

Tuesday, April 4, 2023
City Council Workshop - Hybrid (In-Person & Electronic)

5:30 P.M.
City Council Workshop - Hybrid (In-Person & Electronic)

In-Person at the College Place Fire Department, 629 S College Avenue, College Place Washington

Workshop may be viewed at: Live Stream on City of College Place, Washington YouTube at https://www.youtube.com/channel/UCbx3qrqzLDL_05NusReSI-g/featured
Zoom Attendee Link: <https://us06web.zoom.us/j/83881297377>

Or you may call this number to listen: 1-669-900-9128 ID# 838 8129 7377 Phone controls: *6 - toggle mute/un-mute and *9 - raise hand

1. Opening Items.

Subject :	1.01 Call To Order
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	1. Opening Items.
Access :	Public
Type :	Procedural

Public Content

Mayor Hernández will call the workshop to order.

Subject :	1.02 Roll Call
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	1. Opening Items.
Access :	Public
Type :	Procedural

Public Content

Mayor Norma L. Hernández

Paul T. Jessup,

Michael Cleveland,

Tito Espinoza Jr.,

Council Members Loren Peterson,

Melodie Williams,
Heather Schermann,
Monica Boyle

Administrator, Mike Rizzitiello;
City Attorney, Rea Culwell;
Finance Director, Brian Carleton;
Public Works Director, Robert McAndrews;

Staff Police Chief, Troy Tomaras;
Fire Chief, David Winter;
Community Development Director, Jon Rickard;
HR Manager, Shawn Doering;
City Clerk, Sherri St. Clair

Subject : 1.03 Pledge of Allegiance
Meeting : Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category : 1. Opening Items.
Access : Public
Type : Procedural

Public Content

"I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all."

Subject : 1.04 Public Comment -
Meeting : Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category : 1. Opening Items.
Access : Public
Type : Information

Public Content

Council meetings are primarily structured to permit Council Membersto arrive at the decisions necessary to govern the City.

Meeting Protocol for Public Comment:

When submitting public comments, include the following information regardless of the manner you are using: Note that there are deadlines for writtencomments to be included in the meeting documents.

- Your Name
- Your Address

Written Public comments may be provided by submitting comment to Clerk@cpwa.usno later than 4:30PMon the meeting date to be included in the record.(If typewritten, no less than 11 pt font).

Verbal Public Comments may be made during the meeting:

- In-person at the meeting location - provided at the beginning of each agenda.
- Telephone comment - Call1-669-900-9128, entering the meeting ID (provided at beginning of agenda) and raise your hand (*9 to raise hand, *6 to mute/un-mute) when comments are requested.
- Virtual comment -Join using theZoom Attendee link (provided at beginning of agenda) and raise your hand when comments are requested.

Once recognized, you will have five minutes to speak on any subject that is under the control of the Council.

File Attachments

[It is SO EASY to participate in public meetings!.png \(224 KB\)](#)

2. Workshop Topics.

Subject :	2.01 State of the City - Mayor Hernández
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	2. Workshop Topics.
Access :	Public
Type :	Discussion, Information

Public Content

Workshop Only - No Action

File Attachments

[Mayor_DraftSOTC_2023.pdf \(4,070 KB\)](#)

Subject :	2.02 College Place Police Department Annual Report and Bias Report Presentation - Chief Tomaras
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	2. Workshop Topics.

Access :

Public

Type :

Discussion, Information

Public Content

Workshop Only - No Action

Historical Perspective:

The Police Department Annual Report is designed to provide an overview of the police department along with statistical information of what occurred over the last year. The report provides leadership an opportunity to prioritize and evaluate trends, successes and challenges to help make strategic decisions for the future.

File Attachments

[2022 Annual Report.pdf \(3.673 KB\)](#)

[CPPD 2022 Bias Report.pdf \(1.411 KB\)](#)

[2022 CPPD ANNUAL REPORT PRESENTATION.pdf \(3.087 KB\)](#)

Subject :

2.03 City Standards Update - Mr. McAndrews

Meeting :

Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)

Category :

2. Workshop Topics.

Access :

Public

Type :

Discussion, Information

Public Content

Workshop Only - No Action

Historical Perspective:

The City's standards and specifications have not been updated since March of 2020. The City has continued to grow and is constantly striving for improvement. We try to make things clear and as simple for contractors and developers as possible. Over the past few years materials and products have changed and the City has improved its practices. We realized that some conflicts currently exist where the municipal code says one thing and the standards say another, or multiple standards contradict themselves.

PW and JUB Engineers have diligently worked to address concerns that have come up from contractors, developers, and City staff. The result is the new updated standards draft document included as an exhibit.

Information for Consideration:

The initial review and update process began in 2021 and unfortunately was put on hold for some time after our Engineering Tech left the City in early 2022. It has since been picked back up and

City staff and JUB engineers has picked up momentum on finalizing the update. While we strive for this to be prefect, by nature standards and specifications change and morph over time. We wanted to push this forward and get it finalized before the 2023 construction season really kicks off. The plan is to continue to take notes on areas to consider changes and updates so another review and update process can take place at the end of 2023 or beginning of 2024. Ideally, each subsequent year there will be review and the City will update the standards and specifications accordingly.

City Staff and JUB engineers will go over the most significant changes and updates at the workshop so that questions can be addressed for the final review and approval at the next business meeting (likely April 11, 2023).

City of College Place 2020 Standard Specifications and Drawings:http://cms6.revize.com/revize/cityofcollegeplace/document_center/Engineering/Civil%20Standards-Active.pdf

File Attachments

- [COCP SPECIFICATIONS \(1\).pdf \(2,860 KB\)](#)
- [COCP STANDARD DETAILS \(1\).pdf \(17,646 KB\)](#)
- [COCP STORMWATER FACILITY STANDARDS \(1\).pdf \(5,675 KB\)](#)
- [Update Summary.pdf \(310 KB\)](#)

3. Closing Items.

Subject :	3.01 Good of the Order
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	3. Closing Items.
Access :	Public
Type :	Discussion, Information
Subject :	3.02 Conclusion
Meeting :	Apr 4, 2023 - City Council Workshop - Hybrid (In-Person & Electronic)
Category :	3. Closing Items.
Access :	Public
Type :	Procedural

Public Content

Mayor Hernández will conclude the workshop.



State of the City 2023

Norma L. Hernández – Mayor

2017 to 2026 Strategic Plan

- Weblink:
http://cms6.revize.com/revize/cityofcollegeplace/document_center/Admin/OrdNo_19-005_Strategic_Plan_2017-2026_Update_2019-02-12.pdf
- Five Themes:
 - Resource Development
 - Cooperation & Connection
 - Infrastructure Investment
 - Planning for Prosperity
 - Optimal Operations
- Reviewed every two years between April and July prior to start of budget season.

City of College Place Strategic Plan, 2017-2026

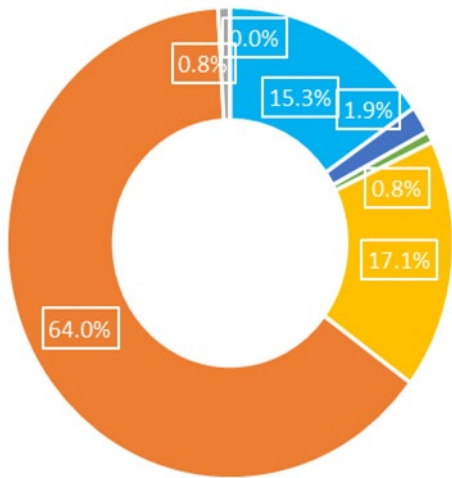


Where small-town living and learning meet

Adopted Fiscal Year 2023 Budget

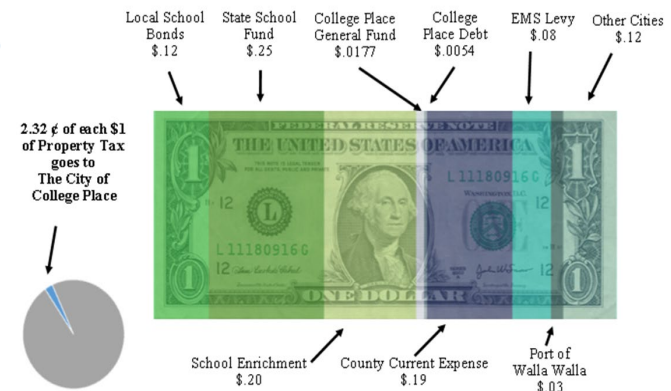
Revenues/Expenses: \$53,949,946

Property Tax Breakdown



- **Current Expense Fund (000's) - (15.31%)**
- **Special Revenue Funds (100's) - (1.89%)**
- **Debt Service Funds (200's) - (0.77%)**
- **Capital Project Funds (300's) - (17.13%)**
- **Enterprise Funds (400's) - (64.04%)**
- **Internal Service Funds (500's) - (0.84%)**
- **Fiduciary Funds (600's) - (0.02%)**

Break Down of How Each Dollar of Property Tax is Spent





Key City Service Statistics 2021/2022

Key City Services – 2021 vs. 2022

Fire & EMS Runs

1,850 – 2021

2,046 – 2022



Police Service Calls

8,055 – 2021

11,011 – 2022



Water Production (Million Gallons)

479.0 - 2021

476.0 – 2022



Wastewater Processing (Million Gallons)

316.0 - 2021

363.0 – 2022



PERMIT ACTIVITY	2021	2022
Commercial Permits	18	12
SFR Dwelling Units	29	6
ADU's	1	2
YTD - All Permits Issued	554	403
Total Valuation	\$38,000,140	\$9,138,774



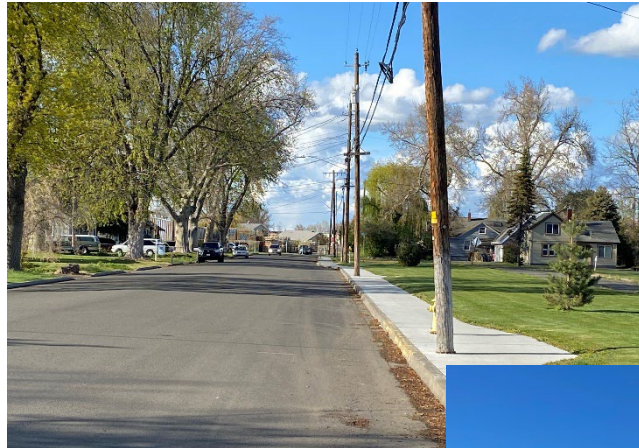


Organizational Recovery from COVID-19

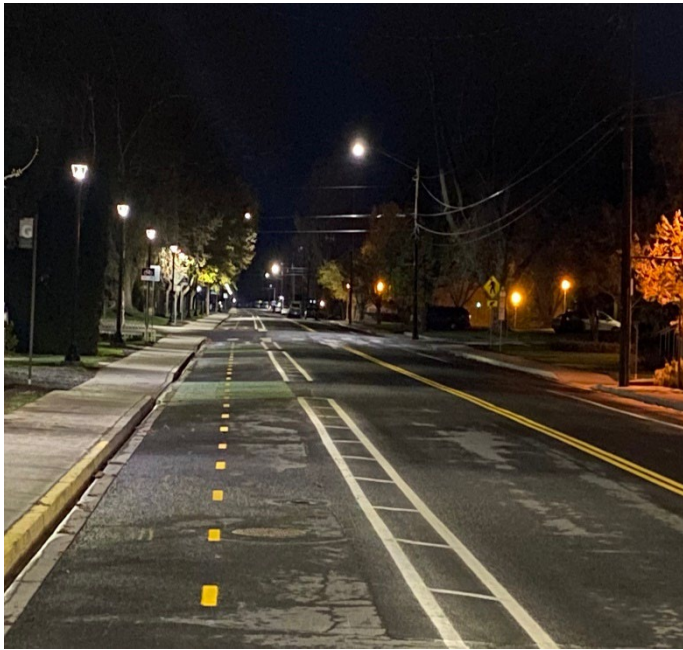
American Rescue Plan Act (Allocations)

Projects

- Replacement Fire Truck
- Replacement Public Works Stellar Truck
- Council Chambers Renovations
- Police Gun Range Classroom
- Youth Recreation Programming
- Bonuses for Emergency Workers
- Sidewalks
- Sky & Mountainview Water Replacement
- Utility Assistance Program
- Road Infrastructure Repair & Replacement



2022



2022: Resource Development

- **Incentives**

- Downtown Catalyst Incentive
- Economic Development Infrastructure Program
- Multifamily Housing Tax Incentive
- Begin investigation of Tax Increment Financing

- **Business Development**

- Goodwill
- Hot Mama's
- BestMed

- **Housing Development**

- Whispering Creek (SE 8th & Whispering Creek)
- Sale of Christensen Property to Lakeside Capital/College Holdings

- **Grants**

- CDBG SW 6th & 8th Sidewalk Engineering
- RCO YAF, LWCF, and WWRP Grant for Lions Park
- Port .09 Grant for Lions Park
- Wildhorse Grant for PD Cameras at Meadowbrook and C Street
- Transalta, State, and Pacific Power Grants for Solar Array
- MPO SRBG Grant for SW Mojonier Engineering
- State Ecology Grants for WWTP, Vactor, Lions Park Storm,
- State Public Work Trust Fund for Sky Water, Lift Station 5, Well 7, and Reservoir 4
- & more



2022: Cooperation & Connection

- **Community Events**

- Lions Club Fishing Derby
- Blue Zone Demonstration Project Events
- CP Farmers Market
- Movies at the Park
- Arbor Day
- Freedom Festival
- Fall on the Avenue
- Light Up The Avenue

- **Citizen Advisory Commissions**

- **Programmatic Enhancements**

- BMAC Utility Assistance
- Youth Recreation (CPPS, Sonbridge, and Campfire)
- WW Rural Library District

- **Communications**

- Youtube Channel (including monthly City Administrator Update)
- Other Social Media (Facebook, Twitter, Nextdoor, Instagram).
- City Newsletter Partnership (City, Port, WWU, WWVA, Rogers, CPPS, Library, and Sonbridge)

- **Partnerships**

- WWU, CPPS, City of WW, County, State, Port, Campfire, Sonbridge, BMAC, and others
- Joint use Fire Training Tower





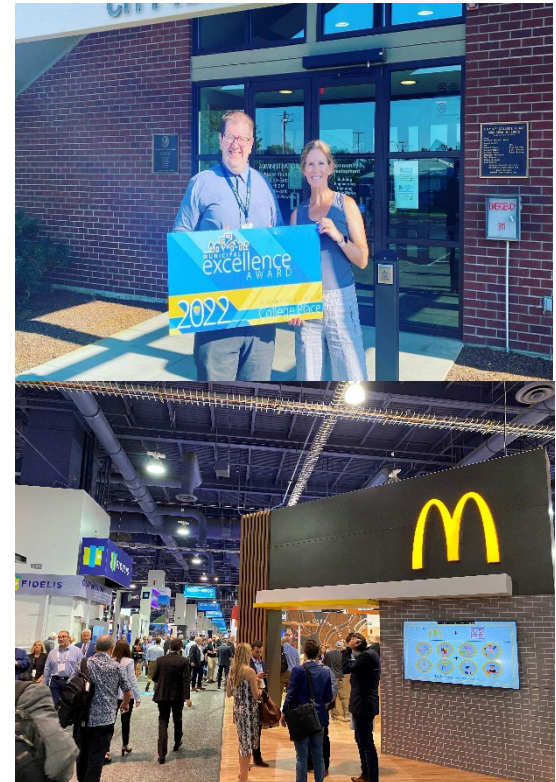
2022: Infrastructure Investment

- **General Government**
 - Finish up Police Gun Range Classroom
 - Shared Fire Department Training Tower
- **Parks**
 - Wrap up Lions Park Engineering
 - Volunteer work on Perseverance Parklet
- **Storm**
 - NW Destito Storm
 - Storm infrastructure at Lamperti & College
- **Streets**
 - Whitman & Larch Four Way Stop Sign
 - Chipseal (Knapp Addition)
 - 4Bikes Project
 - Neighborhood Street Lighting Improvements (Larch corridor)
 - SW 6th & 8th Sidewalk Engineering
- **Wastewater**
 - Wrap up SW Sewer Project
 - Wrap up WWTP Engineering
- **Water**
 - Well #6 Mechanical
 - Solar Array Install
 - Sky & 12th Water Main Replacements



2022: Planning for Prosperity

- **Development Code Revisions**
 - Manufactured Home Park Zoning
 - Master Planned Development Code
 - Zoning Simplification
 - Multifamily in Commercial Districts
- **Six-Year Investment Plans**
 - Capital Facilities
 - Equipment Replacement
 - Information Technology
- **Walla Walla Valley Blue Zones**
 - Local Road Safety Plan
 - ADA Transition Plan
- **Housing Needs Assessment Implementation Work**
- **Legislative Advocacy**
 - State
 - Federal
- **Marketing to Developers via ICSC and other Mediums**
- **Ordinance #22-010: Prohibition of Local Income Tax**



2022: Optimal Operations

- **General Government**
 - Council Chamber Renovation
 - Revized Regional Interlocal pertaining to Emergency Management
 - Collaboration with College Place Public Schools, Campfire, and Sonbridge on grants and programming to support youth recreation.
- **Fire Department**
 - Shared Fire Training Tower
 - Ambulance Utility to Support Needed Staffing
 - Wildland Fire Assistance
- **Police Department**
 - Task Force Grant and Support
- **Public Works**
 - Pursuit of regional NRCS PL 566 Storm Grant Assistance
 - Outsourced Wastewater Treatment Plant Contract with Jacobs
 - Partnership with County for Chip Seal.
 - Partnership with State DOT for Traffic Signal Maintenance.



2023



- **Incentives**

- Tax Increment Financing
- Creative District
- Common Roots Land Trust

- **Business Development**

- Chipotle
- Another Fast Food Tenant
- Hotel

- **Housing Development**

- Lakeside/College Holdings Development
- Villages at Garrison Creek Phase 13 and 14
- Villages at Fort Walla Walla
- VESPER (8th & College)
- Deer Meadows

- **Grants (Working on)**

- Congressional Appropriations for Well #7, SW Mojonnier Rd, Lions Park Community Center, NE Rose St Lighting
- RCO Grant for Veterans Park Upgrade
- TIB for SW Mojonnier Rd, Scenicview Overlay/Sidewalk
- WSDOT Bike & Ped Grant for College Place Post Office Crosswalk
- WSDOT Safe Routes to School, Sidewalk on SE Central, SE Birch, and SE 8th
- and many more.



2023: Cooperation & Connection

- **Community Events**

- Block Party – College (Whitman to Fourth)
- Spring Fling – Kiwanis Park
- Lions Club Fishing Derby – Lions Park Before Renovation
- CP Farmers Market – Municipal Campus
- Movies at the Park
- Arbor Day
- Freedom Festival
- Fall on the Avenue
- Light Up The Avenue
- Korean War Memorial Dedication at Veterans Park

- **Citizen Advisory Commissions**

- **Programmatic Enhancements**

- BMAC Utility Assistance/Broadband Coordination
- Youth Recreation (CPPS, Sonbridge, and Campfire)
- WW Rural Library District

- **Communications**

- Youtube Channel (including monthly City Administrator Update)
- Other Social Media (Facebook, Twitter, Nextdoor, Instagram).
- City Newsletter Partnership (City, Port, WWU, WWVA, Rogers, CPPS, Library, and Sonbridge)

- **Partnerships**

- WWU, CPPS, City of WW, County, State, Port, Campfire, Sonbridge, BMAC, and others



2023: Infrastructure Investment

• General Government

- City Council Chambers AV Upgrade (ARPA Funded)
- City Hall Renovations
- Fire Dept HVAC Improvements
- Future Police Department Building Planning

• Parks

- Lions Park Renovation
- Autumn Meadows Park Renovation

• Storm

- Lions Park
- Outfall Replacement
- Decant Facility Engineering
- SE 6th & Birch Engineering

• Streets

- Chipseal (West side of town)
- Whitman & Academy Way Four-Way Stop Sign
- SW 6th & 8th Sidewalk Construction (Grant Funded)
- SE Birch, SE Central, SE 8th Sidewalk Engineering
- SW Mojonner Engineering
- PW Yard Renovations
- Autumn Meadows Infrastructure Assumption

• Wastewater

- Wastewater Treatment Plant Project State Mandated Upgrades
- Lift Station #5 Replacement (SW 1st Street rehab with it)

• Water

- Finish up Well #6 Wellhouse (Maple & Whitman)
- Well #7 Engineering
- SE 6th Water Main Replacement Engineering
- Reservoir #4 Engineering



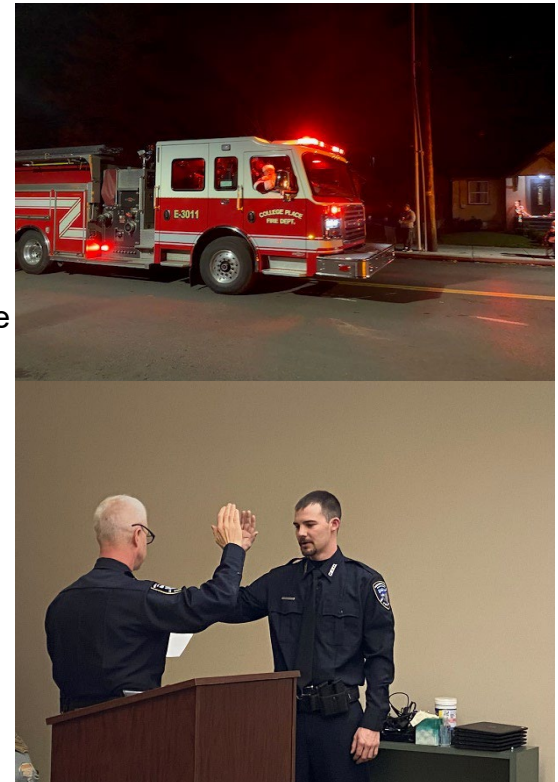
2023: Planning for Prosperity

- **Development Code Revisions**
 - Martin Airfield?
 - Missing Middle Housing/Affordable Housing
 - Preapproved Housing Plans
- **Six-Year Investment Plans**
 - Capital Facilities
 - Equipment Replacement
 - Information Technology
- **Walla Walla Valley Blue Zones**
 - Safe Routes and Roads for All Plan
 - Complete Street Plan
- **Countywide Planning Policy Update and associated Urban Growth Area Review**
- **Additional Security Cameras in Town (Grant Funded)**
 - Meadowbrook
 - C Street
 - Lions Park
- **Legislative Advocacy**
 - State
 - Federal
- **Marketing to Developers via ICSC and other Mediums**



2023: Optimal Operations

- **General Government**
 - Information Technology Revamp/Cybersecurity Planning
 - Sales Tax Sharing Agreement for Big Box Stores over 25,000 sq ft.
 - Local Community Grant Program to Support Community Partnerships
 - CHE Walla Walla Tool Library
 - Sonbridge
 - And more
 - Collaboration with College Place Public Schools, Campfire, and Sonbridge on grants and programming to support youth recreation.
- **Fire Department**
 - Volunteer/Staff Growth in Fire/EMS
 - Wildland Fire Assistance
- **Police Department**
 - School Resource Officer Return
 - Working with City/County on ways to augment mental health response.
- **Public Works**
 - Pursuit of regional NRCS PL 566 Storm Grant Assistance
 - Outsourced Wastewater Treatment Plant Contract with Jacobs
 - Partnership with City of Walla Walla on NE Rose
 - Investigation of wastewater system regionalization.



Major Challenges Going Forward

- **Housing Affordability & Availability**
- **Tight Urban Growth Area**
- **Unfunded State Mandates and Impact on Provision of Services**
- **Inflation**
- **Availability of contractors to bid on projects**
- **Local Street Reconstruction**
 - Grants not available for roads not Federally Classified
 - No funding in place for local roads except meager declining sales tax.
 - Professionally compiled pavement management plan paints stark picture if nothing is done in coming years.
- **Wastewater System**
 - Very expensive Federal/State mandates now and down road.
- **Water System**
 - Need storage to keep up with population





Thank You

Mayor Norma L. Hernández

Cell: 509-386-6634

Email: nhernandez@cpwa.us

City Administrator Mike Rizzitiello

Cell: 509-520-9091

Email: mrizzitiello@cpwa.us



2022 ANNUAL REPORT

City of College Place Police Department
Revision February 2023



Chief Troy Tomaras

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Message from the Chief

Thank you for taking time to review the College Place Police Department (CPPD) annual report. This report outlines our year in review for 2022, and guides our decisions for 2023. The annual report serves as a measurement for success, while providing analytics for areas of improvement. Ultimately, this is our report card to our community to whom we serve.

2022 marks the end of a dangerous pandemic and transition to an endemic, acknowledging COVID hasn't gone away. And, although the State of Washington has observed an increase in crime, College Place continues to remain a safe community to live and work. With that said, Fentanyl is on the rise within our community. This dangerous drug has taken the lives of College Place residents and continues to influence other crimes such as stolen property and burglary. Although we have challenges ahead, our community is resilient and strong.

Other challenges for our community include recent legislation that limits police involvement in vehicle pursuits, simple drug possession and mental health. Please know we are working in partnership with crisis teams, mental health professionals and the fire department to assist individuals and families in need. We have also partnered with our city attorney to provide criminal diversion opportunities to help individuals struggling with addiction and mental health.

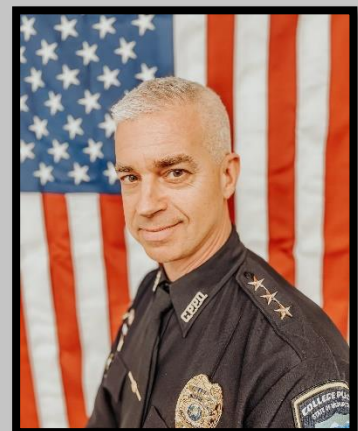
Under the leadership of Mayor Norma Hernandez and City Administrator Mike Rizzitiello, you can be assured the police department will receive the necessary funding, training and support to serve our community. With that said, I am happy to report the CPPD has exceeded every mandated training requirement and continues to maintain our law enforcement accreditation through the Washington Association of Sheriffs and Police Chiefs (WASPC).

We are happy to report the CPPD has successfully deployed body worn cameras for over a year and continues to incorporate technology into our daily operations. We are also proud to say we did not experience a single sustained complaint in 2022. These are some of the ways we are maintaining public trust.

Sincerely,



Troy Tomaras
Chief of Police
College Place Police Department



MISSION

The College Place Police department embraces the Philosophy of community oriented policing and strives to enhance the quality of life and safety of our citizens with the highest degree of ethical behavior, fairness and professional conduct.

VISION

Our vision is to ensure the City of College Place is a safe place to live, work and do business through the delivery of quality law enforcement services.

VALUES

Every member of the College Place Police Department is part of a team who inculcates courage, commitment, community and character in their daily operations through open and honest cooperation, service, respect and diversity.

Courage – Moral and ethical desire to act in the face of danger or adversity.

Commitment – Dedication to the department, professional policing and those we serve.

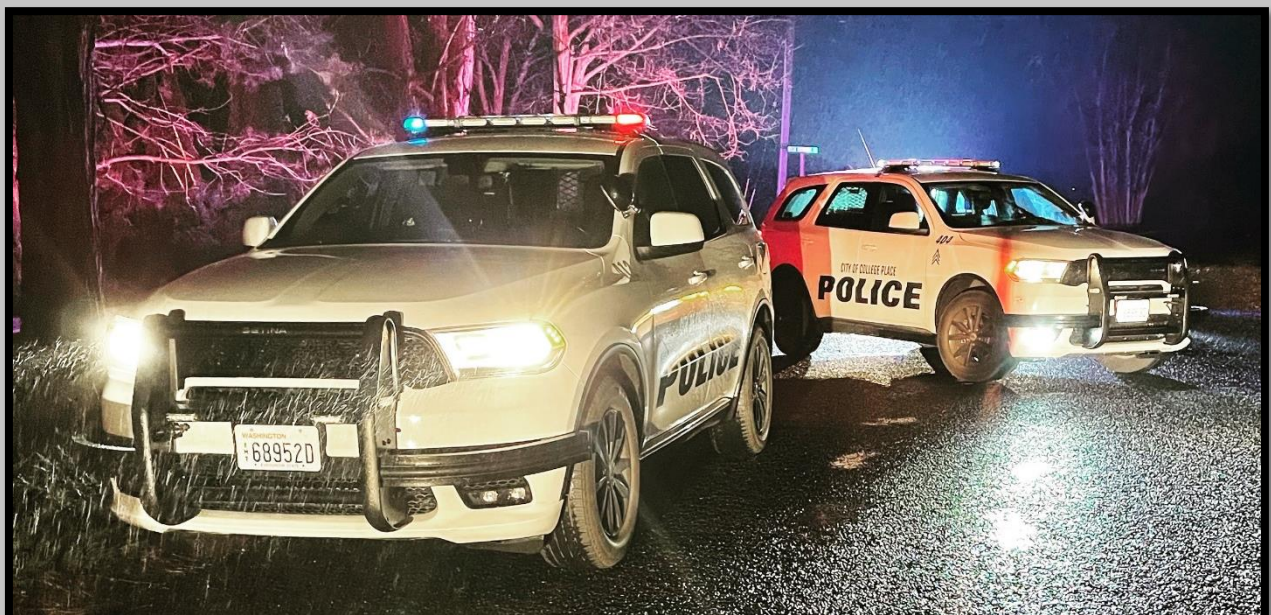
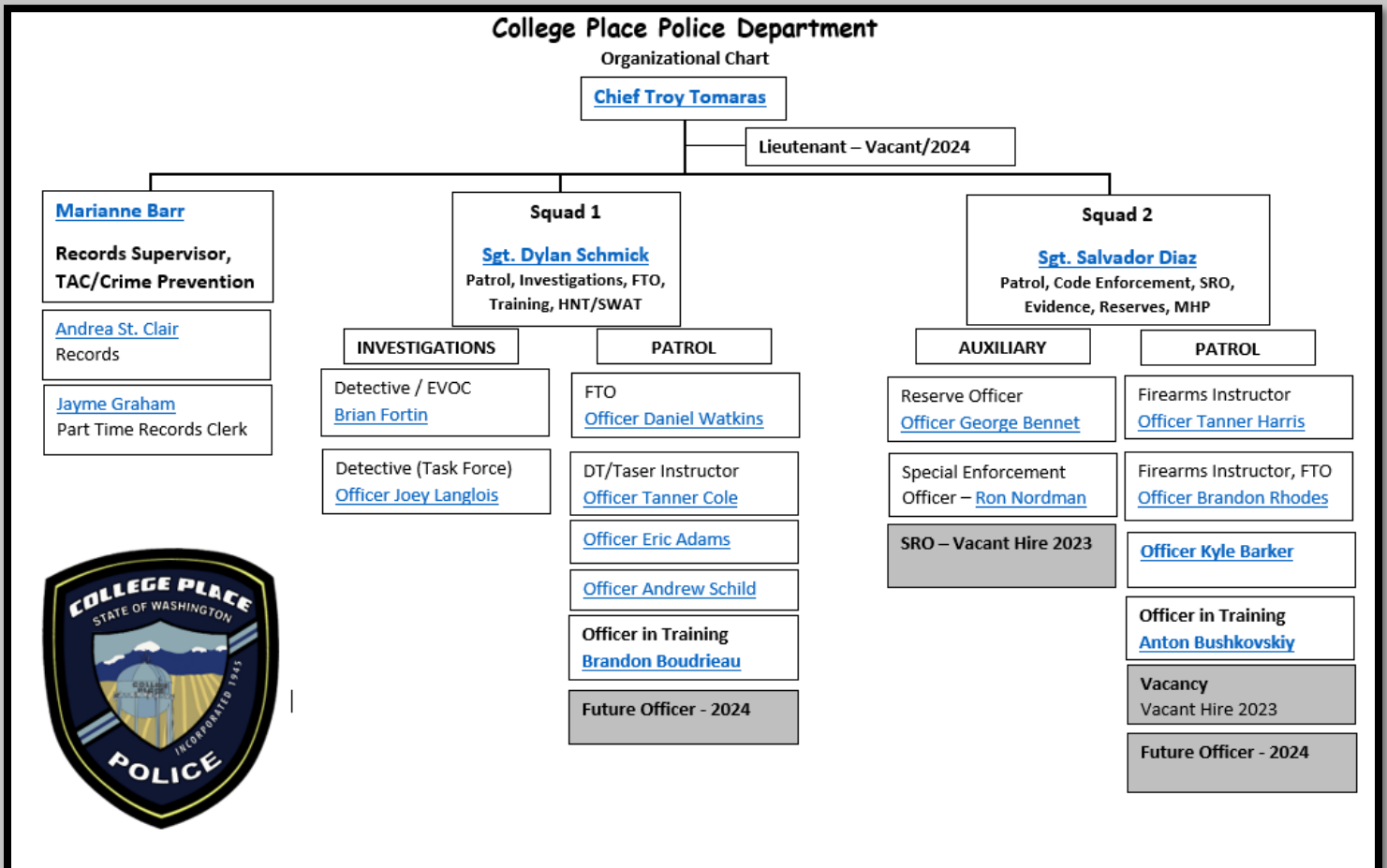
Community – Respecting and protecting individual rights while fostering relationships with whom we are called to serve.

Character – Performing with integrity while demonstrating strength to uphold and instill pride, honor and a call to public service.

