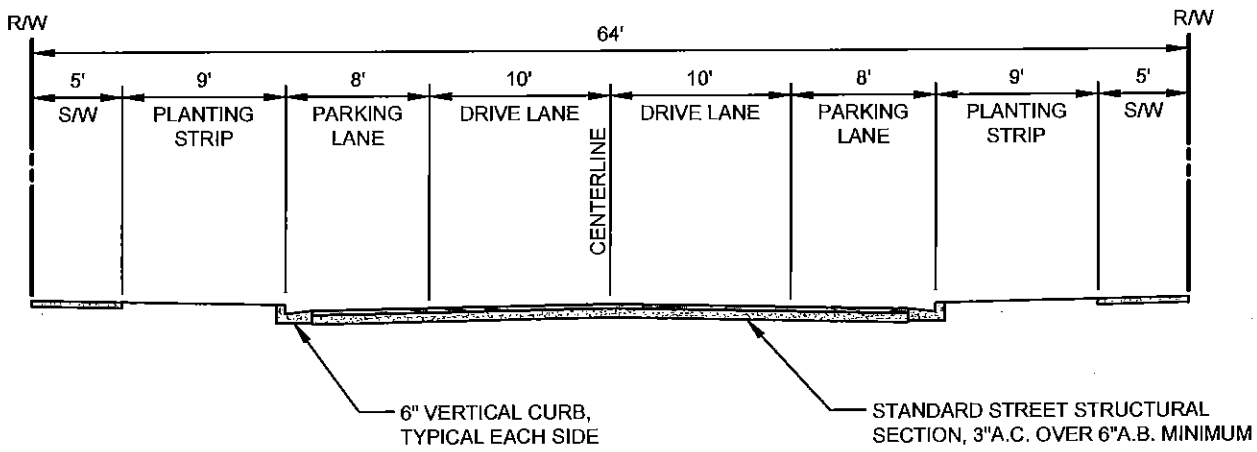
1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
56' R.O.W. - CUL-DE-SAC
RESIDENTIAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	301
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 301.DWG		



64' R.O.W. - Residential - Typical Street

LEGEND:

P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

NOTES:

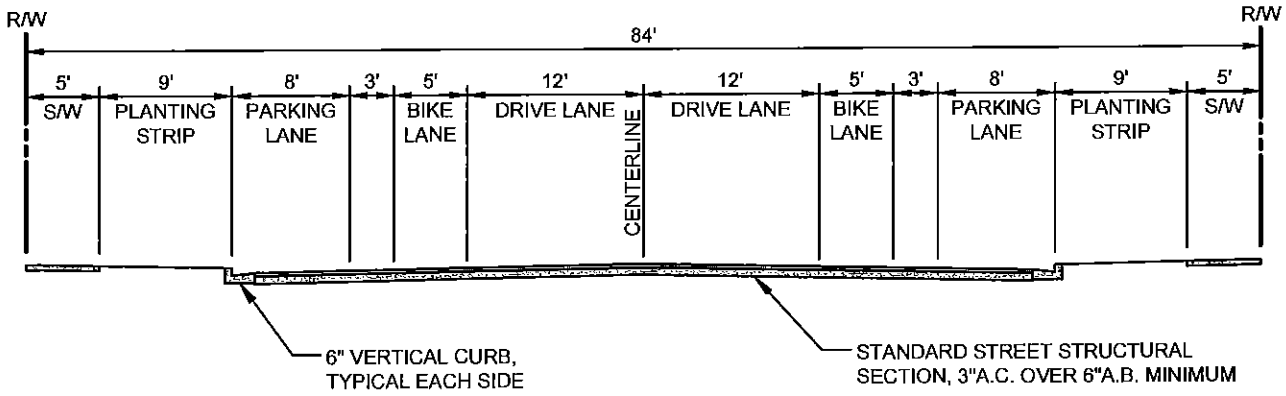
1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
64' R.O.W.
RESIDENTIAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	302
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 302.DWG		



84' R.O.W. - Residential - Typical Minor Collector

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

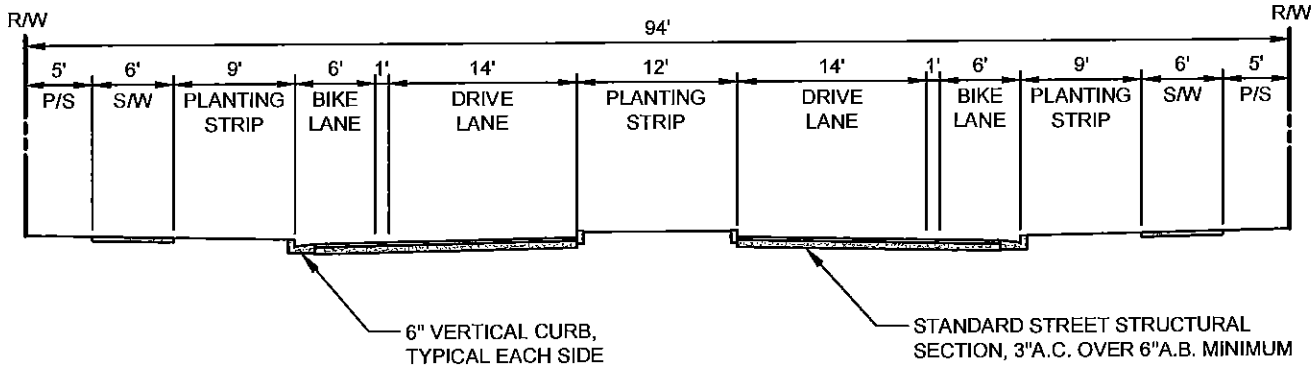
P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
84' R.O.W. - RESIDENTIAL
TYPICAL MINOR COLLECTOR

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	303
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 303.DWG		



94' R.O.W. - Typical Major Collector - Residential

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

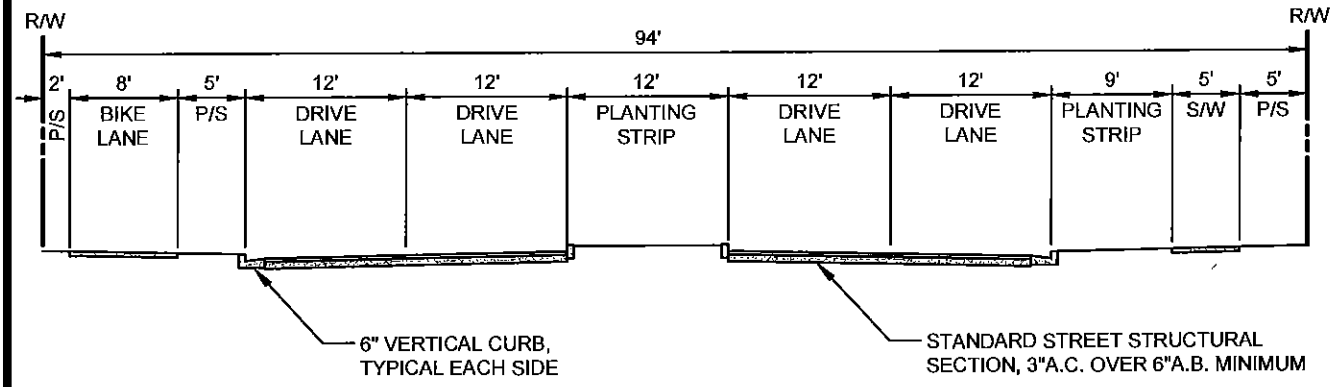
P/S	PARKING STRIP
R	RADIUS
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

Willm F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
94' R.O.W. - RESIDENTIAL MAJOR COLLECTOR

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	304
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 304.DWG		



94' R.O.W. - Patterson Road East of Claus

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

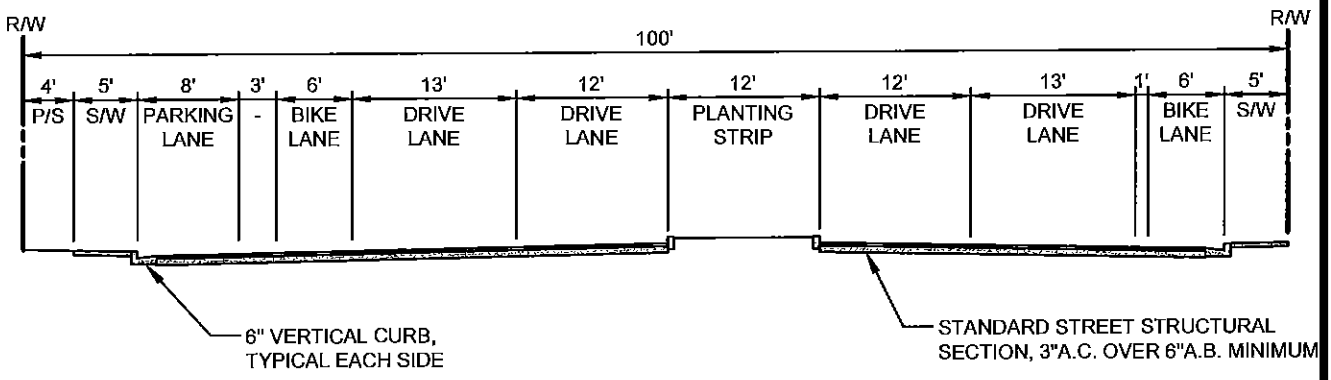
P/S	PARKING STRIP
R	RADIUS
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
94' R.O.W. - PATTERSON RD EAST OF CLAUS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	305
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 305.DWG		



100' R.O.W. - Claus Road North of California

LEGEND:

P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

NOTES:

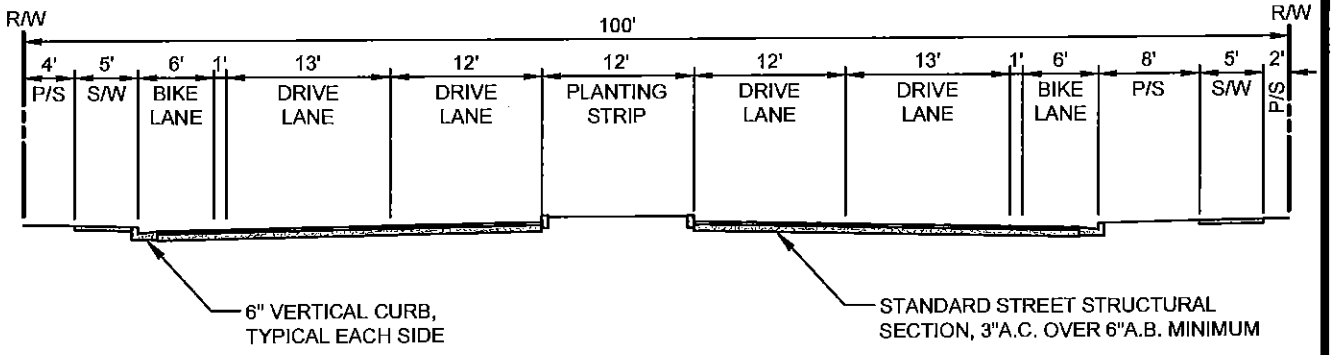
1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
100' R.O.W. - CLAUS ROAD NORTH OF CALIFORNIA

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	306
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 306.DWG		



100' R.O.W. - Claus Road South of California

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

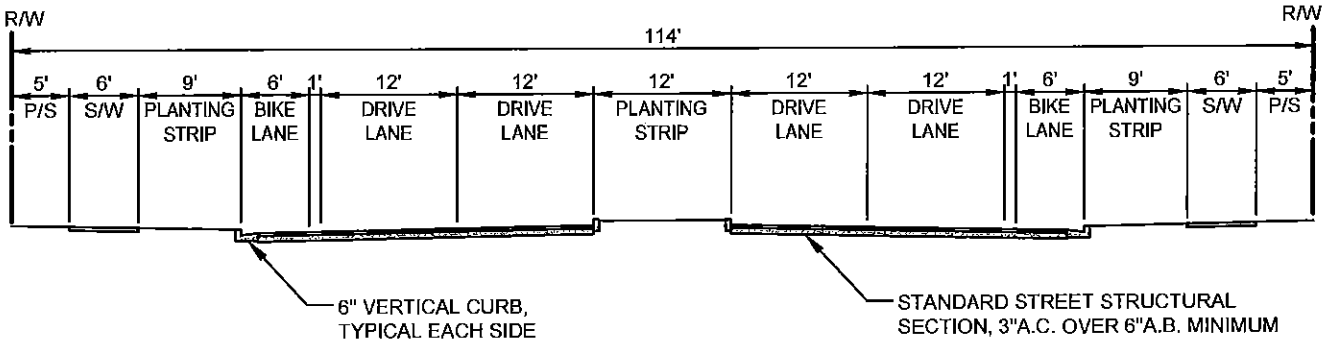
P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
100' R.O.W. - CLAUS ROAD SOUTH OF CALIFORNIA

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	307
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 307.DWG		



114' R.O.W. - Typical Major Collector

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

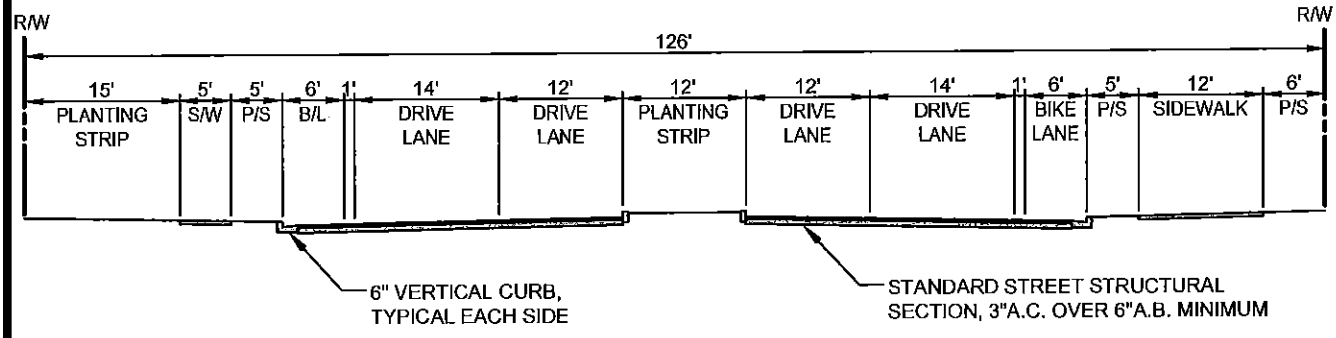
P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
114' R.O.W. - TYPICAL MAJOR COLLECTOR

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	308
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 308.DWG		



126' R.O.W. - Oakdale Rd South of Crawford Rd

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

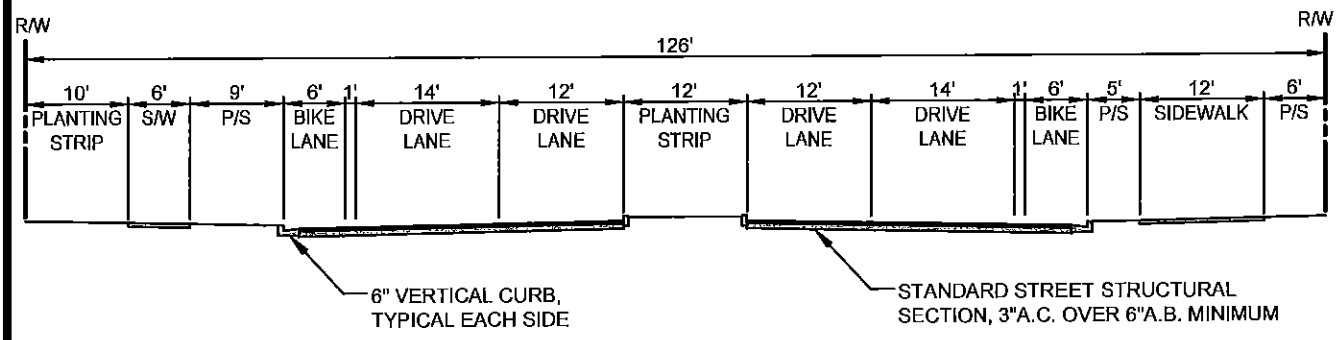
P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
126' R.O.W. - OAKDALE ROAD SOUTH OF CRAWFORD ROAD

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	309
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 309.DWG		



126' R.O.W. - Oakdale Rd South of Morrill Rd

NOTES:

1. FINISHED PAVING SHALL BE 3/8" HIGHER THAN LIP OF GUTTER EXCEPT WHERE PEDESTRIAN CROSSINGS ARE LOCATED, LIP WILL BE FLUSH.
2. PART WIDTH STREETS, DEAD END STREETS AND ALL PAVEMENT TRANSITIONS SHALL REQUIRE 2"x6" REDWOOD OR PRESSURE TREATED HEADERBOARD.

LEGEND:

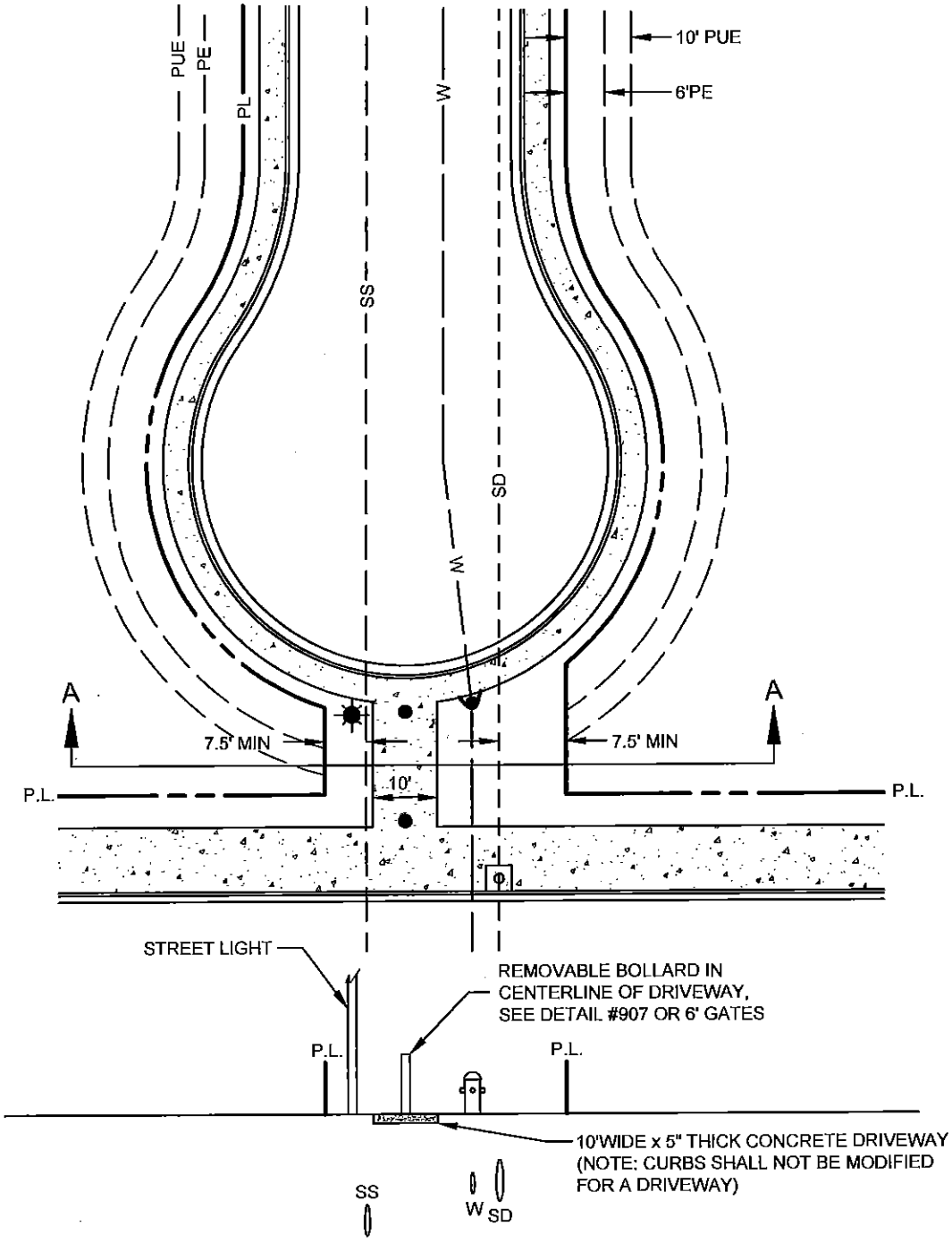
P/S	PARKING STRIP
R/W	RIGHT OF WAY
S/W	SIDEWALK

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

STREET SECTION
126' R.O.W. - OAKDALE ROAD SOUTH OF MORRILL ROAD

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	310
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 310.DWG		



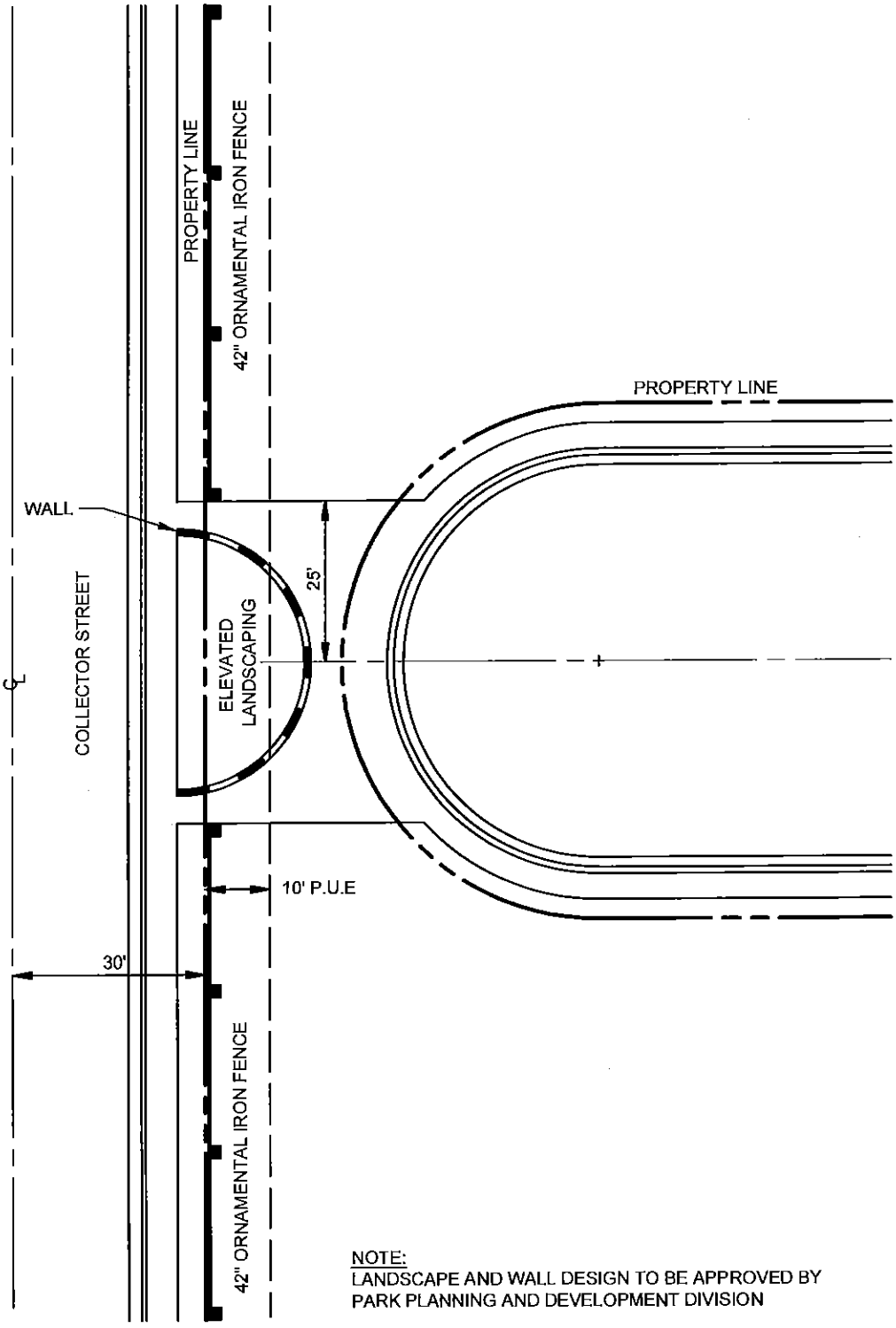
SECTION A-A
TYPICAL UTILITY SECTION

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

WALK THRU
CUL-DE-SAC SECTION

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	311
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 311.DWG		



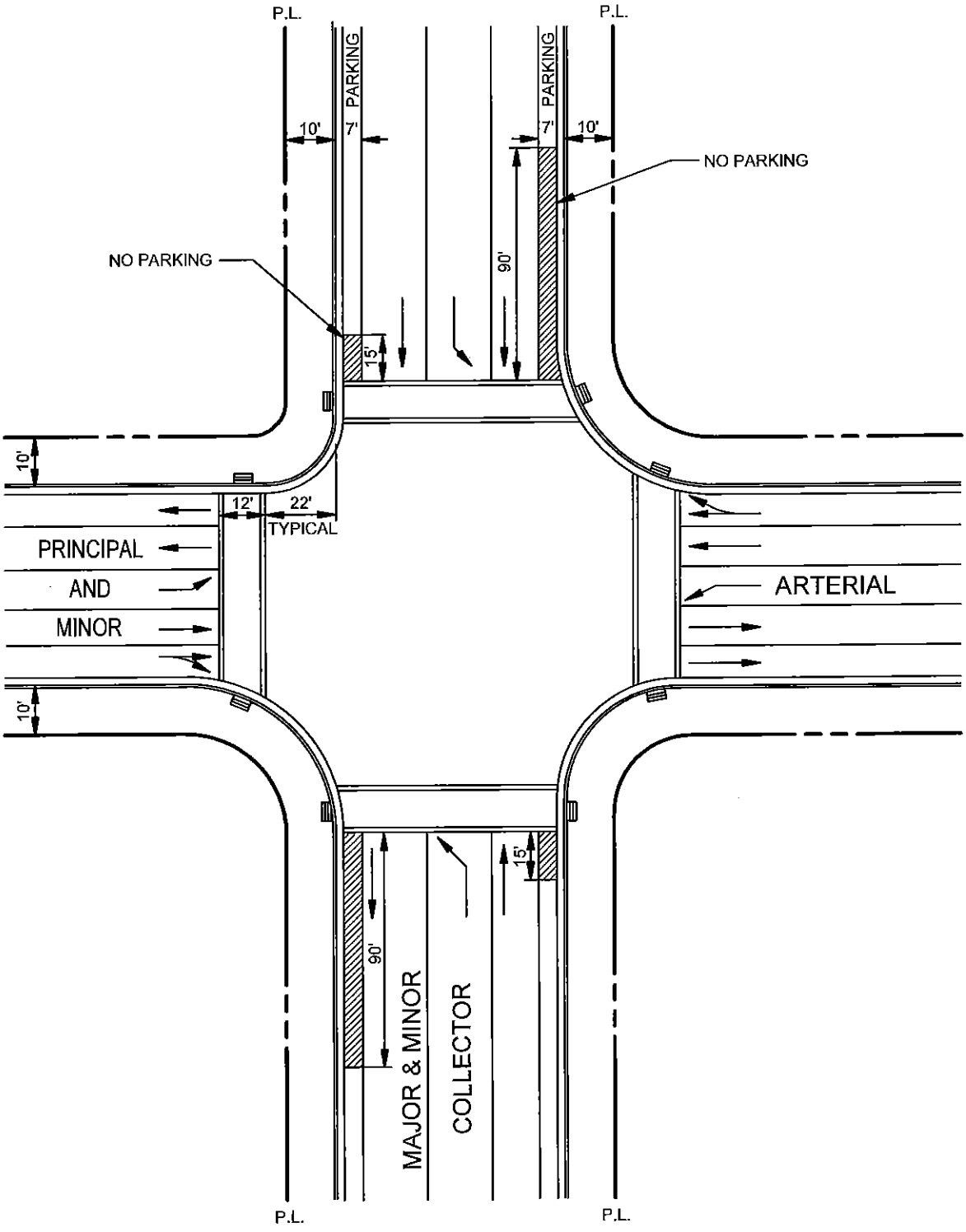
NOTE:
LANDSCAPE AND WALL DESIGN TO BE APPROVED BY PARK PLANNING AND DEVELOPMENT DIVISION

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

OPEN-ENDED CUL-DE-SAC

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	312
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	STREETS	312.DWG		

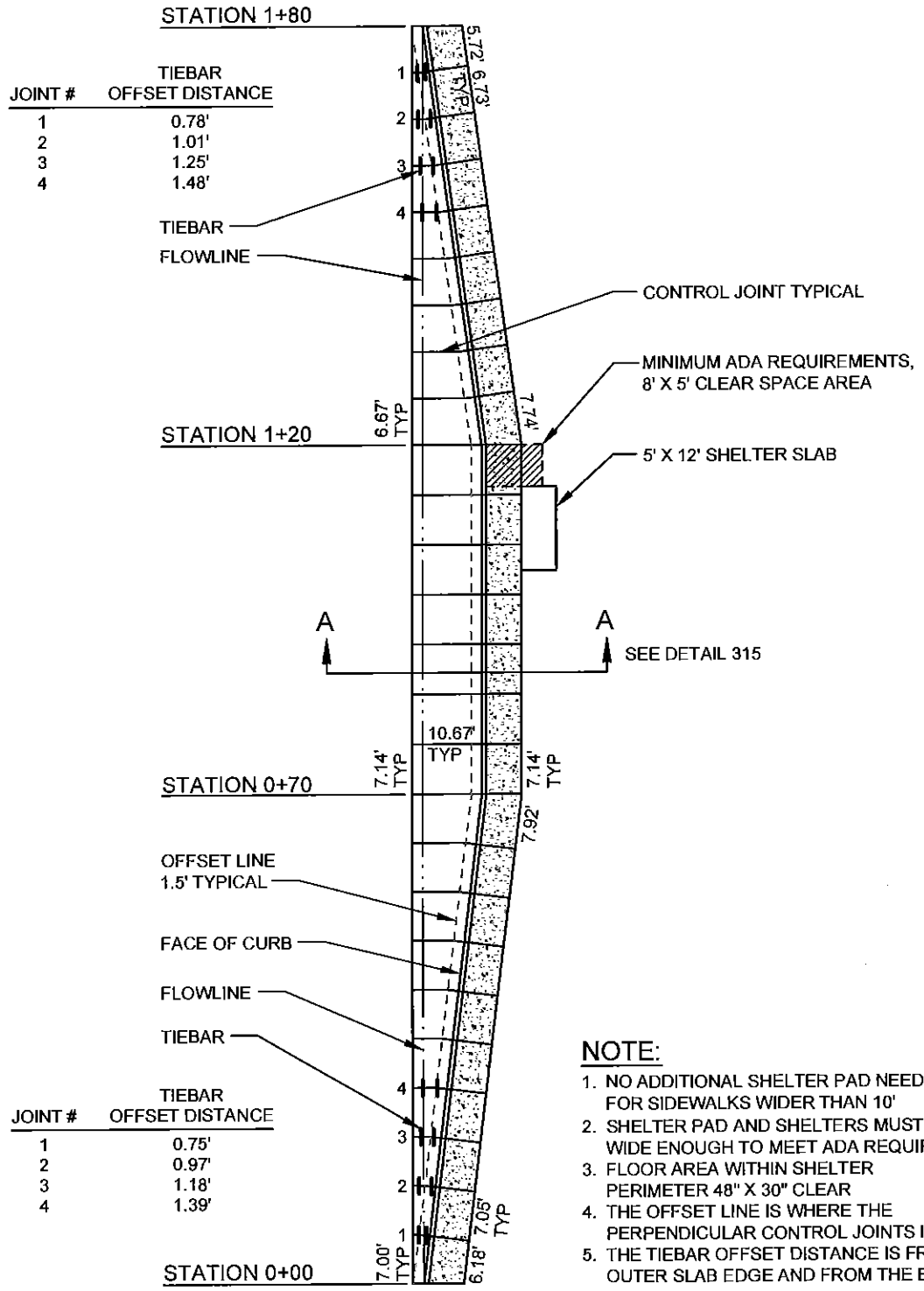


CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

NO-PARKING AREA COLLECTOR / ARTERIAL INTERSECTON

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	313
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 313.DWG		



NOTE:

1. NO ADDITIONAL SHELTER PAD NEEDED FOR SIDEWALKS WIDER THAN 10'
2. SHELTER PAD AND SHELTERS MUST BE WIDE ENOUGH TO MEET ADA REQUIREMENTS
3. FLOOR AREA WITHIN SHELTER PERIMETER 48" X 30" CLEAR
4. THE OFFSET LINE IS WHERE THE PERPENDICULAR CONTROL JOINTS INTERSECT
5. THE TIEBAR OFFSET DISTANCE IS FROM THE OUTER SLAB EDGE AND FROM THE BACK OF CURB

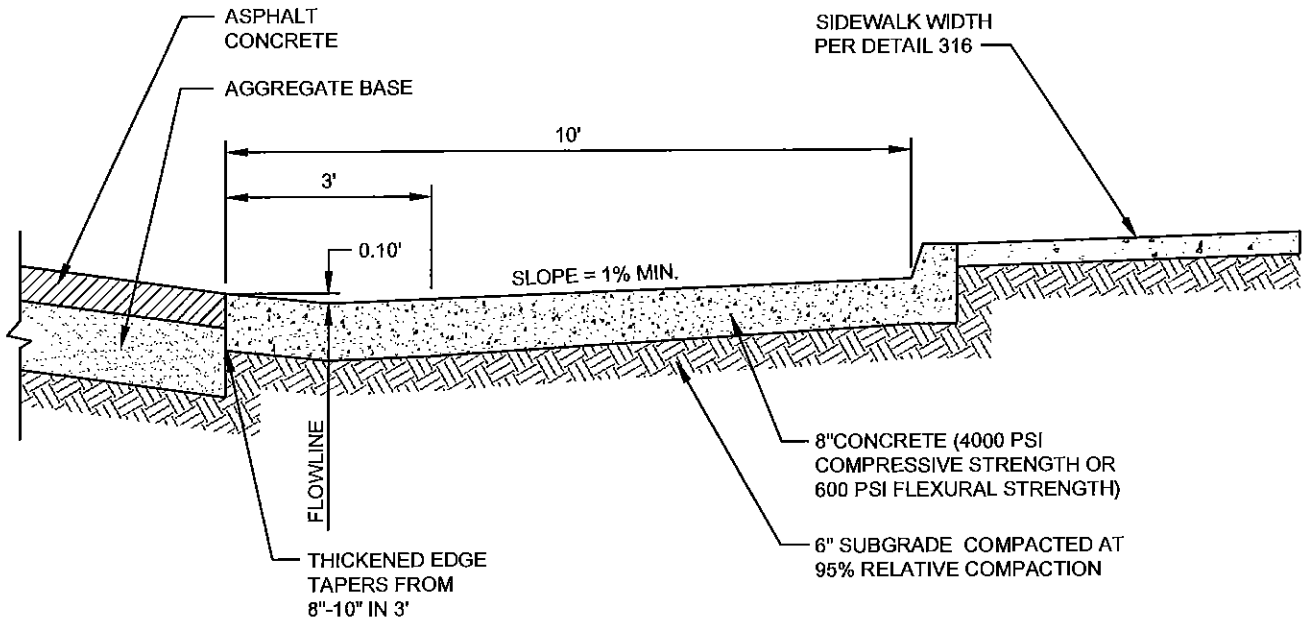
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

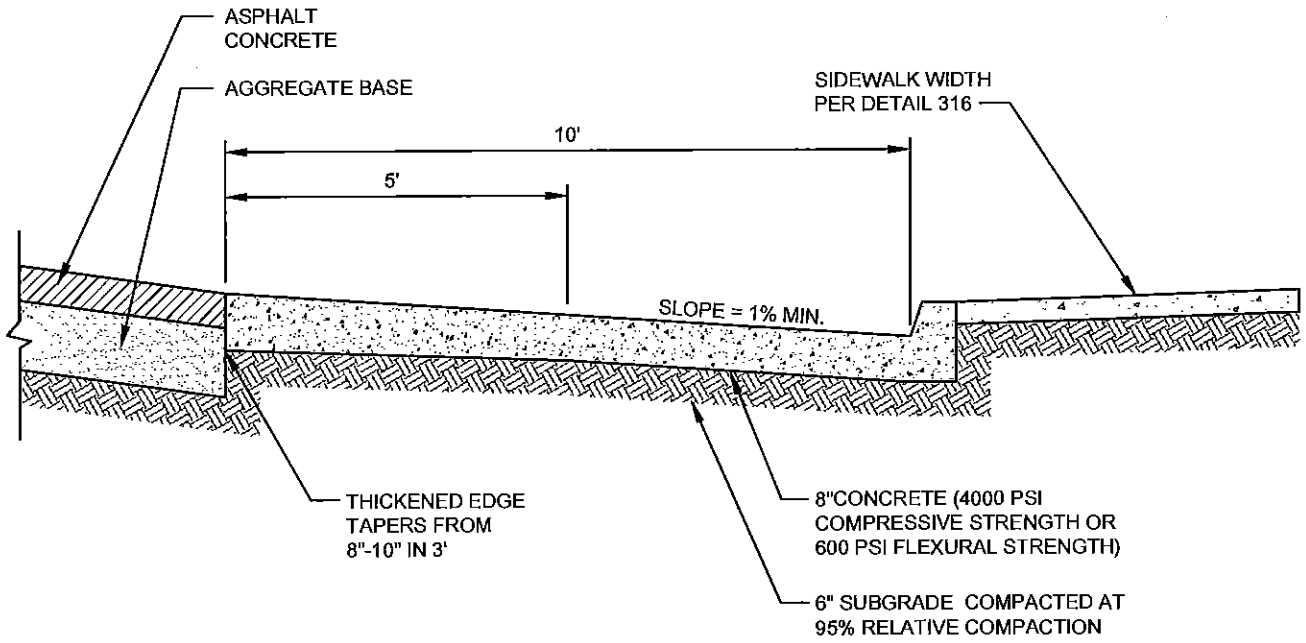
BUS TURNOUT

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	314
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 314.DWG		





SECTION A-A
TYPICAL BUS TURNOUTS

NOT TO SCALE

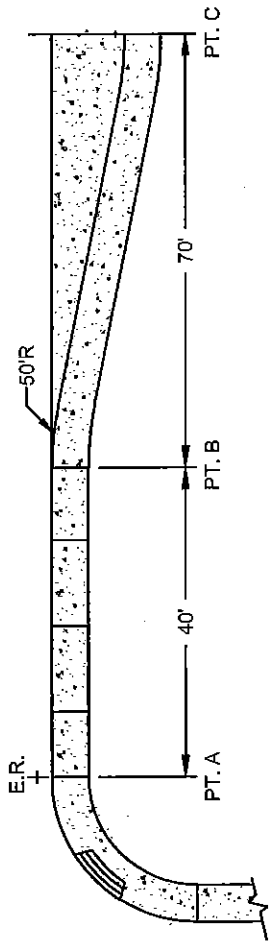
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

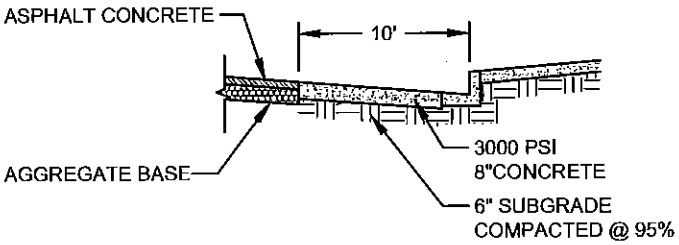
William F. Kull

CITY ENGINEER - WILLIAM F. KULL

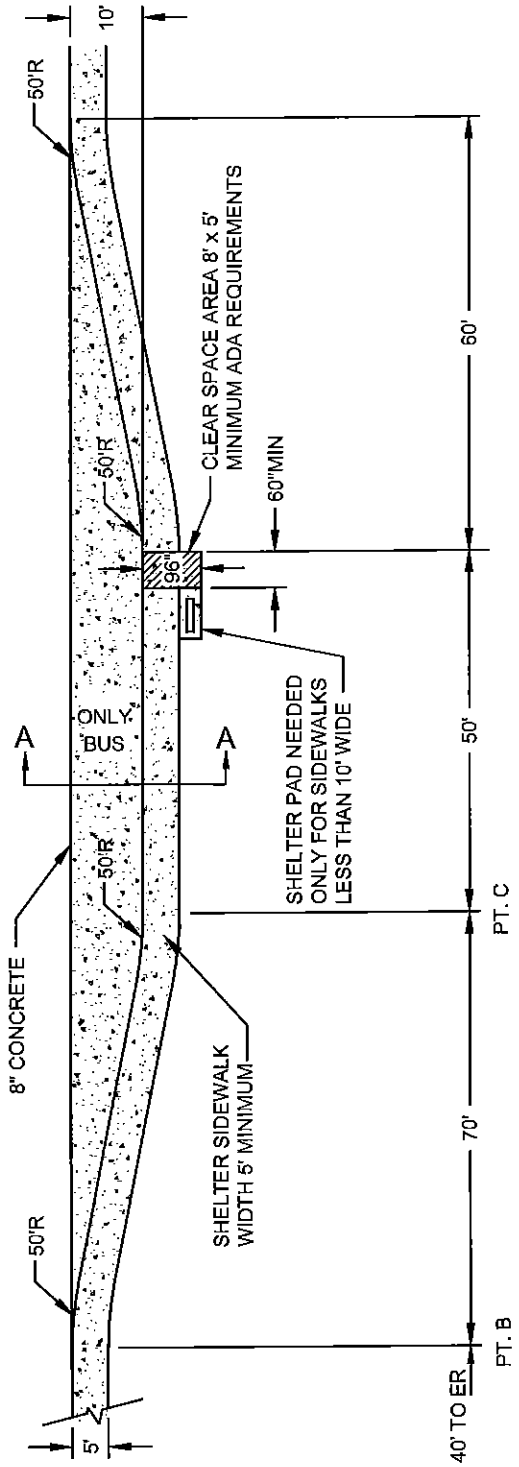
BUS TURNOUT

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	315
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 315.DWG		





SECTION A-A



NOTES:

1. NO ADDITIONAL SHELTER PAD NEEDED FOR SIDEWALKS WIDER THAN 10'
2. SHELTER PAD AND SHELTERS MUST BE WIDE ENOUGH TO MEET ADA REQUIREMENTS, 48"x30" CLEAR FLOOR AREA WITHIN SHELTER PERIMETER.

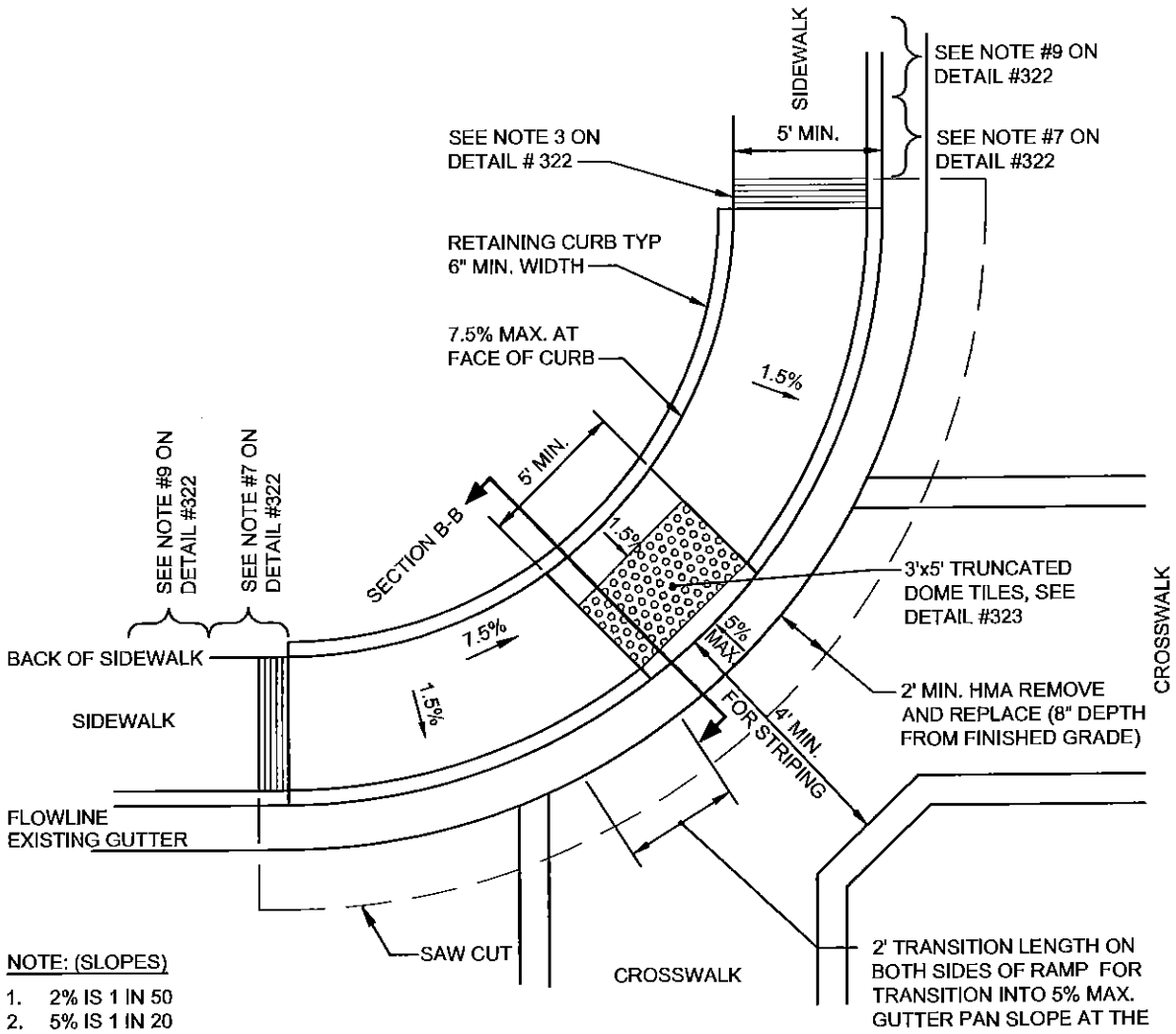
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

FARSIDE BUS TURNOUT

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	316
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 316.DWG		



NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10
5. 2% MAX SLOPE @ LANDING AND TURNING SPACE.
6. A.C. FLUSH WITH LIP OF GUTTER AT PEDESTRIAN ACCESS.

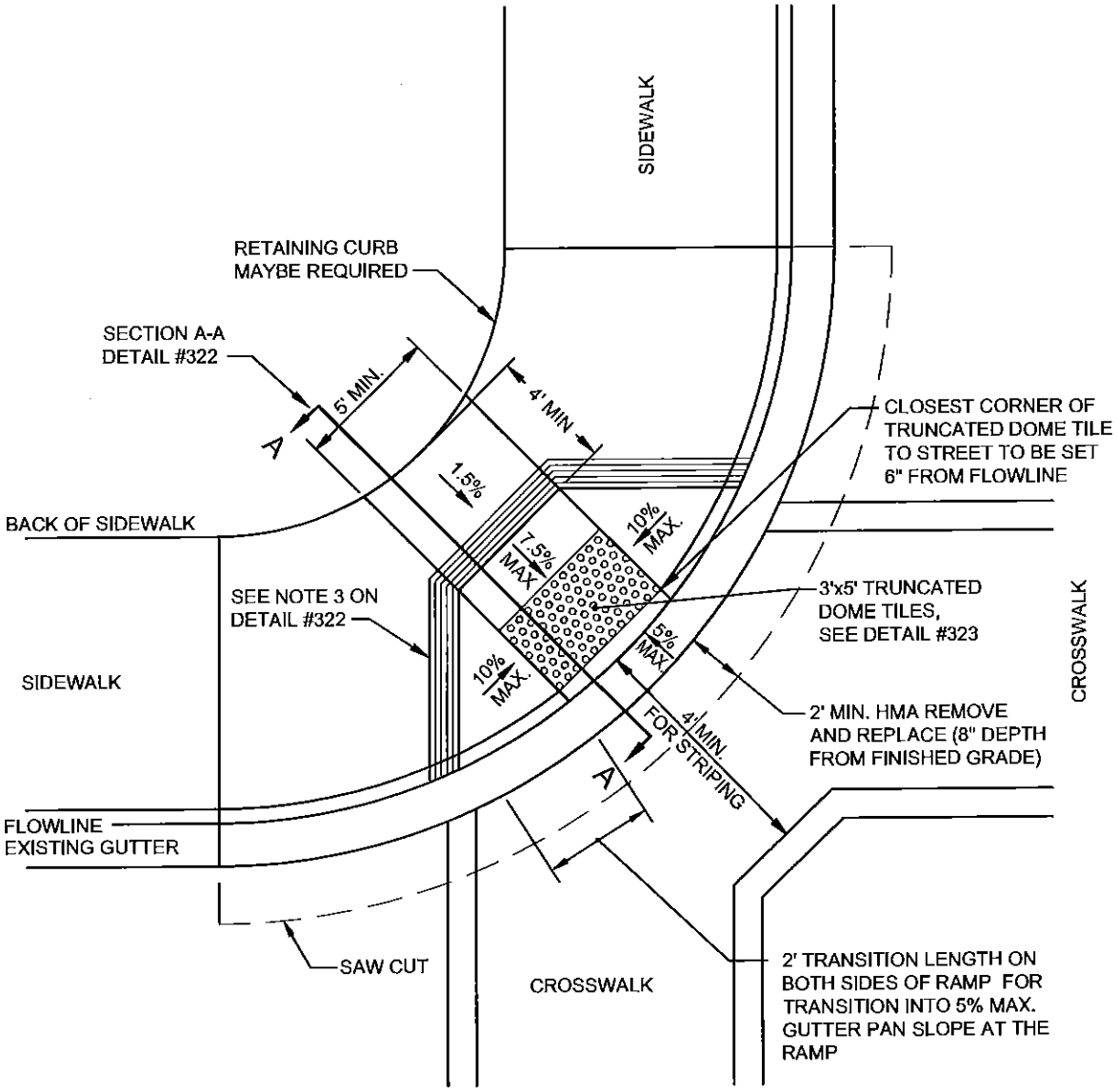
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CURB RAMP
CASE A

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	317
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 317.DWG		



NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10
5. A.C. FLUSH WITH LIP OF GUTTER AT PEDESTRIAN ACCESS

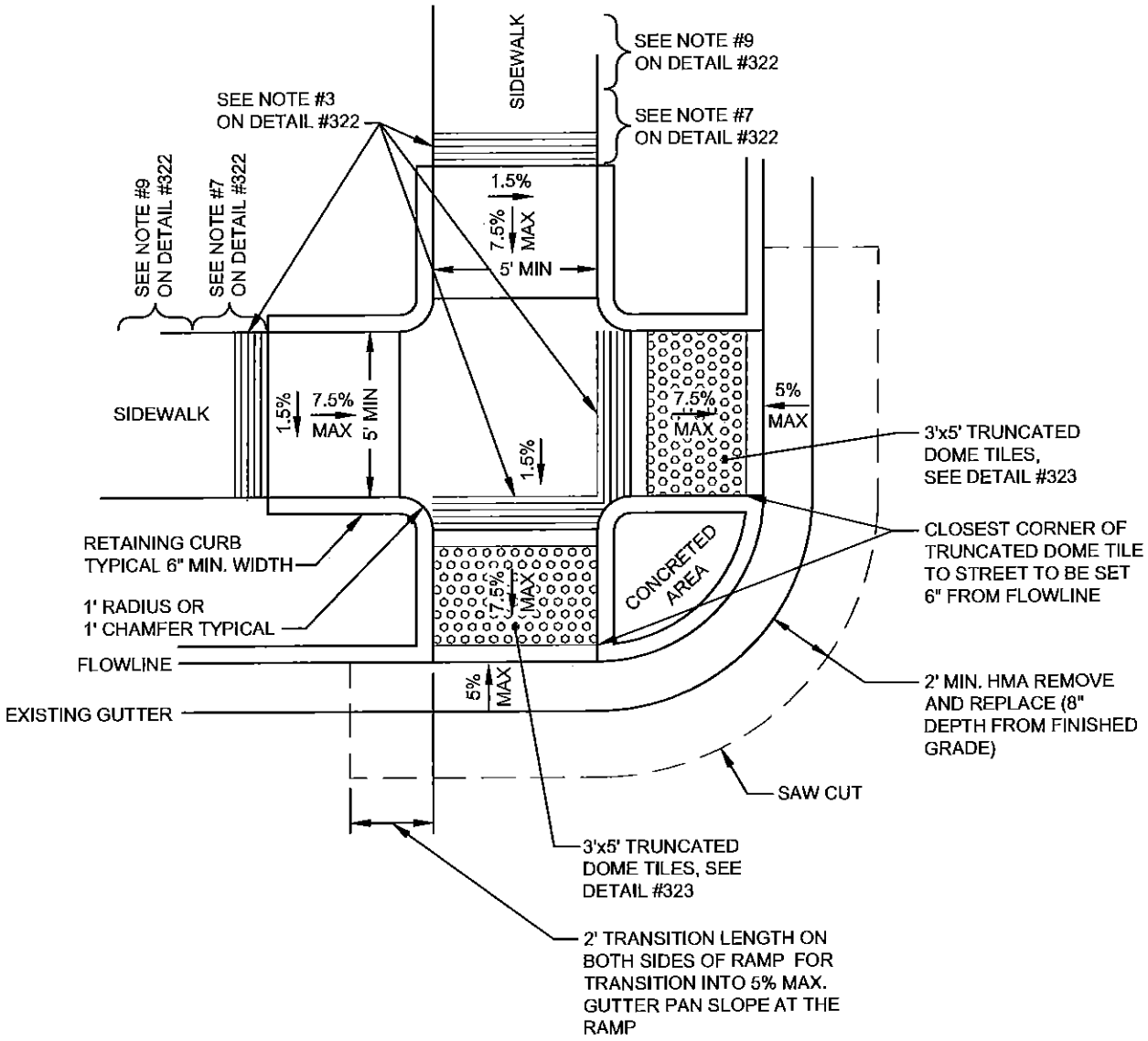
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

CURB RAMP
CASE B

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	318
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 318.DWG		



NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10
5. 2% CROSS SLOPE @ GUTTERPAN
6. A.C. FLUSH WITH LIP OF GUTTER AT PEDESTRIAN ACCESS

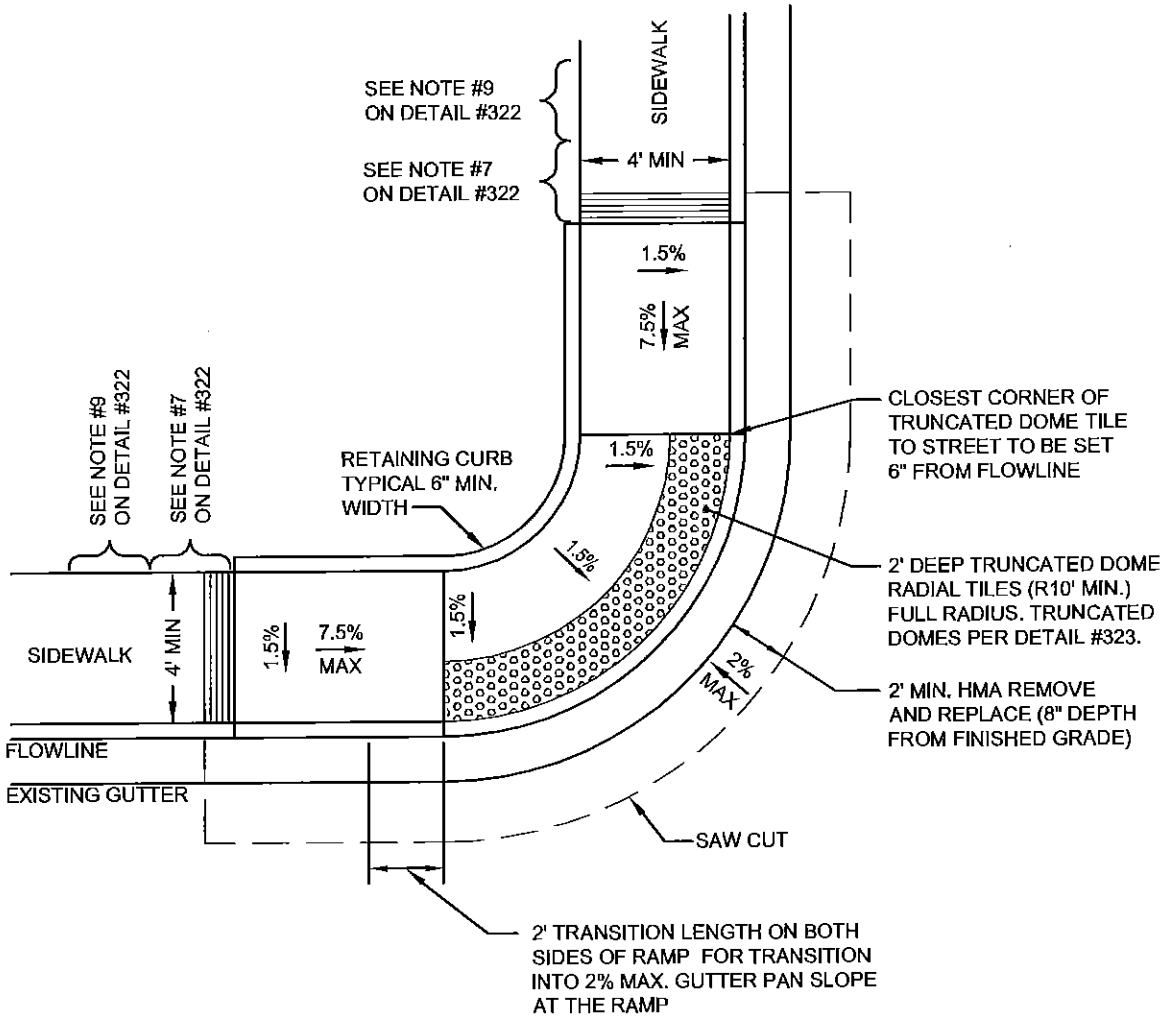
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

CURB RAMP
CASE C

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	319
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 319.DWG		



NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10
5. 2% MAX CROSS SLOPE @ GUTTER PAN.
6. A.C. FLUSH WITH LIP OF GUTTER AT PEDESTRIAN ACCESS

NOTE:

THIS RAMP IS FOR LOCATIONS WITH RIGHT-OF-WAY ISSUES AND RADIUS LARGER THAN 10'.

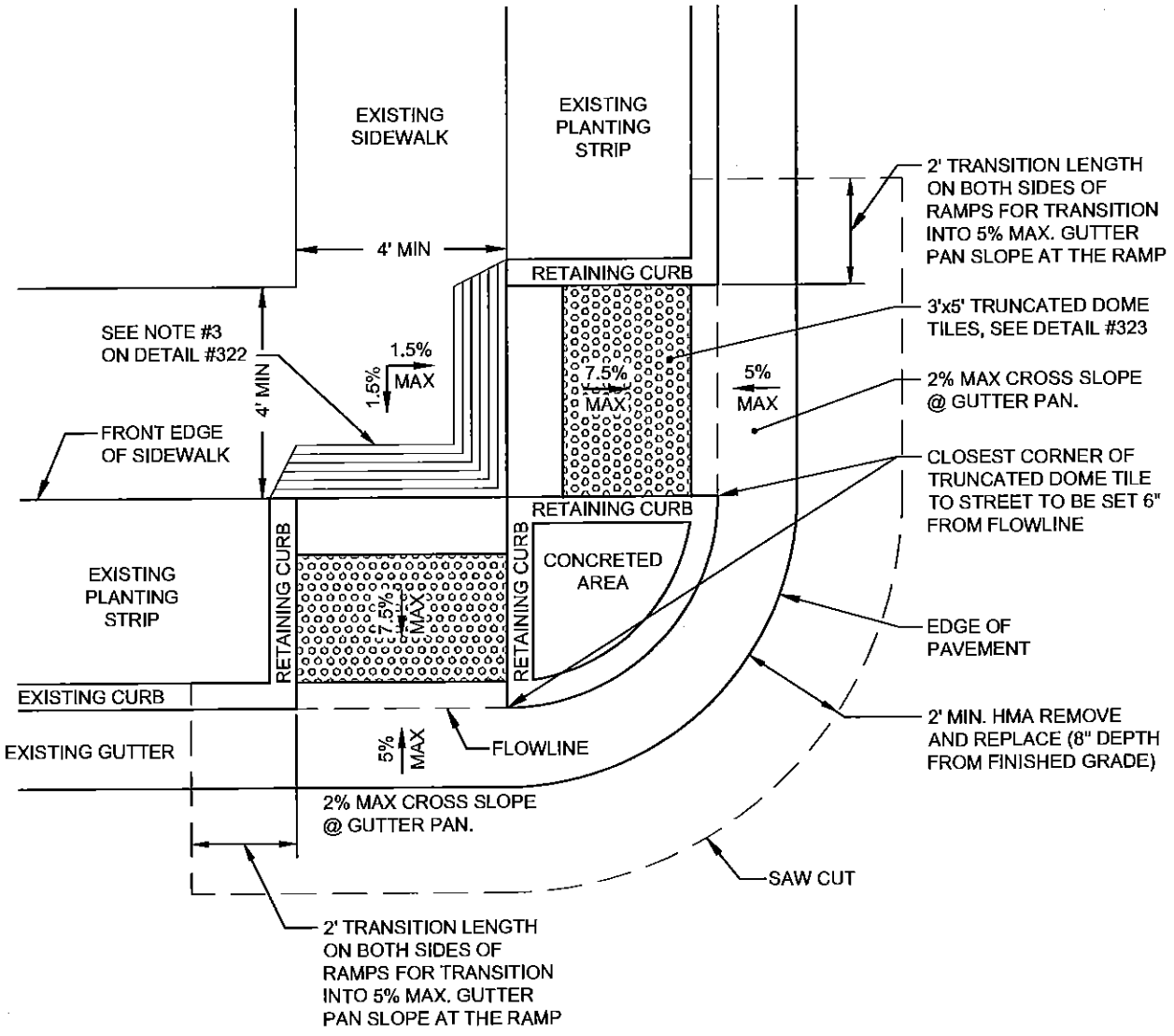
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

CURB RAMP
CASE D

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	320
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 320.DWG		



NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10
5. A.C. FLUSH WITH LIP OF GUTTER AT PEDESTRIAN ACCESS.

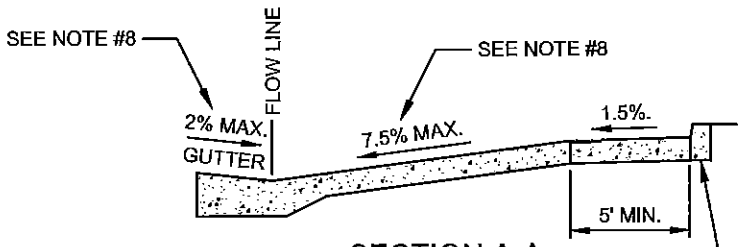
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

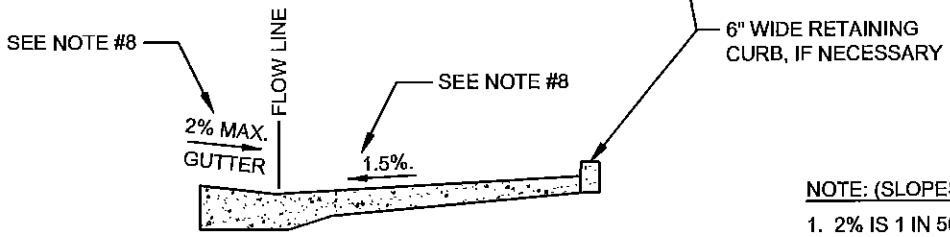
CITY ENGINEER - WILLIAM F. KULL

CURB RAMP
CASE E

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	321
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 321.DWG		



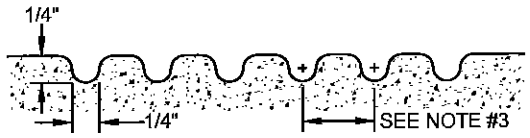
SECTION A-A



SECTION B-B

NOTE: (SLOPES)

1. 2% IS 1 IN 50
2. 5% IS 1 IN 20
3. 7.5% IS 1 IN 13.33
4. 10% IS 1 IN 10



GROOVING DETAIL

NOTES:

1. THE LOWER END OF EACH RAMP SHALL BE FLUSH WITH GUTTER.
2. WHEN THE RAMP IS LOCATED IN THE CENTER OF THE CURB RETURN, CROSS WALK CONFIGURATION MUST BE SIMILAR TO THAT SHOWN ON THE PLAN TO ACCOMMODATE WHEELCHAIRS.
3. THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" O.C. (SEE GROOVING DETAIL) AT LOCATIONS INDICATED ON THE PLANS. THE SURFACE OF THE RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK EXCEPT WHEN LOCATED IN THE CENTER OF CURB RETURN.
4. THE RAMPS SHALL HAVE TRUNCATED DOME TILES AS DETECTABLE WARNINGS AT THE END OF THE RUNNING SLOPE OF THE RAMP, AS INDICATED IN THE PLANS AND SPECIFICATIONS.
5. ALL CURB RAMPS SHALL BE 4" THICK CONCRETE.
6. 5% MAX. GUTTER PAN SLOPE, 2% MIN.
7. CONTRACTOR TO PROVIDE A LEVEL LANDING (4' LONG MIN. BY WIDTH OF SIDEWALK AT THE TOP OF THE RAMP WHICH SHALL BE AS WIDE AS THE RAMP WITH SLOPES AT 2% MAXIMUM, BOTH DIRECTIONS IF SIDEWALK CROSS SLOPE IS MORE THAN 2%
8. THE GRADE BREAK BETWEEN THE COUNTER SLOPES OF GUTTER AND/OR ROAD SURFACES WITHIN 24 INCHES OF THE CURB RAMP AND THE RUNNING GRADE OF THE CURB RAMP SHALL NOT EXCEED THE ALGEBRAIC DIFFERENCE OF 11 PERCENT. IF TWO OR MORE PLANE CHANGES ARE PRESENT, THEY SHALL BE SEPARATED BY 24 INCHES (2% MAX)
9. 4' LONG TRANSITION BY WIDTH OF SIDEWALK IS REQUIRED IF EXISTING SIDEWALK CROSS SLOPE IS MORE THAN 2%.
10. TRAFFIC SIGNAL PEDESTRIAN PUSH BUTTONS SHALL BE 40" MAX. VERTICAL FROM CLEAR 2% MAX. LANDING AREA, 6" MAX. HORIZONTAL FROM FRONT OF CURB ADJACENT TO LANDING AND 32" MIN. AWAY FROM EDGE OF CURB RETURN.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

CURB RAMP NOTES & DETAILS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	322
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 322.DWG		

CALIFORNIA DEPARTMENT OF TRANSPORTATION DETECTABLE WARNING SURFACE AUTHORIZED MATERIAL LIST

THE FOLLOWING PRODUCTS HAVE BEEN FOUND ACCEPTABLE FOR USE ON STATE HIGHWAY CONTRACTS:

THREE D TRAFFIC WORKS 430 N. VARNEY STREET BURBANK, CA 91502 MR. SCOTT BEHM (877) 843-9757 www.trafficworks.com	DWT TOUGH-EZ TILE (PRESSURE SENSITIVE ADHESIVE)
ACCESS PRODUCTS, INC. 241 MAIN STREET, SUITE 100 BUFFALO, NY 14203 MS SHERRY MORRISON (630) 881-9320 www.accesstile.com	1. ACCESS TILE-CAST IN PLACE REPLACEABLE 2. ACCESS TILE-SURFACE APPLIED
CAPE FEAR SYSTEMS, III LLC. 215 SOUTH WATER STREET, SUITE 103 WILMINGTON, NC 2840 MR. ALEX MUNROE (877) 232-6287 www.AlertTile.com	ALERTCAST
ARMORCAST PRODUCTS COMPANY 13230 SATICOY STREET NORTH HOLLYWOOD, CA 91605 MR. ARI S. ALEONG (818) 982-3600 www.armorcastprod.com	1. ARMORCAST CAST-IN-PLACE DETECTABLE WARNING PANELS (WETSET) 2. ARMORCAST SURFACE APPLIED DETECTABLE WARNING TILE (RETROFIT)
STRONGGO INDUSTRIES, LLC. 3296 E. HEMISPHERE LOOP TUCSON, AZ 95706 MR. NIRANJAN VESCIO (520) 547-3510 www.stronggo.com	TEKWAY DOME-TILES
ADA SOLUTIONS, INC. 10 ELIZABETH DRIVE, UNIT #5 CHELMSFORD, MA 01824 MR. JOSEPH R. DUNNIGAN (800) 372-0519 www.adatile.com	CAST-IN-PLACE-WET-SET-TACTILE
ENGINEERED PLASTICS INC. 1104 CORPORATE WAY SACRAMENTO, CA 95831 MR. GERARD ANGELES (916) 844-4132 www.armor-tile.com	ARMOR-TILE CAST-IN -PLACE DETECTABLE WARNING TILE

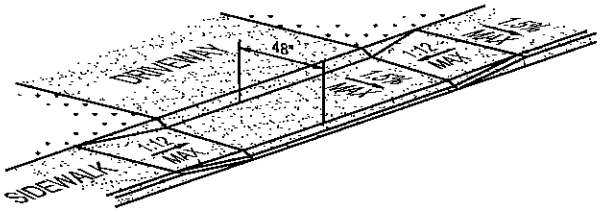
FOR ADDITIONAL INFORMATION, PLEASE SEND E-MAIL TO David.Cordova@dot.ca.gov

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

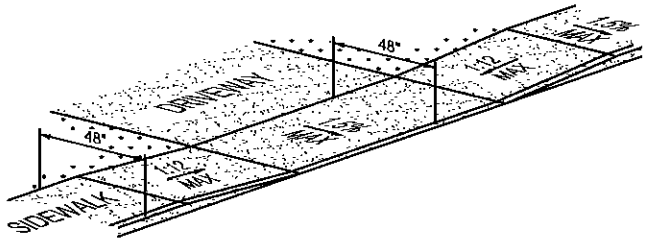
William F. Kull
CITY ENGINEER - WILLIAM F. KULL

CALIFORNIA D.O.T.
DETECTABLE WARNING SURFACE AUTHORIZED MATERIAL LIST

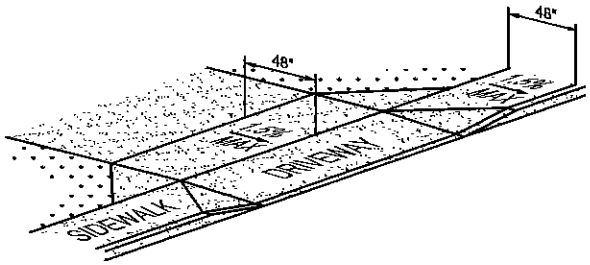
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	323
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 323.DWG		



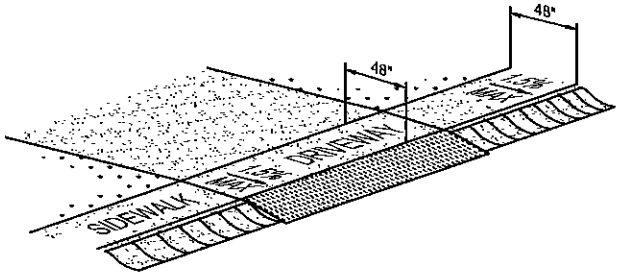
COMBINATION SIDEWALK



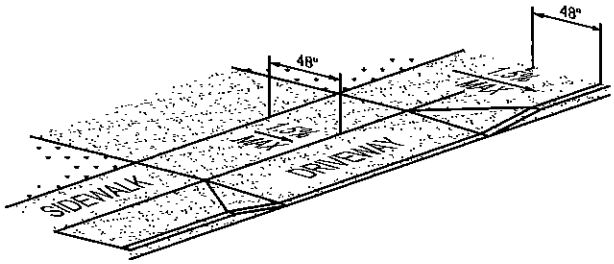
RAMP SIDEWALK



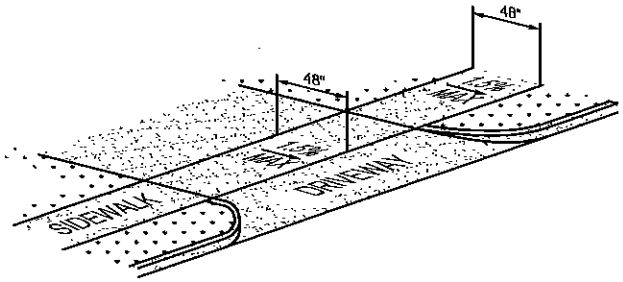
APRON OFFSET SIDEWALK



GUTTER BRIDGE PLATE

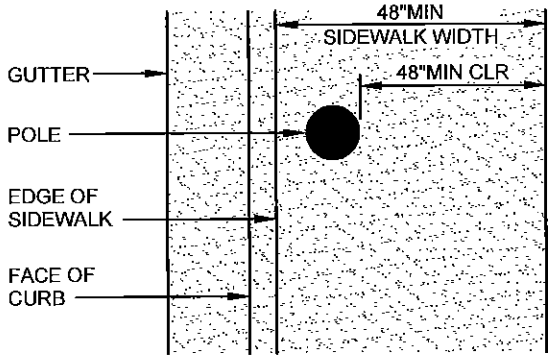


WIDE SIDEWALK



SETBACK SIDEWALK

SIDEWALK DRIVEWAY CONNECTIONS



SIDEWALK WIDTH

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

DRIVEWAY APPROACH

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	3-10-15	324
REVISIONS: NONE	SECTION: STREETS	DRAWING NAME: 324.DWG		

City of Riverbank
DESIGN STANDARDS

LIGHTING

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SECTION 4: LIGHTING

4.100 General

4.101 Scope

Street lighting shall be installed to conform to these Standards by the Developer or City Contractor holding an appropriate license for such work under the provisions of the State of California Business and Professions Code. In the development of the plans, the City Engineer shall be consulted. The Developer is responsible for coordination with the electrical distribution system as proposed by Pacific Gas & Electric (PG & E).

4.102 Design

The lighting system shall be designed to best serve the area and to minimize the length of service runs from the points of connection to the street lights, as approved by the City Engineer. The lighting system will be designed with traffic and pedestrian safety as the foremost objective, with consideration given to connectivity to parks, trails, bike paths, mail receptacles, and local commercial projects.

The Consulting Engineer shall show the proposed street lighting system or park trail lighting system on the project Improvement Plans. The plans shall include the following items:

1. Location of electroliers
2. Intensity of luminaries
3. Location of service points (As-Built)
4. Location of pull boxes (As-Built)
5. Location of conduit runs (As-Built)

The Consulting Engineer shall submit three (3) copies of the street light plans to the City of Riverbank for preliminary review in the initial submittal.

Guidelines for street light spacing and location are as follows:

1. Street lights shall be placed at street intersections and curves.
2. Pole height and arm length shall be as shown in the Standard Details.
3. If possible, street lights shall be located within 3' of a property line.
4. On streets with separated sidewalks, street lights shall be centered 18 inches behind the curb.
5. On streets with monolithic curb, gutter and sidewalk, street lights shall be centered 18 inches behind the walk
6. T intersections - a street light shall be located on the through street within 20' of the projected centerline of the intersection street (placed on the crosswalk side).

7. Cul-de-sac – a street light shall be located at the end of the bulb if longer than 150 feet (from centerline of intersecting street to center of bulb).
8. Four-way intersection of major streets – a street light shall be located on each corner (4 total) per Standard Detail 407.
9. Four-way intersection of major and minor streets – a street light shall be located at the far right curb returns of the major street in the direction of travel (2 total) per Standard Detail 407.
10. Four-way intersection of minor streets – a street light shall be located at the far right curb return of the through street in the direction of travel (1 total) per Standard Detail 407.
11. Electroliers will normally be staggered on opposite sides of the street, however preference shall be given to the side of the street with fronting lots.
12. Electroliers are required at each knuckle. The electrolier shall be located on the property line that is closest to the midpoint of the outside of the knuckle.
13. Electroliers at roundabouts shall follow the same guidelines as 4-way intersections, based on street classifications, with emphasis on placement near crosswalks.

4.103 Foundations

Foundations for poles shall be constructed of Type II Portland cement concrete per State Specifications and located as shown on Standard Detail 402.

Foundations shall be placed monolithically to within 4 inches of sidewalk grade. After pole is installed, a 36 inch square cap shall be placed to bring the foundation to sidewalk grade.

4.104 As-Built Plans

The Developer or Contractor shall supply the City of Riverbank with sepia mylars of the as-built plans of the City maintained conduits and conductors from their points of service to the electroliers prior to requesting final acceptance by the City Engineer.

City of Riverbank
CONSTRUCTION SPECIFICATIONS

LIGHTING

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4.200 General

Drawings

SECTION 4: LIGHTING

4.200 General

4.201 Scope

Street lighting shall be installed to conform to these Standards by the Developer or City Contractor holding an appropriate license for such work under the provisions of the State of California Business and Professions Code. In the development of the plans, the City Engineer shall be consulted. The Developer is responsible for coordination with the electrical distribution system as proposed by Pacific Gas & Electric (PG&E).

Electrical equipment shall conform to the requirements of the National Electrical Manufacturers Association. In addition to the requirements of the Standard Details and these Construction Specifications, all material and work shall conform to the requirements of the National Electrical Code, the Electrical Safety Orders of the Division of Industrial Safety, Department of Industrial Relations of the State of California, Rules for Overhead Line Construction G.O. 95, State of California, Public Utilities Commission, the Standards of the American Society for Testing Materials, and the American National Standards Institute.

4.202 Foundations

Foundations for poles shall be constructed of Type II Portland cement concrete per State Specifications and located as shown on Standard Detail 402.

Foundations shall be placed monolithically to within 4 inches of sidewalk grade. After pole is installed, a 36 inch square cap shall be placed to bring the foundation to sidewalk grade.

Where steel poles are to be served by an aerial drop from an overhead source, the foundations shall include a made grounding electrode complying with Article 250-81(c) of the National Electrical Code.

4.203 Anchor Bolts

Anchor bolts shall be 1 inch in diameter, 40 inches long with a 4 inch "L" bend at the bottom end. Anchor bolts shall conform the ASTM Designation A 307.