GOALS

1. Reduce crime and improve traffic safety within our community.
2. Provide quality services and innovative policing strategies delivered through excellent customer service.
3. Provide leadership and resources to attract, retain and foster a safe, ethical, innovative, knowledgeable, and diverse workforce.
4. Work collaboratively with our stakeholders to improve the quality of life within our city.

Organizational Chart



New Hires

The CPPD welcomes the addition of three new officers in 2022. Officer K. Barker was hired and completed training in 2022. Officer Barker was commissioned in December as we hired two additional officers in training. Officers A. Bushkovskiy and B. Boudrieau are currently attending the Basic Law Enforcement Academy (BLEA) and expected to graduate early summer 2023. We are grateful to have them serving within the CPPD.



Officer Kyle Barker



Officer Anton Bushkovskiy



Officer Brandon Boudrieau

Retirement(s)



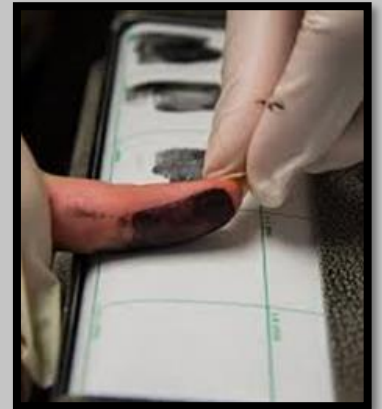
Lieutenant Robert Benfield retired after serving the City of College Place for 18 years. Lieutenant Benfield began as a reservist in 2005. He then accepted a full-time position becoming a commissioned officer in 2006. Robert promoted to sergeant in 2016 and retired as a lieutenant in June 2022.

The CPPD is grateful for your dedicated and devoted service to the City of College Place community.

SUPPORT SERVICES

Our friendly support services staff is available Monday through Friday during business hours to assist with concealed weapons permits, fingerprinting, special events applications, dog licenses, permits, disclosure requests, property, neighborhood watch and crime prevention.

Our team can help file a report or simply answer questions. Our support staff also assists with records management, billing, report merging and processing. Focused on providing the very best customer service, our support services team is essential to our daily operations.



Records Supervisor
M. Barr



Records Clerk
A. St. Clair



Administrative Support Services at a glance.	2020	2021	2022	21 – 22 % of Change
Number of fingerprints processed	57	205	283	38.05%
Number of CPL Permits Processed	70	83	85	2.41%
Public Disclosures Processed	102	169	164	-2.96%
BWC Disclosures processed	0	0	10	NA
Dog licenses sold	106	93	156	67.74%

Note: BWC = Body Worn Camera

PATROL

Our patrol section provides 24-hour coverage for the City of College Place. Patrol officers respond to general calls for service, crime prevention and traffic safety enforcement. During non-assigned time, officers work to accomplish agency goals in support of our Operations Plan.

CPPD Patrol Statistics at a glance:

Year	2019	2020	2021	2022	2021-2022 % of change
Arrests	480	405	332	333	0.30%
Cases	874	615	585	614	4.96%
Incidents	11,194	11,279	10,138	11,011	8.61%
Tickets	837	588	577	559	-3.12%
Traffic stops	3,515	2,345	2,026	2,032	0.30%



Sergeant Sal Diaz



Sergeant Dylan Schmick



INVESTIGATIONS

The College Place Police Department has two detectives who handle complex cases, which require special training, resources and/or time to solve crimes. Typically, our detectives investigate felony cases which if proven, could result in a prison sentence. Additional duties include assisting patrol with follow-up, interviews, evidence collection, latent fingerprint and photographs.



Detective B. Fortin



Detective B. Fortin - special investigations

Special Investigations Statistics at a glance:

Year	2021	2022	% of change
Cases Taken	41	57	39.02%
Cases Cleared	30	42	40.00%
Search Warrants	13	9	-30.77%
SIU Assists	1	0	-100.00%
Agency Assists	79	62	-21.52%

Detective J. Langlois - Regional Drug Task Force

Drug Taskforce statistics at a glance:

CPPD Taskforce Cases	2022
Primary Investigation	5
Assists	14
City of College Place Cases	4



SCHOOL RESOURCE OFFICER

Due to staffing challenges in 2022, the College Place Police Department (CPPD) temporarily suspended our School Resource Officer (SRO) position. We are planning to return the position in 2023. Although staffing was a challenge for a full time SRO, the CPPD showed up in College Place schools on a daily basis. The CPPD is invested in the safety of our kids.

Our SRO's duties include mentoring and working with students, acting as liaison between school, parents and police department, providing training to students and staff on security, anti-bullying, social media dangers, traffic safety, law and justice. The SRO also assists with truancy, checking on the health and welfare of students and the investigation and deterrence of criminal activity.

SRO Statistics at a glance:	2019	2020	2021	% of change
Incidents	36	32	73	128.13%
Criminal Investigations	18	9	22	59.09%
CPS Referrals	1	2	2	0.00%
Charges Filed	1	0	14	
Training Provided	21	16.75	20	19.40%



SPECIAL ENFORCEMENT OFFICER



The Special Enforcement Officer (S.E.O.) is a limited commission position which focuses on Code Enforcement, Animal Control and Parking violations. This position also serves as the department evidence and property custodian. S.E.O. The majority of the S.E.O. calls gain compliance through education and awareness.

S.E.O. R. Nordman

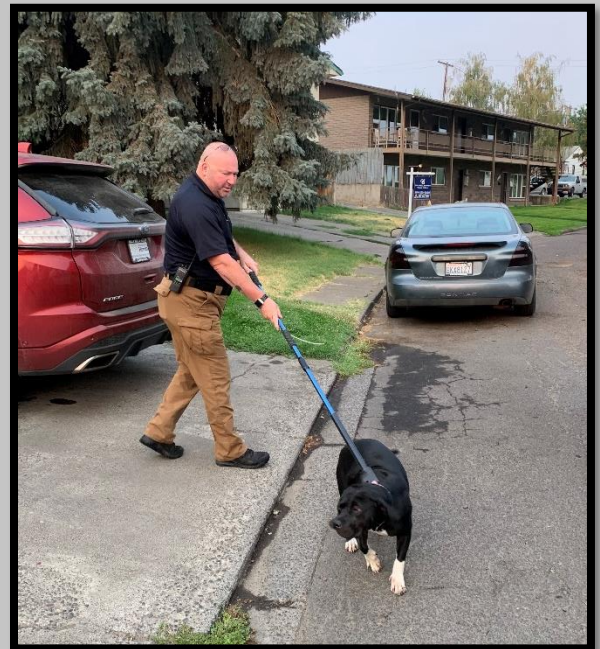
SEO Activity	2019	2020	2021	2022	% of change
Code Enforcement Inv.	240	86	126	86	-31.75%
Animal Calls	111	129	112	136	21.43%
Parking Violations	172	214	164	88	-46.34%

Code enforcement generally involves the removal of junk, junk vehicles and nuisances from property. Junk and neglected property reduces property value which has a negative impact on our neighbors, business and the entire community. This can create health issues, attract crime, and promote neighborhood disputes.



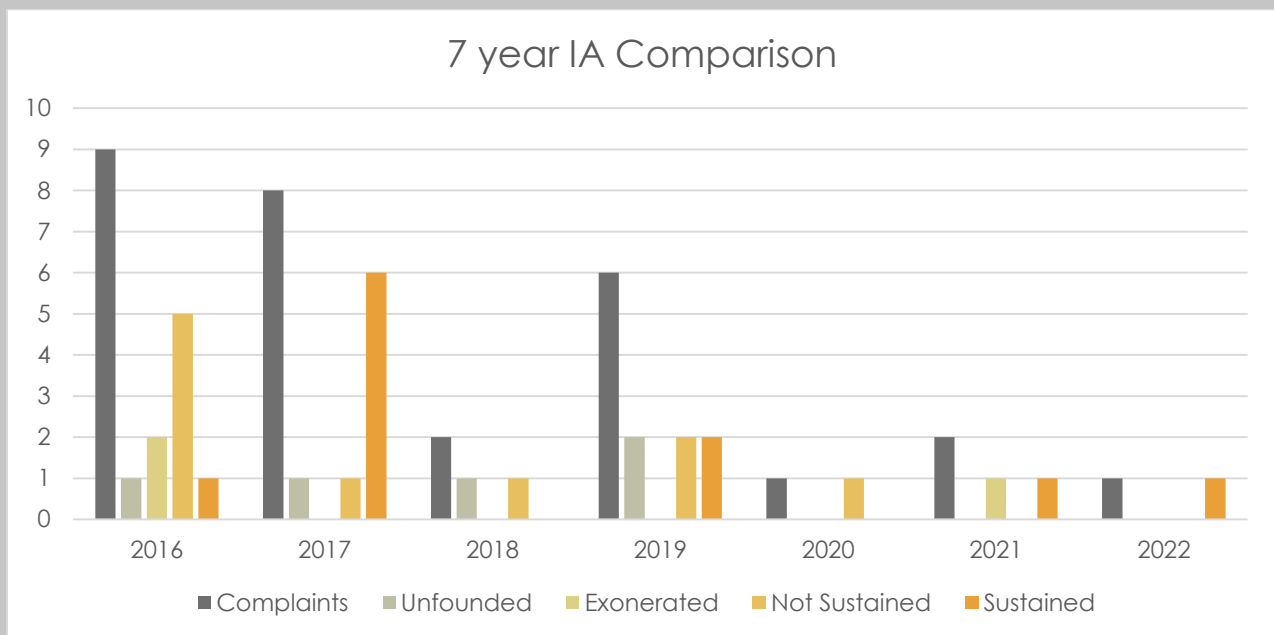
Parking and abandoned vehicles continue to challenge our community's limited parking availability. It is our goal to work with residents to remove unlicensed or non-working vehicles in an effort to promote resilient communities.

We are a pet friendly city. **Animal control** involves the response to calls involving domestic animals. This generally involves loose animals, feral or stray cats, aggressive and/or barking dogs.



PROFESSIONAL STANDARDS

The College Place Police Department inculcates courage, commitment, community and character in their daily operations through open and honest cooperation, service, respect and diversity. We strive to foster public trust through professional, unbiased policing. When an allegation of misconduct or violation of policy against one of our employees occurs, we conduct a thorough investigation while protecting and respecting the rights of everyone involved.



Complaints include violation(s) of policy such as courtesy, lost equipment or vehicle operation.

Unfounded – When the investigation discloses that, the alleged acts did not occur or did not involve department members.

Exonerated – When the investigation discloses that the alleged act occurred but that the act was justified, lawful and/or proper.

Not sustained – When the investigation discloses that there is insufficient evidence to sustain the complaint or fully exonerate the member.

Sustained – When the investigation discloses sufficient evidence to establish that the act occurred and that it constituted a violation of policy or misconduct.

Note: 2022 - CPPD had one sustained vehicle incident (Vehicle backed into a pole).

CRIME & TRAFFIC STATISTICS

Category	2020	2021	20-21 % of change	2022	21 - 22 % of change	3 year average	20 - 22 % of change
Burglaries	41	36	12.20%	38	5.56%	38.29	-7.32%
Thefts	143	108	24.48%	193	78.70%	147.92	34.97%
Collisions	82	74	-9.76%	69	-6.76%	74.97	15.85%
DUI	18	14	22.22%	20	42.86%	17.26	11.11%
Narcotics Arrests	37	4	89.19%	1	75.00%	13.70	97.30%
Traffic Stops	2345	2,026	13.60%	2,032	0.30%	2134.29	13.35%
Warrant Apprehension	207	319	54.11%	352	10.34%	292.85	70.05%
Motor Vehicle Thefts	27	33	22.22%	15	54.55%	25.07	44.44%
Vehicle Prowls	38	31	18.42%	19	38.71%	29.27	50.00%
Shoplifting	145	157	8.28%	189	20.38%	163.69	30.34%
Domestic Violence	20	18	10.00%	23	27.78%	20.30	15.00%
Other Assaults	29	12	58.62%	6	50.00%	15.47	79.31%

Pursuits

CPPD Pursuit Tracking by year	2017	2018	2019	2020	2021	2022	Total
Number of pursuits	2	2	1	2	1	19	27
Authorized	2	2	1	2	1	1	9
Unauthorized	0	0	0	0	0	0	0
IA Investigation	0	0	0	0	0	0	0

Following the 2021 passage of HB 1054 (RCW 10.116.060) pursuits have increased within our community and across the state of Washington. Under the current law, officers must terminate any eluding unless the suspect has committed a violent offense or was suspected of impaired driving.

2022 SIGNIFICANT ACCOMPLISHMENTS

- The CPPD celebrated “Chief for a Day” with Chief Manny.
- The CPPD Clerk, A. St. Clair received the city employee of the quarter award.
- CPPD Officer Brandon Rhodes completed FTO and was sworn in as a commissioned Peace Officer.
- Officer K. Barker Graduated from BLEA and was sworn in as new officer.
- The CPPD hosted Trunk or Treat.
- CPPD Lieutenant Robert Benfield retired.
- Officer D. Watkins received outstanding achievement award for DUI enforcement.
- CPPD added a detective position to the Walla Walla Regional Drug Taskforce.
- The CPPD developed and implemented a 2022 Operations Plan
- The CPPD submitted a traffic stop study and Bias Report. We are proud to report no indicators of bias or profiling by our officers through traffic enforcement.
- The CPPD collaborated with the Walla Walla Police Department and the Walla Walla County Sheriff's office to implement a regional training plan for 2022.
- The CPPD hired two new officers in 2022. Officer Brandon Boudrieau & Officer Anton Bushkovskiy.
- The CPPD hosted a WWU student for her student practicum.
- Our SEO position continues to partner and promote positive improvements within our community through Code Enforcement, Animal Control and parking enforcement.
- The CPPD worked with the Walla Walla Traffic Safety Task Force to conduct traffic safety events within the city to improve the safety of our roadways.
- CPPD helped sponsor Cops and Kids families to help provide during the holidays.
- Two prescription drug take-back events.
- Worked closely with College Place Schools to improve safety
- CPPD collaborated with city leadership and Diversity and Inclusion Board.
- CPPD sold old property through Propertyroom.com.
- CPPD has increased communication through social media (Instagram & Facebook).
- CPPD participated in the Walla Walla Valley National Night Out.
- CPPD participated in the “light up the Ave” holiday parade through the city.
- CPPD has added “Now you know” informational videos.
- CPPD in partnership with Blue Mountain Lodge recognized Officer Jimmy Duede as the officer of the year.
- CPPD added a wrestling mat and equipment to range classroom to improve defensive tactics training.
- CPPD partnered with Walla Walla Area Crime watch and Life Church to conduct graffiti abatement throughout city.
- CPPD partnered with the Walla Walla Valley Traffic Safety to host a bike rodeo at Valle Lindo & Davis elementary school.

EVENTS/PHOTOS

National Night Out & Chief for a Day



Blue Mountain Lodge Officer of the year – CPPD Officer Jimmy Duede (photo left). Traffic Safety DUI award – Officer Daniel Watkins (photo right)



Drug Take Back events



Fall Festival



Walmart Community Partnership Award



Bike Rodeo at Valle Lindo & Davis Elementary School



Winterfest Parade



Annual Cops & Kids

**College Place Police Department
Bias-Based / Racial Profiling Report**

2022



Prepared by Chief Troy Tomaras

February 16, 2023

Bias-based policing is described as the inappropriate reliance on characteristics such as race, ethnicity, national origin, religion, sex, sexual orientation, gender identity or expression, economic status, age cultural group, disability or affiliation with any non-criminal group as the basis for providing differing law enforcement service or enforcement.

According to state law ([RCW 43.101.410](#)), Local law enforcement agencies shall:

(1) Local law enforcement agencies shall comply with the recommendations of the Washington association of sheriffs and police chiefs regarding racial profiling, as set forth under (a) through (f) of this subsection. Local law enforcement agencies shall:

- (a) Adopt a written policy designed to condemn and prevent racial profiling;
- (b) Review and audit their existing procedures, practices, and training to ensure that they do not enable or foster the practice of racial profiling;
- (c) Continue training to address the issues related to racial profiling. Officers should be trained in how to better interact with persons they stop so that legitimate police actions are not misperceived as racial profiling;
- (d) Ensure that they have in place a citizen complaint review process that can adequately address instances of racial profiling. The process must be accessible to citizens and must be fair. Officers found to be engaged in racial profiling must be held accountable through the appropriate disciplinary procedures within each department;
- (e) Work with the minority groups in their community to appropriately address the issue of racial profiling; and
- (f) Within fiscal constraints, collect demographic data on traffic stops and analyze that data to ensure that racial profiling is not occurring.

(2) The Washington association of sheriffs and police chiefs shall coordinate with the criminal justice training commission to ensure that issues related to racial profiling are addressed in basic law enforcement training and offered in regional training for in-service law enforcement officers at all levels.

(3) Local law enforcement agencies shall report all information required under this section to the Washington association of sheriffs and police chiefs.

Biased-Based Policing Policy

The College Place Police Department (CPPD) policy No. 402 establishes guidance for Biased Based Policing, member responsibilities, supervisor responsibilities, training and State reporting

requirements. The purpose of this policy is to ensure the CPPD is committed to policing in a fair and objective manner to foster community trust.

Policy 402.2 - The CPPD is committed to providing law enforcement services to the community with due regard for the racial, cultural or other differences of those served. It is the policy of CPPD to provide law enforcement services and to enforce the law equally, fairly, objectively and without discrimination toward any individual or group.

According to Policy 402.4.1, while in the performance of their duties, officers contacting a person shall be prepared to articulate sufficient reason for the contact independent of the protected characteristics of the individual. (Policy 402.4.2) Each time an officer makes a traffic stop, the officer shall report any demographic information required by CPPD.

Complaints

The CPPD maintains an in person or online complaint review process that adequately addresses complaints of racial profiling. Officers accused of racial profiling are held accountable through policy 1008; Personnel Complaints. This process thoroughly investigates any allegation of misconduct or improper job performance against any department employee that, if true, would constitute a violation of department policy, federal, state or local law.

Supervision and Review

Policy 402.5 states: Supervisors shall monitor those individuals under their command for any behavior that may conflict with the purpose of this policy and shall handle any alleged or observed violation of this policy in accordance with CPPD Policy 1008; Personnel Complaints.

Each year the Chief shall review available data related to traffic stops, including demographic data, existing procedures, practices and training, as well as complaints. The data will be analyzed for any patterns or other possible indicators of racial, or bias-based profiling and included in an annual report for the Washington Association of Sheriffs and Police Chiefs (RCW 43.101.410).

Training

Training on fair and objective policing and review of the CPPD Bias-Based Policing and Profiling Policy will be conducted annually.

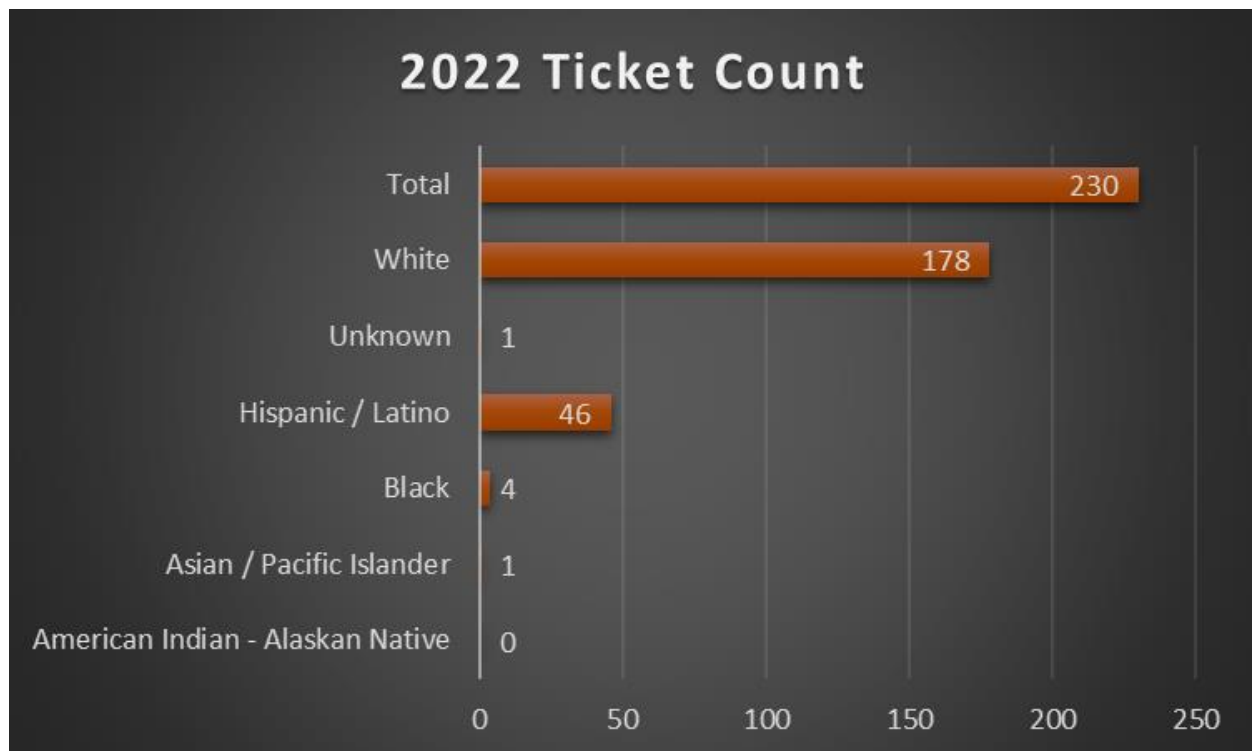
The CPPD maintains a record management system through [Tyler's New World](#) and collects demographic data on traffic stops through the Statewide Electronic Collision & Ticket online Records (SECTOR) system managed by the Washington State Patrol (WSP). The CPPD requests and analyzes that data annually to ensure that racial profiling is not occurring. Below is the available data related to traffic stops, including demographic data:

Infractions Issued

In the year 2022, 228 infractions were issued.

Stats include Traffic Infraction and Non-Traffic Violations:

INFRACTIONS ISSUED	2020 Ticket Count	2021 Ticket Count	2022 Ticket Count
American Indian - Alaskan Native	1	2	0
Asian / Pacific Islander	2	6	1
Black	6	12	4
Hispanic / Latino	79	75	46
Unknown	0	0	1
White	194	214	176
Total	282	309	228



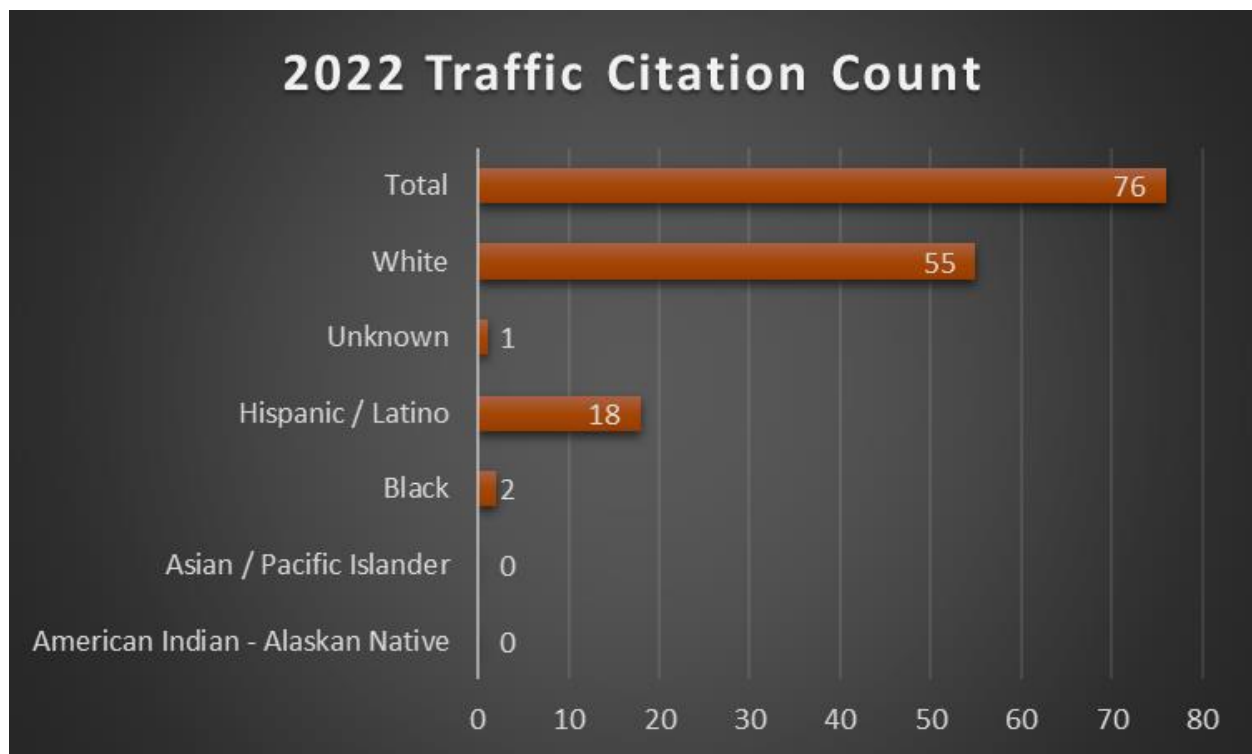
Note: Data pulled from SECTOR by WSP Sector support

Traffic Citations Issued

In the year 2022, **76** criminal traffic citations were issued.

Criminal Traffic (Misdemeanors)

TRAFFIC CITATIONS ISSUED	2022 Citation Count
American Indian - Alaskan Native	0
Asian / Pacific Islander	0
Black	2
Hispanic / Latino	18
Unknown	1
White	55
Total	76



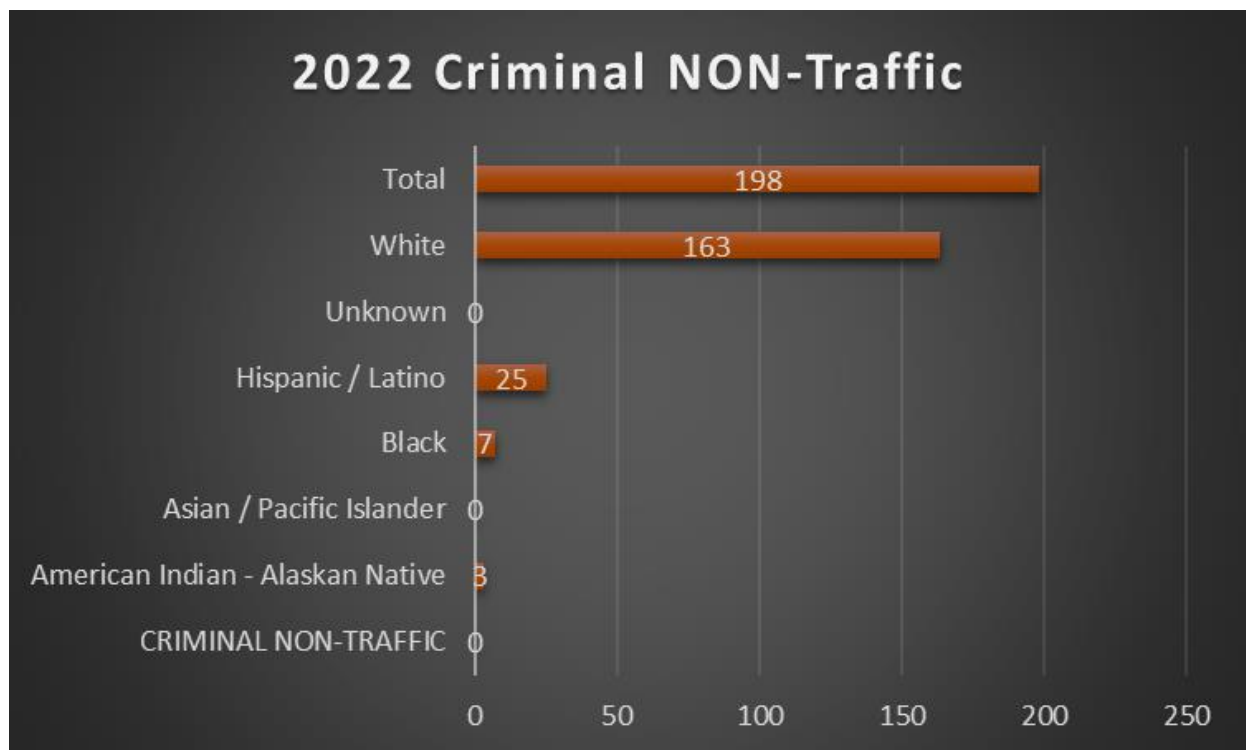
Note: Data pulled from SECTOR by WSP Sector support

Non-Traffic Citations Issued

In the year 2022, 198 Criminal non-traffic citations were issued:

Criminal NON-Traffic (Misdemeanors)

CRIMINAL NON-TRAFFIC	2022 Citation Count
American Indian - Alaskan Native	3
Asian / Pacific Islander	0
Black	7
Hispanic / Latino	25
Unknown	0
White	163
Total	198



Note: Data pulled from Sector by WSP Sector support

City of College Place Population and Demographics –

Reported by the United States Census Bureau, 2020 data search.

Total Population (City of College Place)	9,902	Percentage
White		82.2%
Black or African American		0.4%
American Indian and Alaskan Native		0.8%
Asian		2.4%
Native Hawaiian and Other Pacific Isl.		0.5%
Hispanic or Latino		21.0%
Total Population (Walla Walla County)	62,682	Percentage
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Black or African American		12.2%
American Indian and Alaskan Native		1.4%
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Hispanic or Latino		21.7%
Total Population (State of Washington)	7,738,692	Percentage
White		78.5%
Black or African American		4.4%
American Indian and Alaskan Native		1.9%
Asian		9.6%
Native Hawaiian and Other Pacific Isl.		0.8%
Hispanic or Latino		13.0%

Data retrieved from: [Census.gov](https://www.census.gov)

Traffic Data

The city of College Place has 32 miles of roadways within 2.99 mi² area.

Annual Vehicle Miles Recorded upon State Routes in Walla Walla County - 2018

Total Miles of State Routes: 72.86

Total Miles Driven/Recorded: 282,581

Vehicle Miles Traveled in Walla Walla County: 441,017 Annually (2020) ([WSDOT VMT](#))

SR-12 West of SR-125 spur, Daily Traffic Volume (2018) = 12,000

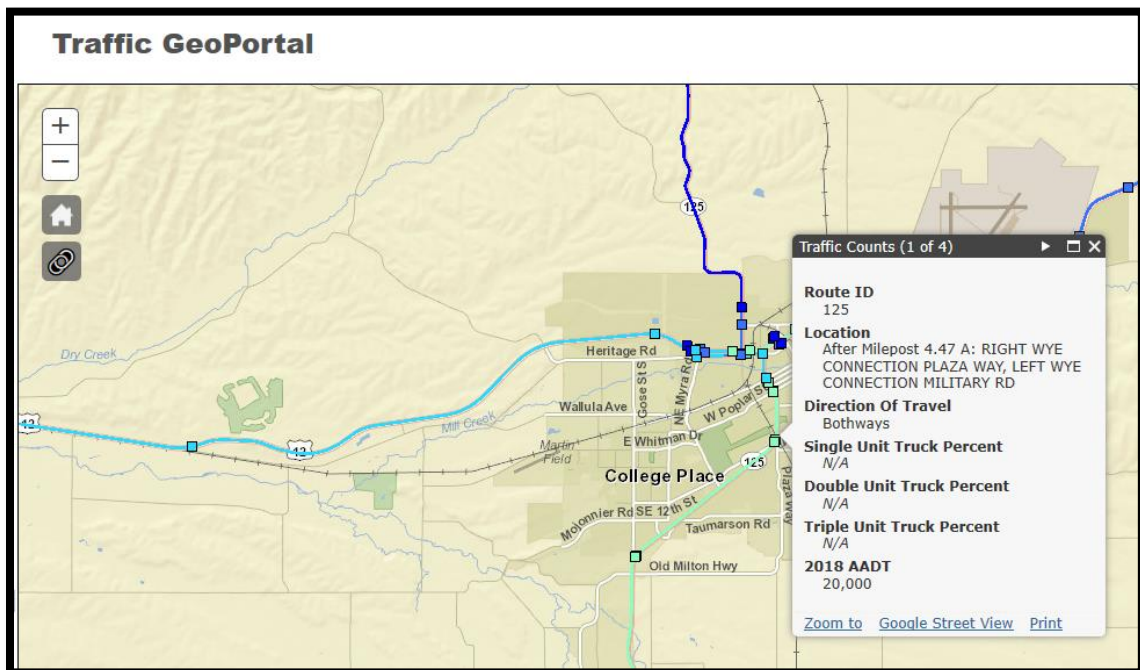
SR-125 @ Myra, Daily Traffic Volume (2018) = 20,000

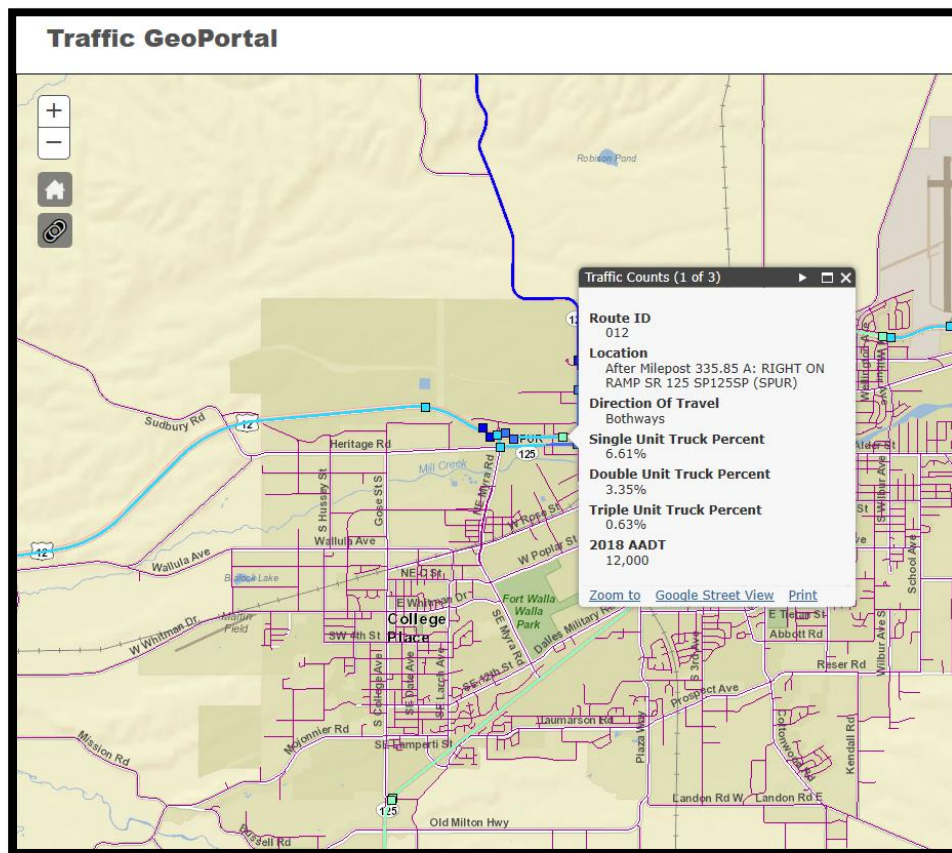
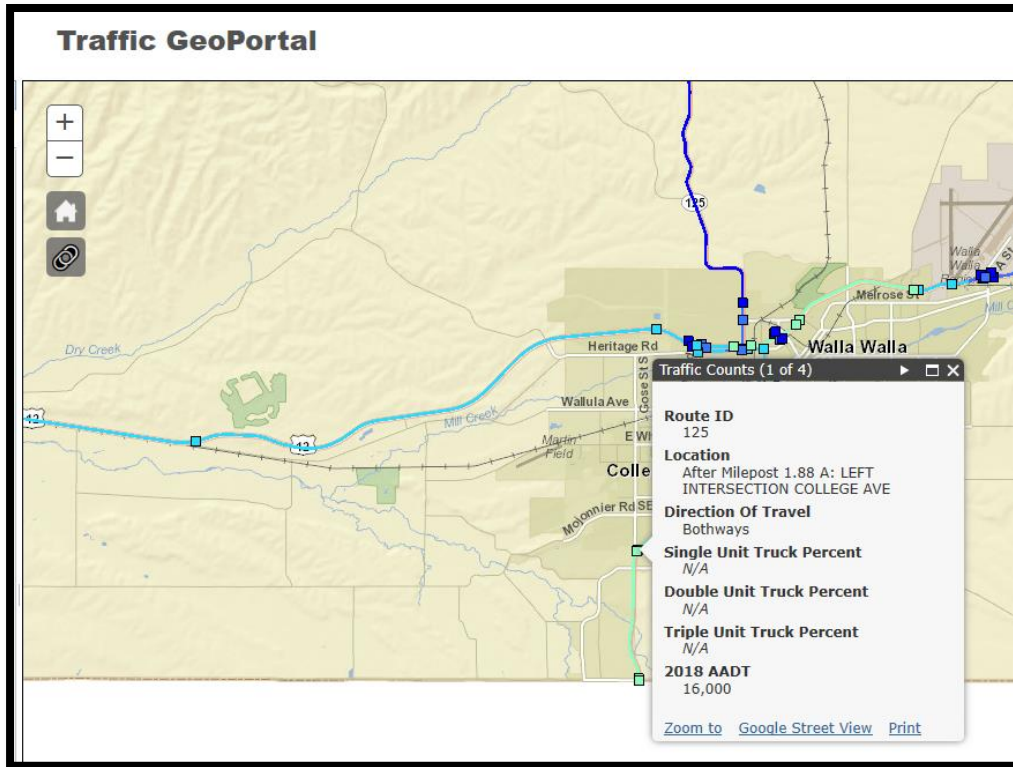
SR-125 @ S. College Ave, Daily Traffic Volume (2018) = 16,000

Data retrieved from Washington State Department of Transportation Annual Traffic Report:

[Washington State Department of Transportation](#)

[Traffic Data GeoPortal](#)





Map of the City of College Place





2022 ANNUAL REPORT & BIAS REPORT



COLLEGE PLACE POLICE DEPARTMENT

PRESENTED BY CHIEF TROY TOMARAS

April 4, 2023



Mission

- The College Place Police department embraces the Philosophy of community oriented policing and strives to enhance the quality of life and safety of our citizens with the highest degree of ethical behavior, fairness and professional conduct.

VISION

- Our vision is to ensure the City of College Place is a safe place to live, work and do business through the delivery of quality law enforcement services.

VALUES

- Every member of the College Place Police Department is part of a team who inculcates courage, commitment, community and character in their daily operations through open and honest cooperation, service, respect and diversity.
- *Courage* – Moral and ethical desire to act in the face of danger or adversity.
- *Commitment* – Dedication to the department, professional policing and those we serve.
- *Community* – Respecting and protecting individual rights while fostering relationships with whom we are called to serve.
- *Character* – Performing with integrity while demonstrating strength to uphold and instill pride, honor and a call to public service.

GOALS

1. Reduce crime and improve traffic safety within our community.
2. Provide quality services and innovative policing strategies delivered through excellent customer service.
3. Provide leadership and resources to attract, retain and foster a safe, ethical, innovative, knowledgeable, and diverse workforce.
4. Work collaboratively with our stakeholders to improve the quality of life within our city.

ORGANIZATIONAL CHART

College Place Police Department Organizational Chart

[Chief Troy Tomaras](#)

Lieutenant – Vacant/2024

[Marianne Barr](#)
Records Supervisor,
TAC/Crime Prevention

[Andrea St. Clair](#)
Records

[Jayme Graham](#)
Part Time Records Clerk

Squad 1

[Sgt. Dylan Schmick](#)
Patrol, Investigations, FTO,
Training, HNT/SWAT

INVESTIGATIONS

Detective / EVOC
[Brian Fortin](#)

Detective (Task Force)
[Officer Joey Langlois](#)

PATROL

FTO
[Officer Daniel Watkins](#)

DT/Taser Instructor
[Officer Tanner Cole](#)

[Officer Eric Adams](#)

[Officer Andrew Schild](#)

Officer in Training
[Brandon Boudrieau](#)

Future Officer - 2024

Squad 2

[Sgt. Salvador Diaz](#)
Patrol, Code Enforcement, SRO,
Evidence, Reserves, MHP

AUXILIARY

Reserve Officer
[Officer George Bennet](#)

Special Enforcement
Officer – [Ron Nordman](#)

SRO – Vacant Hire 2023

PATROL

Firearms Instructor
[Officer Tanner Harris](#)

Firearms Instructor, FTO
[Officer Brandon Rhodes](#)

[Officer Kyle Barker](#)

Officer in Training
[Anton Bushkovskiy](#)

Vacancy
Vacant Hire 2023

Future Officer - 2024



CURRENT STAFFING – TODAY 2023

- 2 FULL TIME CLERKS, 1 PART-TIME CLERK.
- 2 SERGEANTS
- 2 DETECTIVES.
- 9 PATROL OFFICERS
- 1 RESERVE OFFICER
- 1 SPECIAL ENFORCEMENT OFFICER
- CHIEF
- VACANCIES – 3
 - LIEUTENANT
 - 2 OFFICERS CURRENTLY IN HIRING PROCESS.

2022 NEW HIRES & RETIREMENTS

OFFICER KYLE
BARKER



OFFICER IN TRAINING
ANTON BUSHKOVSKIY



OFFICER IN TRAINING
BRANDON BOUDRIEAU



RETIREMENT

LIEUTENANT ROBERT BENFIELD



SUPPORT SERVICES



Records Supervisor
M. Barr



Records Clerk
A. St. Clair

Administrative Support Services at a glance.	2020	2021	2022	21 – 22 % of Change
Number of fingerprints processed	57	205	283	38.05%
Number of CPL Permits Processed	70	83	85	2.41%
Public Disclosures Processed	102	169	164	-2.96%
BWC Disclosures processed	0	0	10	NA
Dog licenses sold	106	93	156	67.74%

PATROL



CPPD Patrol Statistics at a glance:

Year	2019	2020	2021	2022	2021-2022 % of change
Arrests	480	405	332	333	0.30%
Cases	874	615	585	614	4.96%
Incidents	11,194	11,279	10,138	11,011	8.61%
Tickets	837	588	577	559	-3.12%
Traffic stops	3,515	2,345	2,026	2,032	0.30%



Sergeant Sal Diaz



Sergeant Dylan Schmick

INVESTIGATIONS

DO NOT CROSS!

STOP! DO NOT CROSS!

STOP!

DO NOT CROSS!

STOP! DO NOT CROSS!

STOP! DO NOT C

SPECIAL INVESTIGATIONS

Year	2021	2022	% of change
Cases Taken	41	57	39.02%
Cases Cleared	30	42	40.00%
Search Warrants	13	9	-30.77%
SIU Assists	1	0	-100.00%
Agency Assists	79	62	-21.52%



Detective Brian Fortin

CPPD DRUG TASKFORCE CONTRIBUTIONS

CPPD Taskforce Cases	2022
Primary Investigation	5
Assists	14
City of College Place Cases	4

Detective Joey Langlois



SCHOOL RESOURCE OFFICER

Due to staffing challenges in 2022, the College Place Police Department (CPPD) temporarily suspended our School Resource Officer (SRO) position. We are planning to return the position in 2023. Although staffing was a challenge for a full time SRO, the CPPD showed up in College Place schools on a daily basis. The CPPD is invested in the safety of our kids.

SRO Statistics at a glance:	2019	2020	2021	% of change
Incidents	36	32	73	128.13%
Criminal Investigations	18	9	22	59.09%
CPS Referrals	1	2	2	0.00%
Charges Filed	1	0	14	
Training Provided	21	16.75	20	19.40%



OFFICER ANDREW SCHILD

SPECIAL ENFORCEMENT OFFICER

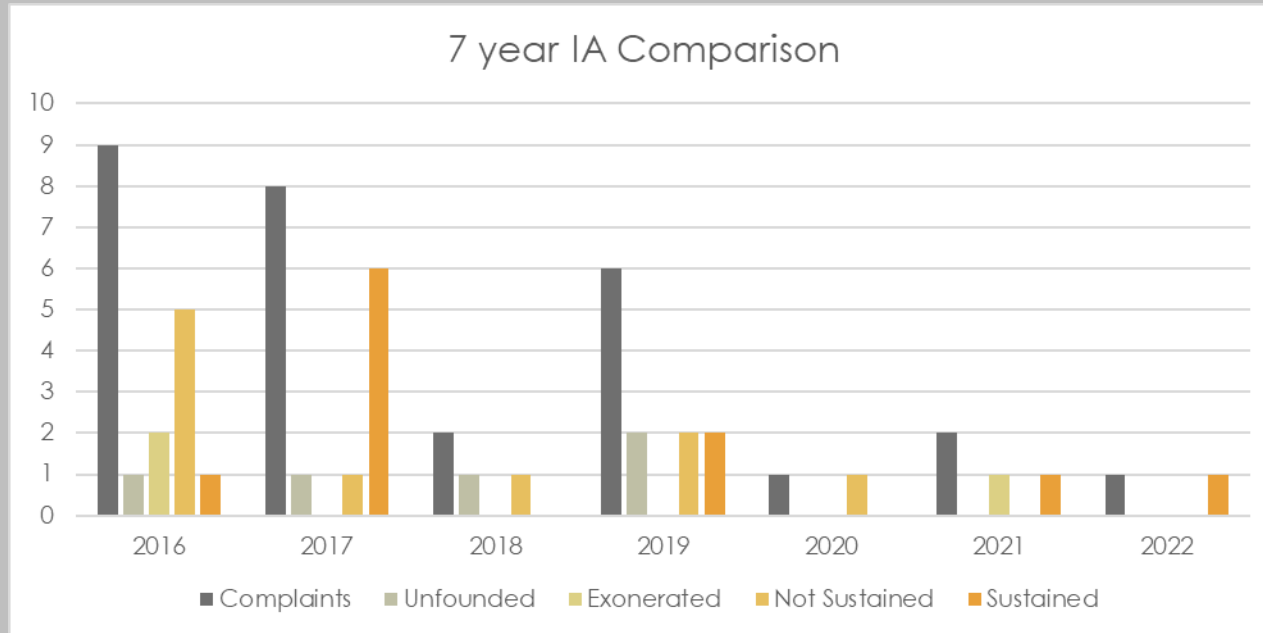


SEO RON NORDMAN

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SIGNIFICANT ACCOMPLISHMENTS



SIGNIFICANT ACCOMPLISHMENTS



COLLEGE PLACE POLICE DEPARTMENT 2022 BIAS REPORT



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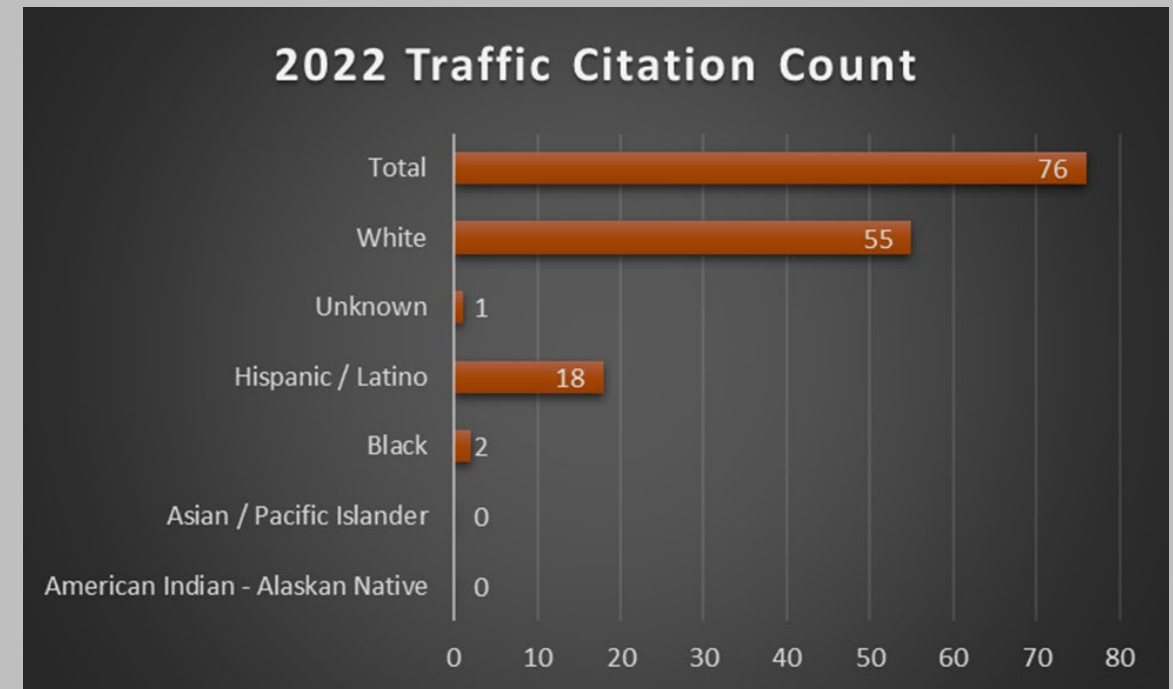
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Criminal Traffic (Misdemeanors)

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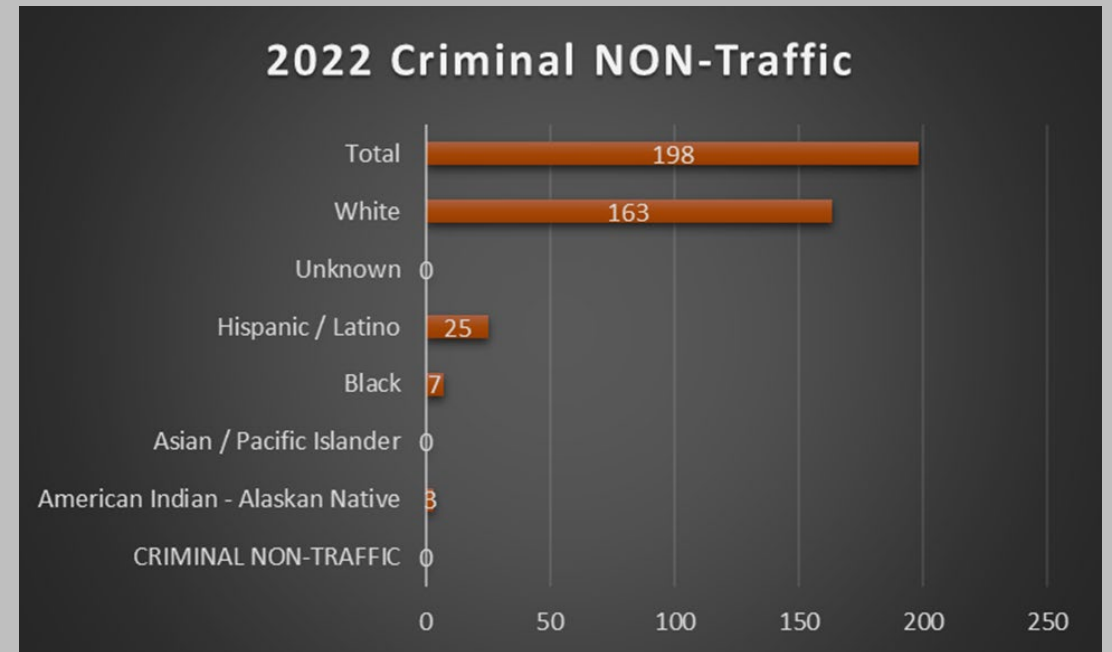
NON-TRAFFIC CITATIONS ISSUED

Non-Traffic Citations Issued

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CITY OF COLLEGE PLACE POPULATION & DEMOGRAPHICS

Total Population (City of College Place)	9,902	Percentage
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TRAFFIC DATA

Traffic Data

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Data retrieved from Washington State Department of Transportation Annual Traffic Report:

[Washington State Department of Transportation](#)

[Traffic Data GeoPortal](#)

End of presentation

QUESTIONS?



City of College Place

Standard Specifications & Drawings

Update Approved by City Council: DRAFT

Contact Information

City Contacts:

City Engineer	(509) 394-8525
Public Works Director	(509) 394-8526

Utility Contacts:

Call before you Dig (One Call)	(800) 424-5555 or 811
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FORWARD

This document provides engineering specifications and standards for the City of College Place's Public Works Division, developers, contractors and home owners engaged in construction or repairs within the City of College Place. The City requires all persons engaged in construction or repair efforts to abide by these specifications.

These specifications and standards are supplemented by additional standards adopted by the City of College Place City Council including Street Cut Restoration Standards.

In general, site development projects and plats submitted for approval by the City of College Place go through a two-step process. Project review begins with the submission of a preliminary plat or site plan to the Planning Department that provides enough information to allow the City to determine conditions of development. This review runs concurrently with any required State Environmental Policy Act (SEPA) processes. Supporting studies such as a stormwater design and a traffic impact analysis are also generally required at this stage. Once the preliminary plat or site plan is approved, construction plans are prepared.

Both site plans and construction plans need to be consistent with all City specifications and standards unless otherwise approved by the City Engineer.

There are a number of reminders to keep in mind:

- 1. Standard Specifications.** These specifications are College Places' uniform minimum standards. If there is a different type of material or method desired which will result in a similar outcome, the City Engineer may grant a variance. Any request for variance shall be in writing and submitted to the City Engineer for consideration.
- 2. Variances from Plans.** No variance from approved plans shall be allowed without the prior petitioning by the person(s) requesting the variance and the written approval of the City Engineer. Variances may require City Council approval.
- 3. Inspections.** To ensure standard practices, inspection of work conducted within a public street or utility right of way shall be required in addition to all necessary permits. Failure to obtain a proper permit or arrange for timely inspections may result in rejection and removal of all or part of the work.

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City of College Place

Standard Specifications

000 GENERAL DEVELOPMENT SPECIFICATIONS

The following general requirements apply to developments in general:

*****REFER TO STANDARD PLAN No. 010.00*****

000.10 EXTENSION OF UTILITIES AND IMPROVEMENTS

Water, sewer and storm water facilities shall be extended to the furthest lot line on all streets within new subdivisions.

000.20 HALF STREET AND EXTENSION IMPROVEMENTS

Half street improvements (including sidewalks, planting strips, storm facilities, etc.) along with any additional street improvements (either side or supporting extensions leading to the improvements) deemed necessary to safely and effectively serve the subdivision or existing uses are required for those portions of a sub-division located exclusively on one side of a street. Full street improvements shall be required for all other streets.

000.30 PRIVATE FACILITY ADA CERTIFICATION

With the exception of stand-alone single family homes and duplexes, a professional engineer licensed to practice in the State of Washington shall certify (stamped) that sidewalks, parking lots and access facilities are compliant with the American Disabilities Act (ADA).

100 STREET SPECIFICATIONS

100.01 GENERAL STREET SPECIFICATIONS

This document is intended to provide use and construction standards for City streets based on classification. The purpose is to provide a description of the types of traffic and transit use on each type of street and guide how future street improvement projects and land use development relate to each classification. The goal is to provide efficient movement of people and goods while preserving and protecting the quality of life for all residents in the City of College Place.

Classifications are historically developed through Federal and State transportation agencies, which have financed, developed and guided transportation in the State of Washington. These agencies do not dictate precise standards, but have general guidelines by which they operate and disburse transportation funds. There is substantial latitude for the individual Cities and agencies to fine tune standards to fit their individual needs. This document establishes these standards for the City of College Place.

The classifications include statements outlining the functional purpose, design and operational aspects along with the types of land use and development to be encouraged along the various street types.

Additionally, a number of related street section elements shall be included in each street section per College Place Municipal Code (CPMC) Section 14.90.040 to include:

- Sidewalks in every residential, industrial or commercial subdivision, and business park;
- A minimum five-foot wide landscape strip(s) on every side of a lot that abuts an arterial, collector, or local street in a residential subdivision; and
- Bike lanes in residential subdivisions on all collectors and arterial streets.

******REFER TO STANDARD PLAN No. 110.00******

100.02 CLASSIFICATION, DESCRIPTION AND DETAILS

REGIONAL CORRIDOR

Functional Purpose

A Regional Corridor is intended to provide for inter-regional and inter-community transportation. Examples are SR-125 and SR-12. A Regional Corridor should provide the highest possible capacity and express movement of longer distance trips.

Land Use and Development

Private and public developments of a regional significance should include shopping centers and major centers of employment. Developments of this significance should be encouraged to locate adjacent to Regional Corridors to reduce traffic on adjoining areas and streets. Automobile oriented commercial activities, which attract trips from throughout the cities, and areas should be encouraged to locate along a Regional Corridor.

Design Considerations and Traffic Operations

Design and traffic operations should serve through movement. A grade separation should be used whenever possible at the intersection between a Regional Corridor and another Regional Corridor or a Principal or Minor Arterial to facilitate through traffic on the Regional Corridor. Intersections between a Regional Corridor and a Principal or Minor Arterial should provide control of all turning movements. Signalization of the intersection should be a priority with respect to traffic warrants. Access to adjoining land uses should be limited to minimize disruption of traffic movement on the Regional Corridor. Adjacent land use should provide off-street parking with no curbside parking. Wherever possible, a buss pullout bay, or a bus lane should be provided along a Regional corridor to minimize disruption of traffic flow. The Regional Corridor should support inter-regional bus routes and high quality local service.

Right-of-way, Template and Structure

Minimum right-of-way should be 100-ft. Lane width should be 12-ft. minimum with 5 lanes minimum. Four travel lanes and a center turn lane. Minimum pavement thickness shall be 4-in. with a base of 16-in. of crushed aggregate or the equivalent thereof. Sidewalks and curb and gutter are typically not indicated. These roads are typically state highways in our region under the jurisdiction of the State Department of Transportation, Region V.

PRINCIPAL ARTERIAL

Functional Purpose

A Principal Arterial is intended to serve as the major route for the movement of traffic within the City and for the Connection with neighboring cities. Examples are College Avenue and West Rose Street. A Principal Arterial should serve the major activity center of the City. Through traffic with no trip ends within the City should be encouraged to use Principal Arterials.

Land Use and Development

Major office or commercial developments, which attract trips from various neighborhoods throughout the City, should be encouraged to locate along Principal Arterials. Auto-oriented commercial should be encouraged to locate along Principal Arterials. High-density residential developments should be encouraged to locate along Principal Arterials to maximize usage of transit systems.

Design Considerations and Traffic Operations

Design and traffic operation should give preference to traffic having at least one trip end within the City, rather than to through traffic. The adjacent land use should provide adequate off-street parking to minimize or eliminate the dependency of curbside parking. Intersections between Principal Arterials should provide all desired turning movement signals including an exclusive left-turn signal if warrants are met. A Principal Arterial should serve as an inter-city transit route and a major local transit route within the City. Wherever possible, a bus pullout bay, or a bus lane should be provided to minimize disruption of traffic flow. Transit oriented land use development located along a Principal Arterial should be encouraged to provide good pedestrian access between transit stops and such developments. High priority should be given to underground placement of utility lines along all Principal Arterials. On-street parking is restricted and in most cases prohibited. Driveway access is not permitted unless Council approval is obtained.

Right-of-way, Template and Structure

Right-of-way should be 111-ft. Lane width should be 12-ft minimum with 5 vehicle travel lanes. Four travel lanes and a center turn lane. The center turn lane may be omitted and lane widths modified based on concurrence of the City Engineer with the findings of an approved Traffic Impact Analysis (TIA). Sidewalks are required and shall not be less than 10-ft where deemed essential for pedestrian traffic in commercial and industrial areas, schools, playgrounds, shopping centers, etc., unless otherwise approved by the city. Bicycle lanes and landscape strips are required in residential subdivisions. Minimum pavement thickness shall be 4-in with a minimum base of 10-in. of crushed aggregate or the equivalent thereof.

******REFER TO STANDARD PLAN No. 110.00, 110.01******

MINOR ARTERIAL

Functional Purpose

A Minor Arterial is intended to provide concentrated access to neighborhood activity centers and to serve trips between neighborhoods. Examples are Larch Avenue and East 12th Street. A Minor Arterial should serve as a distributor of traffic from a Principal Arterial to Collector and Local streets. Through trips should not be encouraged on a Minor Arterial.

Land Use and Development

Neighborhood oriented commercial developments are encouraged to locate along a Minor Arterial as allowed by the Zoning Code. The density of the residential developments along a Minor Arterial should be encouraged to vary directly with the capacity of transit service available and as governed by Zoning Code.

Design Considerations and Traffic Operations

Design and traffic operation should give preference to local traffic rather than to through traffic. A Minor Arterial should not be designated as a truck route. The adjacent land use should provide adequate off-street parking to minimize or eliminate the dependency of curbside parking. Intersections between Minor Arterials should be signaled as warranted to facilitate the safe movement of traffic along each street as well as turning movements between such streets. Special care should be taken in the design of a Minor Arterial and intersections to provide safe and frequent pedestrian crossing opportunities. Transit oriented land use development located along a Minor Arterial should be encouraged to provide good pedestrian access between transit stops and such developments. A Minor Arterial should serve as a local transit route. On-street parking is restricted and in most cases prohibited. Driveway access is not permitted unless Council approval is obtained.

Right-of-way, Template and Structure

Minimum right-of-way should be 78 or 87-ft depending on whether 3 or 4 lanes as needed. Right-of-way may be reduced upon City Engineer Concurrence to reflect required section elements with a 2-ft buffer maintained between the outermost street element (typically sidewalks) and the edge of right-of-way on each side of the street corridor. Capacity requirements will dictate whether all four lanes are needed. Lane widths should be a minimum of 11-ft. The center turn lane may be omitted and lane widths modified based on concurrence of the City Engineer with the findings of an approved Traffic Impact Analysis (TIA). Sidewalks are required and shall not be less than 6-ft in residential areas and not less than 10-ft where deemed essential for pedestrian traffic in commercial and industrial areas, schools, playgrounds, shopping centers, etc., unless otherwise approved by the city. Bicycle lanes and landscape strips are required in residential subdivisions. Minimum pavement thickness of 4-in and a minimum base of 10-in of crushed aggregate or the equivalent thereof.

******REFER TO STANDARD PLAN No. 110.00, 110.02 & 110.03******

COLLECTOR

Functional Purpose

A Collector Street is to serve trips for the neighborhood. Through trips with no trip ends within the neighborhood should be discouraged on a Collector street. Examples are 4th Street and Date Avenue. A Collector Street is intended to serve as a distributor of traffic from Principal and Minor Arterials to Local Streets.

Land Use and Development

New land uses and major expansions of existing land uses, which attract a significant volume of traffic from outside of the neighborhood, should be discouraged along a Collector Street. Neighborhoods serving commercial nodes are permitted along a Collector Street as governed by Zoning Codes.

Design Considerations and Traffic Operations

A Collector Street should not be designated as a truck route. A Collector Street should provide a connection to a Principal Arterial or to a Minor Arterial. Through traffic should be discouraged on a Collector Street. Traffic movement and access to abutting properties are equally important functions of a Collector Street. Therefore, parking removal or additional street widening should be undertaken only at specific problem locations or under special circumstances. Special care should be taken in the design of a Collector Street and intersections to provide safe and frequent pedestrian crossing opportunities. An environment conducive to pedestrian activities should be encouraged along a Collector Street.

Right-of-way, Template and Structure

Minimum right-of-way should be 94-ft. Right-of-way may be reduced upon City Engineer Concurrence to reflect required section elements with a 2-ft buffer maintained between the outermost street element (typically sidewalks) and the edge of right-of-way on each side of the street corridor. Two 12-ft travel lanes are required with an 11-ft turn lane and/or median, a 6-ft bike lane and 2-ft buffer followed by an 8-ft parallel parking along each side. The center turn lane/median may be omitted and lane widths modified based on concurrence of the City Engineer with the findings of an approved Traffic Impact Analysis (TIA). Sidewalks are required and shall not be less than 6-ft in residential areas and not less than 10-ft where deemed essential for pedestrian traffic in commercial and industrial areas, schools, playgrounds, shopping centers, etc., unless otherwise approved by the city. Bicycle lanes and landscape strips are required in residential subdivisions. Minimum pavement thickness shall be 4-in with a minimum base of 10-in of crushed aggregate or the equivalent thereof.

*****REFER TO STANDARD PLAN No. 110.00, 110.04*****

LOCAL

Functional Purpose

A Local Street is intended to serve only for neighborhood access to Collector Streets and Arterials. Through traffic should be discouraged. Local Streets initiate and terminated trips. Examples are local subdivision and neighborhood streets. Traffic movement and access to abutting properties are equally important functions of Local Streets. Therefore, parking removal or additional street widening should be undertaken only at specific problem locations or under special circumstances.

Land Use and Development

New land uses and major expansions of existing land uses, which attract a significant volume of traffic from outside of the neighborhood, should be discouraged along a Local Street. Special care should be taken in the design of a Local Street and intersections to provide safe and frequent pedestrian crossing opportunities. Only residential development should be encouraged on Local Streets.

Design considerations and Traffic Operations

A Local Street should not be designated as a truck route. An environment conducive to pedestrian activities should be encouraged along a Local Street.

Right-of-way, Template and Structure

Minimum right-of-way should be 63-ft. Right-of-way may be reduced upon City Engineer concurrence to reflect required section elements with a 2-ft buffer maintained between the outermost street element (typically sidewalks) and the edge of right-of-way on each side of the street corridor. Two 10-ft travel lanes are required with 8-ft parallel parking along each side. Sidewalks are required and shall not be less than 6-ft in residential areas and not less than 10-ft where deemed essential for pedestrian traffic in commercial and industrial areas, schools, playgrounds, shopping centers, etc., unless otherwise approved by the city. Minimum pavement thickness shall be 4-in with a minimum base of 10-in of crushed aggregate or the equivalent thereof.

Elimination of parking on one or either side of the street shall only be considered under extenuating circumstances and requires the City to initiate the proposal based on their assessment of required infrastructure and current or anticipated public parking demand..

******REFER TO STANDARD PLAN No. 110.00, 110.05, 110.06 & 110.07******

100.03 STANDARD PUBLIC STREET SPECIFICATIONS

The base specifications for the City of College Place shall be the latest edition of the “STANDARD SPECIFICATION for Road, Bridge, and Municipal construction”, published by the Washington State Department of Transportation and the American Public Works Association. This shall be the guide for the control and quality of materials and their placement into the work. Minor changes and details may differ as per this document. This is the process of tailoring the specification to the needs of the City.

100.04 PAVEMENTS

Pavement for City streets shall be HMA Class ½” PG64-28 in accordance with the most current edition of the WSDOT Standard Specifications. No light bituminous pavement methods shall be

allowed. Light bituminous surface treatments are allowed only for maintenance. Depth of pavement shall be as specified for each classification of street.