4.204 Poles

Hot-dipped galvanized steel street lighting standards shall be installed in accordance with the following procedures:

1. 28 foot poles with 15 foot arms shall be Ameron Catalog No. 71041-Y4-15 or an approved equal. All standards shall have inspection plates approved by the City Engineer.

2. 25 foot poles with 12 foot arms shall be Ameron Catalog No. N-2512-2, Union Metal Manufacturing Company No. 71041-Y3-12 or an approved equal.

3. Foundations shall conform to subsection 86-2.03 of the Caltrans Specifications. Standards shall be erected in a true vertical position. All nuts on anchor bolts in the foundations and bracket attachments shall be tightly set. Standards shall not be erected until the foundation has set for a minimum of 5 days.

4. The location of the electrolier as shown on the improvement plans shall not be changed without written approval of the City Engineer.

5. All street light standards shall be grounded to conform to the provisions of the National Electrical Code (NEC) by means of a ground wire, which is fastened to a grounding connector on the standard ans to all conduit grounding bushings.

6. In cases where more than one conduit enters the base, all such conduits shall be bonded with bonding bushings and wire. The bonding wire shall be at least the same gauge as the largest circuit conductor (minimum No. 8 AWG copper wire).

7. Poles shall be plumbed by adjusting the leveling nuts; leveling shims shall not be used.

8. Poles shall have hand holes near their bases facing the street.

4.205 Standard Luminaries and Lamps

Luminaries shall have high pressure sodium vapor lamps, glass refractors, built-in receptacles for photoelectric cells and regulator or auto-regulator type ballasts with a power factor of not less than 92%. The luminaire voltage shall be as specified on the improvement plans.

4.206 Photoelectric Cells

Photoelectric cells shall be adjustable, compatible with related equipment and adequate for the load. They shall be General Electric C402G400 or an approved equal.

4.207 Excavations

The trench excavation shall be made by the developer. Trenches shall be straight and of even depth. Special locations or depths must be approved by the City Engineer prior to excavating.

4.208 Laying Conduit

All installations of conductor between the standard and energy source shall be placed in 1" minimum conduit. Conduit shall conform to the requirements of the National Electric Code (NEC) and shall be so marked along every 10 feet of tubing. Refer to Articles 347 and 348 in the 1978 version of the NEC.

Conduit shall be prepared in such a manner as to provide true protection for the conductor. Standard couplings and connectors shall be used. Crimping of conduit will not be allowed. All bends in conduit shall be sweeping bends and shall contain no splices or couplings through the span of the bend.

Conduit within the right-of-way shall not be less than 24 inches below the curb grade. Within public utility easement (PUE), conduit shall not be less than 30 inches below finish property elevation. Depth of conduit shall not exceed 48".

Wherever possible, the conduit shall be placed 6 inches behind attached sidewalk or 6 inches behind the curb for separated sidewalk for protection from future excavation. Conduit shall be jacked at existing street crossings.

4.209 Conductors

Conductors shall be No. 10 AWG copper or larger, THW or TW single conductor, Underwriters Laboratory approved. Wire size must be large enough to prevent no more than 5% voltage drop.

All conductor splicing shall comply with Caltrans splicing methods and specifications.

No conductor shall be drawn into any conduit until the installation of the conduit run is complete and the conduit is free of debris. If the conduit is installed in a concrete foundation, the conductor shall not be drawn into the conduit for at least three (3) days after placement of the foundation concrete.

Conductors shall not be spliced except in pole bases (or in pull boxes when approved by the City Engineer). All conductors shall be installed without injury to the insulation. Conductors shall be drawn into the conduit at the same time. At least 3 feet of slack shall be left in the conductor where it enters the conduit.

4.210 Pull Boxes

Pull boxes shall be installed at locations where the change in direction of a conduit run exceeds 45 degrees and at all pole bases. Pull boxes shall be No. 5 State Boxes and shall be installed so that the cover is level with the curb or sidewalk grade. The bottom of the box shall be embedded in concrete and have a crushed rock drain. The maximum distance between pull boxes shall be 200 feet. Pull boxes shall be placed immediately behind the sidewalk or curb (if separated sidewalk).

4.211 Backfill

Underground conduit trenches shall be backfilled with clean material, free from lumps and other material that has been approved by the City Engineer. Conduit runs within an existing street area shall be backfilled with a three (3) sack concrete slurry mix. Under no circumstances will a material be used, which may be injurious to the conduit. Backfill shall be compacted to a relative compaction that is at least as great as that of the native undisturbed soil in the area. The City Engineer will be the sole judge as to whether the relative compaction of the backfill in the utility trenches is acceptable.

4.212 Testing

The street lights shall be tested a minimum of 48 hours prior to requesting final acceptance by the City Engineer.

4.213 Conflict with Utilities

Developer or City Contractor shall be responsible for contacting other utilities to determine that locations for foundations and conduit runs are clear.

4.214 As-Built Plans

The Developer or Contractor shall supply the City of Riverbank with sepia mylars of the as-built plans of the City maintained conduits and conductors from their points of service to the electroliers prior to requesting final acceptance by the City Engineer.

4.215 Acceptance

Upon completion of the installation of a circuit, the Contractor shall notify the City Engineer, who will make the necessary insulation and ground tests. The system will be further tested by two (2) weeks of operation prior to acceptance of the facilities and contract. The street light system from the service point to the electroliers shall be tested for the following items:

- Identification of light distribution patterns.
- Acceptability of the ballasts, fixtures, and lamps for electrical and noise standards.
- Verification that all connections are electrically and mechanically sufficient.
- Conductors shall move, with minimal effort, within the conduit.

City of Riverbank
STANDARD PLANS

LIGHTING

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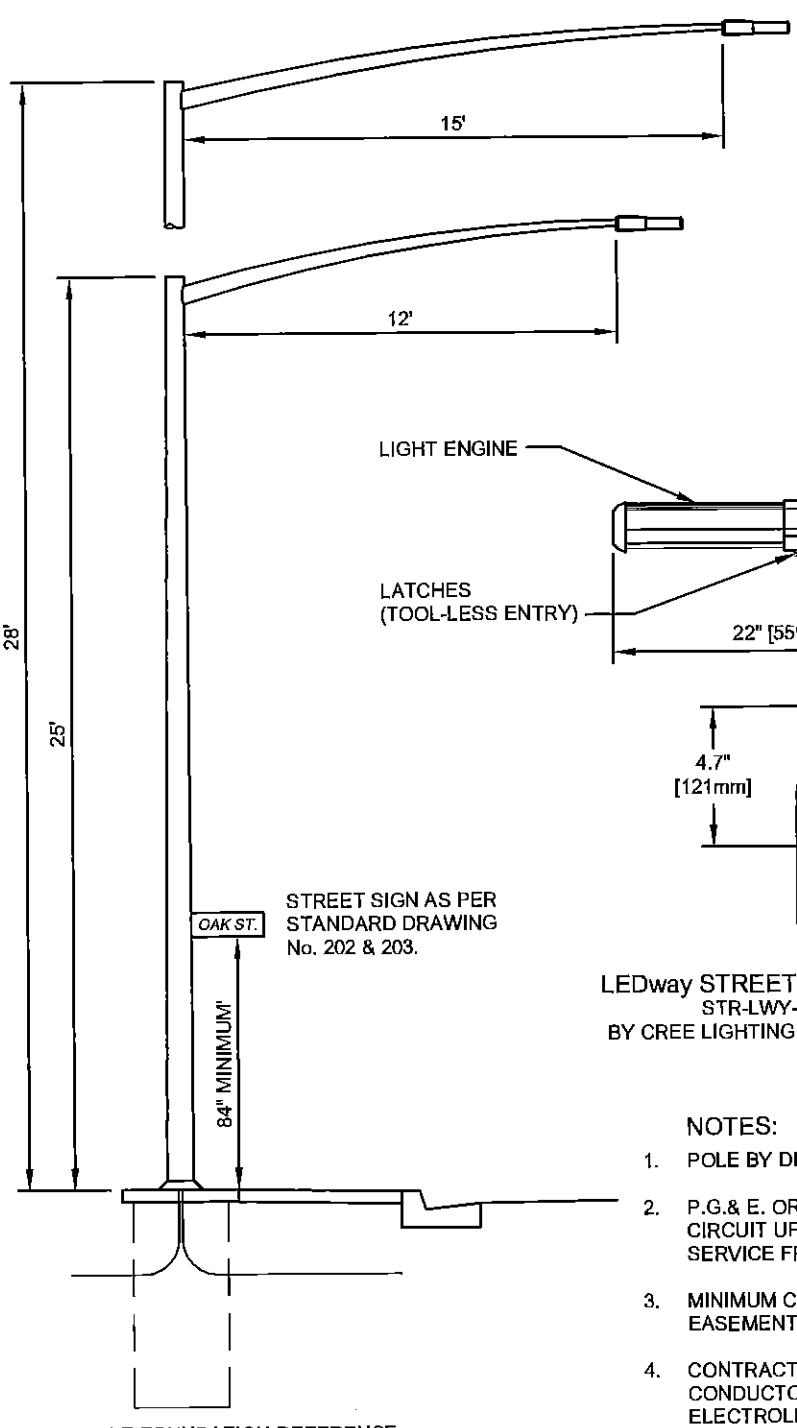
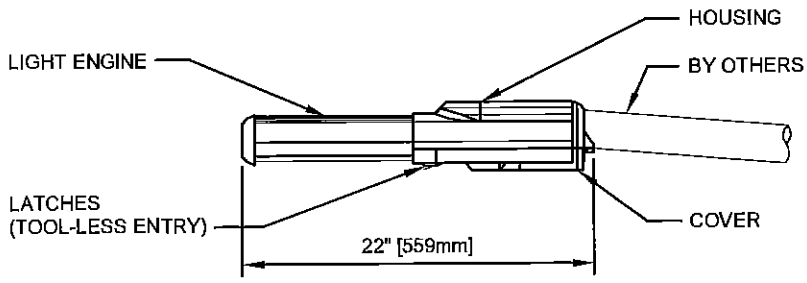
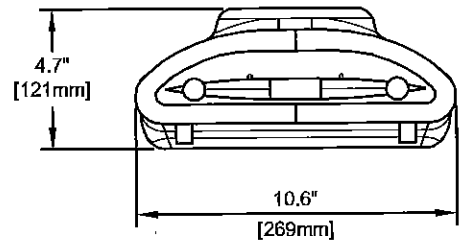






LEDway STREETLIGHT - TYPE II MEDIUM
STR-LWY-2M-HT - 60LED/120V
BY CREE LIGHTING - WWW.CREE.COM/LIGHTING

FOR POLE FOUNDATION REFERENCE
SEE STANDARD DRAWING No. 402.

NOTES:

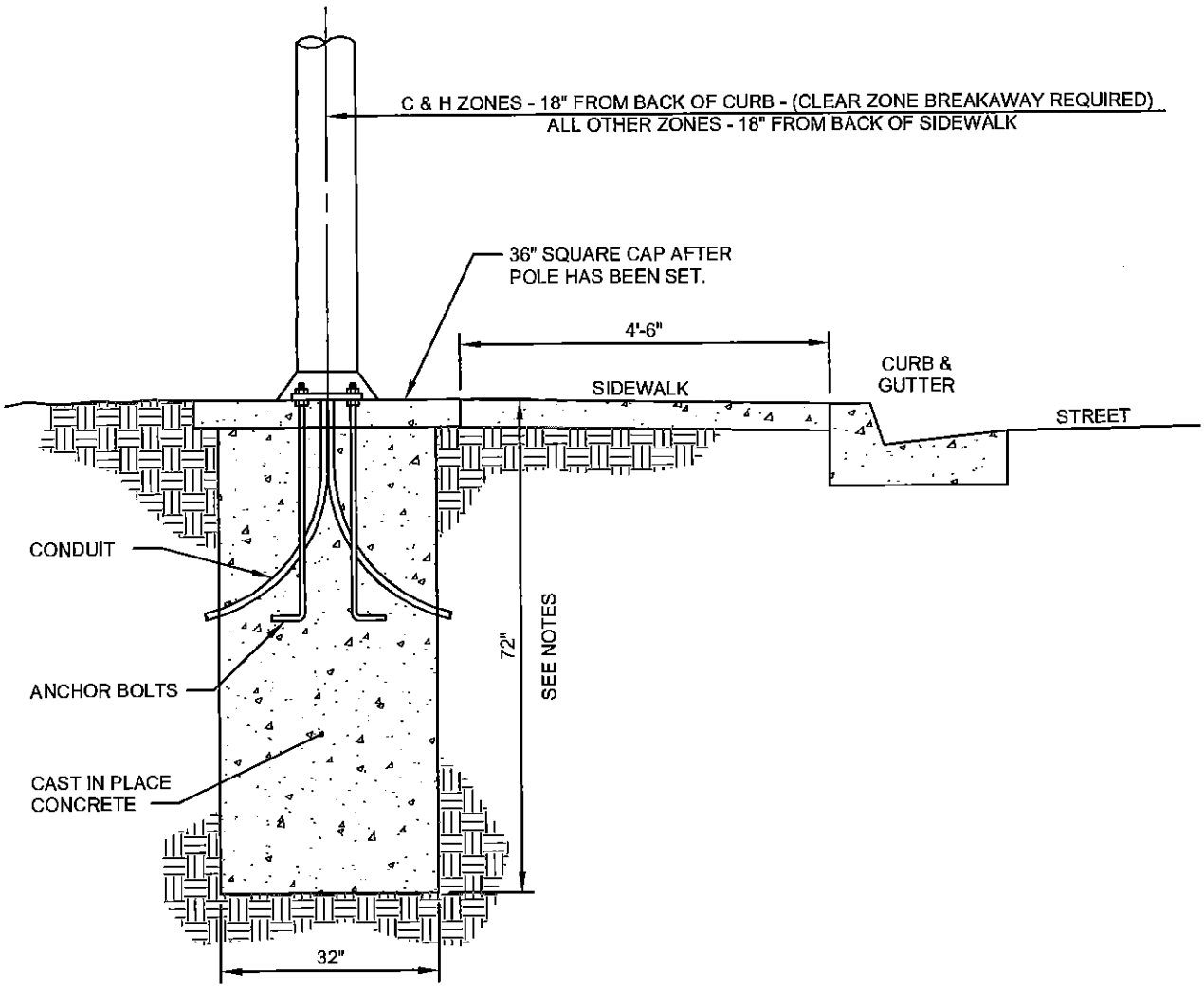
1. POLE BY DEVELOPER OR CITY CONTRACTOR.
2. P.G.& E. OR M.I.D. WILL COMPLETE CONNECTION OF 120V CIRCUIT UPON RECEIPT OF SIGNED APPLICATION FOR SERVICE FROM THE CITY OF RIVERBANK.
3. MINIMUM CONDUIT COVER 30" IN STREETS, ALLEYS AND EASEMENTS. 15" MINIMUM COVER IN PARK STRIPS.
4. CONTRACTOR SHALL SUPPLY "AS BUILTS" OF CONDUIT/ CONDUCTOR FROM THE POINT OF SERVICE TO THE ELECTROLIER.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

LIGHTING STANDARD

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	6/09/15	NTS	__-__-15	401
REVISIONS: NONE	SECTION: LIGHTING	DRAWING NAME: 401.DWG		



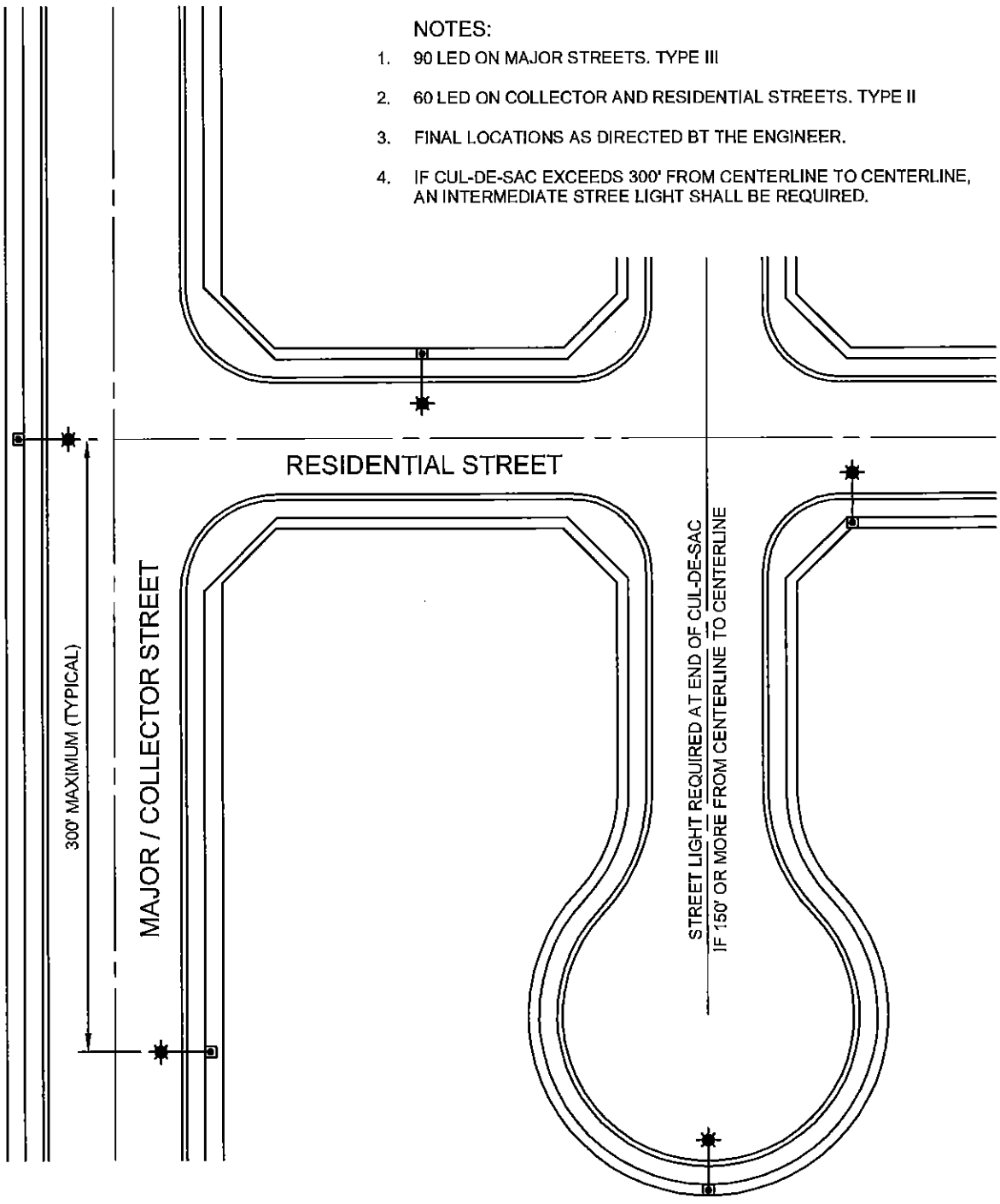
NOTES:

1. TYPICAL FOR 25' AND 28' POLES.
2. FOUNDATIONS MAY BE 36" SQUARE AND 60" DEEP.
3. CONCRETE TO BE PLACED AGAINST UNDISTORBED EARTH.
4. GROUND WIRE SHALL BE USED.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			LIGHTING POLE FOUNDATION	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 6/09/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 402
REVISIONS: NONE	SECTION: LIGHTING	DRAWING NAME: 402.DWG		

NOTES:

1. 90 LED ON MAJOR STREETS. TYPE III
2. 60 LED ON COLLECTOR AND RESIDENTIAL STREETS. TYPE II
3. FINAL LOCATIONS AS DIRECTED BT THE ENGINEER.
4. IF CUL-DE-SAC EXCEEDS 300' FROM CENTERLINE TO CENTERLINE, AN INTERMEDIATE STREE LIGHT SHALL BE REQUIRED.



CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

STREET LIGHT LOCATIONS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	6/09/15	NTS	__-__-15	403
REVISIONS: NONE	SECTION: LIGHTING	DRAWING NAME: 403.DWG		

City of Riverbank
DESIGN STANDARDS

WATER

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SECTION 5: WATER

5.100 General

5.101 Scope

These standards apply to all public water facilities designed for installation within a public right-of-way or PUE in the City, and are limited to mains and services 12" or less in diameter. Standards and requirements for larger sizes will be determined by the City Engineer on a case-by-case basis. In residential developments, on-site mains and hydrants for fire protection shall be public. Other on-site facilities, unless specifically noted in these Standards or as required as part of project approval, shall be private and shall be designed and constructed in accordance with the provisions of these Standards and the Uniform Plumbing Code, as adopted by the City.

5.200 Design Flow

5.201 Flow Demand

Unless actual field measurements or metering data are available, the following water demands shall be used:

		Peaking Factors	
Land Use	Unit Demand	Peak Day	Peak Hour
Residential	285 gpcd	2.24	3.28
Commercial/Office	2,750 gpad (floor area)	2.24	3.28
Parking Lots	200 gpad	2.24	3.28
Industrial	(detailed information regarding industrial water demand to be submitted)		

(gpcd = gallons per capita per day ; gpad = gallons per acre per day)

Per capita and density figures per Section 5.201 shall be used unless specific project information is available.

Fire flow for specific projects shall be based on the Insurance Services Organization (ISO) Guidelines for a Class I City, or as otherwise approved by the Stanislaus Consolidated Fire District. In lieu of the ISO guidelines, the following conservative minimum criteria may be used:

Land Use	Fire Flow
Low-Density Residential	1,000 gpm from each of 2 adjacent hydrants flowing simultaneously, or 2,000 gpm available
Multi-Family	1,500 gpm from each of 2 adjacent hydrants flowing simultaneously, or 3,000 gpm available at building service point (not simultaneously with hydrant flow).

Commercial	1,500 gpm from each of 2 adjacent hydrants flowing simultaneously, or 4,000 gpm available at building service point (not simultaneously with hydrant flow).
Industrial	Fire flow for industrial projects shall be based on a site-specific investigation using ISO guidelines. 4,000 gpm may be used for preliminary studies.

Fire flow for low-density residential areas can generally be obtained using the following guidelines for water main sizing:

a) 12" mains –1/2 mile looped grid
b) 8" mains –1/4 mile looped grid
c) 8" looped distribution system (internal to ½ mi and ¼ mi grids mentioned above)

5.202 Design Pressure

The system shall be designed to maintain a minimum residual pressure of 20 psi at the service point or fire hydrant under the worst case of either:

- Peak Day flow plus fire flow, or:
- Peak Hour flow

Calculations shall be based on actual flow tests performed by the Stanislaus Consolidated Fire District, or as otherwise approved by the City Engineer.

The Hazen-Williams formula should be used to calculate design flow, pressure loss, velocity and pipe diameter relationships. The coefficient of friction, "C", shall be 100 for pipes 6" and smaller, 120 for 8" and 10", and 130 for 12" and larger pipes. If losses due to fittings are calculated separately using equivalent length or other approved methods, a "C" of 130 may be used.

5.300 Pipe Design

5.301 Minimum Size

Minimum pipe sizing for public water mains shall be based on an approved Water Master Plan, regional modeling analysis, or similar document. Typically, these documents are prepared either at the Specific Plan or Tentative Mapping phases of a project, and are intended to provide sizing information for a relatively large region.

For new public water mains in areas that are not already covered by a regional water study or analysis (i.e. smaller "infill" projects), minimum sizing for public water mains shall be based on requirements as described in Section 5.200, or as otherwise directed by the City Engineer.

New onsite private water main sizing shall be based on the required fire flow and pressure, as described in section 5.200.
In addition to the above requirements, minimum pipe sizes for new water mains shall be as per the following table:

Location/Use	Min. Size
Fire hydrant laterals, max. length =100'	6"
Public water mains –1/2 mi. looped grid	12"
All other public water mains	8"
Residential dead end with fire hydrant*	8"
Residential dead end with no fire hydrant*	6"

* Looping of water mains is typically required on all projects, unless specifically approved otherwise by the City Engineer.

5.302 Vertical Alignment

There are no slope requirements for water mains. However, inverts of new public water mains shall be shown on the drawings. Combination air & vacuum release valves shall be placed at all substantial high points in newly constructed water mains.

Minimum cover on water mains shall be 36". In special circumstances, minimum cover may be reduced below 36" using special backfill and/or special pipe materials. The requirements for reduced cover below 36" shall be considered on a case-by-case basis, and approved by the City Engineer.

When practical, new water mains shall be installed above wastewater or storm drain pipes with a minimum vertical clearance of 1' at crossing locations. However, if this is not a practical option, water main crossings shall be constructed using special construction in accordance with DHS Guidelines. Refer to Section 5.306 for vertical separation requirements for new public water mains.

5.303 Horizontal Alignment

Public water mains shall be installed within street rights of way unless an easement installation is specifically approved by the City Engineer. Alignment shall be parallel to the street centerline wherever possible.

Curved water mains may be constructed provided that joint deflections or pipe curvature does not exceed the pipe manufacturer's recommendations.

See Section 5.306 regarding horizontal separation requirements from other utilities.

5.304 Pipe Materials

The following pipe materials shall be used for water main construction, and shall conform to the appropriate American Water Works Association (AWWA) standards (latest revision):

Pipe Material:

1. Polyvinyl Chloride (PVC) as per AWWA C900, Class 150 minimum.

2. Ductile Iron Pipe (DIP) as per AWWA C151, Class 50, with cement mortar lining in accordance with AWWA C104 and polyethylene encasement in conformance with AWWA C105.

These approved pipe materials apply to water mains up to 12" in diameter. Service materials shall be polyethylene tubing CTS or copper. The material for new water mains greater than 12" shall be determined be on a case-by-case basis as approved by the City Engineer.

5.305 Fittings and Thrust Blocking

Pipe fittings shall conform to AWWA C110 for flange fittings and AWWA C111 for mechanical joint fittings, and shall be cast iron or ductile iron, class 150. Joints in fittings and adapters shall be of the type with a seal ring groove for positively holding the rubber gaskets in place against the water pressure, and shall be similar to the specified joint for the pipe used.

Thrust blocking shall be installed at all bends, tees, dead ends, and changes in pipe diameter, and installed per City Standard Details. Thrust blocking shall be placed so that the joints of the pipe and fittings will be accessible for repair.

5.306 Separation Requirements

Public water mains shall have the required separation, both horizontal and vertical, from other utilities as per the current California Department of Health Services (DHS) Guidelines, as adopted by the City of Riverbank. The following are excerpts from the DHS Guidelines for separation requirements of public water mains from other utilities:

- 10' horizontal separation, and 1' vertically above parallel sanitary sewer lines, or pipelines carry other hazardous fluids (fuel, industrial wastes, etc..)
- 4' horizontal separation, and 1' vertically above parallel storm drain lines or disinfected tertiary recycled water.
- 4' horizontal separation, and 1' vertically above parallel new supply lines conveying raw water to be treated for drinking purposes.
- The vertical separation mentioned above for parallel pipelines does not apply if an 11' horizontal separation is maintained.
- Water mains crossing other utilities shall be 1' vertically above the other utility. If this is not attainable, then special construction shall be required in accordance with the April 14, 2003 guidance memorandum from DHS contained in the Appendix of these Standards.

The aforementioned requirements are excerpts from the DHS Guidelines, and are listed only as a convenience for common situations in water main layout and design. Refer to the Appendix for the April 14, 2003 memorandum from DHS for additional separation requirements for water mains and non-potable pipelines.

All separation requirements indicated above and in the April 14, 2003 DHS memorandum are to the outside edges of the pipe. If these separation requirements are not attainable, special construction shall be required in accordance with DHS guidelines, and as approved by the City Engineer.

5.400 Services

5.401 General

Each individual lot or parcel shall have a separate water service complete from the water main to the property. Larger parcels with multiple buildings may require additional services, as approved by the City Engineer. All water services from the public water main shall be metered in accordance with the standards contained herein, with the exception of dedicated fire service lines.

5.402 Domestic Services

The minimum size service is 1 inch polypropylene, and is to be installed in accordance with City Standard Details. Larger diameter services shall be per Standard Plan 406 (1 ½" & 2") and Standard Plan 407 (4" & larger). The size of service is to be determined by the design engineer for the parcel/land use being served, subject to requirements contained in these Design Standards.

Backflow prevention devices shall be provided as specified in these Standards, and as per the appropriate Standard Detail. Refer to Section 5.404 for additional information regarding backflow prevention.

All domestic service meter boxes shall be placed outside of driveways. Exceptions to this rule will be granted only when it is not feasible or practical to place service meter boxes outside driveways. Such exceptions will require specific approval by the City Engineer.

The preferred horizontal separation of water services and sewer laterals is 10'. However, sewer laterals and water services may have a minimum of 5' separation given prior approval by the City Engineer.

5.403 Fire Services

Private on-site fire protection systems include hydrants and building sprinkler systems, and shall be installed per the requirements of the City Building Code, these Standard Specifications, and the requirements of the Stanislaus Consolidated Fire District. Fire and domestic systems shall be kept separate on-site, and shall be valved such that either system can be shut-down without affecting the other. These Standards cover requirements imposed by the Public Works Department in its role as a water utility, mainly as they apply to maintenance and backflow prevention required by State Law. In addition, the Stanislaus Consolidated Fire District may have other design requirements pertaining to fire protection.

1. General: All on-site improvements shall conform to City Standards for public water mains, unless additional design or construction requirements are stipulated by the Stanislaus Consolidated Fire District. In addition, automatic sprinkler systems shall be installed in accordance with NFPA #13, or as required by the Stanislaus Consolidated Fire District.

2. Backflow Prevention: All private fire systems shall have backflow prevention as described in section 5.404.

3. Fire Hydrants: refer to Section 5.502 of these Standards

4. Domestic Services: It is preferable to keep domestic services separate from fire systems. However, given the approval of the City Engineer, domestic services may be taken from the fire service lateral provided that an additional backflow prevention device is installed and sufficient valving is in place to isolate the two systems.

5. Fire District Approval: The location and layout of all fire protection system components including, but not limited to: piping, fire department connections, indicator valves, detector check valves, booster pumps, fire hydrants and service risers shall be approved by the Stanislaus Consolidated Fire District.

6. Fire Department Connections (FDC) and Post-Indicator Valves (PIV): FDC's and PIV's shall be installed as per City Standard Details, in locations approved by the Stanislaus Consolidated Fire District.

7. Inspection: All private fire systems shall be inspected by the Fire District prior to backfill of trench. Testing shall also be performed in accordance with current NFPA standards, and as required by the Fire District, prior to acceptance.

5.404 Backflow Prevention

General: Backflow prevention devices shall be installed at new connections to the public water main as specified in these Standards. All backflow prevention assemblies shall be approved by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC Foundation), and installed according to the manufacturer's specifications.

Domestic Services: New water services for potable uses, as well as landscape irrigation uses, shall require installation of a Reduced Pressure Principle Backflow Prevention Assembly (RPBP) as stated herein. Requirements for fire service lines are listed in a separate topic within this section.

Residential Uses: An RPBP, installed in accordance with City Standards, shall be required for water services that serve residential uses in each of the following cases:

- All services for multi-family dwellings of 2 units or more
- Services for single family dwellings of 3 stories or more.
- Separate water services used specifically for landscape irrigation in new residential developments.
- At service connections to the public main for private water systems serving 2 or more residential units.
- Water services for residential lots that use water from sources other than the City of Riverbank system, including reclaimed water, irrigation water (O.I.D., M.I.D.), or private on-site wells that have not been abandoned.
- Residential uses not specified above where a high hazard for contamination of the public water main is present, as deemed necessary by the City Public Works Department.

1" water services for standard single-family dwellings in the City will typically not require installation of a separate backflow prevention device, unless one of the aforementioned conditions is met.

Non-Residential Uses: All domestic and landscape water services for new commercial, industrial, public, institutional, or other non-residential uses shall require installation of an RPBP in accordance with City Standards.

Fire Services: Dedicated fire service lines 2" and under, including those serving single-family residences, shall require installation of an RPBP in accordance with City Standard Details.

Dedicated fire service lines 3" and above shall require installation of a Double Detector Check Assembly (DCDA) with Outside Stem and Yoke (OS&Y) valves in accordance with City Standard Details. This requirement includes private on-site water systems serving only fire hydrants.

RPBP's with detectors shall be required for fire service lines in the following instances:

a) Systems in which chemical additives may be used such as antifreeze or fire suppressants
b) Any building where a high hazard exists, as required by the City Engineer.

5.500 Valves, Fire Hydrants, and Other Appurtenances

5.501 Valves

Valves on mains shall be spaced and located in conformance with the following criteria:

- Valves shall have a minimum spacing of 500 ft.
- Valves shall be placed on each side of a water main crossing a separate right-of-way. Examples would include, but not be limited to: Canal crossings, aqueduct crossings, Caltrans highway crossings, and railroad crossings.
- At tees and crosses in public mains, valves shall be required at all legs. If there are minimal connections in between valves, valves may be eliminated at certain legs given the approval of the City Engineer.
- Private services extending from a tee in a public main shall require a valve on the service leg of the tee, and do not require valves on public main legs of the tee.
- At ends of mains or on stubs such that future extensions will not interrupt service.
- At fire hydrant laterals

5.502 Fire Hydrants

Fire hydrants shall be installed per City Standard Details. Where the main is located within 15 ft. of the hydrant location, the valve on the hydrant lateral shall be located at least 10 feet offset from the hydrant station and the lateral installed with 90 deg. elbows.

Fire hydrants shall be supplied from the largest available main, and shall be fed from 2 directions unless specifically approved otherwise by the City Engineer and the Stanislaus Consolidated Fire District. The exception to this would be hydrants placed at the end of cul-de-sacs.

Public fire hydrant spacing and distribution shall be as follows:

- 300 feet maximum spacing in high density, commercial, or industrial zoning.
- 500 feet maximum spacing in low density residential areas
- A fire hydrant shall be located within the bulb of all cul-de-sacs
- Hydrants shall be spaced as described above on both sides of an arterial street. On streets that are separated from buildings by a 6' restrictive wall, hydrants shall be placed at all street intersections with a maximum spacing of 1000' on both sides of the street.

Hydrant locations on all new projects, both public and private, shall be approved by the Stanislaus County Consolidated Fire District.

5.503 Blow-offs and Temporary Connections

Blow-offs per Standard Plan 511 shall be located at the ends of all dead-end mains, or as otherwise required by the City Engineer.

The location and type of temporary connections to the public main shall be approved by the City Engineer, and be installed as per the appropriate Standard Detail. The meter/backflow assembly shall be located to provide optimal flow for main flushing and to minimize disruption of public traffic upon device removal. The meter/backflow assembly is not required on new systems with less than 150 feet of 6" or smaller pipe.

5.504 Water Sampling Stations

Sampling stations shall be installed in new developments at the discretion of the City Engineer, and shall be constructed as per Standard Detail 512.

5.505 Tracer Wire

All non-conductive water mains shall be installed with tracer wire in accordance with the Standard Details. The locating wire is to be laid at the top of the pipe, and bare wire shall not touch valves or fittings.

City of Riverbank
CONSTRUCTION STANDARDS

WATER

SECTION 5: DOMESTIC WATER FACILITIES

General: Domestic water facilities shall be furnished and installed in accordance with these Construction Specifications and as shown on the plans.

Payment: Full compensation for furnishing all labor, materials, tools, equipment, excavating, backfilling, testing, disinfecting and flushing and for doing all work involved in installing the water system shown on the plans and as specified in these Construction Specifications shall be included in the appropriate contract item and no additional compensation will be allowed therefore.

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5.100 Materials

5.101 Water Main Pipe

Water main pipe 4" through 12" shall be either ductile iron pipe (DIP) conforming to the requirements of AWWA Standard C-151, Class 51 (4") or Class 50 (6" thru 12") with cement-mortar lining or polyvinyl chloride (PVC) pipe conforming to the requirements of AWWA Standard C-900, Cast Iron (CI) O.D. Class 150 (DR18) with elastomeric gasket (solvent weld is unacceptable). DIP shall have "Tyton" joints, "Tyseal" joints, or approved equal.

In addition to the above, the following requirements apply to all pipe joints:

- Solvent welded PVC is not allowed
- Mechanical joints are only allowed at fittings
- Cast-iron repair/adapter couplings may be used where approved by the City Engineer
- Water service lines shall be per Section D of these specifications

5.102 Miscellaneous Fittings

Pipe fittings shall conform to AWWA Standard C110, latest revision, and shall be of cast iron, match the make of pipe used, and be as specified by the manufacturer for use with the pipe specified. Joints in fittings and adapters shall be of the type with a seal ring groove for positively holding the rubber gaskets in place against the water pressure and shall be similar to the specified joint for the pipe used.

All cast iron fittings shall be coated outside and inside with a bituminous coating as per Section 10-3 of AWWA Standard C110, latest revision.

Flanged fittings are allowed, and shall be used where shown on the plans. Mechanical joint fittings are allowed provided the Contractor follows proper assembly procedures.

Not all pipe fittings required to do the work are shown on the plans. The Contractor shall furnish and install all fittings as necessary to accomplish grade and adjustment changes in conformance with the pipe manufacturer's recommendations and as approved by the Engineer.

5.103 Valves

Valves 2" through 12" valves shall be resilient seated gate valves or butterfly valves. Resilient seated gate valves shall be Mueller RS, American Darling CRS-80, Clow RS or approved equal and shall conform to the requirements of AWWA Standard C509, latest revision.

Butterfly valves shall be MH 450, Mueller Lineseal III, Clow 450 or approved equal and shall conform to the requirements of AWWA Standard C504, latest revision.

All valves shall open left (clockwise to close) and be equipped with a 2-inch AWWA operating nut. All valves shall be coated for buried service per AWWA Standards. All valves shall be Class 150 minimum.

Valves requiring operating wrenches exceeding 2 feet in length shall have extensions and guides as provided by the valve manufacturer installed in the valve riser.

The valve boxes shall be Christy G5 with cast iron cover and extensions and shall conform to City of Riverbank Standard Details. Cover shall have a free fit in the box. All valve boxes shall be adjusted to grade by the paving contractor as per the appropriate Standard Plan.

5.103 Service Lines and Fittings

Service lines and fittings shall be polyethylene CTS or copper for services 3 inches and smaller and ductile iron or polyethylene for services 4 inches and larger. All water services shall conform to the requirements shown on the appropriate Standard Details.

5.104 Fire Hydrants

Fire hydrants shall be furnished and installed in accordance with the Standard Details.

5.105 Backflow Prevention Devices

Backflow prevention devices including double detector checks and reduced pressure principle devices, shall be of a type approved by University of Southern California Foundation for Cross-Connection Control and Hydraulic Research Foundation (USC Foundation), and installed according to the manufacturer's specifications.

5.200 Installation

Water main pipe shall be installed in accordance with the manufacturer's recommendations, City Standard Plans, these Special Provisions and the improvement plans.

5.201 General Requirements:

Water mains shall be installed with due regard for protection from sanitary hazards, including current spacing and crossing requirements of the California Administrative Code, Title 22. Minimum pipe cover shall be 3 feet.

Thrust blocking shall be installed per City Standard Details at all bends, tees, dead ends, and changes in pipe diameter. Thrust blocking shall be placed so that the joints of the pipe and fittings will be accessible for repair.

The Contractor shall also take the necessary precautions to protect workers from asbestos fiber hazards. Reference is made to AWWA Manual M-16, "Work Practices for Asbestos-Cement Pipe." Use of any "non-recommended work practices" such as cutting any AC pipe with abrasive disc-dry tools is strictly forbidden.

Reference is made to AWWA Manual M23 "PVC Pipe - Design and Installation" and AWWA Standards C603 "Installation of Asbestos Cement Water Pipe", C600 "Installation of Gray and Ductile Cast-Iron Water Mains and Appurtenances", and C601 "Disinfecting Water Mains", and applicable California Department of Health Waterworks Standards.

The pipe must be kept exceptionally clean during installation since the use of calcium hypochlorite tablets prevents flushing before disinfection.

The City takes no responsibility for water quality downstream of temporary connections to the water system.

Hydrants installed but not in service shall be wrapped with burlap and wired and remain so until such time as the hydrants are in service. Holes may be cut in the burlap in order that the hydrant may be used for construction water.

5.202 Inspection

All water lines shall be inspected for proper installation by the City Engineer, prior to backfilling of trenches. If work is to be completed after normal business hours, Contractor shall call 869-3671 to arrange for an inspection to be made after normal business hours.

5.203 Disinfection

The preferred method of disinfection is continuous feed injection with a 24 hour contact time. The continuous feed method may be delayed until completion of the pressure test. The continuous feed method shall provide a dose of 100 parts per million.

If calcium hypochlorite tablets are used, the number shall be in accordance with the following table and disinfection shall be prior to pipe flushing, and after pressure testing.

	Diameter of Pipe (in.)			
Length of Section (ft)	6	8	10	12
13 or less	4	6	8	12
18 or 20	4	8	12	16

The table is based on 5 gram tablets per ounce (3.25 grams available chlorine per tablet), which is equal to 100 parts per million.

Residual chlorine ppm will be verified prior to flushing the line, at the direction of the City Engineer.

5.204 Connections to Existing Water Mains

Under no circumstances shall anyone other than a representative of the City of Riverbank Public Works Department open or close any valve in the existing City water system. Requests for valve operation shall be made to the Engineer at least 48 hours in advance. In cases where customer service will be interrupted, the request shall be made at least 48 hours in advance and the Contractor shall make satisfactory preparation for the planned work to minimize the interruption. The procedure shall be reviewed and approved by the City prior to the start of construction.

5.205 Connection Details

Shall be made per the appropriate Standard Detail(s). The number and location of temporary connections with meter assembly shall be approved by the City Engineer.

Upon request, the City will open its valve to the new pipe after the mains and services have been installed and backfilled and thrust blocks have cured for 48 hours.

5.206 PVC Pipe

Shall not be bent more than as recommended by the manufacturer. Joint deflections are not allowed. The Contractor shall take extra precautions to follow the pipe manufacturer's recommendations regarding rubber rings, fittings, tapping and installation practices.

5.300 Testing:

Official test for acceptance shall normally be conducted after compaction has been completed.

5.301 Pressure Test

All piping shall be tested to a pressure of 150 pounds per square inch (psi). All material, equipment and labor for testing shall be approved by the City prior to testing and shall be furnished without cost to the City of Riverbank. The system will be tested as directed by the Engineer as a unit or in sections not to exceed 1,000 lineal feet. Each unit tested shall successfully meet the requirements herein specified. The water services shall be considered as part of the main for test purposed and no allowance for additional leakage shall be made.

Unless otherwise directed by the Engineer, testing shall be accomplished by opening hydrants and service line cocks at the high points of the system and blowoffs at all dead ends. The valve controlling the admission of water into the section of pipe to be tested should be opened slowly and fully before closing the hydrants or blowoffs. After the system has been filled with water and all air expelled, all the valves controlling the section to be tested shall be closed, and the line remain in this condition for a period of not less than 24 hours.

The pipe shall then be refilled, if necessary, and subjected to a maintained pressure of not less than 150 pounds per square inch (psi) for a period of one hour.

Allowable leakage shall not exceed a rate in gallons per hour per 1000' lineal feet of pipeline of 0.25 multiplied by the pipe diameter in inches.
(gph per 1000' < 0.25 * pipe dia).

All leaks that are found shall be immediately corrected and the system again subjected to the same test.

All repairs of any damage to the pipes and their appurtenances, or to any other structures, resulting from or caused by these tests, shall be performed by the Contractor as the Engineer may direct, all without cost to the City of Riverbank.

5.302 Bacteriological Test

After the successful completion of the pressure tests, bacteriologic samples shall then be taken at locations and times specified by the City Engineer. Bacteriologic testing shall be performed at the expense of the contractor and will comply with the current AWWA standards. See AWWA website for current standards and requirements.

5.303 Final Connections to Existing Mains

After notification of passing bacteriological tests, the connections to the existing mains shall be completed by the Contractor per Standard Plan 507-B. Requests for City valve operation shall be made per these specifications.

Removal of the meter assembly and replacement with the flanged spool shall be accomplished is a sanitary manner. The nearest valves on the newly installed main shall be closed to minimize the amount of water that will enter the excavation. No water shall be allowed to reenter the main.

As each connection is made, the main shall be flushed such that the flow is away from the existing water system. Each connection shall be flushed in this manner until the entire new water system is flushed, all under the direction of the Engineer. Burlap wrapping shall be removed from all hydrants. At this point, the City will take over operation of the water system. The contractor will be responsible for the cost of repairing any damage to the system until acceptance by the City Council.

5.304 Backflow Certification

All backflow prevention devices installed shall be certified and tested in accordance with current regulations of the California-Nevada Section of the American Water Works Association (AWWA). Certification shall be provided to the City Public Works Department prior to acceptance of new backflow prevention devices.

In addition, the location of any backflow prevention device shall be field verified with the City Public Works Department, or their appointed representative, prior to installation.

City of Riverbank
STANDARD PLANS

WATER

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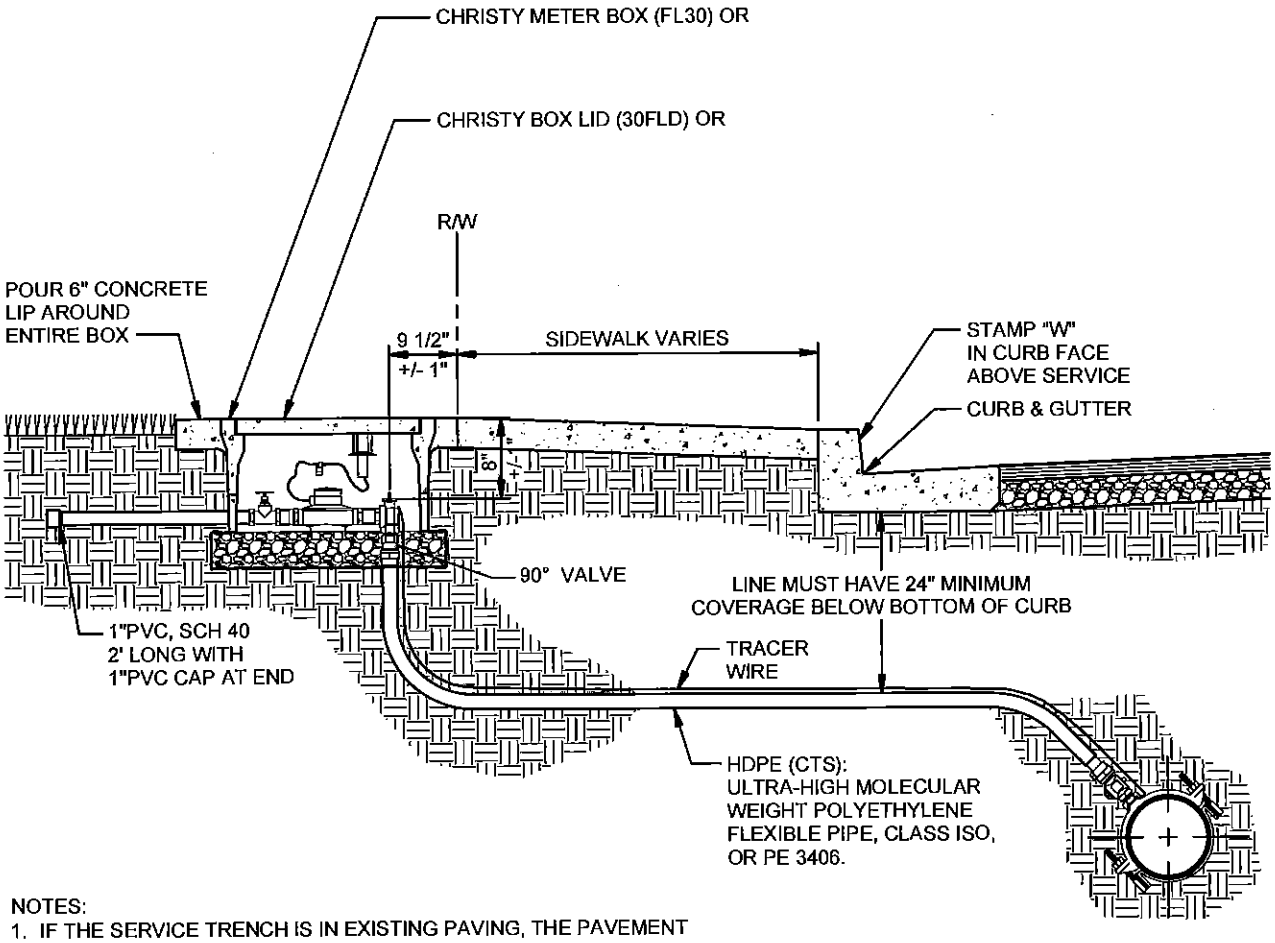


REFER TO (STD 502)

NOTES:

1. IF THE SERVICE TRENCH IS IN EXISTING PAVING, THE PAVEMENT SHALL BE REPLACED AS PER SPECIFICATIONS FOR MAIN LINE TRENCH.
2. CONTRACTOR/OWNER SHALL BE RESPONSIBLE FOR DAMAGE TO THE CURB, GUTTER AND SIDEWALK, INCLUDING DRAINAGE FROM SETTING THE TRENCH, IF THEY ARE INSTALLED PRIOR TO TRENCHING.
3. CURB, GUTTER AND SIDEWALK TO BE INSTALLED AFTER WATER SERVICE INSTALLATION, UNLESS OTHERWISE NOTED.
4. SERVICE LINE SHALL BE A MINIMUM OF 24" BELOW BOTTOM OF CURB.
5. ALL FITTINGS TO BE BRASS.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

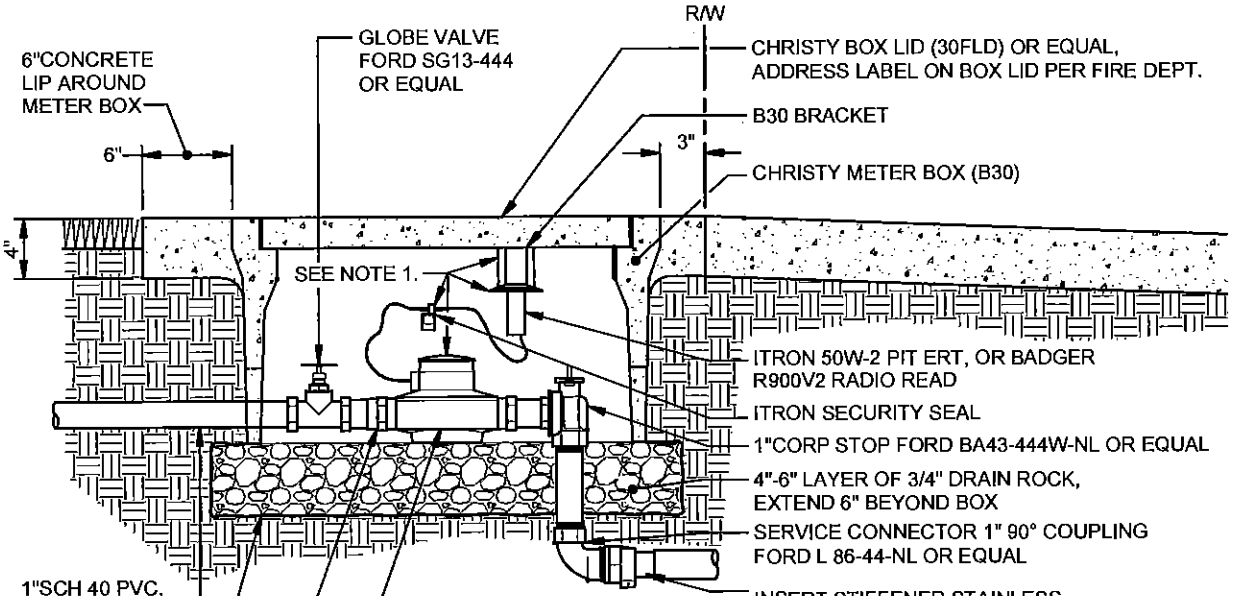
NEW 1" WATER SERVICE RESIDENTIAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	501
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 501.DWG		

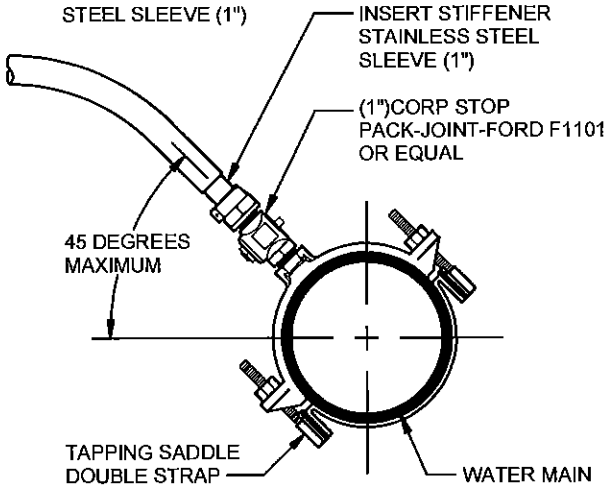
VENDOR:
CONTACT THE WATER SUPERVISOR
FOR VENDOR INFORMATION:
CITY OF RIVERBANK
6707 THIRD ST (MAILING)
2901 HIGH ST
RIVERBANK, CA 95367
PHONE (209)869-7128

METER INFORMATION:
1"BADGER METER MODEL 55
ADE 67 DIAL CUBIC FEET

NOTES:
1. CONTRACTOR/OWNER TO FURNISH AND INSTALL NEW 1" WATER METER, SENDING UNIT, BRACKET AND SECURITY SEAL PER METER INSTALLATION MANUALS. REFER TO ATTACHED DETAILS.
2. CITY TO INSPECT INSTALLATION OF METER AND SENDING UNIT, VERIFY METER NUMBER TO HOUSE ADDRESS PRIOR TO HOUSE OCCUPANCY.
3. CONTRACTOR TO TAKE SPECIAL CARE AS NOT TO CROSS THREAD BRASS FITTINGS ONTO PLASTIC METER. THIS WILL DAMAGE THE METER. PLEASE CONTACT THE PUBLIC WORKS DEPARTMENT AT (209)869-7128, IF YOU HAVE ANY INSTALLATION QUESTIONS.



DETAIL "B"



DETAIL "A"

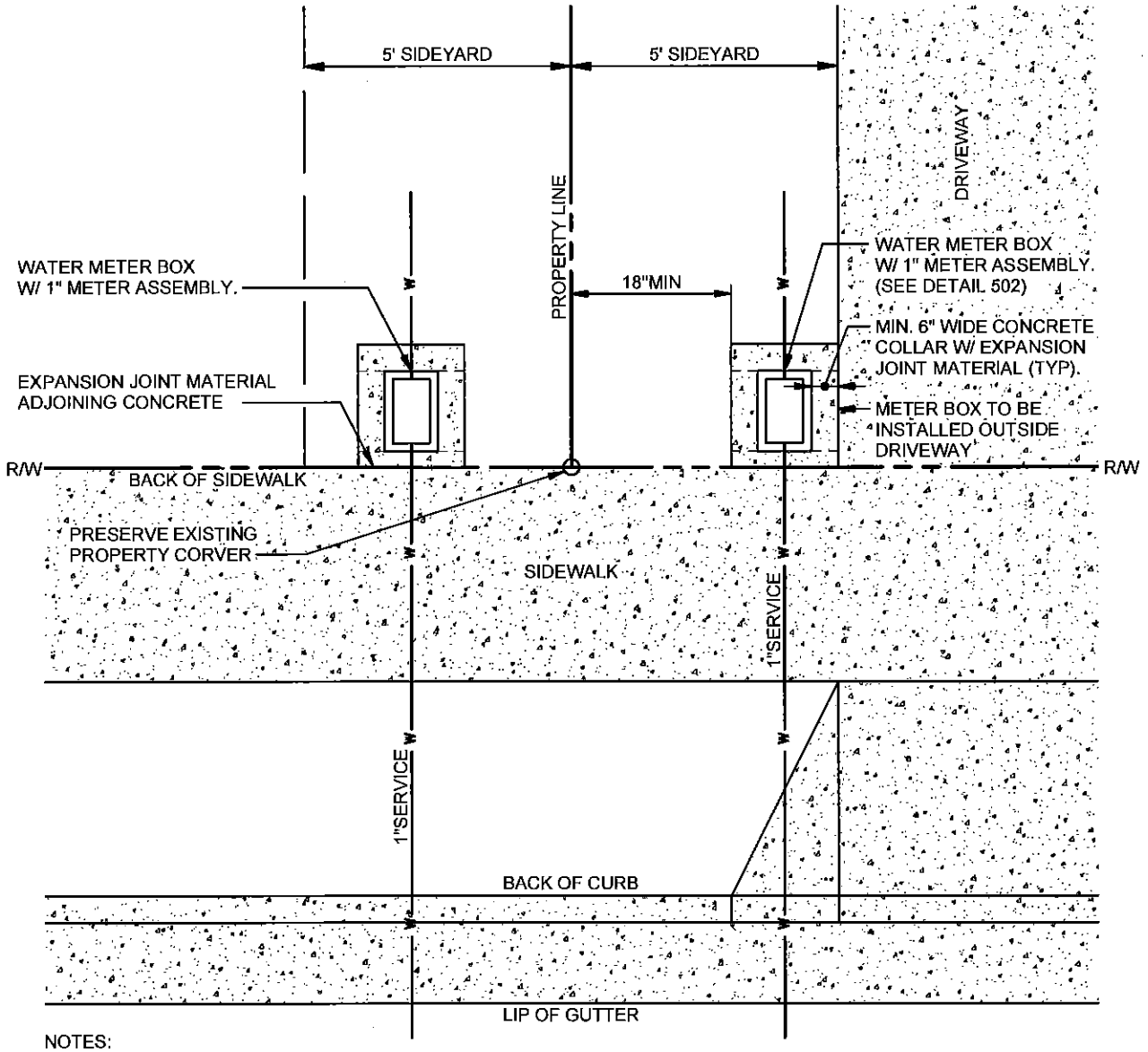
(* CALTRANS STANDARD H7 WOVEN WIRE CLOTH)

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

NEW 1" WATER SERVICE RESIDENTIAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	502
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 502.DWG		



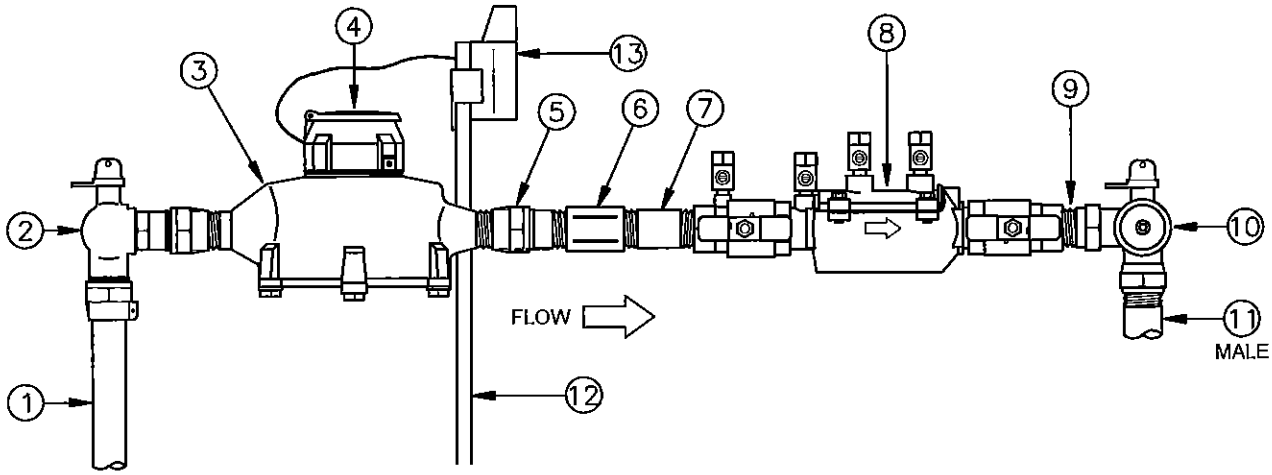
NOTES:

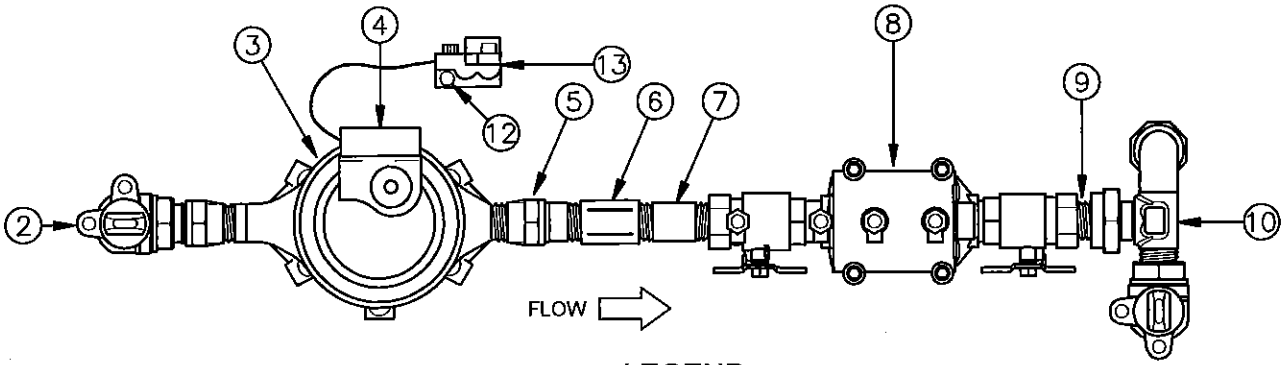
1. THE PREFERRED LOCATION FOR THE NEW RESIDENTIAL WATER SERVICE IS 18" TO 5 FEET OFF THE PROPERTY CORNER AND ON THE OPPOSITE SIDE OF THE LOT FROM JOINT TRENCH SERVICES (CABLE, GAS, ELECTRIC PHONE, AND SEWER). HOWEVER, THIS STANDARD LOCATION MAY BE SHIFTED FURTHER FROM THE PROPERTY LINE AS NECESSARY TO AVOID CONFLICTS WITH OTHER UTILITIES.

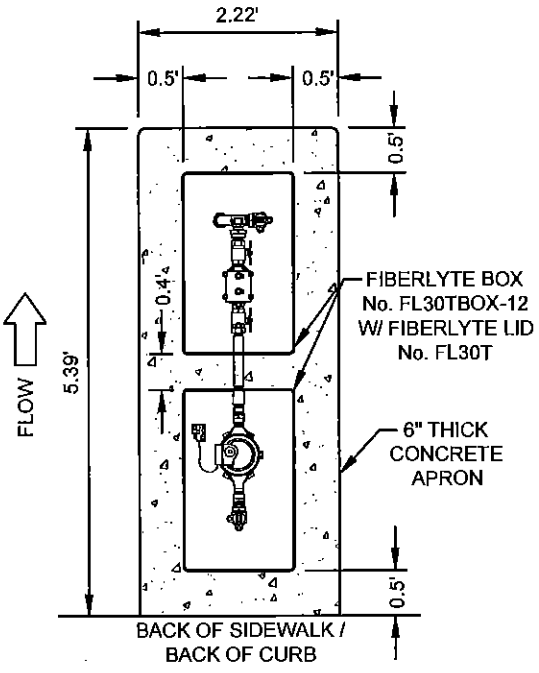
2. IN NO CASE SHALL A WATER SERVICE BOX BE LOCATED WITHIN DRIVEWAY, OR WITHIN OTHER AREAS OF ONSITE CONCRETE (i.e. SLABS, SIDEWALKS, DECORATIVE). EXCEPTIONS TO THIS RULE WILL BE GRANTED ONLY WHEN IT IS NOT PRACTICAL OR FEASIBLE TO KEEP THE SERVICE BOX OUT OF THE DRIVEWAY, AND SHALL REQUIRE SPECIFIC APPROVAL BY THE CITY ENGINEER. SERVICES WITHIN DRIVEWAYS, IF ALLOWED, WILL REQUIRE A TRAFFIC RATED BOX AND CAST IRON LID.

3. THE CONTRACTOR IS TO PRESERVE ALL PROPERTY CORNERS. DAMAGED OR REMOVED CORNERS WILL REQUIRE REPLACEMENT BY A LICENSED LAND SURVEYOR, AT THE CONTRACTOR'S EXPENSE.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS William F. Kull CITY ENGINEER - WILLIAM F. KULL			1" WATER SERVICE METER BOX LOCATION	
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 503
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 503.DWG		







LEGEND

1. 1" CTS(POLY PIPE) SUPPLY LINE FROM WATER MAIN.
2. FORD 1" ANGLE BALL VALVE - MODEL BA43-444W-NL.
3. BADGER METER - MODEL 55, 1" RECORDALL COLD WATER BRONZE DISC METER WITH BRASS BOTTOM.
4. BADGER METER - ADE 6-DAIL ENCODER REGISTER WITH ITRON IN-LINE CONNECTOR, CU FT.
5. FORD METER COUPLING - MODEL C38-44-2-NL.
6. 1" BRASS COUPLING
7. 1"SCH-80 PVC NIPPLE (ADJUST LENGTH TO SPAN SERVICE BETWEEN TWO FIBERLYTE BOXES)
8. WILKINS - DOUBLE CHECK VALVE ASSEMBLY - MODEL 950XLT2 OR 350XLT2.
9. 1" THREADED BRASS NIPPLE.
10. FORD ELL TEE FOR FIRESETTER,1"IN X 1"OUTLETS - MODEL LTBA 113-444W-AWT-NL, OR EQUIVALENT.
11. (2)1"SCH-40 SUPPLY LINES TO RESIDENCE - WATER SERVICE AND FIRE SERVICE, OR EQUIVALENT.
12. 18" FIBERGLASS MOUNTING ROD.
13. 100W ERT® COMMUNICATION MODULE, SHOULD BE MOUNTED ABOUT 2" BELOW FIBERLYTE, COMPOSITE OR PLASTIC (RADIO FRIENDLY) LID.

NOTE: WATER & FIRE SERVICE ASSEMBLY TO BE SET WITHIN TWO FIBERLYTE BOXES - No. FL30TBOX-12, WITH FIBERLYTE LIDS No. FL30T. BOXES TO BE INSTALLED IN LINE AND ALLOW ACCESS TO ALL VALVES. BLOCK BELOW BOX CUTOUTS WITH PRESSURE TREATED 2x'S.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

NEW 1" WATER & FIRE SERVICE - RESIDENTIAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY CITY COUNCIL	DRAWING NO.
GK	7/21/15	NTS	9-23-14	504
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 504.DWG		

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

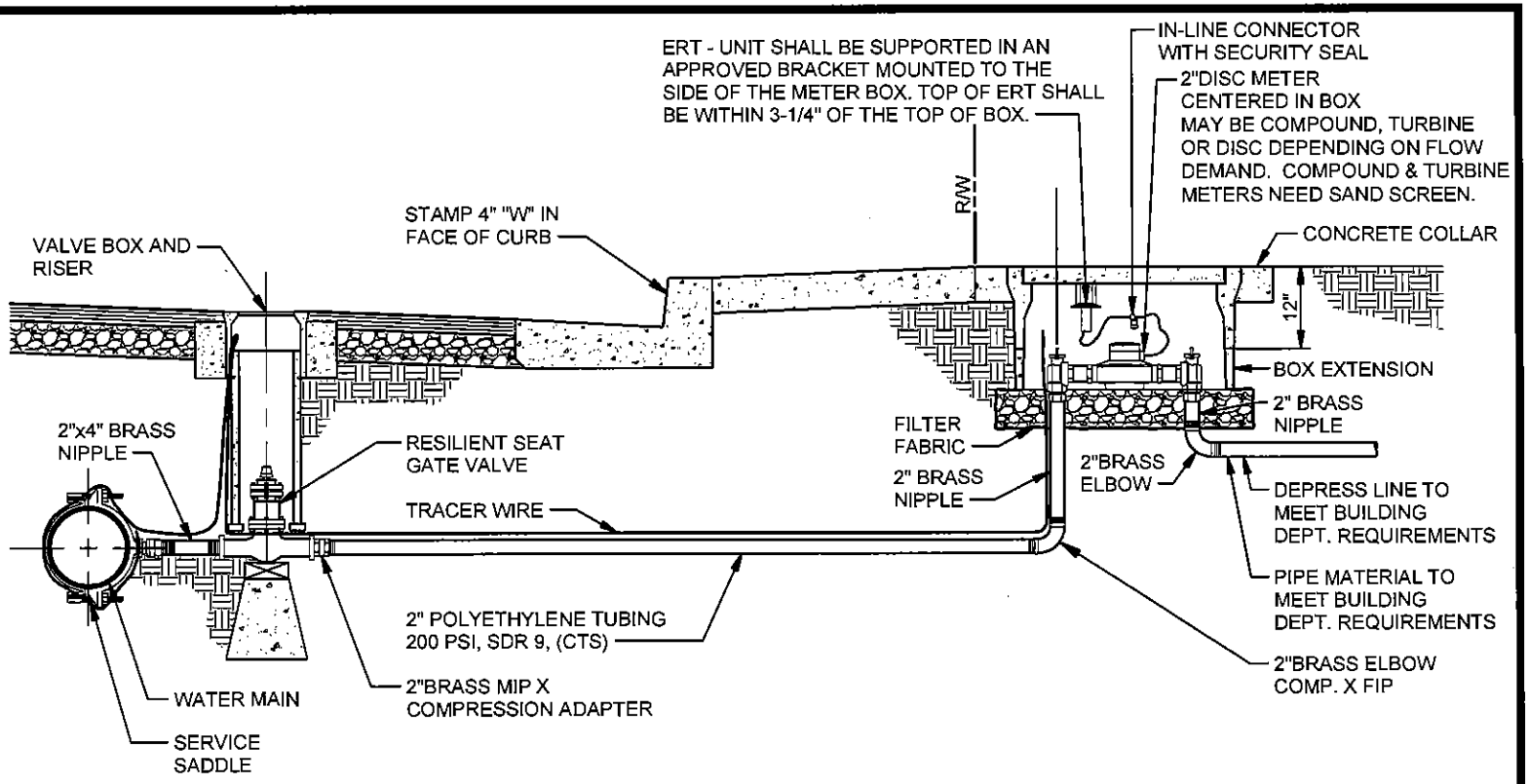
DRAWN BY: GK | DATE: 7/21/15 | SCALE: NTS

REVISIONS: NONE | SECTION: WATER | DRAWING NAME: 505.DWG

2" WATER SERVICE

ADOPTED BY THE CITY COUNCIL: 9-23-14

DRAWING NO. 505



NOTES:

1. ALL COMPRESSION FITTINGS SHALL HAVE STAINLESS STEEL INSERTS.
2. METER SHALL BE FURNISHED AND SET BY CONTRACTOR. PROVIDE ERT AND TRANSMITTING REGISTER WITH 5' LEAD.
3. SERVICE LATERAL AND BUILDING SUPPLY LINE SHALL BE INSTALLED UNDER BOX.
4. EXTEND BUILDING SERVICE LINE TO A MINIMUM OF EITHER 2' BEYOND BACK OF METER BOX OR 2' BEYOND BACK OF SIDEWALK AND CAP.
5. REFER TO CITY WATER STANDARDS FOR CONSTRUCTION STANDARDS, SPECIFICATIONS AND ENGINEERS LIST OF APPROVED MATERIALS.
6. NO FENCING SHALL BE INSTALLED BETWEEN STREET AND METER BOX.
7. DISTANCE BETWEEN BOX ENDS AND ANGLE BALL METER VALVES TO BE EQUAL.
8. CONNECT SERVICE TRACER WIRE TO THE TRACER WIRE ON THE MAIN. IN ABSENCE OF MAIN TRACER WIRE, WRAP SERVICE TRACER WIRE AROUND THE MAIN. RUN CONTINUOUS FROM MAIN TO METER BOX WITH LOOPS INTO EACH VALVE BOX.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

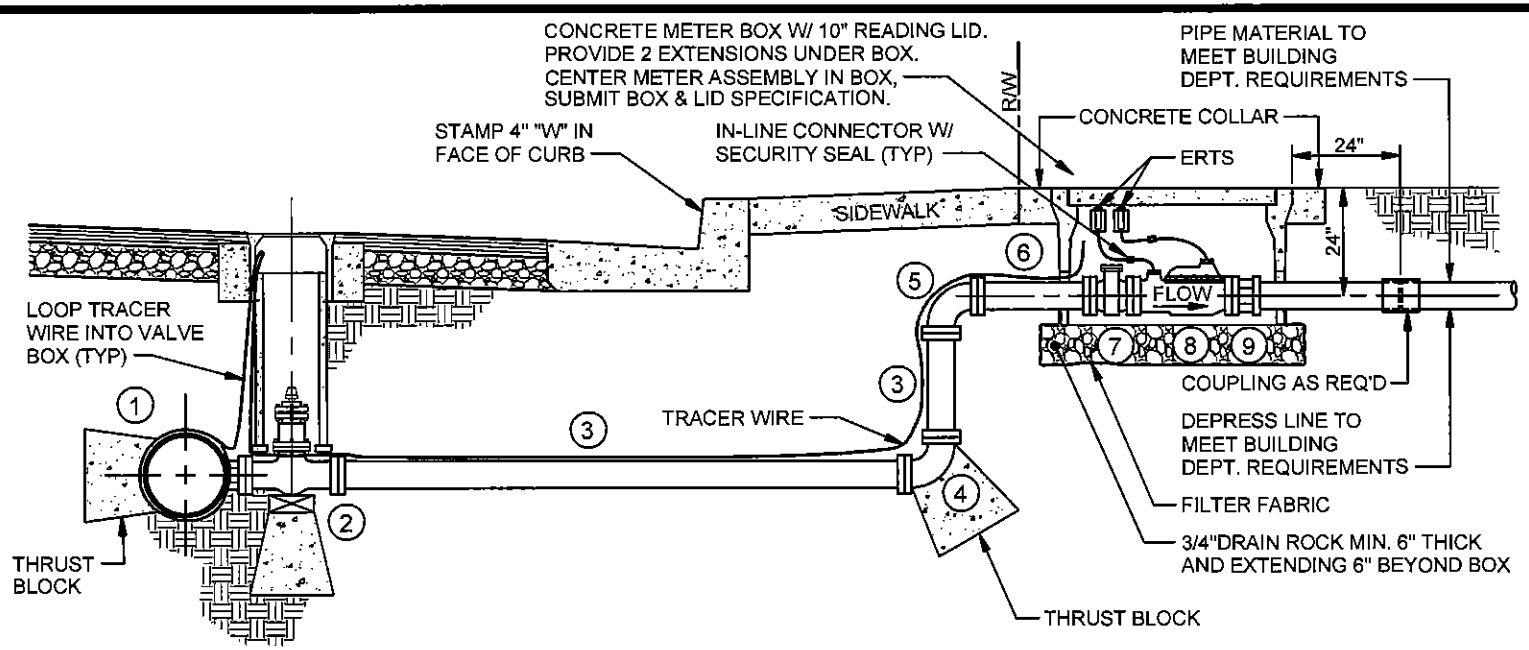
DRAWN BY: GK
DATE: 7/21/15
SCALE: NTS
DRAWING NAME: 506.DWG

REVISIONS: NONE
SECTION: WATER

WATER SERVICE
4" AND LARGER

ADOPTED BY THE CITY COUNCIL: 9-23-14

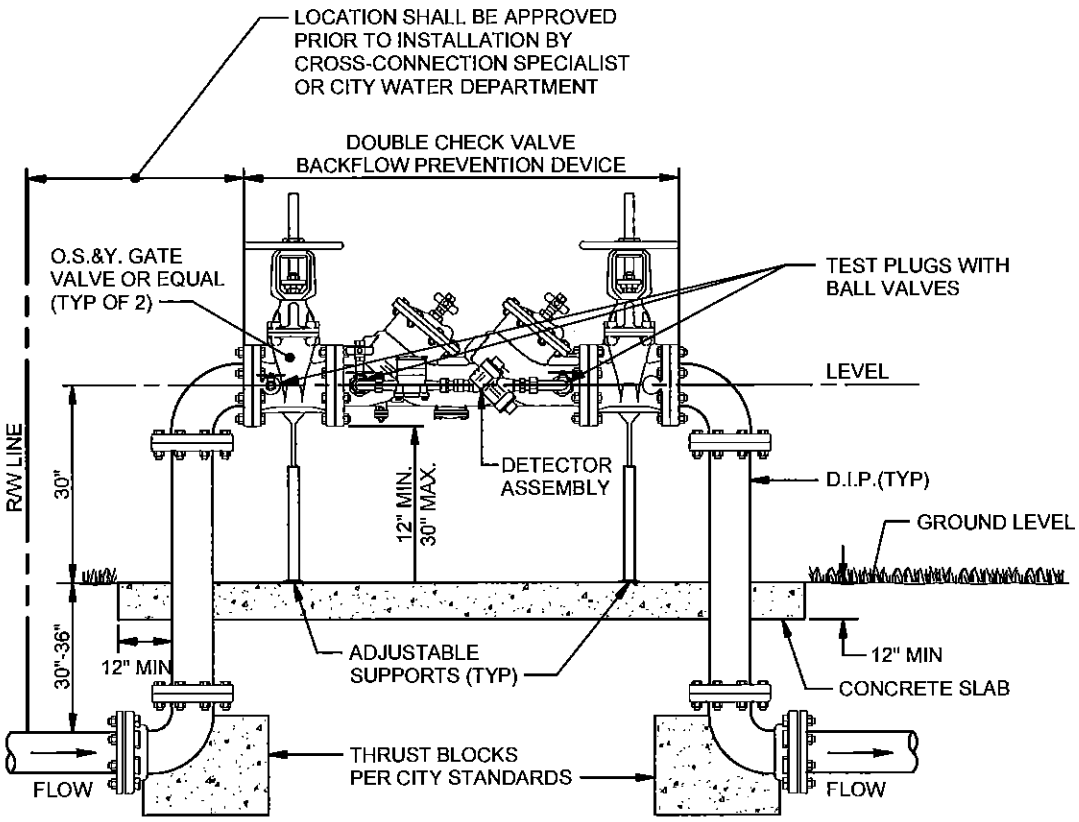
DRAWING NO. 506



NOTES:

1. SET METER BOX FLUSH WITH FINISHED SURFACE.
2. METER ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR. PROVIDE ERTS AND TRANSMITTING REGISTERS WITH 5 FT. LEADS.
3. REFER TO CITY STANDARD 515 FOR GATE VALVE INSTALLATION DETAILS. VALVES MAY BE INSTALLED IN SIDEWALK WHERE SPACE LIMITATIONS EXIST.
4. REFER TO CITY WATER STANDARDS FOR CONSTRUCTION STANDARDS, SPECIFICATIONS AND ENGINEER'S LIST OF APPROVED MATERIALS.
5. PIPE OPENINGS IN METER BOX SHALL BE CUT - DO NOT USE HAMMER. PRIOR TO BACKFILLING, PIPE OPENINGS AND BOX JOINTS SHALL BE GROUTED.
6. CONNECT SERVICE TRACER WIRE TO THE TRACER WIRE ON THE MAIN. IN ABSENCE OF MAIN TRACER WIRE, WRAP SERVICE TRACER WIRE AROUND THE MAIN. RUN CONTINUOUS FROM MAIN TO METER BOX WITH LOOPS INTO EACH VALVE BOX.
7. ERTS TO BE MOUNTED IN APPROVED BRACKET ATTACHED TO BOX WITH STAINLESS STEEL ANCHORS. THE TOP OF ERTS SHALL BE NO MORE THAN 3-1/4" BELOW TOP OF BOX.
8. NO FENCING SHALL BE INSTALLED BETWEEN STREET AND METER BOX.
9. ALL METER ASSEMBLIES SHALL BE BADGER MODEL FSAA-01.