100.05 BASE ROCK AND ASPHALT TREATED BASE

Depth of base rock shall be as specified for each classification of street. Layering of rock gradations shall be as directed and approved by the City Engineer. Asphalt treated base may be used as a structural equivalent. No alternative shall be used unless it has been approved by the City Engineer. Use of construction fabrics shall be considered on a case by case basis. Some reduction in base materials may be allowed. Construction fabric may be required in situations involving unstable or highly erodible soils.

100.06 SUBGRADE

Subgrade shall be fully compacted native or imported materials. Imported materials must be approved by the City Engineer prior to the placement thereof. Such materials shall be handled and placed in accordance with the Standard Specifications. Any situations involving unstable subgrade materials shall be corrected prior to placement of base material.

100.07 CURB AND GUTTER

Curb and gutter construction and retrofit work shall strictly be according to the City Standard Specifications and Plans. No rolled curb and gutter shall be allowed on any public street. Curb with no gutter is not permitted. Materials and placement shall be per the Standard Specification. Curb and gutter shall be placed on fully compacted subgrade with 4-in. minimum of compacted crushed rock between the subgrade and the bottom of the curb and gutter. The base rock shall extend a minimum of 12-in. behind the curb and gutter to assure a firm base. Driveway cuts and curb height transitions and wheel chair ramps shall be as per City Standard drawings. Curb radius shall be a minimum of 12-ft. When narrow streets are constructed, 15-ft. radius shall be used. Radii on arterial streets must be chosen to accommodate truck turning radius. Radii greater than 15-ft. may be required.

******REFER TO STANDARD PLAN No. 110.17, 110.18, 110.19 & 110.20******

100.08 SIDEWALKS

Sidewalks shall be a minimum of 6-ft in width in residential areas. Wider walks may be required in school and commercial areas. Materials and placement shall be per the Standard Specifications. All sidewalks shall be placed on fully compacted subgrades and on a minimum of 4-in. of compacted crushed surfacing top course. Use of asphalt concrete pavement may be allowed only by special approval of the City Engineer. Any signs, utility poles, access lids or similar items placed

in the sidewalk areas shall be isolated by separately poured concrete knock out sections, properly fitted with expansion joint material. No single panel between approach or ramp wings shall be less than 4-ft. in width between wings.

*****REFER TO STANDARD PLAN No. 110.11, 110.12, 110.13, 110.14, 110.15, 110.16, 110.17 and 110.18*****

100.09 DRIVEWAYS

Driveways shall be built to the same specifications as sidewalks, but deepened to 6-in. of cement concrete. Driveway cuts, curb height transitions and wheel chair ramps shall be as per City Standard drawings.

1. Driveways shall be located at least 2-ft. from lot lines of adjacent lots except that City Engineer may waive separation within ROW.
2. In residential subdivisions, the width of driveways at the curb on lots with at least 60 feet of street frontage shall not exceed 25 feet in width at the curb and back of the right-of-way, as specified in the city engineering design standards, provided that:
 - a. On lots with less than 60 feet of street frontage, the driveway width at the curb may not exceed 20 feet;
3. The width of a driveway at its widest point shall not exceed the width of the driveway at the curb plus four feet; and
4. Driveway approach wings and pedestrian approach wings shall be separated by a minimum of four feet between the end of the wings.
5. In residential short plats, the width of driveways shall not exceed 20 feet at the curb and back of the right-of-way or 24 feet at its widest point.

*****REFER TO STANDARD PLAN No. 110.11, 110.12, 110.13, 110.14, 110.15 & 110.16*****

200 WATER SYSTEM SPECIFICATIONS

200.01 WATER MAINS

All water mains shall, at a minimum, meet the criteria of AWWA Standard C151. 12-in and smaller lines shall be Class 50 ductile iron with Class C104 cement mortar lining with all joints mechanically restrained. Pipe joints shall be restrained using TR-flex or Flex Ring ductile iron pipe or by using Field Lok or Fast-Grip gaskets. The gaskets used shall be manufactured by the manufacturer of the pipe being used and shall be recommended by the manufacturer for the application. Water lines larger than 12-in shall be TR Flex or Flex-Ring ductile iron pipe Class 52.

The Public Works Director and/or the City Engineer shall determine the sizes of all water mains. A smaller diameter water main may be allowed if the main is placed within fully platted cul-de-sacs where the pipeline does not exceed 400-ft and does not continue through the cul-de-sac to connect with another existing water main. Where a public right-of-way is not available, permanent, exclusive City utility easements shall be obtained with a 20-ft. minimum width. All water mains shall be located within appropriate public access to allow for maintenance. There shall be a minimum of 30-in cover material over all water mains. All water pipes including mains and service lines shall be fitted with a copper, 12-gauge locator wire.

*****REFER TO STANDARD PLAN No. 210.00, 210.01*****

200.02 FIRE HYDRANTS

GENERAL SPECIFICATIONS

Fire hydrants installed within the City of College Place shall meet all standards as set forth in this chapter, the City of College Place Standard Specification Plans & AWWA Standard C502.

Manufacturer Specifications

- ☐ Manufactured in accordance with AWWA Standard C502
- ☐ 5-1/4-in. MVO (Main Valve Opening)
- ☐ 2, 2-1/2-in. Hose Ports
- ☐ 1, 4-1/2-in. Pumper Port
- ☐ Dry barrel
- ☐ Center stem operation
- ☐ 2, Drain ports

Approved Manufacturer Brands

- ☐ Mueller Centurion
- ☐ Clow Medallion

- ❑ MH 929
- ❑ Waterous Pacer (AFC WB 67-250)

******REFER TO STANDARD PLAN No. 210.00, 210.02 - 210.04, & 210.09 - 210.11 ******

Special Pumper Nozzle

Fire hydrants shall be installed with a Storz coupling and cap on the 4-1/2-in pumper port enabling the hydrant to accept 5-in hose.

Storz Specifications

- ❑ 5-in Storz metal face adapter x female hydrant thread. Material shall be 60061-T6 aluminum alloy, forged or extruded, no cast parts. Finish shall be hard coat anodize to mil A-8625c. Dimensional requirements as follows.
 - Overall diameter not to exceed 7-3/4-in.
 - Overall length not to exceed 4-1/4-in.
 - Shall fit National Standard Thread.
 - Shall be supplied with two (2) 14-20 holes drilled and tapped, 180 degrees apart through female thread, to lock adapter to hydrant.
 - Any required sealant shall be supplied with each coupler.
- ❑ The 5-in. Storz cap material shall be 6061-T6 aluminum alloy, forged or extruded, no cast parts. Dimensional requirements as follows.
 - One seal to be nitrile/vinyl rubber, suction style for zero leakage, color to be gray.
 - 1/8-in. vinyl covered aircraft cable, 18-in. minimum length to be attached to the cap & adapter.
 - Force to connect or disconnect to be a minimum of 18-ft./lbs., maximum of 30-ft./lbs.
 - Outside diameter not to exceed 7-3/14-in.
 - Overall length not to exceed 2-in.
 - Shall meet or exceed NFPA standard 1901.

******REFER TO STANDARD PLAN No. 210.04******

200.03

VALVE RISER & BOXES

Valve Box Riser & Cover

The valve riser box shall be centered and fit over the valve-operating nut. It shall be extended to the finished grade surface. Any debris in the valve riser shall be removed prior to job completion. All valve boxes shall be cast iron in structure with a cast iron ring. The cover shall be cast iron and shall be stamped "WATER." The valve box shall be a Brooks Products #1-RT or an approved equal.

******REFER TO STANDARD PLAN No. 210.00, 210.02, 210.03 & 210.08******

200.04 WATER METERS

Water meters typically range in size from Full ¾-in. to 2-in. depending on application. All water meters shall be Metron-Farnier with Innov8 heads. 1-1/2-in. and larger meters shall be determined by application. The minimum size for a residential meter is Full ¾-in. A larger size may be appealed to the Public Works Director. The sizing of water meters will be evaluated and approved by the Public Works Director. All water meters shall register in gallons. The meter register shall be radio read and display from left to right registering in 1,000 gallons. Water meters shall not be placed in driveways. Water meters shall be placed between the back of curb and sidewalk for off-set sidewalks. Water meters shall be placed 2-ft behind the back of curb for curb tight sidewalk

200.05 METER BOXES

All meter boxes for 1" meters and less shall be plastic in structure. The complete meter box shall have three parts to its assembly. The bottom piece shall be an 18-in. mid-section. **PIPE SLOTS SHALL NOT BE USED.** The top piece shall be a 12-in. top section. The cover shall be a solid cast iron lid with a 9-1/4-in. x 5-1/2-in. lid opening. The lid shall be cast iron with a small oval shaped opening for a meter stick. Meter boxes shall be Mid-States 1324 or an approved equal.

City will provide and install meter box and meter. Coordinate with City staff to schedule installation.

******REFER TO STANDARD PLAN No. 210.00, 210.06, 210.07, 210.21 & 210.22 *****

200.06 SERVICE LINE PIPE

All service lines shall be a minimum of 1-in. in size. The material used for 1-in. service piping shall be either Type K copper or CTS (Copper-Tube Size) Polyethylene Pipe. Service lines larger than 1-in. shall be constructed with CTS Polyethylene Pipe or Type K copper. If Polyethylene Pipe is used, a stainless steel insert shall be placed at each connection and No.12 solid copper tracer wire must be placed along the pipe from the main to the top of the meter box.

******REFER TO STANDARD PLAN No. 210.00, 210.01 & 210.06 *****

200.07 SERVICE LINE INSTALLATIONS

The City of College Place does not allow direct taps to water mains. The City requires the installation of a tapping saddle. Tapping saddles with 1-in. taps may be single strap service saddles.

Tapping saddles with taps larger than 1-in. shall be a double strap. Single strap saddles shall be ROMAC 101S or an approved equal. Double strap saddles shall be ROMAC 202S or an approved equal. Saddles shall be placed on the water main with the tap set at a 9 or 3-o'clock orientation to the water main. The corporation stop shall be placed into the saddle with the valve key facing up. Polyethylene shall be laid with slack in the line to allow for contraction and elongation due to temperature changes. Copper shall have a slight lateral curve from the corporation stop to the meter setting. Bedding of service lines shall be in accordance with the bedding specifications. The top to the meter setting shall be no less than 16-in. from ground level and no more than 22-in. from finished grade.

*****REFER TO STANDARD PLAN No. 210.00, 210.01, 210.05 & 210.06 *****

200.08 SERVICE AND METER BRASS

All brass shall be either Ford or Mueller. A description of the fitting will be more useful than the product number when approval is being sought from the City.

CORPORATION STOPS

All corporation stops shall be ball valve type with MIPT (Male Iron Pipe Thread) x CTS (Copper Tube Size) compression fittings.

ANGLE BALL VALVES

All meter shut off valves shall be ball valves. Depending upon application, the following angle ball valves may be used.

Ball Valve Types Allowed

- ☐ 1-in. FIPT (Female Iron Pipe Thread) inlet with meter swivel nut outlet.
- ☐ 1-in. Compression inlet with meter swivel nut outlet.
- ☐ 1-1/2-in. & 2-in. FIPT (Female Iron Pipe Thread) inlet with meter flange outlet

ANGLE CHECK VALVES

Check Valve Types

- ☐ 1-in. meter swivel nut inlet with FIPT or compression outlet
- ☐ 1-1/2-in. & 2-in. meter flange inlet with FIPT or compression outlet

200.09

MAINLINE VALVES

GENERAL SPECIFICATIONS

All valves shall open by turning counter clockwise. All underground valves shall have a 2-in. square-operating nut. All valves shall be rated and tested at 150 lbs. working pressure or greater. All valves shall be bolted to fittings whenever possible. All valves shall be equal to the water main size they are attached to.

GATE VALVES

Gate valves shall be used for all valves up to 8" valves and may be used for valves up to 12". All gate valves shall be resilient wedge gate type valves and shall be manufactured according to AWWA Standard C509-87.

BUTTERFLY VALVES

Butterfly valves may be used for valves 10" and greater. Any valve larger than 12-in. shall be a butterfly valve. All butterfly valves shall be manufactured according to AWWA Standard C509-87.

VALVE PLACEMENT

Valves shall be spaced and system pipelines looped so that no more than one block is deprived of service in the event of a shutdown of any pipeline segment to which customers are connected. In addition, lengths of pipe without valves shall not exceed 500-ft. in school, commercial, or multi-family areas and 600-ft. in residential areas. At any tee connection, all legs of the tee shall be valued. Fire hydrant tee assemblies may have only fire hydrant value.

*****REFER TO STANDARD PLAN No. 210.00 - 210.03 & 210.08 *****

200.10

BEDDING

All pipes shall have 4-in. of crushed rock underneath for bedding and 6-in. of crushed rock above the pipe and across the entire pipeline ditch. This bedding requirement shall apply to all water mains and service lines. Bedding materials shall be per the Standard Specifications. The City Engineer shall approve all other bedding material.

*****REFER TO STANDARD PLAN No. 210.00, 210.02, & 310.08 *****

200.11 BACKFILL

Native fill may be used for backfill unless deemed unsuitable by the engineer. Compact to 95% modified proctor density before proceeding to placement of base rock and paving. Laboratory testing shall be performed to determine maximum modified proctor density for native fill. Import fill requires supplier proctor test results. If native fill is unsuitable as determined by the City Engineer, gravel backfill per the Standard Specifications 9-03.12 (3) or other granular material approved by the City Engineer shall be used. This backfill requirement applies to all water mains and service lines.

******REFER TO STANDARD PLAN No. 210.00, 310.08******

200.12 SUB-DIVISION REQUIREMENTS

All developers of sub-divisions shall be required to install all water appurtenances according to the Water System Specifications contained in this document. It shall be the developer's responsibility to bear the cost of all water-related installations.

On newly poured curbs, the capital letter "W" shall be stamped on the top to the curb, while the concrete is still wet, where the service lines cross under the curb. A treated 2 x 4 wood stake shall be placed over the service stub past the meter box for location purposes. All lots shall have individual water services. Water services to individual lots shall be placed at a property corner on the street side of the lot a minimum of 2-ft from backside of sidewalk and no more than 5-ft of the property line.

******REFER TO STANDARD PLAN No. 210.00, 210.01 & 210.06 *****

200.13 PRESSURE CONTROL VALVES

All pressure control valves shall be Clayton control valves (Cla value). All applications shall be reviewed and approved by the Public Works Director before installation is allowed.

200.14 FITTINGS

All fittings shall meet AWWA standards. Class 350 Ductile Iron SSB fittings are allowed. Cast (Gray) Iron fittings meeting AWWA Standard C110 are allowed.

200.15 FIRE HYDRANT PLACEMENT

Wherever possible, fire hydrants shall be located at street intersections, and located to minimize the hazard of damage by traffic. All fire hydrants shall have an isolation valve located at the water main. A minimum 6-in. diameter lateral pipe and isolation valve is required for connecting

hydrants to the main line. Where hydrants are located more than 50-ft. from an 8-in. or larger main, a minimum 8-in. diameter lateral pipe and isolation valve is required. Fire hydrants shall stand plumb and be set to finish grade. The bottom of the lowest outlet of the hydrant shall be no less than 18-in. above finished grade. Fire hydrants shall be installed with a minimum of a 3-ft. unobstructed radius around the hydrant. Hydrants shall be aligned so that pumper ports face toward the road or most probable route of access of the fire truck. Hydrants shall be placed a minimum of 3-ft behind the back of curb with an off-set sidewalk. Hydrants shall be placed 2-ft behind the back of sidewalk with a curb tight sidewalk. If there is no curb protection for the hydrant then hydrant guard posts shall be installed around the hydrant with a 3-ft minimum clearance. A minimum of 2 hydrant guard posts shall be installed on the side facing the street.

Hydrant Spacing

- | | |
|---|--------------------|
| ☐ Urban Residential less than ¼ acre | 330-ft. separation |
| ☐ Suburban Residential ¼ acre to 1 acre | 660-ft. separation |
| ☐ Commercial/Industrial and Multi-Family | WAC 246-293 (DOH) |

The above classifications are general in scope. The Fire Chief and Public Works Director may impose more restrictive requirements.

*****REFER TO STANDARD PLAN No. 210.00 - 210.04 & 210.09 – 210.11 *****

300 SANITARY SEWER SPECIFICATIONS

300.01 GENERAL SANITARY SEWER SPECIFICATIONS

The base specifications for the City of College Place shall be the latest edition of the “STANDARD SPECIFICATION for Road, Bridge, and Municipal Construction” published by the Washington State Department of Transportation and the American Public Works Association. This shall be the guide for the control and quality of materials and their placement in to the work. Minor changes and details may differ as per this document.

Sewer main extensions shall be governed by Article V “Sewer Main Extensions” Sections 13.08.260 through 13.08.305 of the College Place Municipal Code. Plans shall be submitted with the seal of a Washington Professional Engineers Stamp.

Sanitary sewer less than 8-in. diameter will not be accepted for City maintenance. Only privately maintained sewers may be less than 8-in.

300.02 APPROVED MAINLINE MATERIALS (8-in. MINIMUM)

- ☐ PVC (Polyvinyl Chloride) plastic pipe ASTM 3034 SDR-35 (pipe laying length shall not exceed 14-ft)
- ☐ PVC (Polyvinyl Chloride) plastic pipe ASTM F 789
- ☐ Others only as approved by the City Engineer

300.03 APPROVED SERVICE LATERAL MATERIAL (4-in. MAXIMUM)

- ☐ PVC (Polyvinyl Chloride) plastic pipe ASTM 3034 SDR-35
- ☐ PVC (Polyvinyl Chloride) plastic pipe ASTM F 789
- ☐ ABS (Acrylonitrile-Butadiene-Styrene) pipe (private lines only)

PVC pipe joints shall conform to ASTM D 3212 using restrained gasket conforming to ASTM F 477.

*******REFER TO STANDARD PLAN 310.00, 310.04, 310.05, 310.06 & 310.08*****

300.04 BEDDING

All sanitary sewer pipe **shall be fully bedded with a minimum of 4-in. under the pipe and a minimum of 6-in. over any pipe.** Bedding materials shall be crushed rock as per the Standard Specification. The City Engineer shall approve all other bedding materials prior to use. Elevations and distances between elevations shall be provided to the City by a registered surveyor or professional engineer after bedding pipe, prior to backfill on compacted bedding at a minimum of every 100' and at manhole terminations. Sewer pipe grade shall correspond to approved plans and in no case shall be less than 0.4%.

Pre-cast manhole bases shall be set level on a minimum of 6-in. of well-compacted crushed aggregate. Sanitary pipe and manholes subjected to groundwater shall be placed on 4-in. of crushed rock bedding over 12" of Class B foundation rock separated by filter fabric as per Standard Specification 9-03.17.

The bedding under pipe and manholes shall be compacted prior to pipe and manhole placement to provide uniform support along the entire length of the pipe and under manholes. Only pipe bedding material shall be in contact with the sanitary sewer pipe or manhole. Any ditch run gravel, asphalt or concrete chunks or similar materials shall be removed.

Should the City Engineer determine the native material is unsuitable for supporting pipe or manholes, the material shall be removed and foundation material Class B shall be imported and placed as outlined in WSDOT technical specifications 9-03.17 or by the City Engineer.

******REFER TO STANDARD PLAN No. 310.00 – 310.03 & 310.08 *****

300.05 BACKFILL

Native fill may be used for backfill unless deemed unsuitable by the engineer. Compact to 95% modified proctor density before proceeding to placement of base rock and paving. Laboratory testing shall be performed to determine maximum modified proctor density for native fill. Import fill requires supplier proctor test results. If native fill is unsuitable as determined by the City Engineer, bank run gravel per the Standard Specifications 9-03.19 or other granular material approved by the City Engineer shall be used.

******REFER TO STANDARD PLAN 310.00 & 310.08*****

300.06 CLEANING, TESTING AND MARKING

All pipe shall be tested by application of an air pressure test in accordance with the Standard Specifications 7-17.3(2) E or F as applicable. Cleaning and removal of any rock in the sewer is required. After cleaning, the City shall be notified for TV inspection of all lines 8-in. and larger. Any

work failing air test and or TV inspection must be repaired and re-tested for City approval. The City Engineer or his designee must witness, verify, and record all tests.

Lateral side sewer services must be marked with a No. 12 solid copper locator wire and the ends, marked with buried steel fence post extended above the ground at least 3 feet. The locator wire shall be tied around the main line and extended along the side sewer and up the marker post.

******REFER TO STANDARD PLAN 310.00, 310.05 & 310.06 *****

300.07 MANHOLES

Manholes shall be provided at all angle points. Points of grade change and at the ends of sewer main line runs. Clean-outs on mainlines shall not be permitted. Maximum distances between manholes shall be 350-ft. Manholes shall not be less than 48-in. inside diameter. Trunk lines and special applications may require larger sizes. No grade or alignment changes shall be permitted between manholes. Deviation from this requirement without prior approval of the engineer will be grounds for non-acceptance of the work.

Manholes shall be constructed of all pre-cast components with "A-lok" (or approved equal) pipe gaskets. Where pre-cast materials cannot be used, sand collars and grout seal or similar transitions shall be used where the pipe is connected to the manhole. All joints must be watertight. Channelization must be adequately sized and conformed to allow entry of a TV camera into all lines.

Pre-cast bases shall be set level on a minimum of 6-in. of well compacted crushed aggregate. Manhole barrel sections and riser rings shall be sealed watertight with mastic. All sewer manholes shall be sealed with city-approved sealant on the exterior from the base to 3' above the seasonal high groundwater level and shall be pressure tested when seasonal high groundwater is over 3' from high from the base.

Manholes shall have adequate room between the base and cone or flat top to perform maintenance, typically a minimum of 3-ft.

Adjustment rings above the cone or flat top shall not exceed 12-in. in stacked height.

******REFER TO STANDARD PLAN 310.00 - 310.04 & 310.07*****

300.08 SEALING-MANHOLES

Manhole barrel sections and riser rings shall be sealed watertight with mastic. In addition, all manholes subjected to groundwater shall be sealed with city-approved sealant on the exterior from the base to 3' above the seasonal high groundwater level and shall be vacuum tested when seasonal high groundwater is over 3' high from the base. The structure will be tested in accordance with ASTM-C 1244-93 as follows:

- A. All lift holes and pipes entering into the manhole will be plugged, taking care to securely brace each plug from being drawn into the structure.
- B. The test head will be placed at the top portion of the structure in accordance with the manufacturers' recommendations.
- C. A vacuum of 10 inches of mercury will be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. With the valves closed, the time will be measured for the vacuum to drop by 1 inch to 9 inches. The manhole will pass the vacuum test if the time is greater than the time shown in Table 1.
- D. If the manhole fails the initial test, necessary repairs will be made by an approved method. The structure will then be retested until a satisfactory test is obtained.
- E. If the manhole joint is displaced during the vacuum test, the manhole will be disassembled, the seal replaced, the structure reassembled, and retested until compliance is obtained.
- F. Testing can be done either before or after backfill operations around the structure; however, if during backfill operations it is found that the structure has been disturbed and it is suspected that the integrity of the joint has been compromised, retesting will be required.
- G. Table 1 below gives allowable time loss in seconds; i.e., test section is acceptable if vacuum does not drop below 9 inches until after the times shown below have expired.

Table 1: Minimum Test Times for Various Manhole Diameters

Depth (ft)	Diameter in Inches								
	30	33	38	42	48	54	60	66	72
	Time in Seconds								
8	11	12	14	17	20	23	26	29	33
10	14	15	18	21	25	29	33	36	41
12	17	18	21	25	30	35	39	43	49
14	20	21	25	30	35	41	48	51	57
16	22	24	29	34	40	46	52	58	67
18	25	27	32	38	45	52	59	65	73
20	28	30	35	42	50	53	65	72	81
22	31	33	39	46	55	64	72	79	89
24	33	36	42	51	59	64	78	87	97

Table 1: Minimum Test Times for Various Manhole Diameters

Depth (ft)	Diameter in Inches								
	30	33	38	42	48	54	60	66	72
	Time in Seconds								
26	36	39	46	55	64	75	85	94	105
28	39	42	49	59	89	81	91	101	113
30	42	45	53	63	74	87	98	108	

(Reference: City of Olympia Engineering and Development Standards, 2013)

*****REFER TO STANDARD PLAN No. 310.00 & 310.07 *****

300.09 SERVICE LATERALS

Sewer service laterals for single family residential dwellings shall be 4-inches and have a minimum slope of 2.0% slope.

Sewer service laterals shall be 6-inch or larger for multi-tenant buildings or collect flows for multiple 4-inch service lines servicing separate dwellings.

Sewer service laterals shall be 6-inch or larger for commercial and multi-tenant buildings unless approved by the Public Works Director.

300.10 CLEANOUTS

Cleanouts are required on service laterals as required to meet the following:

- At each 90° elbow (note required if two 45° elbows are used).
- When a total of 135° bends have been made in the installation
- Not more than 100-ft of line can run without a cleanout being installed
- A cleanout will be required where the connection is made near the building unless an existing cleanout already exists just outside or just inside the foundation or basement.
- A cleanout is required immediately downstream of the sewer backflow device if a backflow device is required.
- All cleanouts shall be the same size as the lateral they serve.

401 STORM SEWER SPECIFICATIONS

401.01 GENERAL STORM SEWER SPECIFICATIONS

The base specifications for the City of College Place shall be the latest addition of the “STANDARD SPECIFICATION for Road, Bridge, and Municipal Construction” published by the Washington State Department of Transportation and the American Public Works Association. This shall be the guide for the control and quality of materials and their placement into the work. Minor changes and details may differ as per this document.

401.02 MANHOLE-BASED STORMWATER COLLECTION SYSTEMS

Stormwater collection systems shall route stormwater from individual catch basin inlets to manholes. Stormwater shall not be routed by means dependent upon surface elevations subject to change due to road resurfacing or chip sealing.

401.03 APPROVED MAINLINE MATERIALS (10-in. MINIMUM)

- ☐ PVC (Polyvinyl Chloride) plastic pipe ASTM 3034 SDR-35 (pipe laying length shall not exceed 14-ft)
- ☐ HDPE (High-Density Polyethylene) smooth bore, annular ring pipe meeting ASTM F 667.
- ☐ Others only as approved by the City Engineer.

401.04 MINIMUM SIZE OF STORM SEWERS

The minimum diameter of any public storm sewer pipe in the City of College Place shall be 10-in. Smaller sizes may be approved by the City Engineer. Storm lines shall maintain a minimum 2.5 fps velocity at design flow and 3 fps flowing full.

401.05 BEDDING

All storm sewer pipe **shall be fully bedded with a minimum of 4-in. under the pipe and a minimum of 6-in. over any pipe.** Bedding materials shall be crushed rock as per the Standard Specification. The City Engineer shall approve all other bedding materials prior to use. Elevations and distances between elevations shall be provided to the City by a registered surveyor or professional engineer after bedding pipe, prior to backfill, on compacted bedding at a minimum of every 100' and at manhole and curb inlet (catch basin) terminations. Sewer pipe grade shall correspond to approved plans and in no case shall be less than 0.4%.

Pre-cast manhole bases and curb inlets (catch basins) shall be set level on a minimum of 6-in. of well-compacted crushed aggregate. Stormwater pipe, manholes and curb inlets subjected to groundwater shall be placed on 4-in. of crushed rock bedding over 12" of Class B foundation rock separated by filter fabric as per Standard Specification 9-03.17 and City Standard Plan 310, Sections 16 & 17.

The bedding under pipe, curb inlets and manholes shall be compacted prior to pipe, curb inlet and manhole placement to provide uniform support along the entire length of the pipe and under curb inlets and manholes. Only pipe bedding material shall be in contact with the sanitary sewer pipe, curb inlet or manhole. Any ditch run gravel, asphalt or concrete chunks or similar materials shall be removed.

Should the City Engineer determine the native material is unsuitable for supporting pipe or manholes, the material shall be removed and foundation material Class B shall be imported and placed as outlined in WSDOT technical specifications 9-03.17 or by the City Engineer.

******REFER TO STANDARD PLAN No. 410.00 & 310.08******

401.06 BACKFILL

Native fill may be used for backfill unless deemed unsuitable by the engineer. Compact to 95% modified proctor density before proceeding to placement of base rock and paving. Laboratory testing shall be performed to determine maximum modified proctor density for native fill. Import fill requires supplier proctor test results. If native fill is unsuitable as determined by the City Engineer, gravel backfill per the Standard Specifications 9-03.12(3) or other granular material approved by the City Engineer shall be used.

******REFER TO STANDARD PLAN No. 410.00 & 310.08******

401.07 CLEANING AND TESTING

The City Engineer may require the application of an air pressure test on any storm sewer pipes per Standard Specifications 7-04.3(1) E or F as applicable. Cleaning and removal of any rock is required. After cleaning, the City shall be notified for TV inspection of all storm sewer lines. Any work failing an air test and or TV inspection must be repaired and re-tested for City approval. The City Engineer or his designee must witness, verify, and record all tests.

******REFER TO STANDARD PLAN No. 410.00 & 410.01 - 410.07******

401.08 MANHOLES & CURB INLETS (CATCH BASINS)

Manholes shall be provided at all angle points. Points of grade change and at the ends of storm main line runs. Clean-outs on mainlines shall not be permitted. Maximum distances between

manholes shall be 350-ft. Manholes shall not be less than 48-in. inside diameter. Trunk lines and special applications may require larger sizes. No grade or alignment changes shall be permitted between manholes. Deviation from this requirement without prior approval of the engineer will be grounds for non-acceptance of the work.

Manholes with PVC connections are typically constructed of all pre-cast components with "A-lok" (or approved equal) pipe gaskets. Where pre-cast manholes are not required, sand collars with grout seal or similar transitions shall be used on PVC pipe where the pipe is connected to the manhole. HDPE pipe connections to the manhole may be grouted ("A-lok" and sand collars not required). Channelization must be adequately sized and conformed to allow entry of a TV camera into all lines.

Catch basins shall be placed to minimize flow of water by pedestrian sidewalk ramps and no more than 350 feet apart. Curb inlets (catch basins) with PVC line connections shall use sand collars with grout seal ("A-lok" also acceptable). Similar transitions may be used with City Engineer approval. HDPE pipe connections to the curb inlets may be grouted (sand collars not required).

Bases shall be set level on a minimum of 6-in. of well-compacted crushed aggregate. Manholes shall have adequate room between the base and cone or flat top to perform maintenance, typically a minimum of 3-ft.

Adjustment rings above the cone or flat top shall not exceed 12-in. in stacked height.

*****REFER TO STANDARD PLAN No. 410.00, 410.04 – 410.07*****

401.09 SEALING-MANHOLES

Manhole sealing requirements for storm sewer facilities shall be the same as those for sanitary sewer facilities.

*****REFER TO STANDARD PLAN No. 410.00*****

410 STORMWATER FACILITY SPECIFICATIONS

The City of College Place's Stormwater Facility Specifications employ a stormwater facility certification process which provides the responsible design engineer with considerable latitude in design and construction of stormwater facilities. On projects that require stormwater facilities, the responsible engineer submits a stormwater report and a stamped Stormwater Design Certification (STD Plan 410.10) with plans submitted for review and then submits a Stormwater Facility Construction Certification (STD Plan 410.20) once the facility is constructed. A stormwater construction certification statement is also required to be placed on the record drawings.

In general, the City will accept and rely upon the professional engineer's certification; however, the City reserves the right to review the submittal for compliance.

During the development of individual lots, the permittee is required to certify that final grading on the lots will conform to the stormwater design.

410.01 PROFESSIONAL ENGINEER

Stormwater facility designs shall be prepared and sealed by a professional engineer licensed in the State of Washington.

410.02 DESIGN STANDARDS

Stormwater facilities shall be designed and constructed in accordance with the recommendations and guidance of the current edition of the Stormwater Management Manual for Eastern Washington (SMMEW) and the most recent update of the *City of College Place Stormwater Facility Standards*.

500 GRADING AND SLOPE SPECIFICATIONS

Cut and fill slopes exceeding a 4 (horizontal):1(vertical) slope and exceeding 8 ft. in height shall be subject to the following requirements except as permitted by the City Engineer.

500.01 PROFESSIONAL ENGINEER

Cut and fill slope designs shall be prepared and sealed by a professional engineer licensed in the State of Washington (engineer-of-record) with demonstrated geotechnical experience acceptable to the City Engineer.

500.02 DESIGN ELEMENTS

Slope designs shall be designed to meet all loading and surcharge requirements and shall incorporate 10-ft. minimum width benches allowing for vehicle access at no more than 10-ft. vertical intervals and a drainage/stormwater system meeting the requirements of City Stormwater Standards and the current edition of the Stormwater Management Manual of Eastern Washington. Fill slopes shall not exceed 2:1. Designs shall meet all requirements of the currently adopted IBC and IRC. The design shall include lift and compaction requirements as required by the engineer-of-record and shall incorporate long-term slope stabilization measures. Designs using plant-based stabilization measures shall include irrigation systems to establish vegetation. Set-backs from the slope, if any, shall be included in the design and shown on any approved construction plans and recorded plats.