NO	ITEM DESCRIPTION
①	TEE OR TAPPING TEE WITH FLANGED OUTLET
②	GATE VALVE, FLG X MJ
③	DIP, PVC (LENGTH AS REQUIRED, INTERMEDIATE JOINTS RESTRAINED)
④	90° ELL, MJ W/ MEGA-LUG RETAINER GLANDS
⑤	90° ELL, MJ W/ MEGA-LUG RETAINER GLAND X FLG
⑥	DIP SPOOL, FLG (24" MIN. LENGTH)
⑦	PLATE STRAINER
⑧	COMPOUND METER W/ 2 TRANSMITTING REGISTERS AND 2 ERTS
⑨	FLANGED COUPLER ADAPTER



FIRE SERVICE-DOUBLE CHECK DETECTOR ASSEMBLY

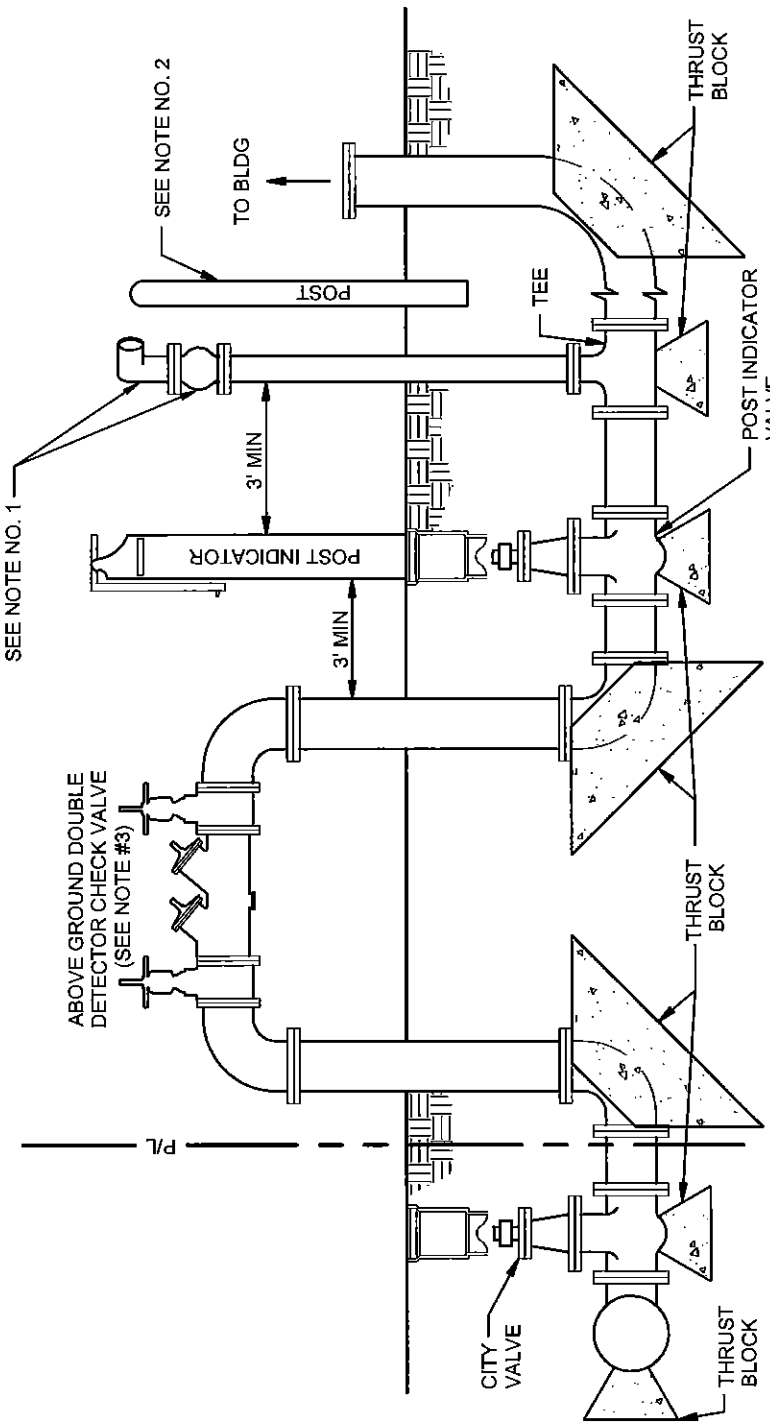
NOTES:

1. REQUIRED BY TITLE 17 OF THE CALIF. DEPT OF HEALTH SERVICES, MODEL OF BACKFLOW DEVICE TO BE DETERMINED FOR EACH INSTALLATION DEPENDING ON THE TYPE OF HAZARD AND UPON ALLOWABLE HEAD LOSS.
2. BARRIER POST SHALL BE LOCATED TO PROTECT PIPING AND VALVES. CURB AND PARKING BARRIERS CAN BE CONSIDERED PROTECTION IF EFFECTIVELY LOCATED.
3. DEVICE SHALL BE ACCESSIBLE FOR TESTING AND MAINTENANCE.
4. CERTIFICATION REQUIRED PRIOR TO ACCEPTANCE.
5. ALL DESIGN PLANS ARE TO BE SUBMITTED TO THE CROSS-CONNECTION SPECIALIST FOR APPROVAL AND A CROSS CONNECTION SURVEY IS TO COMPLETED TO EVALUATE HAZARDS THAT POSSIBLY EXIST.
6. ELECTRONICALLY MONITORED TAMPER SWITCHES ARE BE REQUIRED IN ACCORDANCE WITH NFPA72.

MATERIALS:

1. ALL STEEL PIPE SHALL BE AS PER AWWA C-200 WITH 1/4" WALL COATED AND LINED BY FUSION BONDED EPOXY AS PER AWWA C-213, 20 MILS MINIMUM
2. ALL STEEL FLANGES SHALL BE CLASS D AS PER AWWA C-207
3. ALL DUCTILE IRON FITTINGS SHALL MEET AWWA C-153 CLASS 150. THE INTERIOR SHALL BE MORTAR LINED AS PER AWWA C-104 AND BELOW GROUND EXTERIOR SHALL HAVE A COAL TAR COATING AS PER AWWA C-203.
4. ALL NUTS AND BOLTS BELOW GROUND SHALL BE POLYETHYLENE ENCASED AS PER AWWA C-105 AT TAPE WRAPPED AS PER AWWA C-209. 20 MILS MINIMUM IN BOTH CASES.
5. STEEL CAGE & BLANKET REQUIRED.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS William F. Kull CITY ENGINEER - WILLIAM F. KULL			FIRE SERVICE DOUBLE DETECTOR CHECK VALVE	
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 507
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 507.DWG		



NOTES:

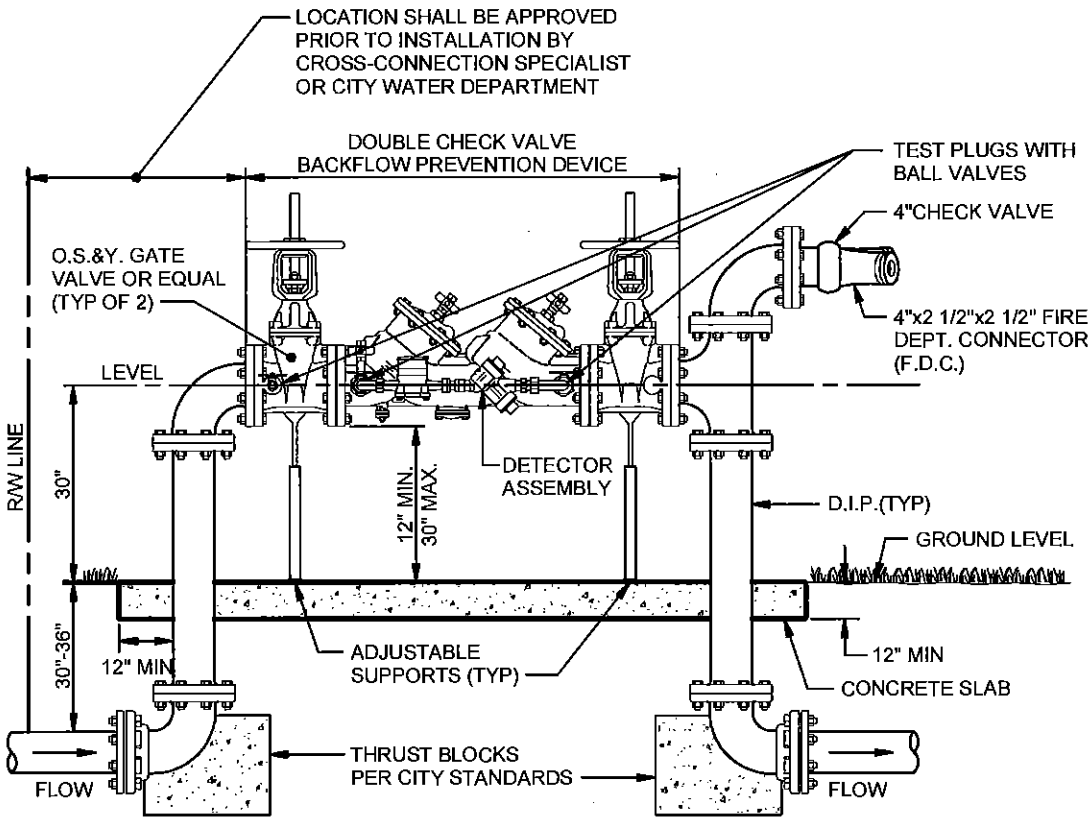
1. LISTED AND APPROVED FIRE DEPT. CONNECTION WITH CHECK VALVE PER CITY OF MODESTO FIRE DEPT. REQUIREMENTS.
2. GUARD POSTS AS REQUIRED.
3. DOUBLE CHECK VALVE WITH VALVES DETERMINED BY FIRE SPRINKLER DESIGNER WITH APPROVAL BY THE CITY CROSS CONNECTION SPECIALIST. ALSO REQUIRED FOR FIRE HYDRANTS ON PRIVATE PROPERTY.
4. CLASS 3-6 FIRE SPRINKLER SYSTEMS SHALL REQUIRE A REDUCED PRESSURE DEVICE. PLANS SHALL BE APPROVED BY THE CROSS CONNECTION SPECIALIST.
5. CLASS 200, C-900 PIPE.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

FIRE SERVICE DOUBLE DETECTOR CHECK VALVE WITH P.I.V. AND F.D.C.

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	508
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 508.DWG		



FIRE SERVICE-DOUBLE DETECTOR CHECK VALVE WITH FIRE DEPARTMENT CONNECTION

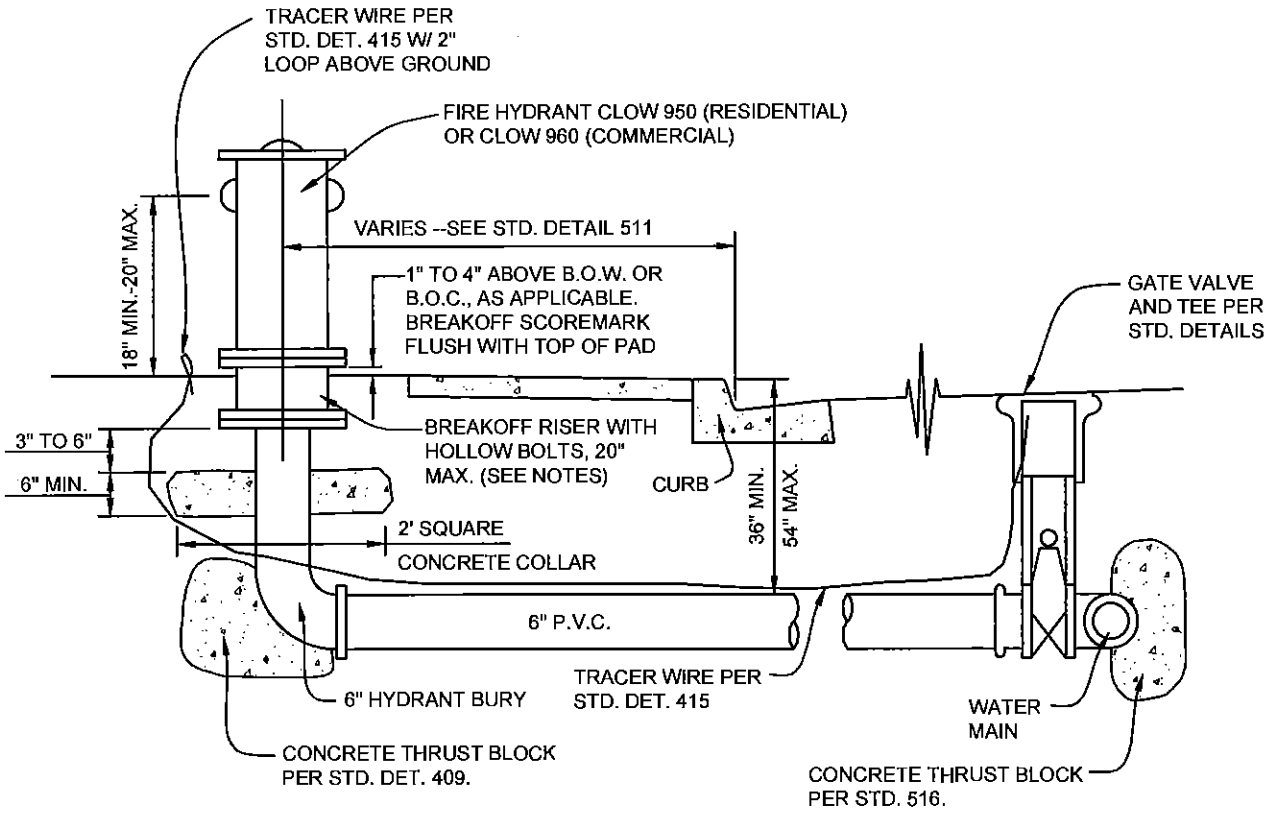
NOTES:

1. REQUIRED BY TITLE 17 OF THE CALIF. DEPT OF HEALTH SERVICES, MODEL OF BACKFLOW DEVICE TO BE DETERMINED FOR EACH INSTALLATION DEPENDING ON THE TYPE OF HAZARD AND UPON ALLOWABLE HEAD LOSS.
2. BARRIER POST SHALL BE LOCATED TO PROTECT PIPING AND VALVES. CURB AND PARKING BARRIERS CAN BE CONSIDERED PROTECTION IF EFFECTIVELY LOCATED.
3. DEVICE SHALL BE ACCESSIBLE FOR TESTING AND MAINTENANCE.
4. CERTIFICATION REQUIRED PRIOR TO ACCEPTANCE.
5. ALL DESIGN PLANS ARE TO BE SUBMITTED TO THE CROSS-CONNECTION SPECIALIST FOR APPROVAL AND A CROSS CONNECTION SURVEY IS TO COMPLETED TO EVALUATE HAZARDS THAT POSSIBLY EXIST.
6. ELECTRONICALLY MONITORED TAMPER SWITCHES ARE REQUIRED IN ACCORDANCE WITH NFPA72.

MATERIALS:

1. ALL STEEL PIPE SHALL BE AS PER AWWA C-200 WITH 1/4" WALL COATED AND LINED BY FUSION BONDED EPOXY AS PER AWWA C-213, 20 MILS MINIMUM
2. ALL STEEL FLANGES SHALL BE CLASS D AS PER AWWA C-207
3. ALL DUCTILE IRON FITTINGS SHALL MEET AWWA C-153 CLASS 200. THE INTERIOR SHALL BE MORTAR LINED AS PER AWWA C-104 AND BELOW GROUND EXTERIOR SHALL HAVE A COAL TAR COATING AS PER AWWA C-203.
4. ALL NUTS AND BOLTS BELOW GROUND SHALL BE POLYETHYLENE ENCASED AS PER AWWA C-105 AT TAPE WRAPPED AS PER AWWA C-209. 20 MILS MINIMUM IN BOTH CASES.
5. STEEL CAGE AND BLANKET REQUIRED.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS William F. Kull CITY ENGINEER - WILLIAM F. KULL			FIRE SERVICE DOUBLE DETECTOR CHECK VALVE WITH F.D.C.	
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 509
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 509.DWG		



NOTES:

1. ALL FIRE HYDRANTS ARE TO HAVE HOLLOW BOLTS LOCATED THROUGH THE FIRE HYDRANT FLANGE WITH THEM POINTING DOWN.

2. ALL FIRE HYDRANTS WILL BE INSTALLED SO THAT THE DISTANCE BETWEEN THE CENTER OF THE 4 1/2" OUTLET AND THE TOP OF SIDEWALK OR CURB IN ALL ZONES WILL BE NO LESS THAN 18" AND NO GREATER THAN 20".

3. ALL HYDRANTS SHALL BE PAINTED SAFETY YELLOW AT THE FACTORY AND FURNISHED WITH NATIONAL STANDARD HOSE THREAD OUTLETS AND CAST IRON CAPS.

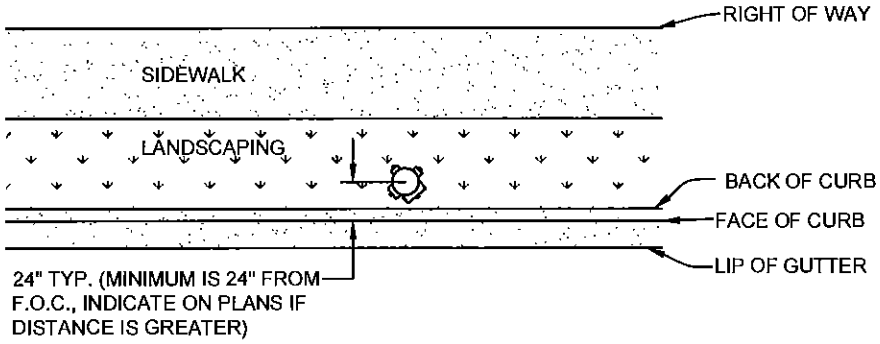
4. INSTALL GUARD POSTS WHERE HYDRANTS ARE INSTALLED IN PAVED AREAS ACCESSIBLE TO TRAFFIC, OR AS OTHERWISE DIRECTED BY THE CITY ENGINEER.

5. ALL FIRE HYDRANTS WHEN INSTALLED, POSITIONED OR REPOSITIONED SUCH THAT THE 4 1/2" DISCHARGE IS 45 DEGREES FROM THE RUN OF THE STREET. IF LOCATED ON A CORNER, 4 1/2" DISCHARGE SHALL BE 45 DEGREES FROM RUN OF NEAREST STREET.

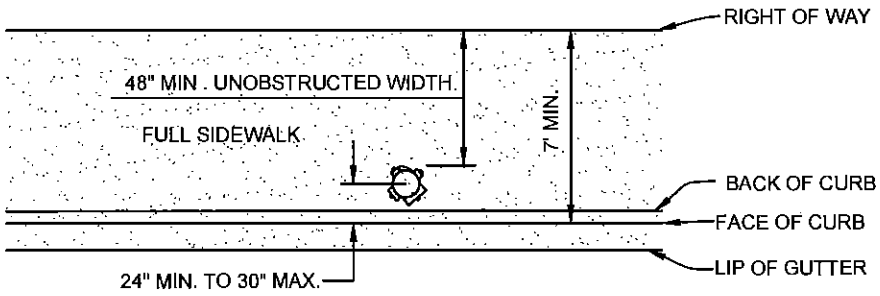
6. HYDRANTS SHALL HAVE ONE 4-1/2" OUTLET, AND TWO 2-1/2" OUTLETS MINIMUM, AND SHALL BE OF A TYPE APPROVED BY THE STANISLAUS CONSOLIDATED FIRE DISTRICT.

7. EACH HYDRANT SHALL BE INSTALLED WITH A BLUE RETROREFLECTIVE PAVEMENT MARKER, INSTALLED 6" FROM THE ADJACENT CENTERLINE OF THE ROADWAY. IF ON A CORNER, MARKERS WILL BE PLACED ON BOTH ADJACENT STREETS.

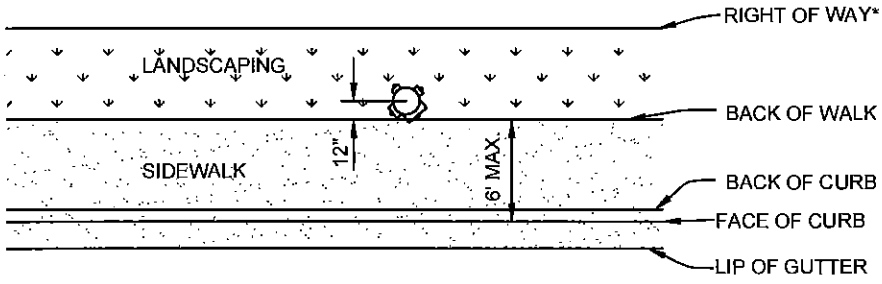
CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			FIRE HYDRANT INSTALLATION	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 510
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 510.DWG		



SPLIT LANDSCAPE / SIDEWALK



FULL SIDEWALK



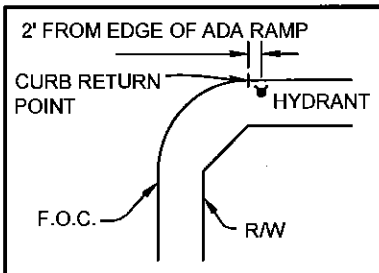
SIDEWALK ADJACENT TO CURB

* NOTE: EASEMENT OR ADDITIONAL R/W DEDICATION WILL BE REQUIRED IF SUFFICIENT LANDSCAPE AREA IS NOT AVAILABE WITHIN R/W FOR INSTALLATION OF HYDRANT.

NOTES:
1. MAINTAIN 48" MIN. CLEAR UNOBSTRUCTED TRAVEL WAY ON SIDEWALKS AND 24" MIN. CLEARANCE FROM F.O.C. IN LOCATIONS WITH DIFFERENT WIDTHS THAN SHOWN ABOVE.

2. HYDRANTS SHALL BE INSTALLED A MIN. OF 5' FROM THE EDGE OF RESIDENTIAL DRIVEWAYS, AND 10' FROM COMMERCIAL DRIVEWAYS. (DISTANCE TAKEN FROM DRIVEWAY THROAT)

3. THE PREFERRED LOCATION FOR HYDRANTS ARE ON CURB RETURNS. HYDRANTS ON STRAIGHT RUNS SHALL BE LOCATED ON PROPERTY LINES WHENEVER POSSIBLE.



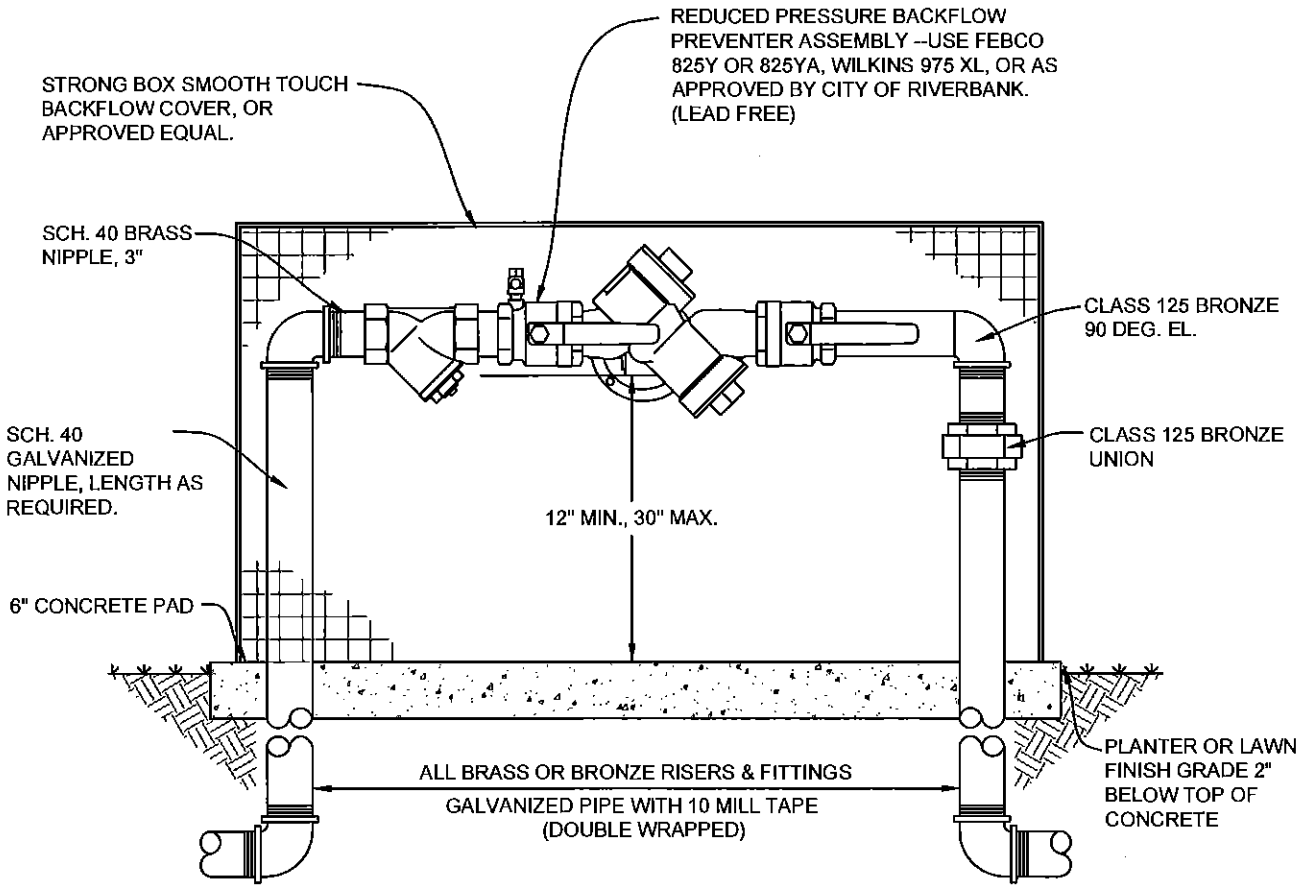
CURB RETURN LOCATION

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

FIRE HYDRANT LOCATION

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	511
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 511.DWG		

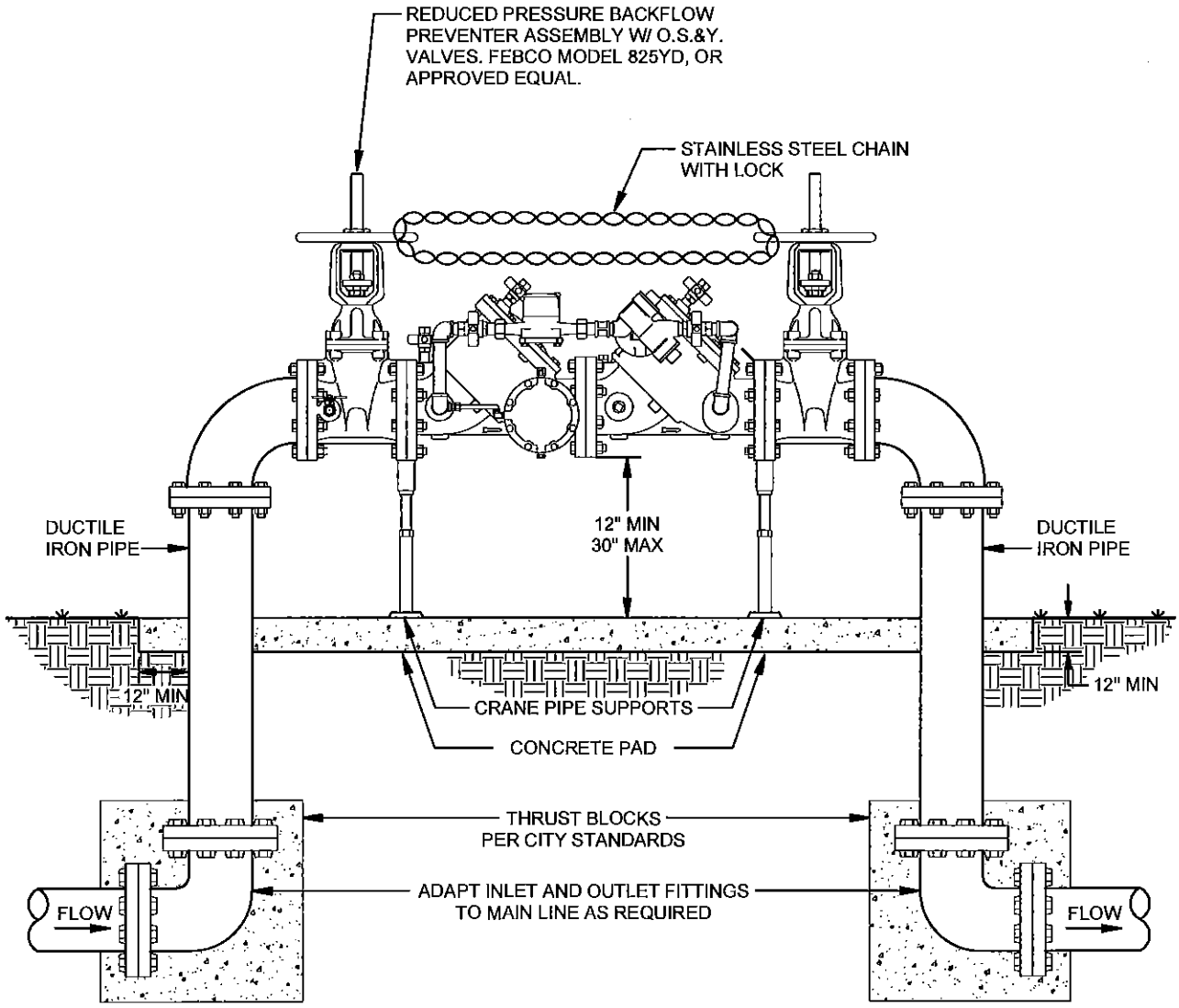


NOTES:

1. INSTALL APPROPRIATELY SIZED WEATHER BLANKET AND CAGE TO ALL BACKFLOW PREVENTION DEVICES.

2. BACKFLOW PREVENTERS SHALL BE PLACED IN LANDSCAPE AREAS, A MIN. OF 24" CLEAR FROM ADJACENT CURBS. BACKFLOW PREVENTERS NOT PLACED IN CURBS SHALL REQUIRE GUARD POSTS TO THE SATISFACTION OF THE CITY ENGINEER.

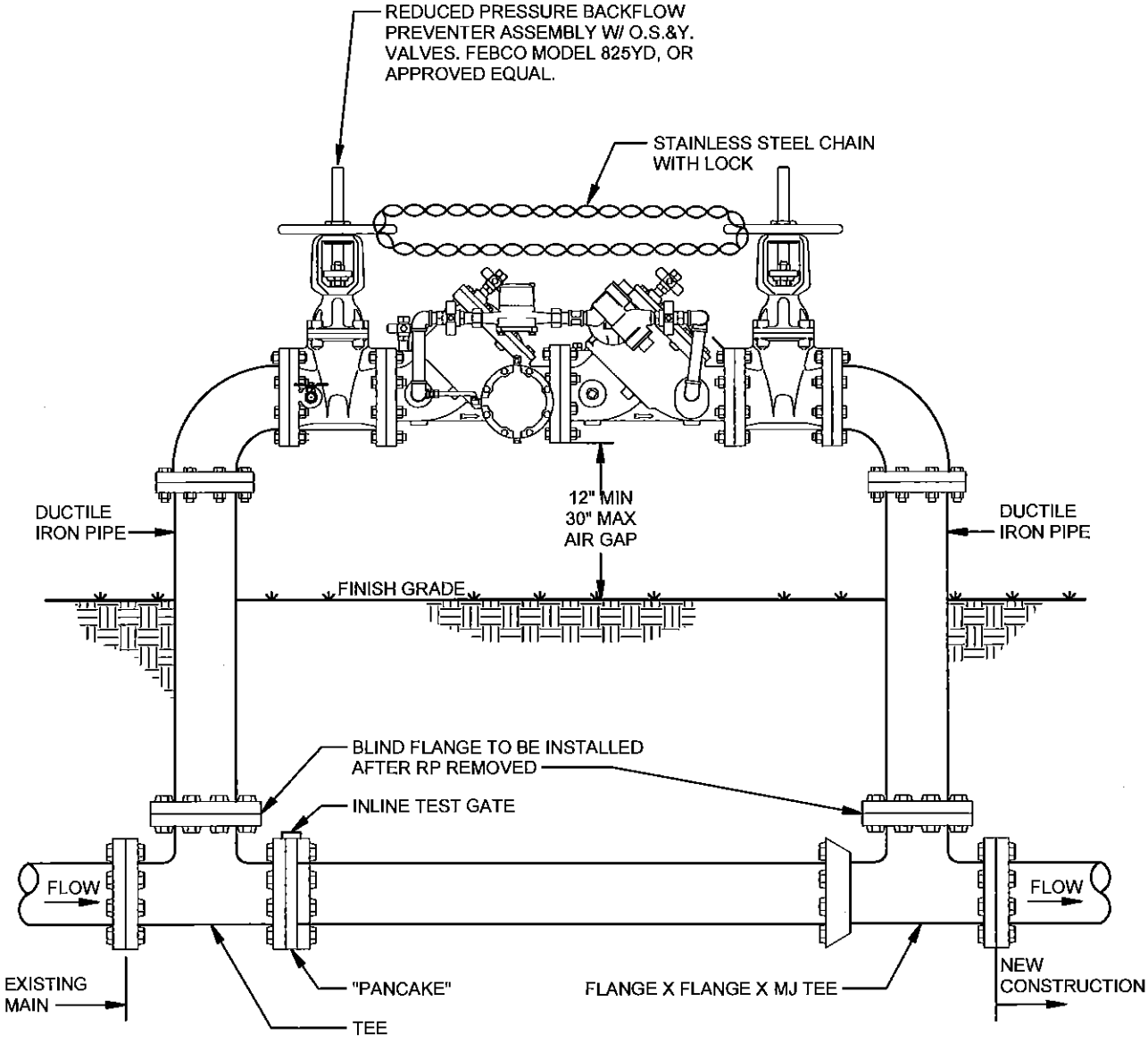
CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY 1" TO 2 1/2" SIZE	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 512
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 512.DWG		



NOTES:

1. INSTALL 12" AIR GAP MINIMUM (CONSULT LOCAL CODE)
2. ALL CONNECTIONS ON ASSEMBLY TO BE FLANGED.
3. BACKFLOW ASSEMBLY SHOULD BE PLACED IN A PLANTER SO THAT PLAN MATERIAL WILL SCREEN VIEW OF THE ASSEMBLY FROM THE STREET.
4. INSTALL APPROPRIATELY SIZED WEATHER BLANKET AND CAGE.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY FOR 3" & LARGER	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 513
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 513.DWG		



NOTES:

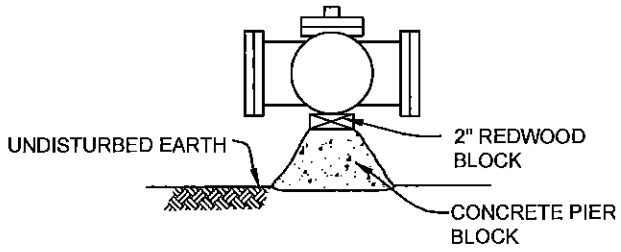
1. BACKFLOW DEVICE TO BE SAME SIZE AS EXISTING MAIN.
2. CONTRACTOR TO PROVIDE INLINE METER IF REQUIRED BY CITY.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

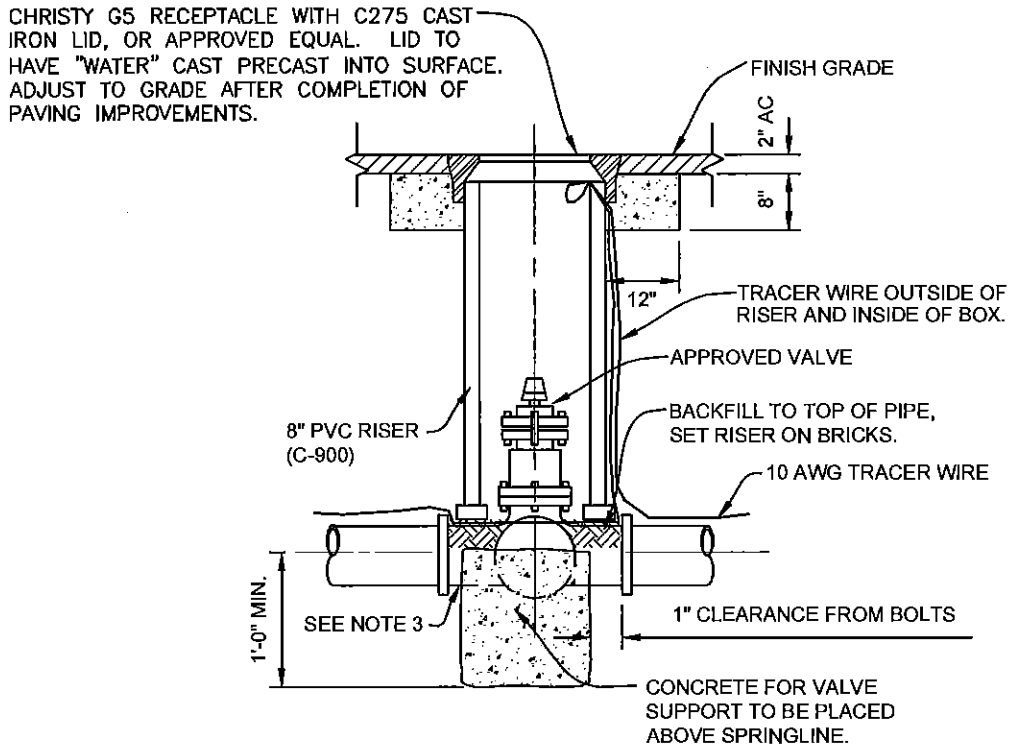
William F. Kull
CITY ENGINEER - WILLIAM F. KULL

TEMPORARY BACKFLOW PREVENTION ASSEMBLY FOR 3" & LARGER

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	514
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 514.DWG		



HOT TAP VALVE SUPPORT



NOTES:

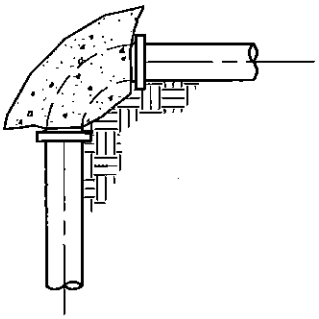
1. INSTALL EXTENSION STEM WHEN DISTANCE FROM VALVE COVER TO OPERATING NUT IS GREATER THAN 48"

2. VALVES SHALL HAVE FLANGED FITTINGS AT ALL TEES AND CROSSES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

3. PLACE VISQUEEN AROUND VALVES BEFORE PLACEMENT OF CONCRETE SUPPORTS.

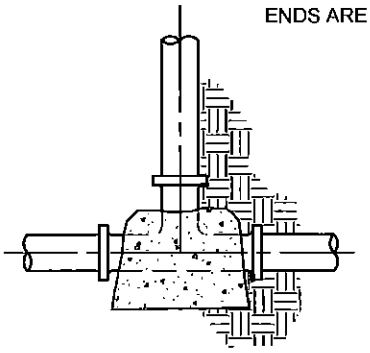
4. VALVES SHALL BE RESILIENT SEAT GATE FOR LINES 12" OR LESS, AND BUTTERFLY VALVES FOR LINES GREATER THAN 12".

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			WATER VALVE INSTALLATION	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 515
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 515.DWG		

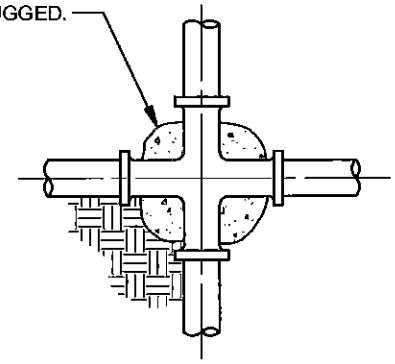


90° BEND

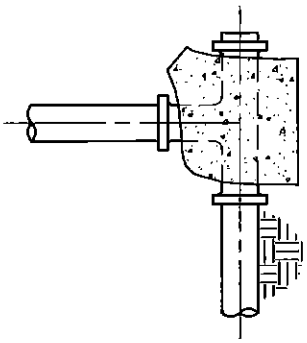
NO THRUSTING ON CROSS EXCEPT WHERE ENDS ARE PLUGGED.



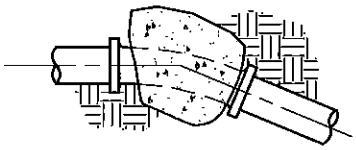
TEE



CROSS

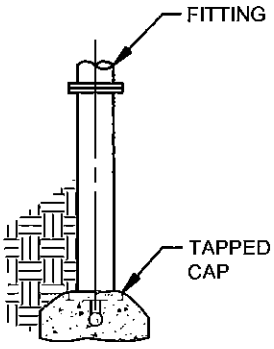


PLUGGED TEE



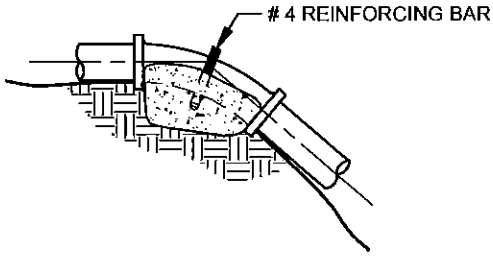
45° OR 22 1/2°

HORIZONTAL BEND



BLOW OFF

MINIMUM THRUST BLOCK BEARING AREAS IN SQUARE FEET				
PIPE SIZES	90°	45°	22 1/2°	TEES & BLOWOFF
6"	3	2	2	2
8"	4	3	2	3
10"	6	4	3	4
12"	8	5	3	6
14"	12	7	4	8



VERTICAL BEND

NOTES:

1. CONCRETE SHALL BE 2000 PSI MINIMUM AT 28 DAYS.
2. THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH.
3. ALL FITTINGS SHALL BE SUPPORTED IN CONCRETE.
4. FOR FIRE HYDRANT THRUSTING SEE STD. 510.
5. DON'T COVER FLANGE BOLTS WITH CONCRETE.
6. WRAP ALL FITTINGS AND FLANGES WITH VISQUEEN.
7. USE RESTRAINT LENGTH CALCULATOR FOR ADDITIONAL JOINTS.

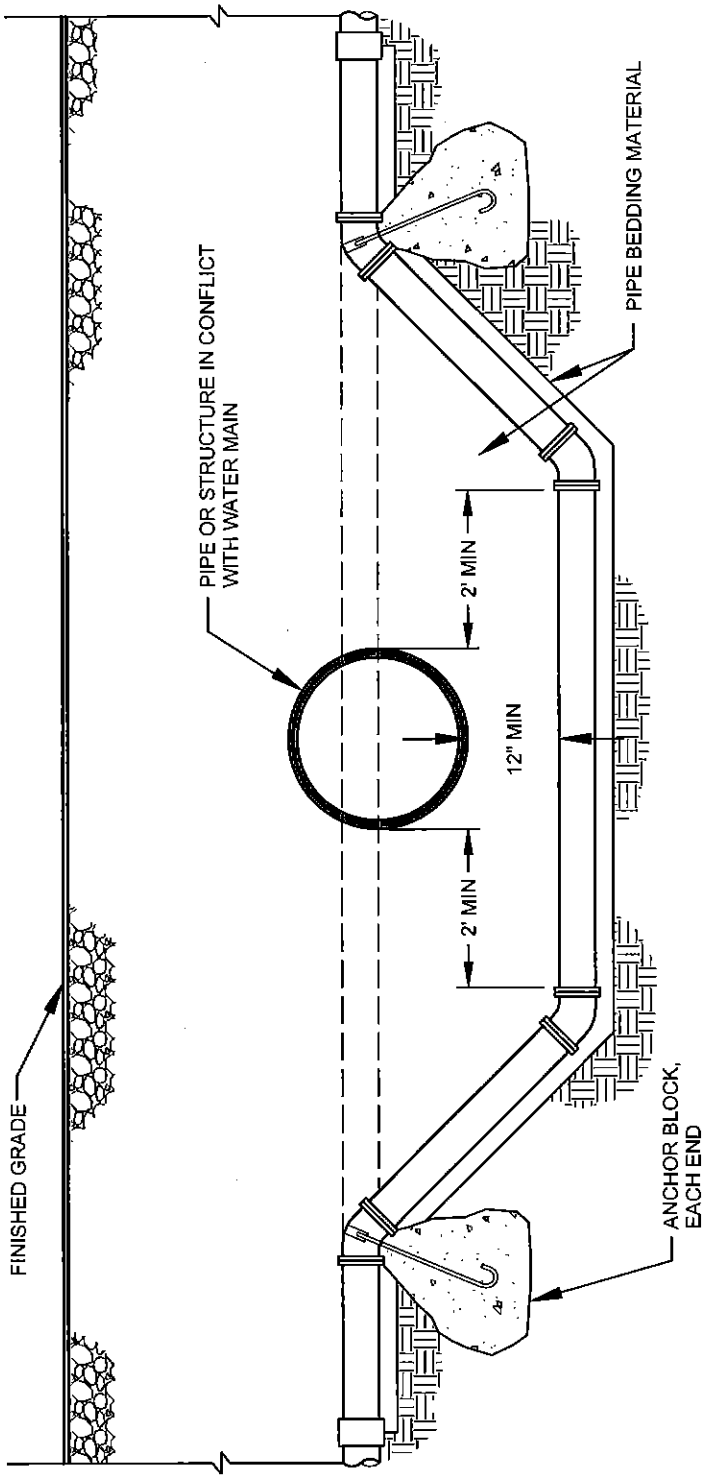
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

THRUST BLOCK REQUIREMENTS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	516
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 516.DWG		



NOTES:

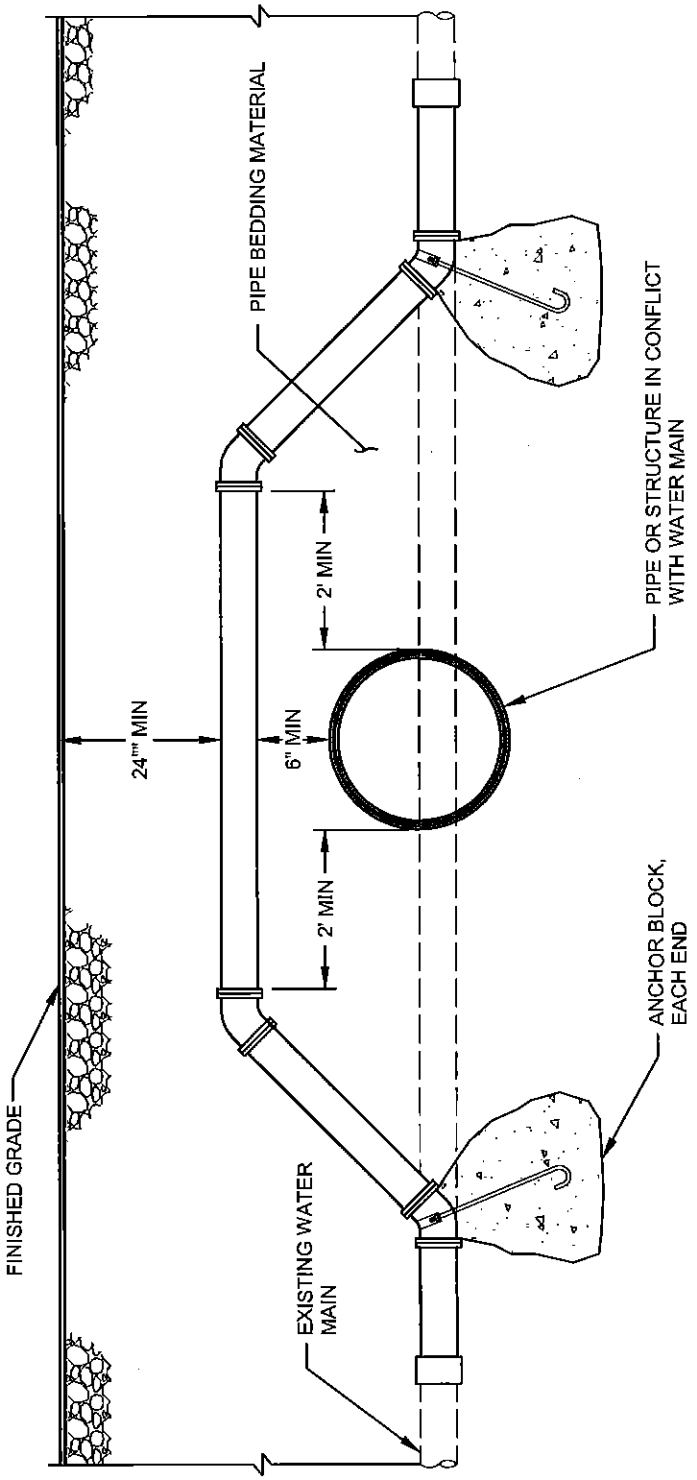
1. ALL PIPE AND FITTINGS SHALL BE DUCTILE IRON & SHALL BE WRAPPED IN POLYETHYLENE - PER CITY OF RIVERBANK STD CONSTRUCTION SPECIFICATIONS.
2. ONLY MECHANICAL JOINT FITTINGS WITH RESTRAINED JOINTS MAY BE USED.
3. ALL BENDS SHALL BE 45° OR 22-1/2° FITTINGS.
4. USE RESTRAINT LENGTH CALCULATOR FOR ADDITIONAL JOINTS.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

WATER MAIN LOWERING

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	517
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	WATER	517.DWG		



NOTES:

1. ALL PIPE AND FITTINGS SHALL BE DUCTILE IRON & SHALL BE WRAPPED IN POLYETHYLENE - PER CITY OF RIVERBANK STD CONSTRUCTION SPECIFICATIONS.
2. ONLY MECHANICAL JOINT FITTINGS WITH RESTRAINED JOINTS MAY BE USED.
3. ALL BENDS SHALL BE 45° OR 22-1/2° FITTINGS. - NO 90° BENDS ALLOWED.
4. TO BE USED ONLY AT THE DIRECT APPROVAL OF THE DIRECTOR OF UTILITIES.
5. USE RESTRAINT LENGTH CALCULATOR FOR ADDITIONAL JOINTS.

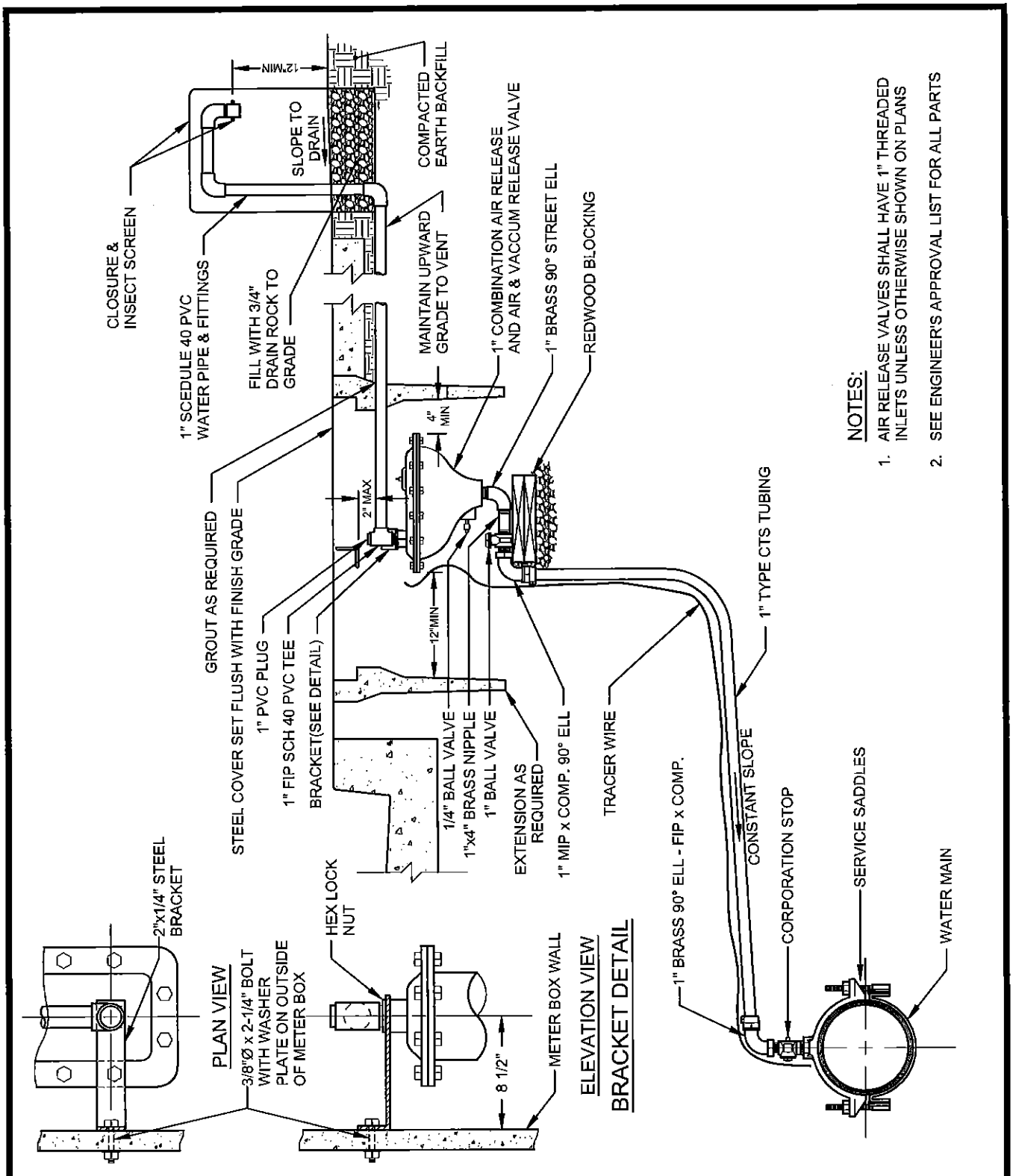
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

WATER MAIN OVER STRUCTURE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	518
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	WATER	518.DWG		



CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

AIR AND VACCUM / AIR RELEASE VALVE

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

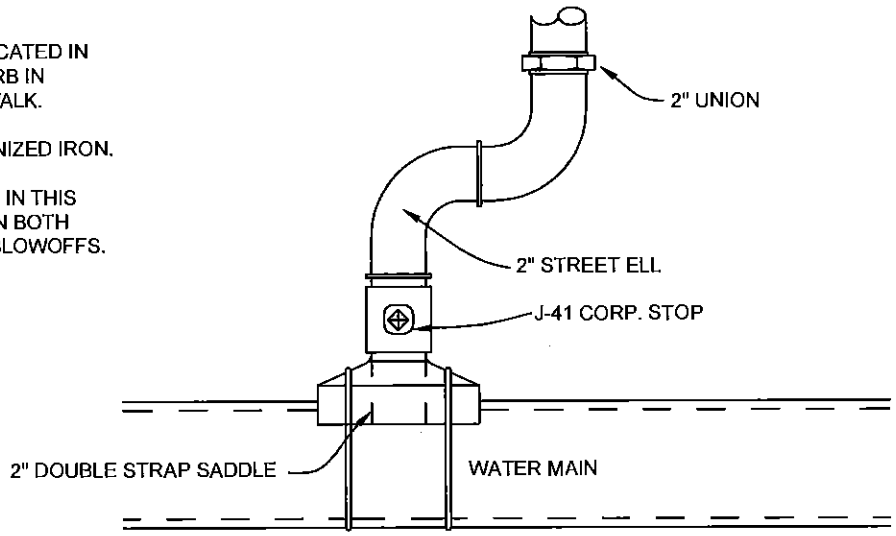
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	519
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 519.DWG		

NOTES:
1. BLOW-OFF SHALL NOT BE LOCATED IN SIDEWALK. LOCATE BEHIND CURB IN LANDSCAPING IF IN SPLIT SIDEWALK.

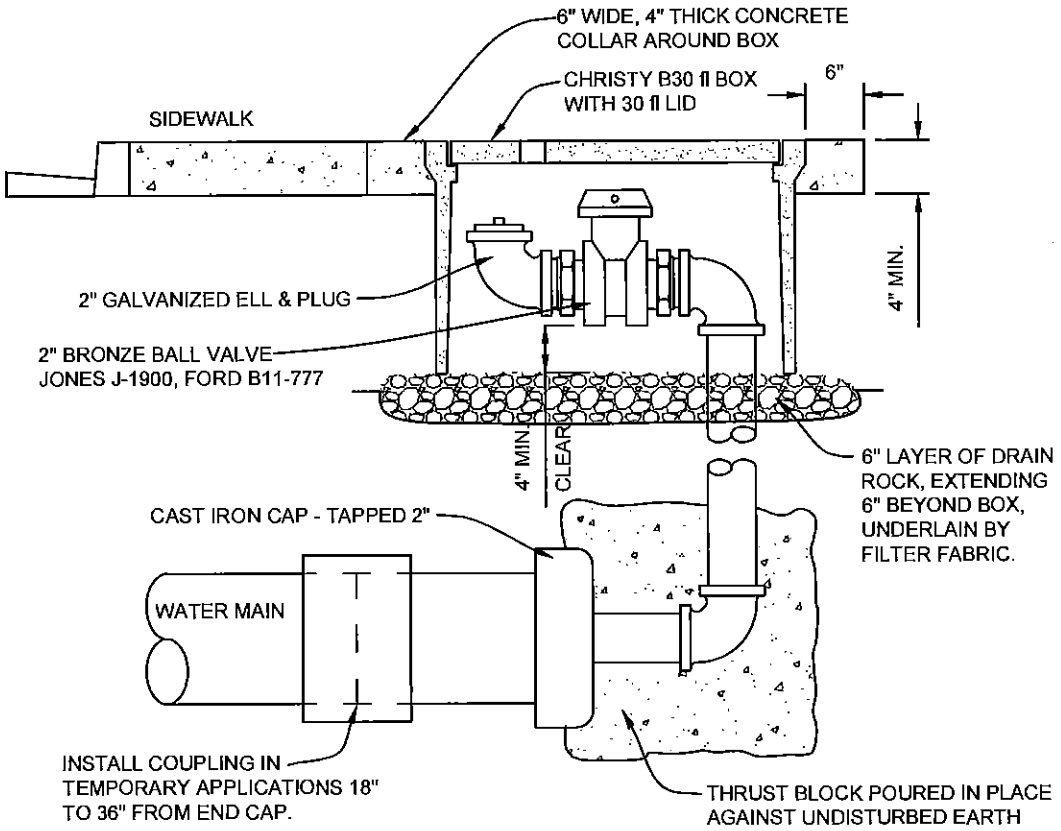
2. ALL FITTINGS TO BE 2" GALVANIZED IRON.

3. ALL APPURTENANCES SHOWN IN THIS DETAIL ARE TO BE INSTALLED ON BOTH TEMPORARY AND PERMANENT BLOWOFFS.

4. TRACER WIRE REQUIRED.



INLINE INSTALLATION



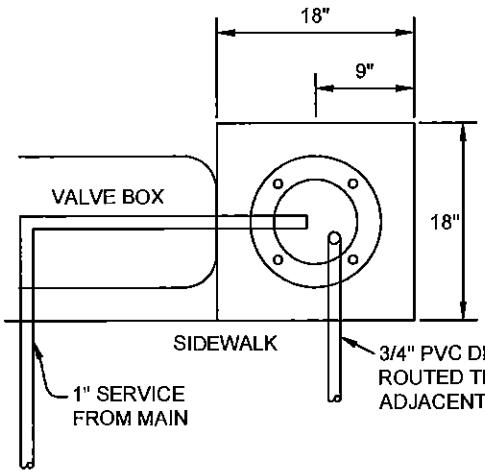
END OF PIPE INSTALLATION

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

WATER BLOWOFF

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	520
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 520.DWG		



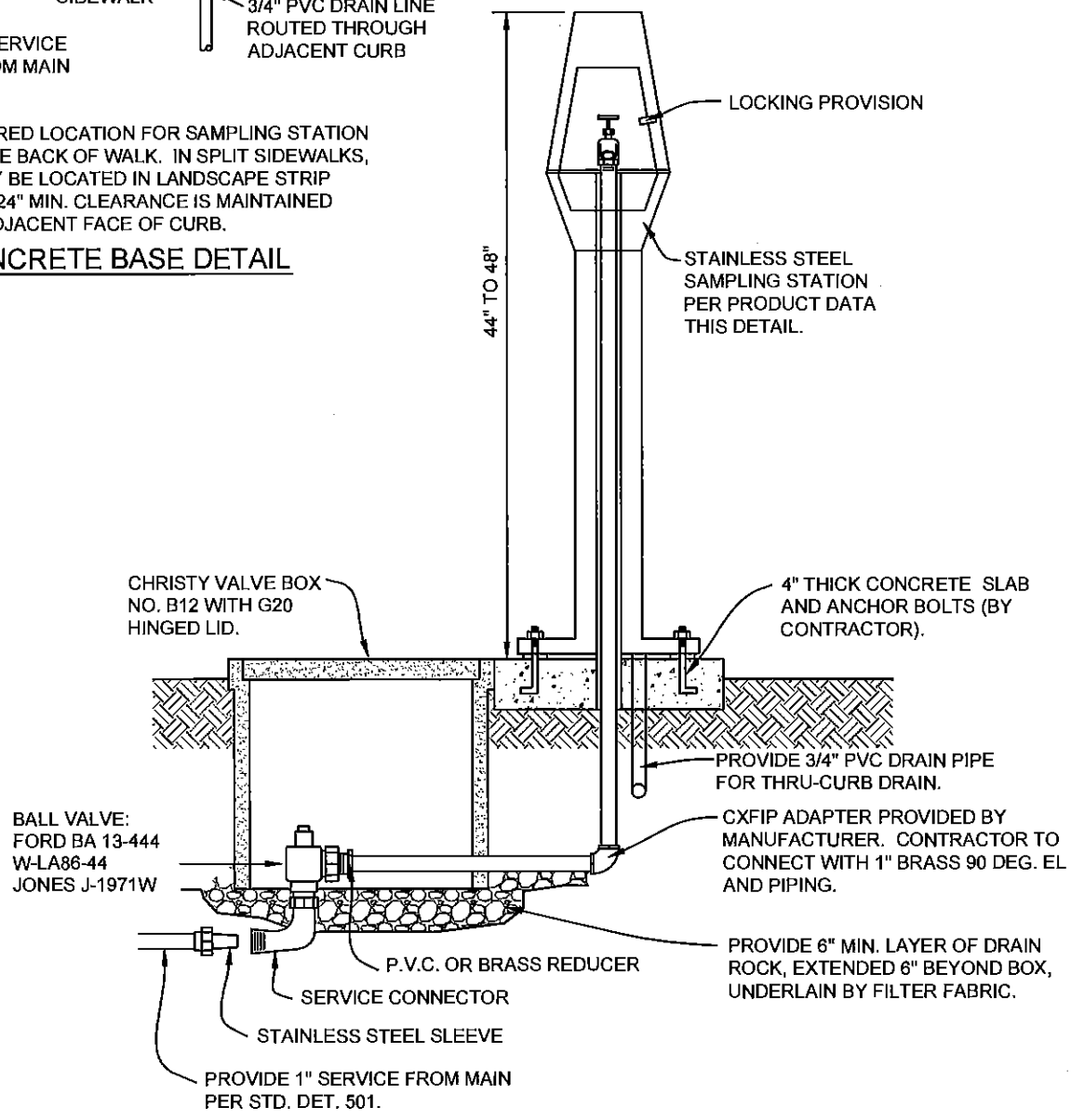
THE PREFERRED LOCATION FOR SAMPLING STATION IS BEHIND THE BACK OF WALK. IN SPLIT SIDEWALKS, STATION MAY BE LOCATED IN LANDSCAPE STRIP PROVIDED A 24" MIN. CLEARANCE IS MAINTAINED FROM THE ADJACENT FACE OF CURB.

CONCRETE BASE DETAIL

PRODUCT DATA

MODEL: MX 3000 SAMPLING STATION
VENDOR: STEEL SOURCE CONSTRUCTION
ADDRESS: 20885 REDWOOD RD.
CASTRO VALLEY, CA 94546
PHONE: 510-582-2700
FAX: 510-582-2750
www.steelsourceco.com

NOTE: ALTERNATE MANUFACTURERS AND MODELS MAY BE SUBSTITUTED GIVEN THE APPROVAL OF THE CITY PUBLIC WORKS DEPT.

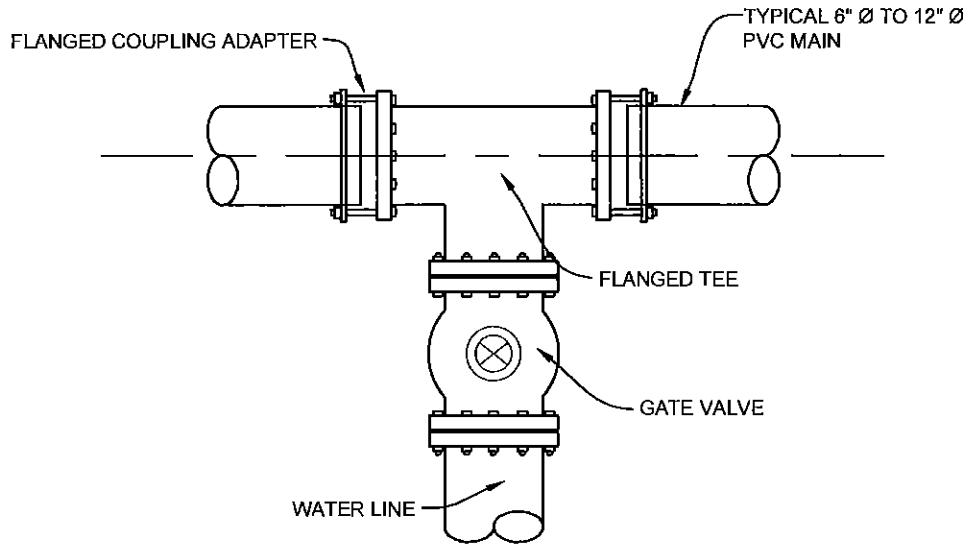


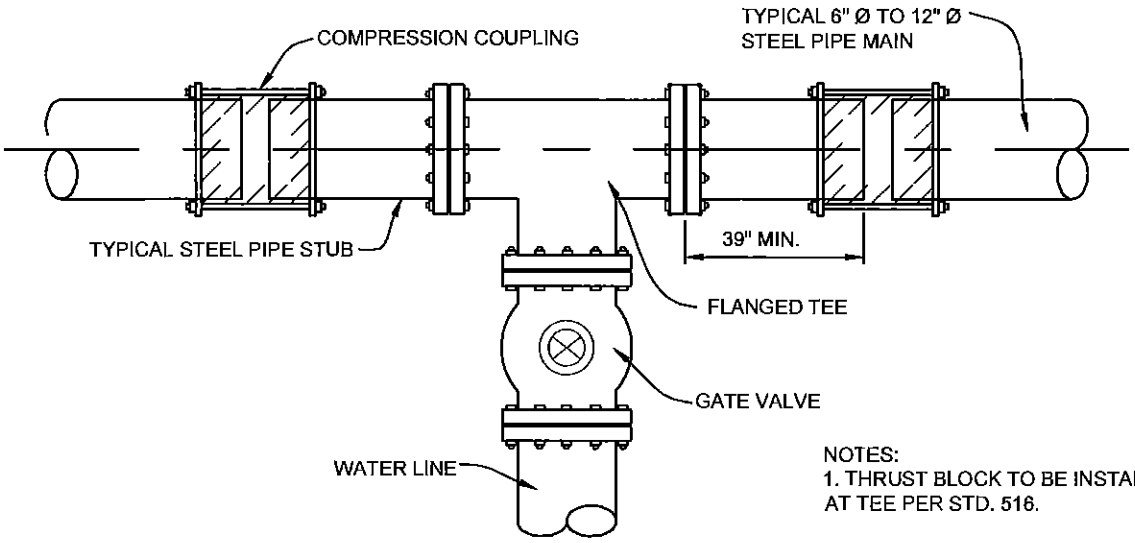
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

WATER SAMPLING STATION

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	521
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	WATER	521.DWG		





NOTES:
1. THRUST BLOCK TO BE INSTALLED AT TEE PER STD. 516.

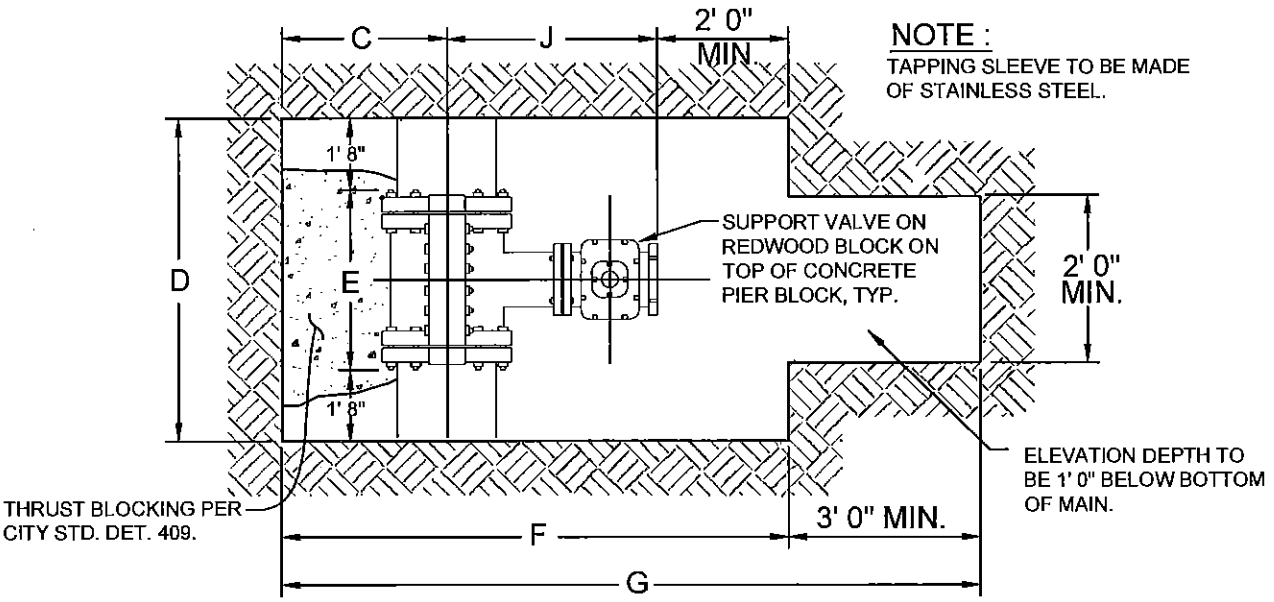
2. GATE VALVE TO BE SUPPORTED ON CONCRETE PIER BLOCK PER STD.515.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

TEE & GATE VALVE INSTALLATION ON EX. MAIN

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	522
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 522.DWG		



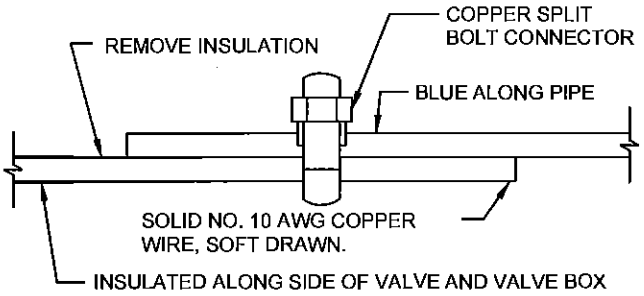
TAPPING SLEEVE SIZE	C	D	E	F	G	J
4 X 2"	1' 3"	4' 9"	16 1/2"	4' 5"	7' 5"	14 1/32"
4 X 3"	1' 3"	4' 9"	16 1/2"	4' 6"	7' 6"	14 3/4"
4 X 4"	1' 3"	4' 9"	16 1/2"	4' 10"	7' 10"	18 9/16"
6 X 2"	1' 4"	4' 10"	18 3/8"	4' 7"	7' 7"	15 5/32"
6 X 3"	1' 4"	4' 10"	18 3/8"	4' 8"	7' 8"	15 7/8"
6 X 4"	1' 4"	4' 10"	18 3/8"	5' 0"	8' 0"	20 3/8"
6 X 6"	1' 4"	4' 10"	18 3/8"	5' 1"	8' 1"	21 7/16"
8 X 2"	1' 5"	4' 11"	19 1/4"	4' 10"	7' 10"	16 17/32"
8 X 3"	1' 5"	4' 11"	19 1/4"	4' 10"	7' 10"	17 1/4"
8 X 4"	1' 5"	4' 11"	19 1/4"	5' 2"	8' 2"	21 1/16"
8 X 6"	1' 5"	4' 11"	19 1/4"	5' 4"	8' 4"	22 13/16"
8 X 8"	1' 5"	5' 1"	21 1/4"	5' 6"	8' 6"	24 5/8"
10 X 2"	1' 6"	4' 11"	19"	5' 0"	8' 0"	17 25/32"
10 X 3"	1' 6"	4' 11"	19"	5' 1"	8' 1"	18 1/2"
10 X 4"	1' 6"	4' 11"	19"	5' 5"	8' 5"	22 9/16"
10 X 6"	1' 6"	5' 11"	19"	5' 6"	8' 6"	23 13/16"
10 X 8"	1' 6"	5' 3"	23"	5' 7"	8' 7"	25 5/16"
10 X 10"	1' 6"	5' 3"	23"	5' 9"	8' 9"	26 3/8"
12 X 2"	1' 7"	4' 11"	19"	5' 2"	8' 2"	18 29/32"
12 X 3"	1' 7"	4' 11"	19"	5' 3"	8' 3"	19 5/8"
12 X 4"	1' 7"	4' 11"	19"	5' 7"	8' 7"	23 9/16"
12 X 6"	1' 7"	4' 11"	19"	5' 8"	8' 8"	24 13/16"
12 X 8"	1' 7"	5' 1"	21"	5' 9"	8' 9"	25 5/16"
12 X 10"	1' 7"	5' 5"	25"	5' 10"	8' 10"	27 3/8"
12 X 12"	1' 7"	5' 5"	25"	5' 11"	8' 11"	27 1/2"
14 X 4"	1' 8"	5' 8"	27 3/4"	5' 9"	8' 9"	24 5/8"
14 X 6"	1' 8"	5' 8"	27 3/4"	5' 10"	8' 10"	25 7/16"
14 X 8"	1' 8"	5' 8"	27 3/4"	6' 0"	9' 0"	27 15/16"
14 X 10"	1' 8"	5' 8"	27 3/4"	6' 1"	9' 1"	29"
14 X 12"	1' 8"	5' 8"	27 3/4"	6' 1"	9' 1"	29 1/8"
14 X 14"	1' 8"	6' 2"	33 1/2"	6' 2"	9' 2"	30 1/4"

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

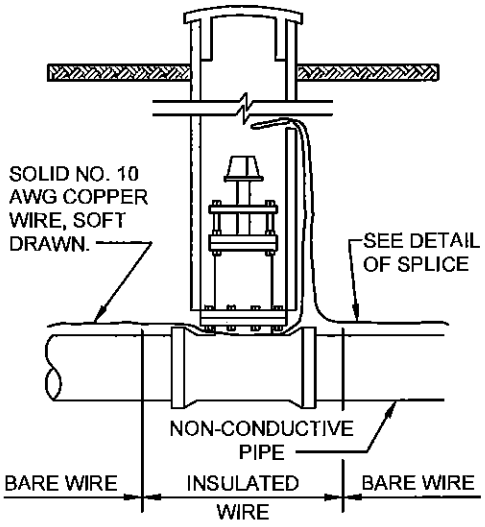
TAPPING SLEEVE INSTALLATION

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	523
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 523.DWG		

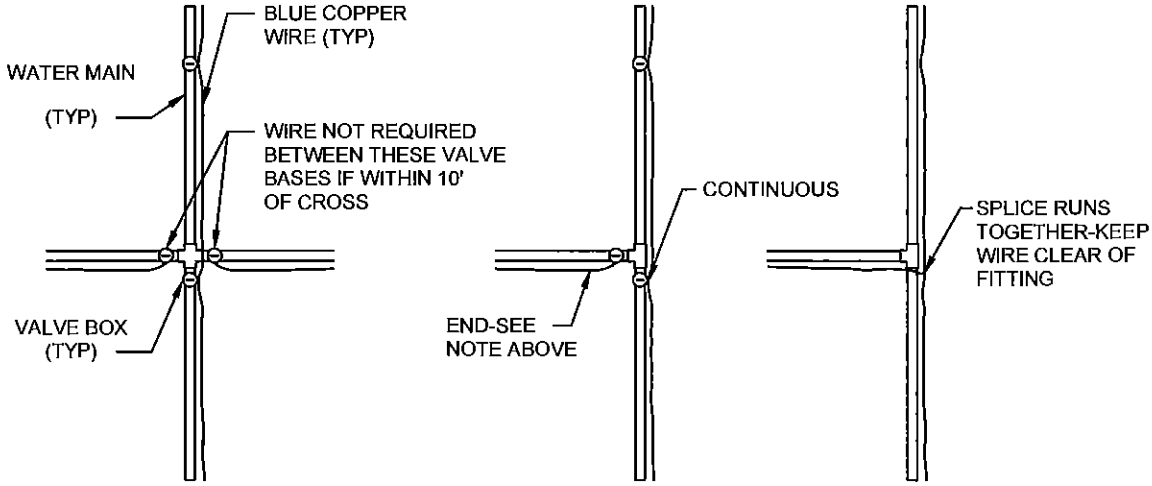


NOTE: IF WIRE ENDS AT VALVE BOX, RUN SINGLE INSULATED LEAD UP TO 10' BELOW GROUND.