500.03 PERFORMANCE ASSURANCE

Upon completion, slopes shall be certified by the engineer-of-record to meet, as constructed, the requirements and specifications of the design. Occupancy for structures above and below the slope shall not be permitted until all slopes and other improvements as noted in CPMC 14.10.070 A.2.a.(2) are recognized as complete by the City. Vegetation-related slope stabilization measure shall be financially guaranteed until certified to be established for unmaintained growth by a licensed arborist (or equivalent license) acceptable to the City.

600 PARKING LOT SPECIFICATIONS

These parking lot standards supplement CPMC 14.60.070. CPMC 14.60.070 shall govern in the event of a conflict between these standards and CPMC 14.60.070.

600.01 APPLICABILITY

Off-street parking and loading space shall be provided in accordance with the requirements of these specifications for all new development activities including the construction of new buildings, the expansion of existing buildings, changes of use, and/or changes to the terms and conditions of occupancy such as enlarging, moving or increasing capacity by creating or adding dwelling units, commercial or industrial floor space, or seating facilities, or by making alterations to parking areas..

600.02 GENERAL REQUIREMENTS

The provision and maintenance of off-street parking and loading facilities shall be a continuing obligation of the owner or sponsor of a use, so long as the use is in existence and so long as parking and loading facilities are required in connection with a given use.

With regard to pre-existing parking facilities, the following shall apply:

A pre-existing use which does not have sufficient parking facilities to meet the requirements of this chapter may continue to operate with the parking deficiency so long as no enlargement or other change is made in the use, building size or which would require additional parking facilities;

When a preexisting use is modified or enlarged so as to require additional parking facilities, these standards shall apply;

When additional uses are placed on the same lot with the preexisting use or an enlarged lot of which the preexisting use lot is a part, standards shall apply only to the additional use.

600.03 DESIGN REQUIREMENTS

All required off-street parking and loading facilities shall be developed in accordance with the following:

All required parking spaces shall be located on the same site with the building they serve, unless:

A shared or joint use parking agreement has been approved by the city; or

A voluntary in lieu of payment to provide the required parking in a public or cooperative parking facility has been approved by the city; and/or

The city makes a written finding that adequate on-street parking exists to reasonably serve the new development/use.

Minimum parking area dimensions shall be as in the Off-street Parking Area Dimensions table.

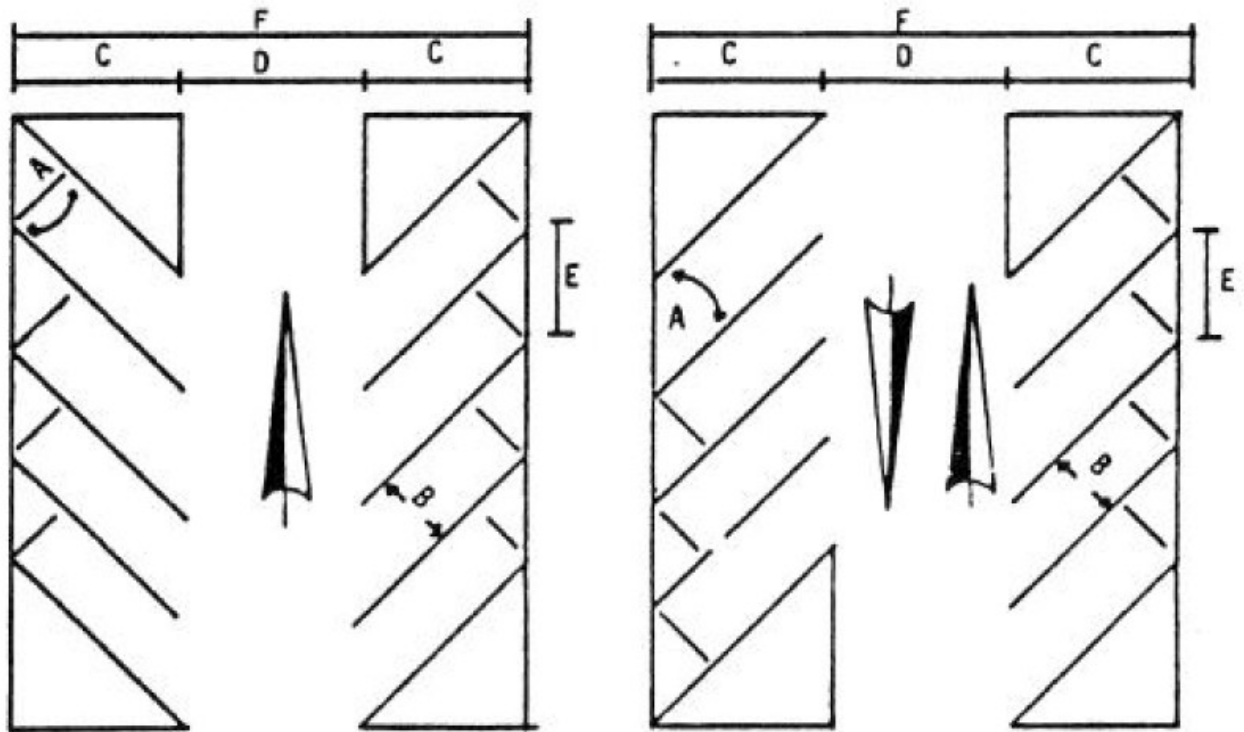
The slope of entrance and exit driveways providing access to public streets for off-street parking areas shall not exceed ten percent unless otherwise approved by the city engineer.

Driveways and Maneuverability

1. All required parking spaces shall be in usable shape and condition and adequate ingress to and egress from each space shall be provided without moving another vehicle.

TABLE 600.A							
Off-Street Parking Area Dimensions (Use in conjunction with Figure 600.A)							
A	B	C	D		E	F	
			Aisle Width			Unit Width	
Parking Angle	Stall Width	Stall Depth	One-Way Traffic	Two-Way Traffic	Curb Length Per Car	One-Way Traffic	Two-Way Traffic
0°	8.0*	8.0*			20.0*	28.0*	36.0*
	8.5	8.5	12.0	20.0	23.0	29.0	37.0
20°	8.0*	13.0*			23.4*	37.0	46.0*
	8.5	14.5	11.0	20.0	24.9	40.0	49.0
	9.0	15.0	11.0	20.0	26.3	41.0	50.0
	9.5	16.5	11.0	20.0	27.8	42.0	51.0
30°	8.0*	14.9*			16.0*	40.8*	49.8*
	8.5	16.9	11.0	20.0	17.0	44.8	53.8
	9.0	17.5	11.0	20.0	18.0	45.6	54.6
	9.5	17.8	11.0	20.0	19.0	46.6	55.6
40°	8.0*	16.4*			12.5*	44.8*	52.8*
	8.5	18.7	12.0	20.0	13.2	49.4	57.4
	9.0	19.1	12.0	20.0	14.0	50.2	58.2
	9.5	19.5	12.0	20.0	14.8	51.0	59.0
45°	8.0*	17.0*			11.3*	46.5*	54.0*
	8.5	19.4	12.5	20.0	12.0	51.3	58.8
	9.0	19.8	12.0	20.0	12.7	51.6	59.6
	9.5	20.1	12.10	20.0	13.4	52.2	60.2
50°	8.0*	17.4*			10.4*	47.3*	54.8*
	8.5	20.0	12.5	20.0	11.1	52.5	60.0
	9.0	20.4	12.0	20.0	11.7	52.8	60.8
	9.5	20.7	12.0	20.0	12.4	53.4	61.4
60°	8.0*	17.9*			9.2*	53.3*	55.8*
	8.5	20.7	17.5	20.0	9.8	58.9	61.4
	9.0	21.0	17.0	20.0	10.4	59.0	62.0
	9.5	21.2	16.5	20.0	11.0	58.9	62.4
70°	8.0*	17.8*			8.5*	55.1*	55.6*
	8.5	20.3	19.5	20.0	9.0	61.1	61.6
	9.0	21.0	19.0	20.0	9.06	61.0	62.0
	9.5	21.2	18.5	20.0	10.1	60.9	62.4
80°	8.0*	17.2*			8.1*	57.4*	53.4*
	8.5	20.2	23.0	24.0	8.6	63.4	64.4
	9.0	20.3	22.0	24.0	9.1	62.6	61.6
	9.5	20.4	21.0	24.0	9.6	61.8	64.8
90°	8.0*	16.0*			8.0*	56.0*	57.0*
	8.5	19.0	24.0	25.0	8.5	62.0	63.0
	9.0	19.0	23.0	24.0	9.0	61.0	62.0
	9.5	19.0	22.0	24.0	9.5	60.0	62.0

FIGURE 600.A



2. Turning and maneuvering space shall be located entirely on private property unless specifically approved by the city engineer.
3. All parking spaces shall be internally accessible to one another without reentering adjoining public streets unless otherwise approved by the city engineer.
4. Ingress and egress to and from any off-street parking area shall not be located closer than twenty feet from point of tangent to an intersection or pedestrian crosswalk unless otherwise approved by the city engineer.
5. Separate ingress and egress may be required for smoother and safer flow of traffic.

Surfacing Requirements.

1. All parking areas and facilities shall be paved with asphalt or concrete and shall be graded and shall conform to the City's Stormwater Facility Standards and the Stormwater Management Manual for Eastern Washington.
2. All traffic control devices such as parking stripes designated car stalls, directional arrows or signs, wheel stops, curbs and other developments shall be installed and completed as shown on the approved plans.
3. Paved parking areas shall use paint or similar devices to delineate car stalls, direction of traffic flow and pedestrian walkways.

4. Wheel stops shall be required on the periphery of all parking lots so that cars will not protrude into the public right of-way, sidewalks or paths, off the parking lot, onto adjacent property or strike a building, fence, or landscaping. Wheel stops shall be three feet from the end of the stall for head-in parking. Wheelstops are not required for parallel parking or for diagonal or head-in parking against a 8-ft or wider sidewalk.
5. All parking areas, except those in conjunction with a single-family or two-family dwelling shall be graded so as not to drain storm water over the public sidewalk or onto any abutting public or private property.
6. Building permits shall be required for all parking lot construction, repair or resurfacing. Parking lot servicing shall not encroach upon the public right-of-way.

Lighting Requirements. Exterior lighting for all uses and signs shall be directed downward and otherwise arranged, shaded, screened, shielded, and of a design that results in the light being directed onto the site and of an intensity or brightness as follows:

1. So as not to interfere with the safe operation of motor vehicles, bicyclists, and other legal use of the roadway or sidewalk;
2. Maximum illumination at neighboring property lines shall not exceed 0.5 foot-candles at grade level;
3. Luminaries shall be aimed and shielded in a manner that shall not direct illumination on adjacent properties;
4. Full cutoff shielding is required for all luminaries to prevent wasted light up into the dark sky and prevent glare from normal viewing angles;
5. Shielding is required for luminaries located along property lines to prevent spill light onto adjacent properties; and

The city may require that the project sponsor submit a photometric plan and analysis to verify compliance with these standards.

Curb Cuts.

1. The number of curb cuts shall be kept to a minimum whenever possible so as to reduce the potential traffic flow conflict of vehicles and pedestrians.
2. All parking areas shall have specific ingress and egress areas to the street not exceeding width governed by 100.09 Driveways unless otherwise approved by the City Engineer.
3. Joint-use or shared curb cuts shall be reviewed and approved and may be required by the city engineer.

Required parking spaces

1. Required parking spaces shall not be used for the permanent or semi-permanent parking or storage of vehicles or materials. Parking spaces are designed for use as temporary storage of employee, visitor or resident motor vehicles only.
2. All parking areas shall comply with the following landscaping provisions:
 - a. All required landscaping and landscaped buffers shall be designed by a qualified professional and submitted as a landscape plan in a format prescribed by the city, for review and approval.
 - b. Unless otherwise provided, all required landscaping shall be evenly distributed and shall consist of a mixture of hardy evergreen planted material including trees, low, medium and high-profile shrubs, together with suitable ground cover consisting of natural grasses, vines, bark mulch, and rockeries;
 - c. When plantings are used in screening or landscaping, they shall be compatible with area climate conditions and shall be provided with either a manual or automatic irrigation system;
 - d. The use of native plants and low water usage plantings is encouraged; and
 - e. All landscaping shall be placed and maintained in such a manner as not to impair vehicular visibility at parking area points of ingress/egress, emergency vehicle access, city maintenance activities, and shall comply with the sight visibility requirements in this section.
3. All required off-street parking facilities which have 15 or more parking spaces shall provide landscaping in conformance with the following:
 - a) A perimeter landscaped border of at least five feet wide around the parking area.
 - b) Interior landscaping in at least ten percent of the total land area covered in parking.
 - c) The interior of the parking areas shall contain landscape islands and peninsulas located in such a manner as to:
 - i) Divide and break up large expanses of paving;
 - ii) Guide traffic flow and direction;
 - iii) Promote pedestrian and vehicular safety; and
 - iv) Preserve existing trees and vegetation.
 - d) Landscape islands shall be installed to break up the parking area into rows of not more than 20 contiguous parking spaces or ten spaces in one row.
 - i) Each end of each row of parking spaces shall require a landscape island unless the end of such row of parking spaces is adjacent to a perimeter landscape;
 - ii) The minimum width for a landscape island or peninsula shall be five feet; and
 - iii) Each landscape island or peninsula shall contain a minimum of one shade tree and a combination of five deciduous and evergreen shrubs or groundcover.

4. Parking spaces, loading facilities, and all pedestrian areas shall be provided in accordance with the provisions of state and federal law, including the American with Disabilities Act (ADA), and the International Codes, as adopted by the city.
5. Required parking, pedestrian, loading, and bicycle facilities proposed in the downtown mixed-use district shall be provided by the project sponsor, at the rear or side of the building; and
6. Shared detached garages and surface parking should be located so their visual presence is minimized and associated noise or other impacts do not intrude into public spaces and shall be screened from public streets and adjacent residential uses.

600.04 INSPECTION REQUIREMENTS

All private parking lots and parking lots to be dedicated to the City shall be inspected and certified (stamped) by a professional engineer licensed to practice in the state of Washington to comply with City parking lot specifications and standards.

600.05 NUMBER OF SPACES REQUIRED

The minimum number of off-street parking spaces shall be determined in accordance with the Table 600.B. Where alternative standards are indicated, the greater requirement applies. In cases of mixed uses or occupancies, the various uses shall be computed separately and combined for the total off-street parking requirement. Where computations result in a fraction, the parking space requirement shall be rounded to the nearest whole number.

If the parking requirements for a use are not specifically identified below, the parking requirements shall be determined by the city in a written finding based upon:

- a. The requirements for the most comparable use defined in this chapter; and/or
- b. The appropriate standards derived from the Institute of Transportation Engineers (ITE)'s Parking Generation Manual, as adopted by the city; and/or
- c. A parking study prepared by the applicant documenting the expected parking demand for the proposed use; and/or Required parking for the proposed use as determined by other comparable jurisdictions.

Similarly, parking uses preceded by an “*” may alternatively be determined by one of the methods above.

TABLE 600.B

	Spaces Required
Single-family and two-family dwellings	Two spaces/dwelling unit
Multifamily dwellings	One and one-half spaces/dwelling unit with two or more bedrooms;

	or One space/dwelling unit with one bedroom or a studio apartment.
Accessory Dwelling Unit	One additional space/ADU
Mobile home parks	Two spaces/dwelling unit
Cottage housing	One space/dwelling unit
Vacation Rentals	Two spaces/dwelling unit with two or more bedrooms; One space/dwelling unit with one bedroom or studio dwelling unit.
Bed and Breakfast Inn	One space/guest room
*Fraternities, sororities and dormitories	1 per 3 occupants
Hotels/motels	One space/guest room; and at least one space for each employee at work during peak periods; and one space/500 feet of common areas.
*Boardinghouses and lodging homes	1 per sleeping room or lodging unit
*Senior citizens housing, designed with independent dwelling units	0.5 per dwelling unit
*Hospitals	1 per 3 beds
*Convalescent, nursing and rest homes	1 per 6 beds plus 1 per each staff member on duty on a maximum shift
*Churches, mortuaries and funeral homes, auditoriums, and other enclosed places of assembly	1 per 5 fixed seats, or 1 per 100 lineal inches of bench-type seating, or 1 per 100 square feet of gross floor area used for assembly purposes
*Public facilities, including libraries, police and fire stations	To be determined by the planning commission
*Schools, elementary and junior high, public, private or parochial	1 per each employee and each faculty member and 1 per 6 seats of assembly area
*Schools, colleges, high, public, private or parochial	1 per 15 students, plus 1 per each employee and faculty member and 1 per every 4 seats of assembly area
Retail, commercial and office buildings	One space/200 square feet plus adequate employee parking and; at least one space for each employee at work during peak periods.
Industry and Warehouse	One space/500 square feet
*Restaurants.....	1 per every 3 persons based on occupancy load
*Drive-in restaurants	1 per employee on maximum working shift and 1 per 100 square feet total floor area
*Shopping centers	1 per 300 square feet of gross floor

	area
*Theaters	1 per 3 seats
*Skating rinks	1 per 100 square feet of gross floor area
*Racquetball, handball and tennis courts, including accessory uses	1 per 40 square feet of assembly area plus 2 per court
*Manufacturing uses, research and testing laboratories, assembly plants and similar industrial uses not including office space 1 per employee on maximum working shift	
*Any use not addressed in this table	To be established by the planning commission

600.06 LOADING SPACE REQUIREMENTS

Off-street loading space(s) having access to a public right-of-way shall be required adjacent to each business building hereafter erected or enlarged if the use of such building entails deliveries or shipments to or from it. Such loading space(s) shall be adequate size to accommodate the number and size of vehicles simultaneously loaded or unloaded in connection with the business conducted in such building. No part of a truck, trailer, or van shall extend into the public right-of-way while using the loading space.

600.07 JOINT USE PARKING

The planning commission at a public meeting may authorize the joint use of parking facilities required by this chapter. Off-street parking for primarily nighttime uses such as theaters, bowling alleys, restaurants and related uses may be supplied by certain other daytime types of uses such as banks, offices, retail businesses, personal service shops and related uses.

Applications for utilization of joint use parking facilities may be approved by the planning commission provided the following conditions are met:

1. The parking facilities shall be within 500 feet of the principal buildings involved unless other transport is provided.
2. Joint use parking agreements shall not account for more than 50 percent of required off-street parking spaces.
3. The applicant shall show that there is no substantial conflict in the principal operating hours of the two buildings or uses for which a joint use of off-street parking facilities is proposed.
4. The applicant shall execute among all parties involved a properly drawn joint-use parking agreement which is approved as to form and manner of execution by the city attorney.

Following approval of such agreement by the planning commission, the agreement shall be recorded with the county auditor and filed for permanent record in the city hall.

600.08 COMPACT CAR ALLOWANCE

A maximum of 30 percent of the total required off-street parking spaces may be permitted and designated for utilization by compact cars. Each compact car space shall be designated as such. Dimensions of compact parking spaces shall conform to the standards as depicted in Table 600.A, Off-street Parking Area Dimensions, of this chapter.

600.09 OFFSTREET PARKING FACILITIES-INSTALLATION TIME LIMIT

The installation and improvement of required off-street parking facilities shall be completed to the required standards before a certificate of occupancy for a building is issued unless a time limit extension to a specified date is authorized by the city engineer.

600.10 PARKING LOT PLAN-FILING REQUIREMENTS

Detailed plans of off-street parking areas indicating the proposed development shall be filed with the city engineer for review. These plans shall include the location, size, shape, design, curb cuts, methods of onsite drainage, adjacent streets, circulation of vehicular and pedestrian traffic, ingress and egress, parking lot lighting and other features and appurtenances of the proposed parking facility. In addition, finished grades shall be required for all paved parking areas and shall be indicated on the plans submitted.

600.11 OFFSTREET PARKING-AUTHORITY TO WAIVE OR MODIFY REQUIREMENTS

The board of adjustment may, by formal action at a public meeting, waive or modify the requirements set forth in this chapter establishing the number of required parking spaces. It shall be the responsibility of the applicant to provide the board with sufficient evidence to identify good cause for such reduction or waiver.

600.12 REQUIRED BICYCLE STORAGE

Bicycle storage spaces shall be provided in conjunction with all multiple family dwelling units (three or more units) at the rate of one space/unit. Each space shall be a minimum length of six feet, a minimum width of two feet and shall be provided with a minimum overhead clearance of seven feet. In commercial districts, bicycle storage spaces shall be provided in conformance with the requirements of the administrator.

600.13 DISABLED PARKING SPACES

Disabled parking spaces shall be provided in accordance with the Uniform Building Code and ADA, whichever is more restrictive.

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STANDARD PLAN 010.00

GENERAL CONSTRUCTION NOTES

1. ALL PROJECTS SHALL BE CONSTRUCTED PER THE LATEST EDITION OF THE WASHINGTON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (SSRB&MC) AS AMENDED AND SUPPLEMENTED BY THE APWA SUPPLEMENT, THE CITY OF COLLEGE PLACE STANDARD SPECIFICATIONS AND THESE DRAWINGS. WORK SHALL CONFORM TO FEDERAL, STATE AND LOCAL LAWS AND CODES.
2. THE OWNER & CONTRACTOR SHALL PROVIDE PROPER SAFETY EQUIPMENT AND MEASURES IN ACCORDANCE WITH STATE AND FEDERAL SAFETY LAWS (WISHA, OSHA) AND SHALL PROTECT ALL WORKERS, EMPLOYEES AND THE PUBLIC.
3. THE CONTRACTOR SHALL HAVE A RESPONSIBLE PARTY WHO SHALL HAVE THE AUTHORITY TO REPRESENT AND ACT FOR THE CONTRACTOR AT THE JOB SITE DURING ALL WORKING HOURS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A COPY OF THESE APPROVED PLANS STAMPED "FOR CONSTRUCTION" AND SIGNED BY THE CITY ENGINEER ON THE CONSTRUCTION SITE AT ALL TIMES.
4. THE CONTRACTOR SHALL INVESTIGATE THE SITE AND VERIFY ALL CONDITIONS AND DIMENSIONS OF THE PROJECT AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY IN THE CONTRACT DOCUMENTS REQUIRING MODIFICATION PRIOR TO PROCEEDING.
5. ANY CHANGES TO THE DESIGN MUST BE APPROVED BY THE CITY OF COLLEGE PLACE CITY ENGINEER OR HIS DESIGNEE AND THE OWNER PRIOR TO IMPLEMENTING/CONSTRUCTING THE CHANGE.
6. THE CONTRACTOR SHALL TAKE PREVENTATIVE MEASURES NECESSARY TO PROTECT EXISTING PROPERTY AND IMPROVEMENTS. THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER OR THE CITY OF COLLEGE PLACE, REPLACE AND REPAIR ANY DAMAGE TO PROPERTY AND IMPROVEMENTS.
7. THE LOCATIONS OF EXISTING UTILITIES AND FACILITIES ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES AND FACILITIES. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR TO EXISTING UTILITIES OR FACILITIES AND DAMAGES OCCURRING AS A RESULT OF DAMAGES TO UTILITIES OR FACILITIES. PRIOR TO DIGGING, CONTRACTOR MUST VERIFY LOCATION AND DEPTH OF UTILITIES AND ANY OTHER UNDERGROUND INTERFERENCE BY CALLING 1-800-425-5555 OR 811 TWO BUSINESS DAYS BEFORE DIGGING. IF THE CONTRACTOR DISCOVERS ANY DISCREPANCIES BETWEEN THE PLANS AND THE CONDITIONS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER AND THE CITY OF COLLEGE PLACE PUBLIC WORKS DIRECTOR OR CITY ENGINEER.
8. OWNER IS RESPONSIBLE TO CONTACT THE DEPARTMENT OF ECOLOGY WITH REGARD TO THE NEED AND APPLICATION FOR A CONSTRUCTION STORMWATER GENERAL PERMIT AND TO PROVIDE EVIDENCE OF CONTACT, RESPONSE, AND COPY OF PERMIT (IF REQUIRED) TO THE CITY PRIOR TO COMMENCING CONSTRUCTION. CITY RESERVES RIGHT TO STOP WORK IF OWNER PROCEEDS AT OWN RISK WITHOUT COPY OF PERMIT OR TO DECLINE OCCUPANCY PERMIT IF REQUIRED PERMITS ARE NOT OBTAINED.

9. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS (PERMIT OF ENTRY, GRADING, SEWER, WATER, ETC) BEFORE COMMENCING WORK. WORK IN THE RIGHT-OF-WAY OR WORK IMPACTING CITY EASEMENTS REQUIRES A RIGHT-OF-WAY OR ENTRY PERMIT FROM THE JURISDICTION OWNING THE RIGHT-OF-WAY.
10. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY FOR APPROVAL PRIOR TO BEGINNING WORK IN THE RIGHT-OF-WAY. TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL COORDINATE THE WORK SCHEDULE SO AS TO HAVE A MINIMUM IMPACT TO EXISTING TRAFFIC. PROVISION SHALL BE MADE FOR ACCESS BY RESIDENTS, BUSINESSES, GOVERNMENT, SCHOOLS, SOCIAL AND MEDICAL FACILITIES PROVIDED ANY ARE IMPACTED BY PROJECT AND EMERGENCY AND GARBAGE COLLECTION VEHICLE ACCESS SHALL BE PROVIDED AT ALL TIMES.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT FUTURE LAND CORNERS. DISTURBED PROPERTY MARKERS, BENCHMARKS ETC. SHALL BE REPLACED AT THE CONTRACTOR'S COST USING THE SERVICES OF A REGISTERED SURVEYOR LICENSED IN THE STATE OF WASHINGTON.
12. WITH THE EXCEPTION OF STORMWATER INSPECTIONS DEEMED NECESSARY BY THE CITY TO ENSURE COMPLIANCE WITH STORMWATER STANDARDS, CITY INSPECTION OUTSIDE OF BUILDINGS IS LIMITED TO FACILITIES IN THE RIGHT-OF-WAY. ALL OTHER ON-SITE INSPECTION AND COMPLIANCE, INCLUDING ADA COMPLIANCE, IS THE RESPONSIBILITY OF THE OWNER.
13. AMERICAN DISABILITY ACT REQUIREMENTS SHALL BE OBSERVED WHETHER OR NOT THEY ARE SPECIFICALLY CALLED OUT ON PLANS OR DETAILS. WHERE THE CONTRACTOR DEEMS PLANS ARE INADEQUATE TO CONSTRUCT FACILITIES TO ADA STANDARDS, THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER WHO SHALL BE RESPONSIBLE TO OBTAIN ANY NECESSARY CLARIFICATION FROM THE ENGINEER OF RECORD. ANY CHANGES OR MODIFICATIONS TO APPROVED PLANS SHALL BE APPROVED IN ADVANCE BY THE CITY.
14. WHERE CONNECTIONS REQUIRE "FIELD VERIFICATION", CONNECTION POINTS WILL BE EXPOSED BY THE CONTRACTOR AND FITTINGS VERIFIED 48 HOURS PRIOR TO DISTRIBUTING SHUT-DOWN NOTICES.
15. BACKFILLING OF ALL MAINS, SERVICES, APPURTENANCES, AND COMPACTED LIFTS SHALL BE OBSERVED BY THE CITY OF COLLEGE PLACE. OBSERVATION OF SUCH WORK SHALL NOT RELIEVE THE CONTRACTOR FOR CORRECTION OF ANY DEFICIENCIES AND/OR FAILURES AS DETERMINED BY SUBSEQUENT TESTING AND INSPECTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY FOR THE REQUIRED OBSERVATIONS AT LEAST 24 HOURS PRIOR TO INSPECTION.
16. PERMANENT CONTROL MONUMENTS SHALL BE ESTABLISHED AT
 - ALL CONTROLLING CORNERS ON THE BOUNDARIES OF A SUBDIVISION
 - THE INTERSECTIONS OF CENTERLINES OF STREETS
 - THE BEGINNING AND ENDS OF CURVES ON CENTERLINES
 - RADIUS POINTS OF TURNAROUNDS
 - ALL BLOCK CORNERS.
17. DURING CONSTRUCTION, THE OWNER OR HIS AGENT SHALL MAINTAIN ON-SITE AND MAKE AVAILABLE TO CITY PERSONNEL, A "RED-LINED" COPY OF PLANS SHOWING ALL VARIATIONS BETWEEN APPROVED PLANS AND CONSTRUCTED FACILITIES.

18. UPON COMPLETION AND PRIOR TO FINAL APPROVAL OF THE WORK, THE OWNER OR HIS AGENT SHALL PROVIDE THE CITY WITH STAMPED AS-BUILT DRAWINGS CONFORMING TO CITY REQUIREMENTS AND SHALL INCLUDE STAMPED ENGINEER-OF-RECORD CERTIFICATION THAT PRIVATE FACILITIES COMPLY WITH CITY PARKING LOT DESIGN CODE (CPMC 17.48.040) AND THE AMERICAN DISABILITIES ACT. (SEE “RECORD DRAWING REQUIREMENTS” DOCUMENT).
19. THE ENGINEER OF RECORD SHALL PROVIDE THE CITY OF COLLEGE PLACE WITH WRITTEN, STAMPED CONFIRMATION THAT THE STORM DRAINAGE FACILITIES, AS CONSTRUCTED, WILL FUNCTION AS DESIGNED PRIOR TO ISSUANCE OF OCCUPANCY PERMIT OR AS OTHERWISE REQUIRED BY THE CITY ENGINEER. THE STAMPED CERTIFICATION (SEE STD. PLAN 410.20) SHALL ALSO APPEAR ON THE RECORD DRAWINGS.
20. WHERE A STORMWATER DESIGN HAS BEEN REQUIRED, FINAL LOT GRADING FOR LOTS COVERED BY THE DESIGN SHALL BE CONSISTENT WITH THE APPROVED STORMWATER DESIGN.
21. TEST PITS EXCAVATED WITHIN THE LIMITS OF THE SITE SHALL BE REEXCAVATED AND REPLACED WITH COMPACTED STRUCTURAL FILL AND CERTIFIED BY A LICENSED GEOTECHNICAL ENGINEER.
22. UNLESS OTHERWISE SPECIFIED, CONCRETE USED IN PROJECTS APPROVED FOR CONSTRUCTION BY THE CITY OF COLLEGE PLACE SHALL MEET OR EXCEED 4000 PSI.
23. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND CONTROL DUST ON-SITE AS A CONDITION FOR CONTINUING PROJECT APPROVAL.
24. THE CONTRACTOR SHALL OBSERVE THE CURRENT CITY NOISE ORDINANCE (11 P.M. – 7 A.M.)

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

STANDARD PLAN 110.00

GENERAL STREET CONSTRUCTION NOTES

1. STREET BASE ROCK LIFTS SHALL BE IMPORTED CRUSHED ROCK, COMPACTED TO A 95% RELATIVE DENSITY WITH A VIBRATING COMPACTION SLED, UPRIGHT HAMMERING COMPACTOR, HOEPACK, OR VIBRATORY COMPACTION ROLLER.