DETAIL OF CONNECTION



INSTALLATION AT VALVE BOX



TYPICAL PLACING AT MAIN INTERSECTIONS

NOTES:

1. WIRE TO BE CONTINUOUS BETWEEN VALVE BOXES, EXCEPT WHERE BOXES ARE WITHIN TEN (10') FEET OF PIPE INTERSECTION.
2. BLUE WIRE NOT TO TOUCH VALVE OR FITTINGS. (COATED WIRE ONLY)
3. LOCATING WIRE TO BE LAID AT TOP OF PIPE.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			TRACER WIRE INSTALLATION	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 524
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 524.DWG		

ALLOWABLE GALLONS LOST IN ONE HOUR AT 150 PSI

PIPE LENGTH (FT)	PIPE DIAMETER					
	4"	6"	8"	10"	12"	15"
25	0.03	0.04	0.05	0.06	0.08	0.09
50	0.05	0.08	0.10	0.13	0.15	0.19
75	0.08	0.11	0.15	0.19	0.23	0.28
100	0.10	0.15	0.20	0.25	0.30	0.38
125	0.13	0.19	0.25	0.31	0.38	0.47
150	0.15	0.23	0.30	0.38	0.45	0.56
175	0.18	0.26	0.35	0.44	0.53	0.66
200	0.20	0.30	0.40	0.50	0.60	0.75
225	0.23	0.34	0.45	0.56	0.68	0.84
250	0.25	0.38	0.50	0.63	0.75	0.94
275	0.28	0.41	0.55	0.69	0.83	1.03
300	0.30	0.45	0.60	0.75	0.90	1.13
325	0.33	0.49	0.65	0.81	0.98	1.22
350	0.35	0.53	0.70	0.88	1.05	1.31
375	0.38	0.56	0.75	0.94	1.13	1.41
400	0.40	0.60	0.80	1.00	1.20	1.50
425	0.43	0.64	0.85	1.06	1.28	1.59
450	0.45	0.68	0.90	1.13	1.35	1.69
475	0.48	0.71	0.95	1.19	1.43	1.78
500	0.50	0.75	1.00	1.25	1.50	1.86
525	0.53	0.79	1.05	1.31	1.58	1.97
550	0.55	0.83	1.10	1.38	1.65	2.06
575	0.58	0.86	1.15	1.44	1.73	2.16
600	0.60	0.90	1.20	1.50	1.80	2.25
625	0.63	0.94	1.25	1.56	1.88	2.34
650	0.65	0.98	1.30	1.63	1.95	2.44
675	0.68	1.01	1.35	1.69	2.03	2.53
700	0.70	1.05	1.40	1.75	2.10	2.63
725	0.73	1.09	1.45	1.81	2.18	2.72
750	0.75	1.13	1.50	1.88	2.25	2.81
775	0.78	1.16	1.55	1.94	2.33	2.91
800	0.80	1.20	1.60	2.00	2.40	3.00

NOTE:

IN ACCORDANCE WITH CITY CONSTRUCTION STANDARDS, NEW WATERLINES SHALL BE HYDROSTATICALLY TESTED TO A MINIMUM OF 150 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS. NO PIPE INSTALLATION SHALL BE ACCEPTED IF LEAKAGE FOR THE SECTION EXCEEDS A RATE IN GALLONS PER HOUR PER ONE THOUSAND FEET (GPH/1000') OF 0.25 MULTIPLIED BY THE PIPE DIAMETER IN INCHES. (GPH/1000' < 0.25xPIPE DIA.) THIS CHART COMPUTES MAXIMUM ALLOWABLE LEAKAGE RATES FOR VARIOUS LENGTHS OF PIPE BASED ON THIS STANDARD, AND IS INTENDED AS A CONVENIENCE, ONLY.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

WATER HYDROSTATIC PRESSURE / LOSS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	525
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 525.DWG		

ALLOWABLE GALLONS LOST IN ONE HOUR AT 150 PSI

PIPE LENGTH (FT)	PIPE DIAMETER					
	4"	6"	8"	10"	12"	15"
825	0.63	1.24	1.65	2.06	2.48	3.09
850	0.65	1.28	1.70	2.13	2.55	3.19
875	0.88	1.31	1.75	2.19	2.63	3.28
900	0.90	1.35	1.80	2.25	2.70	3.38
925	0.93	1.39	1.85	2.31	2.78	3.47
950	0.95	1.43	1.90	2.38	2.85	3.56
975	0.98	1.46	1.95	2.44	2.93	3.66
1000	1.00	1.50	2.00	2.50	3.00	3.75
1025	1.03	1.54	2.05	2.56	3.08	3.84
1050	1.05	1.58	2.10	2.63	3.15	3.94
1075	1.08	1.61	2.15	2.69	3.23	4.03
1100	1.10	1.65	2.20	2.75	3.30	4.13
1125	1.13	1.69	2.25	2.81	3.38	4.22
1150	1.15	1.73	2.30	2.88	3.45	4.31
1175	1.18	1.76	2.35	2.94	3.53	4.41
1200	1.20	1.80	2.40	3.00	3.60	4.50
1225	1.23	1.84	2.45	3.06	3.68	4.59
1250	1.25	1.88	2.50	3.13	3.75	4.69
1275	1.28	1.91	2.55	3.19	3.83	4.78
1300	1.30	1.95	2.60	3.25	3.90	4.88
1325	1.33	1.99	2.65	3.31	3.98	4.97
1350	1.35	2.03	2.70	3.38	4.05	5.06
1375	1.38	2.06	2.75	3.44	4.13	5.16
1400	1.40	2.10	2.80	3.50	4.20	5.25

NOTE:

IN ACCORDANCE WITH CITY CONSTRUCTION STANDARDS, NEW WATERLINES SHALL BE HYDROSTATICALLY TESTED TO A MINIMUM OF 150 PSI, FOR A PERIOD OF NOT LESS THAN 2 HOURS. NO PIPE INSTALLATION SHALL BE ACCEPTED IF LEAKAGE FOR THE SECTION EXCEEDS A RATE IN GALLONS PER HOUR PER ONE THOUSAND FEET (GPH/1000') OF 0.25 MULTIPLIED BY THE PIPE DIAMETER IN INCHES. (GPH/1000' < 0.25xPIPE DIA.) THIS CHART COMPUTES MAXIMUM ALLOWABLE LEAKAGE RATES FOR VARIOUS LENGTHS OF PIPE BASED ON THIS STANDARD, AND IS INTENDED AS A CONVENIENCE, ONLY.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

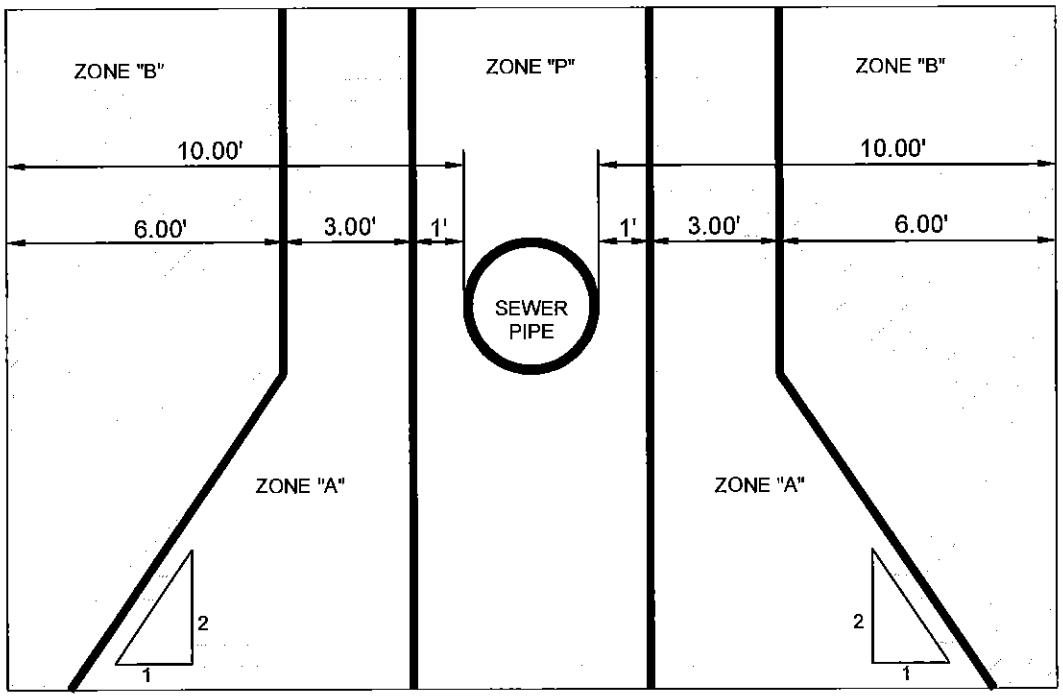
WATER HYDROSTATIC PRESSURE / LOSS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	526
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 526.DWG		

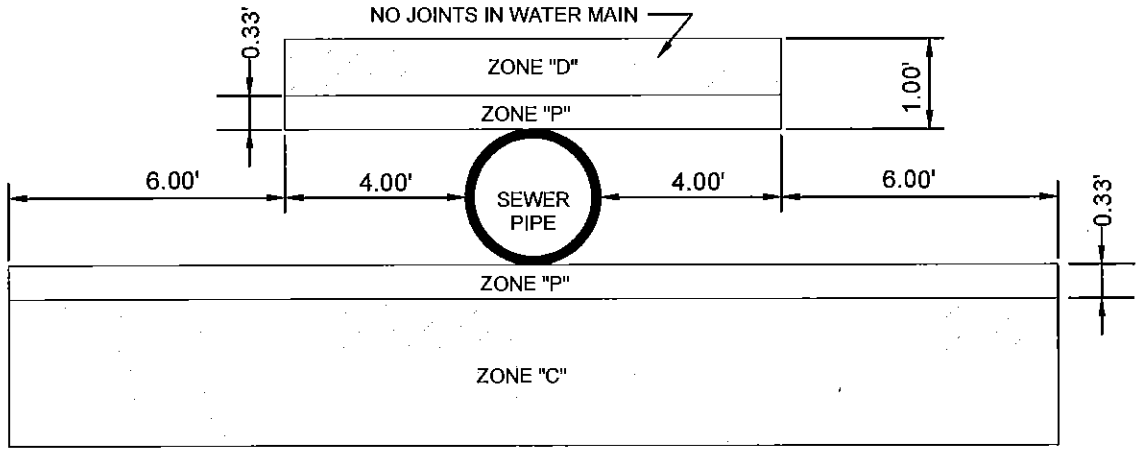
ALTERNATE DESIGN FOR REDUCED SEPERATION

(TO BE USED ONLY WHERE REQUIRED 10 FT. SEPARATION CANNOT BE OBTAINED)

NEW WATER LINE BEING INSTALLED



PARALLEL CONSTRUCTION

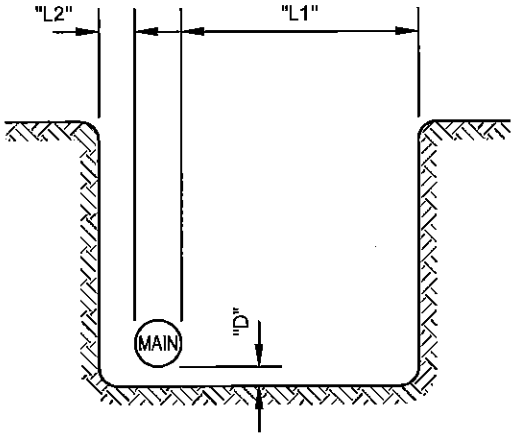


PERPENDICULAR CONSTRUCTION

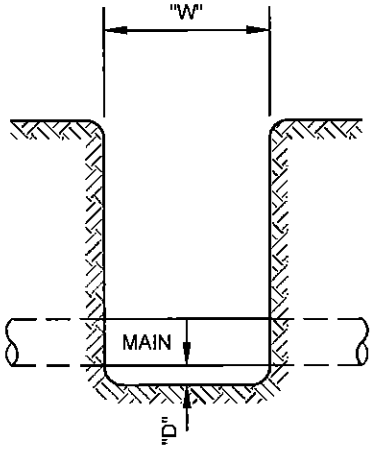
NOTES:

1. ZONE "A" REQUIRES SPECIAL PIPE AND SPECIAL PERMISSION FROM THE PUBLIC HEALTH AGENCY
2. ZONE "B" REQUIRES SPECIAL PIPE
3. ZONE "C" REQUIRES SPECIAL PIPE AND PIPE JOINTS ARE NOT ALLOWED
4. ZONE "D" REQUIRES STANDARD PIPE AND PIPE JOINTS ARE NOT ALLOWED
5. ZONE "P" IS A PROHIBITED ZONE.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			WATER MAIN SEPARATION REGULATIONS	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 527
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 527.DWG		



PERPENDICULAR TO EXISTING MAIN



PARALLEL TO EXISTING MAIN

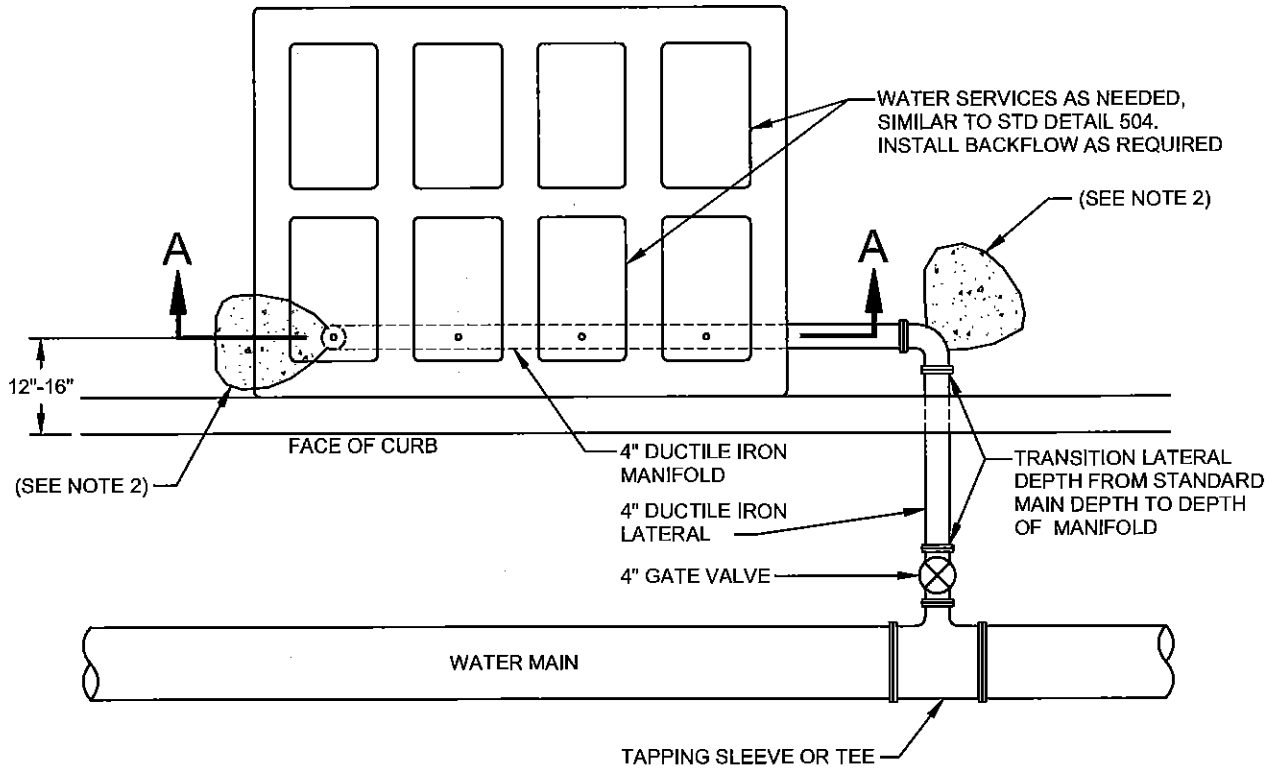
EXCAVATION REQUIREMENTS FOR CONNECTIONS TO EXISTING WATER MAINS				
EXISTING PIPE SIZE	W	D	L1	L2
4"	3'-0"	0'-6"	7'-0"	1'-0"
6"	4'-0"	1'-0"	7'-0"	1'-0"
8"	5'-0"	1'-6"	7'-0"	1'-0"
10"	6'-0"	2'-0"	7'-0"	1'-6"
12" OR LARGER	6'-0"	2'-0"	7'-0"	1'-6"

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

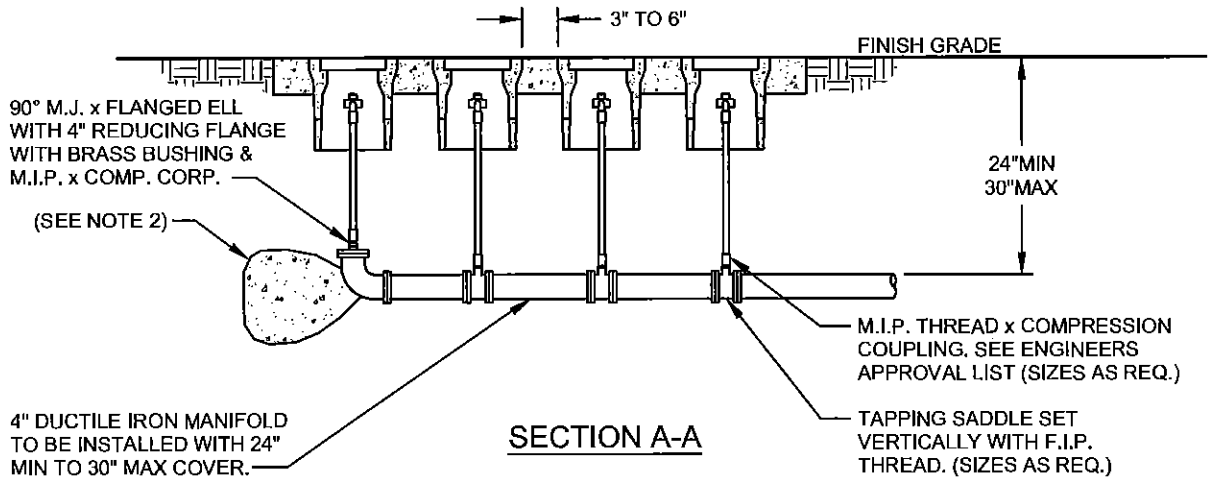
William F. Kull
CITY ENGINEER - WILLIAM F. KULL

EXCAVATION REQUIREMENTS FOR CONSTRUCTION

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	528
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	WATER	528.DWG		



PLAN VIEW



SECTION A-A

NOTES:

1. THIS STANDARD MAY BE ADAPTED FOR CONNECTION TO A COMBINATION WATER SERVICE PER STD DETAIL 504.
2. RESTRAINED JOINTS ARE REQUIRED FOR ALL NEW CONSTRUCTION FROM GATE VALVE TO END OF 4" MANIFOLD. THRUST BLOCKS ARE ONLY REQUIRED WHERE EXISTING SERVICES ARE BEING MODIFIED AND RESTRAINED JOINTS ARE NOT USED.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			4" DUCTILE IRON MULTI-SERVICE MANIFOLD	
William F. Kull CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 529
REVISIONS: NONE	SECTION: WATER	DRAWING NAME: 529.DWG		

City of Riverbank
DESIGN STANDARDS

WASTEWATER

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SECTION 6: WASTEWATER

6.100 General

6.101 Scope

These standards apply to all public wastewater facilities designed for installation within a public right-of-way or PUE in the City and are limited to sewer mains and laterals 18 inches or less in diameter. Standards and requirements for larger sizes will be determined by the City Engineer on a case-by-case basis. Except where specifically noted in these Standards, or as required as part of project approval, all wastewater facilities installed on private property for private use and ownership shall be designed and constructed in accordance with the provisions of the Uniform Plumbing Code, as adopted by the City.

Wastewater lines shall be designed in accordance with acceptable engineering principles, California OSHA Standards (legal min.), and State of California Title 22 requirements (legal min,), and shall conform to City Standards. Storm water collection facilities shall not be connected to a wastewater line. Industrial waste sources may be connected or discharged into a wastewater line with approval of the City Engineer.

These Standards do **not** cover all the applicable City, State and Federal requirements for wastewater quality and monitoring.

6.200 Design Flow

Wastewater facilities shall be designed on a peak flow basis in accordance with the following formula:

$$Q_D = (P_F * Q_A) + I$$

Where:

Q_D	=	Design Wastewater Flowrate
Q_A	=	Average Wastewater Flowrate - See section 2.201
P_F	=	Peaking Factor - See section 2.202
I	=	Infiltration - See section 2.203

6.201 Average Wastewater Flowrate

Average wastewater flows for residential areas shall be based on 100 gallons per capita per day (gpcpd), with an assumed population of 3.0 capita per single family dwelling unit, and 2.0 capita per multifamily dwelling unit. (Note: duplexes, "patio" homes, condominiums and townhomes shall be considered multifamily dwellings when determining wastewater flowrates).

For studies in which the exact unit count has not yet been determined, the average wastewater flowrate shall be determined based on gross area, as summarized in the following table:

Zoning	Land Use	Units/Acre	Avg. Flow (gal./acre/day)
R1	Single Family Residential	5	1500
R2	Duplex Residential	12.5	2500
R3	High Density Residential	20	4000
C1 and C2	Commercial	-	1760
CM, M1, M2	Industrial (See Note 1)	-	1500

Notes:

1. The average flows listed for industrial areas shall be used in preliminary studies, only. Additional data on anticipated wastewater flows for industrial projects shall be provided and considered on a case-by-case basis prior to the final design/improvement plan phase of the project.
2. Wastewater flows for areas of Planned Development (PD) zoning shall be based on the underlying zoning and land uses as indicated in the project's Master Plan, if exact unit counts are not yet known.
3. Average wastewater flows from schools shall be based on 20 gallons per attendant per day.

6.202 Peaking Factor

Peak flow shall be based on land use, and obtained by multiplying the average flow by the following peak factors:

- Commercial: 3.0
- Industrial: 2.0
- Residential: 3.0, for upstream service populations up to 10,000 persons. For populations greater than 10,000, the following formula may be used to determine the peaking factor:

  $P_F = (18+x^{1/2}) / (4 + x^{1/2})$

  Where "x" = population in thousands

6.203 Infiltration and Inflow

Infiltration and inflow shall be determined on a gross acreage basis, at a rate of 1000 gallons per acre per day.

6.300 Pipe Design

6.301 Minimum Size

New gravity wastewater lines shall be 8 inches or greater in nominal diameter. Terminal runs that have no potential for further extension, such as in cul-de-sacs, may be 6" in diameter.

6.302 Design Depth of Flow

All gravity wastewater lines shall be designed to flow at a maximum of 70% full under the design flow conditions.

6.303 Slope

All sewers shall be designed to provide a minimum velocity of 2.0 feet per second at the flowing full condition, using Manning's equation with an "n" of 0.013. Summarized below are minimum slopes, design capacities and flowing full capacities for different pipe sizes:

Size	Minimum Slope (ft/ft)	Design Cap. (gpm)	Full Cap. (gpm)
6	0.0050	149	178
8	0.0035	269	320
10	00025	412	492
12	0.0020	599	715
15	0 0015	940	1123

Designs in which downstream mains do not meet these velocity standards shall be specifically approved by the City Engineer.

Maximum velocity shall not exceed 10 feet per second at the design flowrate. Sewers shall be designed with uniform slope between manholes.

6.304 Vertical Alignment

The minimum cover for wastewater lines shall be 3 feet from the existing or planned final grade, whichever is lower, to the top of the sewer pipe. Laterals shall have a nominal cover of 30 inches at the property line or at a point 5 feet outside the curb face or edge of paving, whichever is the greater distance from the roadway centerline. Minimum cover requirements may be reduced if special backfill and/or special piping are used. See §2.401 for additional information regarding service lateral cover and §5.701 for structural considerations.

When crossing a water main, the wastewater line shall be installed below the water main with a clearance of at least 12 inches where this separation cannot be maintained, the City Engineer may approve reduced clearances based on the California Dept. of Health Services Guidelines. A minimum vertical clearance of at least 3 inches shall be maintained between a wastewater line and a storm drain. Separation distances shall be measured from the nearest edges of the facilities

At points of convergence of pipes of various sizes, the pipe crown of the inflowing pipe(s) shall be no lower in elevation than the crown of the outflowing pipe. Exceptions to this may be granted at the discretion of the City Engineer if this is not practical (cover requirements, clearance issues, etc...) See §2.502 regarding drop manholes for additional information.

6.305 Horizontal Alignment

Wastewater Lines shall be placed within street rights-of-way unless placement in an easement is specifically approved by the City Engineer. Alignment shall be parallel to the street centerline whenever possible.

The horizontal alignment of wastewater lines in new streets, easements and private streets shall be as shown on the appropriate City of Riverbank Standard Plan. In existing streets and other special cases (such as looped streets in which the utilities may be located concentrically to avoid crossings), the alignment may vary from the Standard Plans, but in no case shall there be less than 10 feet horizontal clearance to a water main, except as specifically approved by the City Engineer in accordance with State Department of Health Services policies.

Curved sewers are allowed. However, joint deflections or pipe curvature shall not exceed the pipe manufacturer's recommendations. The following table may be used as a conservative guide. If a shorter radius is desired, the appropriate design information (i.e. short pipe lengths, radius fittings, etc) shall be shown on the plans.

Minimum Radius of Bending Circle (ft.)

Pipe Size	Ductile Iron	PVC	VCP
4	190	160	200
6	190	160	200
8	190	210	200
10	190	270	200
12	190	320	200
15	n/a	390	260

Wastewater lines, including laterals, or other sanitary hazards shall not be constructed adjacent to any existing or proposed well site. California State Department of Health Services requirements shall be the minimum required separation, however these may be increased where the well location is not fixed or redrilling is planned.

6.306 Pipe Materials

The following standard pipe materials shall be used for gravity flow wastewater line construction and shall conform to the appropriate American Society of Testing and Materials (ASTM) and American Water Works Association (AWWA) specifications (latest revision):

Pipe Material	Specification
Ductile iron pipe	ASTM A746
w/polyethylene lining &	ASTM D1248, Class C, 30 mil thickness
polyethylene encasement*	AWWA C105
PVC sewer pipe and fittings	ASTM D3034 SDR 26
Vitrified clay pipe	ASTM C700 (extra strength)
laterals only:	
Cast iron soil pipe (4" & 6")	ASTM A74, service weight

* polyethylene encasement may be omitted if a corrosivity soils report provided per Appendix A of AWWA C105 indicates encasement is not needed. Alternate linings may be approved on a case-by-case basis,

New main sewers and/or laterals servicing exclusively industrial and commercial development may be limited to vitrified clay pipe depending on the proposed use.

Trench and pipe strength design shall be shown on the improvement plans per §5.700.,

6.307 Joints and Fittings

Joints and fittings shall be selected and installed to minimize infiltration and to prevent the entrance of roots throughout the life of the system. Ductile iron pipe joints and fittings shall conform to AWWA C110 or other approved joint for wastewater applications. Joints for PVC pipe shall be flexible elastomeric type conforming to ASTM D3212, Solvent welded joints for PVC pipe are not permitted. Joints for vitrified clay pipe shall conform to ASTM C425.

Joining of pipe sections of unlike materials shall be accomplished using approved flexible band seals. Other joining methods shall not be used unless approved by the City Engineer.

6.400 Services

6.401 General

One service is typically allowed per parcel being served. Additional services may be specifically approved by the City Engineer in order to eliminate the need for on-site pumps, excessive trenching, or in other circumstances.

The minimum diameter for services (lateral sewers) shall be 4 inches.

A lateral sewer installed concurrently with a main sewer shall be of the same type and class of pipe material as the sewer main except where land use, cover or water main separation requirements indicate otherwise. For new services on existing mains, the lateral sewer may be of any approved pipe material as specified in §2,306,,

Size and depth of services is to be determined by the design engineer for the parcel being served subject to minimums contained in City Standards. Particular attention should be given to large, deep parcels.

Storm drainage shall not be permitted to discharge into the sanitary sewer system.

6.402 Monitoring Structures

Sanitary sewer monitoring structures and/or sampling manholes shall be installed on new development projects if so directed by the City Engineer. Typically, monitoring structures will not be required on residential developments, but may be necessary on industrial and commercial projects. Monitoring structures shall be in a location that is accessible to City personnel at all times, and may be considered a cleanout in lieu of a separate required cleanout.

6.403 Traps and Waste Interceptors

Appropriate traps and waste interceptors shall be installed on services on-site as required by the City Engineer in conformance with the Uniform Plumbing Code, as adopted by the Riverbank Municipal Code, and the Standard Plans. Grease traps and/or sand/oil interceptors shall be installed on sewer services for any facility whose operation will result in oil, grease, sand or other solids being discharged into the City's sanitary sewer system.

6.500 Manholes and Miscellaneous Structures

6.501 Manholes

Manholes shall be located in areas accessible to cleaning equipment and at:

- the end of each line
- all changes in pipe grade, size, or alignment
- all junctions of sewer mains and/or laterals 6 inches or greater in diameter
- distances not greater than 400 feet

24" diameter risers may be used in lieu of standard 48" manholes where the depth to the invert is less than 42 inches.

Manholes/risers may be required for inspection purposes at the end of stubs exceeding 25 feet in length

6.502 Drop Manholes

Drop manholes per City Standard Details shall be provided where the inflowing pipe crown elevation is more than 2 feet above the crown elevation of the outflowing pipe.

6.600 Lift Stations

6.601 General

All lift stations shall be specifically approved by the City Engineer after consideration of all reasonable gravity flow alternatives, and shall be designed in accordance with the standards contained herein.

Lift station structures, electrical, and mechanical equipment shall be located and designed such that they are protected from physical damage by the 100-year flood and will remain fully operational and accessible during the design storm.

The lift station shall be located off the traveled way of streets and alleys, and shall be provided with paved vehicular access and appropriate security as required by the City Engineer.

6.602 Design

Lift stations shall be designed to be compatible with current City equipment, systems, and operational/maintenance practices. As each lift station will be a unique design, developers and design engineers are highly recommended to consult with the City Engineer prior to final design of the new lift station

In areas of corrosive soils, impressed current cathodic protection is required and shall be designed by a qualified corrosion control engineer.

California OSHA standards shall be observed in the design of all pumping station access structures

Pumps:

Pumps in all new lift stations shall be of a manufacturer and model approved by the City Engineer.

At least two pumps shall be provided for each pumping station. If only two units are provided (duplex), they shall have the same capacity, and each be capable of handling the design flow. Where three or more units are provided, they shall be of such capacity that with any one unit out of service, the remaining units will have capacity to handle maximum design flows.

Design pumping rate shall be the design wastewater flowrate (see section 2.200) for the ultimate tributary area. For lift stations that are intended to serve a relatively large, phased tributary area, initial lower flow rates shall be considered in the design. It may be necessary to provide an interim design with fewer or smaller capacity pumps. In these instances, the plans shall indicate what the ultimate pumps shall be, as well as the ultimate design

discharge flowrate and total dynamic head. The station and site should be designed for ultimate conditions, and for maximum ease of transition from interim to ultimate design.

Wetwells:

The wetwell size and control setting shall be appropriate to avoid heat buildup in the pump motors due to frequent starting, and to avoid septic conditions due to excessive detention time. Wetwells and controls shall be such that sewage detention time is limited to 2 hours. Detention time in excess of 2 hours shall require provisions for odor control. Total pump starts shall be limited to no more than 10 per hour. Volume available in upstream sewer mains may not be considered to be part of the available wet well storage volume.

Wetwells shall be reinforced concrete and lined in accordance with the Construction Specifications. The type of lining shall be indicated on the plans.

The wetwell floor shall have a minimum slope of 1 to 1 to a hopper bottom The horizontal area of the hopper bottom shall not be greater than necessary for proper installation and function of the pump inlet.

Wetwell covers and access hatches shall be H-20 traffic rated.

Valving:

Each pump discharge shall be equipped with the following valves:

Gate Valves: Gate valves shall be resilient wedge, flanged joints. All resilient wedge gate valves shall conform to the applicable requirements of ANSI/AWWA C509, and shall be handled and installed in accordance with the recommendations set forth in the appendix to ANSI/AWWA C509, and the recommendations of the manufacturer. All interior and exterior ferrous metal surfaces of valves and accessories shall be shop coated for corrosion protection. Approved manufacturers: Clow F-6100, Mueller A-2370, Kennedy 4561/4701, and American Flow Control –Series 2500

Check Valves: Check valves shall be installed immediately downstream of the gate valves, and shall be swing type with an external lever and minimum pressure rating of 250 psi. Approved manufacturers: Clow F5345, Mueller #2600-6-01, Kennedy IBBM Swing Check Valve, American "50" Line with Weight and Lever

Valves shall be contained underground in a separate precast concrete box, with a traffic rated lid.

Electrical Equipment:

All wetwell electrical equipment shall be explosion proof and meet National Electrical Code Class 1, Division 2, Group D requirements. All drywell electrical equipment shall be NEMA 4.

Telemetry and level sensing equipment compatible with the City's latest SCADA equipment shall be provided. Alarms shall be activated in cases of high water, power failure, pump failure, use of the lag pump, unauthorized entry, or any cause of pump station malfunction.

Standby Power:

Pump stations of greater than 1.0 mgd peak flow capacity shall include permanent installation of an emergency standby power generator with an automatic transfer switch. Engines shall be provided with silencing equipment appropriate for the adjacent land use per zoning and General Plan requirement. The location and tank design of the generator fuel tank shall be reviewed and approved by the fire department.

Smaller capacity stations, where approved, shall provide dual, manually switchable electrical feeds from a separate transformer.

Potable Water Service:

A potable water service with a reduced pressure backflow prevention device (Febco Model 825) is required for all pump stations.

Site / Location:

Lift stations shall not be located within the traveled way of streets, and shall be easily accessible for maintenance personnel. All lift stations shall be fenced, and lift station items within the fenced area shall be set back per the appropriate code, or as required for site access.

Lift station sites shall be paved with a durable surface as required for access by maintenance vehicles, as approved by the City Engineer. Storm drainage shall be provided for the lift station site, as required.

Instructions and Equipment:

Three complete sets of operational instructions (including emergency procedures and maintenance schedules), special tools, and such spare parts (i.e., mechanical seals, wear rings, filters, etc.) as may be necessary shall be provided for all pump station equipment.

6.603 Force Mains

At average pump flow, a velocity of at least 2 feet per second shall be maintained. Maximum velocity shall be limited to 8 feet per second.

To maximize pump efficiency, it is preferable to provide a force main design that gradually slopes upward from the pump station discharge, to the point of downstream connection. Low points or sumps in the force main are not allowed. High points in the force main shall be avoided. An automatic air relief valve shall be placed at high points in the force main to prevent air locking.

Force mains shall enter the gravity sewer system at a point not more than 1 foot above the flow line of the receiving manhole.

The force main and fittings, including thrust blocking, shall be designed to withstand normal pressure and pressure surges (water hammer).
The following standard pipe materials shall be used for force-main construction and shall conform to the applicable ASTM or AWWA specification (latest revision)

Pipe Material	Specification
Ductile iron pipe	AWWA C151
w/ polyethylene lining &	ASTM D1248, Class C, 30 mil thickness
Polyethylene encasement*	AWWA C105
PVC Plastic Pipe	AWWA C900

* polyethylene encasement may be omitted if a corrosivity soils report provided per Appendix A of AWWA C105 indicates encasement is not needed Alternate linings may be approved on a case-by-case basis.

Pipe strength (Class) shall be determined by accepted engineering principles and the pipe specification based on the design pressure.

Friction losses through force mains shall be based on the Hazen-Williams' formula with a value for "C" equal to 120.

Separation from Water Mains

Force main separation from water mains shall conform to applicable State Dept. of Health Services regulations (legal min), and City Standards. The appropriate construction details shall be shown on the plans.

City of Riverbank
CONSTRUCTION STANDARDS

WASTEWATER

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SECTION 6: SANITARY SEWER

6.100 Materials

6.101 General

The City Engineer shall approve the source and supply of materials.

6.102 Gravity Sewer Pipe

1. Vitrified Clay Pipe shall be extra strength, bell and spigot end compression joint pipe, conforming to ASTM C700 as it applies to unglazed vitrified clay pipe.

2. Ductile Iron Pipe shall be Pressure Class 350 and shall conform to ANSI/AWWA C151. All DIP shall be protected by a polyethylene encasement meeting the requirements of ANSI/AWWA C105. Fittings shall conform to ANSI/AWWA C110.

   Ductile Iron Pipe for use in gravity sewer systems shall be lined with Protecto 401 Ceramic Epoxy Liner or equal.

3. Polyvinylchloride Pipe (PVC) shall be SDR 26, conforming to the requirements of ASTM D3034. Joints shall be gasketed, bell-and-spigot, push-on type with elastomeric seals conforming to ASTMD3212. Gaskets may be factory installed or field installed, as recommended by pipe manufacturer.

6.103 Service Laterals

Pipe shall be the same type and class as that used for the main.
Joints and Couplings for laterals shall be the same type and specifications as those used for the main.

6.104 Manholes

1. Standard Precast:
   Sanitary sewer section manholes shall be precast reinforced concrete conforming to ASTM C 478. The manhole base, risers and cone shall have a minimum compressive strength of 3,000 psi at 28 days. Manholes shall be constructed in accordance with the Standard Details.

2. Lined Manholes:
   When required by City Standards or indicated on the plans, manholes shall be SuperCoat or Polyurethane lined. The scope of the lining shall include, unless otherwise shown on the plans, all unlined interior concrete surfaces of the manhole. The Contractor shall provide submittal data for review and approval by the Public Works Department prior to application.

   Polyurethane Lining: The lining material shall be an epoxy base coat under a polyurethane finish coat. The material shall be Sancon 100, or equivalent.
   The epoxy base coating shall be applied to a minimum thickness of 3 mils.

The polyurethane shall be applied to a thickness of 125 mils (1/8") in one (1) continuous coat, without seams, free from any holes or defects.

SuperCoat Lining: SuperCoat lining by Lafarge aluminates. The lining shall be applied by a licensed SuperCoat applicator and in accordance to the product recommendations. The depth of the application shall be ¾" to 1" minimum.

Lining System Warranty:
Lining System shall be warranted for five (5) years against any type of failure. The Contractor shall remove and replace all failures at his expense.

6.105 Castings

Iron castings for manhole covers and frames shall conform to ASTM A 48, Class 25 and be of the dimensions and makes/models shown on the Standard Details.

All castings shall be sound and free from shrinkage cracks, blowholes, and other defects. All fins and burnt sand must be removed. Excessive porosity and spongy surfaces will constitute causes for rejection.

The manhole cover shall seat evenly and firmly in the frame. Cast iron frames and covers shall be dipped or painted with asphalt, which will form a tough, tenacious, non-scaling coating which does not have a tendency to become brittle when cold or sticky when hot.

6.106 Cleanouts

Cleanout frames and covers shall be manufactured, tested and otherwise furnished in accordance with the Standard Specification of Fray Iron Castings ASTM A 48, Class 30. The contact surfaces of frames and cover shall be machine surfaced to eliminate rattling and other movement under traffic. Castings shall be equal in materials and construction to Christy F14, or equal. Concrete shall be Class II and have a 28-day compressive strength of 3,000 psi.

6.107 Carrier or Casing Pipe

Pipe used as a conductor pipe under a highway or railroad shall be welded steel pipe. The Pipe shall conform to the Standard Specifications for Public Works Construction (Greenbook) Section 207-10, "Steel Pipe". The protective lining and coating, if any, shall be as shown on the plans or specified in the Special Provisions.

When the conductor pipe is to be installed by boring and jacking, the wall thickness shall be ¼" for sizes up to and including 24" in diameter, and 5/16" for sizes 27" to 36" in diameter, unless otherwise specified.

6.108 Pipe to Manhole Connections

A Waterstop grouting ring or seal shall be used for pipe penetrations into cast-in-place manhole bases. Flexible rubber boot connections with stainless steel components shall be used for pipe penetrations into the walls of the manhole, or into pre-cast bases. Connections shall be installed as per the manufacturer's recommendations, and shall meet the requirements of ASTM C 923.

6.200 INSTALLATION

6.201 Sanitary Sewer Installation

1. All sanitary sewer pipe installations shall be accomplished as specified herein except where modified by the requirements specific to the various types of pipeline materials specified under Section 5.03.

2. All pipes shall be laid to conform to the prescribed line and grade as shown on the plans and each pipe length checked to the grade line, which the Contractor establishes from the grade stakes.

3. Each length of pipe shall be laid on compacted, approved bedding material as specified and shall have full bearing for its entire length between bell holes excavated in said bedding material to allow for unobstructed assembly of all bell and spigot joints. "Stabbing", "Swinging In", or "Popping On" spigot ends of pipe into bell ends will not be permitted. After jointing is accomplished, all spaces between pipe and bell holes shall be packed with bedding material, taking care not to damage, move or lift the pipe from its bedding support.

4. Adjustments of pipe to line and grade shall be made by scraping away or filling in and tamping approved material under the body of the pipe. No wedging or blocking to support the pipe will be permitted.

5. A sewer line, unless otherwise approved by the Inspector, shall be laid, without break, upgrade from point of connection to existing sewer and with the bell end forward or upgrade. Pipe shall not be laid when the Inspector determines that the condition of the trench or the weather is unsuitable. When pipe laying is not in progress, the forward end of the pipe shall be kept effectively closed with an approved temporary plug or cap.

6. Sewer pipes, branches, stubs, or other open ends which are not to be immediately connected, shall be plugged or capped with a standard watertight plug or cap, as approved by the Inspector for use in the particular installation. The plug or cap shall be placed on a standard end.

7. Pipe entering or leaving manholes or other structures shall have joints within 2½'of the manhole base.

8. In all cases, flexibility of joints at the manhole base shall be preserved to prevent damage to the pipe by differential settlement.

9. All sewer line connections to manholes, trunk sewers, main sewers, or side sewers shall be left uncovered until after the inspection has been made. After approval of the connection, the trench shall be backfilled as specified.

10. If the sewer is to be laid in an area that is to be filled, and the cover prior to filling is less than 5', the pipe shall not be laid until the area has been filled to a level 5' above the proposed pipe and compacted to 90% relative compaction, unless otherwise authorized by the City Engineer.

6.202 Service Connections

Attention is directed to the Standard Details for additional requirements pertinent to lateral installations.

1. Where indicated on the plans, a cut-in wye shall be used with plain ends along the "run" of the pipe. Tees shall not be used. Cut-in wyes shall be allowed on existing mains, only. For new mains under construction, the wyes shall be connected to the main using standard bell-and-spigot joints. The first pipe segment downstream from the wye shall then be cut (beveled) to the required length so as to fit into the bell of the next downstream pipe end.

2. Cut-in wye connections are only allowed in mains less than 12", otherwise a manhole in accordance with the Standard Details is required.

3. When cutting in a wye, make three (3) initial cuts in the main, 2" to 6" inches apart, and remove the rings. Cut the main to the required length to insert wye.

4. Use well graded, crushed stone or crushed gravel, meeting the requirements of ASTM C 33, Gradation 67 (3/4 to No. 4) shall be placed under the main line and the sewer service lateral within the right-of-way.

5. When joining the cut ends of the existing main to the wye, a "BAND SEAL" with stainless steel shear type sewer repair couplings, or equal; shall be used. Calder couplings, No-Hub couplings or plastic will not be permitted on the "run" of the pipe.

6. Whenever possible, all connections at new and existing manholes shall be made with matching crowns.

7. That portion of any lateral line to be placed under an existing curb and gutter and/or sidewalk shall be done by boring or cutting and replacing the existing curb and gutter and/or sidewalk.

8. The lateral line shall have a clean-out at back edge of sidewalk as shown on the Standard Details. A box shall be installed as noted on detail. Said cleanout shall consist of a combination wye and eighth bend. Laterals and cleanouts shall not be located in the driveway, unless specifically approved by the City Engineer.

9. The wye branches, unless otherwise specified, shall be inclined at an angle of 45 degrees from the horizontal. In no case shall the springline of the lateral be lower than the springline of the main line.

10. The end of the lateral service shall extend a minimum of 24" beyond cleanout wye/riser combination.

11. The location of every sewer service shall be marked with an "S" directly above the service on the face of the curb; the "S" shall be 2" in height and ¼" in depth.

6.203 Manholes

1. Precast Manhole Construction -Excavation and backfill for all precast manholes shall be in conformance with the requirements of Section 19-3 of the State Specifications and installed as specified herein. All embedment materials under, around and at least 3" over all pipelines located within five feet of structure bases shall be compacted without jetting prior to section placements. All precast manholes shall be constructed to subgrade prior to adjoining sewer pipeline trench and/or structure backfill where such method of compaction is permitted and used.

2. Manholes installed in areas outside of developed areas shall have bolted manhole covers. Rim elevations shall be a minimum of 1'above ground. The exposed manhole above existing ground shall be constructed entirely of grade rings and noted on the plan sheets. If the manhole outside an existing street is in a future street area, then grade rings shall extend below ground at least 18".

3. All joint surfaces of precast sections and face of manhole base shall be thoroughly clean prior to setting precast sections. These various sections shall be set in preformed plastic sealing gaskets of material conforming to the requirements of FEDERAL SPECIFICATION SS-S-00210.

    a. Installation of gaskets -Apply one (1) coat of primer to clean, dry joint surface (both tongue and groove) and of the two-piece wrapper on the gasket. The outside paper will protect the gasket and assure against stretching. Before setting the manhole section in the trench, attach the plastic gasket strips end-to-end to the tongue or groove of each joint, forming a continuous gasket around the entire circumference of the manhole joint.

    b. Handling of barrel sections after the plastic gasket has been affixed shall be carefully controlled to avoid bumping the gasket and thus displacing it or contaminating it with dirt or other foreign material. Any gaskets so disturbed shall be removed and replaced if damaged and repositioned if displaced.

    c. Care shall be taken to properly align the manhole section with the previously set section before it is lowered into position.

    d. During cold or wet weather, pass direct heat over the concrete joint surface lightly until ice, frost and moisture are removed and surface to be primed is dry and warm immediately before application of primer. Direct heat shall also be passed over plastic gasket strips immediately prior to

attaching them to joint surfaces and immediately prior to insertion of tongue into groove.

e. After manhole section has been set, the excess joint gasket shall be neatly trimmed away, and each joint shall be neatly grouted along the manhole wall, inside and out.

4. The cast-in-place base shall be Class II, 3,000 psi, 28-day concrete with 1½" maximum size aggregate. It shall rest on firm, undisturbed soil, and shall be the dimensions shown on the Standard Details. Where sewer lines pass through manholes, the pipe shall be laid continuously as a whole pipe. Waterstop gaskets, or equivalent, flexible rubber gaskets shall be installed at each pipe penetration into the manhole base. After the manhole base and precast sections have been placed and sufficient time has elapsed to allow all concrete and grout to set, the top half of pipe within the manhole shall be carefully cut off and the sides mortared. All channels so formed form a smooth flowing channel at all flow depths.

5. Temporary covers of 3/8" steel plate of sufficient size to adequately cover the opening shall be placed on the cone until the base is complete and the manhole casting shall then be installed. Suitably located ribs shall be welded to the underside of the cover to hold it in place during any grading operations.

6. The throat of the manhole shall be made of precast concrete rings of the proper inside diameter. The minimum depth of throat permitted shall be one 3" ring between the cone and the frame. The maximum depth permitted shall be 12" of rings between the cone and frame.

7. When adjusting the manhole frame and cover to grade, the frame shall be wired to a 2" x 4" of sufficient length to span the excavation and the throat completed to the right level. Whenever the space between the bottom of the frame and the top of a ring is less than 3" inches, the void may be filled with concrete, poured against a suitable form on the inside of the structure.

8. When adjusting an existing manhole to grade and the total depth of the throat from the top of the frame to the bottom of the throat exceeds 18", the upper portion of the manhole shall be removed to the first full-size manhole section. The upper portion shall then be reconstructed as outlined above.

9. Penetrations for connections to existing manholes shall be core drilled or neatly sawcut by the contractor. Use of a pneumatically powered chipping hammer for use in the removal of the sections of the manhole wall or base shall I be on a case-by-case basis and only with the prior approval of the onsite inspector. The surface edge of the opening shall be ground or milled as necessary, with all reinforcing wire ground to the level of the surrounding concrete wall of the opening. Reinforcing wire shall be removed and not be permitted to remain in the cut. Bent wire left in cut shall not be permitted.

10. Sealing the pipe shall be accomplished through the use of either a mechanically installed, flexible watertight boot connection, a cast-in-place watertight flexible boot connection, or a similar flexible sealing gasket. Boot connections shall use stainless steel bands and components, and shall conform to the requirements of ASTM C923. Contractor shall provide submittal data prior to construction for review and approval by the onsite inspector. All sealing gaskets and/or boot connections shall be installed in accordance with the manufacturer's recommendations.

11. Before any work is started on adjusting or repairing a manhole, the channels in the base shall be covered with strips of wood, and the entire base covered with a heavy piece of canvas. This cover shall be kept in place during all work. Upon completion of the work the wood strips and the canvas shall be removed from the manhole, allowing no debris to fall or remain in the manhole.

12. Lined Manholes
    Installation of the SuperCoat, or Polyurethane lining shall conform to the requirements as specified by manufacturer.

    a. Field Joints:
       All joints between lined pipe and lined structures shall be either Type C-1 or Type C-2 as defined in Section 311-1 of the Standards Specifications for Public Works Construction (SSPWC). Field joints between sections of lined pipe shall be Type P-1 as defined in Section 311-1 of the SSPWC specifications. When transitioning between lined and unlined pipe, a factory "turn back" shall be used or a type 316 stainless steel band and neoprene gasket/termination secured with type 316 stainless steel wedge anchors provided at the transition for the full pipe circumference. Contractor shall provide transition details to the Engineer for review prior to installation. Unless shown otherwise, field joints in lined structures shall be one (1) of the following types defined in the SSPWC: Type C-1, Type C-2 or Type C-3.

    b. Field Welding and Testing:
       Field welding and testing of the lining of structures and between pipe and structures shall be made in strict conformance with lining manufacturer's instructions and recommendations. All tests shall be performed by the contractor in the presence of the City inspector. The inspector shall be notified at least 24 hours in advance of a scheduled test.

    c. Polyurethane Lining Surface Preparation:
       The Contractor shall furnish all labor, material and equipment necessary for the preparation of surfaces, application of lining, safety procedures, protection of existing surfaces, equipment and cleanup.

       All new concrete surfaces shall be grit blasted to provide proper adhesion of coating system. All debris produced from the blasting operation shall be removed from the structure prior to coating. No debris shall be allowed

to enter the sewer system. The concrete surfaces shall be air dried prior to installation of the liner.

All unnecessary holes in structure shall be sealed prior to lining with acid resistant sealant recommended for surfaces being sealed.

d. Lining Installation:
The lining application shall be performed only by workmen trained and experienced with the specified material. The lining shall be applied by high pressure airless equipment approved by the lining manufacturer. The equipment shall be in good working order to insure correct proportioning and mixing of the components.

The polyurethane shall be applied to a thickness of 125 mils (1/8") in one (1) continuous coat, without seams, free from any holes or defects. The lining shall be installed over dry concrete below the water level by using appropriate bypass equipment.

During the lining application the Contractor shall take wet gage thickness readings as required to insure correct lining thickness.

The finished coating shall be free from porosity, without bubbles or pinholes and uniform in color. All areas in question shall be removed and reworked to the satisfaction of the Engineer.

Application of the lining shall not take place when exposed to rain, fog or high winds. It is the Contractor's responsibility to insure protection of the work from the above-mentioned conditions.

e. Lining System Warranty:
Lining System shall be warranted for five (5) years against any type of failure. Contractor shall remove and replace all failures at his expense.

6.300: Inspection and Testing of Sewer Lines

All testing indicated herein shall be performed after backfill and compaction of the trench, grading and compaction of subgrade, after installation of curb and gutter, and prior to placement of aggregate base and AC paving. Compacted subgrade shall have passed the applicable compaction tests required by these Construction Specifications prior to sewer line testing. All tests shall be performed under the supervision of the City Public Works Department, or their appointed representative. Testing, and any required re-testing, shall be at the expense of the Contractor.

6.301 Cleaning and Flushing

Prior to performing a leakage test, the pipe installation shall be thoroughly cleaned. Cleaning shall be performed by the Contractor by means of an inflatable rubber ball. The ball shall be of a size that will fit snugly into the pipe to be flushed. The ball shall be placed in the last cleanout or manhole on the pipe to be

cleaned, and water introduced behind it. The ball shall pass through the pipe with only the pressure of the water impelling it. All debris flushed out ahead of the ball shall be removed at the first manhole where its presence is noted. If any wedged debris or damaged pipe shall stop the ball, the Contractor shall remove the obstruction. When a new sewer is connected to an existing line, cleaning and flushing shall be carried out to the first existing manhole downstream from the point of connection.

6.302 Low-Pressure Air Test

After completing backfill of a section of sewer line, the Contractor shall at his/her expense, conduct a Line Acceptance Test using low-pressure air. The test shall be performed using the equipment listed below, according to stated procedures and under the supervision of the City Engineer.

PROCEDURE:

The section of pipe to be tested shall be isolated by completely blocking all outlets in the section under test. Careful attention must be given to the bracing of all plugs, as the line will be under pressure. One (1) of the plugs used at the manhole must be equipped for an air inlet to fill the line from the air compressor. The air compressor which feeds air into the pipe section must be equipped to control the air entry rate and to prevent the pressure from exceeding 5.0 psig. The air compressor shall be fitted with a blow-off valve to operate at 5.0 psig to prevent an increase in pressure, which could be hazardous to the pipeline.

After the pipe has been wetted, the air shall be allowed to slowly fill the pipeline until a constant pressure of 4.0 psig is maintained. At this point, the air compressor shall be controlled so that the internal pressure in the line is maintained between 4.0 and 3.5 psig for at least two (2) minutes to permit the temperature of the entering air to equalize with the temperature of the pipe wall. If it is necessary to bleed off the air to repair a faulty plug, a new two (2) minute interval must be allowed when the line has been refilled.

When the temperature of the air has reached equilibrium with that of the pipe wall, the air source shall be disconnected. Before disconnecting the air supply, the pressure shall be at 4.0 psig. The gauge is then watched until the air pressure reaches 3.5 psig. When the pressure has reached 3.5 psig, a stopwatch will be started and stopped when the pressure has reached 2.5 psig. The portion of line being tested shall be considered "Acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig is not less than the time shown for the given diameters in the following table:

SPECIFICATION TIME REQUIRED FOR A 1.0 PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE INDICATED

Pipe Dia. (in)	Min. Time (min:sec)	Length for Min. time (ft)	Time for Longer Length(ft)	Specification Time for Length Shown Length (ft), Time (min:sec)						
				100	150	200	250	300	350	400
4	3:46	597	.360L	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	396	.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42
8	7:34	296	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08
10	9:26	239	2.374L	9:26	9:26	9:26	9:53	11:52	13:51	15:50
12	11:20	199	3.418L	11:20	11:20	11:23	14:14	17:05	19:56	22:47
15	14:10	159	5.342L	14:10	14:10	17:49	22:16	26:43	31:10	35:37
18	17:00	133	7.692L	17:00	19:14	25:38	32:03	38:28	44:52	51:17

The air test shall be performed after the completion of backfill and compaction and prior to final paving and pouring of the curbs, gutters and sidewalks.

The Contractor shall furnish all equipment needed to complete this test.

If the installation fails to meet this requirement, the Contractor shall, at his/her own expense, determine the source of leakage. He/she shall then repair or replace all defective materials and/or workmanship and perform the air test as many times as necessary to achieve an acceptable test.

6.303 Televised Inspection

The Contractor shall inspect all new pipelines with closed circuit television and furnish a CD/DVD of the inspection, along with a hard copy report to the City. The Contractor shall give the City Engineer at least two (2) working days notice prior to performing the TV work so a city representative can verify the work.

The Contractor shall clean all lines of dirt and other debris, clean manholes, remove broken pipe, compact trench, raise manhole rims to grade, and pass the air test prior to television inspection. Areas adjacent to manholes shall be leveled and made accessible to the television trailer.

Defects such as high and low spots, joint separations, offset joints, chipped ends, cracked or damaged pipe, infiltration points and debris in lines shall be corrected by the contractor at their expense. For joint separations, low spots and chipped ends, the following maximum acceptable limits will apply for new sanitary sewer lines:

Joint separations -½"

Low spots:

Pipe size	Depth tolerance of trapped water
6	0.93 in.
8	1.25 in.
10"	1.50 in
12"	1.87 in.
15"	2.25 in.
18"	2.75 in.

Chipped ends – ¼" (VCP, only)

Prior to the end of the one-year warranty period, the City may require televised inspection of the new sanitary sewer laterals for the project at the Contractor's expense.

6.304 Deflection Testing

A deflection test on all new gravity sewer mains 6" and larger shall be performed using a pre-sized, rigid mandrel device approved by the City Engineer. The mandrel shall be clearly labeled and sized so as to provide a diameter of at least 95% of the Base Internal Diameter as defined in ASTM D-3034 for PVC SDR 26 gravity sewer pipe.

The mandrel shall be drawn through the pipe using only the force that can be exerted by one man on the end of a rope, using no mechanical advantage. Under no circumstances shall the mandrel device be attached to the cleaning ball.

Pipe exceeding 5% deflection shall be repaired or replaced, and shall be remandreled in the presence of the City Engineer (or appointed representative). Mechanical re-rounding will not be acceptable.

6.400 Measurement and Payment

6.401 Pipe

Payment for sanitary sewer pipe complete in place shall be per linear foot measured from center of manhole to center of manhole following a line parallel to the grade of the sewer. Payment shall include the furnishing of all labor, materials, water, tools, and equipment required to construct and complete the installation of the sewer pipe in accordance with the plans and these specifications.

6.402 Structures & Manholes

The unit of measure for payment shall be per each unit. Payment shall be made at the bid price per item for each structure complete in place and shall include the cost of excavation, backfill, frames, covers, plates, or reinforcing steel where required.

City of Riverbank
STANDARD PLANS

WASTEWATER

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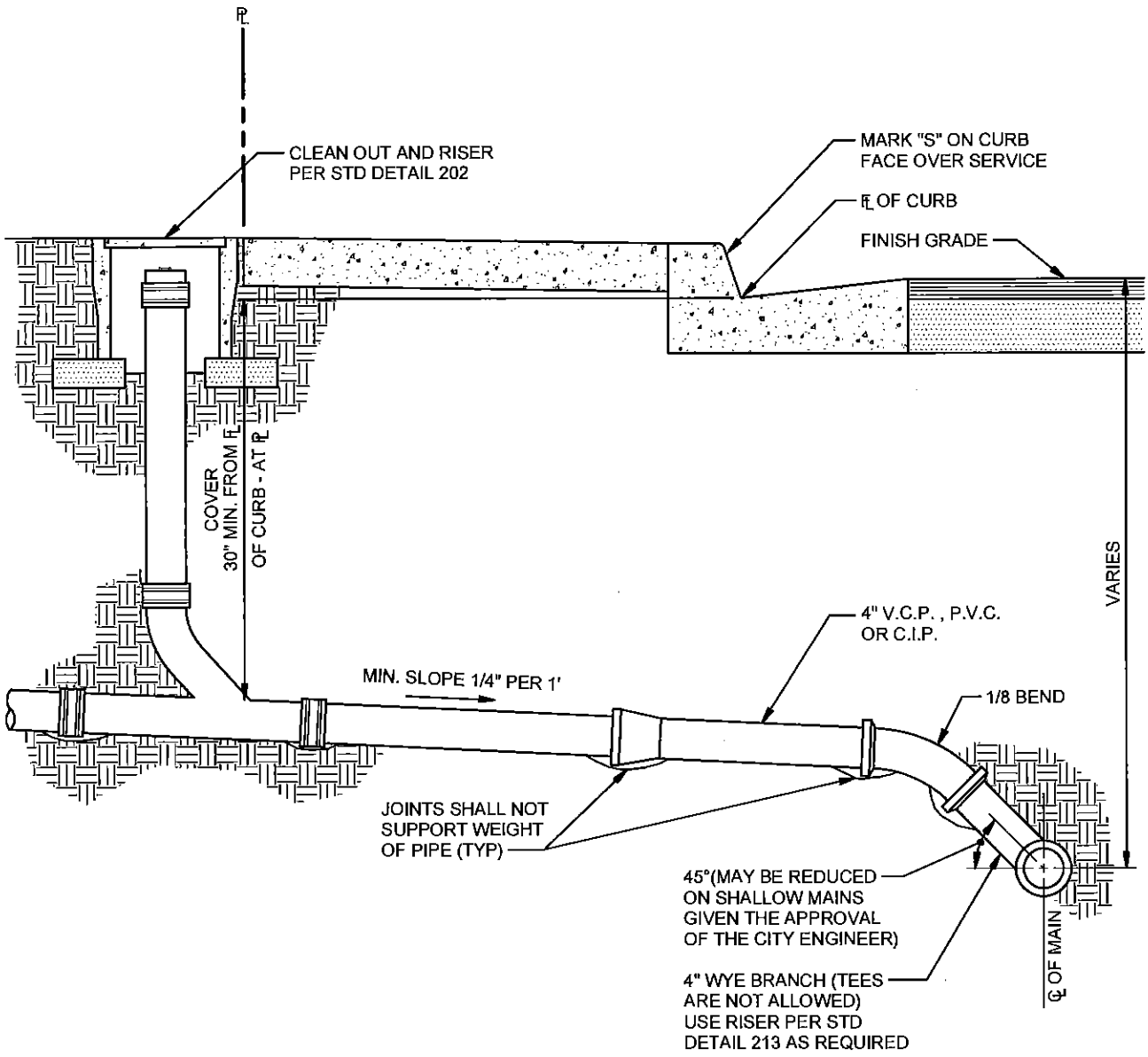


NOTES:

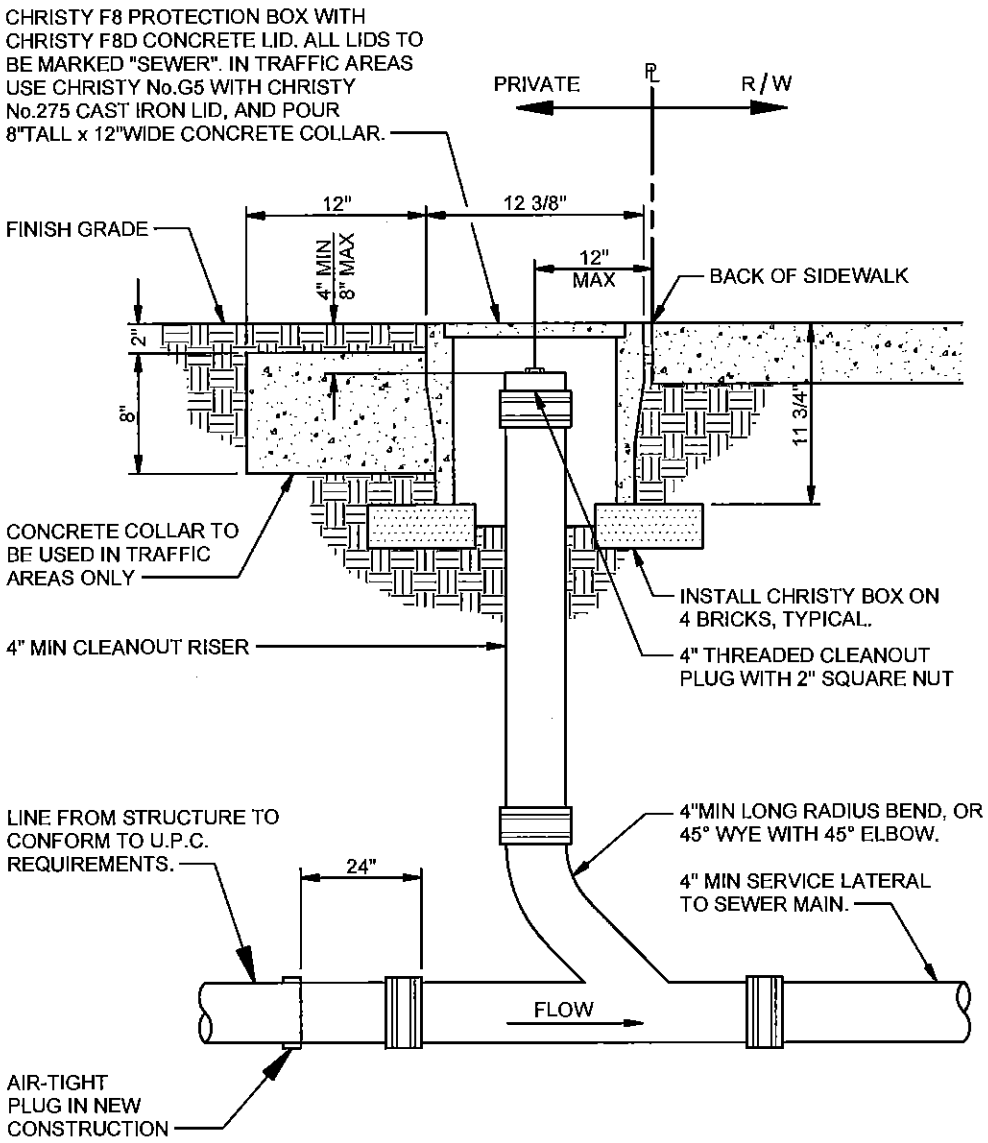
1. IN STREETS WHERE FLOWLINE OF MAIN SEWER IS MORE THAN 5 FEET BELOW FINISHED GRADE, A RISER WITH A 45° ELBOW MAY BE USED UP TO A POINT 5 FEET BELOW CURB GRADE, OR HOUSE CONNECTION MAY BE PLACED ON A UNIFORM SLOPE UP TO A POINT 5'-0" BELOW TOP OF CURB.
2. IF COVER IS LESS THAN 2'-6", ENCASE PIPE IN CONCRETE MINIMUM OF 4" THICK.
3. SEE SECTION 500 REGARDING BEDDING AND BACKFILL REQUIREMENTS.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

SEWER LATERAL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	601
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	SEWER	601.DWG		



NOTES:

1. CLEANOUT RISER SHALL BE THE SAME SIZE AS THE SEWER LATERAL.
2. CLEANOUT SHALL BE LOCATED JUST BEHIND THE R/W LINE OUTSIDE THE R/W.
3. WYE AND CLEANOUT RISER COMBINATION MAY BE CAST IRON, PVC(SDR 26) OR VITRIFIED CLAY PIPE.
4. ALL COUPLINGS SHALL HAVE STAINLESS STEEL BANDS. (WITH 4 CLAMPS AND METAL SHEAR BAND)

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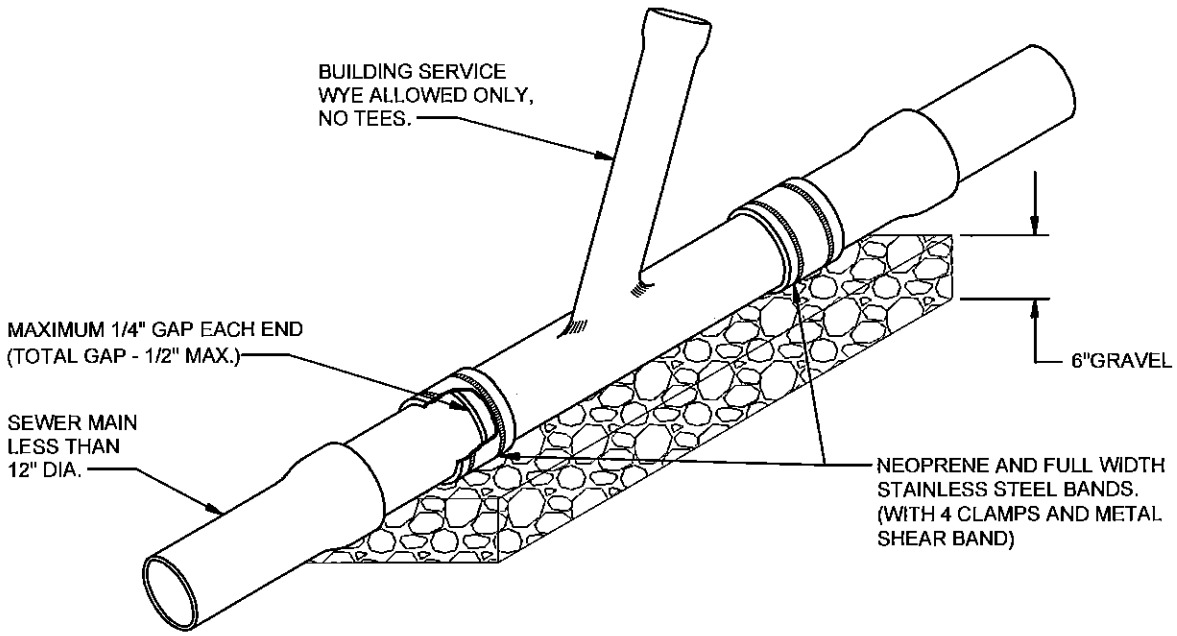
CLEANOUT

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	602
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 602.DWG		



NOTES:

1. CUTS ARE TO BE MADE WITH A PIPE CUTTING TOOL.
2. SHEAR RINGS OF A TYPE APPROVED BY THE CITY ENGINEER SHALL BE INSTALLED ON ALL JOINTS.
3. TO BE USED ON EXISTING MAINS ONLY.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

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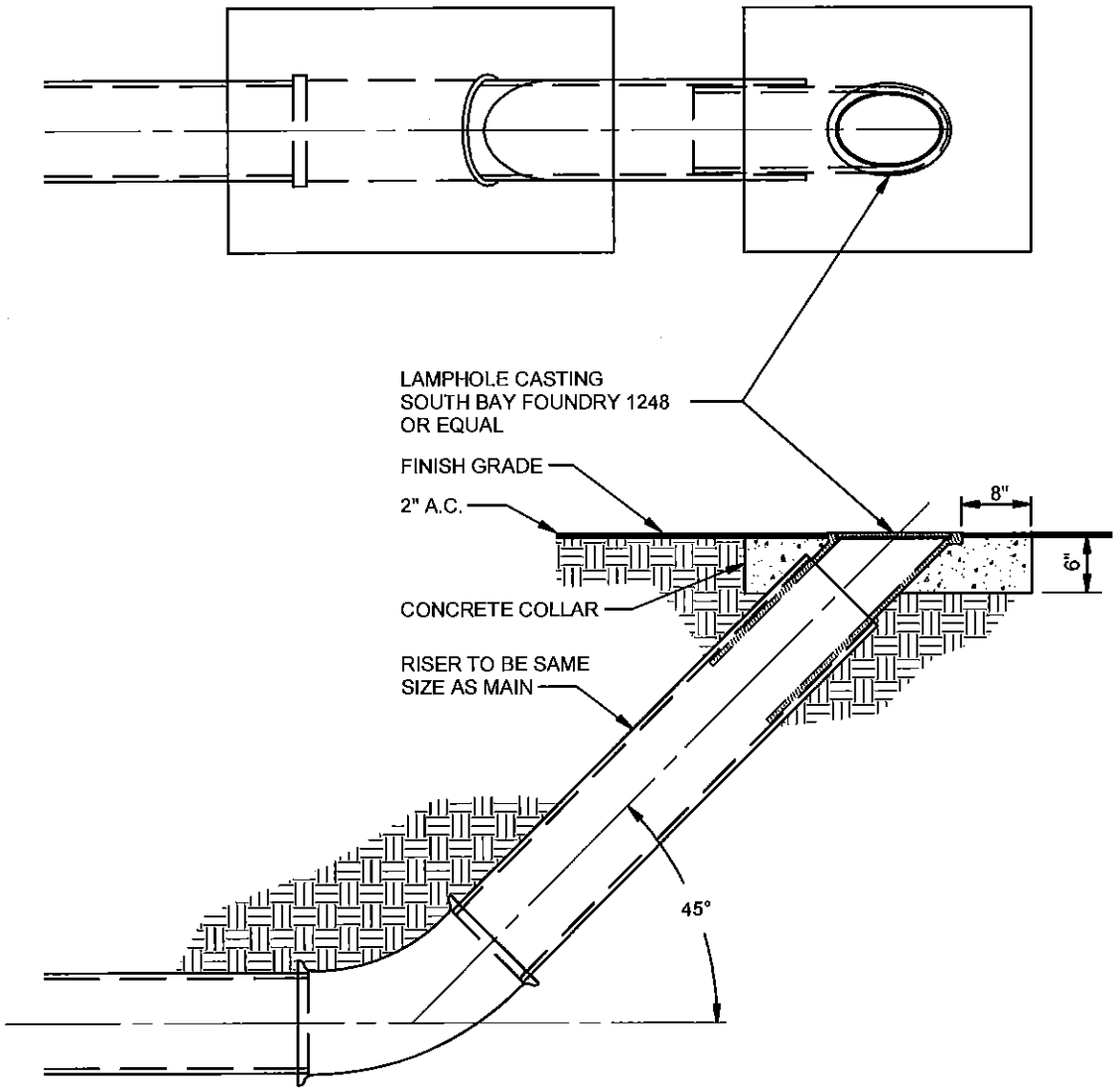
CITY ENGINEER - WILLIAM F. KULL

CUT - IN - WYE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	603
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	SEWER	603.DWG		



NOTE:

1. LAMPHOLE TO BE USED AT DISCRETION OF CITY ENGINEER AT THE ENDS OF SHORT MAINS OR WHEN A SMALL NUMBER OF SERVICES ARE CONNECTED TO MAIN.
2. LAMPHOLES MAY BE INSTALLED AT SEWER LINES STUBBED FOR FUTURE EXTENSION.