*** NATIVE/EXCAVATED MATERIAL SHALL NOT BE USED FOR BACKFILL ***

2. STREET BASE ROCK LIFTS SHALL BE NO MORE THEN 12" IN HEIGHT IN ORDER TO ASSURE PROPER COMPACTION. APPROPRIATE MOISTURE SHALL BE ADDED TO THE ROCK FOR OPTIMIZING COMPACTION. ROCK IS NOT TO BE COMPACTED OR GRADED DRY.
3. THE LAST OR TOP LIFT, PRIOR TO PAVING THE CUT, MAY EITHER BE COMPACTED CRUSHED ROCK OR A CONTROLLED DENSITY CONCRETE FILL. CONTROLLED DENSITY CONCRETE FILL SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
4. FINAL TOP COURSE ON CONCRETE PAVED STREETS SHALL BE NO LESS THAN 8" IN DEPTH.
5. A COAT OF CSS-1 TACK SHALL BE APPLIED TO THE ADJOINING EDGES OF ALL ASPHALT STREET CUTS. THE ONLY EXCEPTION TO THIS IS WHERE CONCRETE IS BEING USED AS THE RESURFACING MATERIAL.
6. ASPHALT FINAL TOP COURSE LIFTS SHALL BE CONSTRUCTED OF CLASS ½" PG 64-28 HMA NO LESS THEN 4" THICK AND SHALL SLOPE FROM CENTERLINE TO THE EDGE OF THE STREET AT A 2% SLOPE. THE ONLY EXCEPTION IN PAVEMENT THICKNESS IS SURFACE REPLACEMENT FOR LOW GRADE FLEXIBLE PAVEMENT WHICH ONLY REQUIRES A MINIMUM 2" LIFT.
7. THE FOLLOWING TESTS SHALL BE PROVIDED AT THE OWNERS EXPENSE AND SHALL MEET WSDOT SPECIFICATIONS PRIOR TO ROADWAY CONSTRUCTION:
 - CURRENT WSDOT PIT CERTIFICATION
 - T-606/T-911 (SUBGRADE MAX. DENSITY) NOTE: PROVIDE ADDITIONAL TEST FOR SUBGRADE EXCAVATIONS 2' OR MORE BELOW EXISTING GRADE.
 - T-606 (CSTC MAX. DENSITY)
 - T-27/11 CSTC SIEVE ANALYSIS
 - T-176 CSTC SAND EQUIVALENT (SE)
 - T-606 (CSBC MAX. DENSITY)
 - T-27/11 CSBC SIEVE ANALYSIS
 - T-176 CSBC SAND EQUIVALENT (SE)
 - APPROVED ASPHALT MIX DESIGN
 - THEORETICAL MAXIMUM ASPHALT DENSITY (RICE)
8. THE FOLLOWING HMA PLANT PRODUCTION TESTS SHALL BE PROVIDED AT THE OWNER EXPENSE AND SHALL MEET WSDOT SPECIFICATIONS PRIOR TO HMA APPROVAL AND PAVING:
 - ASPHALT CONTENT
 - GRADATION
 - SAND EQUIVALENT
 - WSDOT DEGRADATION
 - LA WEAR TEST

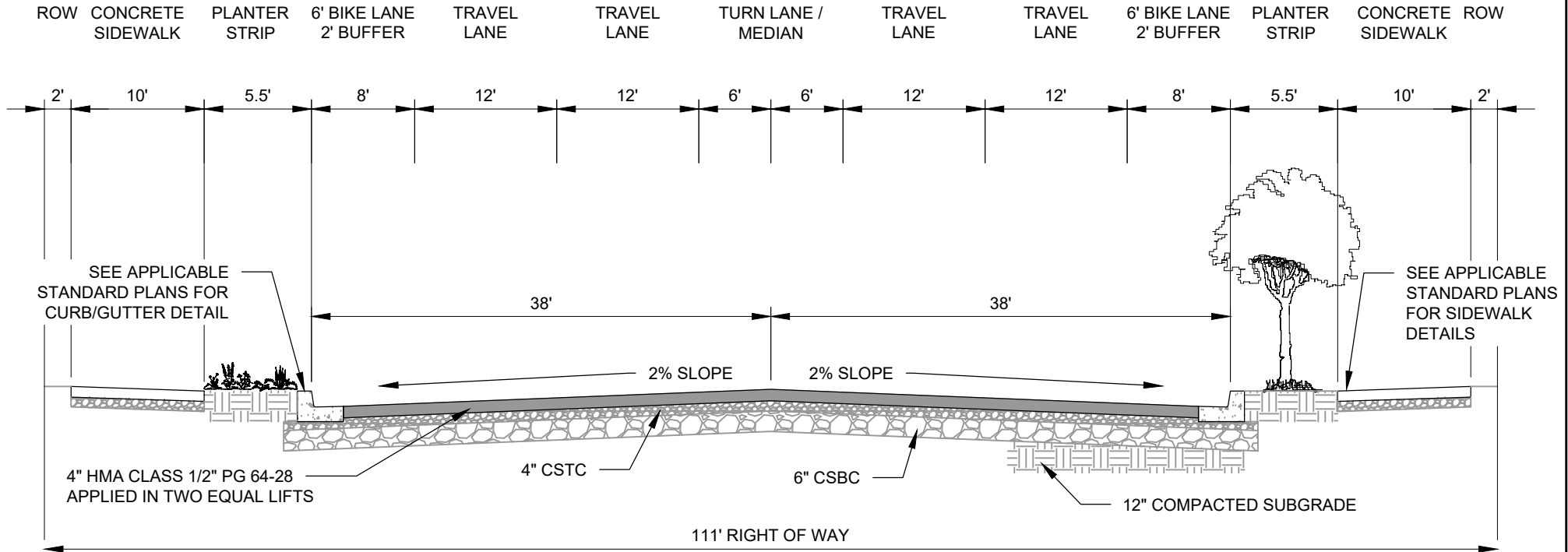
9. THE FOLLOWING TESTS SHALL BE PERFORMED AT THE OWNER'S EXPENSE TO WSDOT SPECIFICATIONS FOR CITY REVIEW AND APPROVAL DURING CONSTRUCTION:
DENSITY TESTS. FIVE MINIMUM PER FIRST 1000 FEET WITH ONE TEST PER 200' OR FRACTION THEREOF THEREAFTER FOR:
SUBGRADE BELOW 2 FEET -- MINIMUM DENSITY SHALL BE 95% OF THE MAXIMUM DENSITY AND + 2% OF THE OPTIMUM MOISTURE AS DETERMINED BY THE APPROPRIATE WSDOT TEST METHOD.
SUBGRADE AT GRADE—SAME AS ABOVE.
CSBC-- MINIMUM DENSITY SHALL BE 95% BASED ON THE WSDOT 606 TEST METHOD.
CSTC-- MINIMUM DENSITY SHALL BE 95% BASED ON THE APPLICABLE WSDOT TEST METHOD.
FIVE ASPHALT DENSITIES PER 400 TON OF ASPHALT.
CORES—TO BE DETERMINED BY CITY.
10. THE FOLLOWING TESTS AND INFORMATION SHALL BE PROVIDED FOR CITY REVIEW AND APPROVAL PRIOR TO PLACEMENT OF CONCRETE
BATCH PLANT PRE-CERTIFICATION (NRMCA)
MIX DESIGN
AIR CONTENT (4.5% - 7.5%)
CYLINDERS—SEE WSDOT REQUIREMENTS.
11. ALL UTILITIES SHALL BE RAISED PRIOR TO PLACEMENT OF FINAL LIFT OF HMA. ANY GAPS AROUND UTILITIES SHALL BE FILLED WITH CONCRETE TO TOP OF BASE LIFT/GRADE PRIOR TO PAVING FINAL LIFT.
12. CURB RAMP TRANSITIONS SECTIONS SHALL BE NO STEEPER THAN A 12:1 SLOPE AS PER THE AMERICANS WITH DISABILITIES ACT (A.D.A.)
13. CURB RAMP SHALL BE PLACED TO FACILITATE ALIGNMENT OF THE CROSSWALKS.
14. CURB RAMPS SHALL NOT BE PLACED INTEGRAL WITH THE SIDEWALK OR CURB AND SHALL BE ISOLATED WITH EXPANSION JOINT MATERIAL.
15. SIDEWALK WIDTH SHALL BE NO LESS THAN 6'-0". WIDER SIDEWALKS SHALL BE SPECIFIED ON PLANS & DOCUMENTS AND ARE SUBJECT TO APPROVAL BY THE CITY ENGINEER. WHEN THE WIDTH REQUIRED FOR CURB LINE SIDEWALKS IS SUCH THAT THE 12:1 RAMP SLOPE CANNOT BE ACHIEVED, THE BACK OF THE SIDEWALK SHALL BE GRADUALLY LOWERED SO THE 12:1 RAMP SLOPE CAN BE ACHIEVED OVER THE FULL WIDTH OF THE RAMP.
16. YELLOW TRUNCATED DOME WARNING PADS SHALL BE PLACED ON BOTH SIDES OF CURB RAMPS, AT ENTRIES TO TRAVELED WAYS AND AT ANY GRADE CHANGE OR OBSTRUCTION IN THE SIDEWALK. THEY SHALL BE CONSTRUCTED AS PER SHOWN IN STANDARD PLANS 110.36. THE PADS SHALL EXTEND THE FULL WIDTH OF THE SIDEWALK AND SHALL BE NO LESS THAN 1'-6" OR NO MORE THAN 3'-0" WIDE AS SHOWN IN STANDARD PLANS 110.30 - 110.36.
17. APPROACH TRANSITION SECTIONS (FLARES) SHALL BE NO LESS THAN 6'-0" IN WIDTH OR 12:1 MAXIMUM SLOPE, AS SHOWN IN STANDARD PLAN 110.13.
18. DRIVEWAY/ALLEY APPROACH LIP SHALL BE NO LESS THAN 1". WHEELCHAIR RAMP LIP SHALL BE FLUSH.
19. ALL RESIDENTIAL DRIVEWAY & ALLEY APPROACHES SHALL BE NO LESS THAN 12'-0" IN WIDTH AND NO MORE THAN 25'0".

20. COMMERCIAL OR HEAVY VEHICLE LOAD DRIVEWAY AND ALLEY APPROACHES SHALL HAVE REINFORCEMENT MATERIAL PLACED WITHIN THE CURB/GUTTER & AND SIDEWALK AS SHOWN IN STANDARD PLAN 110.12 AND IN THE FOLLOWING MANNER:
- ❑ CURB/GUTTER: 3-#4 REINFORCEMENT BARS PLACED PARALLEL TO THE STREET WITH #4 CROSS TIES @ 12" ON CENTER.
 - ❑ SIDEWALK: #4 REINFORCEMENT BARS PLACED @ 12" ON CENTER EACH WAY.
21. ALL SIDEWALK EDGES SHALL HAVE A $\frac{3}{4}$ " RADIUS.
22. ALL RETROFIT CURB, GUTTER & SIDEWALK WORK SHALL BE SAW CUT SMOOTHLY AND EVENLY AT THE ADJOINING EDGES. COMPLETELY REMOVE THE WHOLE CURB AND GUTTER. CURB, GUTTER, DRIVEWAY & GUTTER SHALL NOT BE POURED AS ONE SECTION. EXCEPTION: PEDESTRIAN CURBS MAY BE MONOLITHICALLY POURED WITH THEIR ASSOCIATED SIDEWALK PANEL.
23. $\frac{1}{2}$ " FELT EXPANSION MATERIAL SHALL BE PLACED AT JOINTS AT ANY CHANGE IN DIRECTION, PROFILE, OR OTHER SIGNIFICANT CHANGE IN THE DESIGN OR CONFIGURATION OF THE SIDEWALK AND/OR CURB OCCURS AND AT REGULAR 100' INTERVALS. EXAMPLES OF THIS ARE AS FOLLOWS:
- ❑ DRIVEWAY/ALLEY APPROACHES
 - ❑ OBSTRUCTIONS SUCH AS MANHOLES, WATER VALVE BOXES, POWER POLES, PHONE PEDESTALS,
 - ❑ BEFORE AND AFTER ANY CHANGE IN DIRECTION SUCH AS SWEEPS OR CORNERS.
 - ❑ WHEEL CHAIR RAMPS
24. CURB, GUTTER AND SIDEWALKS SHALL BE POURED AS SEPARATE UNITS EXCEPT THAT PEDESTRIAN CURBS MAY BE POURED WITH THEIR ASSOCIATED SIDEWALK PANEL.

MONOLITHICALLY CONSTRUCTED WORK SHALL NOT BE ALLOWED

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
3. DIMENSIONS PROVIDED FOR SIDEWALK AND PLANTER STRIP WIDTHS ARE MINIMUM AND APPLICABLE IF SUFFICIENT RIGHT-OF-WAY WIDTH IS AVAILABLE AS DETERMINED BY THE CITY. IN THE EVENT SUFFICIENT RIGHT-OF-WAY WIDTH IS NOT AVAILABLE, SIDEWALK AND PLANTER STRIP FEASIBILITY AND WIDTHS ARE DETERMINED BY THE CITY.
4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. THE CENTER TURN LANE MAY BE OMITTED AND LANE WIDTHS MODIFIED BASED ON CONCURRENCE OF THE CITY ENGINEER WITH THE FINDINGS OF AN APPROVED TRAFFIC IMPACT ANALYSIS (TIA) SUBSTANTIATING MINIMUM LEVELS OF SERVICE MAINTAINED OVER 20-YEAR HORIZON.
6. STREET TREES SHALL NOT BE PLACED ABOVE UTILITIES.
7. NO ON STREET PARKING PERMITTED

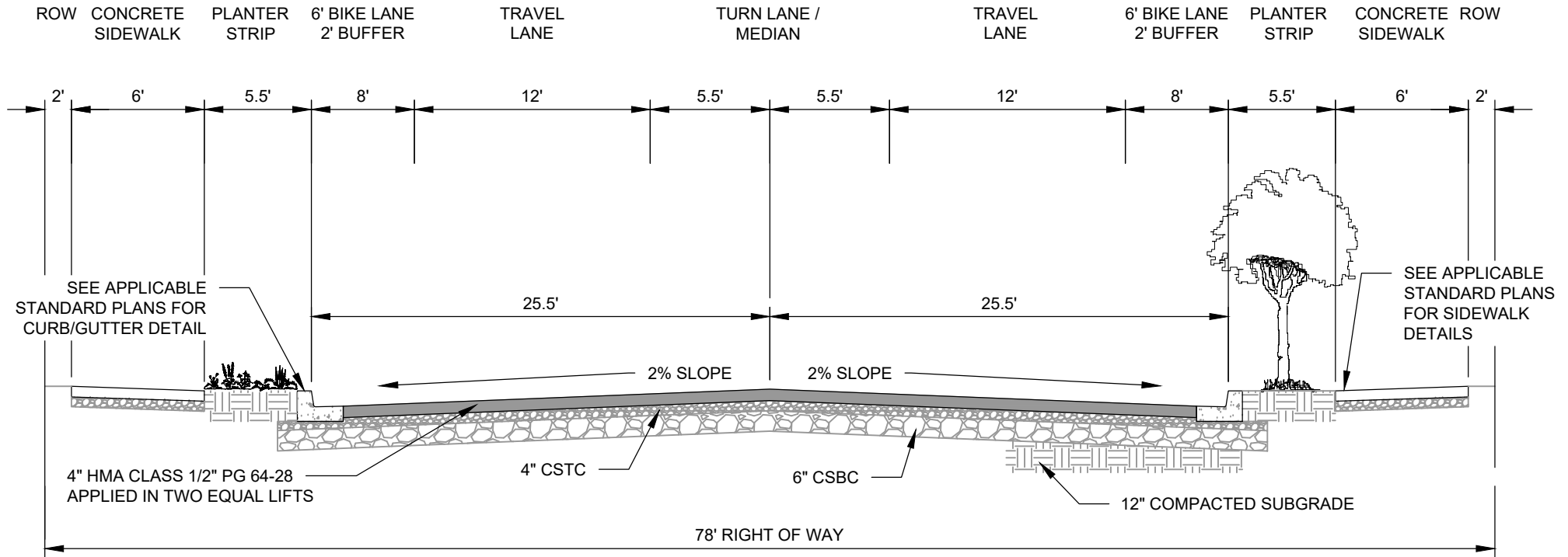
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD ROAD CROSS SECTION
(FIVE LANE PRINCIPAL ARTERIAL)

STANDARD PLAN
110.01

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
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4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. THE CENTER TURN LANE MAY BE OMITTED AND LANE WIDTHS MODIFIED BASED ON CONCURRENCE OF THE CITY ENGINEER WITH THE FINDINGS OF AN APPROVED TRAFFIC IMPACT ANALYSIS (TIA) SUBSTANTIATING MINIMUM LEVELS OF SERVICE MAINTAINED OVER 20-YEAR HORIZON.
6. STREET TREES SHALL NOT BE PLACED ABOVE UTILITIES.
7. NO ON STREET PARKING PERMITTED

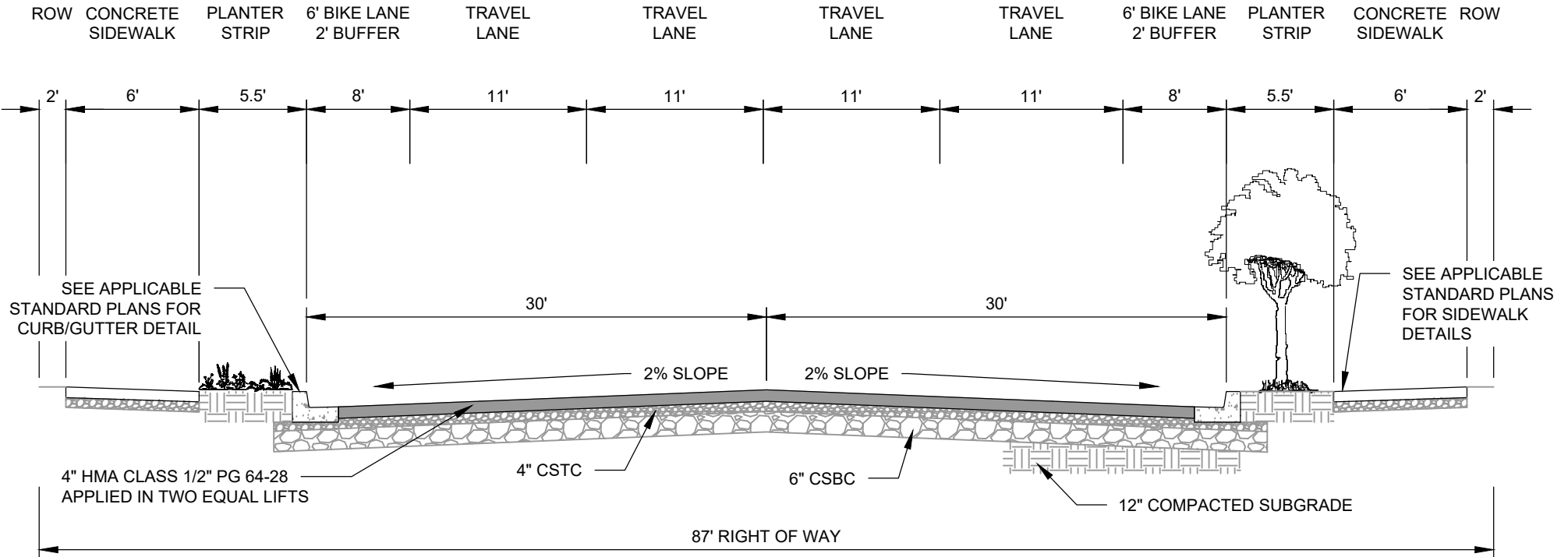
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD ROAD CROSS SECTION
(THREE LANE MINOR ARTERIAL)

STANDARD PLAN
110.02

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
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4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. LANE WIDTHS MAY BE MODIFIED BASED ON CONCURRENCE OF THE CITY ENGINEER WITH THE FINDINGS OF AN APPROVED TRAFFIC IMPACT ANALYSIS (TIA) SUBSTANTIATING MINIMUM LEVELS OF SERVICE MAINTAINED OVER 20-YEAR HORIZON.
6. STREET TREES SHALL NOT BE PLACED ABOVE UTILITIES.
7. NO ON STREET PARKING PERMITTED

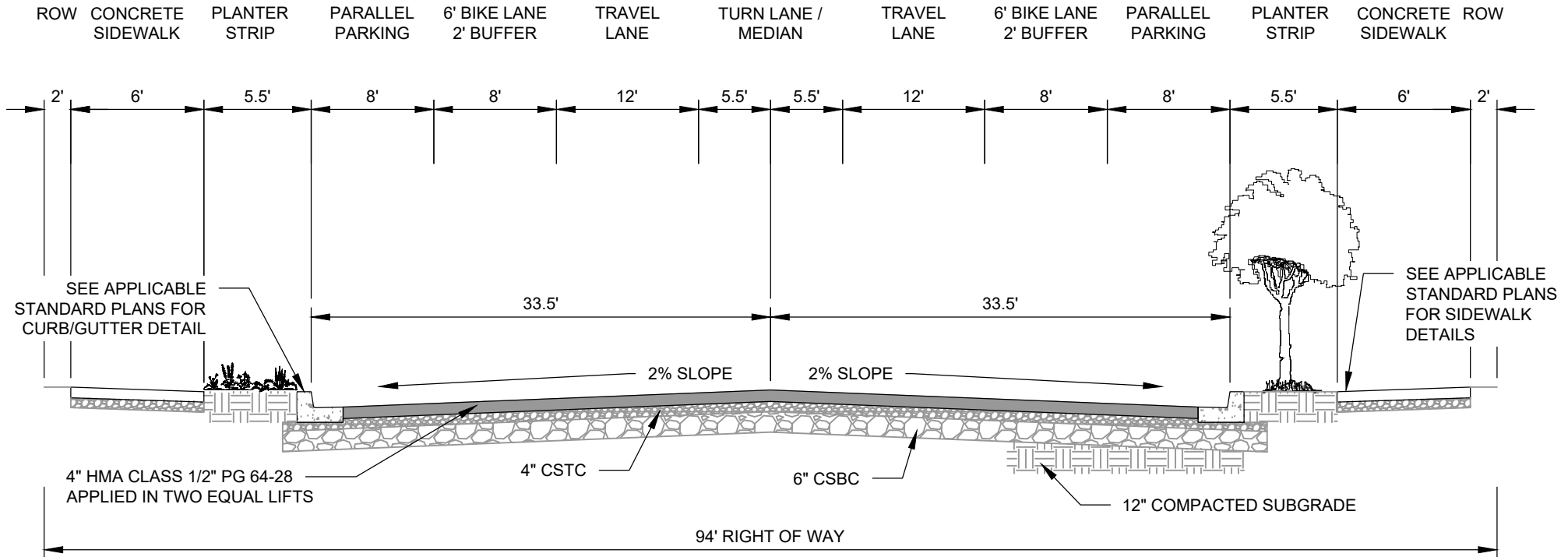
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD ROAD CROSS SECTION
(FOUR LANE MINOR ARTERIAL)

STANDARD PLAN
110.03

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
3. DIMENSIONS PROVIDED FOR SIDEWALK AND PLANTER STRIP WIDTHS ARE MINIMUM AND APPLICABLE IF SUFFICIENT RIGHT-OF-WAY WIDTH IS AVAILABLE AS DETERMINED BY THE CITY. IN THE EVENT SUFFICIENT RIGHT-OF-WAY WIDTH IS NOT AVAILABLE, SIDEWALK AND PLANTER STRIP FEASIBILITY AND WIDTHS ARE DETERMINED BY THE CITY.
4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. THE CENTER TURN LANE MAY BE OMITTED AND LANE WIDTHS MODIFIED BASED ON CONCURRENCE OF THE CITY ENGINEER WITH THE FINDINGS OF AN APPROVED TRAFFIC IMPACT ANALYSIS (TIA) SUBSTANTIATING MINIMUM LEVELS OF SERVICE MAINTAINED OVER 20-YEAR HORIZON.
6. STREET TREES SHALL NOT BE PLACED ABOVE UTILITIES.

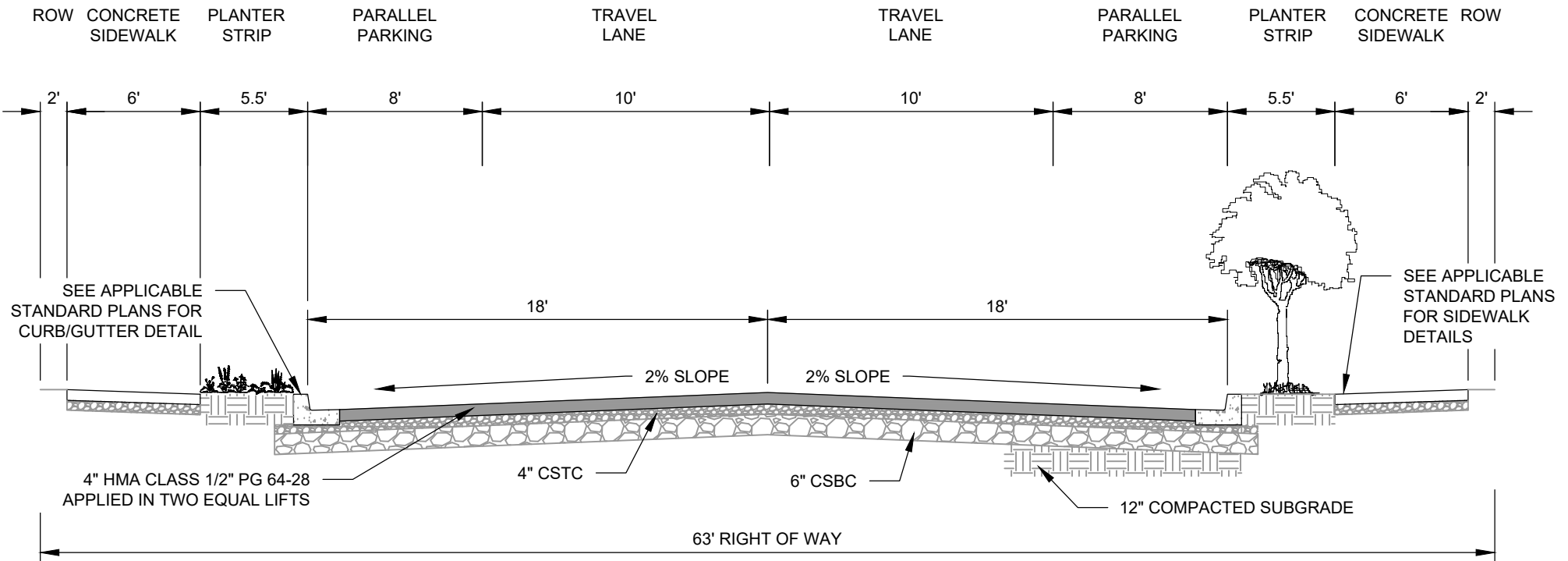
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD ROAD CROSS SECTION
(THREE LANE COLLECTOR)

STANDARD PLAN
110.04

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
3. DIMENSIONS PROVIDED FOR SIDEWALK AND PLANTER STRIP WIDTHS ARE MINIMUM AND APPLICABLE IF SUFFICIENT RIGHT-OF-WAY WIDTH IS AVAILABLE AS DETERMINED BY THE CITY. IN THE EVENT SUFFICIENT RIGHT-OF-WAY WIDTH IS NOT AVAILABLE, SIDEWALK AND PLANTER STRIP FEASIBILITY AND WIDTHS ARE DETERMINED BY THE CITY.
4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. STREET TREES SHALL NOT BE PLACED OVER UTILITIES.

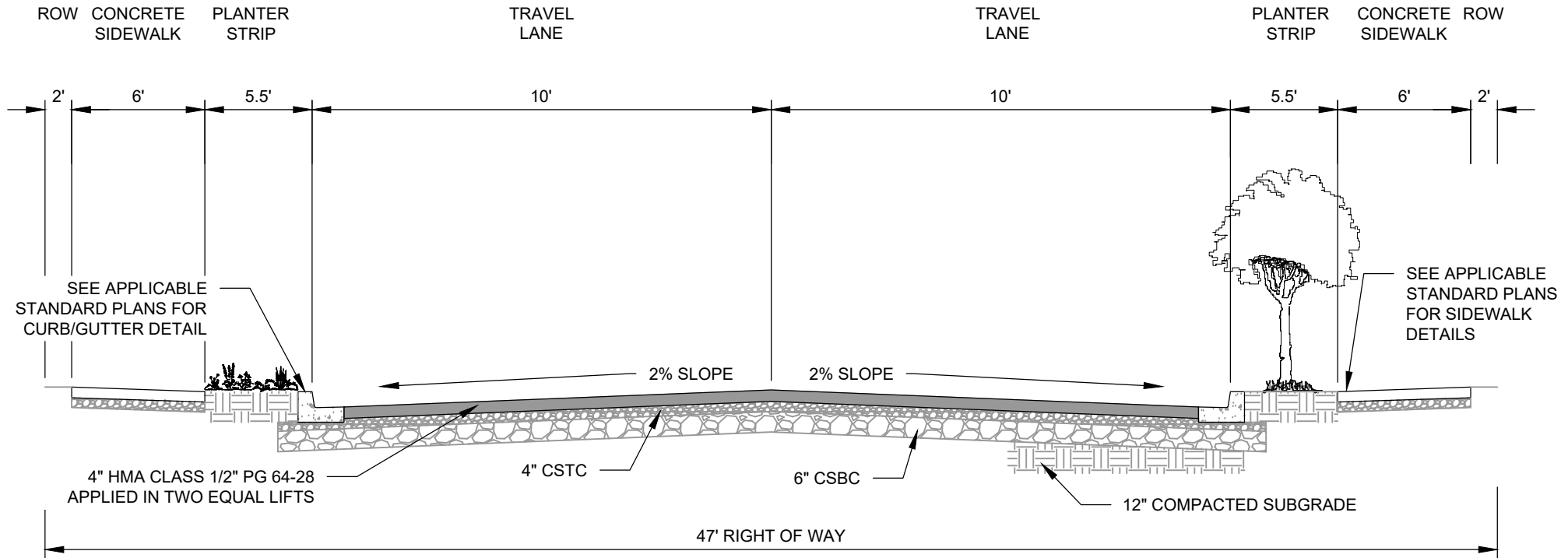
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD ROAD CROSS SECTION
(TWO LANE LOCAL STREET)

STANDARD PLAN
110.05

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. PLANTER STRIP WIDTH MAY VARY TO ACCOMMODATE STORMWATER MANAGEMENT FACILITIES UPON APPROVAL BY CITY.
2. PLANTER STRIP SHALL INCLUDE STREET TREES LOCATED EVERY 60 FEET AND BE SELECTED FROM THE OFFICIAL STREET TREE LISTING.
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4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. STREET TREES SHALL NOT BE PLACED ABOVE UTILITIES.
6. NO ON STREET PARKING PERMITTED

This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

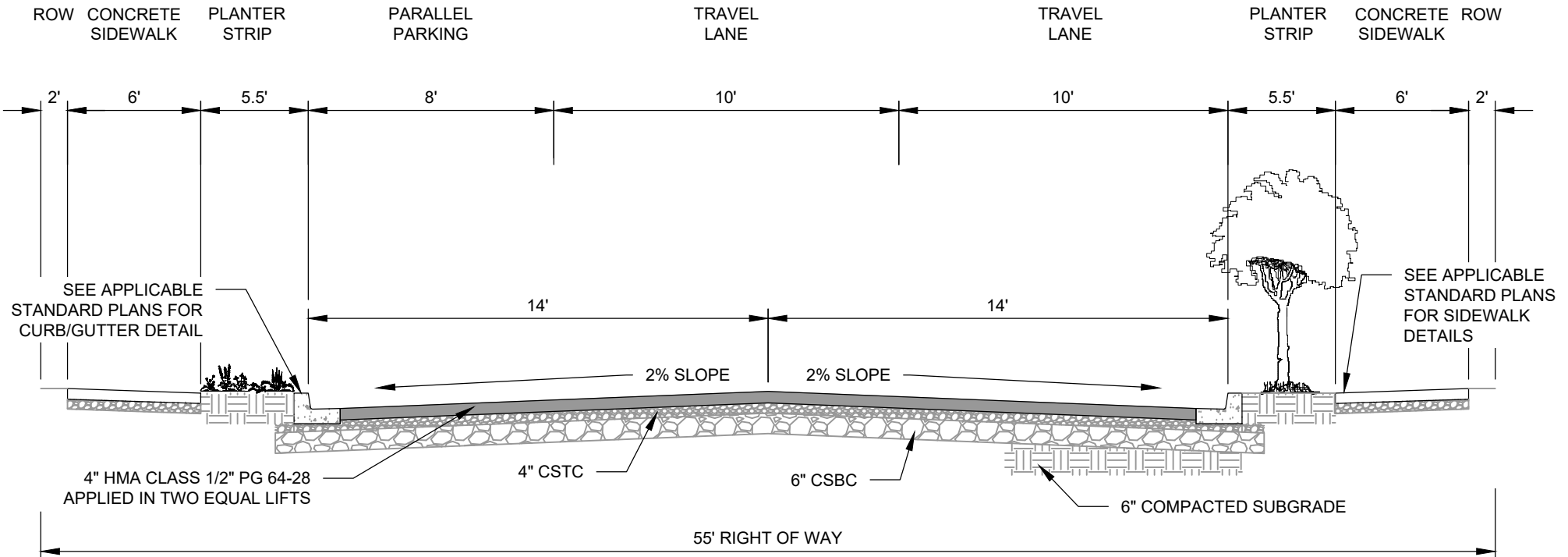
STANDARD ROAD CROSS SECTION
(TWO LANE LOCAL STREET - NO FRONTAGE)

STANDARD PLAN
110.06

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



LIMITED USE STANDARD: PROPOSAL BY CITY REQUIRED



NOTES:

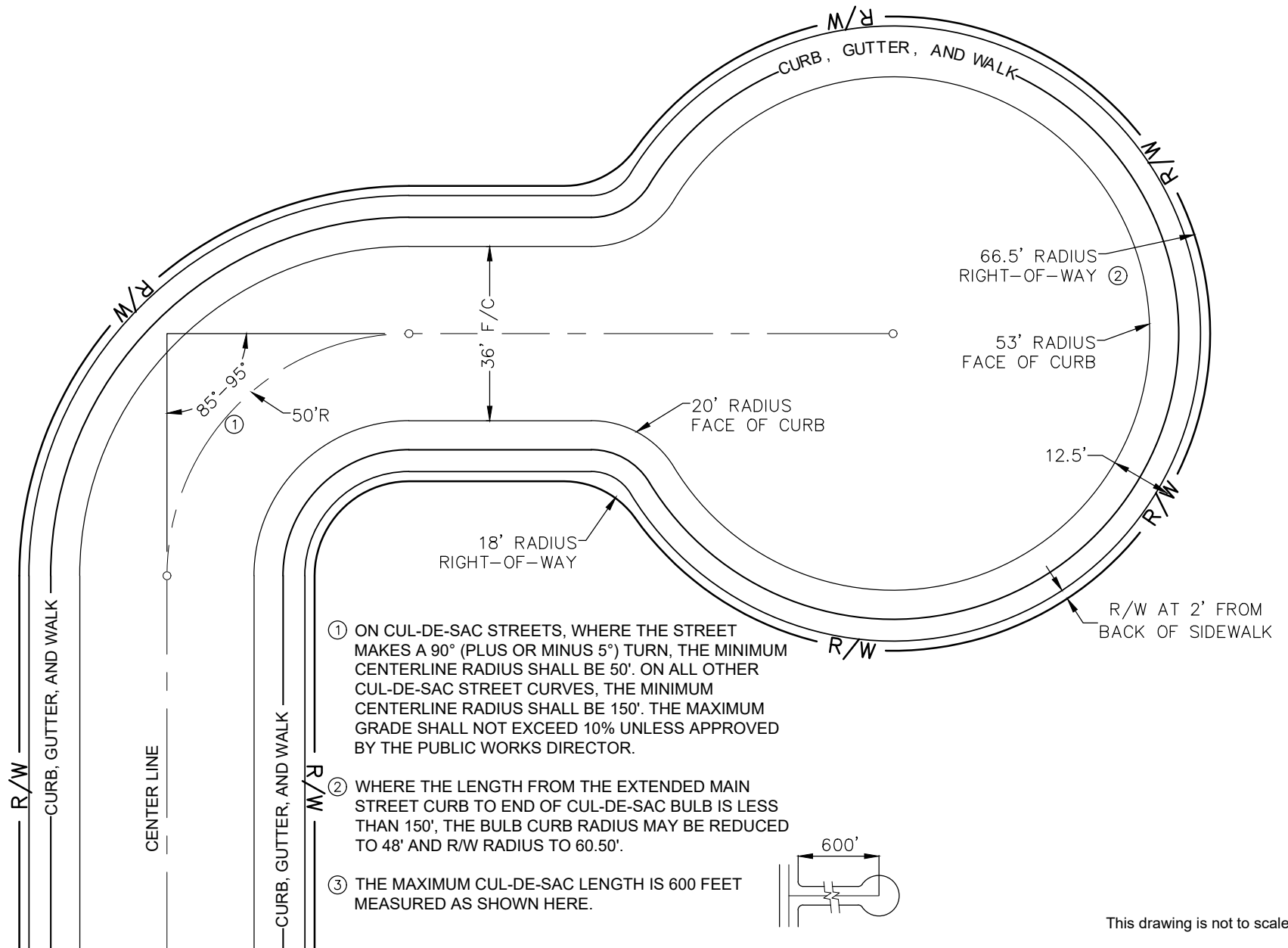
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4. REFER TO GENERAL STREET CONSTRUCTION NOTES - STANDARD PLAN 110.00 FOR SPECIFICATIONS INCLUDING BUT NOT LIMITED TO COMPACTION STANDARDS AND TESTING REQUIREMENTS.
5. STREET TREES SHALL NOT BE PLACED OVER UTILITIES.