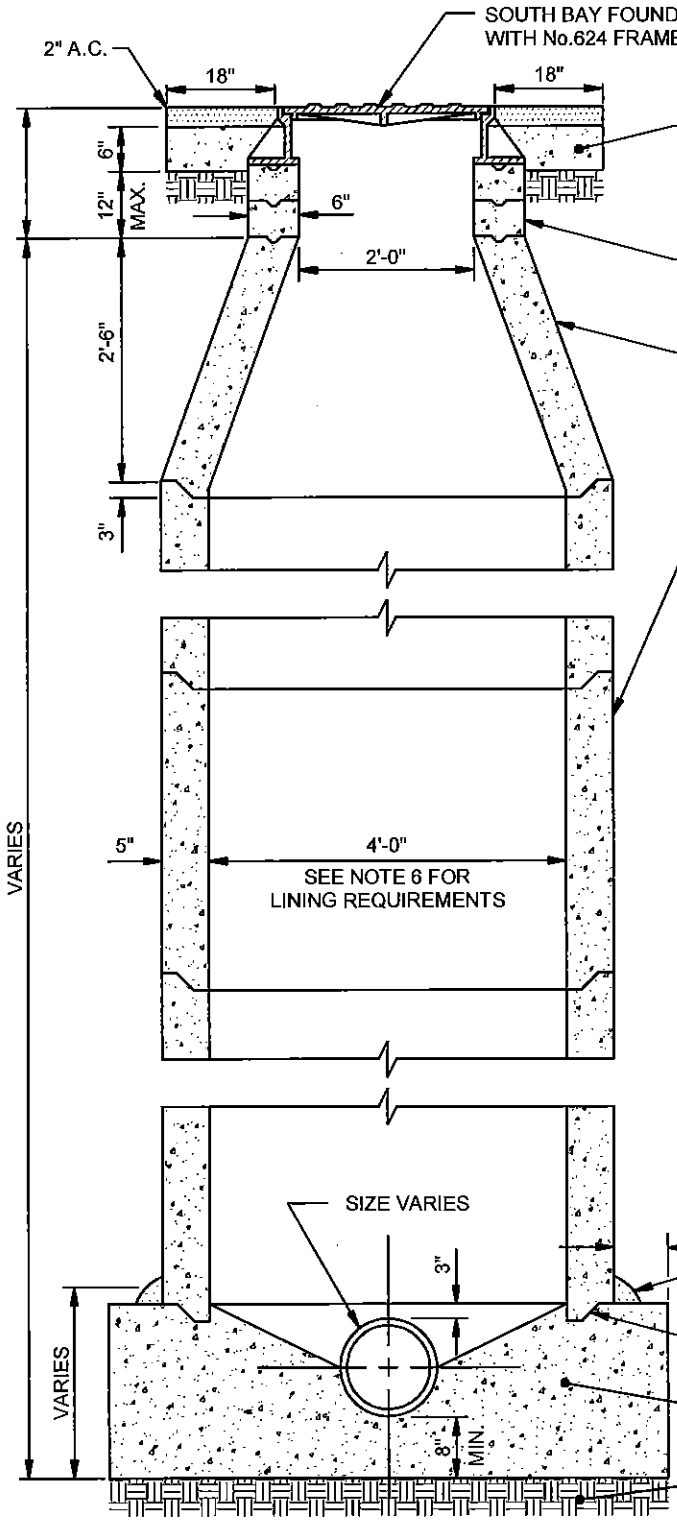
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull

CITY ENGINEER - WILLIAM F. KULL

LAMPHOLE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	604
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 604.DWG		



NOTES:

1. BOTTOM OF MANHOLE SHALL BE CONSTRUCTED FROM F.L. TO F.L. AND SHAPED TO CONFORM WITH THE DIAMETER OF THE PIPE AND DIRECTION OF FLOW.
2. SET ALL BARREL SECTIONS IN JOINT GASKETS, RAMNEK, OR APPROVED EQUAL. GROUT ALL JOINTS INSIDE AND OUT.
3. COVER TO BE MARKED "SEWER".
4. ADJUST FRAME TO GRADE AFTER PAVING, PER STD DETAIL 211.
5. PRE-CAST BASE SHALL BE PLACED ON 6" MINIMUM THICKNESS OF 3/4" DRAIN ROCK AGAINST UNDISTURBED EARTH, IF USED.
6. MANHOLES CONSTRUCTED ON LINES OF 12"DIA OR GREATER, OR ON LINES THAT HAVE AN UPSTREAM SERVICE AREA OF 400 UNITS OR GREATER, SHALL BE LINED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
7. MANHOLES CONSTRUCTED IN UNIMPROVED AREAS SHALL HAVE THE TOP OF THE COVER APPROXIMATELY 12" ABOVE ADJACENT FINISH GRADE.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

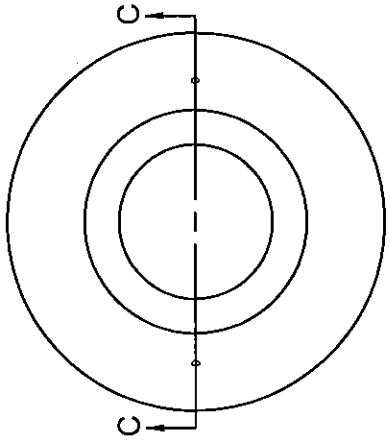
William F. Kull

CITY ENGINEER - WILLIAM F. KULL

STANDARD MANHOLE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	605
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 605.DWG		

CONCENTRIC SHORT CONE



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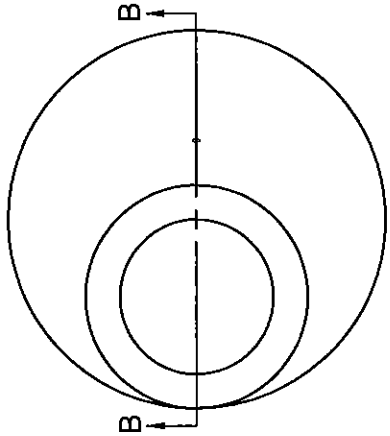

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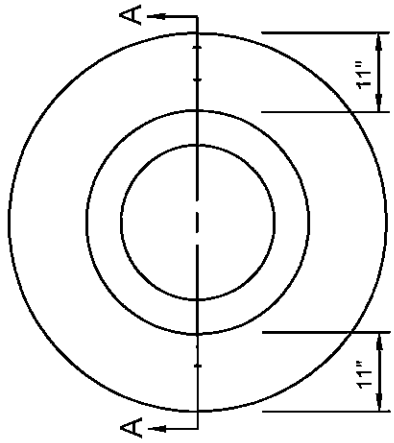

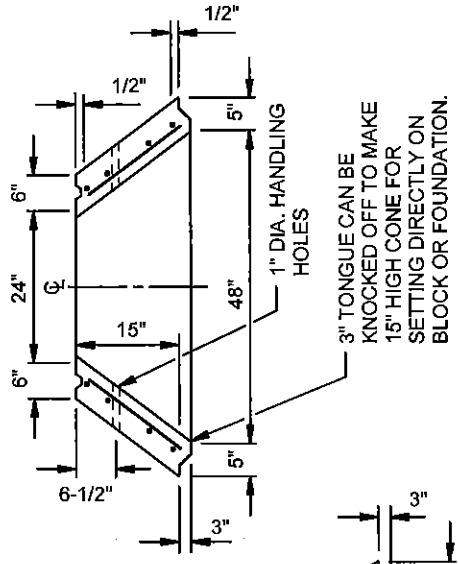

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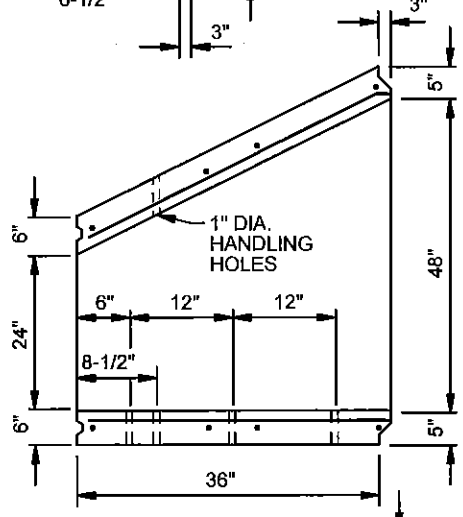
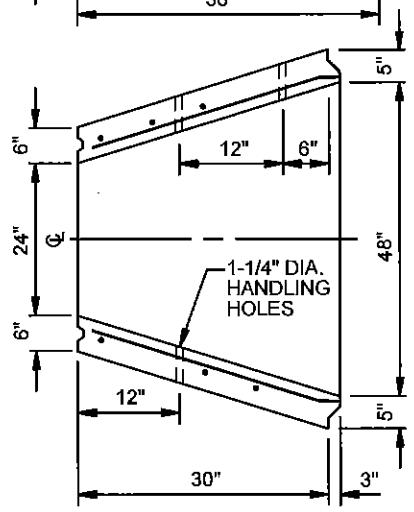


SECTION B-B



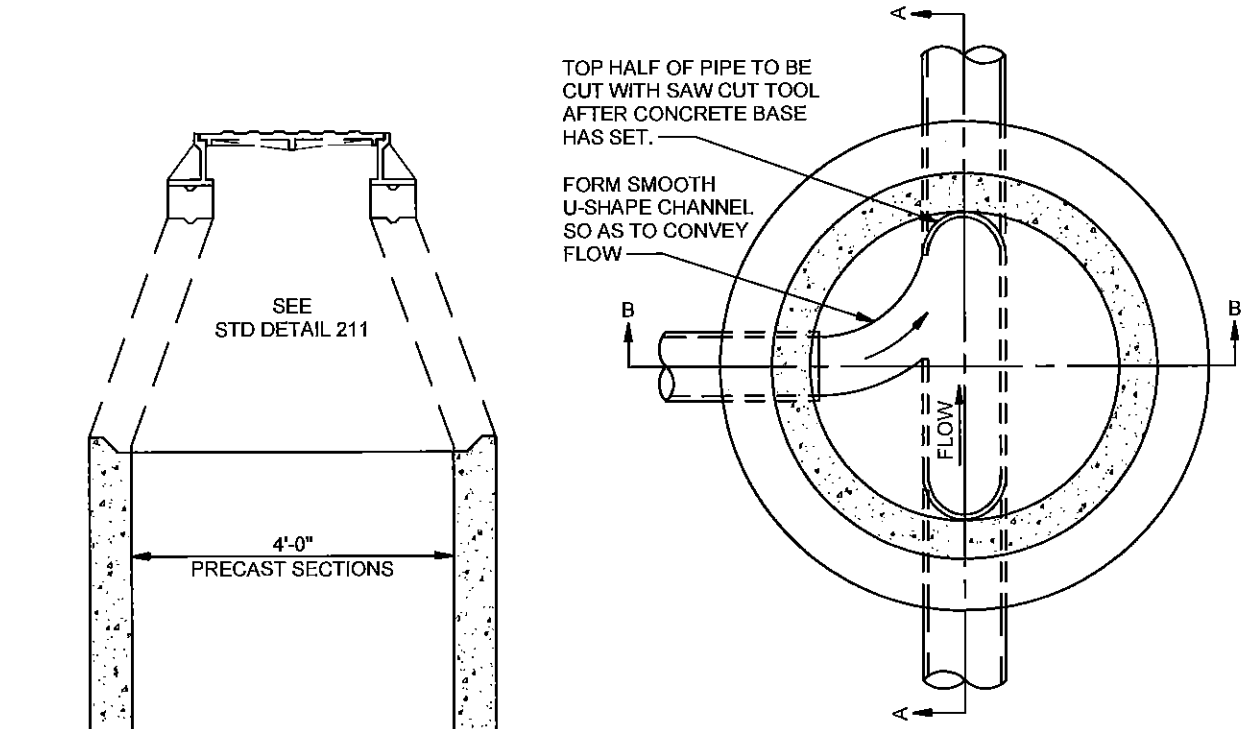
SECTION A-A

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

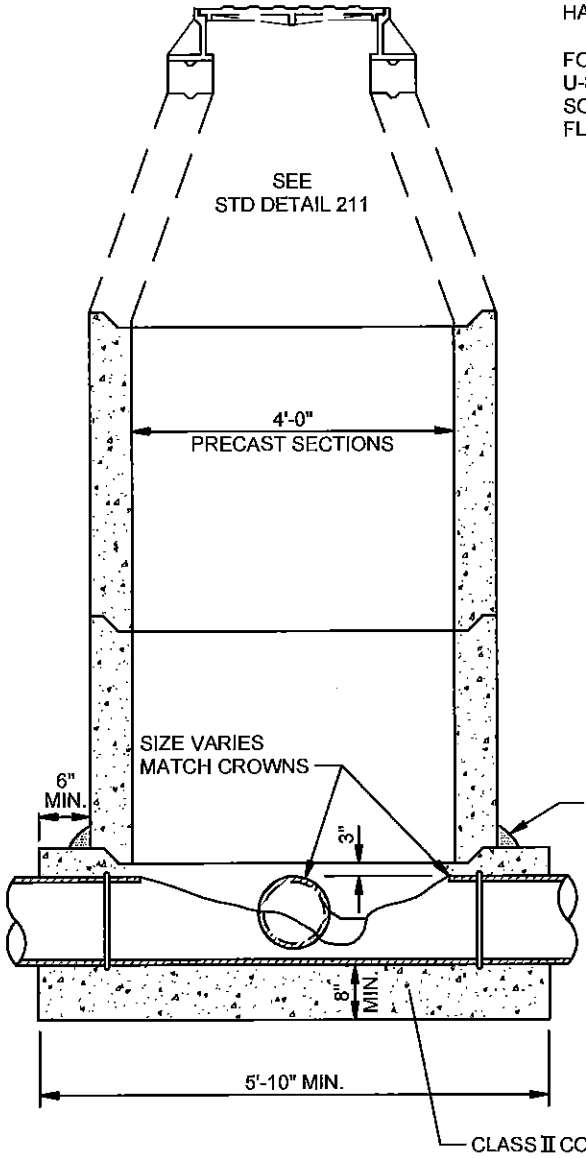
William F. Kull
CITY ENGINEER - WILLIAM F. KULL

MANHOLE CONE

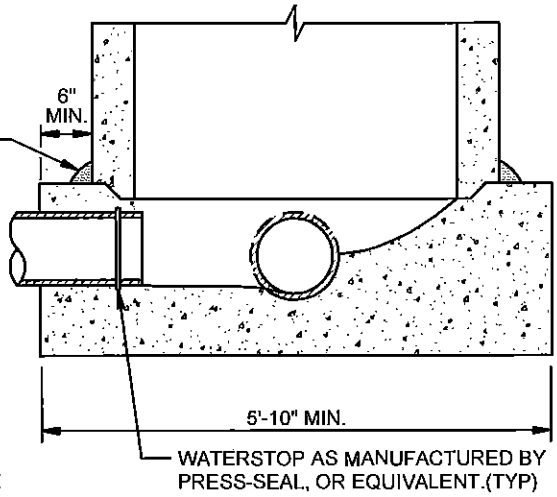
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	606
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 606.DWG		



PLAN



SECTION A-A



SECTION B-B

NOTES:

1. PIPE TO BE LAID THROUGH MANHOLE AND TOP HALF REMOVED AFTER CONCRETE HAS SET.
2. POUR IN PLACE BASES TO BE POURED AGAINST UNDISTURBED NATIVE SOIL. PRE CAST BASES SHALL BE SET ON A 6"MIN LAYER OF 3/4" DRAIN ROCK ON UNDISTURBED NATIVE SOIL.
3. FLEXIBLE RUBBER MANHOLE GASKETS SHALL BE INSTALLED AT ALL PIPE PENETRATIONS INTO THE BASE. USE PRESS-SEAL WATERSTOPS, OR SIMILAR.

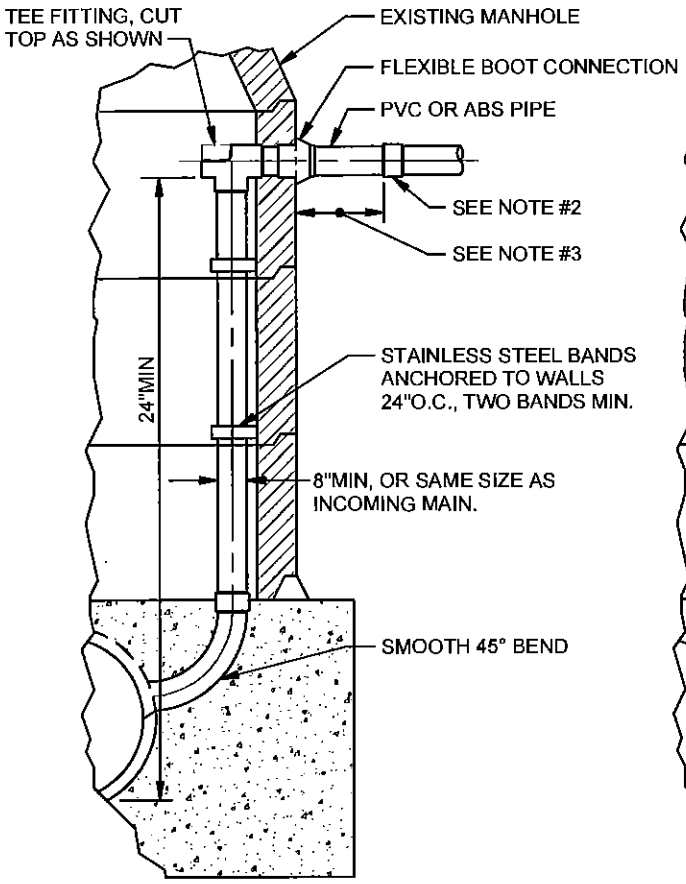
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

MANHOLE BASE

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

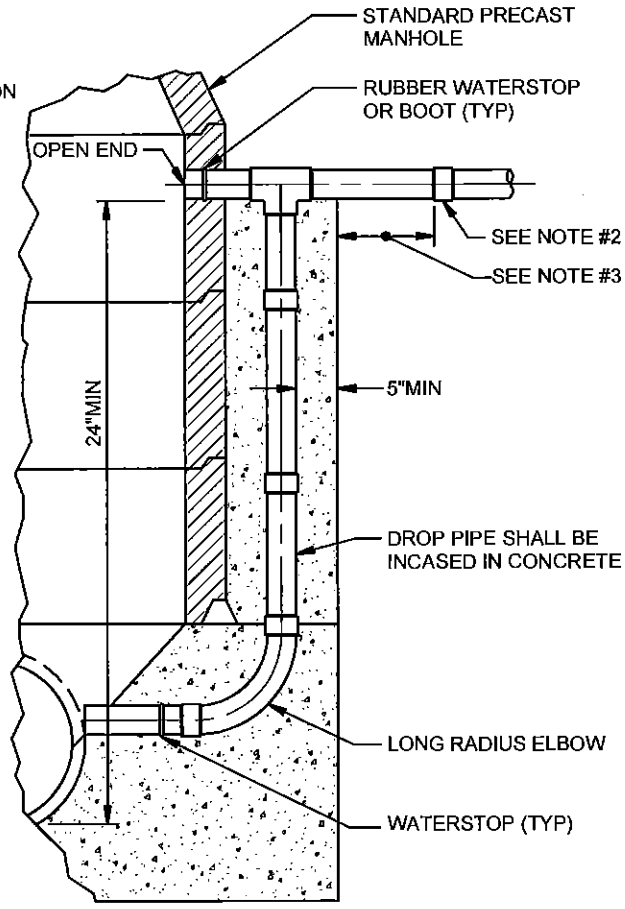
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	607
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 607.DWG		

SANITARY SEWER DROP IN EXISTING MANHOLE



THIS TYPE OF DROP CONNECTION SHOULD BE USED ONLY ON EXISTING MANHOLES, AS APPROVED BY THE CITY ENGINEER.

SANITARY SEWER DROP MANHOLE

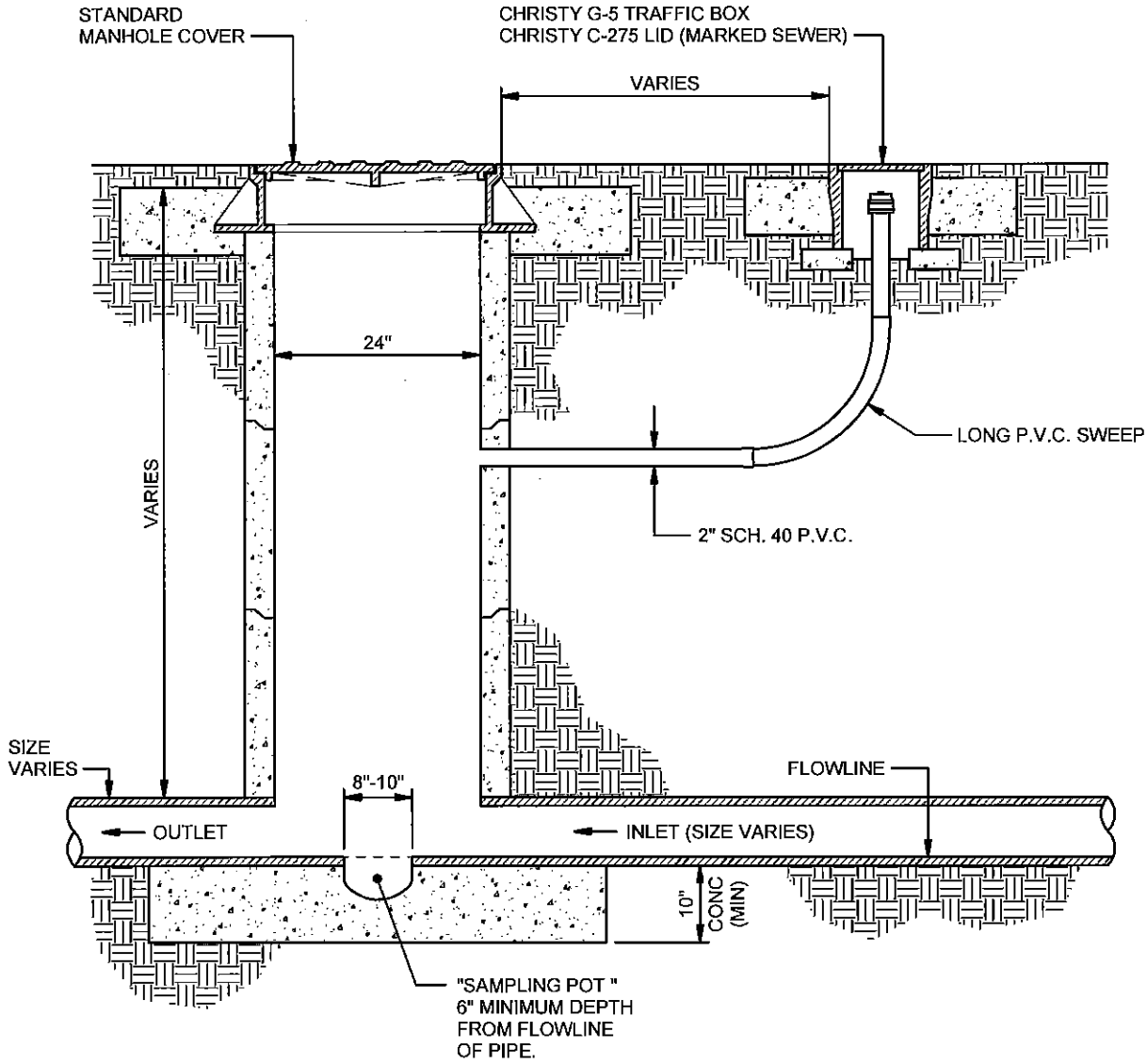


THIS TYPE MANHOLE SHALL BE USED WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE TOP OF THE OUTLET PIPE AND THE INVERT OF THE FEEDER OR COLLECTOR SEWER EXCEEDS 24"

NOTES:

1. MORE THAN A 2' DROP FOR AN INCOMING PIPE SHALL REQUIRE A DROP CONNECTION.
2. FLEXIBLE JOINT-BELL & SPIGOT OR ADJUSTABLE REPAIR COUPLING (ARC). SOLVENT WELDED NOT PERMITTED.
3. 12" MAX. FOR 8" OR LARGER PIPE. 24" MAX. FOR PIPES LESS THAN 8".
4. INSIDE DROP CONNECTIONS NOT PERMITTED ON NEW MANHOLES.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS William F. Kull CITY ENGINEER - WILLIAM F. KULL			SANITARY SEWER DROP IN EXISTING MANHOLE & DROP MANHOLE	
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 608
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 608.DWG		



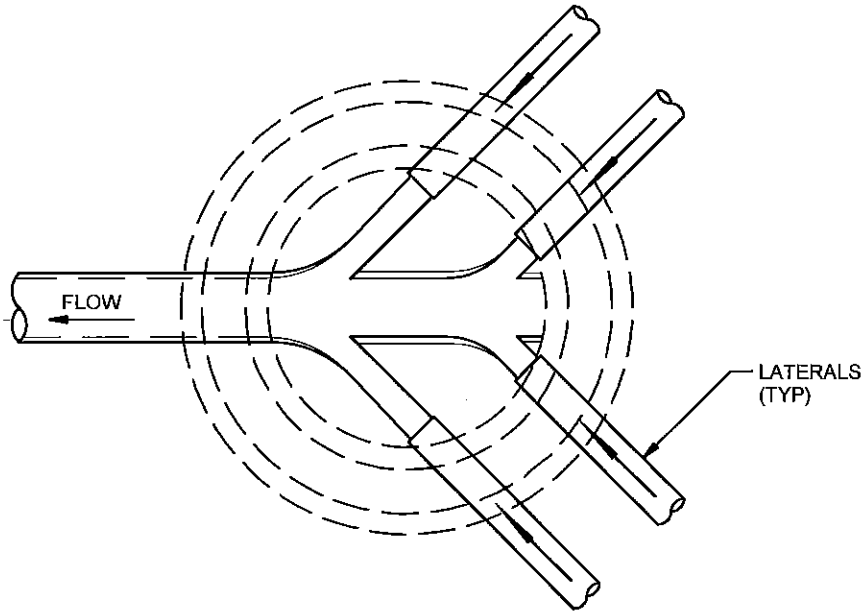
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

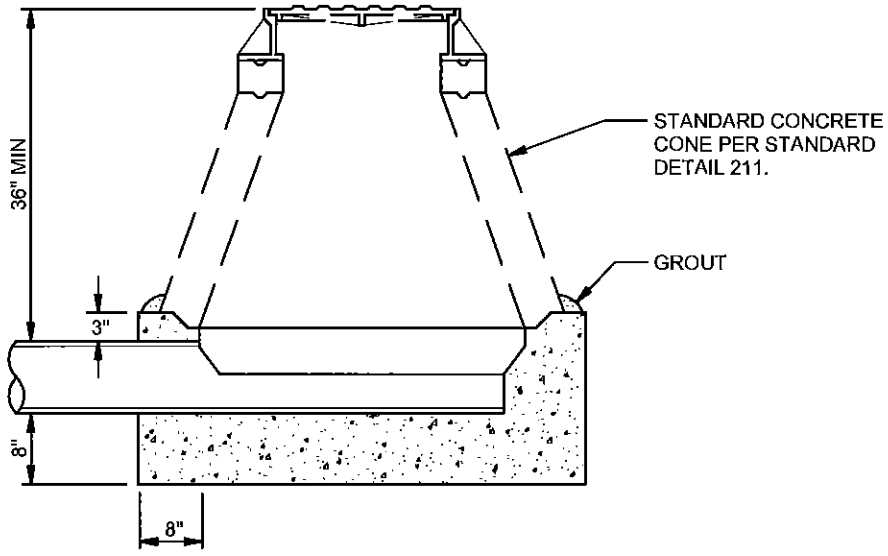
William F. Kull

CITY ENGINEER - WILLIAM F. KULL

SAMPLING MANHOLE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	609
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	SEWER	609.DWG		





NOTES:

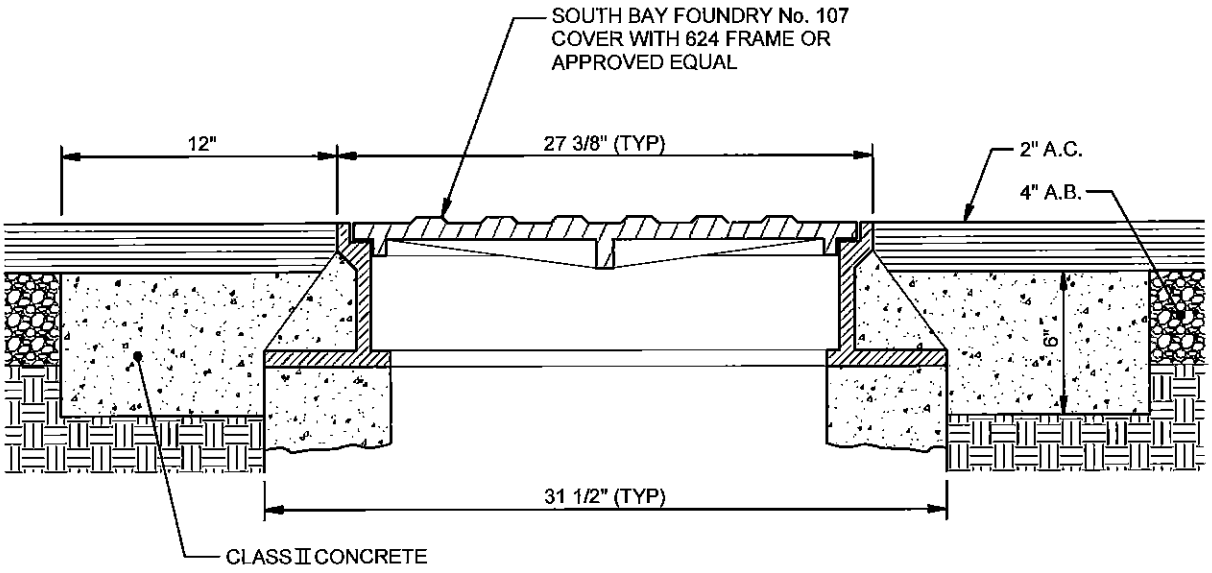
1. ALL SEWER LATERALS SHALL BE CONNECTED TO THE MAIN.
2. A MAXIMUM OF 4 LATERALS SHALL CONNECT INTO A TERMINAL MANHOLE.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

TERMINAL MANHOLE

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	610
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	SEWER	610.DWG		

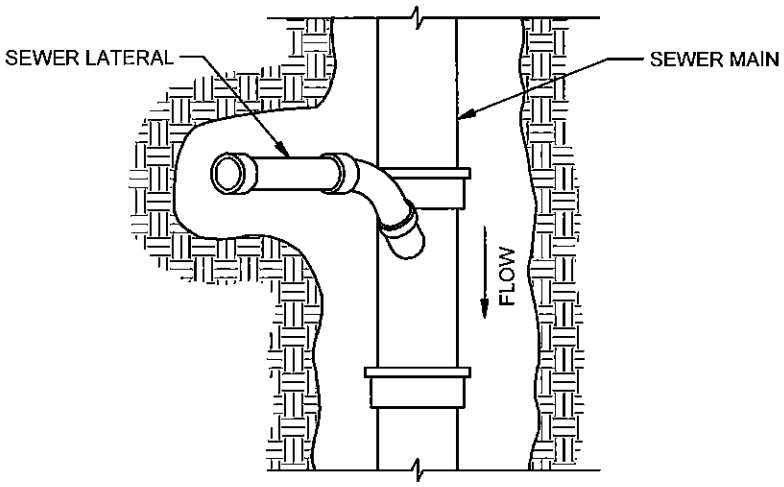


CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

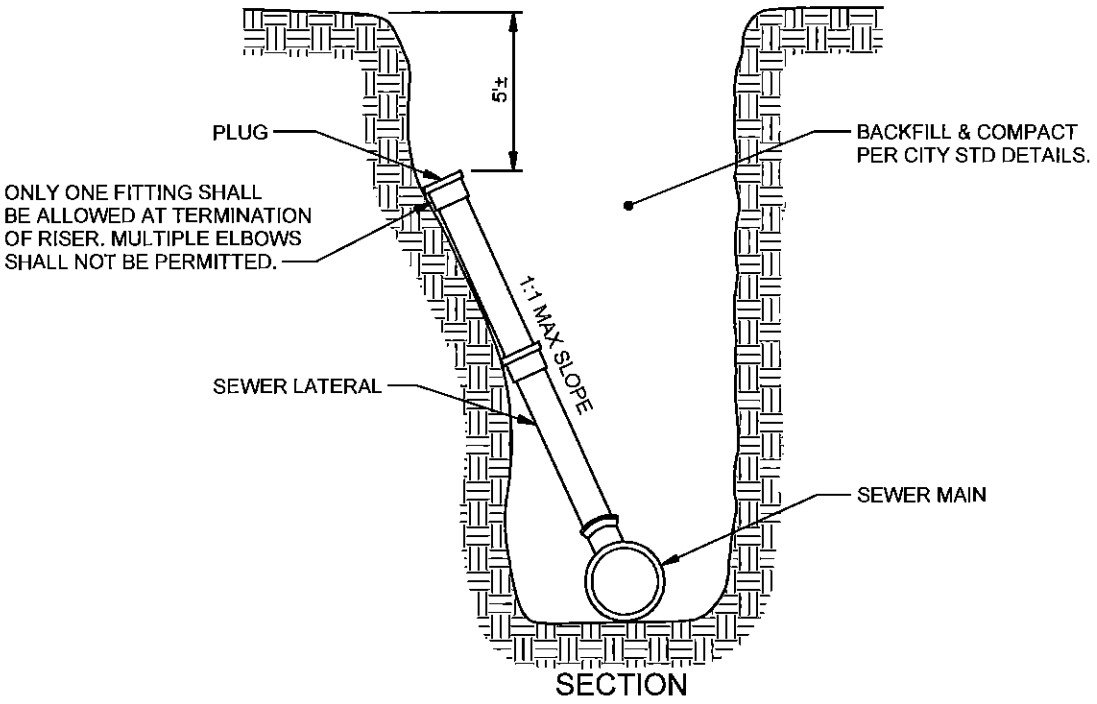
William F. Kull
CITY ENGINEER - WILLIAM F. KULL

MANHOLE COVER TO NEW GRADE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	611
REVISIONS:	SECTION:	DRAWING NAME:		
NONE	SEWER	611.DWG		



PLAN

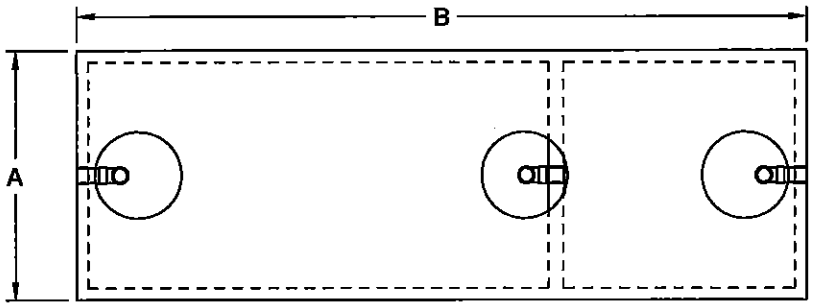


SECTION

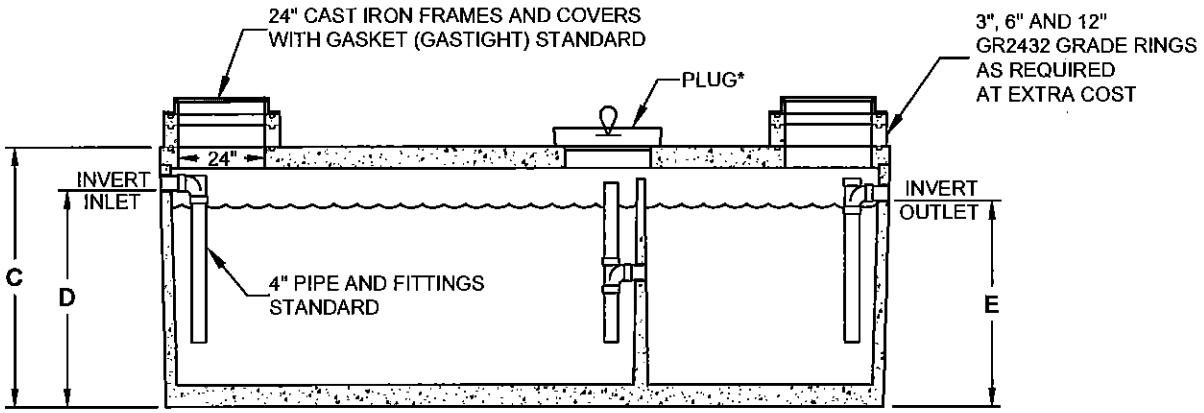
NOTE:

SEWER RISER TO BE USED IN CONJUNCTION WITH SEWER LATERAL PER STD DETAIL 601 AS NECESSARY. MAINS EXCEEDING 12' OF COVER SHALL REQUIRE A FLYLINE FOR LATERALS.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS William F. Kull CITY ENGINEER - WILLIAM F. KULL			SEWER RISER	
DRAWN BY: GK	DATE: 7/21/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: 9-23-14	DRAWING NO. 612
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 612.DWG		



TOP VIEW (COVERS AND RINGS REMOVED)



SIDE SECTION VIEW *EXCEPT MODELS 320 & 500

MODEL NUMBER	LIQUID CAPACITY (GALLONS)	DIM A	DIM B	DIM C	DIM D	DIM E	MINIMUM EXCAVATION WIDTH	MINIMUM EXCAVATION LENGTH	DEPTH OF BURY
JP320EE-G	320	3'-0"	7'-0"	4'-6"	3'-7"	3'-4"	4'-0"	8'-0"	1' TO 8'
JP500EE-G	500	4'-0"	6'-0"	5'-10"	4'-10"	4'-7"	5'-0"	7'-0"	1' TO 6'
JP750EPE-G	750	4'-0"	8'-1"	6'-3"	5'-0"	4'-9"	5'-3"	9'-1"	1' TO 6'
JP1000EPE-G	1000	5'-1"	8'-2"	6'-3"	5'-0"	4'-9"	6'-4"	9'-2"	1' TO 6'
JP1200EPE-G	1200	5'-9"	8'-6"	6'-6"	5'-0"	4'-9"	7'-0"	9'-6"	1' TO 6'
JP1500EPE-G	1500	5'-7"	10'-8"	6'-3"	5'-0"	4'-9"	6'-10"	11'-8"	1' TO 6'
JP2000EPE-G	2000	4'-11"	15'-11"	6'-0"	5'-0"	4'-9"	5'-11"	16'-11"	1' TO 6'
JZ2500EPE-G	2500	5'-9"	16'-10"	6'-0"	5'-0"	4'-9"	6'-9"	17'-10"	1' TO 5'
JZ3000EPE-G	3000	5'-9"	16'-10"	6'-9"	5'-9"	5'-6"	6'-9"	17'-10"	1' TO 5'
JZ4000EPE-G	4000	7'-8"	16'-7"	6'-9"	5'-6"	5'-3"	8'-8"	17'-7"	1' TO 5'
JZ5000EPE-G	5000	7'-8"	16'-7"	7'-11"	6'-9"	6'-6"	8'-8"	17'-7"	1' TO 4'

DESIGN LOAD: H-20 TRAFFIC WITH DRY SOIL CONDITIONS (WATER LEVEL BELOW TANK.)

BEDDING NOTE: SUITABLE SUB-BASE BEDDED WITH GRANULAR MATERIAL SHALL BE PREPARED TO HANDLE ANTICIPATED LOADS.

FOR COMPLETE DESIGN AND PRODUCT INFORMATION CONTACT JENSEN PRECAST.

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.

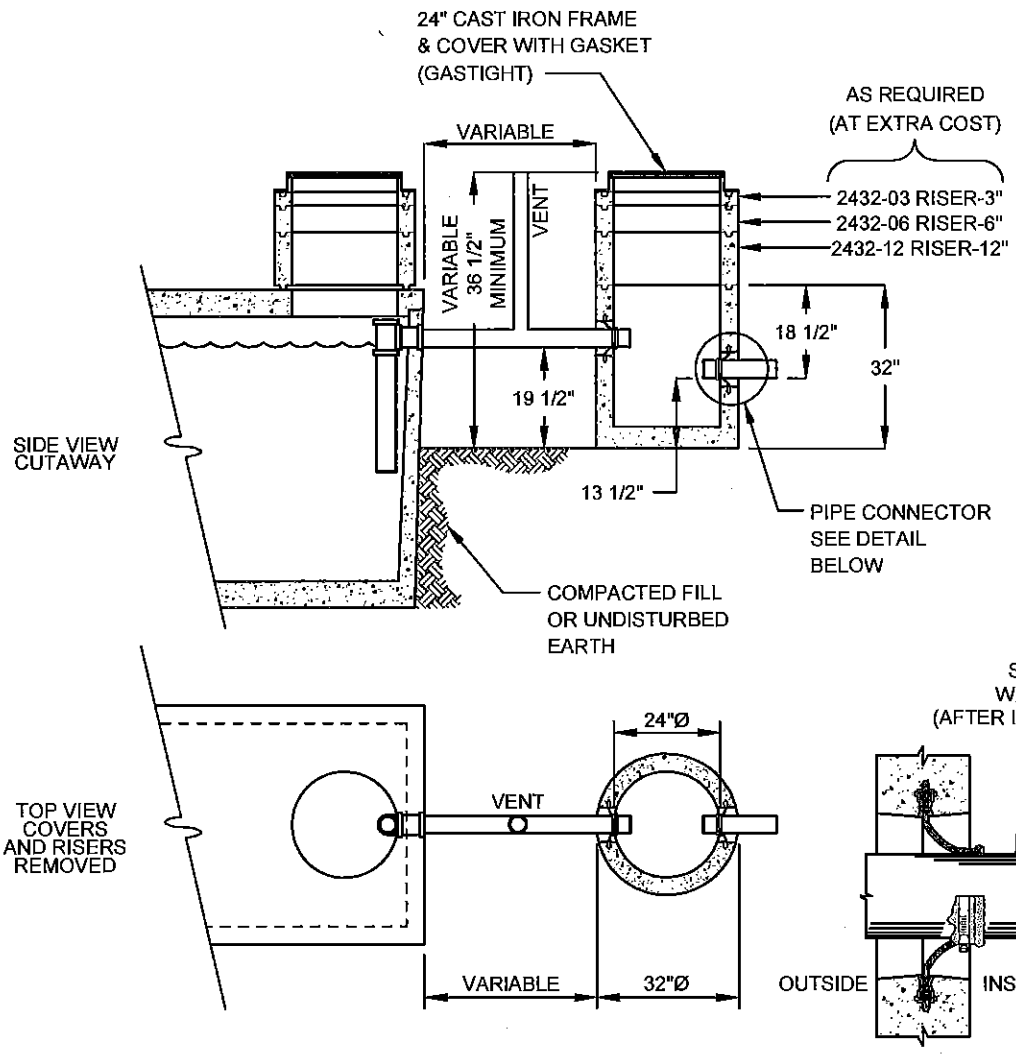
JENSEN PRECAST

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

320-5000 GALLON GREASE INTERCEPTOR
NORTHERN CALIFORNIA

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	613
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 613.DWG		



DETAIL
PIPE CONNECTOR
(Z-LOK)

BOX WEIGHT: 1250 LBS.
BOX DESIGN LOAD: H-20 TRAFFIC

SAMPLE BOX MUST BE PLACED ON SUITABLE BASE OF COMPACTED SOIL OR UNDISTURBED EARTH IN TRAFFIC CONDITION. FOR COMPLETE DESIGN AND PRODUCT INFORMATION, CONTACT JENSEN PRECAST.

PIPE CONNECTOR
CAST INTEGRALLY
IN WALL. WILL ACCEPT
PIPE O.D. (INCHES)

MIN.	MAX.
4.25	6.25

SEE Z-LOK PIPE CONNECTOR PAGE
FOR ADDITIONAL INFORMATION

JENSEN PRECAST

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

William F. Kull
CITY ENGINEER - WILLIAM F. KULL

SAMPLE BOX
WITH PIPE CONNECTORS
MODEL 2432 NLV

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	7/21/15	NTS	9-23-14	614
REVISIONS: NONE	SECTION: SEWER	DRAWING NAME: 614.DWG		

City of Riverbank
DESIGN STANDARDS

STORM DRAIN

SECTION 7: STORM DRAIN DESIGN STANDARDS
TABLE OF CONTENTS

7.100 General

These standards apply to all public storm water facilities designed for installation within a public right-of-way or PUE within the City. Except where specifically noted in these standards, or as required as part of project approval, all storm drainage facilities installed on private property for private use and ownership shall be designed and constructed in accordance with these standards, as well as the provisions of the Uniform Plumbing Code, as adopted by the City.

Storm drainage lines shall be designed in accordance with acceptable engineering principles and California OSHA Standards (legal min.), and shall conform to City Standards. Storm water collection facilities shall not be connected to a wastewater line except where specifically required by the City Engineer. Industrial waste sources shall not be connected or discharged into a storm water line without a specific discharge permit.

These standards are not intended to cover applicable storm water discharge requirements of any agencies of the State or Federal Government, such as U.S. Dept. of Fish and Wildlife, F.E.M.A., Army Corps of Engineers, or State Dept. of Fish and Game.
All storm water management must conform to the City of Riverbank's Low Impact Development requirements, the City's MS4 Permit requirements including the Post Construction Standards Plan and CASQA's Stormwater Best Management Practice Handbook for New Development and Redevelopment.

7.200 Hydrologic Design Criteria

The criteria presented in this section shall be used for design of all new storm drainage facilities, both public and private, within the City of Riverbank.

7.201 Method

When designing storm drainage facilities, the runoff determination method will be based on the upstream tributary area served by that facility.

For tributary areas of two hundred (200) acres or less, design runoff peak flow shall be determined using the Rational Method (Q = CIA) as further described in this chapter. Storm water runoff volume shall be determined using a similar methodology (V = CAR / 12).

7.202 Rational Method – Peak Flow Determination

The Rational Method shall be used to determine peak flow for storm drainage facilities using the formula Q = CIA, where:

Q = Peak Flow (cfs)
C = Runoff Coefficient
I = Rainfall Intensity (in/hr)
A = Tributary Area (acres)

Runoff Coefficient (C):
Summarized below are design runoff coefficients based on land use of the tributary area:

Standard Composite Runoff Coefficients

Land Use	Runoff Coefficient
Parks	0.20
Very Low Density Residential (½ acre lots or larger)	0.40
Low-Density Residential (density greater than 4.0 units per acre and less than 6.0 units per acre)	0.55
Medium Density Residential ("cluster" housing, condominiums, townhomes)	0.70
High Density Residential (apartments)	0.85
Commercial	0.90
Industrial	0.90

For tributary areas with land uses that do not meet the descriptions given in the above table, weighted runoff coefficients may be proposed using the Basic Runoff Coefficients indicated below:

Basic Runoff Coefficients

Surface	Runoff Coefficient ©
Pavement and roofs	0.95
Compacted earth w/o pavement	0.70
Lawns, pasture, crops, open space	0.20

Rainfall Intensity (I):

The rainfall intensity for a given design storm event shall be determined using the IDF curve on Standard Detail 701, and based on the computed time of concentration (Tc) for the watershed. Tc shall be determined using the following parameters and assumptions:

- 20 minute initial Tc (overland flow time from lot to street) for Low Density Residential watersheds.
- 10 minute initial Tc for Commercial, Industrial, Medium and High Density Residential Projects.

- 2.0 foot per second gutter flow time from high point to drainage inlet. (This is a conservative estimate for streets with less than 1% average longitudinal slopes. Lower values may be proposed if sufficient calculations are provided.)
- Pipe travel time shall be based on actual flow.
- Initial Tc's for relatively large or undeveloped watersheds shall be considered on a case-by-case basis using formulas or methods approved by the City Engineer.

7.203 Rational Method –Runoff Volume Determination

The design volume shall be computed using the formula: V = CAR / 12, where:
V = Design Volume (acre-feet)
C = Runoff Coefficient (see section 7.201)
A = Tributary Area (acres)
R = Total Runoff for the Design Storm (in)
100-yr, 24 hour: R_{100} = 3.1 in.
50-yr, 24 hour: R_{50} = 2.8 in.
10-yr, 24 hour: R_{10} = 2.24 in.
(Runoff depths were computed using methods presented in the 2007 edition of the Stanislaus County Standards & Specifications)

7.300 Pipe Design

7.301 Materials

The following standard pipe materials are acceptable for storm drainage facilities within the City of Riverbank:

Reinforced Concrete Pipe (RCP):
RCP shall conform to the standards of ASTM C76, and shall use rubber gasket joints in accordance with ASTM C443. Class III RCP shall normally be used for pipes with burial depths between 3 ft. and 14 ft., unless special conditions exist which require a different pipe class. Class V RCP shall be used when pipes with burial depths in excess of 14 ft, or when pipes lie partially within the road base material. The classification of pipe shall be indicated on the improvement plans.

Polyvinyl chloride (PVC) Pipe:
PVC pipe used for gravity storm drainage shall be the same materials as required for PVC gravity sewer pipe as further described in Chapter 200 of these Standards. (SDR 26, ASTM D3034, with elastomeric gasket joints conforming ASTM D3212.)

Force mains shall be the same materials, installation methods, and testing as required for sewer force mains. (AWWA C900 or C905)

Asbestos Cement Pipe, High Density Polyethylene (HDPE), and Cast-in-Place Concrete Pipe are not allowed within the City of Riverbank for conveyance systems. HDPE is allowed for horizontal drains only.

7.302 Minimum Size

The minimum size for publicly maintained storm drainage pipes in the City of Riverbank shall be 18". Short catch basin lateral connections may be 12", with prior approval by the City Engineer. Privately maintained on-site piping (landscape drainage, roof leaders) may be smaller than 12", at the discretion and judgment of the City Engineer, and as allowed by the Uniform Plumbing Code.

7.303 Horizontal Alignment

Whenever practical, storm drain piping shall run parallel with the street centerline in new developments, and not underneath curb, gutter, or sidewalk.

Curved alignments are allowed. However, pipe joints shall not exceed 80% of the manufacturer's recommended deflection. The City Engineer at his discretion may request tabulations, drawings, or other evidence from the Design Engineer to demonstrate acceptable joint deflection on curved alignments.

In new residential developments, it is recommended that the storm drainage pipe be placed on the opposite side of the street of the water line. When this is not practical, the storm drainage and water line horizontal alignment shall conform to the separation guidelines contained in the State D.H.S. Memorandum, located in the Water Design Standards. This will require a minimum 4' horizontal and 1' vertical separation between storm drainage and water pipe lines.

7.304 Vertical Alignment

The minimum cover for storm drainage piping shall be 3.0 feet from the existing or planned final grade to the outside top of the pipe. Minimum cover requirements may be reduced if special backfill and/or special piping are used, as approved by the City Engineer.

Storm drainage piping shall be installed below waterlines with a minimum clearance of 12 inches. If this is not practical, then special construction is required in accordance with the State DHS Guidelines for separation of water mains. (See Appendix for guidelines).

Minimum slopes shall be as required for conveyance of the design flow, as further described in this chapter. However, minimum slopes shall not be less than as shown in the following table:

Minimum Pipe Slopes

Pipe Diameter (in.)	Min. Slope (ft/ft)
12"	0.0020
18"	0.0013
24" and above	0.0010

Pipes shall be designed with a uniform slope between structures with no vertical curves. Siphons or sumps are not permitted in storm drainage piping in new development projects.

7.305 Hydraulic Design

Hydraulic calculations shall use the Manning's formula, with an "n" value equal to 0.013 for all storm drainage piping.

Pipe Capacity:

Pipes shall be designed such that the flowing full capacity based on Manning's equation is greater than the peak flow for the 10-year design storm. It is important to note that this computation is not intended to replace a hydraulic grade line (HGL) analysis for the pipe network.

New storm drainage networks will need to meet the pipe capacity criteria described above, as well as the HGL requirements described later in this section.

Velocities:

Pipes shall be designed to achieve a velocity not less than 2.0 fps when flowing full, unless otherwise approved by the City Engineer. Additional slope requirements are noted in the Vertical Alignment section. It is recognized that actual flows might not produce velocities of 2.0 fps or greater in all instances. In these instances, the Design Engineer is encouraged to maximize the available slope to increase velocities.

Pipelines with actual velocities of 10 fps or greater shall require detailed analysis to evaluate and mitigate the effects of erosion and energy dissipation.

Hydraulic Grade Line (HGL):

Storm drainage piping shall be designed such that the hydraulic grade line (HGL) from the 10-year storm event is at least 1.0 ft. below the adjacent gutter or rim elevation.

For drainage piping connecting into a basin in a new development, the starting downstream HGL shall be the high-water elevation for the 10-year storm volume, or the crown of the outlet pipe –whichever is greater. It is recognized that new systems will sometimes connect into existing drainage systems which may not have an HGL determined by a previous study. In these instances the starting HGL shall be determined by the Design Engineer using reasonable methods and assumptions, as approved by the City Engineer.

HGL calculations shall include the effects of minor losses at junctions. In general, minor losses shall be computed using the following formula:

$H_m = K (V^2 / 2g)$

Where:

H_m = minor loss (ft)
K = loss coefficient
V = Actual velocity (fps)
G = gravitational constant, 32.2ft/sec^2

Summarized below are estimates of the loss coefficient "K" for various situations:

Typical Loss Coefficients, "K"

K Value	Description
0.15	Manhole or structure, straight run
1.10	45 degree bend at structure
1.50	90 degree bend at structure
1.00	Outlet at basin w/trash rack

Full discussion and values of coefficients are given in several different civil engineering references. Other values and methods used for determining minor losses in storm drainage piping shall be accepted, as approved by the City Engineer.

7.400 Catch Basins

Catch basins shall be spaced along a street alignment so as to prevent the gutter flow from encroaching into the traveled way of the adjacent street. In addition, a maximum of 500 lineal feet of gutter flow shall be permitted to drain to a single catch basin. Catch basins shall be constructed as per City Standard Details. However, certain situations may require construction of a non-standard catch basin, such as a "double" catch basin. In these situations, the Design Engineer shall provide the appropriate engineering details and capacity calculations to the satisfaction of the City Engineer.

Catch basin laterals shall drain to a manhole. However, short lateral runs (<100') may be permitted to drain catch basin to catch basin, given the approval of the City Engineer. A typical example of where this is acceptable would be at an intersection with two or more catch basins in close proximity.

7.500 Manholes

Storm drain manholes shall be required at all pipe intersections, changes in horizontal and vertical alignment, and at all changes in pipe size. Manholes shall have a maximum spacing of 450 feet, and shall be constructed at ends of all pipes.

Manholes shall be constructed in accordance with City Standard Details, based on the size of the pipes entering and exiting the structure. The type of manhole shall be noted on the plans. It is important to note that manholes with relatively large diameter (>72 in. dia.) pipes, with multiple large penetrations, or in other circumstances may require special design. In these situations, the Design

Engineer shall provide the engineering details on the improvement plans, to the satisfaction of the City Engineer.

7.600 Percolation Facilities

It is preferable to provide on-site storage for storm drainage in new developments, as opposed to positive discharge. Percolation rates and storm drainage calculations supporting the design is required. A plan for ultimate positive discharge shall be incorporated into all designs, if practicable.

7.601 Percolation Testing

Percolation facilities shall be based on percolation test results performed by a licensed Geotechnical Engineer. Test locations and corresponding design percolation rates shall be in the same location, both horizontally and vertically, as the location of the proposed percolation facility.

The recommendations for the design percolation rate shall include a Factor of Safety of two (2), or as recommended by the Geotechnical Engineer. After application of the required Factor of Safety, the maximum allowable percolation rate to be used in design and calculations is 50.0 gallons per sq. ft. per day (gpsfd). This maximum value shall be held even if much higher values are encountered during testing.

If soil conditions that are encountered during construction are significantly different from those explained in the Geotechnical Report, the City may request additional percolation testing, or analysis of the design percolation rate.

7.602 Horizontal Drains (French Drains)

Horizontal drains shall be constructed in accordance with City Standard Details and these Design Standards. Refer to the Construction Specifications for additional requirements for testing and inspection.

Materials:

Allowable Pipe materials are as follows:

- Perforated or slotted PVC
- Perforated or slotted CMP
- Perforated or slotted HDPE in non-traffic areas only

  Additional materials will be considered by the City Engineer for approval on a case-by-case basis.

Filter Fabric:

Horizontal drains shall be wrapped in a layer of engineered filter fabric, or as directed by the geotechnical engineer.

Drain Rock:

3/4 in. to 2 ½ in. clean, crushed drain rock shall be used in the horizontal drain trenches.

Layout:

The following basic layout and construction criteria apply to all horizontal drains (French drains) installed within the City of Riverbank.

- Horizontal drains shall have a minimum pipe size of 18 in.
- The bottom of the drain rock trench shall be no less than five (5) feet above the ground water table.
- For horizontal drains installed in basin bottoms, it is preferable to provide a single continuous line of trench, as opposed to a gridded layout. This prevents reduction of percolation capacity due to over-saturation of the adjacent soil. However, if it is necessary to have a gridded layout, then the trenches shall be designed to maximize horizontal separation.
- With respect to the above, horizontal drains shall have a minimum separation as recommended by the Geotechnical Engineer, but not less than twice the trench depth (bottom of rock trench to finish grade), or less than 20 ft – whichever is greater. Separation measurements are to the nearest edges of the trench walls.
- Horizontal drains within basin bottoms shall be constructed clear of basin side slopes.
- All inlets to proposed horizontal drains shall utilize an "inverted siphon" to a manhole as shown in the Standard Details.
- Adequate separation per the sewer and water design standards shall be maintained from horizontal drains. Water lines shall be a minimum of 4 ft. from the outside edge of the rock trench when parallel. Water lines crossing a horizontal drain shall do so at right angles, and no joints shall be permitted within 4 ft. of the rock trench.

Percolation Criteria:

Horizontal drains shall be capable of emptying the volume of the 10-year 24-hour storm within a 48 hour period. For basin applications, runoff volume from the 10-year storm may remain in the underground system for an additional 24 hours, provided that the basin itself is empty within the 48 hour period.

7.603 Additional Considerations and Restrictions for Percolation Facilities

- The following items are additional design parameters, restrictions and items to be incorporated into the design of all new percolation facilities in the City of Riverbank:
- The following design parameters shall be adhered to for horizontal drain calculations:
- Only the sides of the trench may be considered for allowable percolation area. Bottoms of trenches shall not be included in the calculations.
- A design void ratio of 25% is allowed in the rock trench when determining available storage volume.
- Bottoms and side slopes of basins shall not be considered for allowable percolation area in percolation calculations.
- New vertical drains (drywells or rockwells) are not permitted for use within the City of Riverbank.

- All hydraulic grade line and volume storage design criteria that are presented in other sections of this standard shall apply when percolation facilities are the primary means of storm drainage for new developments.

7.700 Basin Design

7.701 General

This section contains design requirements for both Dual-Use, and Non-dual use storm drainage basins in the City of Riverbank. Storm drainage basins shall typically be planned for on a regional basis, meaning fewer basins to serve larger areas. The type of basin (dual-use or non-dual use) should be determined during the early planning stages of new developments, and shall be subject to the approval of Public Works Department, and the Community Development Department. Dual-use basins, meaning to be used for park or open spaces purposes where park land dedication credit is expected, shall be designed with a park or open space purpose as the primary design parameter. Meaning the storm drainage consideration shall be secondary to the systems design. The recreational value of the Dual-use basin shall be determined by the parks and Recreation Director in his/her sole discretion.

Each basin design shall be considered unique, with the layout and design evaluated on a case-by-case basis --subject to the minimum requirements contained herein. For this reason, the designer is encouraged to consult with the City Engineer during all phases of planning and design of new basins in the City of Riverbank.

New basins that use percolation facilities shall be designed to include provisions for a future connection to a positive discharge system, to the maximum extent practicable.

7.702 Design Volume

All new storm drainage basins within the City of Riverbank shall be designed to contain the runoff from the 50-year, 24-hour storm event. The design High Water Level (HWL) from this event shall be no less than 6 in. below the lowest tributary inlet rim elevation. Volume requirements shall be met assuming no outlet, percolation, or other available disposal of runoff. Storage volume contained in underground piping and horizontal drain systems may be considered in the available storage volume calculation.

7.703 Dry-Weather Runoff (Nuisance Water)

All basins shall be designed and constructed with infrastructure for disposal of dry-weather runoff, such as nuisance waters associated with runoff from landscape irrigation. The basin surface shall be inundated only during storm events. Percolation facilities (i.e. Horizontal drains) are recommended for this purpose. However, pump discharge may be utilized given the approval of the City Public Works Department, as well as any other agencies involved with receiving waters.

The design of the nuisance water system shall be based on an estimate of the amount of dry-weather flows from the tributary area, and shall include a Factor of Safety of two (2).

7.704 Storm Water Treatment Control Devices

All new basins shall be designed and constructed with infrastructure for the removal of pollutants from runoff entering the basin. In addition, certain treatment control devices may be required by outside agencies with jurisdiction over receiving waters. All treatment devices and methods shall be considered on a case-by-case basis for approval by the City of Riverbank, and any other applicable outside agencies.

All devices are to be designed for functionality and ease of maintenance, and shall meet with the approval of the City Public Works Department. At a minimum, devices shall be in place to prevent sediment, debris, and trash from entering the basin and percolation system or pump discharge, to the maximum extent practicable. A variety of methods and devices are available for this purpose including, but not limited to:

- Pre-manufactured devices, such as CDS units or Contech StormVaults
- Specially fabricated trash racks
- Grass-lined or vegetated swales

The City encourages the use of innovative and unique design solutions for storm water treatment. Accordingly, the list of devices above is not intended to be prohibitive of other methods or devices of storm water treatment. The designer should utilize CASQA's Stormwater Best Management Practice Handbook for New Development and Redevelopment.

7.705 Inlet/Outlet Structures

Basin inlet and outlet structures shall be constructed so as to provide ease of accessibility for maintenance purposes. At the same time, inlet/outlet structures shall be designed to be secure and prohibit access by small children and the general public. The ultimate design of these structures shall be approved by the City Engineer in cooperation with the Parks and Recreation Director.

If below grade, or "bubble-up", basin inlet structures are used, precautions shall be made to prevent uplifting of the grates and/or rims due to high inlet flows and velocities. Supporting calculations may be necessary for these instances, at the discretion of the City Engineer.

Metal components of inlet/outlet structures shall be of a corrosion resistant material, such as galvanized steel, stainless steel, or powder-coated steel. Powder coated steel is recommended for dual-use basins due to its more pleasing aesthetic appearance.

Basin inlets shall be designed to include energy dissipation elements such as concrete baffles or rip-rap so as to prevent scouring near the inlet.

7.706 Non-Dual Use Basins

Non-dual use basins, when allowed, shall be subject to the minimum layout and design criteria contained herein:

Side Slopes: Side slopes shall be no steeper than 3h:1v. Side slopes in excess of 5h:1v shall be lined with gunite or shotcrete, and reinforced with welded wire fabric or other suitable slope protection approved by the City Engineer.

Maximum Depth: Basins shall have a maximum depth of 10 ft., from bottom of slope to top of slope.

Bottom Slopes: Basin bottoms shall have a minimum of 1% slope to an inlet leading to an underground pipe system for nuisance water and/or discharge.

Access: A 12 ft. wide minimum access ramp shall be constructed from the top of the basin to the bottom, with a maximum slope of 10%. The access ramp shall consist of a 10 ft. wide concrete section with 12 in. compacted shoulders on either side. Concrete shall be a 5-sack mix, 8" minimum thickness, reinforced with welded wire fabric, on native soils compacted to 90% relative dry density.

Basins shall have a 15 ft. minimum flat area between the top of the basin slope and the adjacent fence or wall. A minimum 45' inside turning radius shall be provided around the top of the basin.

Paved access shall be provided to and around basin infrastructure such as pump stations and electrical equipment, to the satisfaction of the City Public Works Department.

Fencing: Non-dual use basins shall be surrounded by a masonry wall constructed with landscape screening from public viewing and access to the satisfaction of the City Public Works and Community Development Departments.

7.707 Dual-Use Basins

Dual-Use Basins are intended to provide flood control storage during storm events, while providing space for recreational or visual amenities during dry periods. Dual-use basins shall be subject to the minimum layout and design criteria contained herein:

Landscaping: All dual-use basins shall be landscaped to the satisfaction of the Parks and Recreation, Public Works and Community Development Departments. Landscaping Improvement Plans shall be prepared by a licensed Landscape Architect and approved by the Parks and Recreation, Public Works and Community Development Departments.

Amenities: Dual-use basins shall include visual and recreational amenities, to the satisfaction of the Community Development Department and the Parks & Recreation Department. The type of amenities should typically be determined during the master-plan level of new developments. Play structures, restrooms, parking, drinking fountains, lighted areas, art work, signage and other "active"

recreational amenities, if provided, shall be located above the 100-yr, 24-hour flood elevation.

Side slopes: Dual use basin side slopes shall be no steeper than 6h:1v.

Maximum depth: Dual use basins shall have a maximum depth of 6', as measured from the lowest adjacent curb elevation to the toe of slope.

Bottom Slopes: Landscaped areas of dual-use basin bottoms shall have minimum slopes of 2.0% to an inlet which leads to an underground conveyance or percolation system.

Fencing: Fencing around the dual-use basin perimeter shall typically not be allowed. However, fencing around certain basin infrastructure, such as pump stations or electrical equipment, may be necessary. In these instances, fencing shall be of a type to maximize aesthetic appeal, while maintaining security of basin infrastructure. All fencing and/or walls shall be approved by the Parks and Recreation, Public Works and Community Development Departments.

Access: Ideally, dual-use basins should be constructed with street frontages on all sides, without fencing, to maximize viewing from the street and adjacent properties. This will not only increase public safety, but will allow access for maintenance personnel. In these situations, and where parking is available on the adjacent streets, a 20ft. minimum flat area between the top of slope and the adjacent face of curb or edge of pavement is required. Sidewalk and/or street landscaping may be included in this distance.

Driveways from the adjacent streets to the dual-use basin shall be provided at the discretion of the Public Works Department. Driveways to the basin shall be constructed with removable bollards or locked gates to prevent unauthorized vehicular access.

In situations where a basin is directly adjacent to a wall or fence, a 15 ft. minimum flat area shall be provided between the wall or fence, and the top of the basin slope.

A.D.A. access shall be required for all "upland" recreational amenities. The need for A.D.A. access for bottom portions of dual-use basins shall be evaluated on a case-by-case basis, at the discretion of the City Engineer and the Community Development Department.

7.708 Lift Stations

Storm drainage lift stations shall generally conform to the same design requirements indicated in the Sanitary Sewer Design Standards, Section 2.600. In addition, the following are requirements specifically for storm drainage lift stations:

- Storm drainage lift station wet wells will typically not need to be lined with polyurethane as per the Sanitary Sewer Design Standards.

- Storm drainage lift stations shall contain a trash rack or similar mechanism to prevent debris from entering the pump chamber.

7.800 Additional Design Considerations

7.801 National Pollution Discharge Elimination System (NPDES) Requirements

In order to comply with the City's general storm water permit, as well as state and federal NPDES requirements, all construction projects of one (1) acre or more shall be required to prepare, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP). In addition, improvement plans shall include an Erosion and Sedimentation Control Plan (ESCP) for construction activities.

Notice of Intent (NOI): Prior to improvement plan approval, the Developer shall prepare and submit an NOI, and the appropriate fee, to the State Water Resources Control Board. The date of the submitted NOI and the Water Department Identification (WDID) Number shall be noted on the plans. To obtain a copy of this form, and for information on required attachments and fees, the State Water Resources Control Board may be contacted at:

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water
1001 I Street
Sacramento, CA 95814
Ph: 916-341-5537
Fax: 916-341-5543
Web: www.swrcb.ca.gov/stormwtr/construction.html

Storm Water Pollution Prevention Plan (SWPPP): A SWPPP shall be prepared, implemented and maintained for all construction projects of one (1) acre or more. The SWPPP shall indicate the appropriate Best Management Practices (BMP's) for the project, as well as post-construction measures for the prevention of storm water pollution. A copy of the SWPPP shall be maintained on-site at all times.

SWPPP's shall be prepared and implemented in accordance with the guidelines contained in the California Best Management Practices Handbook, as published by the California Storm Water Quality Association (CASQA). For further information, contact CASQA at:

California Storm Water Quality Association
PO Box 2105
Menlo Park, CA 94026
Ph: 650-366-1042
Fax: 650-365-8678
Web: www.casqa.com
Or visit www.cabmphandbooks.com for SWPPP preparation guidelines.

Erosion and Sedimentation Control Plan (ESCP): An ESCP shall be prepared and included in the improvement plans which identify the types and locations of

BMP have to be used during construction. This ESCP shall reference the approved WDID number issued by the State Water Resources Control Board, as well as the SWPPP prepared for the project.

Notice of Termination (NOT): Upon completion of construction, the Developer shall be required to prepare and submit an NOT to the State Water Resources Control Board. Contact the State Water Resources Control Board for further information.

7.802 Private On-site Drainage Systems

The following requirements apply to privately owned and maintained storm drainage systems constructed with on-site developments:

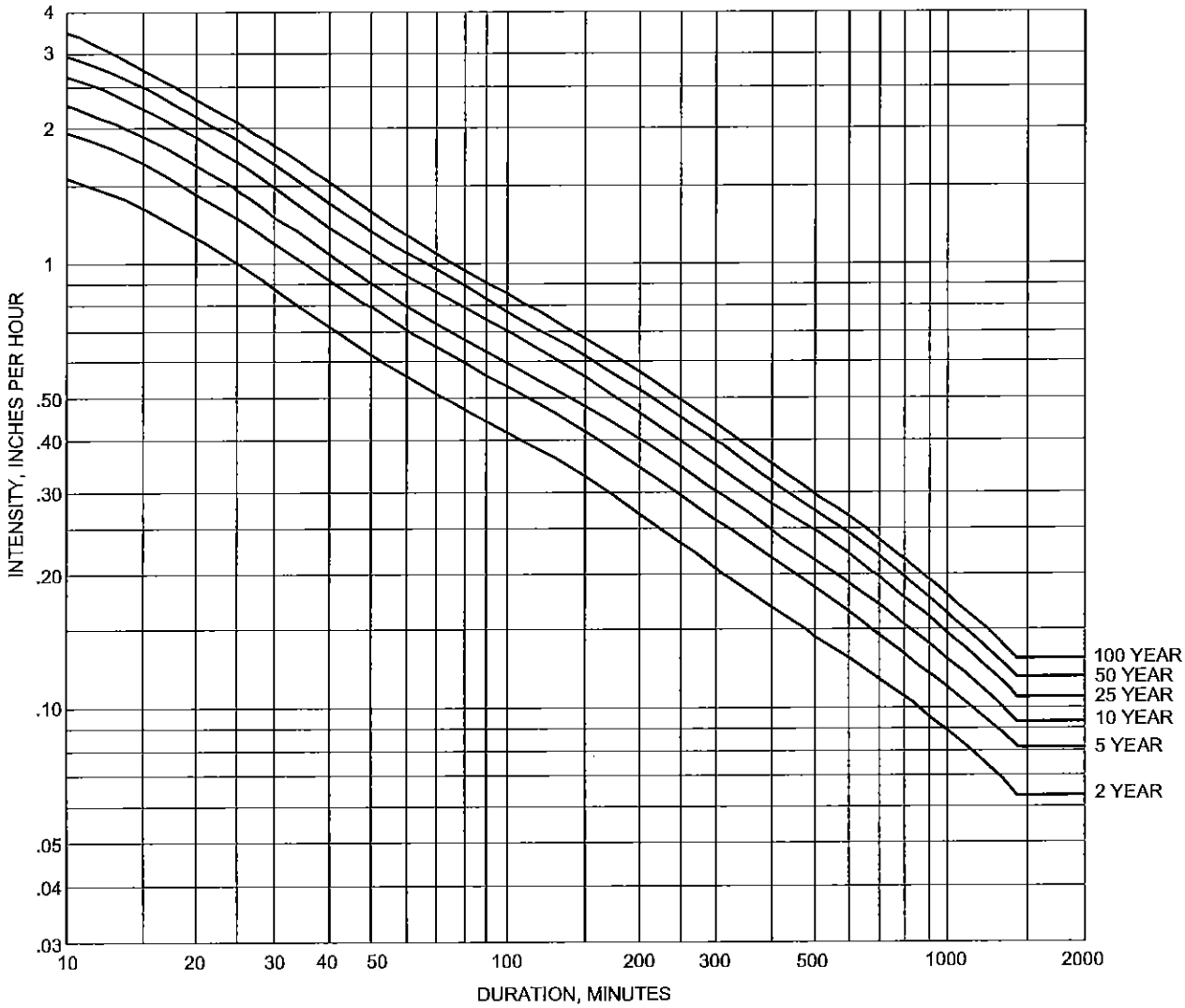
- Ideally, on-site developments that connect into the City drainage system should be considered on a regional basis, as part of a storm drainage master plan or study. However, often times this is not the case –especially with infill development. In these instances, the design engineer shall evaluate the downstream system and proposed development to the satisfaction of the City Engineer.
- Private on-site storm drainage systems shall connect into the City underground system at a manhole. If it is not practical to connect into the City underground system, then the development shall include a percolation system designed in accordance with the Design Standards contained herein.
- If volume storage for the development was not previously included in a storm drain master plan for a larger plan area, then sufficient volume storage shall be provided on-site to reduce peak discharge to pre-development levels.
- Storm Water Treatment Control Devices shall be required for all new developments, if they are not already included as part of a regional, master-planned storm drainage system. Treatment Control Devices shall be designed to reduce runoff pollutants to the Maximum Extent Practicable (MEP), to the satisfaction of the City Engineer.

7.803 Maintenance Agreements

All projects shall have a sign a Filter Maintenance Agreement and or a Basin Maintenance Agreement. These agreements are between the property owner and the City of Riverbank and ensure that the filtration systems remain in place and are regularly maintained. The agreement documents are available from the City of Riverbank and are required prior to final acceptance or final approval.