This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE STANDARD ROAD CROSS SECTION
LAST REVISION: 03/03/23 DRAFT (TWO LANE LOCAL STREET - PARKING ONE SIDE)

STANDARD PLAN
110.07

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



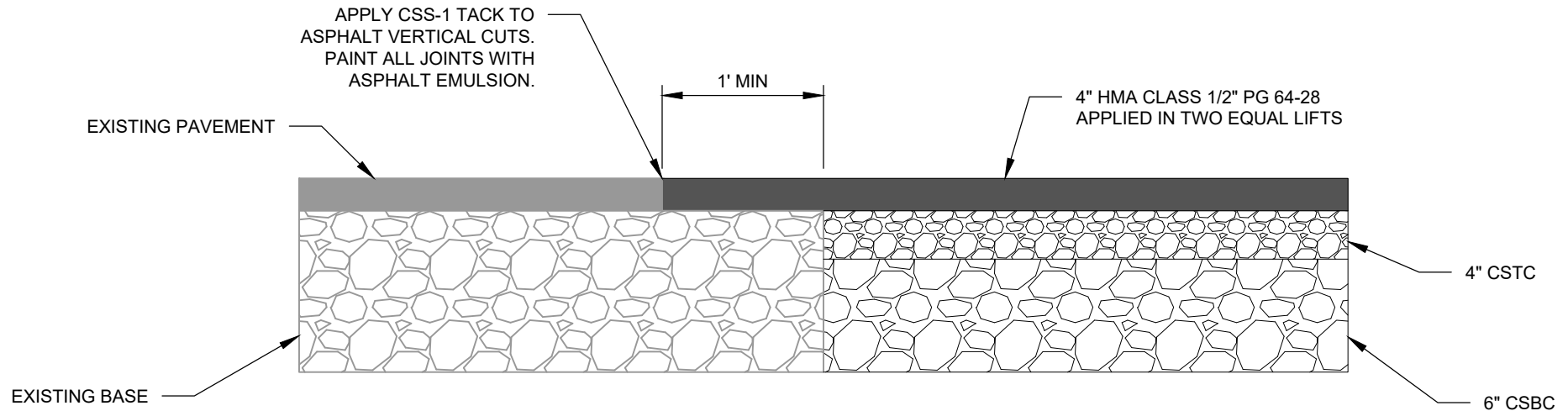
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

CUL-DE-SAC

STANDARD PLAN
110.08

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. AFTER DITCH BACK FILL HAS BEEN COMPACTED, AN ADDITIONAL 12" WILL BE REMOVED FROM EACH EDGE OF THE ORIGINAL CUT. THE ENGINEER MAY REQUIRE MORE THAN THE 12" ADDITIONAL CUT IF THE EXISTING PAVEMENT HAS BEEN LIFTED IN THE REMOVAL PROCESS, IF THE JOINT DOES NOT OCCUR ON UNDISTURBED MATERIAL, OR IF THE JOINT FALLS WITHIN THE TRAVEL LANE.
2. ALL BACK FILL SHALL BE UNIFORMLY MOISTURE CONDITIONED AND COMPACTED TO 95% MAX. DENSITY PER ASTM D1557. CRUSHED SURFACING BASE COURSE (CSBC) SHALL BE PLACED IN 6" OR LESS LIFTS. CRUSHED SURFACING TOP COURSE (CSTC) SHALL BE PLACED IN 4" OR LESS LIFTS.
3. COLD MIX MAY BE USED TEMPORARILY ONLY UNTIL HOT MIX ASPHALT IS AVAILABLE.
4. ALL PATCHES SHALL HAVE THE PERIMETER JOINTS OF THE PATCH CRACK SEALED. CRACK SEAL MATERIAL TO BE IN ACCORDANCE WITH SECTION 9-04.10 OF THE WSDOT STANDARD SPECIFICATIONS.
5. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OF COLLEGE PLACE. ALL LANE CLOSURES SHALL BE APPROVED BY THE CITY ENGINEER.

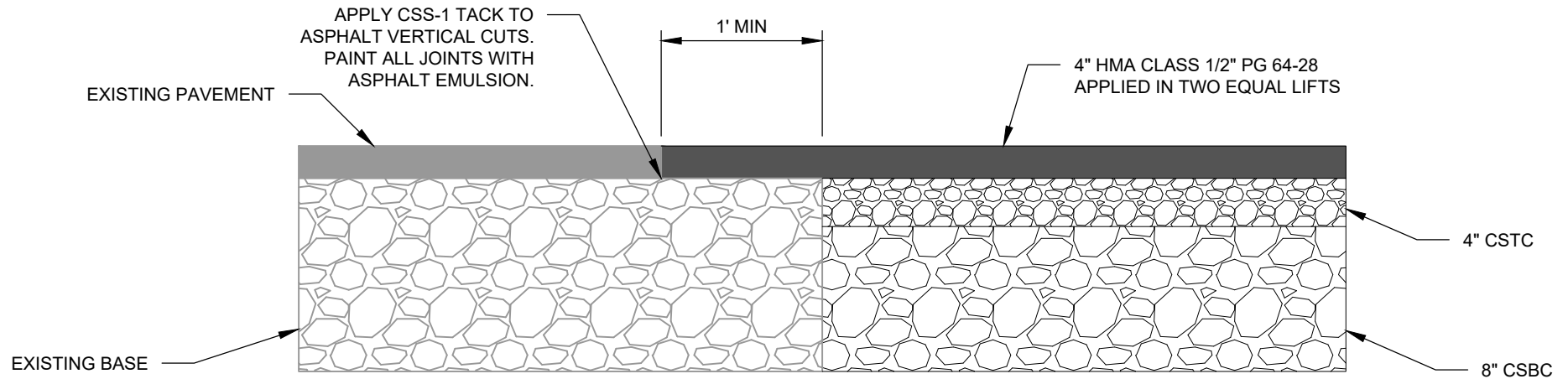
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

TYPICAL PATCH FOR LOCAL AND
COLLECTOR STREETS

STANDARD PLAN
110.09

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. AFTER DITCH BACK FILL HAS BEEN COMPACTED, AN ADDITIONAL 12" WILL BE REMOVED FROM EACH EDGE OF THE ORIGINAL CUT. THE ENGINEER MAY REQUIRE MORE THAN THE 12" ADDITIONAL CUT IF THE EXISTING PAVEMENT HAS BEEN LIFTED IN THE REMOVAL PROCESS, IF THE JOINT DOES NOT OCCUR ON UNDISTURBED MATERIAL, OR IF THE JOINT FALLS WITHIN THE TRAVEL LANE.
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4. ALL PATCHES SHALL HAVE THE PERIMETER JOINTS OF THE PATCH CRACK SEALED. CRACK SEAL MATERIAL TO BE IN ACCORDANCE WITH SECTION 9-04.10 OF THE WSDOT STANDARD SPECIFICATIONS.
5. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY THE CITY OF COLLEGE PLACE. ALL LANE CLOSURES SHALL BE APPROVED BY THE CITY ENGINEER.

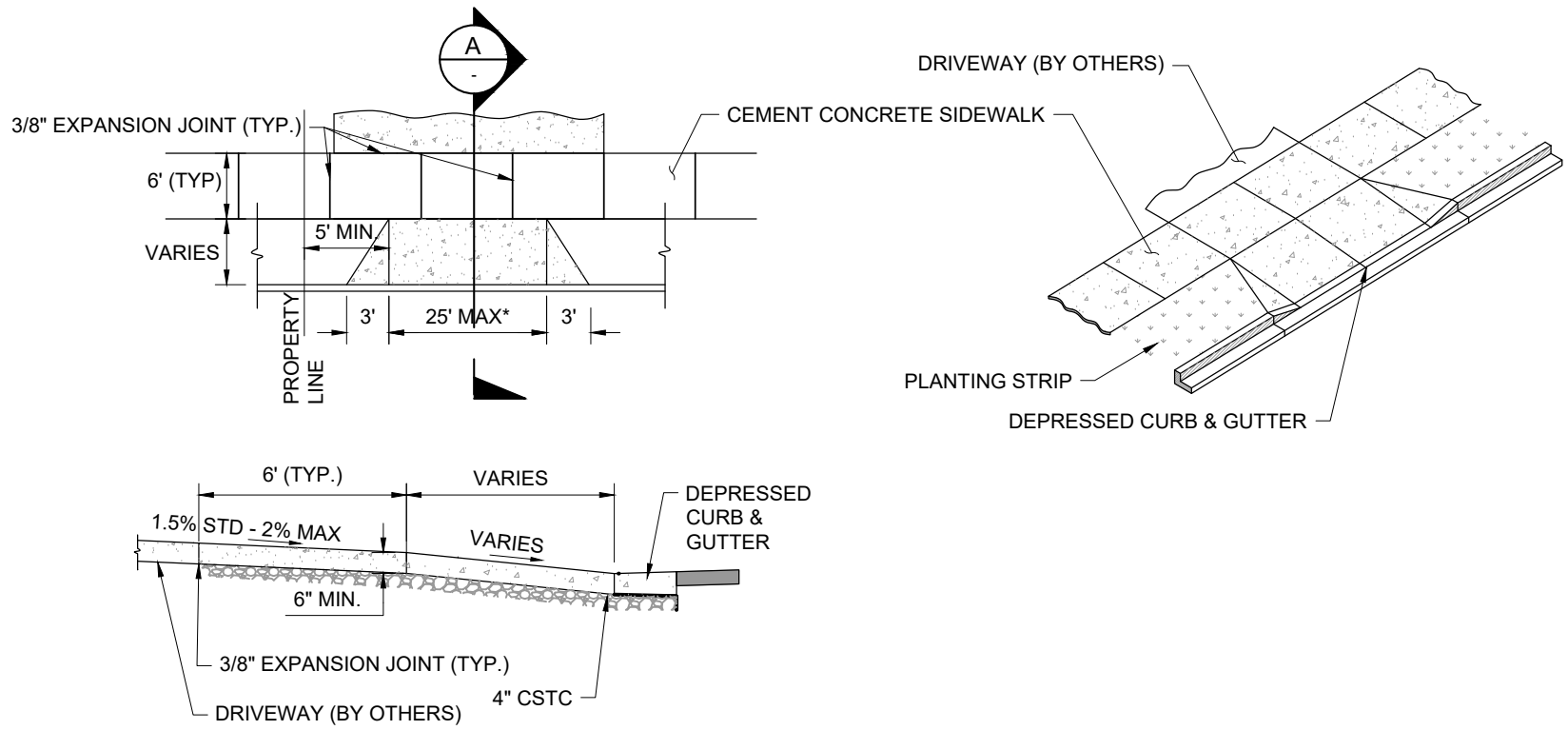
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

TYPICAL PATCH FOR
ARTERIAL STREETS

STANDARD PLAN
110.10

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



A DRIVEWAY APPROACH AND SIDEWALK CROSS-SECTION
SCALE: N.T.S.

NOTES:

1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE COLLEGE PLACE STANDARD PLAN 110.09 AND 110.10
3. THE WHOLE CURB AND GUTTER SECTION MUST BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
4. ALL SIDEWALK EDGES SHALL HAVE A 3/4" RADIUS.
5. CRUSHED SURFACING TOP COURSE (CSTC) MUST BE UNIFORMLY MOISTURE CONDITIONED BEFORE PLACEMENT AND COMPACTED TO A NON-YIELDING CONDITION.
6. NO MONOLITHIC POURS ARE ALLOWED. SIDEWALKS, CURB & GUTTER, AND DRIVEWAYS SHALL BE POURED SEPARATELY WITH EXPANSION JOINTS.
7. CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%, UNLESS ALTERNATE ACCESSIBLE ROUTE IS PROVIDED.
8. ADJUST WING LENGTH TO ENSURE SLOPE FALLS WITHIN MAXIMUM AND MINIMUM SLOPES. WING LENGTHS TO BE THE SAME ON BOTH SIDES OF DRIVEWAY.
9. APPROACHES, WINGS, AND SIDEWALKS SPANNING PLANTING STRIPS SHALL MAINTAIN A 6" THICK SECTION.
10. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.
11. LOTS WITH LESS THAN 60-FT OF WIDTH, THE DRIVEWAY WIDTH SHALL NOT EXCEED 20-FT.

This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

RESIDENTIAL DRIVEWAY
APPROACH

STANDARD PLAN
110.11

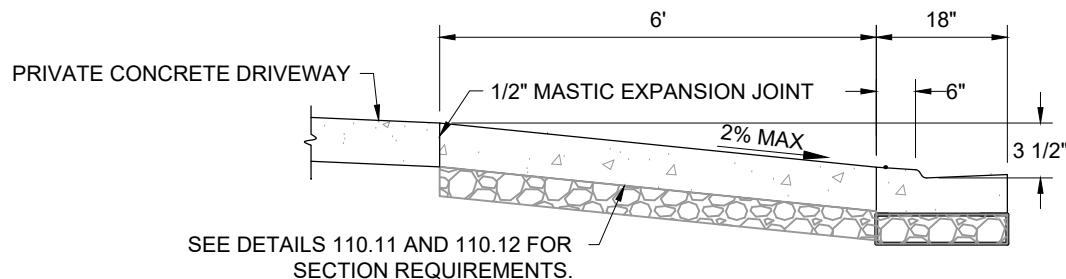
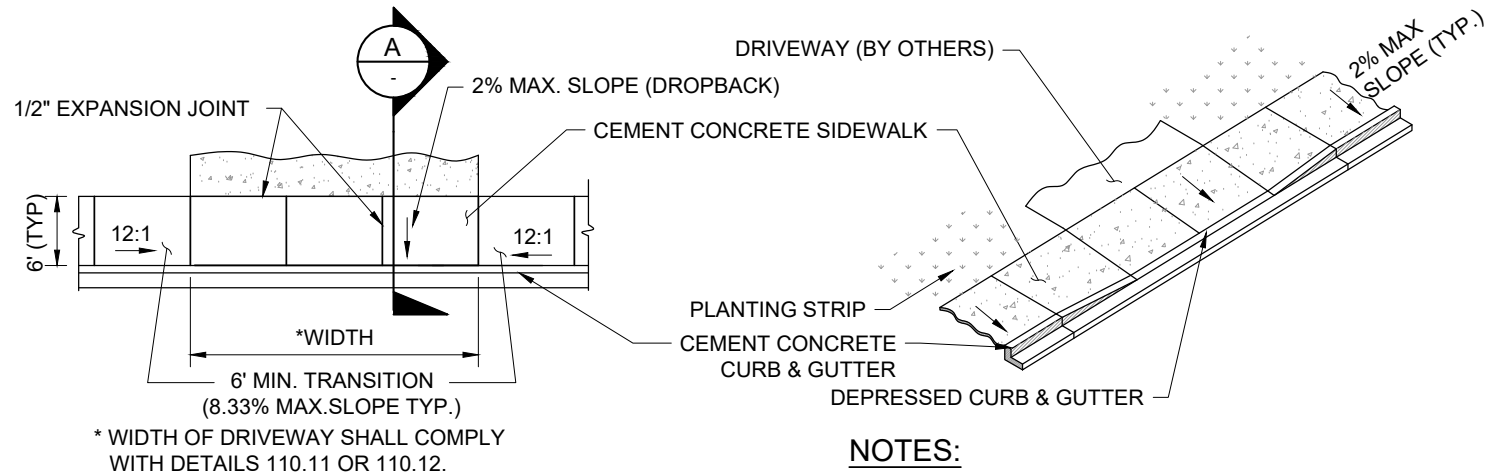


1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE COLLEGE PLACE STANDARD PLAN 110.09 AND 110.10
3. THE WHOLE CURB AND GUTTER SECTION MUST BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
4. ALL SIDEWALK EDGES SHALL HAVE A 3/4" RADIUS.
5. CRUSHED SURFACING TOP COURSE (CSTC) MUST BE UNIFORMLY MOISTURE CONDITIONED BEFORE PLACEMENT AND COMPACTED TO A NON-YIELDING CONDITION.
6. NO MONOLITHIC POURS ARE ALLOWED. SIDEWALKS, CURB & GUTTER, AND DRIVEWAYS SHALL BE POURED SEPARATELY WITH EXPANSION JOINTS.
7. CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%, UNLESS ALTERNATE ACCESSIBLE ROUTE IS PROVIDED.
8. ADJUST WING LENGTH TO ENSURE SLOPE FALLS WITHIN MAXIMUM AND MINIMUM SLOPES. WING LENGTHS TO BE THE SAME ON BOTH SIDES OF DRIVEWAY.
9. APPROACHES, WINGS, AND SIDEWALKS SPANNING PLANTING STRIPS SHALL MAINTAIN A 6" THICK SECTION.
10. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

STANDARD PLAN

110.12

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



A DRIVEWAY SECTION
SCALE: N.T.S.

NOTES:

1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE COLLEGE PLACE STANDARD PLAN 110.09 AND 110.10
3. THE WHOLE CURB AND GUTTER SECTION MUST BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
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9. APPROACHES, WINGS, AND SIDEWALKS SPANNING PLANTING STRIPS SHALL MAINTAIN A 6" THICK SECTION.
10. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

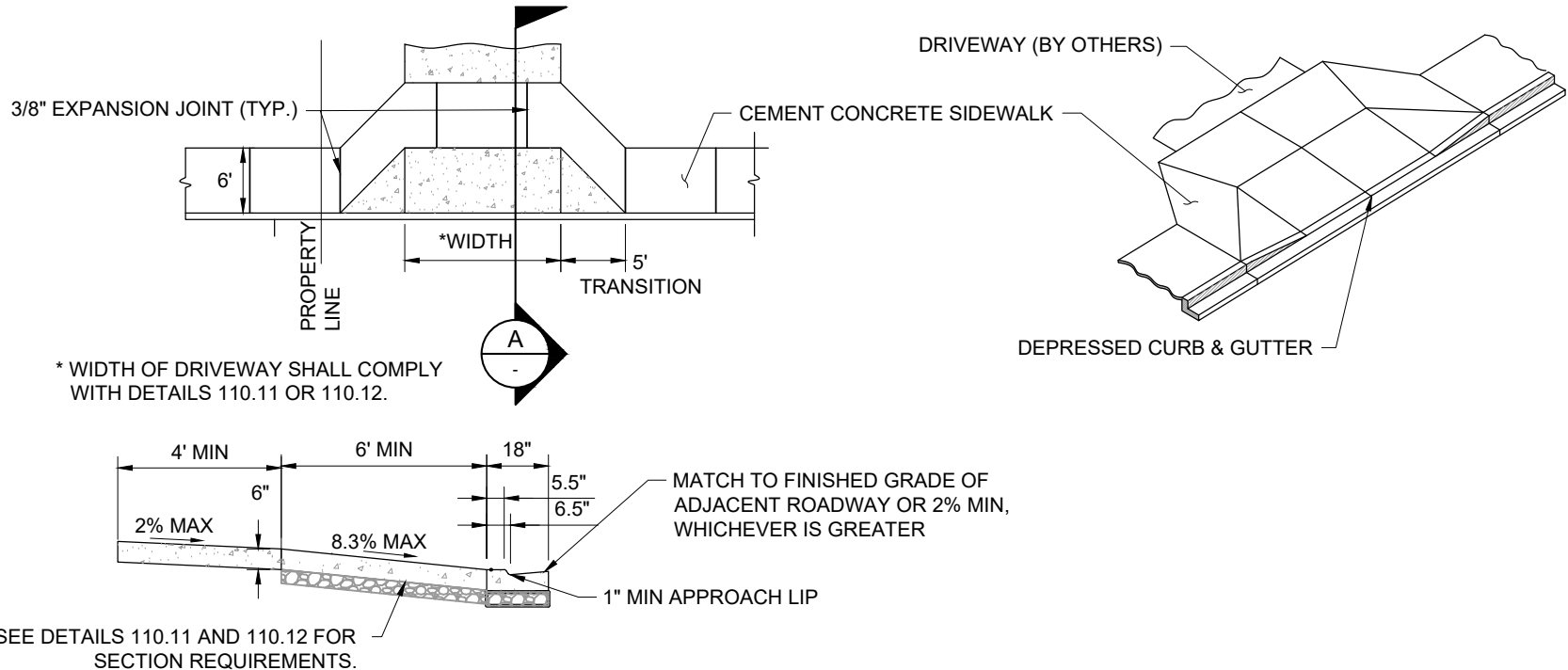
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

CURB TIGHT SIDEWALK
DROPBACK DRIVEWAY

STANDARD PLAN
110.13

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



A SIDEWALK CROSS-SECTION
SCALE: N.T.S.

NOTES:

1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE COLLEGE PLACE STANDARD PLAN 110.09 AND 110.10
3. THE WHOLE CURB AND GUTTER SECTION MUST BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
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10. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

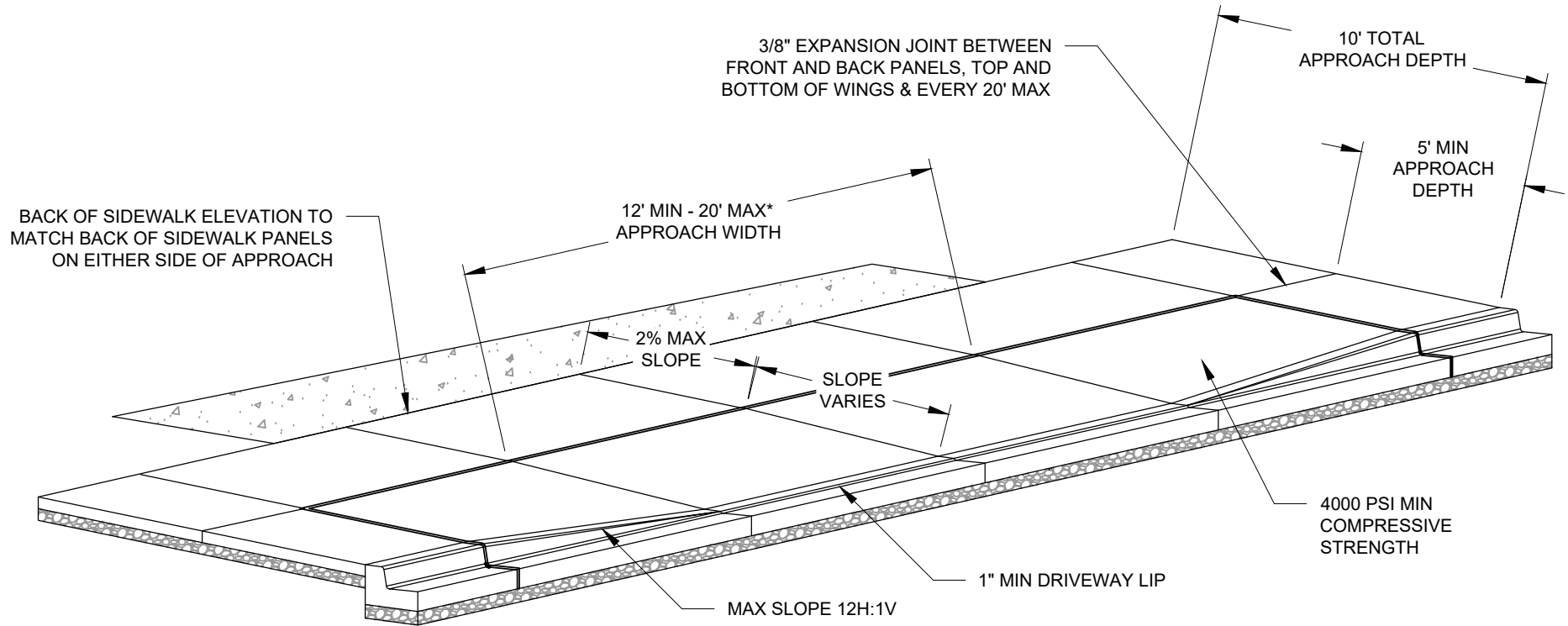
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

CURB TIGHT SIDEWALK

STANDARD PLAN
110.14

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. MINIMUM 48" ACCESSIBLE ROUTE REQUIRED AROUND SLOPES STEEPER THAN 12H:1V.
2. BACK PANEL CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%; FRONT PANEL SLOPE MAY VARY.
3. IF OTHER ACCESSIBLE ROUTE IS PROVIDED, DRIVEWAY FLARES SHALL NOT BE STEEPER THAN 10H:1V. IF OTHER ACCESSIBLE ROUTE IS NOT PROVIDED DRIVEWAY FLARES SHALL NOT BE STEEPER THAN 12H:1V.
4. DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN DRIVEWAY APPROACH.
5. STANDARD CURB AND GUTTER REQUIRED.
6. WINGS, APPROACH, AND SIDEWALK BEHIND APPROACH TO BE POURED 6" THICK. SEE STD. PLAN 110.15 FOR COMMERCIAL REINFORCEMENT REQUIREMENTS.
7. REFERENCE ZONING CODE FOR OTHER REQUIREMENTS.
8. SEE STANDARD SPECIFICATION DETAIL 110.15 FOR REQUIRED CROSS-SECTION.
9. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

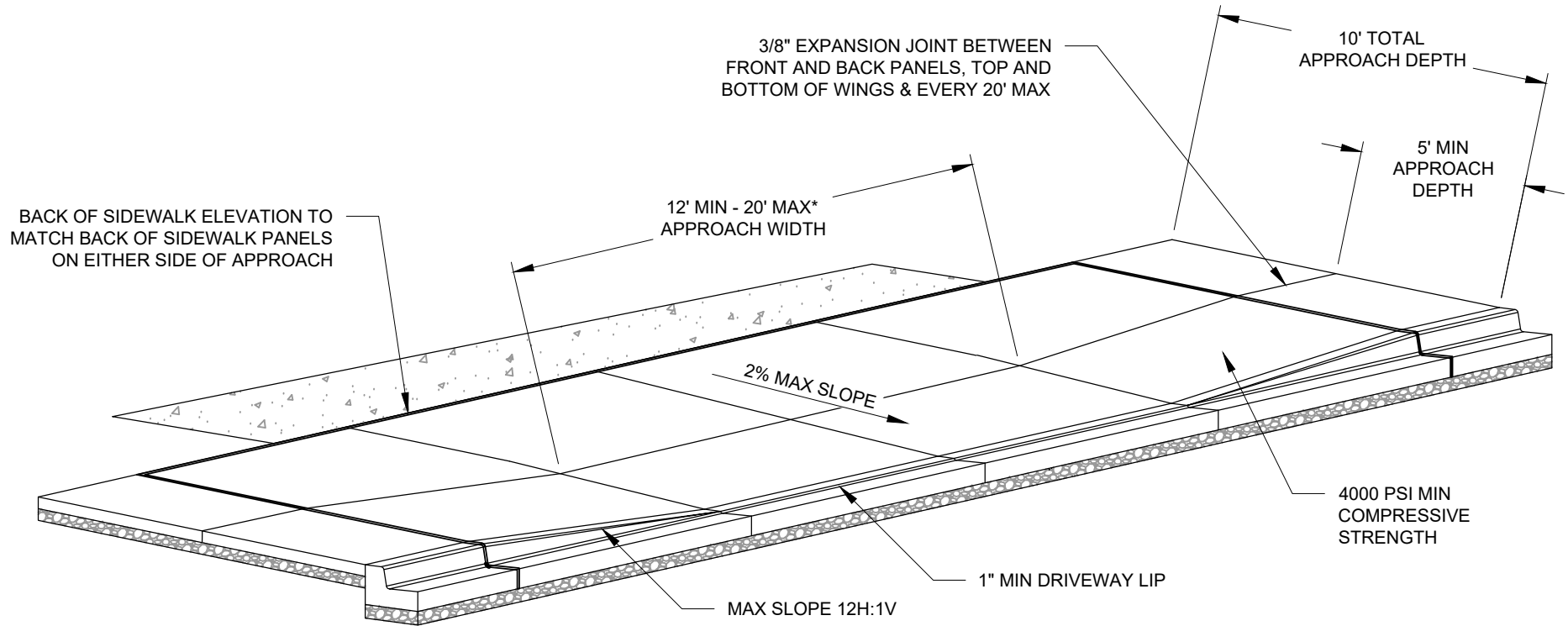
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

10-FOOT WIDE CURB-TIGHT
GRADE-ADJUSTED DRIVEWAY APPROACH

STANDARD PLAN
110.15

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. MINIMUM 48" ACCESSIBLE ROUTE REQUIRED AROUND SLOPES STEEPER THAN 12H:1V.
2. BACK PANEL CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%; FRONT PANEL SLOPE MAY VARY.
3. IF OTHER ACCESSIBLE ROUTE IS PROVIDED, DRIVEWAY FLARES SHALL NOT BE STEEPER THAN 10H:1V. IF OTHER ACCESSIBLE ROUTE IS NOT PROVIDED DRIVEWAY FLARES SHALL NOT BE STEEPER THAN 12H:1V.
4. DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN DRIVEWAY APPROACH.
5. STANDARD CURB AND GUTTER REQUIRED.
6. WINGS, APPROACH, AND SIDEWALK BEHIND APPROACH TO BE POURED 6" THICK. SEE STD. PLAN 110.15 FOR COMMERCIAL REINFORCEMENT REQUIREMENTS.
7. REFERENCE ZONING CODE FOR OTHER REQUIREMENTS.
8. SEE STANDARD SPECIFICATION DETAIL 110.15 FOR REQUIRED CROSS-SECTION.
9. CEMENT CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

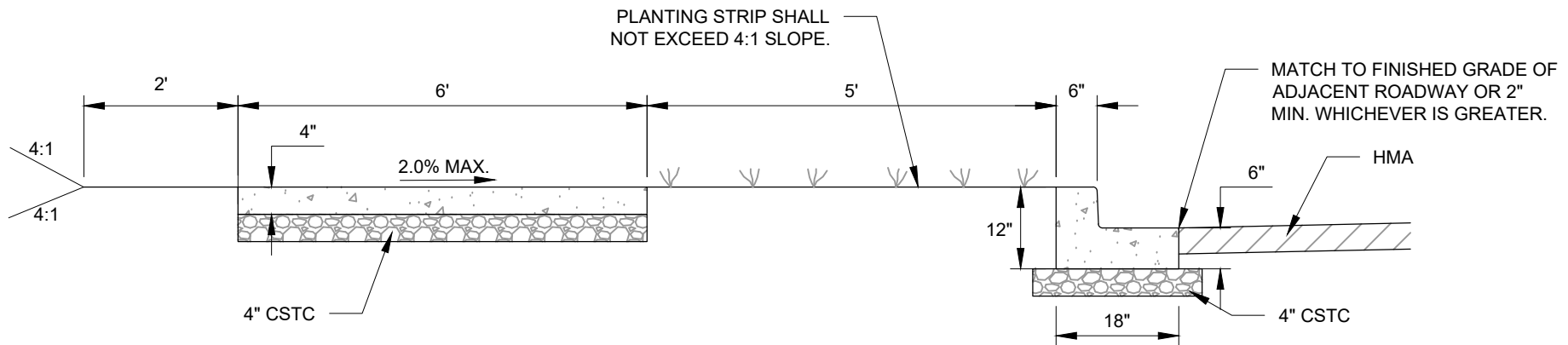
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

10-FOOT WIDE CURB-TIGHT
LOW-PROFILE DRIVEWAY APPROACH

STANDARD PLAN
110.16

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK PANEL, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE CITY STANDARD PLAN 110.09 AND 110.10.
3. CURB AND GUTTER SECTION SHALL BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
4. ALL SIDEWALK EDGES SHALL HAVE A 3/4" RADIUS.
5. CRUSHED SURFACING TOP COURSE (CSTC) MUST BE UNIFORMLY MOISTURE CONDITIONED BEFORE PLACEMENT AND COMPACTED TO A NON-YEILDING CONDITION.
6. NO MONOLITHIC POURS ARE ALLOWED. SIDEWALKS, CURB & GUTTER, AND DRIVEWAYS SHALL BE POURED SEPARATELY WITH EXPANSION JOINTS PER STANDARD SPECIFICATIONS.
7. CEMENT CONCRETE FOR SIDEWALK, CURB, AND GUTTERS SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.