SECTION 7 - STORM

Drawing No	Description
701	RAINFALL INTENSITY CURVE
702	CATCH BASIN
703	HOOD DETAIL
704	FRAME & GRATE DETAIL
705	CURB THROUGH DRAIN
706	OPEN AREA DRAIN
707	CONCENTRIC MANHOLE
708	TRUNK MANHOLE
709	GUTTER CAPACITY
710	TYPICAL HORIZONTAL DRAIN LAYOUT
711	SAMPLE DRAINAGE MAP
712	SAMPLE DRAINAGE CALCULATION WORKSHEET
713	SAMPLE DRAINAGE CALCULATION WORKSHEET COLUMN DESCRIPTIONS
714	REMOVED
715	REMOVED
716	LATERAL MANHOLE
717	POURED-IN-PLACE TRUNK MANHOLE
718	CAST-IN-PLACE TRUNK MANHOLE
719	REMOVED
720	MANHOLE FRAME AND COVER FOR FEDERAL PROJECTS
721	HORIZONTAL DRAIN
722	HORIZONTAL DRAIN PIPE



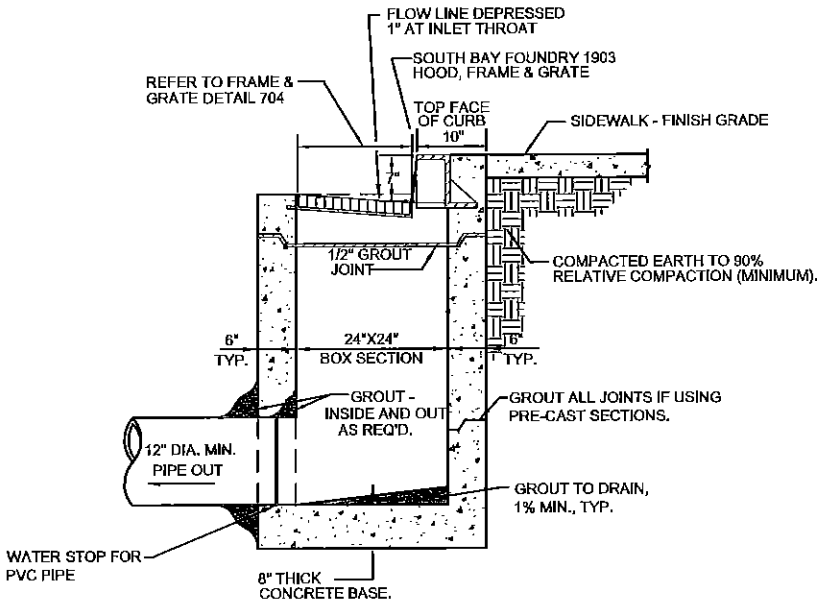
THESE CURVES ARE BASED ON CALIFORNIA
DEPARTMENT OF WATER RESOURCES DATA
FOR THE MODESTO RAINFALL GAUGING STATION
WITH ADJUSTMENTS FOR M.A.P.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

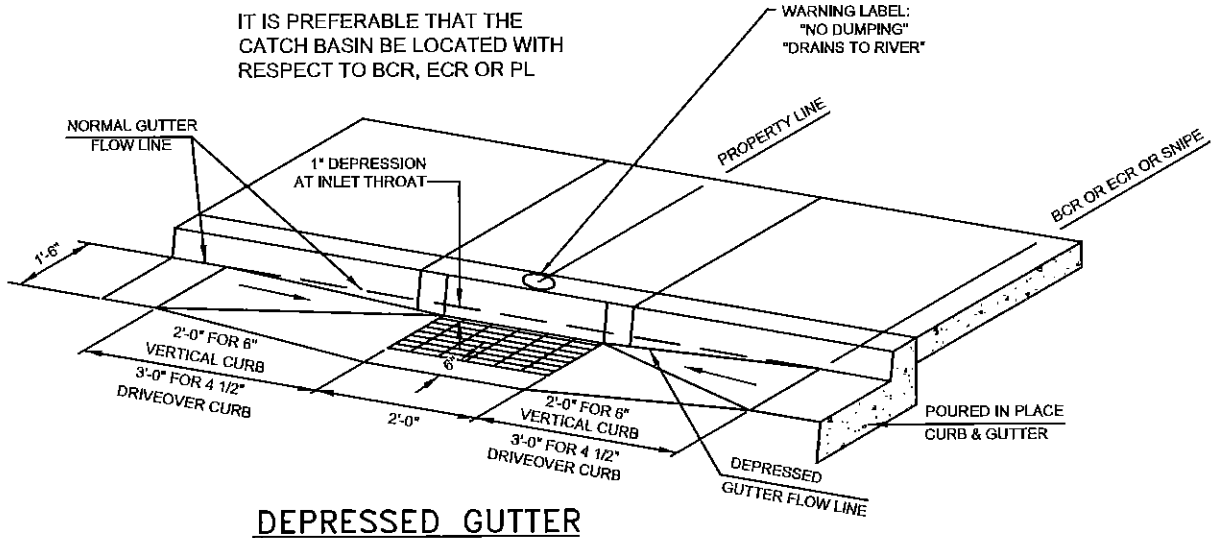
RAINFALL INTENSITY CURVE

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	701
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 701.DWG		



TYPICAL SECTION



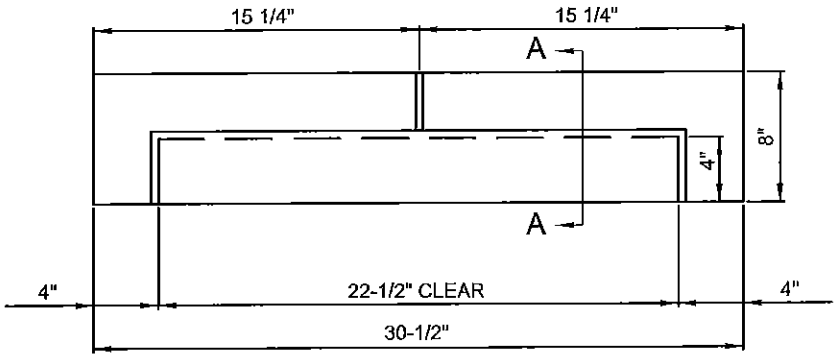
DEPRESSED GUTTER

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

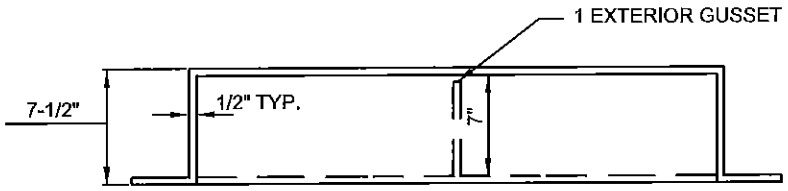
CITY ENGINEER - WILLIAM F. KULL

CATCH BASIN

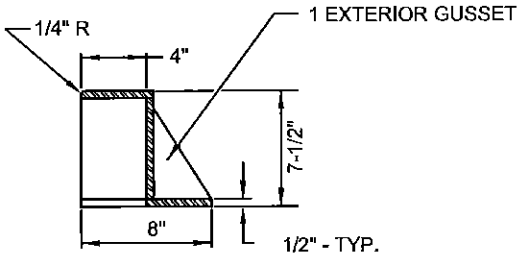
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	702
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 702.DWG		



PLAN VIEW



FRONT VIEW

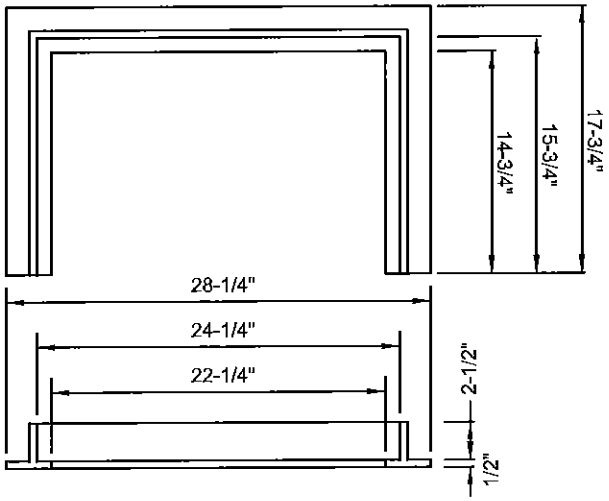


SECTION A-A

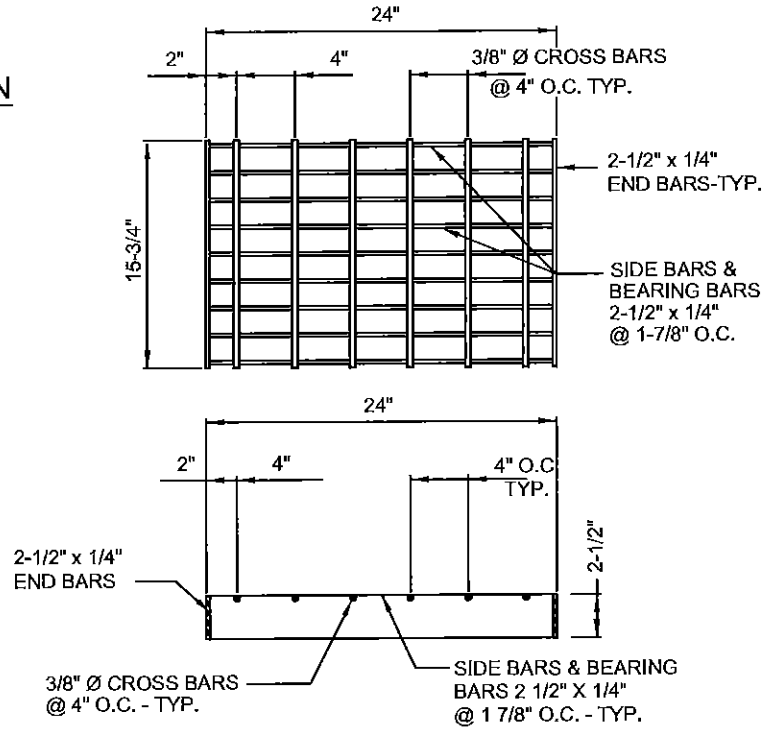
NOTES:

1. HOOD, FRAME & GRATE SHALL BE SOUTH BAY FOUNDRY 1903 OR EQUAL.
2. MATERIAL SHALL CONFORM TO ASTM 48, CLASS 35B.
3. FRAME & COVER SHALL BE RATED FOR H-20 LOADING.
4. CASTINGS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			HOOD DETAIL	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 1/05/16	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: ___-___-16	DRAWING NO. 703
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 703.DWG		



FRAME PLAN VIEW
AND FRONT ELEVATION



GRATE PLAN VIEW AND FRONT ELEVATION

NOTES:

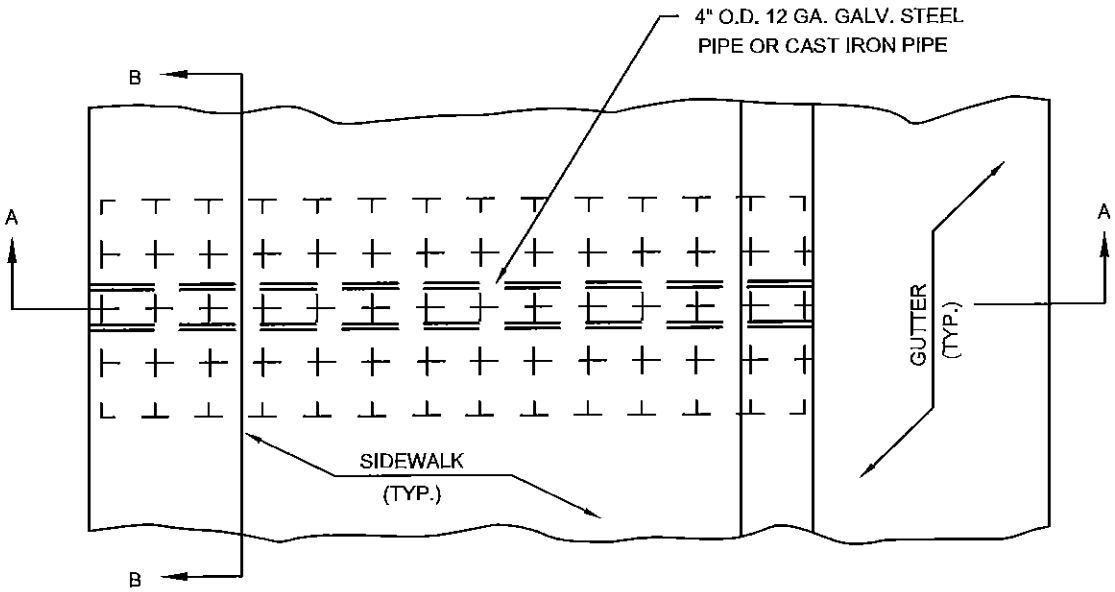
1. FRAME/GRATE SHALL BE SOUTH BAY FOUNDRY 1903 OR EQUAL.
2. MATERIAL SHALL CONFORM TO ASTM 48, CLASS 35B.
3. FRAME & COVER SHALL BE RATED FOR H-20 LOADING.
4. CASTINGS SHALL BE HOT-DIP GALVANIZED, AFTER FABRICATION.
5. 12" LENGTHS OF 1/4" GALVANIZED CHAIN CONNECTING GRATE TO FRAME AT CORNER.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

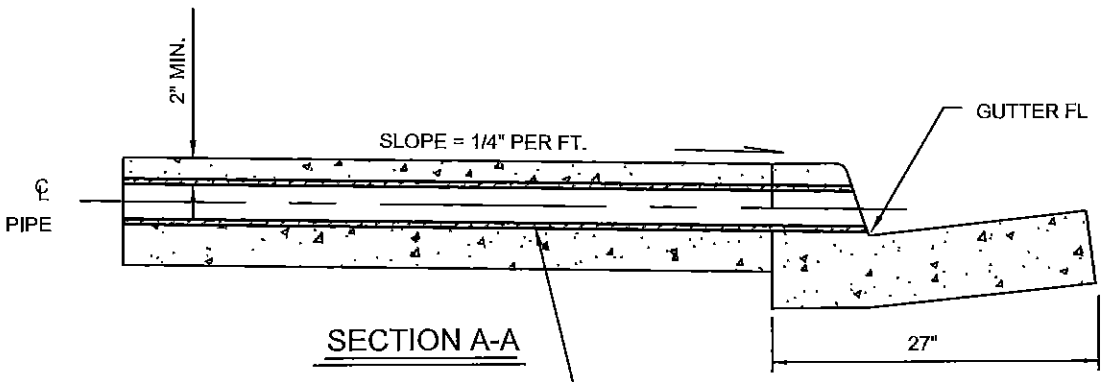
FRAME & GRATE DETAIL

CITY ENGINEER - WILLIAM F. KULL

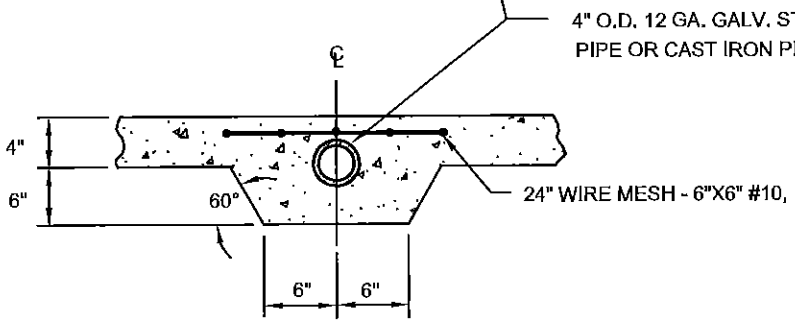
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	704
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 704.DWG		



PLAN



SECTION A-A



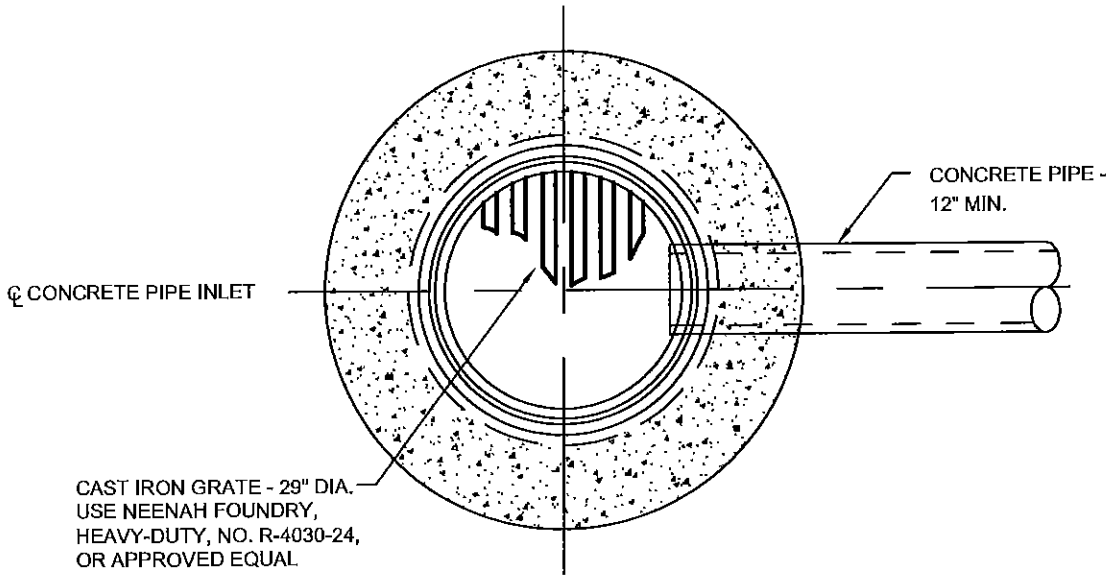
SECTION B-B

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

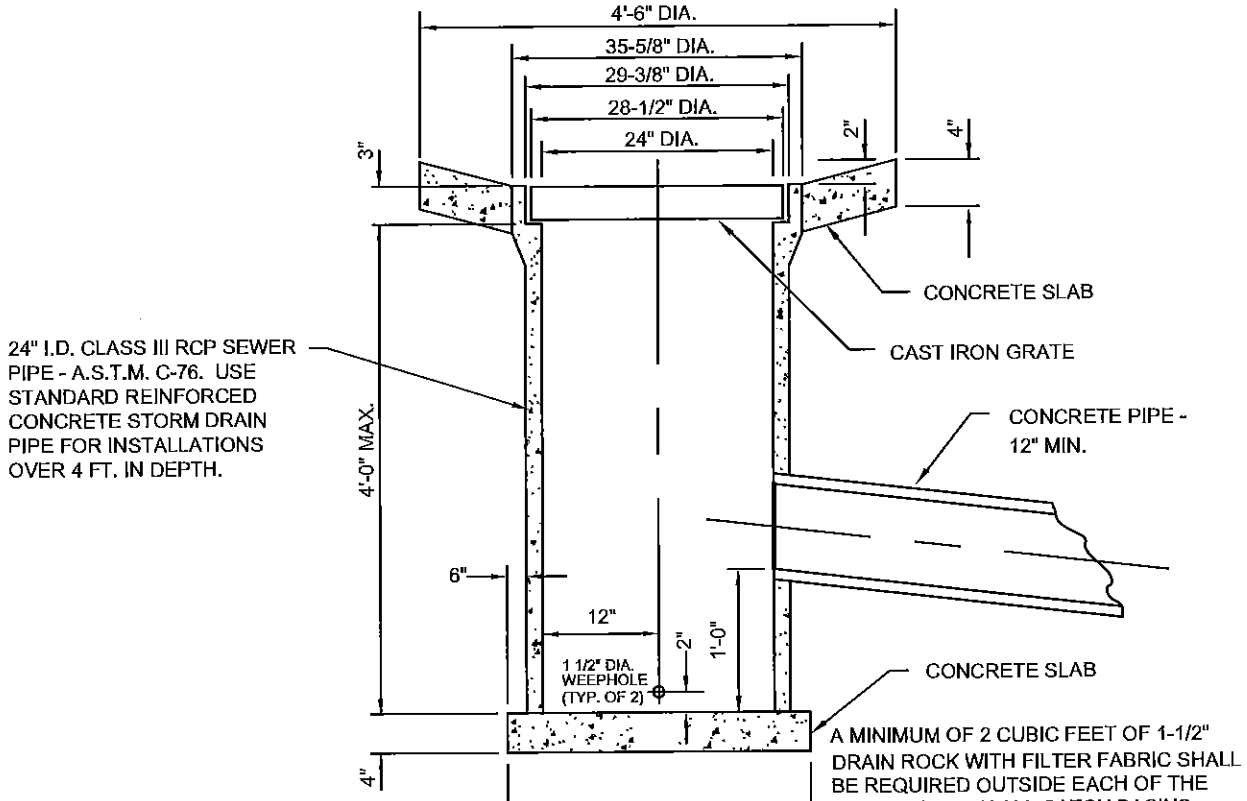
CITY ENGINEER - WILLIAM F. KULL

CURB THROUGH DRAIN

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	705
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 705.DWG		



PLAN



SECTION

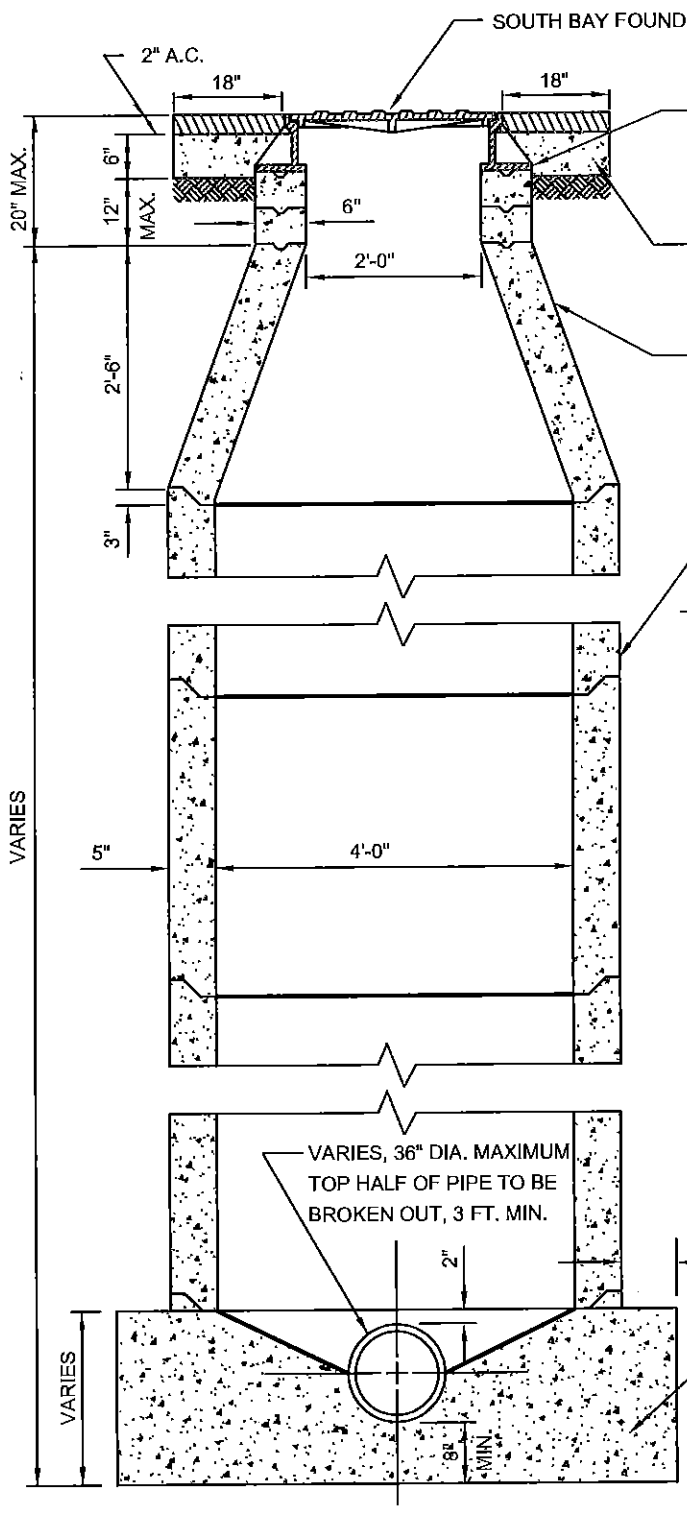
NOTE: 1' SUMP AND WEEPHOLE TO BE CONSTRUCTED WHEN CONNECTING TO PERCOLATION FACILITIES, ONLY. FOR POSITIVE DRAIN APPLICATIONS, GROUT INLET FLOOR TO DRAIN TO OUTGOING PIPE INVERT.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

OPEN AREA DRAIN

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	706
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 706.DWG		



NOTES:

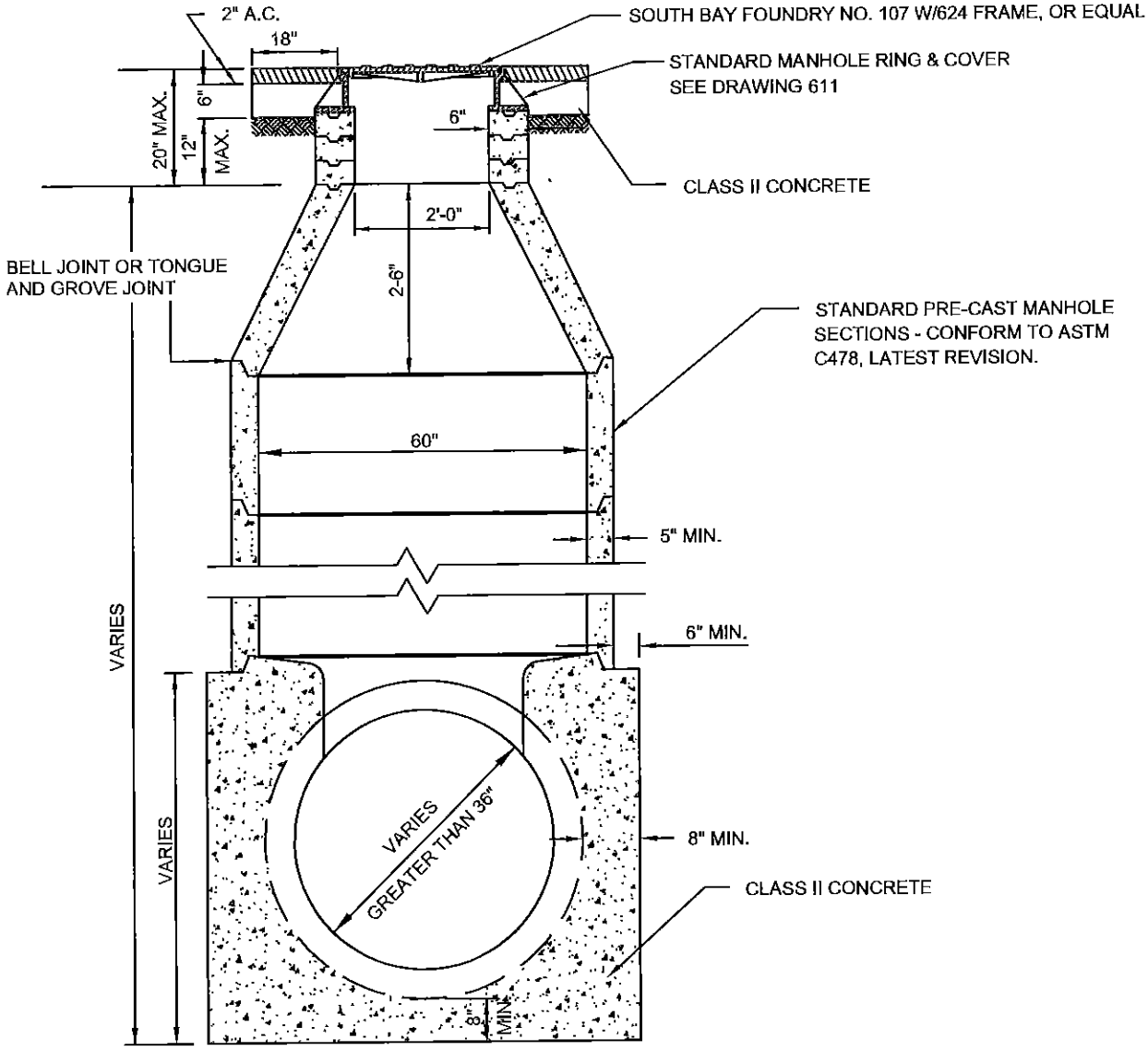
1. BOTTOM OF MANHOLE SHALL BE CONSTRUCTED FROM F.L. TO F.L. AND SHAPED TO CONFORM WITH THE DIAMETER OF THE PIPE AND DIRECTION OF FLOW.
2. BARREL, CONE AND GRADE RING SECTIONS SHALL CONFORM TO ASTM C478, LATEST REVISION.
3. BASE SHALL CONSIST OF CAST-IN-PLACE CLASS II CONCRETE PER SEC. 90 CALTRANS STD. SPECS.
4. COVER TO BE MARKED "STORM DRAIN".
5. RUBBER RING WATERSTOP OR MANHOLE ADAPTER REQUIRED FOR PVC PIPE INSTALLATIONS.
6. BACKFILL AROUND MANHOLE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MINIMUM.
7. ALL BARREL JOINTS SHALL BE GROUTED INSIDE AND OUTSIDE, OR SEALED RAM-NEK OR APPROVED EQUAL.
8. ADJUST FRAME TO GRADE AFTER PAVING.
9. LADDER RUNGS TO BE CONSTRUCTED ON ALL MANHOLES 6' IN DEPTH, OR GREATER.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

CONCENTRIC MANHOLE

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	707
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 707.DWG		



NOTE:

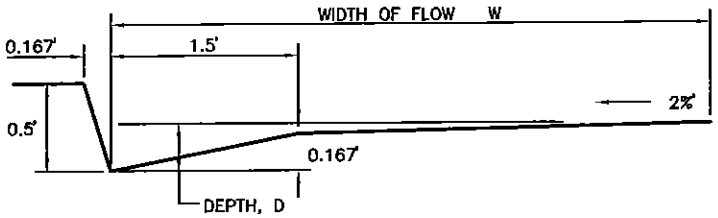
1. BOTTOM OF MANHOLE SHALL BE CONSTRUCTED FROM F.L. TO F.L. AND SHAPED TO CONFORM WITH THE DIAMETER OF THE PIPE AND DIRECTION OF FLOW.
2. BARREL, CONE AND GRADE RING SECTIONS SHALL CONFORM TO ASTM C478, LATEST REVISION.
3. BASE SHALL CONSIST OF CAST-IN-PLACE CLASS II CONCRETE PER SEC. 90 CALTRANS STANDARD SPECIFICATIONS.
4. COVER TO BE MARKED "STORM DRAIN".
5. PIPE TO BE LAID THROUGH MANHOLE AND TOP PORTION REMOVED AFTER CONCRETE HAS SET.
6. BACKFILL AROUND MANHOLE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION MIN.
7. ALL BARREL JOINTS SHALL BE GROUTED INSIDE AND OUTSIDE, OR SEALED RAM-NEK OR APPROVED EQUIVALENT.
8. ADJUST FRAME TO GRADE AFTER PAVING.
8. LADDER RUNGS TO BE CONSTRUCTED ON ALL TRUNK MANHOLES.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

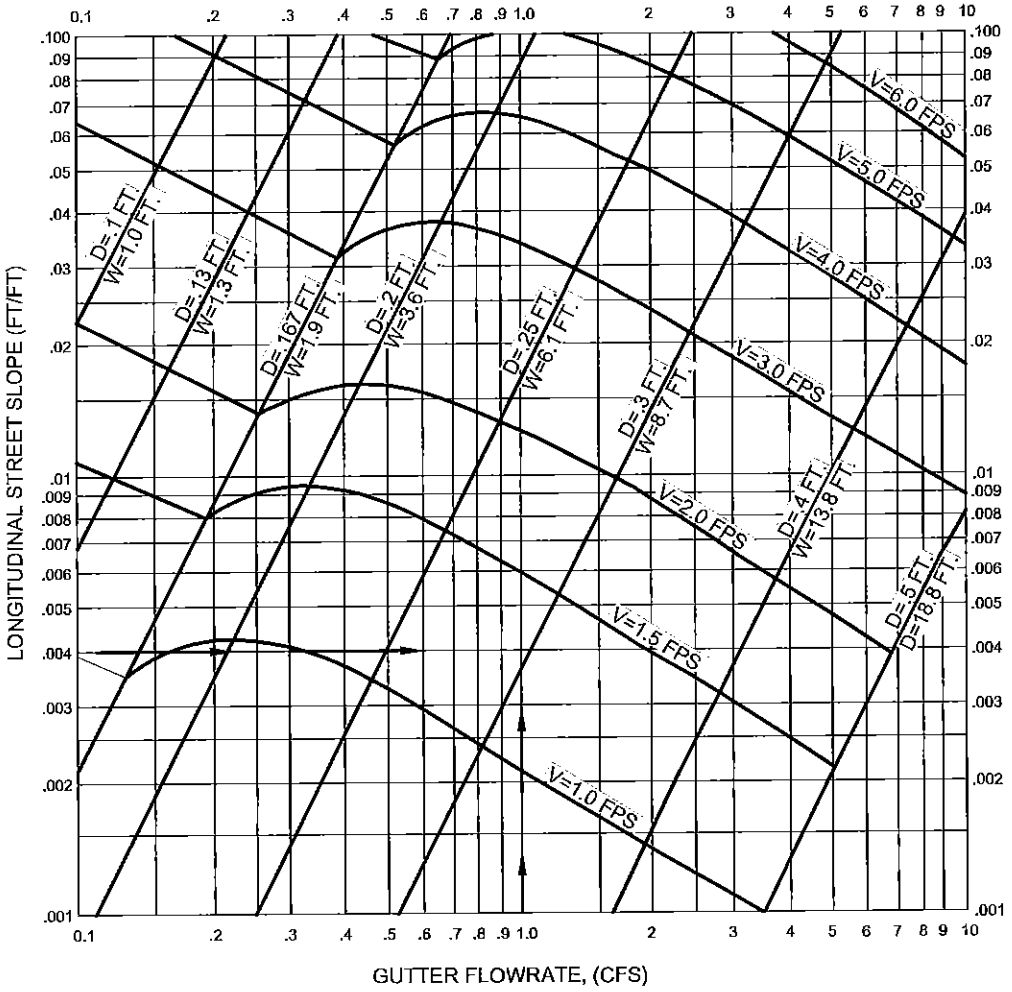
TRUNK MANHOLE

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	708
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 708.DWG		



GIVEN: Q = 1.0 CFS, S=0.004
RESULTS: DEPTH=0.3 FT., WIDTH = 8.7 FT., VELOCITY = 1.3 FPS

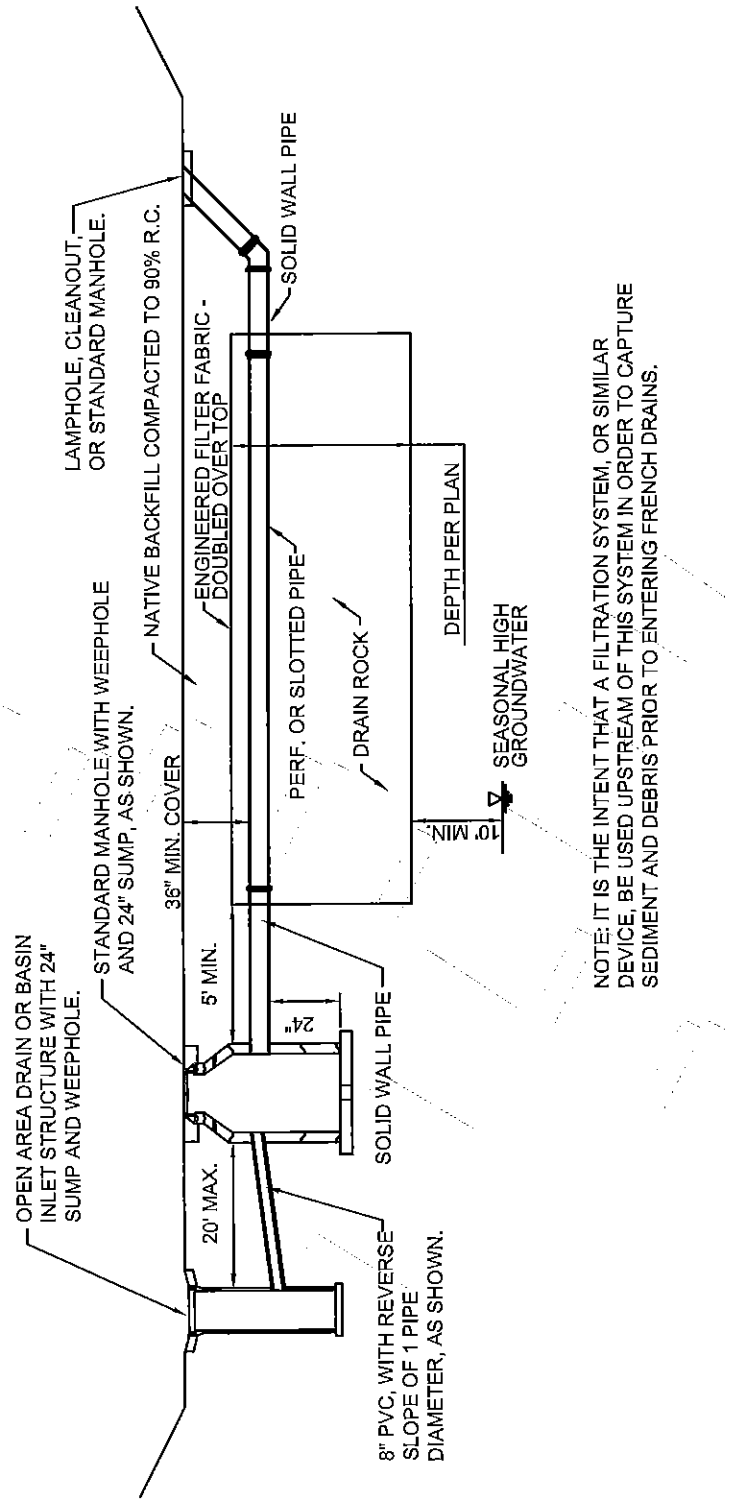


CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

GUTTER CAPACITY

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	709
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 709.DWG		

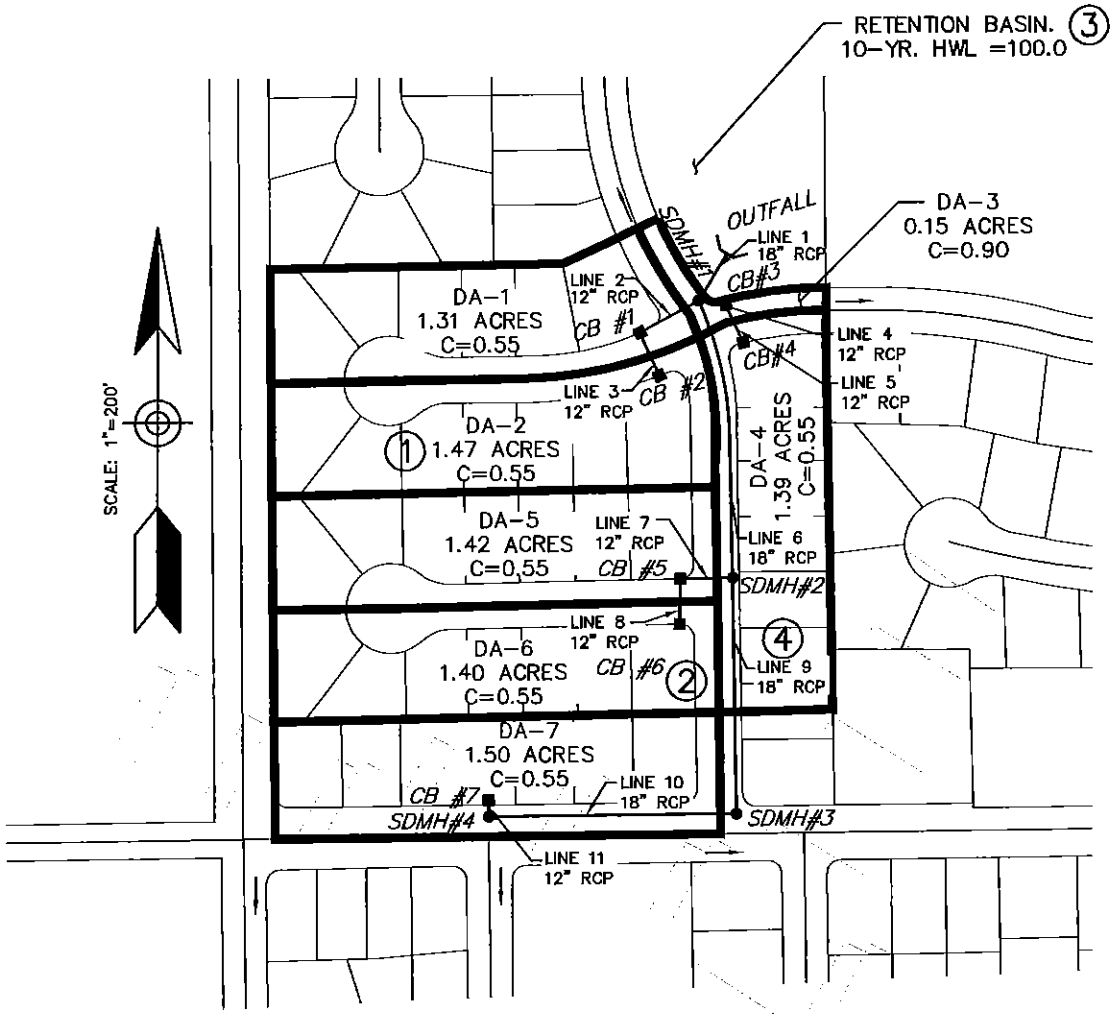


CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

TYPICAL HORIZONTAL DRAIN LAYOUT

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	710
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 710.DWG		



NOTES:

① LABEL EACH DRAINAGE AREA NUMBER, SIZE, AND RUNOFF COEFFICIENT.

② LABEL EACH STRUCTURE NUMBER. NUMBERS SHALL MATCH IMPROVEMENT PLANS.

③ LABEL DRAINAGE BASIN H.W.L., IF APPLICABLE.

④ LABEL LINE NUMBER REFERENCED IN CALCULATIONS AND PIPE DIAMETER.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

SAMPLE DRAINAGE MAP

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	___-___-16	711
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 711.DWG		

CITY OF RIVERBANK STORM DRAINAGE CALCULATION WORKSHEET

City Of Riverbank
Department of Public Works

Date:
Project Title:
des. by:
chk. by:

NOTES:
- Starting HGL based on basin H.W.L.=100.0 per previous calculations (1)
- Manning n = 0.013
- Rainfall intensities based on 10-year recurrence interval From the City of Riverbank Standard Detail 701 (2)

Design Engineer Stamp and Signature

			HYDROLOGY								CAPACITY							LOSSES			HYDRAULIC GRADE LINE				
(A) LINE No.	(B) UP STRM STRUCTURE	(C) DRAINAGE AREA I.D.	(D) Acres	(E) Runoff Coef	(F) CxA	(G) Sum Acres	(H) Sum CxA	(I) Tc (min)	(J) rainfall (in/hr)	(K) Q=cia (cfs)	(L) total Q (cfs)	(M) pipe dia. (inches)	(N) pipe area (sq ft)	(O) pipe slope (ft/ft)	(P) pipe cap. (cfs)	(Q) pipe velocity (fps)	(R) pipe length (feet)	(S) route time (min)	(T) friction slope	(U) friction loss (feet)	(V) "k"	(W) Minor Loss (ft)	(X) HGL elev DN	(Y) HGL elev UP	(Z) gmd / rim El. Dn.	(AA) gmd / rim El. Up	(BB) freeboard (ups/rm) ft.
1	SDMH #1			0.55		8.64	4.90	35	1.10		5.28	18	1.77	0.005	7.43	2.99	60	0.33	0.003	0.15	1.00	0.14	100.14	100.29	102.50	102.50	1.36
2	CB #1	DA-1	1.31	0.55	0.72	2.78	1.53	21	1.62	1.17	2.48	12	0.79	0.005	2.52	3.15	74	0.39	0.005	0.38	1.50	0.23	100.52	100.88	102.50	102.50	1.55
3	CB #2	DA-2	1.47	0.55	0.81	1.47	0.81	20	1.65	1.33	1.33	12	0.79	0.010	3.56	1.70	52	0.51	0.001	0.07	1.50	0.07	100.95	101.02	102.50	102.50	1.48
4	CB #3	DA-3	0.15	0.80	0.14	1.54	0.90	20	1.62	0.22	1.46	12	0.79	0.010	3.56	1.86	30	0.27	0.002	0.05	1.50	0.08	100.37	100.42	102.50	102.50	2.02
5	CB #4	DA-4	1.39	0.55	0.76	1.39	0.76	20	1.65	1.26	1.26	12	0.79	0.010	3.56	1.61	46	0.46	0.001	0.06	1.50	0.06	100.48	100.54	102.50	102.50	1.96
6	SDMH #2			0.55		4.32	2.38	32	1.12		2.65	18	1.77	0.005	5.75	1.51	312	3.45	0.001	0.20	1.10	0.04	100.33	100.53	102.50	102.50	1.73
7	CB #5	DA-5	1.42	0.55	0.78	2.82	1.56	21	1.62	1.27	2.51	12	0.79	0.005	2.52	3.20	58	0.30	0.005	0.29	1.50	0.24	100.77	101.06	102.50	102.50	1.36
8	CB #6	DA-6	1.40	0.55	0.77	1.40	0.77	20	1.65	1.27	1.27	12	0.79	0.010	3.56	1.62	50	0.52	0.001	0.06	1.50	0.06	101.12	101.18	102.50	102.50	1.32
9	SDMH #3			0.55		1.50	0.83				1.36	18	1.77	0.003	5.75	0.77	282	5.67	0.000	0.04	0.15	0.00	100.53	100.58	102.50	102.50	1.91
10	SDMH #4			0.55		1.50	0.83				1.36	18	1.77	0.003	5.75	0.77	274	5.93	0.000	0.05	1.50	0.01	100.59	100.63	102.50	102.50	1.80
11	CB #7	DA-7	1.50	0.55	0.83	1.50	0.83	20	1.65	1.36	1.36	12	0.79	0.010	3.56	1.73	12	0.12	0.001	0.02	1.50	0.07	100.70	100.72	102.50	102.50	1.78

NOTES:

(1) INDICATE SOURCE OF STARTING H.G.L.

(2) SEE STD. DETAIL 713 FOR EXPLANATION OF COLUMN HEADINGS.

SAMPLE SHOWN IS INTENDED AS A GUIDELINE, ONLY, AND MAY NEED TO BE AMENDED TO MEET CERTAIN PROJECT CONDITIONS.

SAMPLE IS REDUCED TO 8.5"x11" SIZE FOR CONVENIENCE ONLY. ACTUAL CALCULATION SUBMITTALS SHOULD BE ON 11"x17" PAPER

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

SAMPLE DRAINAGE CALCULATION WORKSHEET

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	___-___-16	712
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 712.DWG		

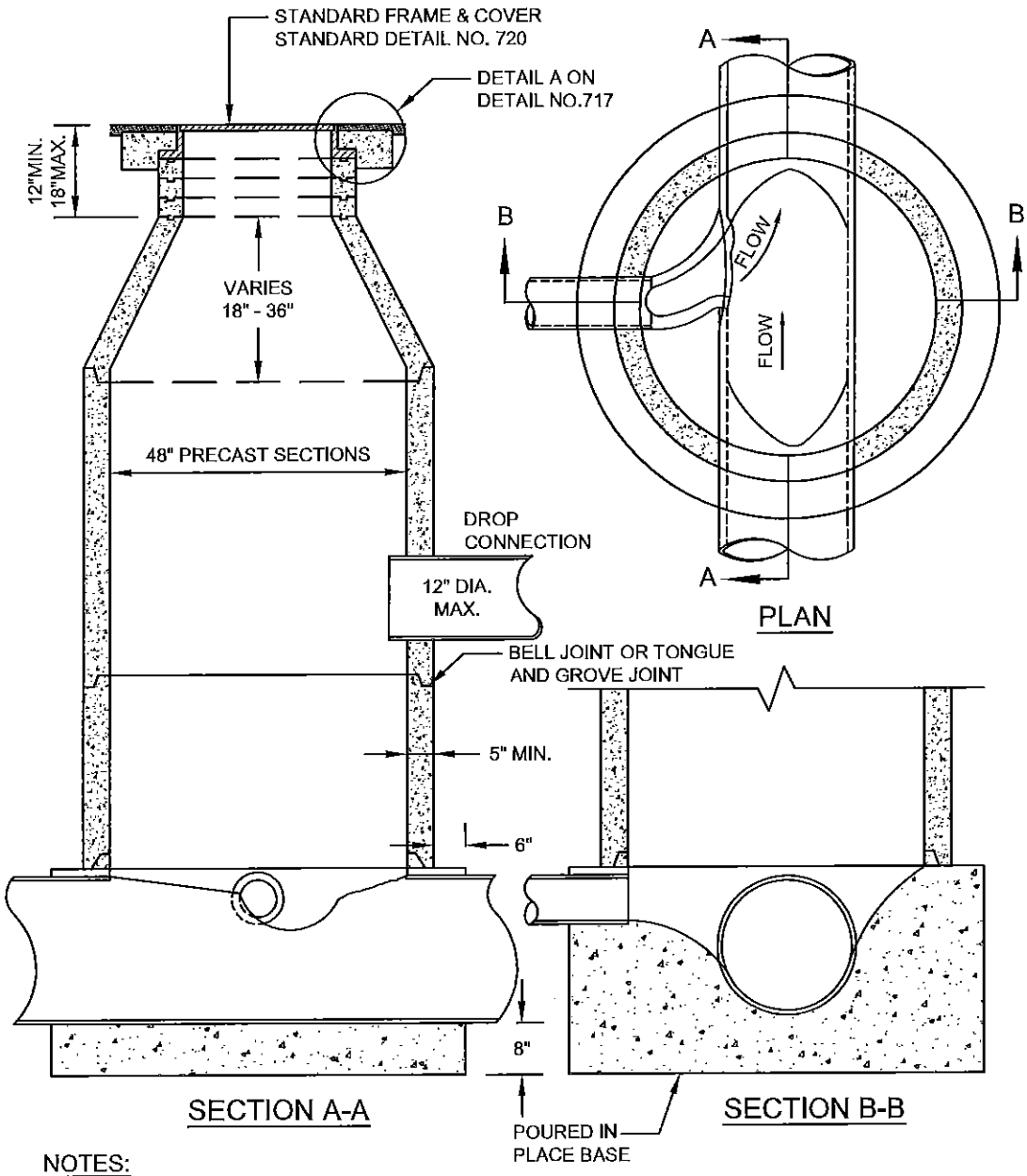
COLUMN HEADING	DESCRIPTION
A.	LINE # AS SHOWN ON DRAINAGE MAP. (DOES NOT NEED TO BE IN PLANS)
B.	UPSTREAM STRUCTURE OF LINE NUMBER
C.	DRAINAGE AREA NUMBER SHOWN ON DRAINAGE MAP
D.	ACREAGE OF INDIVIDUAL DRAINAGE AREA AT INLET
E.	RUNOFF COEFFICIENT PER CITY STDS. OF INDIVIDUAL DRAINAGE AREA
F.	E*D
G.	TOTAL UPSTREAM TRIBUTARY AREA
H.	G*E
I.	TIME OF CONCENTRATION: INCLUDES TRAVEL TIME FOR UPSTREAM PIPE RUNS, IF APPLICABLE
J.	BASED ON CITY STD. IDF CURVE FOR OBTAINED TC
K.	RUNOFF CALCULATION FOR INDIVIDUAL DRAINAGE AREAS, ONLY. (F * J)
L.	TOTAL PEAK FLOW AT NODE. (J * H)
M.	PIPE DIAMETER
N.	PIPE X-SECTIONAL AREA
O.	PIPE INVERT SLOPE PER PLAN
P.	MANNING'S CAPACITY BASED ON FULL FLOW AT GIVEN SLOPE, DIAMETER AND "N". Q = A*1.486*N*R^(2/3)*S^.5
Q.	SINCE THIS EXAMPLE SHOWS A SUBMERGED CONDITION, THE PIPE VELOCITY IS THE TOTAL FLOW DIVIDED BY THE AREA (L / N). IN AN UNSUBMERGED CONDITION, THE ACTUAL PIPE VELOCITY WILL NEED TO BE OBTAINED USING MANNING'S FORMULA.
R.	IPE LENGTH PER PLAN
S.	INDIVIDUAL PIPE TRAVEL TIME (Q / R)
T.	SLOPE OF THE HYDRAULIC GRADE LINE BASED ON TOTAL FLOW, PIPE DIA., AND MANNING'S N. ASSUMES SUBMERGED CONDITION FOR THIS EXAMPLE. S={Q*N /[A*1.486*R^(2/3)]}^2
U.	FRICTION SLOPE * PIPE LENGTH (T*R)
V.	MINOR LOSS COEFFICIENT OF DOWNSTREAM CONDITION (90DEG ANGLE, STRAIGHT RUN, ETC...)
W.	MINOR LOSS = K*(V2 / 2G) USE (=V * (Q^2 / 64.4)) NOTE THAT OTHER METHODS OF COMPUTING MINOR LOSSES, SUCH AS THOSE USED BY VARIOUS SOFTWARE PROGRAMS, WILL BE CONSIDERED FOR APPROVAL BY THE CITY ENGINEER.
X.	HYDRAULIC GRADE LINE ELEVATION OF DOWNSTREAM END. ADD MINOR LOSS (COL. W) TO UPSTREAM HGL OF THE NEXT DOWNSTREAM PIPE.
Y.	HGL OF UPSTREAM END OF PIPE –ADD FRICTION LOSS TO DOWNSTREAM HGL. (Y + X)
Z. AND AA.	(DOWNSTREAM AND UPSTREAM RIM ELEVATIONS OF STRUCTURES, PER PLAN)
BB.	FREEBOARD AT UPSTREAM END OF PIPE. USE HIGHEST HGL AT STRUCTURE –WILL NEED TO HGL ANALYZE DOWNSTREAM END OF NEXT UPSTREAM PIPE, AS APPLICABLE.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

SAMPLE DRAINAGE CALCULATION WORKSHEET COLUMN DESCRIPTIONS

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	___-___-16	713
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 713.DWG		



NOTES:

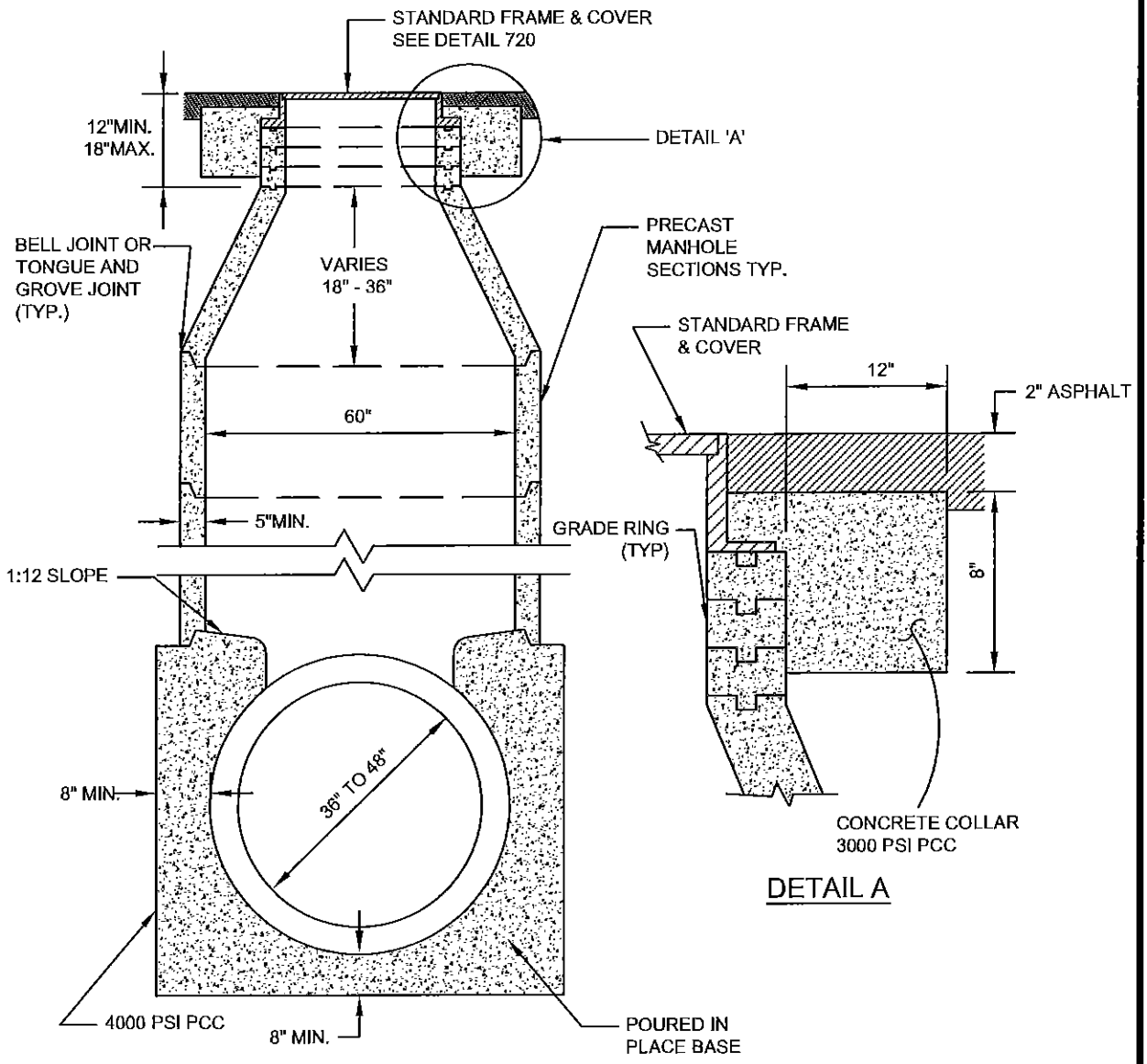
1. PIPE TO BE LAID THROUGH MANHOLE AND TOP PORTION REMOVED AFTER CONCRETE HAS SET.
2. MORTAR ALL JOINTS INSIDE AND OUT.
3. INCOMING SMALLER PIPES SHALL MATCH CROWNS OF THE LARGER PIPE.
4. ADJUST FRAME TO GRADE AFTER PAVING.
5. ALL PRECAST CONCRETE SHALL BE DESIGNED TO WITHSTAND H2O LOADING.
6. IN TRAFFIC AREAS CONCRETE COLLAR SHALL BE MADE WITH 3000 PSI PCC, HIGH-EARLY STRENGTH BARRICADES TO BE REMOVED IN 24 HOURS.
7. PRECAST BASES ARE NOT PERMITTED.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

LATERAL MANHOLE

CITY ENGINEER - WILLIAM F. KULL

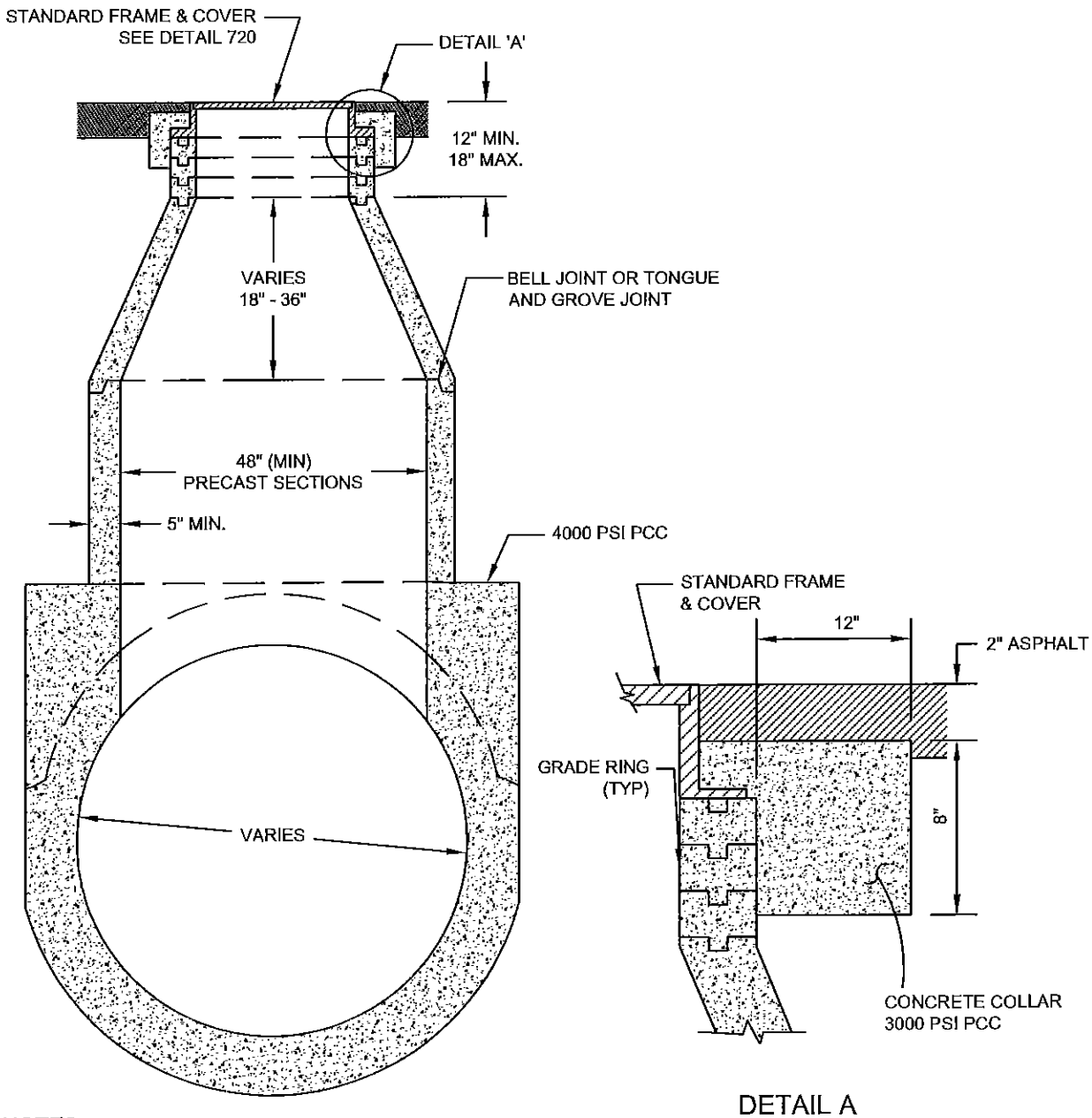
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	___-___-16	716
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 716.DWG		



NOTES:

1. PIPE TO BE LAID THROUGH MANHOLE AND TOP PORTION REMOVED AFTER CONCRETE HAS SET.
2. MORTAR ALL JOINTS.
3. INCOMING SMALLER PIPES SHALL MATCH CROWNS OF THE LARGER PIPE.
4. ADJUST FRAME TO GRADE AFTER PAVING.
5. ALL PRECAST CONCRETE SHALL BE DESIGNED TO WITHSTAND H2O LOADING.
6. IN TRAFFIC AREAS, CONCRETE COLLAR SHALL BE MADE WITH 3000 P.S.I. PCC, HIGH-EARLY STRENGTH. BARRICADES SHALL BE REMOVED IN 24 HOURS.
7. PRECAST BASES ARE NOT PERMITTED.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			POURED-IN PLACE TRUNK MANHOLE	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 1/05/16	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: ___-___-16	DRAWING NO. 717
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 717.DWG		

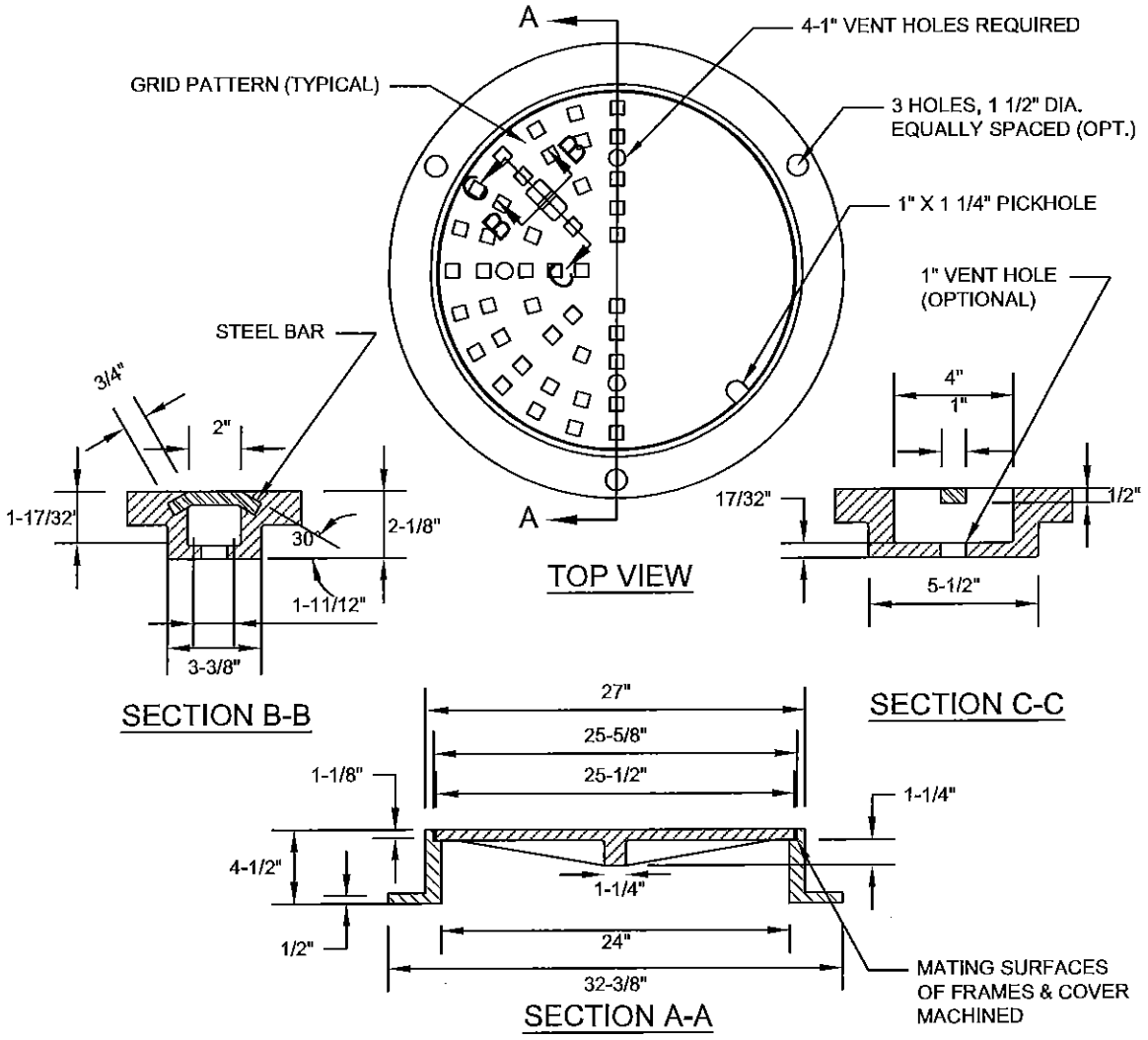


DETAIL A

NOTES:

1. MAKE MANHOLE OPENING IN TOP OF PIPE BEFORE CONCRETE SETS AND PLACE BARREL WITHIN 7 DAYS.
2. MORTAR ALL JOINTS.
3. ADJUST FRAME TO GRADE AFTER PAVING.
4. ALL PRECAST CONCRETE SHALL BE DESIGNED TO WITHSTAND H2O LOADING.
5. IN TRAFFIC AREAS, CONCRETE COLLAR SHALL BE MADE WITH 3000 P.S.I. PCC, WITH HIGH-EARLY STRENGTH CEMENT. BARRICADES TO BE REMOVED IN 24 HOURS.
6. PRECAST BASES ARE NOT PERMITTED.

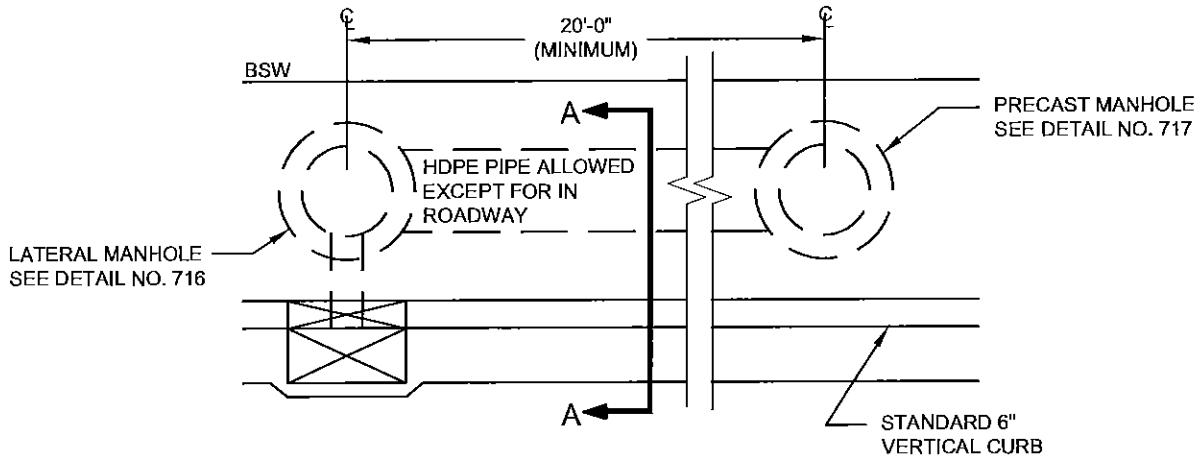
CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			CAST-IN-PLACE TRUNK MANHOLE	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 1/05/16	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: ___-___-16	DRAWING NO. 718
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 718.DWG		



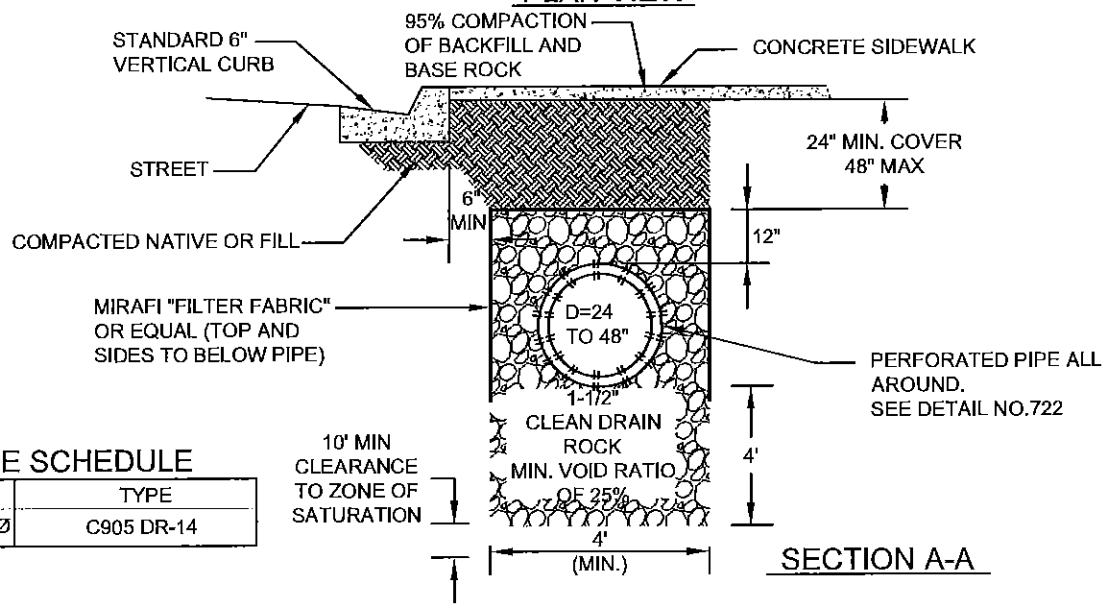
NOTES:

1. DIMENSIONS FOR FRAME AND COVER SHALL MATCH. MATING SURFACES OF FRAME AND COVER SHALL BE MACHINED TO INSURE NO-ROCK FIT.
2. COVER SHALL HAVE VERTICAL SIDES. NO TAPERED COVERS SHALL BE INSTALLED.
3. WEIGHT OF COVER SHALL BE NO LESS THAN 130 POUNDS. WEIGHT OF FRAME SHALL BE NO LESS THAN 140 POUNDS.
4. SOUTH BAY FOUNDRY SBF 624 FRAME AND COVER OR APPROVED EQUAL.
5. EACH MANHOLE COVER SHALL BE STAMPED "STORM DRAIN" WITH 1" TO 2" LETTERING.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			MANHOLE FRAME AND COVER FOR FEDERAL PROJECTS	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 1/05/16	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-16	DRAWING NO. 720
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 720.DWG		



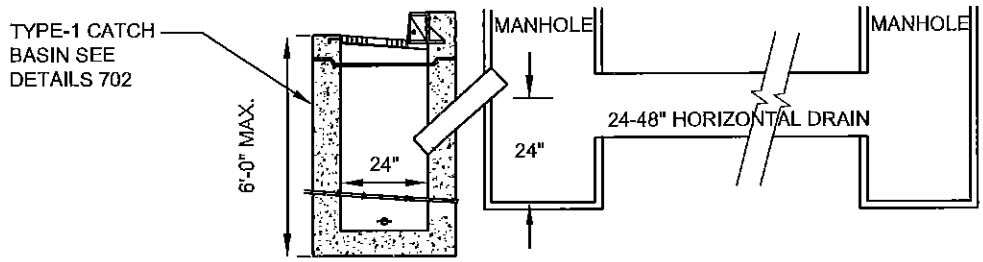
PLAN VIEW



SECTION A-A

PIPE SCHEDULE

SIZE	TYPE
24"-48"Ø	C905 DR-14



NOTE:

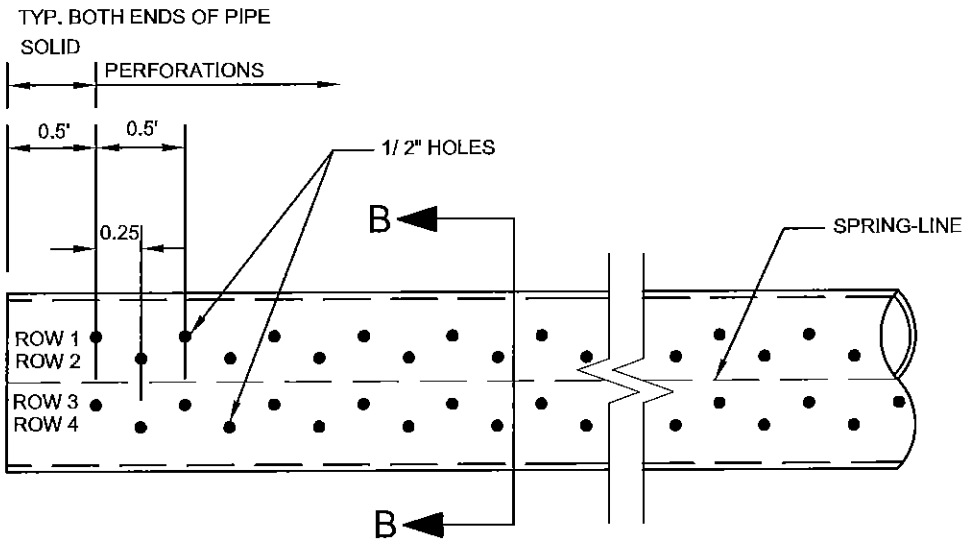
THIS HORIZONTAL DRAIN SYSTEM HAS BEEN DESIGNED FOR DEVELOPMENT AND INFILL AREAS WHICH HAVE NO ROOM FOR ON-SITE BASINS. ENGINEERING AND CALCULATIONS ARE REQUIRED AND SHALL MEET THE DESIGN STANDARD VOLUME REQUIREMENTS. CITY SHALL APPROVE ALL SUBMITTALS PRIOR TO CONSTRUCTION.

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

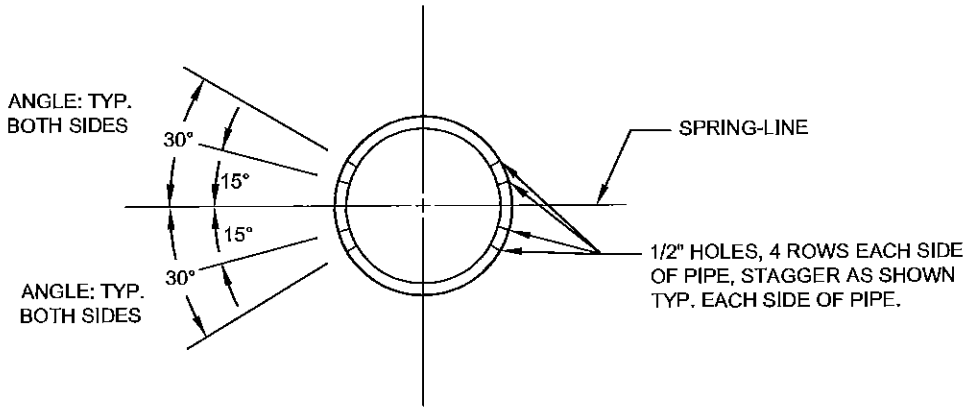
HORIZONTAL DRAIN

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	1/05/16	NTS	__-__-16	721
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 721.DWG		



PERFORATED HORIZONTAL PIPE



NOTES:
PRE-FABRICATED PERFORATED PIPE WILL BE ALLOWED WITH CITY ENGINEER APPROVAL.

PIPE SECTION B-B

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			HORIZONTAL DRAIN PIPE	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 1/05/16	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: ___-___-16	DRAWING NO. 722
REVISIONS: NONE	SECTION: STORM	DRAWING NAME: 722.DWG		

City of Riverbank
DESIGN SPECIFICATIONS

PARKING
OFF-STREET

TABLE OF CONTENTS

SECTION 6: PARKING, OFF-STREET

8.100 Parking Design Guide

To aid in the design of parking layouts, the following information is offered as a guide to meet the minimum requirements for off-street parking in the layout design of driver- parking lots under normal use conditions.

The following factors should be considered:

1. Sizes and Access: Each standard size off-street parking space shall have dimensions of not less than nine feet (9') width and nineteen feet (19') depth exclusive of access drives or aisles, and shall be of usable shape, location, and condition. Compact spaces having dimensions not less than seven and one-half feet (7-1/2') width and fifteen feet (15') depth, exclusive of access drives and aisles, shall be permitted, not to exceed thirty percent (30%) of the total required parking stalls. Small car spaces shall have "compact" or "small car" painted on the pavement at the entrance of each stall.

2. Entrances and exits - also location of nearest intersection, in each direction.

3. The width of the parking area normally determines the parking angle to be used.

4. Right angle (90 degree) parking is usually more efficient and provides for two-way movement in the aisles and shorter cruise distance. However, it generally requires more effort in such spaces.

5. Angle parking (other than 90 degrees) affords greater ease in parking and allows for narrower aisles but it requires one-way circulation.

6. Parking Space: An accessible and usable space on a building site of at least nine feet by nineteen feet (9' x 19') with access for the parking of automobiles. The length of the space may be reduced by two feet (2') if landscaped planters of sufficient width are used as curb stops.

7. With these factors in mind, an accurate drawing of the proposed parking area should be prepared showing such details as sidewalks, curb cuts for driveways, use of abutting properties, immovable obstacles, flow of on-street traffic in the area, and other pertinent information. This drawing can then be used to aid in the determination of a layout pattern based on selection of the best of all possible parking arrangements. The best arrangement should provide the maximum number of parking spaces with aisles and stalls designed for one-turn driver-parking.

8.200 Disabled Parking Requirements

1. Each parking area associated with any type of land use listed in the Riverbank Zoning Code, except for single-family and two-family residential dwellings, shall include a number of parking spaces specifically reserved for vehicles licensed or authorized by the State of California for use by physically challenged/disabled drivers in accordance with the following:

Total Spaces in Parking Area		Minimum Number of Spaces Required for Physically Challenged/Disabled Drivers
1	40	1
41	80	2
81	120	3
121	160	4
161	300	5
301	450	6
451	600	7

One (1) space for each 200 spaces thereafter.

2. Such parking spaces shall be located within a reasonable proximity of any conveniently accessible entrance to the building served by the parking area.

3. Where single spaces are provided, they shall be fourteen feet (14') wide and outlined to provide a nine foot (9') parking area and a five foot (5') loading/ unloading area. When more than one (1) space is provided, in lieu of providing a fourteen foot (14') wide space for each parking space, two (2) spaces can be provided within a twenty-three foot (23') wide area lined to provide a nine foot (9') wide parking area on each side of a five foot (5') wide loading I unloading area in the center. The minimum length of each parking space shall be nineteen feet (19'). Parking spaces required by this section shall be identified per State Law requirements.

City of Riverbank
STANDARD PLANS

PARKING

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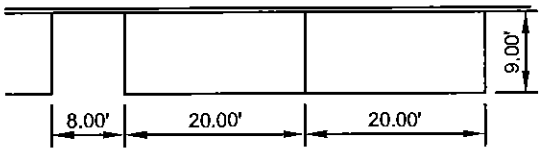
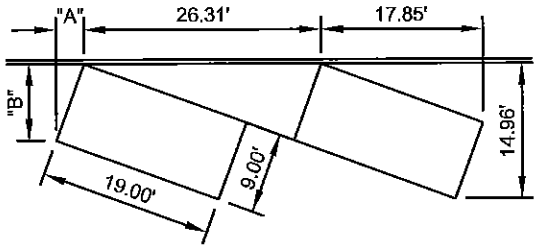
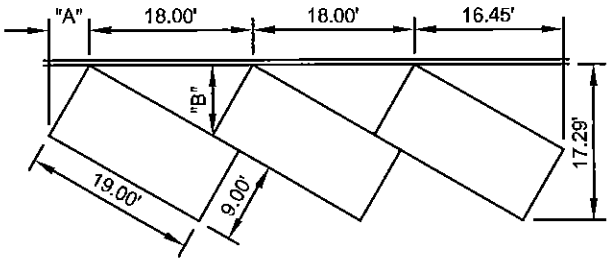


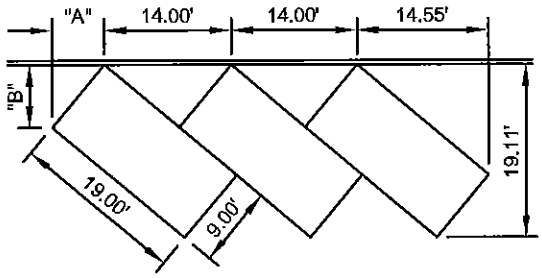
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH
0°	7.5'	20.00'	7.5'	12.0'
	8.0'	20.00'	8.0'	12.0'
	9.0'	20.00'	9.0'	12.0'



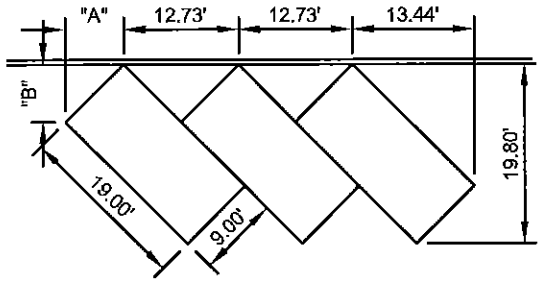
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
20°	7.5'	21.93'	13.55'	11.0'	2.57'	7.05'
	8.0'	23.39'	14.02'	11.0'	2.74'	7.52'
	9.0'	26.31'	14.96'	11.0'	3.08'	8.46'



PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
30°	7.5'	15.00'	16.00'	11.0'	3.75'	6.50'
	8.0'	16.00'	16.43'	11.0'	4.00'	6.93'
	9.0'	18.00'	17.29'	11.0'	4.50'	7.79'



PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
40°	7.5'	11.67'	17.96'	12.0'	4.82'	5.75'
	8.0'	12.45'	18.34'	12.0'	5.14'	6.13'
	9.0'	14.00'	19.11'	12.0'	5.79'	6.89'



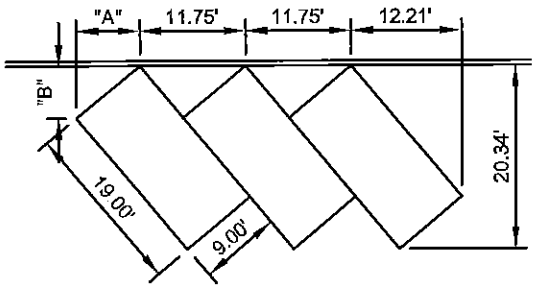
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
45°	7.5'	10.61'	18.74'	13.5'	5.30'	5.30'
	8.0'	11.31'	19.09'	13.5'	5.66'	5.66'
	9.0'	12.73'	19.80'	13.5'	6.36'	6.36'

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

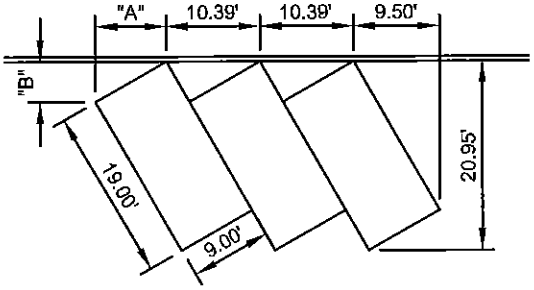
CITY ENGINEER - WILLIAM F. KULL

PARKING DESIGN

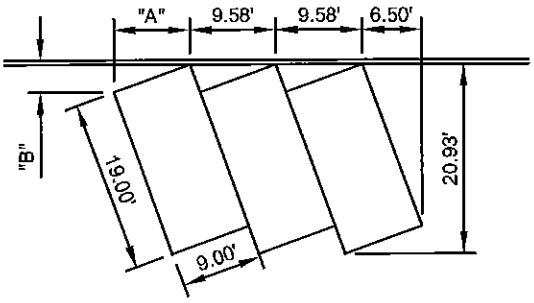
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	6/09/15	NTS	__-__-15	801
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 801.DWG		



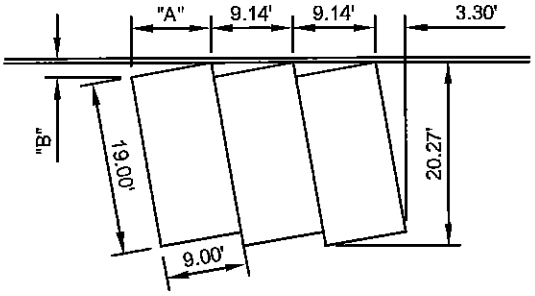
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
50°	7.5'	9.79'	19.38'	12.5'	5.75'	4.82'
	8.0'	10.44'	19.70'	12.5'	6.13'	5.14'
	9.0'	11.75'	20.34'	12.5'	6.89'	5.79'



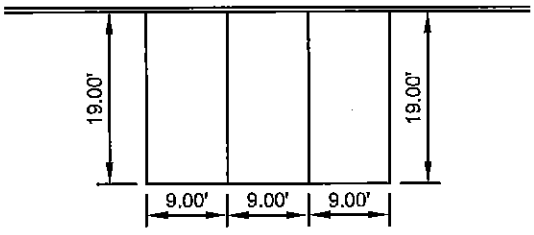
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
60°	7.5'	8.66'	20.20'	18.5'	6.50'	3.75'
	8.0'	9.24'	20.45'	18.5'	6.93'	4.00'
	9.0'	10.39'	20.95'	18.5'	7.79'	4.50'



PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
70°	7.5'	7.98'	20.42'	19.5'	7.05'	2.57'
	8.0'	8.51'	20.59'	19.5'	7.52'	2.74'
	9.0'	9.58'	20.93'	19.5'	8.46'	3.08'



PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH	"A"	"B"
80°	7.5'	7.62'	20.01'	24.0'	7.39'	1.30'
	8.0'	8.12'	20.10'	24.0'	7.88'	1.39'
	9.0'	9.14'	20.27'	24.0'	8.86'	1.56'



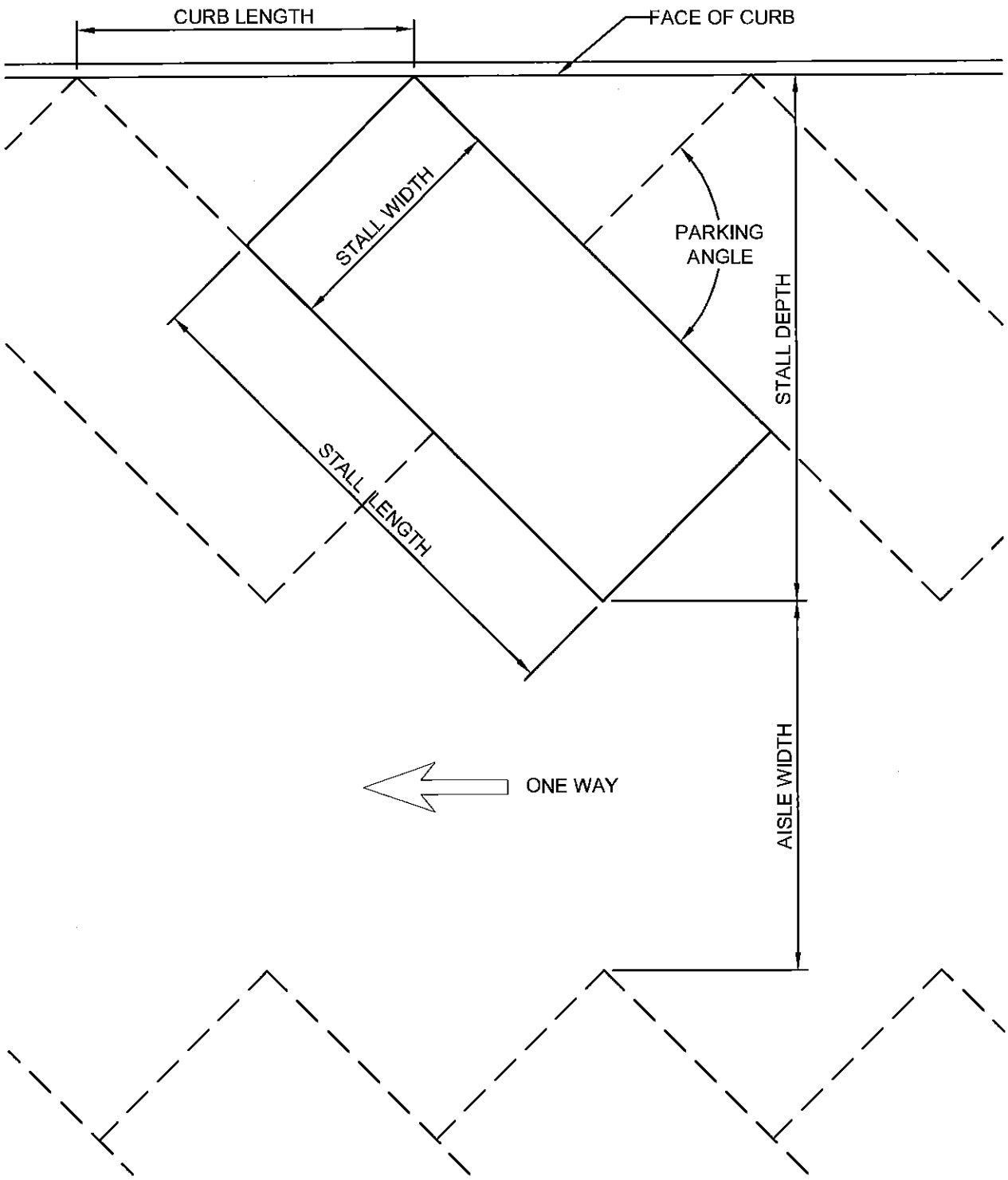
PARK ANGLE	STALL WIDTH	CURB LENGTH PER CAR	STALL DEPTH	MIN AISLE WIDTH
90°	7.5'	7.5'	19.0'	25.0'
	8.0'	8.0'	19.0'	25.0'
	9.0'	9.0'	19.0'	25.0'

CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

PARKING DESIGN

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	6/09/15	NTS	__-__-15	802
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 802.DWG		

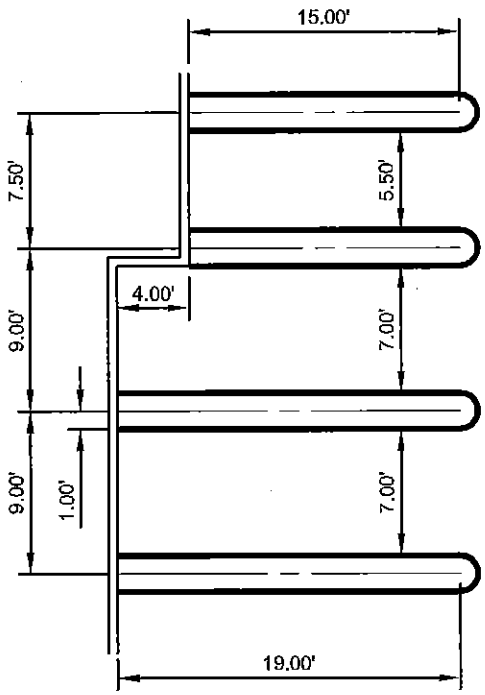


CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

CITY ENGINEER - WILLIAM F. KULL

PARKING DESIGN

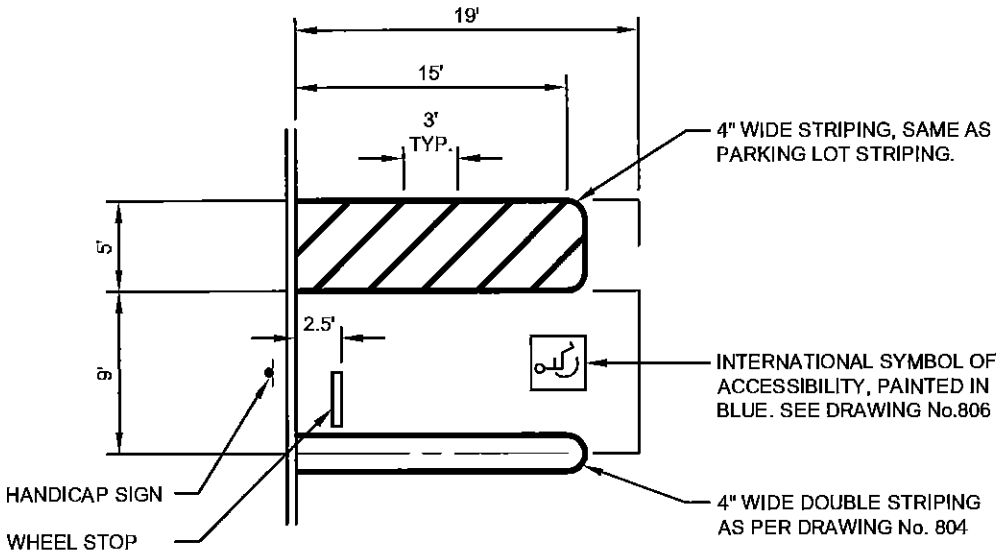
DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	6/09/15	NTS	__-__-15	803
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 803.DWG		



STRIPING: ALL PARKING SPACES SHALL BE MARKED BY EITHER STRIPING BUTTONS OR SIMILAR DEVICE TO DELINEATE SPACES. SPACES SHALL BE PAINTED WITH A LINE WIDTH OF FOUR INCHES (4"). BUTTONS SHALL BE A MINIMUM OF THREE AND ONE-HALF INCHED (3 1/2") IN DIAMETER, SPACED NO MORE THAN THREE FEET (3') ON CENTER. SPACES SHALL BE DOUBLE STRIPED WITH ONE FOOT (1') OF STRIPING LINE WITHIN EACH STALL, NINTEEN FEET (19') FOR EACH FULL SIZED SPACE ANF FIFTEEN FEET (15') FOR SMALL CAR SPACE, NOT EXCLUDING THE SEMI-CIRCLE CAP.

PAINT: ALL PAINT SHALL BE WHITE LAYTEX BASE CONFORMING TO FEDERAL SPECIFICATION TT-P-1952.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			TYPICAL STRIPING	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 6/09/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 804
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 804.DWG		



TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1 - 25	1
26 - 50	2
51 - 75	3
76 - 100	4
101 - 150	5
151 - 200	6
201 - 300	7
301 - 400	8
401 - 500	9
501 - 1000	2 PERCENT OF TOTAL
1001 AND OVER	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000

NOTE:
EACH PARKING AREA ASSOCIATED WITH ANY TYPE OF LAND USE LISTED IN THE RIVERBANK ZONING CODE SHALL INCLUDE A NUMBER OF PARKING SPACES SPECIFICALLY RESERVED FOR VEHICLES LICENSED OR ATHORIZED BY THE STATE OF CALIFORNIA FOR USE BY PHYSICALLY CHALLENGED/DISABLED DRIVERS. SEE SECTION 8.2 FOR HANDICAP PARKING REQUIREMENTS.

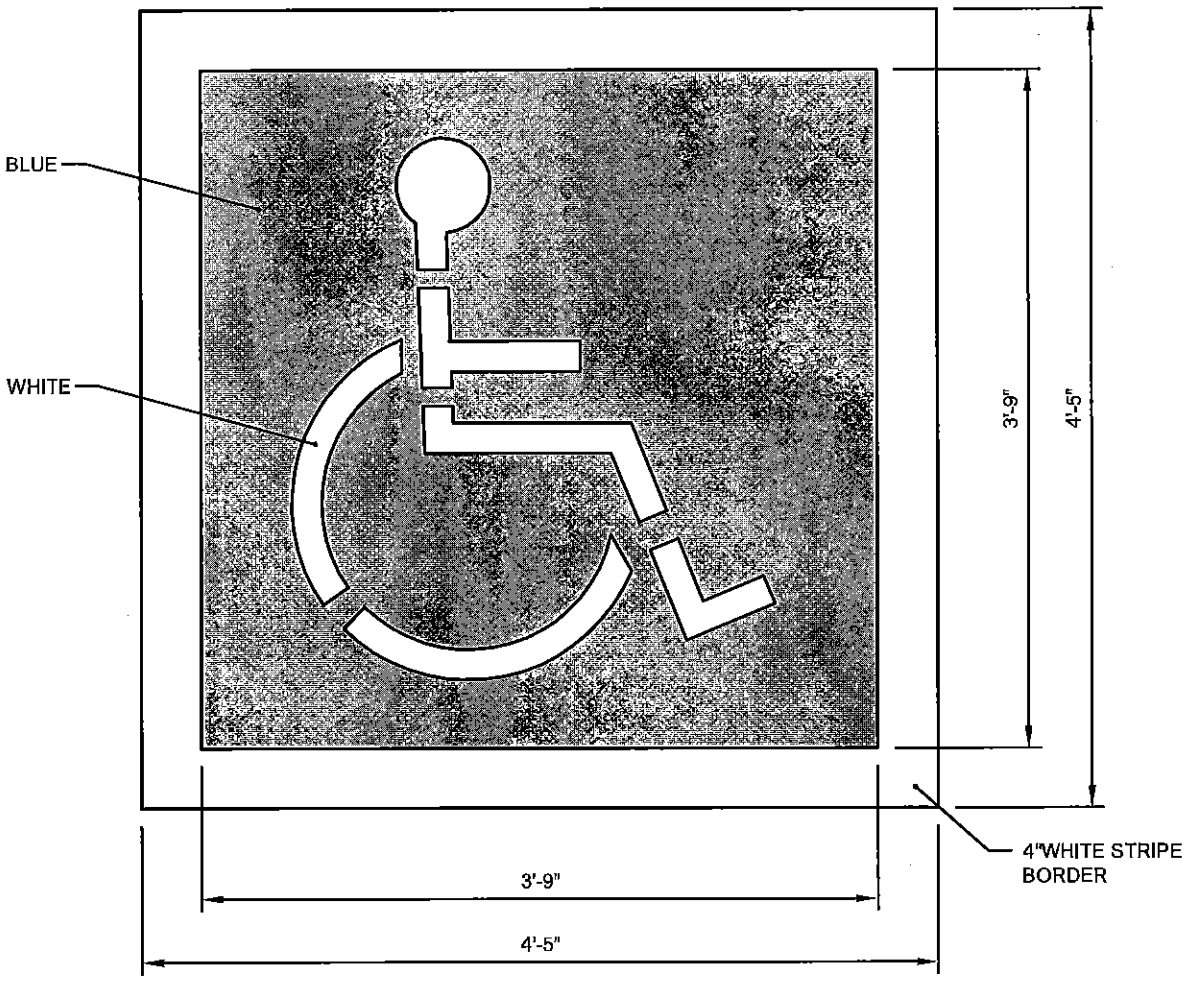
CITY OF RIVERBANK
DEPARTMENT OF PUBLIC WORKS

HANDICAP STRIPING

CITY ENGINEER - WILLIAM F. KULL

DRAWN BY:	DATE:	SCALE:	ADOPTED BY THE CITY COUNCIL:	DRAWING NO.
GK	9/03/15	NTS	__-__-15	805
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 805.DWG		

TYPICAL HANDICAP STALL



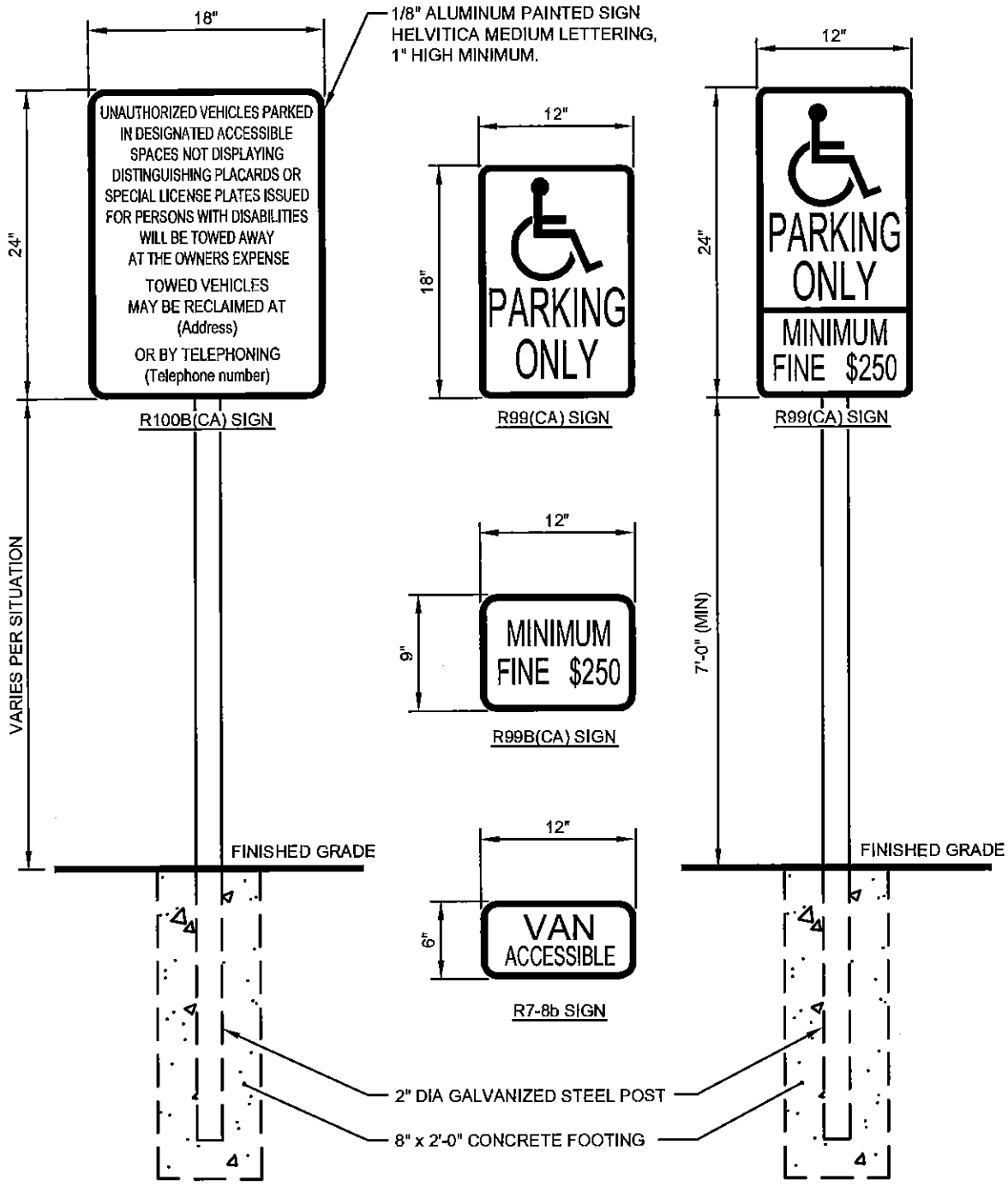
HANDICAP PARKING STALL SYMBOL:

SYMBOL PAINTED HIGHWAY WHITE WITH 2" STRIPES.

BACKGROUND PAINTED BLUE, EQUAL TO COLOR No. 15090 IN FEDERAL STANDARDS 595A.

BACKGROUND MEASURES 3' SQUARE.

CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			INTERNATIONAL SYMBOL	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 9/03/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 806
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 806.DWG		



CITY OF RIVERBANK DEPARTMENT OF PUBLIC WORKS			TYPICAL HANDICAP PARKING LOT & STALL SIGNAGE	
CITY ENGINEER - WILLIAM F. KULL				
DRAWN BY: GK	DATE: 9/03/15	SCALE: NTS	ADOPTED BY THE CITY COUNCIL: __-__-15	DRAWING NO. 807
REVISIONS: NONE	SECTION: PARKING	DRAWING NAME: 807.DWG		

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 3.E

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Out of State Travel Request to Attend Training for the Implementation of Casselle Financial Management Software in Provo, Utah
From:	Jill Anderson, City Manager
Submitted by:	Marisela H. Garcia, Director of Finance

RECOMMENDATION

It is recommended that the City Council approve the out-of-state travel request for the Finance Department Staff to attend training for the implementation of Casselle Financial Management Software in Provo, Utah.

SUMMARY

Finance Department staff has been busily working on transitioning from the currently outdated FundBalance Software to the Casselle Financial Management Software. We are at the stage in the implementation where we can begin staff training on the various aspects of the new software. By having staff attend the training in Provo, UT (headquarters for Casselle) the City will be saving approximately $20,000 in costs.

BACKGROUND

During the September 30, 2014 Strategic Plan meeting, the City Council authorized staff to prepare a Request for Proposals for new financial management (accounting) software. The City received four responses and ultimately selected Casselle Financial Management Software. Funds for this software upgrade were budgeted during the preparation of the FY 2015-16 budget at a cost of $70,500 for conversion of current data to the new software, implementation, and training costs. Approximately $7,000 of this budget is for training costs.

Cost estimates for Casselle staff to provide training at City offices would be approximately $24,000. Initial cost estimates for five (5) Finance Department staff members to attend training in Provo, UT would be approximately $4,000 thus providing significant savings to the City. A portion of the staff would attend first in order to ensure that there was sufficient staff to attend to customers in the office. Training would take place in March 2016.

STRATEGIC PLAN

On September 30, 2014, the City Council established an objective to issue an RFP for new accounting software and make a recommendation to the City Council for funding. This report and activity would continue the implementation of this objective.

FINANCIAL IMPACT

Approximately $4,000 in travel expenses. There is no request for additional fund appropriations as training expenses have already been included in the FY 2016-17 budget.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 3.F

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Adjustments to 2016 City Council Meeting Schedule and Closure of City Offices from December 26 to December 30, 2016.
From:	Jill Anderson, City Manager

RECOMMENDATION

It is recommended that the City Council:

1) Cancel the meetings of July 12, August 9, and December 27, 2016 for a modified summer schedule and to minimize conflicts with Holiday activities.
2) Allow the application of previously approved December City Holidays to be scheduled from December 26 to December 30, 2016, and approve the closure of City Hall for the same period of time.

SUMMARY

Summer 2016

It is not uncommon for agencies to set up a schedule that includes adjustments for summer vacations. The City adopted a modified summer schedule for 2015 which allowed staff, as well as the members of the City Council, to more effectively coordinate their vacation plans and minimize scheduling conflicts. In consideration of the number of projects moving forward, it is proposed that the City once again hold only one meeting in July and August to prevent delays, rather than cancel both meetings in one of the summer months. The Memorial Day and Labor Day Holidays do not fall adjacent to City Council meetings in 2016, so no changes to the May and September City Council Meeting schedule are proposed.

December 2016

It is also recommended that the City Council cancel the second meeting in December, which falls on the Tuesday after Christmas, December 27, 2016, consistent with the City's tradition. While emergency services, including public works responders, would be available, it is proposed that City Hall be closed from December 26 through December 30. The demand for services during this time is very low as many people take vacation during the Holidays to celebrate with family and friends. It is also a time when many

members of the City's staff request time off. In 2016, the Christmas and New Year's Holidays fall on weekends, which allows the scheduling of approved Holidays to occur during the week between Christmas and New Year's, the slowest week of the year. This provides an opportunity for Holidays to be taken at a time when they are most desired by staff with very minimal impact on the public, which is typically focused on Holiday activities rather than municipal business. Both of the City's labor groups have agreed to apply the Christmas and New Year's Holidays in a way that would allow City Hall to be closed. Therefore, it is recommended that City Hall be closed the week of December 26 – 30, 2016.

As always, in the event that issues arise that need to be attended to between regularly scheduled meetings, a special meeting can be held.

FINANCIAL IMPACT

There is no direct financial impact.

STRATEGIC PLAN

While the proposed schedule adjustments are not directly related to the goals of the City, holding meetings on or near holidays makes it more difficult for the public to be aware of City business and/or attend City Council meetings. Therefore, the proposed adjustments support the City's value of transparency in how it conducts its business.

ATTACHMENTS

Monthly calendars for July, August, and December 2016 are attached to this report.

July

Sun	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*Sat*
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

2016

August

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

2016

December

Sun	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*Sat*
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

2016

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 3.G

SECTION 3: CONSENT CALENDAR

Meeting Date:	January 26, 2016
Subject:	Authorization of the Out of State Travel Made by the City Manager to Attend the International City/County Management Association Annual Conference in Seattle, WA in September 2015
From:	Jill Anderson, City Manager

RECOMMENDATION

It is recommended that the City Council approve the previously completed travel by the City Manager to attend the International City/County Management Association Annual Conference in Seattle, WA Sunday, September 27 thru Wednesday, September 30, 2015 that was funded in part by the City and in part by the City Manager.

SUMMARY

In 2014, the City Manager participated in the International City/County Management Association (ICMA) Conference in North Carolina and paid for all of the associated expenses, including the registration, with her own personal funds. The conference was very informative and provided an opportunity to learn from world class professionals in business, as well as government. As a result, the City manager made plans to attend the 2015 conference in Seattle, WA and the City's budget included funds to pay for a portion of the costs. In an oversight, the formal authorization to use City funds for out of state travel was not obtained. In order to correct this error, this item has been scheduled to receive formal approval for the travel that the City Manager made to attend the 2015 ICMA Conference.

FINANCIAL IMPACT

The City Manager used her own personal funds to pay for the flight to Seattle, WA and two of the four nights at the conference hotel, as well as all meals. The City paid the registration ($455.00) to attend the conference and two nights at the conference hotel ($568.12). The total cost of the travel to the City was $1,023.12. No budget appropriation is needed as the registration costs were paid in FY 14-15 and the conference hotel costs are included in the FY 15-16 Adopted budget.

STRATEGIC PLAN

Participation in professional leadership organizations, such as ICMA, supports the City's strategic goal to Enhance Professionalism and Customer Service.

ATTACHMENTS

The initial Conference Program is attached to this report.

ICMA'S 101ST ANNUAL CONFERENCE

seattle
KING COUNTY

The world's foremost professional development opportunity for local government managers

September 27–30, 2015
Washington State Convention Center
Seattle, Washington

Registration opens
JUNE 4
at icma.org/conference

SAVE THE MOST — Register by July 16

ICMA 2015 SEPT 27-30 seattle ANNUAL CONFERENCE KING COUNTY

An Invitation from ICMA's President

As I drove back to the United States after attending my first ICMA conference in Montréal (1987), I remembered how pumped up I was to go back to work. Reenergized, filled with new ideas from the educational opportunities—my passion to make a difference was soaring! I met colleagues from all over the world, many who remain very close personal friends today. Over the next three decades, every ICMA conference has made me feel the same way.

I am pleased to send this personal invitation to you so that you might enjoy the excitement of being engaged in the best professional development opportunity available to local government leaders. Our employers, our profession, and our own sense of purpose are facing increasingly more difficult challenges. This year's conference is about making all those challenges a little easier to deal with. From the outstanding educational programs to the unique setting that Seattle offers, you will find opportunities to reflect, refocus, reenergize, and refresh—in the way only ICMA can do it. No matter where you are in your career, you won't go wrong with this one!

We have an outstanding group of keynotes to set the stage for you. Our Planning Committee has put together programs to challenge your mind. Our Host Committee has put together events to please the soul. Seattle/King County offers the beautiful setting: a unique blend of world-class metropolis set within wild and beautiful natural surroundings. You will find culture, family-friendly entertainment, shopping, and dining all served in the Pacific Northwest affordable style.

I hope you plan now to join your friends and me, along with the new friends you will meet on the shores of Puget Sound in September. We will be waiting for you!

James A. Bennett

James Bennett
ICMA President
City Manager, Presque Isle, Maine

Conference Planning Committee
Welcome

What an amazing location Seattle will be to host our 2015 ICMA Conference this coming September! A city that prides itself on being vibrant, innovative, and connected, Seattle is home to Pike Place Market, the original Starbucks, and the Space Needle; it is also the birthplace of grunge, Amazon.com, and the world's best maple bacon donut. Simply put, Seattle offers something of interest for all visitors.

Coupled with the attraction of Seattle, the 2015 ICMA Conference will deliver an opportunity for top-notch professional development and interaction with colleagues from throughout the country and around the world. Your Conference Planning Committee has been hard at work to ensure that the programs, keynotes, and educational sessions are relevant, diverse, useful, and engaging. Likewise, the Host Committee is planning tours and social activities that will meet your expectations for further education mixed with some celebration and fun!

We hope you make plans today to attend the 2015 conference, being held September 27–30. We look forward to seeing you there!

Peter Agh
Conference Planning Committee
Co-Chair
City Manager
Dvory, Slovakia

Michelle Crandall
Conference Planning Committee
Co-Chair
Assistant City Manager
Dublin, Ohio

Program Overview

During the first 100 years of ICMA's history, Annual Conference attendees have picked up thousands of innovative ideas and practical strategies for managing local governments in challenging environments while enjoying opportunities for professional and personal renewal and networking. With an overall theme of **"ICMA 101: Mastering the Fundamentals, Shaping the Future,"** this year's event looks ahead to ICMA's second century by featuring a program developed by the 2015 Conference Planning Committee that supports the abundance of educational, information-sharing, and networking offerings you have come to expect.

To help you fulfill your commitment to career-long learning and lead your community in today's complex environment, this year's conference again offers a variety of opportunities, including stimulating daily keynote presentations, informative concurrent educational and Solutions Track sessions, interactive roundtable discussions, films related to local government issues, skill-building ICMA University workshops and forums, and assorted field demonstrations. Engaging session formats, room sets, and presentation styles, combined with the use of social media and other technologies, will maximize your opportunities to network and exchange ideas with your colleagues.

Concurrent Educational Sessions

In addition to sessions offered by ICMA's projects, affiliates, and partners, this year's conference will feature educational sessions addressing the challenges facing local government managers in five **theme tracks** developed by the 2015 Conference Planning Committee:

- Equity and Empowerment in Public Policy Management
- Making Local Government Relevant
- Safely Steering through the Elements: Personally Surviving the Profession
- Skills and Tools for the 21st-Century Manager
- The Next Generation of Infrastructure

The conference program also includes **career tracks** of educational sessions designed specifically for

- Assistant and Deputy Managers
- Senior Managers/ICMA Credentialed Managers
- Small-Community Managers
- County Managers

Learning Lounge

Stop by the conference's Learning Lounge and join a small audience at your choice of short, interactive presentations on focused topics (listed on page 13) that will stir your curiosity. Featuring improvements based on your feedback from last year, the lounge will also host an **Experts Bar,** where you can get one-on-one advice from in-the-know colleagues on topics such as the "tricks and traps" of tech gadgets, making the most of social media, and résumé design.

Afternoon Featured Speakers

After lunch on Monday and Tuesday, enjoy an inspirational presentation

ARE YOU UNABLE TO ATTEND THE CONFERENCE IN PERSON?

VIRTUAL ANNUAL CONFERENCE

If you cannot attend the conference in person, this is your opportunity to continue your learning on your own time. The 2015 Virtual ICMA Annual Conference will take place during the on-site event, September 27–30. ICMA will broadcast over the Internet live, streaming video of 18 educational sessions, including video and synced PowerPoint presentations, plus all four keynote sessions.

Although the Virtual Conference is not a substitute for the "on-the-ground" skill-building, networking, and social opportunities that ICMA's Annual Conference offers, it will enable you to access the same quality content and experience the conference highlights. Look for the V icon throughout this program to identify sessions that will be part of the Virtual Conference.

To get the most out of this benefit, for just one fee you can use the 2015 Virtual Conference to share professional development with your staff. This cost-effective method of providing ongoing education to your staff is a win-win for everybody! **Register online at icma.org/conference.**

from the afternoon's featured speakers, experts in their fields who are noted for their presentation skills and will speak on topics related directly to the conference's themes. See page 8 for the list of this year's featured speakers.

Roundtable Discussions

The conference's popular series of roundtable discussions offers attendees an opportunity to meet face-to-face and share ideas, opinions, and solutions on a variety of issues important to professional managers. Each discussion will be facilitated by an ICMA member or other expert with a strong interest or expertise in these nuts-and-bolts issues.

ICMA University Forums

ICMA University forums are a hybrid of the traditional concurrent educational sessions and the ICMA University workshops. Similar to a workshop, each forum is designed to be highly interactive and skill building in nature. This year, seven forums will be offered—four on Sunday afternoon and three on Wednesday morning. Enrollment in each forum is limited to 250 participants and requires preregistration, although the cost is included in the main conference registration fee. (See pages 14–15 for detailed descriptions of the forums.)

ICMA University Workshops

Attendees seeking an in-depth, skill-building experience can preregister for one or more of the half-day ICMA University workshops that will be offered in conjunction with the conference (see pages 26–27). The workshops are limited in enrollment to ensure a highly interactive experience related directly to the ICMA University practice groups considered essential to effective local government management. Payment of a separate workshop registration fee at the time of preregistration covers materials and instructor expenses.

Field Demonstrations

The opportunities for professional growth and networking will extend beyond the meeting rooms of the Washington State Convention Center to include a series of educational field demonstrations and site visits highlighting the most innovative projects in area local governments (see pages 24–25).

Exhibit Hall

At the exhibits in the ICMA Exhibit Hall—many directly related to the educational sessions—you can examine products and services that will help you deliver public services more effectively and cost-efficiently. The exhibit hall hosts the popular **Solutions Track** sessions, which present case studies of local governments that have overcome challenges through innovative public-private partnerships. Read more about this year's exhibit hall on page 16.

Greening the ICMA Annual Conference

In support of ICMA's commitment to environmental sustainability, abridged information about the conference is included in this issue of *PM*. Complete details are posted at icma.org/conference, where online registration and the housing bureau open June 4.

AICP CM Credits

ICMA has registered with the American Planning Association's professional institute, the American Institute of Certified Planners (AICP), to provide Certification Maintenance (CM) credits for approved programs at ICMA's 2015 Annual Conference.

Visit icma.org/conference to learn which specific workshops, sessions, and other activities have been approved through AICP's review process.

Have you MASTERED THE FUNDAMENTALS?

LOCAL Government 101

In a concentrated 6-session experience, ICMA University reconnects you with the fundamentals—those key skills and practices that are the foundation of everything else you do as a manager. While the courses are targeted at small and medium sized communities, everyone from the beginning manager to senior leaders can benefit from honing the basic skills you need to do an outstanding job for your community.

Sunday's kick off and Wednesday's wrap up are both forums that include skill building but are also highly interactive. These two forums wrap around the four conference sessions. You'll get the benefit of learning from and interacting with professionals who have been in your shoes and know what it takes to help your community excel. These foundational skills are the building blocks for the leadership and management activities you'll perform every day in your job. If you attend all 6 sessions, you'll return to your community with an ICMA Local Government 101 Certificate.

When you're building your ICMA Conference planner, build in time to Master the Fundamentals. Look for the LG 101 icon.

1. **Sunday Forum** - Working with Elected Officials
2. **Monday** - Budget and Finance 101
3. **Monday** - Economic Development
4. **Tuesday** - Citizen Engagement
5. **Tuesday** - Strategic Planning
6. **Wednesday Forum** – HR and Team Meeting Facilitation

PRESENTERS:

Felicia L. Logan
director, leadership development, ICMA

WORKING WITH ELECTED OFFICIALS

Opal Mauldin-Robertson
city manager
Lancaster, TX

Travis Rothweiler
city manager
Twin Falls, ID

Steven Seidel
assistant town manager
Trophy Club, TX

ECONOMIC DEVELOPMENT

Travis Rothweiler
city manager
Twin Falls, ID

CITIZEN ENGAGEMENT

Andy Pederson
village manager
Bayside, WI

Rebecca Van Regenmorter
assistant village manager
Bayside, WI

STRATEGIC PLANNING

Amy Knowles
assistant to the city manager
division of structural innovation
Fort Lauderdale, FL

Amy McEwan
deputy county administrator
Lake County, IL

BUDGET

Andrea Arnold
assistant city manager
Decatur, GA

Meredith Roark
budget & performance
measurement manager
Decatur, GA

HR AND TEAM MEETING FACILITATION

Brian Bosshardt
deputy county administrator
Los Alamos County, NM

Shelly Seimer
assistant city manager
Allen, TX

Melissa Valadez-Stephens
assistant city manager
Cedar Hill, TX

Keynote Speakers

The Happiness Advantage

Sunday, September 27, 3–5 p.m. V

The Opening General Session of ICMA's 101st Annual Conference will feature a presentation by **Shawn Achor**, one of the world's leading experts on the science of positive psychology and the connection between happiness and success. Winner of over a dozen distinguished teaching awards, he delivered lectures on positive psychology in the most popular class at Harvard. Shawn will offer research-based strategies for positive leadership and improved engagement that are designed to help you increase your organization's productivity, creativity, engagement, happiness, and success.

Overcome Your Biases: Walk Boldly toward Them!

Monday, September 28, 8:30–9:30 a.m. V

Our biases can be dangerous, even deadly. Diversity advocate, consultant, and author of *Moving Diversity Forward: How to Go from Well-Meaning to Well-Doing,* **Vernā Myers** has helped break down barriers of race, gender, and sexual orientation in thousand-member workplaces. In a funny and impassioned presentation, she encourages us to recognize our own biases in order to actively combat them, emphasizing a "low-guilt, high-responsibility" philosophy. Looking closely at some of the subconscious attitudes we hold toward people who are different from us, Vernā makes a plea to all people: Acknowledge your biases. Then move toward, not away from, the groups that make you uncomfortable.

Leadership, Teamwork, and Organizational Health

Tuesday, September 29, 8:30–9:30 a.m. V

Cited by *The Wall Street Journal* as one of the nation's top business speakers and by *Fortune* as one of the "ten new gurus you should know," **Patrick Lencioni** provides leadership models that improve organizational health, teamwork, clarity, employee engagement, and client service. He is author of 10 books that have sold over 4 million copies and have been translated into more than 25 languages; one of those books, *The Five Dysfunctions of a Team,* continues to be a fixture on the best-seller list 13 years after it was first published. Sharing his thought-provoking insights with accessibility, humor, and storytelling, Pat will leave you with practical advice for immediate implementation.

Using Improvisation to Improve Creativity and Collaboration

Wednesday, September 30, 8:30–10:30 a.m. V

For more than 50 years, The Second City comedy theater in Chicago has been a training ground for some of the best comic minds in the industry, including John Belushi, Gilda Radner, Stephen Colbert, and Tina Fey. It also provides one-of-a-kind leadership training aimed at increasing creativity, collaboration, and teamwork. **Tom Yorton,** CEO of The Second City Communications and coauthor of the popular new book *Yes, And,* will offer a toolkit for thriving in a world increasingly shaped by speed, social communication, and decentralization. Using comedy and the principles of improvisation, he will demonstrate how to challenge unproductive conventions by using improvisational techniques to develop innovators, encourage adaptable leaders, and build transformational work environments.

Educational Sessions

Concurrent educational sessions do not require preregistration.

Concurrent educational sessions that are being developed from ideas generated by the 2015 Conference Planning Committee are listed below, along with sessions being planned in conjunction with ICMA projects and affiliates. Session descriptions are subject to change as speakers are being engaged over the summer. ICMA University Practice Group numbers (noted in italics after the description) are attributed to each session.

Theme Tracks

Equity and Empowerment in Public Policy Management

Building the Workforce of the Future V

Monday, Sept. 28, 12:45–2 p.m.

Many times our biases get in the way of allowing our workforce or organization to reflect the diversity of the community. But there are many reasons, including economic ones, why that diversity should be reflected. How can we make sure that it is? *1, 9, 12*

Transforming Organizational Culture

Tuesday, Sept. 29, 2–3:10 p.m.

With today's changing demographics, the ability to interact effectively with people of different cultures is more important than ever. Learn how to incorporate diversity into your organization's core values and be better able to serve your residents. Hear how Dallas, Texas, was able to achieve this result. *1, 4, 8, 9, 12*

Our Role in Ensuring the Equal Rights and Social Inclusion of Marginalized Groups V

Tuesday, Sept. 29, 3:30–4:40 p.m.

How can we, as local government leaders, recognize marginalized groups in our communities and work to ensure that all community members are treated fairly and with compassion? How does service delivery help us achieve those goals? *4, 8, 9*

Making Local Government Relevant

The Phantom Menace: Addressing E-Hostility in Your Community

Monday, Sept. 28, 9:45–11 a.m.

Learn how to counteract the effects of antigovernment or anticity websites and blogs as they try to influence public opinion and show they are mainstream. We'll discuss how to keep your mayor and council focused on goals at hand rather than being distracted by these sites. *14, 16*

Our Changing Demographics: How Diversity Is Evolving in Our Communities V

Tuesday, Sept. 29, 2–3:10 p.m.

With a focus on how the changing demographics of our communities are affecting service delivery and what needs to be done to build trust between residents and their local governments, this session will explore how local governments can think creatively about connecting with the people they serve. Sponsored by the International Hispanic Network. *4, 9*

V Virtual Conference Sessions

LG 101 Local Government 101

AFTERNOON FEATURED SPEAKERS

Fostering Resilient Cities

Monday, September 28, 12:45–2 p.m.

Andrew Salkin is COO of 100 Resilient Cities, a project pioneered by the Rockefeller Foundation to help cities around the world become more resilient to physical, social, and economic challenges. The project supports the adoption of a view of resilience that includes not just shocks such as earthquakes, fires, and floods, but also the stresses that weaken the fabric of a city on a day to day or cyclical basis.

Extraordinary Women in Leadership

Tuesday, September 29, 2–3:10 p.m.

Dara Richardson-Heron, M.D., is CEO of the YWCA, USA, one of the oldest and largest multicultural organizations in the country promoting solutions to empower women, girls, families, and communities. Her inspiring message on the importance of expanding the number of women in leadership positions echoes and reinforces the recommendations of ICMA's Task Force on Women in the Profession.

Life, Well Run: Telling the Story of Local Government through Social Media

Tuesday, Sept. 29, 3:30–4:40 p.m.

How can local government set itself apart from a dysfunctional Congress and partisan state government? Through high-level social media and citizen engagement strategies, you will learn how to connect your organization with your citizens, build public trust, and highlight the relevance of the services you provide. *7, 8, 14*

Safely Steering through the Elements: Personally Surviving the Profession

Leadership Caffeine and the Resiliency of the Seasoned Manager

Monday, Sept. 28, 9:45–11 a.m.

Twenty, thirty, forty years in any job can be like watching paint dry. Reignite your love of local government and leadership by attending this session, which will examine the core values of leadership and help you find ways to reinvigorate yourself and reengage with the profession. *18*

Standing Strong against Social Media Posts

Monday, Sept. 28, 12:45–2 p.m.

There are smiles for social media when it's used to announce that new bundle of joy or to divert traffic after a collision. But when social media turns on local government professionals through personal and professional attacks, smiles turn to frowns, teeth get gnashed, and hair gets pulled. This session will provide helpful tactics for dealing with social media posts that specifically target local government professionals in the office and at home. *14, 16*

Dealing with Tragedy and Crisis in the Organization

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

Crisis can strike at any time. Hear from several managers on their experiences with either a personal or an organizational tragedy and find out how they dealt with it. Learn from your colleagues about different approaches for personal and organizational issues. *18*

Skills and Tools for the 21st-Century Manager

Smart Communities

Monday, Sept. 28, 12:45–2 p.m.

As local governments struggle to leverage limited resources, engage citizens, and provide greater accountability and transparency, community leaders are looking to technology for solutions. This session will highlight new tools in the marketplace and how managers can make smart investments. *6, 7, 8*

Designing the Future: Where Is the Concept of "City" Headed?

Monday, Sept. 28, 2:30–3:40 p.m.

What will our cities look like in 2025? How will transportation change? What skills will managers and their elected officials need to help their communities adapt? If you're interested in what the future may bring, this is a session you won't want to miss. *6*

Daring to Engage Electronically

Tuesday, Sept. 29, 2–3:10 p.m.

There is a revolution going on with social media, and local government leaders need to be part of it. This session will tell you why and what the consequences may be if you aren't. *7, 14*

The Next Generation of Infrastructure

Surf's Up: Delivering Broadband Technology to Everyone V

Monday, Sept. 28, 12:45–2 p.m.

The lightning-fast speed and ubiquitousness of the Internet eludes many rural areas. One-traffic-light communities deserve the same access to information as those that never sleep. Primarily using case studies, this session will present trends on delivering technology in smaller jurisdictions and discuss how other communities can replicate the successes of their Wi-Fi brethren. *7*

Reenergizing Neighborhoods: From Now to Wow V

Tuesday, Sept. 29, 2–3:10 p.m.

This session will explore the revitalization of blighted, aged, and/or underdeveloped neighborhoods with a focus on sustainable development. Discussion will include public sector initiatives, density bonuses, mixed-use development, affordable housing, neighborhood revitalization, and local access to public transportation. *3*

Career Tracks

Assistant and Deputy Managers

It's Good to Be #2: Lessons from Longtime Assistant City and County Managers

Monday, Sept. 28, 9:45–11 a.m.

We want to be good at our jobs, but we don't necessarily want to be the manager! During this interactive session, current assistant managers will offer

Educational Sessions

The ICMA Annual Conference is an exciting opportunity to network with my peers from all over the globe.

I find new and interesting products to help me and my municipality better serve our residents. Many of the vendors I do business with attend and this is an opportunity to say "hello" and discuss new features and changes coming down the road. Most of all, I return to my office reinvigorated and ready to see my challenges in a new light. I also get the opportunity to see a city/county that I might never have visited except for the annual conference. I have never been disappointed.

—Joseph F. Manning, Township Administrator
Maplewood Township, New Jersey (population 23,170)

words of wisdom to their colleagues on career, management, and leadership and then will open up the forum for others to share their experiences. *18*

Managing Manager Transitions: The Assistant's Role

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

When there's turnover at the top, how can you help your local government organization—and yourself—make the transition successful? Highlighting service as an acting or interim manager, this session will discuss what can happen during this time of change, and it will offer tips on how to survive and thrive through a transition while redefining roles and relationships. *18*

Preparing for the Next Step V

Tuesday, Sept. 29, 3:30–4:40 p.m.

How can emerging leaders (entry- or mid-level managers) prepare to step into senior or executive-level positions? Where are the opportunities? Learn how to evaluate and hone your skills and competencies for advancement. Discover formal and informal opportunities to grow in your career. Hear from colleagues and share your experiences. *18*

County Managers

Emerging Trends in Public Works

Monday, Sept. 28, 2:30–3:40 p.m.

Infrastructure is one of the biggest investments local governments make. This session will cover asset management and maintenance practices, what managers need to know to provide oversight to public works directors, and new financing methods. *3*

Small-Community Managers

Placemaking for Small Communities

Monday, Sept. 28, 12:45–2 p.m.

What is needed to create a must-see community event? This session will discuss how small towns can give people a reason to come and explore. Learn about getting the right partners on board, using available resources, and creating events that can turn your community into a vibrant and fun place to be. *3, 6*

Collective Impact and Delivering Services Differently V

Monday, Sept. 28, 2:30–3:40 p.m.

The way local governments do business is changing dramatically. This session will introduce the concept of collective impact for addressing community needs, and will explore how working with other municipalities, counties, nonprofit groups, and business organizations can produce different options for service delivery. *4*

New Tools to Lead Community Change: Engaging Community Institutions and Individuals

Tuesday, Sept. 29, 3:30–4:40 p.m.

Participants will hear about new approaches to help a community draw a road map for directing community change. Case studies will show how, through shared accountability and collective impact, engagement can be used not only during the creation of vision but also during its implementation. *4, 8*

Senior Managers/ICMA Credentialed Managers

Police, the Community, and the Manager V

Monday, Sept. 28, 12:45–2 p.m.

Join ICMA executive director Bob O'Neill in a conversation on the role of the police, building community trust, and the leadership challenge of the manager. *2, 4, 8*

Are We Out of Touch?

Tuesday, Sept. 29, 2–3:10 p.m.

This session will focus on how long-tenured managers can keep up with emerging talent and technology in their organizations. The format, structured for intergenerational networking and information gathering, will feature questions posed by senior managers as well as small group conversations facilitated by members of the ICMA Fellows Program. *7, 18*

Annual, Program, and Affiliate Sessions

Alliance for Innovation

Recovery Is Not Equal to Resiliency

Tuesday, Sept. 29, 3:30–4:40 p.m.

Resiliency is the ability to bounce back from adversity. It is more than recovering; it is adapting better for future challenges. Acknowledging the bleak reality facing communities across the globe, panelists who participated in 2014 BIG Ideas will take the lead in this provocative and interactive session.

Eldon Fields Colloquium

Big Data, Big Deal?

Monday, Sept. 28, 2:30–3:40 p.m.

Just what is meant by the term "Big Data"? And in the grand scheme of things, is it really such a big deal? This session will provide examples of big data in action, its benefits, and the challenges and implications it poses for the future of local governance.

Ethics

Ethics Matter V

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

Join your colleagues from ICMA's Committee on Professional Conduct as they share their observations on trending ethics issues relevant to professionals at all career stages; explore changes to the ICMA Code of Ethics; and offer their advice on how to avoid ethical pitfalls.

ICMA 101

Budgeting 101 V LG 101

Monday, Sept. 28, 9:45–11 a.m.

The city of Decatur, Georgia's (pop. 20,000) budgeting process evolved from a traditional, linear approach to a vision-based, collaborative one. The storybook-style budget, designed around Decatur's strategic plan principles, explains how much and how well the city is supporting those principles while engaging employees and citizens in the process. *8, 11*

Economic Development V LG 101

Monday, Sept. 28, 2:30–3:40 p.m.

Economic development builds business, creates jobs, improves local infrastructure, and boosts the tax base. But it doesn't happen on its own. Learn how a plan, public-private partnership, and ego-free cooperation within the community can land the big fish and grow your local industry base. *11, 13*

Citizen Engagement V LG 101

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

How can we ensure that the public sees the value in what local government offers? In a time of government distrust, it is important to not only educate them about the services provided but also engage them so as to regain their trust. *8*

Strategic Planning V LG 101

Tuesday, Sept. 29, 3:30–4:40 p.m.

In this step-by-step approach to developing an exciting vision for your community, elected officials, and organization, we will develop an environmental scan, create shared aspirational goals, identify concrete actions for success, explain ways to measure progress, and describe implementation techniques. *13*

ICMA Programs

Collaborating for Improved Performance V

Monday, Sept. 28, 9:45–11 a.m.

Advocating for comparative performance management, this session will feature 11 Phoenix-area jurisdictions that have been working since 2011 with the Alliance for Innovation, Arizona State University, and ICMA to improve local government performance by tracking financial and performance data, uncovering best practices, and collaborating on new approaches to service delivery.

ICMA-RC
BUILDING PUBLIC SECTOR RETIREMENT SECURITY

Patience, Planning, and Process: Investment Strategies for the Future V

Monday, Sept. 28, 9:45–11 a.m.

During the past few years, stock and bond markets have offered rewards for patient plan participants. However, identifying new opportunities may now be more of a challenge. Please join ICMA-RC's chief investment officer and a panel of experts to learn what factors might shape investment strategies and decision making in 2016 and beyond. *18*

Planning for Your Future? Meeting with a Financial Planning Expert

Monday, Sept. 28, 10 a.m.–5 p.m.
Tuesday, Sept. 29, 9:30 a.m.–4 p.m.

Do you have a financial plan for your future? Have you saved for a rainy day? Do you know how much money you'll need in retirement? ICMA-RC's Certified Financial Planner™ professionals will be providing individual consultations to help you with your financial planning needs. Space is limited so be sure to sign up for your consultation at the ICMA-RC booth as soon as possible.

Cigna®

Health Care Reform: Planning for the Future V

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

This session is your opportunity to understand some of the critical components of health care reform that will be starting in 2017/2018 as well as other pressing Affordable Care Act-related topics that affect plan designs and health benefit strategies.

The Power of Critical Relationships: The Roles of the City Manager and the Police Chief V

Monday, Sept. 28, 2:30–3:40 p.m.

City managers often struggle when they must hire a new police chief as the wrong decision can damage their own careers. This session will explore ways for a city manager to select the best candidate for the position and maintain a solid relationship with the new chief.

Keeping Plans off the Shelf

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

How have your peers successfully integrated plans into their operations, taking them off the shelf and into the community? Find out how you can apply the best practices and lessons learned from two communities that are experienced with plan implementation.

Employee Development Needs 21st-Century Action V

Tuesday, Sept. 29, 2–3:10 p.m.

The 21st-century workforce needs skills in communication, collaboration, creativity, and critical thinking. From thousands of responses to the National Employee Survey, learn how you can determine what matters most to your employees and your organization, and how best to deliver results without overpromising.

Keynote Breakouts

Overcoming Your Biases

Monday, Sept. 28, 9:45–11 a.m.

Join Monday's keynote speaker, Vernā Myers, to continue the discussion about how to overcome your biases by confronting them head on.

Leadership, Teamwork, and Organizational Health

Tuesday, Sept. 29, 11 a.m.–12:15 p.m.

Join Tuesday's keynote speaker, Patrick Lencioni, to continue the discussion of his leadership models that improve organizational health, teamwork, clarity, employee engagement, and client service.

Women in Management

#13percent: How Can We Increase the Number of Women in Chief Executive Roles?

Monday, Sept. 28, 2:30–3:40 p.m.

The proportion of women in chief executive/administrative roles has hovered at about 13 percent since the late 1970s. Why aren't there more women in senior executive roles across the country? Are elected officials less likely to hire women? Or are women less self-confident in the interview process? Join members of the Women Leading Government Coalition as they discuss the final report of the ICMA Task Force on Women in the Profession and explore how we might work together to encourage and support women in local government and ultimately increase the number of women in city/county management.

Learning Lounge

Learning Lounge sessions do not require preregistration.

Don't feel like attending a 75-minute presentation? Then stop by the conference's Learning Lounge and join a small audience at your choice of short, interactive presentations on the following focused topics that will stir your curiosity. The lounge will also host an **Experts Bar,** where you can get one-on-one advice from in-the-know colleagues on topics such as the "tricks and traps" of tech gadgets, making the most of social media, and résumé design.

Learning Lounge Topics

- Building Relationships across Borders through City-to-City Partnerships
- "Crouching Tiger, Hidden Dragon": Emerging Issues and Employee Engagement
- Driving Economic Development with Multimodal Transportation
- Economic Development through Sports and Sports Teams
- Hands-on Social Media
- How to Prevent Undue Influence in Online Citizen Engagement Projects: A Case Study in Building Public Trust
- How Your Community Can Achieve Zero Waste Diversion Goals through Clothes Recycling: Best Practices for Outreach and Regulation
- It's the 21st Century— Don't Be Yesterday's News
- Living Local: Local Government Day for Middle School Students
- More for Less: Merging Municipalities or Enhancing Municipal Cooperation?
- Open Data and Building Staff/Organizational Capacity
- Spontaneous Planning, Government Structure, and a Public Health Emergency
- Sustainability Indicators of Success
- Taking Your Civic Pulse
- The Culture Wars: Performance vs. Past Practice
- The Interim (Assistant) City Manager Position
- The Ten Things You Need to Know about Preparing Your Community for the Aging Population
- Tips and Tricks for Tablets and Smart Phones: Help for Local Government Managers
- Using GIS for Human Service Coordination
- What Does Your Civic Capacity Have to Do with Reinvention?

FILM SERIES

Films do not require preregistration.

Biophilic Design: The Architecture of Life

Monday, Sept. 28, 9:45–10:45 a.m.
Tuesday, Sept. 29, 11 a.m.–noon

Biophilic design is an innovative way to create the places where we live, work, and learn. We need nature in a deep and fundamental fashion, but we have often designed our cities and suburbs in ways that both degrade the environment and alienate us from nature. This film will take you on a journey from the origins of architecture to the world's most celebrated buildings in a search for the architecture of life.

Brother Towns

Monday, Sept. 28, 12:45–1:45 p.m.
Tuesday, Sept. 29, 2–3 p.m.

Brother Towns is a story of two towns linked by immigration, family, and work: Jacaltenango, a highland Maya town in Guatemala; and Jupiter, Florida, a coastal resort town where many Jacaltecos have settled. The film chronicles how and why people migrate across borders to make and remake their communities thousands of miles from home.

We Are Not Ghosts

Monday, Sept. 28, 2:30–3:20 p.m.
Tuesday, Sept. 29, 3:30–4:20 p.m.

Fifty years ago, Detroit was booming with 2 million hard-working people living the American Dream. Then the auto industry crashed and so did the Motor City. Most people moved away; whole neighborhoods turned into wastelands. But some residents didn't give up on the city they love. These are the tales of Detroiters remaking their city with vision and spirit.

ICMA University Forums

Register for ICMA University forums online at icma.org/conference.

ICMA University forums are a hybrid of the traditional conference educational sessions and the ICMA University workshops. Because they are designed to be highly interactive and skill building in nature, the forums are limited in enrollment to 250 participants. Although there is no fee to participate in a forum beyond the main conference registration fee, preregistration is required because of the ceiling on enrollment, and early registration is recommended. ICMA University Practice Group numbers (noted in italics after the description) are attributed to each forum.

ICMA 101: Mastering the Fundamentals I—Working with Elected Officials V LG 101

Sunday, Sept. 27, 12:45–2:45 p.m.

This highly interactive forum will kick off the ICMA 101: Mastering the Fundamentals track offered at the ICMA Annual Conference and also as part of the virtual conference. Designed for small-community managers who may wear many hats or for those new to the profession, this forum will focus on the effective roles of the manager in the organization, in the community, and in working with elected officials to provide leadership. *1, 3*

Forum Leaders: Opal Mauldin-Robertson, city manager, Lancaster, Texas; Travis Rothweiler, city manager, Twin Falls, Idaho; Steven Seidel, assistant town manager, Trophy Club, Texas

BreakThrough Conflict

Sunday, Sept. 27, 12:45–2:45 p.m.

Conflicts are inevitable. But ignoring sensitive and contentious issues stifles the development of quality decision making, strong relationships, high-performance teams, and trust. Conflicts must be managed constructively, and doing so requires tangible skills and tools so that they become a stimulus for creative problem solving, increased innovation, and the interdependent performance required in city and county organizations. The models presented in BreakThrough Conflict offer flexible guidelines with progressive steps that are easily learned, applied, and adapted so leaders can develop and maintain strong, positive relationships and actually create trust through conflict. The forum leaders will introduce participants to concrete, tangible skills to *decode* the hidden world of nonverbal communication to understand what people are really saying; *teach* people how their behavior is a problem without making them feel defensive; *convert* their responses to criticism from defensiveness and blame to insight and agreement; *raise* difficult issues that simultaneously solve problems and strengthen relationships; *transform* the organization's culture from avoidance to positive engagement; and *create* trust through conflict. *14*

The ICMA conference is one of the best and most organized conferences I've ever been to.

The workshops are terrific, but I especially enjoy the first-rate keynote speakers. I learn so much during the conference that my head hurts (in a good way). The social events are a great way to network and have fun with my colleagues. I am the manager of a small town and I appreciate the many learning tracks for small town managers. I know my town benefits from the information I bring back and I am reinvigorated to try new things.

—Tonya Galbraith, Town Manager
McCordsville, Indiana (population 4,981)

Forum Leaders: Peter A. Glaser, PhD, consultant, and Susan R. Glaser, PhD, consultant, Glaser & Associates, Inc., Eugene, Oregon

Cybersecurity Trends

Sunday, Sept. 27, 12:45–2:45 p.m.

This forum will discuss some of the common causes of cybersecurity incidents and some of the ways you can effectively mitigate your local government's risk. You will learn about risk-based approaches that factor in people, process, and technology and that use industry-leading frameworks. You will also discuss how emerging technologies should be considered when developing your cybersecurity strategy. *7*
Forum Leaders: Furney "Alex" Brown, senior manager, and Nicole Simpkinson, senior manager, Plante & Moran, PLLC, Southfield, Michigan

Leadership ICMA 2015 Capstone Report: Peer-to-Peer Technical Assistance

Sunday, Sept. 27, 12:45–2:45 p.m.

Implement Risk Enterprise using ISO 3100, develop a budgetary model with a team 600 strong, create a capital facilities plan with community needs, design an evidence-based systems approach to a 2025 vision—all this and more will be shared in the 2015 Capstone Projects Forum. *3*
Forum Leaders: Leadership ICMA Class of 2015

ICMA 101: Mastering the Fundamentals II—HR and Team Meeting Facilitation V LG 101

Wednesday, Sept. 30, 10:45 a.m.–12:45 p.m.

This highly interactive and engaging forum, which will book-end the 101: Mastering the Fundamentals track at the conference, will include a discussion of human resource issues, especially as they apply to smaller communities, where the managers wear many hats, including that of HR manager. Topics will include effective recruitment processes, interviewing, hiring, setting expectations, performance reviews and retention as well as progressive discipline and termination practices. *1, 3*
Forum Leaders: Brian Bosshardt, deputy county administrator, Los Alamos County, New Mexico; Shelly Seimer, assistant city manager, Allen, Texas; Melissa Valadez-Stephens, assistant city manager, Cedar Hill, Texas

Lean, Work, Lead: Things Your Mentor Won't Tell You

Wednesday, Sept. 30, 10:45 a.m.–12:45 p.m.

So you've "Leaned In." Now what? In today's world, women's career success relies on much more than just taking advice from a mentor, knowing how to network, and being proactive. Young professional women have to learn how to analyze career decisions for themselves and figure out what to do when their decisions don't work out. This forum is based on the book *Lean, Work, Lead: Things Your Mentor Won't Tell You,* by Terry Tierney Clark, which is recommended reading prior to attending the forum. *1*
Forum Leaders: Selena Cuffee-Glenn, city manager, Suffolk, Virginia; Tasha Logan Ford, assistant city manager, Rocky Mount, North Carolina; Julia Novak, president and CEO, Novak & Associates, Cincinnati, Ohio; Deanna Santana, city manager, Sunnyvale, California; Mary Van Milligan, assistant to the city administrator, Woodbury, Minnesota

Small-Community Speed Dating

Wednesday, Sept. 30, 10:45 a.m.–12:45 p.m.

This session will feature a series of progressive roundtable discussions designed for small-community managers. Participants will start off at one table, talk for 7 minutes on a particular topic, and then move on to the next table and topic. Among the topic ideas proposed are personnel, utilities, infrastructure, and citizen engagement. During the session wrap-up, ideas will be summarized for sharing with a wider audience.

Educational Exhibits and Solutions Track Sessions

Solutions Track sessions do not require preregistration.

The exhibit hall is an integral part of the learning and professional development that takes place at the Annual Conference. With over 150 companies exhibiting this year, it enables attendees to explore the breadth and depth of local government services and products available in today's world.

In addition to the exhibitors, the educational content in the exhibit hall is top-notch. With topics chosen by Conference Planning Committee members and select Strategic Partners, the Solutions Track sessions continue to be popular, highly attended cornerstones of the hall. Featuring case study–based presentations about local governments that have overcome challenges through innovative public-private partnerships, these sessions offer insight into some of the latest innovations in local government management.

Also in the exhibit hall is the ICMA Pavilion and Store, where you can check out all that ICMA has to offer its members. ICMA staff will be available to answer your questions. Visit the Internet Express stations conveniently located in the hall to check your e-mail, stay on top of office business, or surf the web. The exhibit hall gets better and better every year!

Solutions Track Sessions

Become a Smart Community Using Tools You Have but Probably Don't Know about

Monday, Sept. 28, 9:45–10:45 a.m.

Wouldn't you like to equip your organization with technology that helps decision making? This session will educate you on GIS tools that you probably already have that can help make your community more productive, efficient, transparent, and collaborative. Presented by ICMA Strategic Partner **Esri.**

Building Public Trust through Your Budget: Tools for the 21st-Century Manager

Monday, Sept. 28, 9:45–10:45 a.m.

Transforming your budget data into meaningful information that helps build buy-in among stakeholders can be a challenge. City administrators across the country are embracing new technology for efficient and effective financial reporting that reinforces trust and increases engagement with the community. Learn about best practices for communicating your budget data in a user-friendly format to both citizens and staff. Presented by ICMA Strategic Partner **OpenGov.**

Data-Driven Decisions, Coming to a Community Near You

Monday, Sept. 28, 9:45–10:45 a.m.

Data-driven insights are transforming decision processes for retail development, tourism marketing, and public services such as libraries and fire prevention. Hear real-world examples of the many ways in which local governments are using data to position their communities for the future. Presented by ICMA Strategic Partner **Buxton.**

Community Approaches to Storm-water Management and Climate Change

Monday, Sept. 28, 11:15 a.m.–12:15 p.m.

Communities are facing the combined impacts of urbanization and climate change on storm-water management. This panel will focus on two communities' efforts to understand how climate change will affect them, develop adaptation plans, and communicate *and* engage their citizens and businesses in implementation. Presented by ICMA Strategic Partner **Atkins.**

Are Your City's Finances Sustainable?

Monday, Sept. 28, 11:15 a.m.–12:15 p.m.

This session will be devoted to examining the volatility of local revenues in today's economy and identifying lessons unheeded from the last recession that could spell fiscal relapse during even a mild downturn. Learn the 10 most important questions you should ask your finance director to find out if your city's financial future is on track. We will review how effective financial systems and sound budgetary practices can help build a fiscal firewall. Presented by ICMA Strategic Partner **Plante & Moran, LLC.**

The Cloud: How Does It Fit into Your Organization?

Monday, Sept. 28, 11:15 a.m.–12:15 p.m.

The evolution of cloud computing is affecting the way governmental entities implement technology solutions. This session will discuss how to appropriately address the decision to migrate to

cloud solutions, avoiding the acquisition of additional IT assets or the elimination of existing ones. Presented by ICMA Strategic Partner **LBL Technology Partners.**

Leveraging Property Registries to Eliminate Blight and Revitalize Neighborhoods

Monday, Sept. 28, 12:30–1:30 p.m.

This session will demonstrate the effectiveness of a proactive property registry program that eliminates blight caused by abandoned properties and conserves staff resources. Learn how this program can be easily applied to your community with no out-of-pocket costs using best-practice legislation combined with a proactive registration compliance model. Presented by **Community Champions.**

Not Your Father's Geographic Information System

Monday, Sept. 28, 12:30–1:30 p.m.

Geographic information systems (GIS) have changed over the past several years. Attend this session to learn about the new pricing models, products, and approaches that can help you leverage your GIS investment within your entire organization and enhance citizen engagement. Presented by ICMA Strategic Partner **Esri.**

Rethinking Civic Technology's Place and Purpose

Monday, Sept. 28, 12:30–1:30 p.m.

This session will offer municipal administrators strategies for selecting and applying appropriate technological solutions to internal government processes so as to improve process and enable government staff to do their jobs easily and efficiently. Presented by ICMA Strategic Partner **Granicus.**

Engaged. Connected. Smart. How to Be a #TechSmartGovie

Monday, Sept. 28, 1:45–2:45 p.m.

Tech-smart governments invest in three areas to make an impact. This session will discuss those areas and use two solutions—agenda management and electronic plan review—to show how technology can change your community for the better. Presented by ICMA Strategic Partner **OnBase by Hyland.**

Innovative Approaches to Achieve Energy Solutions

Monday, Sept. 28, 1:45–2:45 p.m.

The ever-changing needs and growing challenges in energy and sustainability require thought leadership and collaboration to meet and surpass these demands. In this session, municipalities will learn how Gilbert, Arizona, partnered with Severn Trent Services to not only significantly reduce its operating costs but also achieve its renewable energy goals. Presented by ICMA Strategic Partner **Severn Trent Services.**

Strategies from Top Digital Cities on Fostering a Culture of Innovation

Monday, Sept. 28, 1:45–2:45 p.m.

The question for local government leaders has shifted from "why" to "how." How can you seamlessly implement new tools, encourage community adoption, and ensure continued success of your civic engagement initiatives? Presented by **PublicStuff.**

Technology Drives Innovation in Parking

Monday, Sept. 28, 3–4 p.m.

Technological advancements and an evolution toward smart cities are redefining parking. Amir Sedadi of IPS Group will discuss how smart parking technology and big data are helping cities modernize their infrastructure, optimize revenue and efficiency, and enhance the parking experience. Presented by **IPS Group, Inc.**

Lean Six Sigma in the Public Sector: Applying an Organizational Improvement Methodology to Achieve Results in Local Government

Monday, Sept. 28, 3–4 p.m.

Do you want an 8:1 return on investment? Learn how Lean Six Sigma provides substantial cost savings, radically improved business processes, and breakthrough enhancements in customer service. The George Washington University's Center for Excellence in Public Leadership showcases results by local practitioners in our graduate leadership programs. Presented by ICMA Strategic Partner **George Washington University Center for Excellence in Public Leadership.**

Reaching for Success in Procurement

Monday, Sept. 28, 3–4 p.m.

In 2011, Sarasota County, Florida, had a procurement scandal that threatened its reputation. Systematic and strategic actions have eliminated 98 percent of the issues. Sarasota County's Ted Coyman and BidSync will discuss how automated e-procurement helped the county eliminate waste and reclaim credibility. Presented by **BidSync.**

Make the Most of Your Financial Transparency Initiative

Tuesday, Sept. 29, 9:45–10:45 a.m.

Financial transparency has become a major initiative for thousands of local governments across the country. What components do you need in order to execute a successful financial transparency initiative? How are leading governments transforming budget data into meaningful, consumer-friendly information? Learn about specific strategies and tools that will provide maximum value for your staff and citizens. Presented by ICMA Strategic Partner **OpenGov.**

The Next Big Thing in Government Innovation

Tuesday, Sept. 29, 9:45–10:45 a.m.

Hear from civic innovators who are working hard to find sustainable solutions to the many issues governments deal with daily, and learn how your organization can address these issues in order to build a more innovative community. Presented by ICMA Strategic Partner **Esri.**

Using Technology for Retail Recruitment and Retention

Tuesday, Sept. 29, 9:45–10:45 a.m.

We all know that retail recruitment takes time and effort, but by using technology,

Solutions Track Sessions

The ICMA Annual Conference in Charlotte far surpassed my expectations. Beyond the invaluable educational sessions which offered a myriad of learning opportunities, the inspiring keynote sessions offered each day brought a renewed sense of appreciation for the work that local and county government officials do for communities across the country.

It reminded me that my chosen career can have a lasting impact.

—Pier Simeri, Community Relations & Public Affairs Director
Avondale, Arizona (population 78,256)

communities can streamline the process to use their staff's time more efficiently and, more importantly, more effectively. In this session, we will highlight communities that used analytics technology to identify the specific retail concepts best suited for their trade areas, quickly build a convincing case for each potential retailer, and provide research to help existing local businesses make better strategic decisions. Presented by ICMA Strategic Partner **Buxton.**

End-to-End Grant Management

Tuesday, Sept. 29, 11 a.m.–noon

AmpliFund Public Sector manages every stage of a grant's life cycle, providing tools to meet reporting requirements, generate revenue, and increase capacity. See how to track funds moving throughout a state or municipality, including subrecipient management for monitoring, reporting, and auditing of complex grants. Presented by **StreamLink Software.**

Maximizing the Impact and Optimizing the Performance of Sports and Recreation Assets

Tuesday, Sept. 29, 11 a.m.–noon

Sports and recreation assets can generate revenue while providing an important amenity to residents and corporate user groups. This session will discuss key drivers influencing operational excellence, offer proven strategies to optimize financial performance, and demonstrate practical tools for managing the operational performance of existing sports and recreation assets. Presented by ICMA Strategic Partner **The Sports Facilities Advisory|Sports Facilities Management.**

Clean Energy Strategies for Local Governments through Feasibility Studies

Tuesday, Sept. 29, 11 a.m.–noon

Clean energy strategies help local governments save money, maximize the value of facilities and land assets, and achieve sustainability goals. This panel will review clean energy feasibility study methods and outcomes via a study that Atkins recently completed for the Tri-Cities Regional Airport. Presented by ICMA Strategic Partner **Atkins.**

2015 and Beyond: Leveraging New Technology to Respond to the "Great Recession"

Tuesday, Sept. 29, 12:45–1:45 p.m.

This session will include case studies and examples from cities that are using new technologies and approaches to address problems caused by the foreclosure crisis during the Great Recession—specifically, the replacement of plywood board-ups with a polycarbonate alternative. Presented by **SecureView LLC.**

How Open Town Hall Simplified Public Outreach for Salt Lake City Staff

Tuesday, Sept. 29, 12:45–1:45 p.m.

Hear how almost every department in the Salt Lake City government uses Open Town Hall from Peak Democracy to simplify the public engagement process and define a consistent, defensible framework for both online and in-person participation. You'll learn how you can do the same in your public engagement process. Presented by ICMA Strategic Partner **Peak Democracy.**

Trends in 311: How Managers Are Using Technology to Improve Service

Tuesday, Sept. 29, 12:45–1:45 p.m.

Socrata and SeeClickFix host a panel of city management officials to discuss recent trends in 311. The group will focus on the increasing need for cities and counties to provide open and engaging customer services experiences. Presented by ICMA Strategic Partner **Socrata.**

Special Sessions

Special sessions do not require preregistration unless otherwise noted.

Speed Coaching

Sunday, Sept. 27, 10–11:45 a.m.

This session is free but requires preregistration.

Speed Coaching is back again! If you have nagging career questions and want to get or give fresh perspectives, attend this session. Space is limited, but registration is complimentary. We also need coaches!

County Administrators' Idea Exchange

Sunday, Sept. 27, 12:45–2:45 p.m.

The National Association of County Administrators will host an idea exchange—an informal roundtable discussion for county administrators to discuss issues that are important to county governance.

Applying ICMA's Code of Ethics to Council-Manager Relationships: MPA Student Session

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

Led by ICMA Midwest regional director David Limardi and Prof. Kurt Thurmaier, this session will provide students with a chance to collaborate with students in other programs to discuss ethical issues in local government. After the session, students are encouraged to continue discussions and networking over lunch.

Bring Coaching Resources to Your State Association Members

Monday, Sept. 28, 11:15 a.m.–12:45 p.m.

Learn how ICMA state associations are working together to share best practices and develop talent at all levels in local government agencies. Discuss opportunities that you can pursue now and in the coming years, and get tips on how to attract sponsorships to support your efforts.

Efficient Governing through the Use of Resident Opinion

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

Every good manager knows the value of including residents in government decision making, but many managers are hard-pressed to make these collaborations pay off. In this special session, we will look at how the use of resident surveys can increase efficiency by providing accurate insight into community sentiment and behavior. The "data-influenced decision making" that results helps officials focus discussions, identify areas of priority, and reduce special interests. National Research Council researchers and a panel of local government staff will present their strategies on how to use resident survey data to simplify the tasks of strategic planning, budgeting, policy making, and community engagement.

Five Sizes Fit All: Multiple Approaches to Performance Management

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

Powerful new analytical tools and national comparative data are now a reality through the ICMA Insights™. This session will discuss the five progressive tiers of Insights, from basic data reporting to sophisticated visual analytics. Explore how Insights can drive your performance management efforts at any level you choose, and how analytics can enhance your decision making. This session is open to all, including Insights participants and those still considering data-driven management.

New Challenges That Cities Are Facing in China

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

This session will provide an opportunity for members to meet ICMA China Center representatives, Chinese national and local government officials, and representatives from academia and the private sector in China. There will be discussions on current urbanization trends, policies, and challenges in China as well as information on how members can become engaged in China through the programs that ICMA offers.

Three Big Myths about Big Data and Energy Management

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

Energy managers were surveyed to identify the impact of big data and analytics on energy management. We highlight three of the "myths" about this approach and discuss steps that you can take to get the most out of big data.

Wellness—Physical and Emotional Health in the Workplace

Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

Hear the latest research and insights in wellness programs to support and improve employee well-being. We will discuss best practices in employee wellness campaigns, options for behavioral health, use of on-site clinics, and much more.

Interview Flatline? Shocking Secrets from Executive Recruiters

Monday, Sept. 28, 4–5 p.m.

Interviewing skills need a defibrillator? Clear! . . . your calendar to hear nationwide executive recruiters talk about how to be successful, how to avoid common missteps, and even how your social media posts can affect your ability to sell yourself effectively for that big job!

Credentialing Q & A

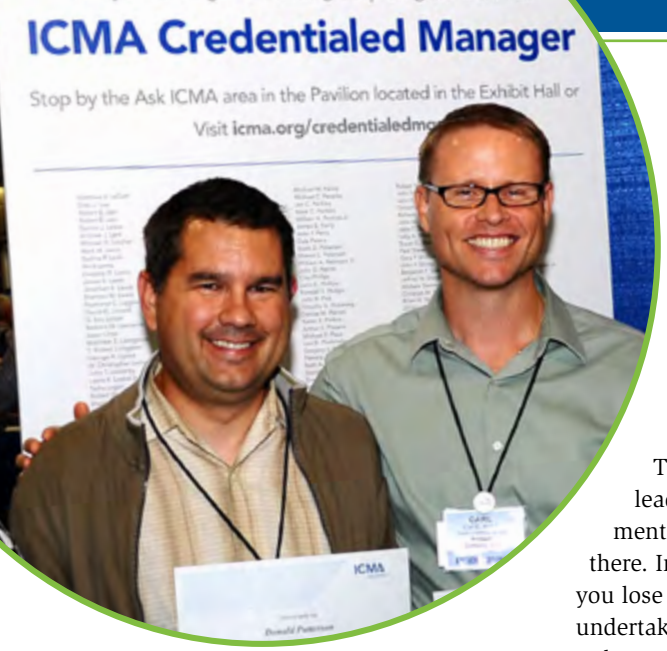
Monday, Sept. 28, 4–5 p.m.

Join this session to learn what's new with the ICMA Credentialing Program, discuss ideas for the future, and ask questions.

From Mandatory Reporting to Optimized Decision Making: Using Public Safety Data Efficiently

Monday, Sept. 28, 4–5 p.m.

Every year, law enforcement agencies report their Uniform Crime Report statistics to their citizens as well as to state and federal governments. Similarly, fire and rescue departments furnish similar fire and medical statistics. However, each public safety department captures large amounts of data that could exceed



these basic mandated goals to improve both agency performance and efficiency. While some agencies are already headed in this direction, we'll point out how these efforts could be expanded and improved.

Managers as Faculty

Monday, Sept. 28, 4–5 p.m.

This session is for every manager who feels called upon to help develop the next generation of managers, whether as a guest lecturer in a college classroom or as an adjunct or full-time faculty member in a graduate MPA program. Join this informal discussion and share your experiences, exchange ideas, and learn where to find and how to use teaching resources.

President's Colloquium: Reflections, Passions, and Mistakes: Are You Prepared to Remain in the Leadership Chair?

Monday, Sept. 28, 4–5 p.m.

The skills that put you in the leadership chair in local government will probably not keep you there. In fact, they will probably make you lose the seat. Are you prepared to undertake the new skills you'll need to keep the seat? Do you have plans to learn them? What mistakes have others made that helped them be strong municipal leaders? In this fast-paced, interactive session, you will be challenged to think about the changing demands and how you will adapt to them.

What's Up at the State House?

Monday, Sept. 28, 4–5 p.m.

It's hard to predict what issues may come up during the state legislative session. Executive directors from the municipal leagues in the Northwest United States will be on hand in this session to discuss trends and concerns. Come learn how local government executives can form closer partnerships to address mutual interests.

Game of Life: Play It Right—Season 4

Tuesday, Sept. 29, 12:30–1:45 p.m.

Join us for this interactive and engaging "game show" that will teach you how to maximize the way you live and save. Subject matter experts will provide information we all need to know as we work, play, and live the Game of Life.

Growing Your Local Food System: Idea and Resource Exchange

Tuesday, Sept. 29, 12:30–1:45 p.m.

Want to learn how other local governments use food systems to address issues of public health, social equity, economic development, or environmental sustainability? Drawing on research, this session will facilitate an exchange of ideas. Come with questions and leave with actionable insight!

ICMA-CMs, Start Your Engines: How to Rev Up Your Credentialing Plan

Tuesday, Sept. 29, 12:30–1:45 p.m.

If you are a credentialed manager (CM) or a candidate for credentialing, come find out how others turn the annual plan and report into a stimulating challenge. During this session you will share ideas with other CMs and candidates that pertain to the core areas of professional development so you can rev up your plan, your professional development experience, and your annual report.

Special International Workshop

International Development Academy

Friday, Sept. 25, 2–6 p.m.; Saturday, Sept. 26, 9 a.m.–4 p.m.

Preregistration is required, and there is an additional registration fee for this multiday event: $350 for ICMA members; $400 for nonmembers.

Are you looking for ways to make a contribution beyond the boundaries of your community? Do you have knowledge and experience that could be applied to the challenges of developing, transitional, conflict-affected countries and fragile states? Led by ICMA staff and members who have extensive international development experience, this intensive one-and-a-half-day workshop will help you understand the challenges and benefits of strengthening local governance overseas. The session will examine the expectations of the donor community and the local governments and other entities we support. ICMA members who have made the transition to international work will discuss what you need to be prepared. For further information, contact Isabelle Bully-Omictin at iomictin@icma.org.

Insights from the Field: Strategies to Support Economic Turnaround

Tuesday, Sept. 29, 12:30–1:45 p.m.

Drawing on its experience partnering with cities around the country and its research on key topics, such as the role of anchor institutions in spurring economic turnaround, representatives from the National Resource Network will discuss innovation solutions for bolstering economically challenged communities.

More Than Red Solo Cups: College-Town Partnerships and Opportunities for Mutual Benefit

Tuesday, Sept. 29, 12:30–1:45 p.m.

This session will highlight data collected from the International Town and Gown Association survey on joint economic development initiatives and mutually beneficial programs. Moving from national to local, presenters will also discuss lessons learned from partnerships cultivated in their communities.

Working Internationally: Creating Excellence in Local Governance

Tuesday, Sept. 29, 12:30–1:45 p.m.

Join your peers, international donor representatives, and ICMA staff to find out how ICMA's international programs leverage the knowledge and experience of members and other local government professionals to help foster transparent and inclusive governance and build safe and resilient communities in developing and transitioning countries throughout the world.

SPECIAL MEETINGS

Special Meetings do not require preregistration.

Member Task Force and Committee Meetings

Sunday, Sept. 27, 8:30–11:30 a.m.

Most ICMA member task forces and committees will meet on Sunday morning; some groups will meet longer than others. Task force and committee members will receive communications this summer providing further details.

Regional Meetings

Sunday, Sept. 27, 11:30 a.m.–12:30 p.m.

ICMA members from the five U.S. regions will meet with their regional vice presidents to discuss key organizational issues and initiatives, and to share information on activities within the region. State officers and members active in their state associations are encouraged to participate in an interactive discussion with their regional vice presidents on the ICMA Executive Board, ICMA Liaisons, and Senior Advisors to continue the dialogue on strong partnerships between ICMA and state associations.

International Affiliate Organizations

Monday, Sept. 28, 2:30–4:30 p.m.

Representatives of the affiliates report on issues facing local governments in their countries and explore ways to work with ICMA and the other affiliates.

Early-Career Professionals Meeting

Monday, Sept. 28, 4–5 p.m.

If you are a young professional and want to develop your leadership and management capacity, this meeting is for you. The Emerging Leaders Development Program (ELDP) is designed for entry-level to midcareer local government employees. Classes are based on ICMA textbooks and taught by career professionals in a teleseminar format. Each participant is paired with a manager to act as a career coach over the two-year program and must complete a management application project to graduate. The ICMA Credentialing Board awards six months of credit toward becoming an ICMA credentialed manager after successful completion of ELDP or the Mid-Career Manager Institute. Meet current participants and coaches and learn about ELDP, the Leadership ICMA program, the Mid-Career Manager Institute, and other ICMA opportunities. These programs can also help fulfill your professional development requirements as outlined in the guidelines for Tenet 8 of the ICMA Code of Ethics.

Annual Business Meeting

Tuesday, Sept. 29, 9:45–10:45 a.m.

The annual business meeting will feature reports from the ICMA president, ICMA executive director, and ICMA-RC president.

State Secretariat Meeting

Tuesday, Sept. 29, 12:30–2 p.m.

State association staff are invited to meet with colleagues to find out how services are provided in different states. Bring along your latest conference ideas, Strategic Partner program tips, newsletter suggestions, and professional development initiatives.

Special Events

Register for special events online at icma.org/conference except as noted.

Luncheon for Women in Professional Local Government Management

Sunday, Sept. 27, 12:45–2:45 p.m.

As women and public leaders, we care deeply about others and changing the world for the good. We want to participate in the development of individuals, organizations, our communities, and the world. Our passion for being helpers and change agents may sometimes be confused with a desire to rescue and save others. As rescuers, we unknowingly disempower our co-workers, direct their reports, and interfere with their development. But when we step into the role of "leader as coach," we access a powerful new way of leading. In a provocative presentation entitled "Stop Rescuing: Start Coaching" **Donna Zajonc** from the Bainbridge Leadership Center, will teach you how to be aware of what triggers you to take on the rescuing role and how to shift into the more empowering role of coach. Join your colleagues for lunch, and hear how you can stop rescuing and start coaching! $40

Mixing in Perfect Harmony

Sunday, Sept. 27, 7–9 p.m.

ICMA's new partnership with the Emerging Local Government Leaders Network at the networking mixer in Charlotte proved that two great organizations can be even better together. Join us for an evening of conversation, fun, and surprise entertainment following the Welcoming Reception. Mix and mingle at this hosted event. Wear your name badge and bring your business cards! The event is free, but registration is required as space is limited.
RSVP: elgl-icma.eventbrite.com

Inspirational Breakfast

Monday, Sept. 28, 7–8:15 a.m.

W. Joye Hardiman is an educator, world traveler, gifted storyteller, master teacher, keynoter, and institute designer/facilitator. She has over 35 years of experience and success in community design, integrative learning, individual and institutional capacity building, and global networking, as well as in connecting cultures here and abroad. In her engaging presentation, she will share some of her lessons learned about access, equity, and excellence; about moving beyond binaries; and about appreciative inquiry and contextualizing rather than personalizing. Participants will leave improved, encouraged, and a little more equipped to master the fundamentals and shape the future. $35

Assistants' Luncheon

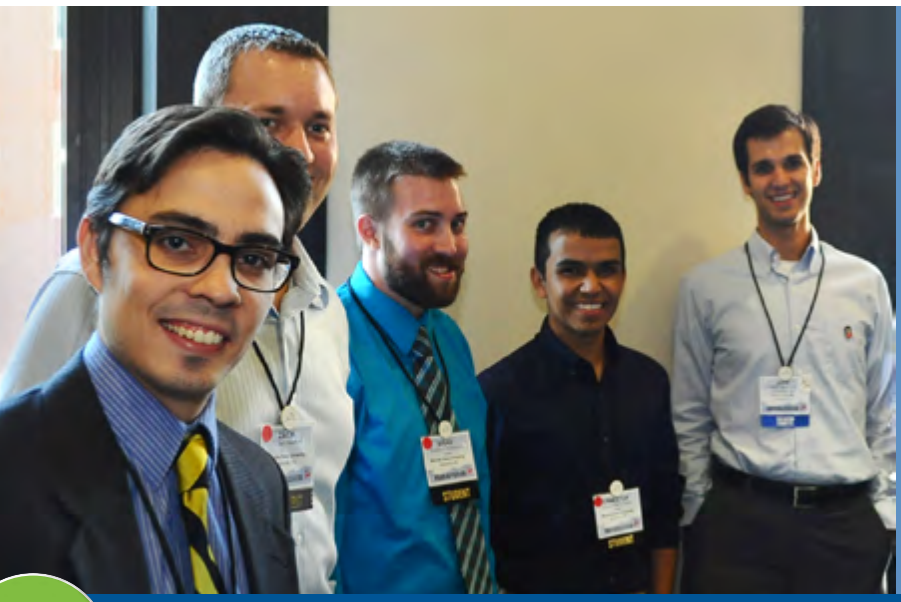
Monday, Sept. 28, 11:15 a.m.–12:30 p.m.

This luncheon is for everyone, not just assistants! Come and learn more about what it takes to successfully build, co-manage, and sustain partnerships between CAOs and their assistants/deputies. How do you navigate roles? What works and what doesn't? Take notes for your own community or just have fun. You don't want to miss this opportunity to share with, learn from, and connect with your colleagues! $40

Assistants' Forum

Monday, Sept. 28, 4–5:15 p.m.

Continue the Assistants' Luncheon discussion on a more personal level. Join panelists for a further exploration of the manager-assistant dynamic. Ask questions, share your experiences, and learn from your colleagues while enjoying snacks and cocktails at the cash bar. This will be a lively and interactive session!



Assistants' Exchange Program

The Conference Host Committee is offering an Assistants' Exchange Program on **Friday, September 25,** prior to the ICMA Annual Conference. This opportunity will involve spending the day as the guest of a participating local government in the greater Seattle area.

The exchange program is open to all assistants who are ICMA members. Selections will be made on a first-come, first-served basis, but efforts will be made to accommodate as many participants as feasible. Visit the Assistants' Exchange Program page of icma.org/conference for information on how to apply.

Field Demonstrations

Register for field demonstrations online at icma.org/conference.

Bullitt Center: The World's Greenest Commercial Building

Sunday, Sept. 27, 12:45–2:15 p.m.

The Bullitt Center, described by *Architectural Digest* as "the greenest office building in the world," reduces the energy use of an average office by 90 percent, generates more power than it uses, collects all of its water, and composts all of its sewage—all while providing a beautiful Class A office environment for less than a 20 percent price premium. *The bus trip takes 10 minutes. $20.*

Cross Kirkland Corridor: Creating an Economic Engine

Monday, Sept. 28, 9:45 a.m.–12:15 p.m.

Tour the city's Cross Kirkland Corridor to learn how the city master planned this multipurpose transportation corridor that is becoming an economic engine. Enjoy the fabulous views, hear about courageous visioning, and see where Google, Inc. is adding 1,000 jobs. This tour is outdoors. Participants will walk a portion of the crushed gravel trail. *The bus trip takes 30 minutes. $20.*

South Lake Union: Designing an Urban Center

Monday, Sept. 28, 9:45 a.m.–12:15 p.m.

Now featuring high-tech business and health research institutions, the South Lake Union neighborhood was—until recently—home to mostly light industrial businesses. Hampered by inadequate infrastructure to support redevelopment, the city of Seattle took an innovative approach to revitalize the neighborhood. Join city staff and business leaders for an outdoor walking tour, and learn how public investment has led to private development in this now-dynamic economic hub. *The bus trip takes 5 minutes.* $20.

Marijuana Legalization: Issaquah's Story

Monday, Sept. 28, 12:45–3:15 p.m.

Washington legalized both medical and recreational marijuana use. Now what? Attendees will hear from Issaquah's planning staff and police on how the city adapted to this change. Visitors will also tour GreenLink Collective, a medical marijuana dispensary, and Issaquah Cannabis Company, a retail store. Learn how business owners were enlisted by city staff to help draft Issaquah's ordinance. *The bus trip takes 30 minutes. $20.*

Microsoft Visit: Smart Buildings

Monday, Sept. 28, 12:45–4 p.m.
Tuesday, Sept. 29, 12:45–4 p.m.

A team at Microsoft turned its 500-acre headquarters into a smart campus to achieve energy savings and other efficiency gains. See the campus and hear how Microsoft applied an "Internet of Things Meets Big Data" approach, inventing a data-driven software solution that is slashing the cost of operating 125 buildings on campus. The company and its partners are now helping building managers across the world deploy the same solution. *The bus trip takes 30 minutes. $20.*

Alaskan Way Viaduct: Replacement Program

Tuesday, Sept. 29, 12:45–3:15 p.m.

The world's largest diameter-tunneling machine is currently making a historic journey beneath downtown Seattle to replace the Alaskan Way Viaduct, a double-deck highway that has spanned Seattle's downtown waterfront for more than 60 years. Visitors will be treated to views of this massive project from a section of the viaduct that has been permanently closed to traffic. Attendees must wear closed-toed, sturdy shoes and be able to walk over uneven ground and climb up and down 50 stairs. *The bus trip takes 10 minutes. $20.*

Downtown Bothell: Capitalizing on Historic Charm

Tuesday, Sept. 29, 12:45–4 p.m.

In 2006, the city of Bothell started a community planning process for its Downtown Revitalization Plan, which is now under way. The plan capitalizes on the historic charm of the city's Main Street, brings new retail and office space, and creates five new residential neighborhoods in the downtown district. Anchor projects include the construction of a new city hall and the McMenamins Anderson School restaurant, brew pub, theater, and hotel. In addition, the city recently finished two major transportation projects that will help influence the design and development of the plan. This tour is outdoors and requires some walking. *The bus trip takes 30 minutes. $20.*

ICMA University Workshops

Register for ICMA University workshops online at icma.org/conference.

ICMA University workshops offer interactive, intensive training designed to develop skills and enhance knowledge. They support ICMA members' commitment to career-long learning by addressing the ICMA Practices for Effective Local Government Management. Instructors are selected for their knowledge of the topic, understanding of local government issues, and proven ability to effectively teach adults. Visit the ICMA University workshops page at icma.org/conference for descriptions of each workshop.

Gov 2.0: What Public Leaders Need to Know

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Group: 8

Workshop Leaders: Pete Peterson, executive director, and Ashley Trim, assistant director, Davenport Institute for Public Engagement and Civic Leadership, Pepperdine University's School of Public Policy, Malibu, California

IT Leadership: A Team Approach

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Group: 1

Workshop Leader: Terri Jones, marketing manager, OnBase by Hyland, Westlake, Ohio

Moving Forward with Data

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Groups: 3, 5, 6

Workshop Leader: Michelle Kobayashi, vice president, National Research Center, Inc., Boulder, Colorado

Performance Management 101: From Measure Development to Public Reporting

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Group: 5

Workshop Leaders: Rich Siegel, performance and outreach coordinator, Bellevue, Washington; Gerald Young, technology, analysis, and user support coordinator, Center for Performance Analytics, ICMA, Washington, D.C.

Skillfully Building Common Ground

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Groups: 6, 18

Workshop Leader: Deborah Roberts, professor, University of Virginia, Charlottesville, Virginia

Talent Management: The Next Phase of Succession Planning

Saturday, Sept. 26, 8:30 a.m.–noon

Practice Group: 1

Workshop Leader: Patrick Ibarra, cofounder and partner, The Mejorando Group, Glendale, Arizona

Collaborative Leadership: Hardwiring Teamwork and Innovation

Saturday, Sept. 26, 1–4:30 p.m.

Practice Groups: 1, 6, 18

Workshop Leaders: Peter A. Glaser, PhD, consultant, and Susan R. Glaser, PhD, consultant, Glaser & Associates, Inc., Eugene, Oregon

Fatal Flaws of a Council-Manager Relationship

Saturday, Sept. 26, 1–4:30 p.m.

Practice Groups: 1, 2, 4, 8, 9, 13, 17, 18

Workshop Leader: George B. Cuff, president, Cuff & Associates Ltd, Spruce Grove, Alberta, Canada.

Leadership Skills for Managing Wicked Problems

Saturday, Sept. 26, 1–4:30 p.m.

Practice Group: 6

Workshop Leader: Mike Huggins, former city manager and principal, Civic Praxis, Eau Claire, Wisconsin

Leading Your Organization (and Elected Officials) to Fiscal Health and Wellness through Priority Based Budgeting

Saturday, Sept. 26, 1–4:30 p.m.

Practice Groups: 10, 11

Workshop Leaders: Chris Fabian, cofounder, and Jon Johnson, cofounder, Center for Priority Based Budgeting, Lakewood, Colorado

Workshop Fees, Registration, and Location

Because workshops are not supported by conference registration fees and must be self-supporting, there is an additional registration fee ($195) for each half-day workshop unless otherwise noted. This fee covers the cost of handouts and certificates; audiovisual equipment rental; refreshments; instructor travel, lodging, and honoraria; and any other costs specific to the workshops.

Preregistration is required, and early registration is recommended as enrollment in each workshop is limited to between 30 and 50 participants to allow for maximum interaction with the instructor and other participants. All workshops will take place on Saturday and Sunday at the Washington State Convention Center. To register for workshops, go to icma.org/conference.

Smart Cities Readiness

Saturday, Sept. 26, 1–4:30 p.m.

Practice Groups: 6, 7, 13

Workshop Leaders: Jesse Berst, chairman, Smart Cities Council, Redmond, Washington, and Dr. Mani Vadari, director, Smart Cities Sector Services, Smart Cities Council, Redmond, Washington

Storytelling for Leaders

Saturday, Sept. 26, 1–4:30 p.m.

Practice Group: 15

Workshop Leader: Ruth B. Walkup, associate, Commonwealth Centers for High Performance Organizations, Charlottesville, Virginia

Your Leadership Playbook

Saturday, Sept. 26, 1–4:30 p.m.

Practice Groups: 1, 6, 18

Workshop Leader: Patrick Ibarra, cofounder and partner, The Mejorando Group, Glendale, Arizona

Asking Your Police and Fire Chiefs the Right Questions

Sunday, Sept. 27, 8:30 a.m.–noon

Practice Group: 3

Workshop Leaders: Leonard Matarese, director of research and project development, and Thomas Wieczorek, director, Center for Public Safety Management, LLC, Washington, D.C.

Changed for Good: Leading Transformation in Your Organization and Your Community

Sunday, Sept. 27, 8:30 a.m.–noon

Practice Groups: 1, 6

Workshop Leader: Michelle Poché-Flaherty, founder and president, City on a Hill Consulting, Washington, D.C.

Democratic Skills for Public Leaders

Sunday, Sept. 27, 8:30 a.m.–noon

Practice Group: 8

Workshop Leader: Matt Leighninger, executive director, Deliberative Democracy Consortium, Hamilton, Alberta, Canada

Persuasion and Influence

Sunday, Sept. 27, 8:30 a.m.–noon

Practice Group: 15

Workshop Leaders: Peter A. Glaser, PhD, consultant, and Susan R. Glaser, PhD, consultant, Glaser & Associates, Inc., Eugene, Oregon

Public Engagement: The Vital Leadership Skill in Difficult Times

Sunday, Sept. 27, 8:30–noon

Practice Group: 8

Workshop Leaders: Edward P. Everett, senior fellow, Davenport Institute of Public Engagement and Civic Leadership, Redwood City, California; and Pete Peterson, executive director, Davenport Institute, Pepperdine University's School of Public Policy, Malibu, California

Strategic Thinking/Strategic Planning

Sunday, Sept. 27, 8:30 a.m.–noon

Practice Groups: 6, 13

Workshop Leader: Ruth B. Walkup, associate, Commonwealth Centers for High Performance Organizations, Charlottesville, Virginia

Benefits Management 101

Sunday, Sept. 27, 8–10 a.m.

This workshop is offered through the generous support of ICMA's Strategic Partner Cigna. There is no fee.

"ICMA-RC Overview"—Understanding Your Retirement Options

Sunday, Sept. 27, 10 a.m.–noon

This workshop is offered through the generous support of ICMA's Strategic Partner ICMA-RC. There is no fee.

Workshop Leaders: Catherine Schupp, director, mutual funds, and Steven Taylor, manager, financial planning, ICMA-RC, Washington, D.C.

5th Annual ICMA Leadership Institute

Sunday, Sept. 27, 8:15 a.m.–noon

The ICMA Annual Leadership Institute provides an opportunity to connect members across generations and experience levels who share an interest in and commitment to leadership development.

The institute requires a separate registration fee of $199. Preregistration is required and early registration is recommended as space is very limited. Preference will be given to ICMA SEI graduates, leadership development program graduates, senior credentialed managers, and first-time administrators. Because of the highly interactive nature of this session, registration will be limited to 45 participants.

Political Astuteness: Bridging the Gap between Politics and Administration: Leadership Challenges for the Leadership Team

This institute will review the concept of bridging the gap between what is politically acceptable and administratively sustainable and associated leadership challenges. Participants will engage with case material and discuss such questions as, "What separates those who successfully work the gap?" "What are the positives and drawbacks to strong community identity?" and "What is the difference between a leadership team and a management team?" A panel of city managers will comment on participant responses to the questions.

Practice Group 2

Institute Leader: John Nalbandian, professor of public administration, University of Kansas, Lawrence, Kansas

SCHEDULE AT A GLANCE

	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.
SATURDAY		ICMA University Workshops					ICMA University
		Tour: Mount Rainier					
				Tour: Explore Seattle/Downtown Walking Tour		Tour: Seattle City Tour	
							Tour: Coast Salish
		Registration and Host Committee Desk					
SUNDAY		Annual Leadership Institute					Field Demos
		ICMA University Workshops					County Administrators' Idea Exchange
		Member Task Force/Committee Meetings			Regional Meetings		
	Sports: Yoga *(starts 6:30a.m.)*			Speed Coaching			ICMA University Forums
							Women's Luncheon and Program
						Tour: Explore Seattle/ Downtown Walking Tour	
		Sports: 5K Fun Run/Walk					
	Sports: Golf Tournament *(starts 5:00a.m.)*						
		Tour: Snoqualmie Falls/Boehm					
		Tour: Seattle City Tour					
				Tour: Woodinville Wineries			
		Registration and Host Committee Desk					
MONDAY		Keynote: Verna Myers		Educational Sessions	Special Sessions		Educational Sessions
				Learning Lounge/ Experts Bar	Roundtable Discussions		Featured Speaker: Andrew Salkin
				Solutions Track	Solutions Track	Solutions Track	Sol
				Field Demos			Field Demos
	Inspirational Breakfast			Film			Film
	Sports: Yoga *(starts 6:30a.m.)*			Partners' Brunch and session			
					Assistants' Luncheon		
		Tour: Mountains, Waterfalls, Bavaria					
			Tour: Day at the Market				Tour. . .
		Registration and Host Committee Desk					
			Educational Exhibits/Solutions Theaters/ICMA Pavilion/Internet Express				
TUESDAY		Keynote: Patrick Lencioni		Solutions Track	Educational Sessions	Special Sessions	
				Annual Business Meeting	Solutions Track	Solutions Track	
					Learning Lounge/ Experts Bar	Roundtable Discussions	
	Sports: Yoga *(starts 6:30a.m.)*			Partners' Service Projects		Field Demos	
					Film	State Secretariat Meeting	
		Tour: Nature Reserve and Bainbridge Island					Tour. . .
			Tour: FF and Paine Field				
				Tour: Tulalip Casino			
				Tour: Shopping Outlet Mall			
							Tour: Alki Beach
		Registration and Host Committee Desk					
			Educational Exhibits/Solutions Theaters/ICMA Pavilion/Internet Express				
WEDNESDAY		Celebration of Service: Tom Yorton			Roundtable Discussions		
	Sports: Yoga *(starts 6:30a.m.)*				ICMA University Forums		
			Tour: Museum of Flight				
							Tour: CenturyLink. . .
				Tour: Snoqualmie Falls/Boehm			
			Host Committee Desk				
	7 a.m.	8 a.m.	9 a.m.	10 a.m.	11 a.m.	Noon	1 p.m.

Key

Educational Program	Social Events
Meetings and Special Events	Registration and Exhibits

2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.
...ICMA University Workshops						
...				Reception: Seattle Aquarium		
...						
...Tour: Coast Salish Tribes/Bainbridge Island						
...						
...	Opening Session: Shawn Achor					
...						
...						
...					Mixing in Perfect Harmony	
...			Welcoming Reception: A Taste of the Pacific Northwest			
						Sports: Bowling *(ends 10:30p.m.)*
...						
...						
...						
	Educational Sessions	Special Sessions				
	Learning Lounge/ Experts Bar	Roundtable Discussions				
utions Track	Solutions Track					
...						
	Film	Assistants' Forum				
...						
...Tour: Craft Breweries			Affiliate, Alumni, and State Receptions			
...						
...						
Educational Sessions		Educational Sessions				
Featured Speaker: Dara Richardson-Heron		Learning Lounge/ Experts Bar				
...						
Film		Film				
Tour: Seattle Glass Blowing				Reception: Experience Music Project *(ends 11:00 p.m.)*		
...						
...						
...						
...						
...						
...Stadium Tour						
...						
2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	8 p.m.

ICMA thanks ICMA-RC for being the Principal Sponsor of the Annual Conference

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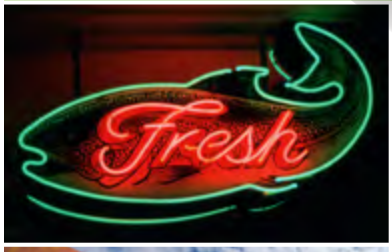


Social and Partners Program

Seattle, the county seat of King County, Washington, is the largest city in the Pacific Northwest. Located between Puget Sound and Lake Washington, Seattle—nicknamed "the Emerald City"—is a green gem, with spectacular views of the Cascade Mountains to the east and the Olympic Mountains to the west, as well as an abundance of evergreen trees throughout. It is also the cultural and business center of the Pacific Northwest. Puget Sound region boasts miles and miles of urban trails to walk, bike, jog, or rollerblade and plenty of opportunity to get out and explore nature without actually leaving the city. There are expanses of forests and wetlands where you can lose yourself in flora and fauna while taking in the amazing views of Lake Washington and Puget Sound. Seattle is a world-class metropolis set within wild, beautiful, natural surroundings. Sophisticated yet unpretentious, it offers the best of the urban lifestyle amid the allure of the rugged outdoors, made all the more enticing by picture-perfect views, a mild climate, and copious recreational opportunities year-round.

Doug Schulze

Bob Harrison

On behalf of the Washington City/County Management Association and its 2015 ICMA Conference Host Committee, we are excited and honored to welcome you to Seattle/King County, Washington, and the beginning of the next century of ICMA Annual Conferences. If you've never visited Seattle before you are in for a real treat and, if you are a returning visitor, welcome back!

While we are known for Boeing, Microsoft, Starbucks, salmon, and an occasional rain shower, the Emerald City and the surrounding Puget Sound region have much more to offer. Seattle is a pedestrian-friendly city with great arts, culture, dining and professional sports to experience. Of course, you won't want to miss the Space Needle, Pike Place Market, Chihuly Garden and Glass, and a walk along the waterfront for an evening sunset.

The Host Committee has planned two fantastic social events that we know will provide you with a great experience and lasting memories. Join us on Saturday evening at the Seattle Aquarium to enjoy great views, observe the creatures found in Puget Sound, and network with colleagues and friends. Tuesday evening's social event will take us to Experience Music Project (EMP) with music, food, friends, and access to one of the most unique music museums in the world.

There is so much to see and do in Seattle that you just won't be able to fit everything in during the conference dates. For arts and culture enthusiasts, the Seattle Art Museum, Seattle Asian Art Museum, 5th Avenue Theatre, Seattle Symphony Orchestra, or Paramount Theatre are just a few options to consider. Perhaps you are interested in professional sporting events, including the Seattle Mariners' home (Safeco Field), Seattle Seahawks CenturyLink Field, the Seattle Sounders FC, Seattle Storm of the WNBA or the Seattle Thunderbirds of the Western Hockey League. Of course, we can't forget the foodies! There are so many dining options in Seattle that it is nearly impossible to go wrong. Check out the Host Committee Dining Guide and On Your Own Guide for more suggestions and insider information.

The Pacific Northwest is filled with beauty and 'must-see' attractions so consider extending your visit by arriving early or staying after the conference to take in the Olympic Mountains and Peninsula, Mount Rainier National Park, Cascade Loop, San Juan Islands or more of the Puget Sound. A pre-conference Alaska cruise departing from Seattle also is worth your consideration.

We hope to see you this coming September in Seattle!

Sincerely,

Doug Schulze
Host Committee Chair
City Manager, Bainbridge Island, Washington

Bob Harrison
Host Committee Vice-Chair
City Administrator, Issaquah, Washington

Evening Highlights

Purchase tickets for evening events online at icma.org/conference except as noted.

Saturday Evening Reception

Seattle Aquarium

Saturday, Sept. 26, 6:30–8:30 p.m.

Seattle/King County welcomes attendees to the Seattle Aquarium. Located on the Seattle waterfront just blocks away from Pike Place Market, the aquarium provides a fascinating setting for ICMA's Saturday night reception. What better way for conference attendees to (re)connect with one another, as well as with the Seattle area, than coming face to face with all the life just below the Puget Sound's surface. Guests can sip wine near the interactive tide pools, nosh on appetizers next to a Pacific Giant Octopus, and make new friends—seal, otter, and human!

Adult, $40; youth ages 6–16, $30; under 6 free. Price includes hors d'oeuvres, venue rental, entertainment, coordination, and gratuities. Visit the Host Desk in the convention center before the party for restaurant information and dinner reservations.

Sunday Welcoming Reception

A Taste of the Pacific Northwest

Sunday, Sept. 27, 5–7 p.m.

Experience the diversity of Seattle and the Pacific Northwest. Delight in the flavors that make the region famous with the opening of the ICMA Exhibit Hall in the Washington State Convention Center.

The cost of the reception is included with the registration fee. Tickets for complimentary registrants are $40 for adults and $30 for youth ages 6–16: children under 6 come for free. Price includes hors d'oeuvres, entertainment, coordination, and gratuities. Visit the Host Desk in the convention center before the party for restaurant information and dinner reservations.

Monday Evening Events

Affiliate, Alumni, and State Association Receptions and Dinners

Monday, Sept. 28, 5:30–7:30 p.m.

Receptions will be held in the Sheraton Seattle Hotel. Tickets are not required for affiliate, alumni, and state receptions.

To arrange a room for a Monday evening reception at the Sheraton Seattle Hotel, contact Karen Rader (krader@icma.org, 202-962-3580) by July 1. If you are planning a state or affiliate organization dinner for Monday evening and need restaurant suggestions, please contact Katy Willis with Visit Seattle at kwillis@visitseattle.org, 206-461-5842.

Tuesday Evening Event

Experience Music Project (EMP) Museum

Tuesday, Sept. 29, 6–11 p.m.

Exciting, cutting-edge, nostalgic, one-of-a-kind! With its roots in rock 'n' roll, EMP serves as a gateway museum, enthralling guests of all ages with its collections, exhibitions, and educational programs. Using interactive technologies to engage and empower its visitors, EMP is a leading-edge museum dedicated to the idea of risk taking that fuels contemporary popular culture. At EMP, ICMA attendees will feel like rock stars while enjoying one of the most innovative and popular attractions in Seattle.

Adults, $50; youth, $40. Price includes dinner, venue rental, entertainment, transportation, production, coordination, and gratuities.

EMP Museum

Seattle Aquarium

Photo: Bentley Smith, Flickr

Tours

Purchase tours online directly from Cheryl's Northwest Tours by going to the "Tours" section of icma.org/conference.

Separate from other conference offerings, the tour program is outsourced to **Cheryl's Northwest Tours LLC,** which organizes, conducts, and sets pricing and participation minimums. Pricing includes transportation, admissions, guides, and taxes. If you prefer to explore the area on your own, check out the Host Committee's On-Your-Own Guide, browse through the Visitor Center in the convention center, or stop by the Host Desk for advice.


Mount Rainier
Photo: hypervel, Flickr

Mount Rainier

Saturday, Sept. 26, 7:30 a.m.–5:30 p.m.

Mt. Rainier will delight you with its vast expanses of pristine old-growth evergreen forests, subalpine meadows, and spectacular alpine vistas. Our nation's fifth-oldest national park, Mt. Rainier, a dormant volcano at 14,410 feet, has the greatest single-peak glacial system in the United States. Feel the peace and power on this journey to the 5,400-foot elevation called Paradise. As you make your way through easy walking paths and trails, you'll make three stops, including the visitors center and the beautiful Narada Falls. Drive time is 2.5 hours each way.
Adults/youth, $100

Explore Seattle/Downtown Walking tour

Saturday, Sept. 26, 10 a.m.–noon
Sunday, Sept. 27, 12:30–2:30 p.m.

See Seattle like the locals! Depart the Convention Center for a walk around Seattle, and learn about the city's past, present, and future. You'll see distinctive architecture, public art, city parks, and more on this two-hour walk. As a note, the Emerald City is considered a hilly city, so pack your walking shoes and come ready to explore. Max. 20 people.
Adults/youth, $35

Seattle City Tour

Saturday, Sept. 26, 12:30–5 p.m.
Sunday, Sept. 27, 8:30 a.m.–1 p.m.

Dating back to 1851, Seattle has quite a history. Noted last year for being the fastest growing city in America, you'll see the beauty and construction of this vibrant city, explore its geology, and marvel at its many natural and man-made wonders. On this fully rounded tour, you'll see all the tourist sights while getting a great overview of Seattle.
Adults/youth, $42

Coast Salish Tribes/Bainbridge Island

Saturday, Sept. 26, 1–5 p.m.

Ferry across Puget Sound to see where Chief Seattle and his people spent their winters. You'll see a replica of Old Man House, a historic building of Native American building design that the settlers burned to stop the natives from gathering. You'll have time to visit the Suquamish Museum and also make a short stop at the cemetery and the grave site of the chief himself.
Adults/youth, $56

Snoqualmie Falls/Boehm

Sunday, Sept. 27, 8:30 a.m.–2:30 p.m.
Wednesday, Sept. 30, 10 a.m.–4 p.m.

From Seattle, you'll travel east into the Cascade Mountain foothills to visit a grand waterfall that plummets 268 feet into a huge pool. The lookout near the top affords the most spectacular view. You'll have time to take the path to the base of the falls, stop in at the gift shop near the falls, or visit the historic Snoqualmie Salish Lodge, a luxurious spa hotel. Finally, indulge yourself with a visit to Boehm's Chocolates, where you'll tour the chalet-style factory and enjoy free samples of the delicious candies it produces. You won't be disappointed. Drive time is 45 min. each way.
Adults/youth, $56

Woodinville Wineries

Sunday, Sept. 27, 10 a.m.–2:30 p.m.

Realizing that wine drinkers would not trek across the Cascade Mountains to taste and purchase the wines in their vineyards, one hundred of the 800 or so Washington State wineries have made their home in Woodinville, just 45 minutes from Seattle. You'll visit a beautiful chateau, built on the 1912 estate of lumber baron Frederick Stimson, as well as a modern facility; sample several white and red wines with distinct flavors and ambiances; and tour the bottling plant of one of the wineries. Lunch on your own between wineries. Drive time is 45 min. each way.
Adults, $79

Mountains, Waterfalls, Bavaria

Monday, Sept. 28, 7:30 a.m.–5:30 p.m.

Travel across three mountain passes on this memorable day trip through the Cascade Mountains, where gold-mining towns, waterfalls, and whitewater rivers

Tours


Future of Flight Museum
Photo: hypervel, Flickr

await you. Leavenworth is a Bavarian wonderland: nestled in the Cascades at 1,125 feet, this former railroad town transformed itself into a beautiful alpine village after the railroad moved. A three-hour drive each way.
Adults/youth, $94

Day at the Market

Monday, Sept. 28, 9:30 a.m.–1:30 p.m.

Pike Place Market is the longest-running market in America. Started in 1907 over a dispute over the price of onions, the market has endured many transitions over the last century and is today celebrated by the locals and tourists alike. Nearly 600 small shops are neatly entwined and stacked in this unusual display of public market space. Upstairs, downstairs, and all along the ramps, you'll find many unusual shops, including the Gum Wall, Pike Place Fish, and the first Starbucks. Sample foods all along the way, with fresh fruits, handmade cheeses, smoked fish, locally made sausages, and more. Max. 25 people.
Adults/youth, $15

Craft Breweries

Monday, Sept. 28, 1:30 p.m.–4:30 p.m.

Seattle is home to over 48 microbreweries. You'll visit three different and unique companies to taste their brew. You'll also get a behind the scenes tour of the facilities and learn some of the secrets used to make these tasty beverages.
Adults only (21 and over), $79

Nature Reserve and Bainbridge Island

Tuesday, Sept. 29, 8 a.m.–1:30 p.m.

A Northwest treasure, the Bloedel Reserve on Bainbridge Island is an internationally renowned public garden and forest preserve. Its 150 acres are a unique blend of natural woodlands and beautifully landscaped gardens, including a Japanese Garden, a Moss Garden, a Reflection Pool, and the Bloedels' former estate home. Prepare for a walking activity and enjoy time for lunch on your own in Bainbridge Island, a quaint, artistic seaside village community.
Adults/youth, $67

Future of Flight and Paine Field

Tuesday, Sept. 29, 9:30 a.m.–3:30 p.m.

One of Seattle's favorite aviation attractions, the Future of Flight (FF) Aviation Center is the only publicly available opportunity to tour a commercial jet assembly plant (Boeing) in North America and see them actually building the airplanes. Also visit Paul Allen's Flying Heritage Collection of WW2 planes, fully restored. An aviation buff's dream come true.
Adults/youth, $92

Tulalip Casino

Tuesday, Sept. 29, 10 a.m.–4 p.m.

Fun is the name of the game here! Boasting a 200,000-square-foot gaming facility with 50 tables and 2,200 slots, this resort casino reportedly offers the best odds, best variety, best selection of slots, and best cash-back of any Seattle casino. An extensive, delicious buffet lunch is included. Combined transportation with shopping tour.
Adults/youth, $45

Shopping Outlet Mall

Tuesday, Sept. 29, 10 a.m.–4 p.m.

Go crazy with door-to-door shopping among 125 outlet stores. Find impressive savings at Adidas, Ann Taylor, Banana Republic, BCBG Max Azria, Burberry, Calvin Klein, Coach, DKNY, Guess, J. Crew, and more. There will be plenty of room on the coach for your bags, so enjoy the day! Three full hours of shopping after an extensive, delicious buffet lunch at Tulalip Casino. The desserts will satisfy. Combined transportation with casino excursion.
Adults/youth, $45


CenturyLink Field
Photo: Roshan Yadama, Flickr

Alki Beach Walk

Tuesday, Sept. 29, 1–5 p.m.

Alki is one of only two sandy beaches in Seattle. Walk to the waterfront and catch the water taxi to West Seattle. A 10-minute boat ride lands you at Seacrest Park, where you'll enjoy the fantastic view of Seattle as you take the 45-minute walk along the waterfront on the flat, paved trail to Alki, where the locals go to the beach and where Annie first spied Sam and Jonah in *Sleepless in Seattle.* There's a shuttle to bring you back to the dock, and the boat will bring you back to town.
Adults/youth, $26

Seattle Glass Blowing

Tuesday, Sept. 29, 1:30–5:30 p.m.

This may be your once-in-a-lifetime opportunity to try your hand at glass blowing. Seattle is famous for its glass making. You'll meet the masters and create your own personal molten glass paperweight sculpture or glass-blown globe which will be shipped to you after it cures. What a great keepsake of Seattle!
Adults/youth, $127

Museum of Flight

Wednesday, Sept. 30, 9 a.m.–noon

More than Boeing and mighty amazing, this museum has airplanes hanging from the rafters. With an immense collection of aircraft from the beginning of flight, it is fun and interesting for all ages. There is a Boeing "wing" that shows how the company got started back in 1916. A must-visit venue!
Adults/youth, $52

CenturyLink Stadium tour

Wednesday, Sept. 30, 1–3:30 p.m.

Capture the CenturyLink Field experience as you never have before with an up-close and personal look at behind-the-scenes areas, the Suite and Club levels, and the famous 12th Man Flag Pole. Imagine standing there with 67,000 fans cheering right before kickoff. In addition, set foot on the same next-generation field turf playing surface as your Seahawks and Sounders FC players.
Adults/youth, $49


Chambers Bay Golf Course

SPORTS

Keep Calm and Do Yoga!

Sunday, Sept. 27–Wednesday, Sept. 30, 6:30–7:30 a.m.

While at the ICMA conference, start your day out right by increasing your flexibility and keeping your muscles balanced! Join your fellow colleagues for yoga each morning, located in a private conference room at the Sheraton Seattle Hotel. We have reserved one of Seattle's best yoga instructors and will provide you with everything you need for a relaxing, energizing, and invigorating daily experience.
$20. Ticket price includes 4 morning yoga classes and use of a yoga mat.

Golf Tournament

Sunday, Sept. 27, 5 a.m.–2 p.m.

Discover pure links golf while immersing yourself in panoramic views of Puget Sound and the Olympic Mountains. As the site of the 2010 U.S. Amateur and 2015 U.S. Open Championships, Chambers Bay was designed to challenge the greatest players in the world. Yet it's a course that anyone can play. Renowned architect Robert Trent Jones II remained true to links tradition by creating this breathtaking waterfront course. In 2012, Chambers Bay was selected as the #1 Municipal Course in the United States by *Links* magazine and #14 in the Top 100 Courses You Can Play by *Golf* magazine. Golfers will play their own ball. Prizes for longest drive will be awarded. Chambers Bay is a walking course only. Power carts, driven by a caddie, are available for disabled golfers. Club rentals and caddies are available from the course for a fee. Push carts are offered at no extra charge. *$315. Ticket price includes greens fees, transportation, goodie bag, prizes, range balls, and lunch.*

5K Run/Walk at Seward Park

Sunday, Sept. 27, 8:30 a.m.–noon

This year in Seattle, we are teaming up with the 7th Annual Run of Hope Seattle. This local race begins a special day of events that brings together families and community to raise funds and awareness in support of pediatric brain tumor research at Seattle Children's Hospital. Our group will be listed as "Team ICMA" and will be timed separately, with awards to the top finishers. After the race, you are invited to a post-race party to celebrate. For more details, check out the race website at www.runofhopeseattle.org.
$35. Ticket prices include race registration, awards, access to post-race party, transportation, and t-shirt.

Bowling

Sunday, Sept. 27, 7:30–10:30 p.m.

Hip. Swank. Two words to describe the bowling alley and billiards parlor at The Garage. The Garage puts a modern spin on the classic American pastime. The vibe feels nothing like your typical bowling alley; it is more laid-back, like a club or bar vibe. The space is huge (it used to be home to a Plymouth dealership and car garage—hence the name). Beautiful, big murals cover some of the walls while bright paint and funky art hangs on other walls. Retro light fixtures keep the space glowing. It's seriously a super hip place with all the qualities that make for a great venue after Sunday's Welcoming Reception.
$35. Ticket price includes lanes, shoes, ball rental, and food.

Partners' Program

ICMA's Partners' Program recognizes the significant role that the partner and family play in the success of a local government professional's career. In addition to the events described below, partner conference registration includes a ticket to the Sunday Welcoming Reception, attendance at any of the general educational and keynote sessions, and access to the exhibit hall. Stop by the Partners' Reconnection area to find old friends and make new ones. Visit the ICMA Member Partners' page at icma.org.

Partners' Brunch and Educational Session

Speak Sports. Build Relationships

Monday, Sept. 28, 10 a.m.–12:30 p.m.

This session is free but requires preregistration.

There's more to sports than wins and losses. Veteran sports broadcaster **Jen Mueller** will help you think outside the box scores in this engaging presentation demonstrating how sports conversations can bridge communication gaps and build relationships. Novice and passionate fans alike will enjoy hearing stories from inside professional sports locker rooms, shedding light on conversation strategies that allow you to communicate more effectively with your significant other and better relate to the people around you. Learn to read between the lines of what sports fans are saying to gain better insight into their personalities, values, and communication preferences. In addition, learn how to talk about sports in a way that provides an easy ice-breaker for conversing with millions of sports fans around the United States and throughout the world. It's sports talk in a way you've never thought about before: as a relationship tool.

Partners' Service Projects

Tuesday, Sept. 29, 10 a.m.–12:30 p.m.

Preregistration is required for these activities.

There are two service projects being held simultaneously. Each project has limited capacity, so select one and sign up early.

- **FareStart** is a culinary job training and placement program for homeless and disadvantaged individuals. The service tasks include preparing items for FareStart's Annual Fundraising Gala. Participants will be working on bid boards for the silent auction, assembling mystery boxes, getting name tags ready, and moving wine to the auxiliary room. This service project can accommodate 30 people.
- **WestSide Baby** is the only social service agency in the West King county area that collects, inspects, and distributes free diapers, clothing, cribs and safety gear for babies and children. Project tasks may include filling orders for children (clothing, toys, baby gear, etc.), sorting incoming donations, creating clothing bags for orders, and creating toy packages. This service project accommodates 50 people.

Partners' Conference Assistance Program

Do you have a partner, or know the partner of a member, who has never attended an ICMA Annual Conference but would like to? Apply for a scholarship with the Partners' Conference Assistance Program. Applications are being accepted for this year's program, which provides the partner of an ICMA member with a scholarship and complimentary conference registration. Only partners of ICMA members who have never attended the ICMA Annual Conference are eligible. The partner must complete the Partners' Conference Assistance Program application, expressing his or her interest in attending the conference, and must submit the application online at webapps.icma.org/forms/partnersprogram **by July 13, 2015.** Winners will be selected on or by August 3, 2015.

SOCIAL MEDIA

Follow us on Facebook https://www.facebook.com/ICMAORG; "like us" and click on the Conference Event to tell us if you are coming to Seattle and see who is attending.

Twitter: @ICMAConference, use #icma15 in your tweets

Inside Info

Attire and Temperature
Seattle weather in September is typically beautiful. Average daytime temperatures range in the upper 60s to low 70s and nighttime temperatures are in the mid 50s, but make sure to check the extended forecast before leaving home. September is also normally a relatively dry month for Seattle; however, it's always a good idea when traveling to be prepared for the occasional shower. Casual attire is the norm for sessions, tours, and most ticketed evening events. Only a few of the finest restaurants require coat and tie; otherwise, relax and be informal. Don't forget to bring a light jacket or coat to beat the evening chill!

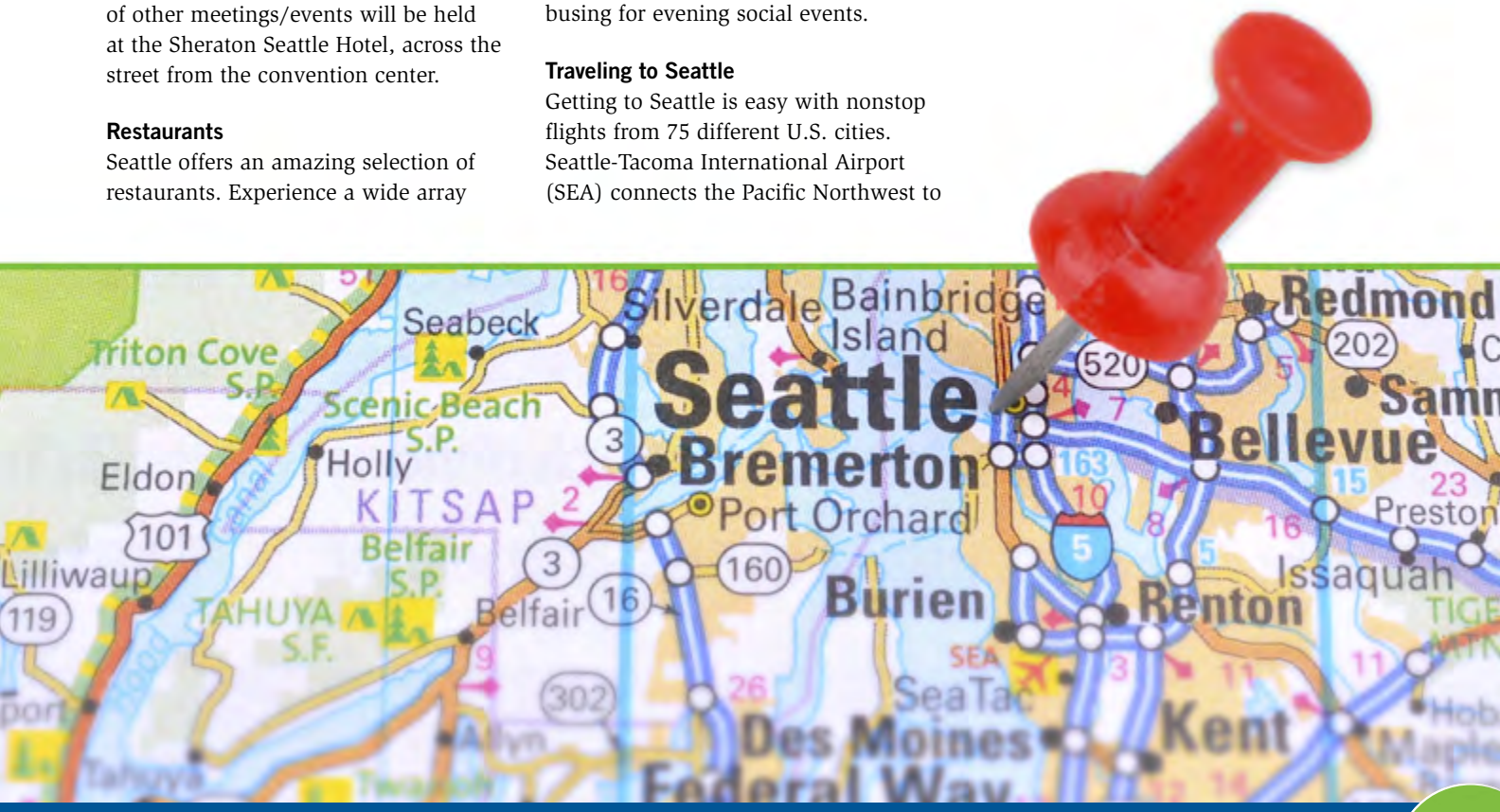
Location of Conference Events
The Washington State Convention Center is the premier meeting and event facility in the Northwest. Located at 800 Convention Place, the convention center is the site for most of the ICMA conference activities. The Monday evening state/alumni/affiliate receptions and a number of other meetings/events will be held at the Sheraton Seattle Hotel, across the street from the convention center.

Restaurants
Seattle offers an amazing selection of restaurants. Experience a wide array of dining establishments from organic cuisine to Asian fusion, to Italian, to succulent seafood, to pub grub and much, much more. Visit the restaurant reservation desk near the Host Committee area in the convention center to obtain restaurant information and get assistance with reservations. You can browse the menus of area restaurants and have your reservations made for you.

Getting Around in Seattle
Seattle's downtown is safe, compact, vibrant, and easy to navigate. All conference hotels are in walking distance of the convention center. As an alternative to walking, Seattle has the Link Light Rail and the South Lake Union Streetcar in addition to public Metro bus transit. The Link Light Rail makes trips with fares from $2.25 to $3.00 each way. Or ride the South Lake Union Streetcar that makes 11 stops between downtown Seattle with the Lake Union Neighborhood near shops and restaurants for $2.50 each way. Consult the final conference program for instructions concerning busing for evening social events.

Traveling to Seattle
Getting to Seattle is easy with nonstop flights from 75 different U.S. cities. Seattle-Tacoma International Airport (SEA) connects the Pacific Northwest to the world and is conveniently located just 20 minutes by car/taxi from the Washington State Convention Center. SEA offers a variety of flight options and numerous ground transportation options. A taxi trip will cost roughly $40 (tip not included); the Link Light Rail will cost $3.00 each way. If you need personal attention in booking your travel, you may contact ICMA's travel managers Katie Walters or Brianne Kammerman at 215-825-3650; or email Katie.Walters@corporatetraveler.us or Brianne.Kammerman@corporatetraveler.us and identify the meeting name: ICMA Annual Conference. **Note that Corporate Traveler does not handle hotel reservations for the conference.** Contact the ICMA Housing Bureau for hotel reservations at icma.org/conference.

Carpooling/Shared Travel
Coordinate travel and pick up on other money-saving ideas within the Knowledge Network's ICMA Annual Conference 'Group' icma.org/conferencegroup.



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RIVERBANK CITY COUNCIL AGENDA ITEM NO. 6.1

SECTION 6: NEW BUSINESS

Meeting Date:	January 26, 2016
Subject:	Riverbank Cheese & Wine Festival Report
From:	Jill Anderson, City Manager
Prepared by:	Sue Fitzpatrick, Director of Parks and Recreation

RECOMMENDATION

It is recommended that the City Council hear the report on the 2015 Cheese & Wine Festival and provide direction regarding the plans for the 2016 event.

SUMMARY

The City of Riverbank contracted with Chris Ricci Presents Inc. (CRP) for the promotion of the Cheese & Wine Festival in 2014 and 2015. Chris Ricci will give the City Council a brief overview on the overall success of last year's event. Sue Fitzpatrick, the Director of Parks and Recreation will provide an update on the considerations being made for 2016 in order to obtain feedback and direction from the City Council.

BACKGROUND

The City of Riverbank purchased the rights to the Cheese & Wine Festival from the Riverbank Rotary Club in March, 2014 as the Club was no longer able to administer the event. The City Council voted to contract with Chris Ricci Presents Inc to operate the event working closely with the Parks and Recreation Department. The event was administered by Chris Ricci Presents and the City of Riverbank for the past two years and has been successful.

EVENT SUCCESS AND CHALLENGES

The Cheese & Wine Festival was successful both in 2014 and 2015. The wine & cheese tasting was a challenge the first year but went much more smoothly this past year.

Sponsorships were higher in 2014 and costs increased in 2015 in some areas such as facility rental and insurance. There was not as much beer sold as was originally

projected in 2014, so this contract was reduced in 2015; however, vendor and wine ticket sales were up in 2015.

The event overall was a safe event that was enjoyed by the community. The vendors were happier this year with a few stating they doubled their sales from the year prior.

FINANCIAL IMPACT

Funds: In 2014, after all expenses were paid, the City had $5,836 remaining. No funds were used from the General Fund. In 2015, after all expenses were paid, the City had a deficit of $1,793.46. In using the funds remaining from the prior year this overage was covered and no funds were required from the General Fund.

At this time there is a balance of $4,042.70 in the Cheese & Wine Festival Account.

Staff Time: The majority of staff time devoted to planning in the early months leading up to the event, November thru July, is time invested by the Director of Parks and Recreation. During that time period the Director spends approximately 40 hours spread throughout those months in preparation for the event. This includes meetings, budget review, decision making, contracts, subcontract review, phone calls etc. The three weeks prior to the event, another 60 hours is spent. The Recreation Supervisor spends approximately 25 hours on the event and the Administrative Clerk, Parks Supervisor and Senior Maintenance Worker work and average of 50 hours each during the year. Public Works also assists with event preparation and clean-up, for approximately 25 work hours. The time spent by other departments is absorbed into regular workloads.

FUTURE OF THE EVENT

In 2015, the City Council last year provided direction to continue to operate the Cheese & Wine Festival for two more years. With this direction, the City would continue to contract with Chris Ricci Presents for the 40th annual Cheese & Wine Festival this year.

As part of the strategic plan it may be beneficial to use this event that is already established as a way to generate funds for community projects such as the renovation of the community center building or pool locker room renovation. Ways to create revenue through this event will be explored consistent with the City Council's strategic objective to consider developing an event for the purpose of raising funds for the renovation of the City's community facilities, such as the Community Center and pool locker room.

The Chamber of Commerce has expressed interest in acting as the event coordinator for the Cheese & Wine Festival and involving non-profit groups to a larger extent in the operation of various components of the event. The City would welcome a proposal if deemed appropriate in the future planning of the event. In the meantime, the Chamber of Commerce has submitted a fee waiver request, a weekly event, including a Farmers' Market, starting on May 18 and ending on September 7, 2016. The request has been

scheduled as a separate item for discussion on the agenda for tonight's meeting. If the request is approved, it may be more practical for the Chamber to consider assuming responsibility for coordinating an event as large as the Cheese and Wine Festival at a later time in consideration of the time, money, and volunteers it would take to conduct weekly events during the summer months.

RECOMMENDATIONS FOR 2016

It is recommended that the City of Riverbank continue to contract with Chris Ricci Presents, Inc. for the 2016 Cheese & Wine Festival with a goal of raising a minimum of $5,000 for the renovation of the pool locker room or Community Center Building.

It is also recommended that if a proposal is submitted to the City of Riverbank from the Chamber of Commerce to coordinate the event, that this proposal be considered as one of the options for future operations for the Festival if deemed more beneficial for the future success of the event.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 6.2

SECTION 6: NEW BUSINESS

Meeting Date:	January 26, 2016
Subject:	A **Resolution** of the City Council of the City of Riverbank, California, Approving the Request from the Riverbank Chamber of commerce for waiver of Fees for the Operation of the Farmer's Market and Authorization to Reimburse the Associated Enterprise Fund from the General Fund
From:	Jill Anderson, City Manager
Submitted by:	Sue Fitzpatrick, Director of Parks and Recreation

RECOMMENDATION

It is recommended that the City Council review the plans for the 2016 Farmer's Market and provide staff direction on the request to waive the fees for City services and if approved, authorize the reimbursement of the Enterprise Fund with a General Fund allocation.

SUMMARY

The Parks and Recreation Department has received a special event application from the Riverbank Chamber of Commerce to operate the Farmer's Market at the Community Center Park. Within the application the Chamber is requesting fees to be waived for City services and facility rental. The Farmer's Market would be open on Wednesday evenings beginning May 18th, 2016 through September 7th, 2016. The hours of the market would be from 5pm until 8pm. On movie nights that occur in June, July and August, the event would conclude at 11pm. Set up time would occur at 4:00pm each day.

BACKGROUND

The Riverbank Chamber of Commerce operated a Farmer's Market for the past two summers. The market was located at the Community Center Park. The Chamber members would like to offer this event again this year.

The City Parks and Recreation Department had a booth with information and games and plans to provide that service in 2016 if the event moves forward.

The subject of fee waivers was brought to the City Council's attention at the May 13, 2014 City Council meeting and Council directed staff to bring new requests to Council for approval. The concern for the community Center/Enterprise Fund was discussed and it was decided that if a fee is waived that the enterprise fund would be reimbursed by the General fund to cover the fees for services.

FEE WAIVER REQUESTS

The specific fees that are being requested to be waived are as follows:

Community Center rental Fee (Pro-rated)	$	850.00
Park Aide Fees		480.00
Site Monitor Fees		120.00
Bounce House Permit Fee		25.00
Noise Permit Fee		25.00
Total:	$	1,500.00

If the fees are waived it is recommended that the amount of the waived fees be transferred from the General Fund to the Enterprise Fund to reimburse as follows:

Current Fiscal Year: $589.00
2016-2017 Fiscal Year: $911.00

If the permit fee is waived it is recommended that a permit still be required.

FINANCIAL IMPACT

If fees are waived there would be a $1,500 financial impact to the General Fund.

ATTACHMENTS

1. Letter of request from the Riverbank Chamber of Commerce.
2. Resolution authorizing the fee waiver and associated budget adjustment

Dear Sue

The 2016 Riverbank Certified Farmers' Market season is rapidly approaching. Each year we learn a little more about what works and what does not work, therefore this helps us to make changes that we feel will add interest to our market.

~ We changed the name to ***Concerts in the Park Family Night Out at the Farmers' Market*** last year and we feel that the name change reflects family event. We will also be sending out social media blasts each week. We worked very hard on growing our following on social media and doubled that following last year.

~ This year are offering to the Chamber of Commerce Membership the opportunity to showcase their business 5 times at the Farmers' Market to help the community to get to know who they are and what they are all about. We think this will bring a lot of added value for the businesses and the Riverbank Community. We are also going to make our vendor attendance a little more user friendly as some vendors cannot commit to the whole season and therefore will not participate. In allowing them to pick nights that they can commit to we believe this will help us have a better idea of who will be at the market each week and help us to know which nights where we will need to add vendors.

~ Along with the live music each week we are increasing the number of movies from last year to include June, July and August, we know that on our movie nights last year we had a good crowd at our Farmers' Market. We will also include our free Let's Move Zumba classes for June and July and will be adding a Bounce House to every night. We want to make this a great community event. This commitment for these activities will cost the Chamber approximately $6000.00.

~ Other special events that we had last year that we are bringing back will be our Kid's Safety Night, Back to School Night with our Back Pack giveaway, Car Shows, Motorcycle Shows, One Wine Tasting night each month, Two Cooking Demonstrations, Games by the City of Riverbank and Senior Voucher Night (Determined by county if it returns). These were well attended nights and so we will continue with them.

~ In addition on April 1, 2015; VISALIA- Agriculture Secretary Tom Vilsack announced that the Ecology Center in Berkeley, California will receive one of the USDA's first ever Food Insecurity Nutrition Incentive (FINI) grants, totaling $3.7 million over two years. Riverbank Certified Farmers' Market is part of this grant. We are excited about it as our Farmers' Market is the only one in Stanislaus County to be part of this grant. How this works is the EBT customer who wants to purchase $5.00 in fruits and vegetables will have their $5.00 matched giving them $10.00 to spend. We are reaching out to the schools and the county to help to get the word out about this program. We already have three confirmed farmers for our Farmers' Market that will not have a conflict with other markets on Wednesday evenings, this will be a big plus for us.

Sincerely,

Garnette J. Martin

Garnette Martin, Director, Market Manager
Riverbank Chamber of Commerce
Riverbank Farmers' Market

P.O. Box 340 – Riverbank, CA 95367
Telephone (209) 869-4541
Email: info@riverbankchamber.org – www.RiverbankChamber.org

CITY OF RIVERBANK

RESOLUTION

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF RIVERBANK, CALIFORNIA, APPROVING THE REQUEST FROM THE RIVERBANK CHAMBER OF COMMERCE FOR WAIVER OF FEES FOR THE OPERATION OF THE FARMER'S MARKET AND AUTHORIZATION TO REIMBURSE THE ASSOCIATED ENTERPRISE FUND FROM THE GENERAL FUND

WHEREAS, from time to time, the City Council authorizes the waiver of fees upon request for events that benefit the community; and

WHEREAS, the City of Riverbank City Council has received a request from the Riverbank Chamber of Commerce to waive all fees for the operation of the Farmer's Market that is held at the Community Center Park; and

WHEREAS, the request for waiver of fees would be the Park Aide Fees, Community Center Fees, and Permit Fees as established in the Special Event Application for the 2016 Farmer's Market event, not to exceed the amount of $1,500; and

WHEREAS, the aforementioned wavier of fees for the operation of the Farmer's Market is requested to take effect on May 18, 2016 and end on September 7, 2016; and

WHEREAS, reimbursement of funds from the General Fund to the associated Enterprise Fund will be made for the reimbursement of fees waived.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Riverbank hereby approves the waiver of the Park Aide Fees, Community Center Fees, and Permit Fees as established in the Special Event Application for the 2016 Farmer's Market event, not to exceed the amount of $1,500, and approves the transfer of funds from the General Fund to the associated Enterprise Fund for the reimbursement of the total amount of fees waived.

PASSED AND ADOPTED by the City Council of the City of Riverbank at a regular meeting held on the 26th day of January, 2016; motioned by Councilmember _____, seconded by Councilmember _____, and upon roll call was carried by the following vote of ___:

AYES:
NAYS:
ABSENT:
ABSTAINED:

ATTEST:

_____
Annabelle Aguilar, CMC
City Clerk

APPROVED:

_____
Richard D. O'Brien
Mayor

RIVERBANK CITY COUNCIL AGENDA ITEM NO. 6.3

SECTION 6: NEW BUSINESS

Meeting Date:	January 26, 2016
Subject:	Citywide Special Events Planning
From:	Jill Anderson, City Manager
Submitted by:	Sue Fitzpatrick, Director of Parks and Recreation

RECOMMENDATION

It is recommended that the City Council direct staff in the planning of special events for the upcoming year.

SUMMARY

The City of Riverbank Parks and Recreation Department are in the process of planning for the spring/summer special events. The discussion tonight will include RiverFest at Jacob Myers Park, a Memorial Day Remembrance Ceremony and the possibility of a Multi-Cultural Day or Fiesta Riverbank special event held in Downtown Riverbank in the future. The Cheese & Wine Festival will be discussed tonight on a separate agenda item and may influence some decisions made on these special events.

BACKGROUND

RiverFest

The special event “RiverFest” has been held at Jacob Myers Park in April for the past 2 years. While the event was successful and enjoyed by the Community, attendance was low for the amount of effort and funds that go into the event. There was rain the day prior to the event both years and that could be one reason why attendance was low. The event also should have been advertised more effectively.

Due to sponsorships, the event was self-sufficient and we have a balance of $3,900 in the account. RiverFest was formally Earth Day and administered by the Community Garden Committee. The Earth Day component was maintained but a variety of other activities were added to the event.

Multi-Cultural Day or Fiesta Riverbank

Fiesta Riverbank is an event that occurred in Downtown Riverbank approximately 5 years ago. This event was administered by the Sister City Committee and co-sponsored by the City and a few other organizations. This event seemed to have some potential for success. The City Parks and Recreation Department would like to explore the possibility of holding this event or a Multi-Cultural Day in the future.

Memorial Day Remembrance Ceremony

The Mayor has requested that the City conduct an event to commemorate Memorial Day. If approved by the City Council, this event be held in front of our Community Center Building near our Veteran's Wall. This event would be held on Monday May 30th from 11:30am until 12:30pm. This event will recognize the citizens that have sacrificed their lives for our Country. There will be a Military Band, 21 Gun Salute and light refreshments.

RECOMMENDATION

It is recommended that the Parks and Recreation Department host RiverFest again this year at Jacob Myers Park on the same day that the Color Run is held. The date would be Saturday, April 30th. The Color Run was very popular last year and well attended. By having both events on the same day and advertised together, attendance may increase. We will hope for better weather this year. At the conclusion of the event we will evaluate if it is an event that should continue or not.

It is also recommended that the Memorial Day Remembrance Ceremony be scheduled for May 30, 2016 to honor those that have given their lives for our Country.

New event possibilities, including Fiesta Riverbank or a Multi-Cultural Event, could be considered in the future based on what makes sense for the community. In consideration of the limited resources available, it will be important to consider new events in the context of all of the City's special events, including the Cheese and Wine Festival.

FINANCIAL IMPACT

The financial impact associated with RiverFest is included in the Adopted Budget. It is expected that the proposed Memorial Day event would require less than a $1,000 and a midyear adjustment will be proposed to accommodate the costs.

ATTACHMENTS

There are no attachments to this report.

RIVERBANK LOCAL REDEVELOPMENT AUTHORITY
AGENDA ITEM NO. 6.4

SECTION 6: NEW BUSINESS

Meeting Date:	January 26, 2016
Subject:	Authorize the City Manager and Local Redevelopment Authority Executive Director to finalize negotiations and execute an Environmental Services Cooperative Agreement that will Remediate and/or Remove Contamination to Real Property at the (former) Riverbank Army Ammunition Plant
From:	Jill Anderson, City Manager
Submitted by:	Debbie Olson, Executive Director

RECOMMENDATION:

It is recommended that the Local Redevelopment Authority ("LRA") Board of Directors ("BOD") authorize the City Manager and the Local Redevelopment Authority Executive Director to finalize negotiations and execute an environmental services cooperative agreement ("ESCA") with the US Army for the purpose of remediating and/or removing contamination to real property ("Project") associated with the Army's mission at the former Riverbank Army Ammunition Plant ("RAAP"), now commonly known as the Riverbank Industrial Complex.

BACKGROUND

The RAAP was originally constructed by the Aluminum Company of America as an aluminum reduction plant supplying to the military. Beginning in 1951 RAAP produced steel cartridge cases with peak production during the Korean and Vietnam wars. From 1977 through 1990 only grenade and mortar production lines were operational. After 1990 and until the closure of the plant in March 2009, production of two specific artillery casing occurred. No explosive constituents were used or stored at the facility.

In 2009, the Army learned of the existence of polychlorinated biphenyl ("PCB")-containing panels (commercially known as Robertson Protected Metal or Galbestos) that were used to construct and enclose certain buildings. Subsequent testing of the property resulted in a determination that PCB contamination in the form of dust and exfoliated particles from the Galbestos panels were present throughout the building

interiors on supporting steel structures, roof and wall panels, floors, personal property, consumables, fixed equipment and in soil adjacent to Galbestos buildings. PCBs associated with industrial activities (hydraulic fluids, lubricants, etc.) were also found present in soil and concrete.

PCBs were restricted and controlled under the Toxic Substances Control Act ("TSCA") by federal law in 1976. US Environmental Protection Agency ("USEPA") is authorized to enforce regulations regarding the management, cleanup and disposal of PCBs.

REMEDIATION OF CONTAMINATION AT RAAP

Pursuant to the Defense Environmental Restoration Act 10 U.S.C. 2701 (d), the Secretary of the Army may enter into an agreement with a local government agency such as the Riverbank Local Redevelopment Authority to obtain the services of the local government agency in carrying out the Secretary's responsibilities to identify, investigate and clean up contamination from hazardous substances or pollutants and contaminants. The associated agreements are called Environmental Services Cooperative Agreements (ESCA).

To that end, the Army and the LRA requested and received a risk-based approval from USEPA to remediate and/or dispose of PCB-impacted personal and real property. The approval split the remediation activities into two discrete projects identified internally as Phase 1 and Phase 2.

Phase 1 involved the removal and disposed of over 5,000 tons of contaminated equipment. The Phase 1 remediation began in September 2013 and was completed in June 2015. The Army paid $11.9 million to the LRA to perform the Phase 1 remediation through an ESCA.

The Army and the LRA submitted a second application to USEPA for risk-based approval for the Phase 2 PCB cleanup at the RAAP in June 2015. Approval was received on July 22, 2015 and the approval was amended on December 15, 2015.

Phase 2 involves the removal and disposal of Galbestos panels (siding and roofs) and address PCB contamination present in building interiors such as is found on structural steel, walls, floors, and select fixed equipment. PCB contamination that is known to exist outside of the buildings', footprints will also be addressed in Phase 2 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

As with the remediation identified in Phase 1, the US Army has proposed paying for the tasks required to complete the Phase 2 cleanup with a second ESCA. From the USEPA application, a document that provides the technical specifications and requirements ("TSRS") is produced. The TSRS becomes the basis for development of the scope of work and cost for such work.

The Army forwarded the TSRS to the LRA on December 29, 2015. With tremendous support from Weston Solutions, the LRA's environmental consultant, the LRA provided the Army with a request for $42.7 million. The proposed scope of work for the Phase 2 ESCA is provided as an exhibit to this staff report. The LRA's estimate of cost to fund the Phase 2 work is being reviewed by the Army's grant's officer. Work will begin once the cost is fully negotiated and the ESCA document is finalized and executed. Under the terms of the final agreement, the Army's involvement in the cleanup will be limited to providing funding and oversight of the ESCA.

It is anticipated that between 35 and 50 temporary, full-time local workers will be employed to perform the work. Local businesses will also be hired to perform a gamut of tasks such as concrete work, architectural and engineered drawings, electrical work, roofing, janitorial and other necessary activities.

The overall duration of the Project is estimated to require 30 months but could take up to 60 months due to final reporting and regulatory review.

We are bringing this item for approval to negotiate so that upon completion there is no delay in starting the remediation. The LRA has been working with Army and Environmental Consultant for two years to get to this point. The final ESCA award may change but will not exceed amount shown. The LRA will update the Board on the final details upon execution.

FINANCIAL IMPACT:

No general funds are expected to be necessary for the completion of this remediation. While this is a fixed-cost project, any cost overruns are borne by the Army, environmental contractors or with existing site revenue/reserves.

The LRA will receive payments estimated at just over $42,700,000 in quarterly payments over the duration of the project and in exchange for remediation and/or removal of contaminated soil, siding, roofing, concrete and some remaining surplus Army fixtures.

ALLIGNMENT WITH STRATEGIC OBJECTIVES:

This activity allows the City to protect the health and safety of the community, marshal scarce resources through acquisition of grants, encourage local business involvement and growth as well as accelerate key City initiatives.

ATTACHMENTS

ESCA Fact Sheet	Describes an ESCA and the responsibilities of parties involved.
ESCA 2 - Summary Scope of Work	An overview of the scope of work associated with the Phase 2 remediation of PCBs at the former Riverbank Army Ammunition Plant

Table 1

Riverbank Army Ammunition Plant ESCA IGE Cost Summary

CLIN	TASK DESCRIPTION	COSTS
	PART A - TSCA AND CERCLA	
1	WORK PLANS	$ 740,629
2	MOBILIZATION	$ 512,926
3	PITS AND TRENCHES	$ 1,433,328
4	PAINT REMOVAL <8 FEET	$ 4,184,259
5	PAINT CLEANING >8 FEET	$ 4,104,973
6	WATER TREATMENT	$ 1,177,135
7	CONCRETE FLOOR HOT SPOT REMEDIATION	$ 852,458
8	PANEL REMOVAL	$ 8,881,531
9	MISCELLANEOUS ITEMS	$ 1,770,019
10	DEMOB	$ 52,505
11	FIELD OFFICE SUPPORT	$ 3,900,338
12	CLOSURE REPORT	$ 422,398
13	TRANSPORTATION & DISPOSAL (Variable Price Budget)	$ 1,170,984
14	ENCAPSULATE FOUR PRESSES	$ 329,727
	SITE TOTAL	$ 29,533,210
	PROJECT MANAGEMENT	$ 1,645,173
	CONTINGENCY	
	TOTAL	$ 31,178,383
	LRA PROGAM MGMT	$ 2,182,487
	PART A TOTAL	$ 33,360,870
	PART B - CERCLA	
16.1	CERCLA PLANS AND REPORTS	$ 953,547
16.2	MOBILIZATION	$ 84,394
16.3	STORMWATER CLEANING AND EXCAVATION	$ 609,771
16.4	SOIL EXCAVATION AND RAILROAD REMOVAL/REPLACEMENT	$ 1,560,255
16.6	TRANSPORTATION & DISPOSAL (Variable Price Budget)	$ 1,998,929
16.7	DEMOB	$ 28,532
16.8	LANDFILL LTM	$ 2,075,577
16.9	FIELD OFFICE SUPPORT	$ 971,571
	SITE TOTAL	$ 8,282,575
	PROJECT MANAGEMENT	$ 485,964
	CONTINGENCY	
	TOTAL	$ 8,768,539
	LRA PROGAM MGMT	$ 613,798
	PART B TOTAL	$ 9,382,337
	GRAND TOTAL	$ 42,743,207

FACT SHEET

ENVIRONMENTAL SERVICE COOPERATIVE AGREEMENTS
AT FORMER FEDERAL FACILITIES

Use of an ESCA (often in conjunction with an Early Transfer Authority) allows a designated authority to assume greater control of the remediation decisions at former federal facilities.

• Section 334 of the National Defense Authorization Act for Fiscal Year 1997 amended CERCLA[i] to allow contaminated federal property to be transferred to private parties before all remedial action has been completed. Consequently, the "Section 334 Early Transfer," allows for the transfer of contaminated federal property prior to the completion of the CERCLA 120(h) cleanup requirements.

• To facilitate an even more rapid transfer of the Base Closure and Realignment (BRAC) portions of federal facilities to the ultimate reusers, the Local Reuse Authority (LRA) proposes entering into an Environmental Services Cooperative Agreement (ESCA). The ESCA will vest increased control and responsibilities for completing the environmental remediation with local governmental entities, utilizing the funding provided by the United States.

• The ESCA allows for the transfer of responsibility for the remediation and other long-term management tasks associated with the environmental conditions at former federal facilities to the LRA in exchange for an obligation to pay or reimburse the LRA according to a negotiated schedule for assumption of these duties.

• The completed ESCA will be a detailed agreement between the responsible federal entity and the LRA that sets forth:
  - o The duties of each party
  - o The requirements that each party must meet
  - o The environmental site conditions and levels of known contamination
  - o Levels of remediation that must be achieved
  - o The remedy methodology (approved by EPA and relevant state regulatory agencies) that must be implemented by the LRA
  - o Provisions regarding discovery of unknown contaminants
  - o Funding and reporting mechanisms

General Requirements of the Federal Entity Arising From the ESCA

- The federal entity uses the ESCA mechanism to "contract" with the LRA to perform its environmental remediation according to the Technical Specifications & Recommendations Statement (TSRS). The TSRS details the exact technical performance requirements that must be performed to achieve "clean-up" and binds the parties in great detail to their respective roles and responsibilities.

- A key portion of the ESCA is the fact that the LRA's duty to act is strictly contingent upon the federal entity providing funding for the remediation.
- Specifically, the federal entity duties under the ESCA include:
    - Provide funds agreed upon in the ESCA pursuant to federal regulation
    - Remain as Lead Agent Authority and retain ultimate responsibility
    - Conduct oversight of restoration efforts
    - Retain responsibility for and remediate if necessary, any "Government
    - Retained Conditions" – i.e. continued responsibility
    - Ultimately, grant CERCLA 120(h) Covenant to the Reusers

General Requirements of the LRA Arising from the ESCA

The LRA must also perform specific duties negotiated through the ESCA to meet technical contamination remediation levels and achieve regulatory closure in exchange for a specific reimbursement pursuant to the ESCA.

• A key component from the local government's stance, is the fact that the duty to act to complete the remediation is absolutely contingent upon the federal entity providing funding pursuant to the ESCA and the negotiated Cooperative Agreement Award.

• The LRA may then contract with the selected reusers to conduct the detailed remediation activities for the local government. This allows the entity in the best position to achieve a complete and rapid remediation, the ultimate reuser, to leverage synergies for simultaneously conducting the remediation and redevelopment.

• In turn, the reuser performance of the remediation tasks is subject to the oversight of the LRA and the federal entity to ensure that the remediation is performed correctly. This ensures that any residual liability is contained. 3

• Pursuant to the ESCA, the LRA must:
    o Achieve remediation completion as detailed in the Technical Specifications & Requirements Statement (TSRS)
    o Reach performance-based objectives under federal entity oversight pursuant to TSRS
    o Remediate in accordance with applicable federal and state law
    o Remediate within the up-front negotiated budget (for known and identified site conditions)

o Ensure compliance with Recipient – Regulator Agreement (if necessary for early transfer)
o Acquire environmental insurance as condition of the ESCA to cover cost increases arising during the remediation

• The federal entity usually requires environmental insurance to cover cost increases or discovery of unknowns at the sites. Specifically, the federal entity requires that this insurance be purchased and utilized for discovered unknown contamination, despite the fact that the ultimate liability remains with the federal entity. This is considered a "trade-off" by the federal entity in exchange for allowing rapid reuse, and a necessary requirement to ensure that it contains its liability after relinquishing control of the process. The federal entity will include the cost of insuring the unknowns into the negotiated ESCA payout amount.

The practical effect of this environmental insurance requirement, as a condition precedent to entering into an ESCA, is that if unknown environmental conditions are discovered at the site, using the environmental insurance to remedy the situation will allow the reuse to proceed without the three to five year wait that would result while the federal entity begins the cumbersome environmental investigation, federal funding allocation and remediation processes.

[i] CERCLA stands for the Comprehensive Environmental Response, Compensation and Liability Act