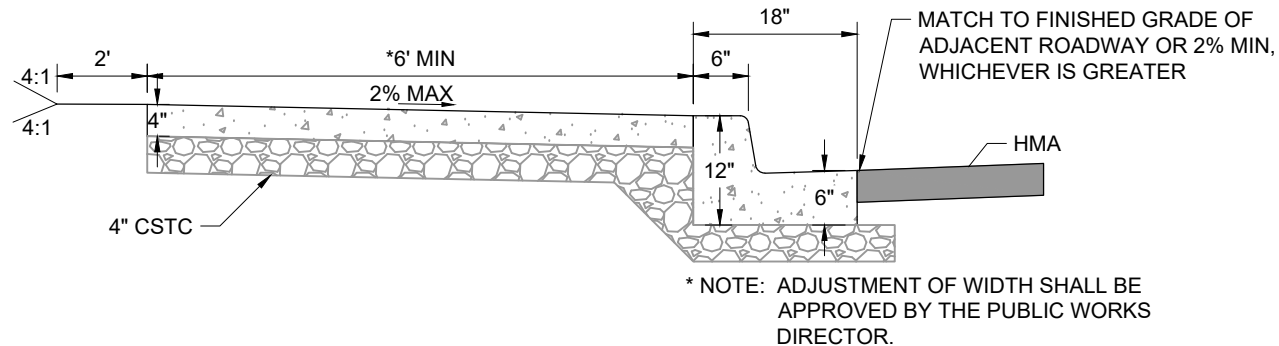
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

OFF-SET SIDEWALK WITH GUTTER
SECTION

STANDARD PLAN
110.17

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. CURB TIGHT SIDEWALK TO ONLY BE ALLOWED WHEN APPROVED BY THE PUBLIC WORKS DIRECTOR.
2. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK PANEL, AND GUTTER EDGES.
3. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE CITY STANDARD PLAN 110.09 AND 110.10.
4. CURB AND GUTTER SECTION SHALL BE COMPLETELY REMOVED AND REPLACED, UNLESS SAWCUTTING OF CURB IS APPROVED BY CITY ENGINEER.
5. ALL SIDEWALK EDGES SHALL HAVE A 3/4" RADIUS.
6. CRUSHED SURFACING TOP COURSE (CSTC) MUST BE UNIFORMLY MOISTURE CONDITIONED BEFORE PLACEMENT AND COMPACTED TO A NON-YEILDING CONDITION.
7. NO MONOLITHIC POURS ARE ALLOWED. SIDEWALKS, CURB & GUTTER, AND DRIVEWAYS SHALL BE POURED SEPARATELY WITH EXPANSION JOINTS PER STANDARD SPECIFICATIONS.
8. CEMENT CONCRETE FOR SIDEWALK, CURB, AND GUTTERS SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,000 PSI - 28 DAY.
9. MAILBOXES SHALL BE SET BEHIND THE BACK OF SIDEWALK

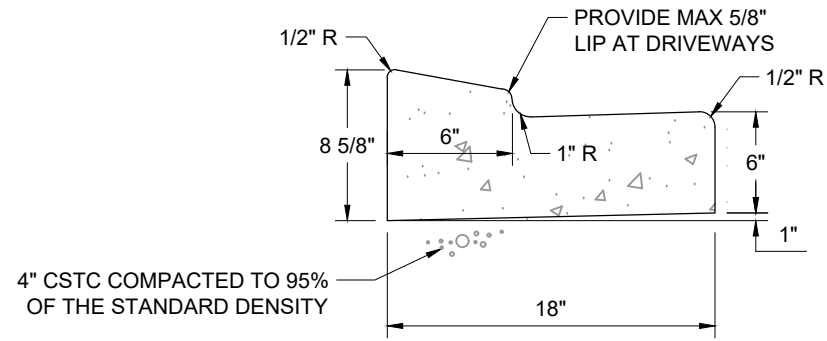
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

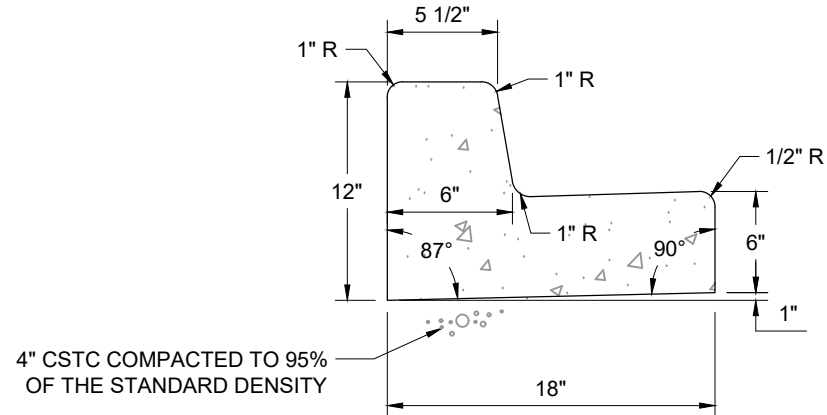
CURB-TIGHT SIDEWALK WITH
GUTTER SECTION

STANDARD PLAN
110.18

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



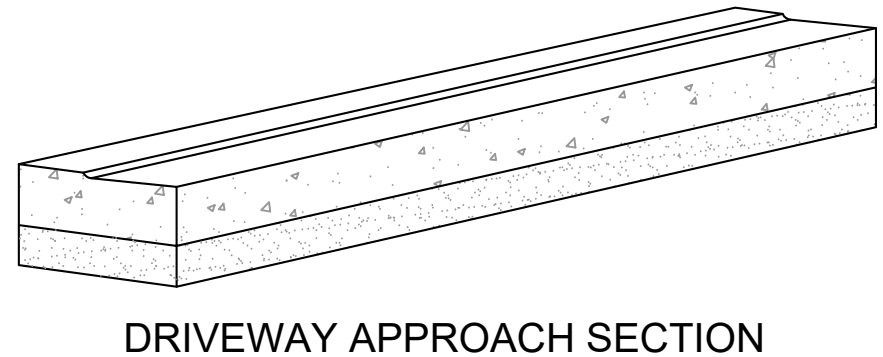
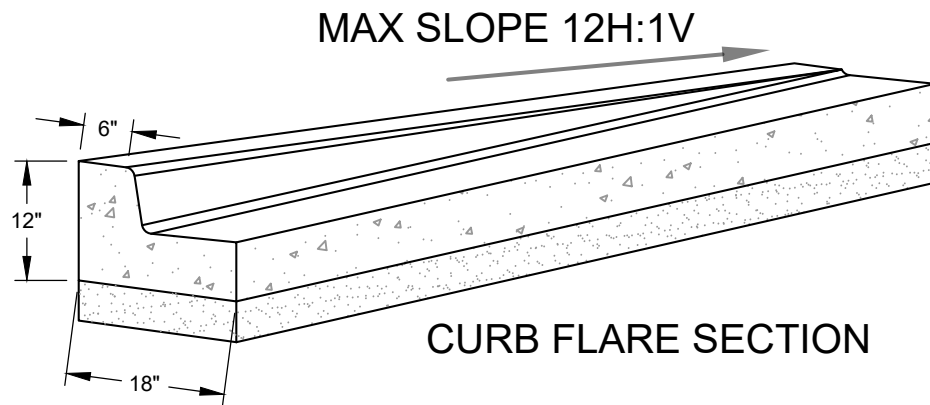
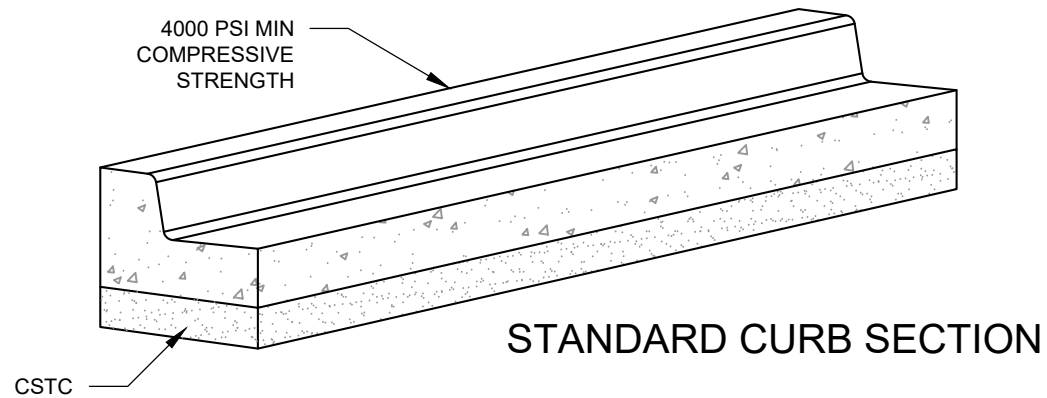
A TYPICAL CURB @ DRIVEWAY
SCALE: N.T.S.



B TYPICAL VERTICAL CURB
SCALE: N.T.S.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



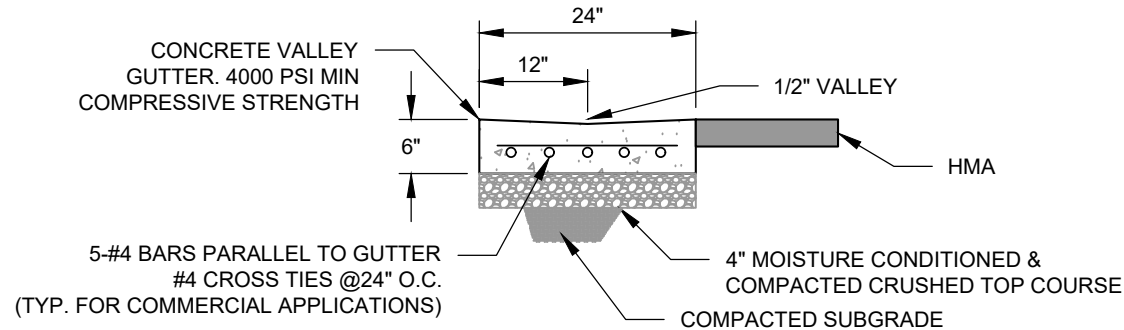
This drawing is not to scale

CITY ENGINEER: Nicola P. Metzger, P.E.
LAST REVISION: JUNE 2005

CURB & GUTTER
ISOMETRIC

STANDARD PLAN
110.20

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

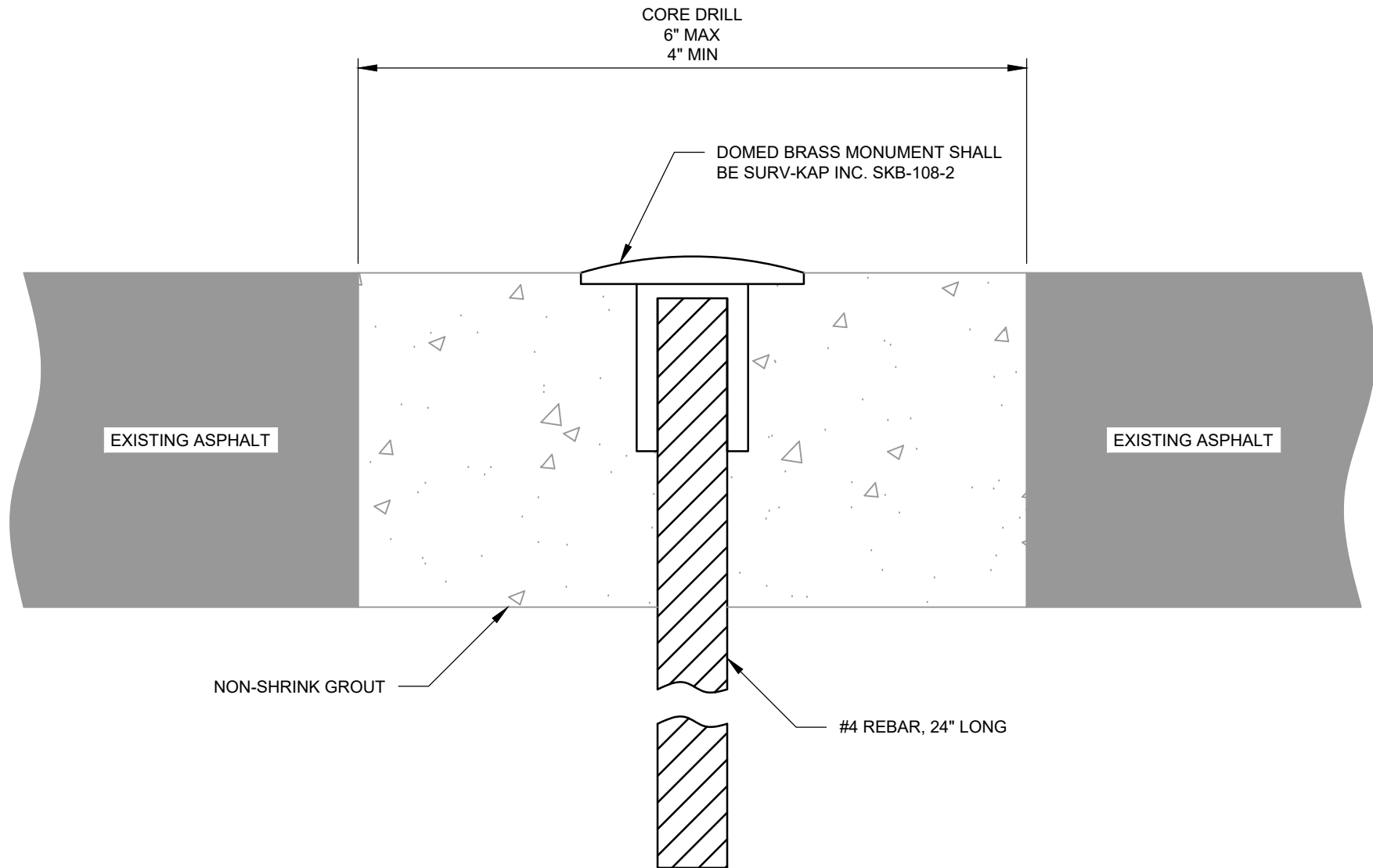


NOTES:

1. ALL REPLACEMENT WORK SHALL BE SAW CUT SMOOTH AND EVEN AT THE CURB, SIDEWALK, AND GUTTER EDGES.
2. ASPHALT SHALL BE SAW CUT BACK 12" AND HAVE A SMOOTH EDGE BEFORE BEING PATCHED. SEE DETAIL STANDARD 110.09 & 110.10.
3. NO MONOLITHIC POURS ARE ALLOWED. SIDEWALKS, CURB & GUTTER, AND DRIVEWAYS SHALL BE POURED SEPARATELY WITH EXPANSION JOINTS PER STANDARD SPECIFICATIONS.
4. CRUSHED SURFACING TOP COURSE MUST BE MOISTURE CONDITIONED BEFORE PLACEMENT AND COMPACTED TO A NON-YIELDING CONDITION.
5. VALLEY GUTTERS SHALL NOT BE PLACED WITHIN MARKED OR UNMARKED CROSSWALK ZONES.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



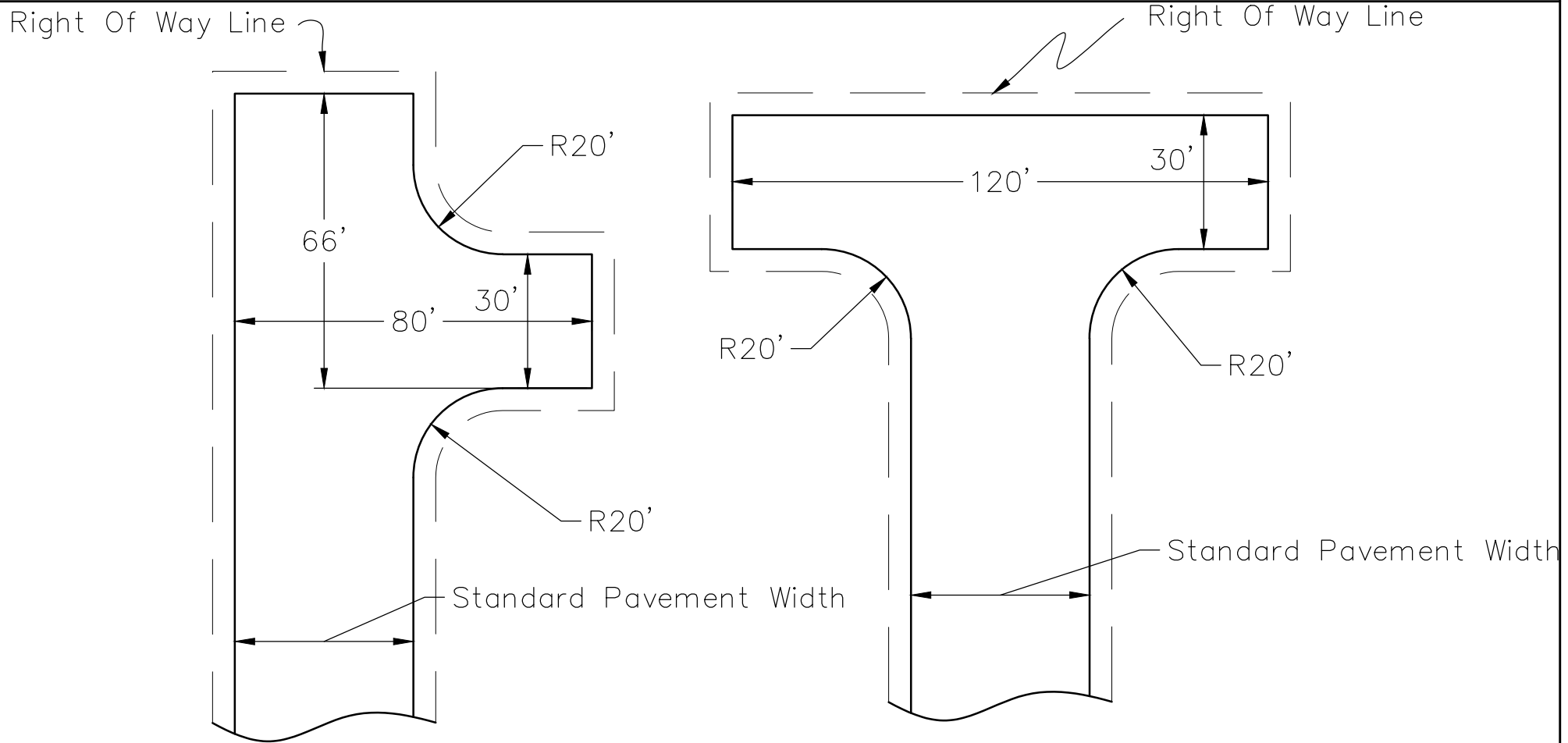
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

MONUMENT PLACEMENT
DETAIL

STANDARD PLAN
110.22

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



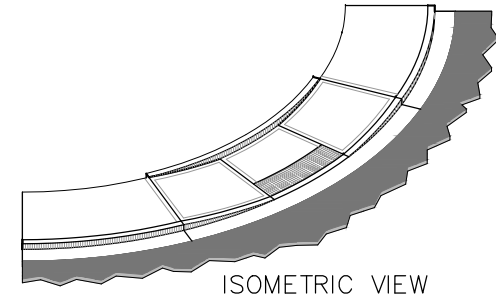
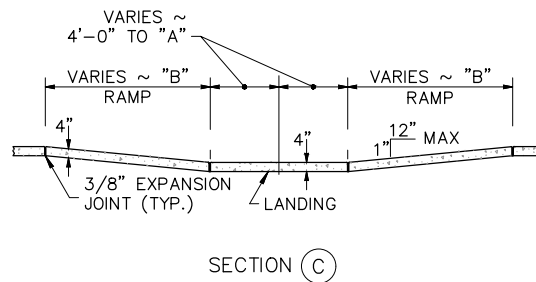
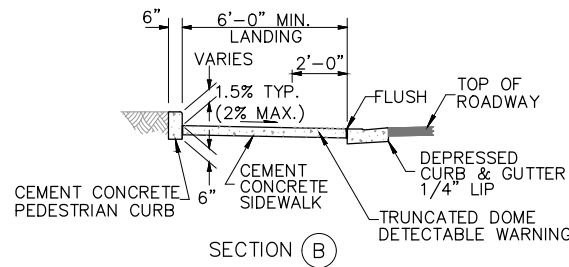
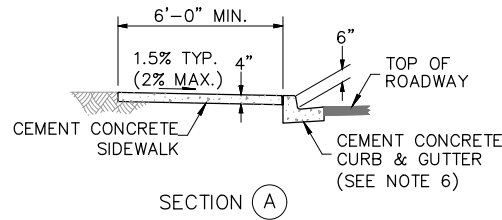
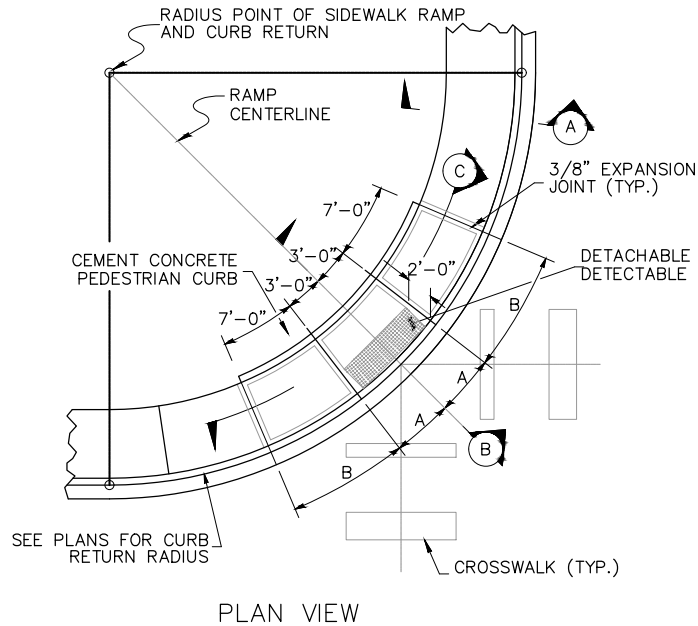
TYPE A

TYPE B

NOT FOR USE IN ANY PUBLIC OR PRIVATE STREETS. USE DEPENDANT ON FIRE MARSHAL APPROVAL. ANY VARIATION FROM THIS DESIGN OR USE OF THIS TURNAROUND AT ANY SPECIFIC SITE MUST BE APPROVED BY THE CITY ENGINEER. AREA SHALL BE SIGNED "NO PARKING". ADDITIONAL SIGNING SHALL BE DETERMINED BY THE CITY ENGINEER.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES

1. RAMP SLOPE SHALL NOT BE STEEPER THAN 12H:1V.
2. CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%.
3. MINIMUM 48" X 48" LANDING REQUIRED AT TOP AND BOTTOM OF RAMP.
4. DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN FRONT OF RAMP ACCESS AREAS.
5. DETACHABLE TRUNCATED DOME DETECTABLE WARNING SHALL BE YELLOW CAST IN PLACE BY ARMOR - TILE OR APPROVED EQUAL. SEE CITY STANDARD PLAN 110.36.

FIVE FOOT WIDE SIDEWALK AND 6" CURB		
RADIUS (AT CURB FACE)	A	B
0 FEET	3'-0"	6'-0"
20 FEET	4'-2"	8'-4"
30 FEET	3'-8"	7'-4"
40 FEET	3'-6"	7'-0"
50 FEET	3'-4.5"	6'-9"
60 FEET	3'-4"	6'-8"
70 FEET	3'-3.5"	6'-7"

INTERMEDIATE RADII CAN BE INTERPOLATED

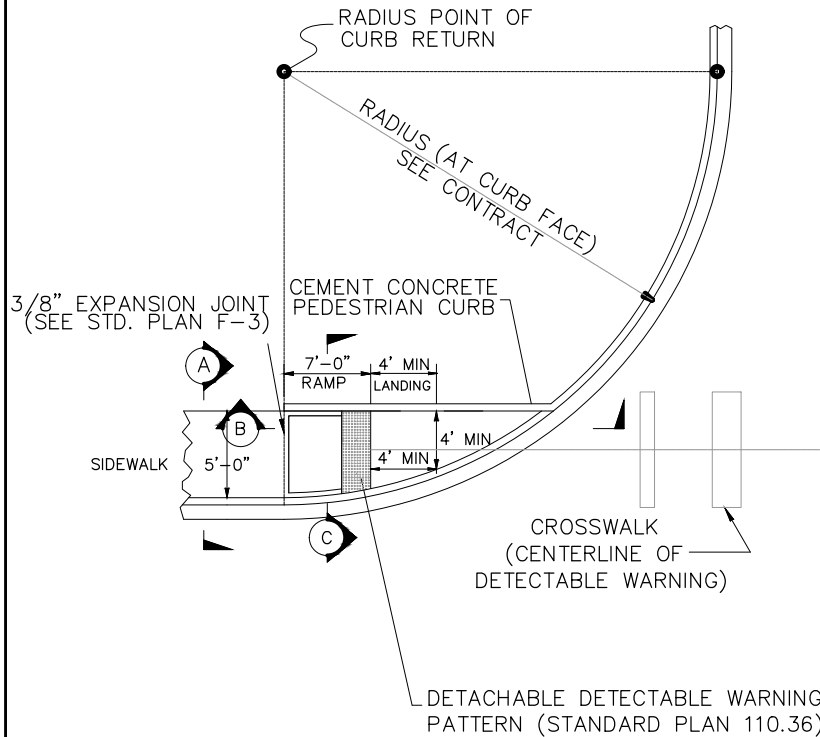
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

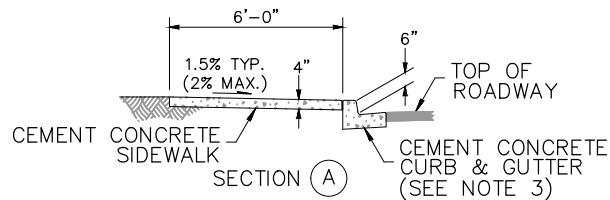
ADA SIDEWALK RAMP
TYPE A

STANDARD PLAN
110.30

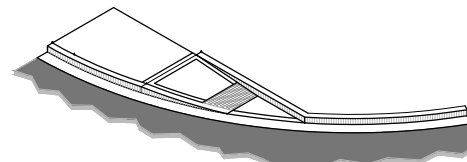
CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



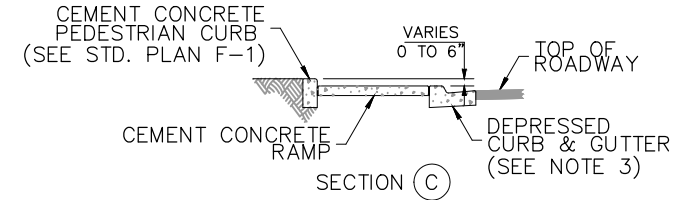
SIDEWALK RAMP TYPE C
PLAN



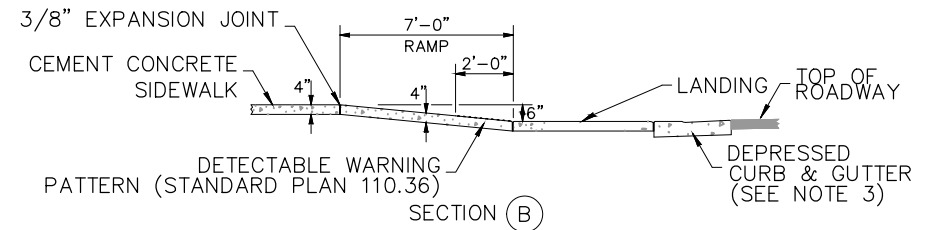
SECTION (A)



ISOMETRIC VIEW
(NOT TO SCALE)



SECTION (C)



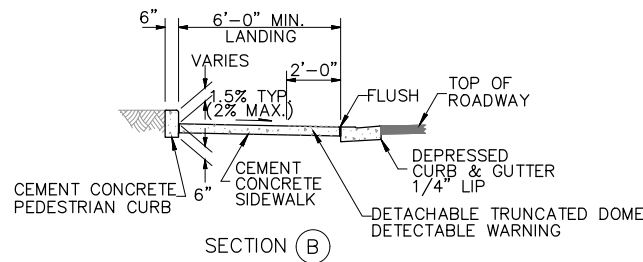
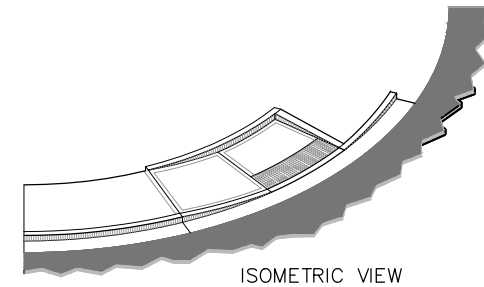
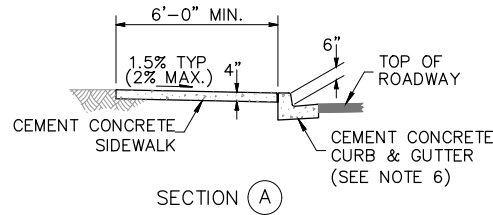
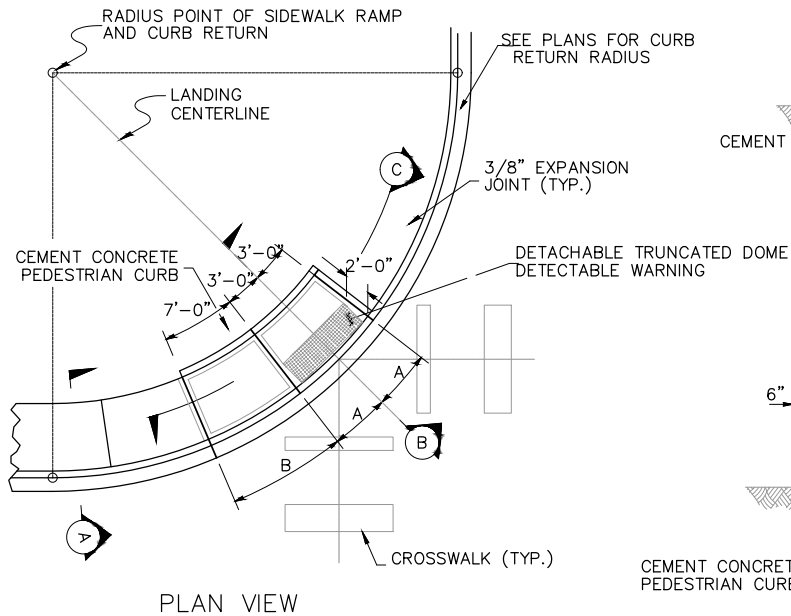
SECTION (B)

NOTES

1. RAMP SLOPE SHALL NOT BE STEEPER THAN 12H:1V. CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%.
2. MINIMUM 48" X 48" LANDING REQUIRED AT TOP AND BOTTOM OF RAMP.
3. DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN FRONT OF RAMP ACCESS AREAS.
4. DETACHABLE TRUNCATED DOME DETECTABLE WARNING SHALL BE YELLOW CAST IN PLACE BY ARMOR-TILE OR APPROVED EQUAL. SEE CITY STANDARD PLAN 110.36.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

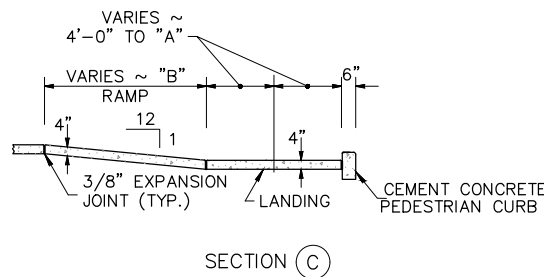


NOTES

1. RAMP SLOPE SHALL NOT BE STEEPER THAN 12H:1V.
2. CROSS SLOPE TYPICAL 1.5% BUT SHALL NOT BE STEEPER THAN 2%.
3. MINIMUM 48" X 48" LANDING REQUIRED AT TOP AND BOTTOM OF RAMP.
4. DRAINAGE STRUCTURES, JUNCTION BOXES, OR OTHER OBSTRUCTIONS SHALL NOT BE PLACED IN FRONT OF RAMP ACCESS AREAS.
5. DETACHABLE TRUNCATED DOME DETECTABLE WARNING SHALL BE YELLOW CAST IN PLACE BY ARMOR - TILE OR APPROVED EQUAL. SEE CITY STANDARD PLAN 110.36.

FIVE FOOT WIDE SIDEWALK AND 6" CURB		
RADIUS (AT CURB FACE)	A	B
20 FEET	4'-2"	8'-4"
30 FEET	3'-8"	7'-4"
40 FEET	3'-6"	7'-0"
50 FEET	3'-4.5"	6'-9"
60 FEET	3'-4"	6'-8"
70 FEET	3'-3.5"	6'-7"

INTERMEDIATE RADII CAN BE INTERPOLATED



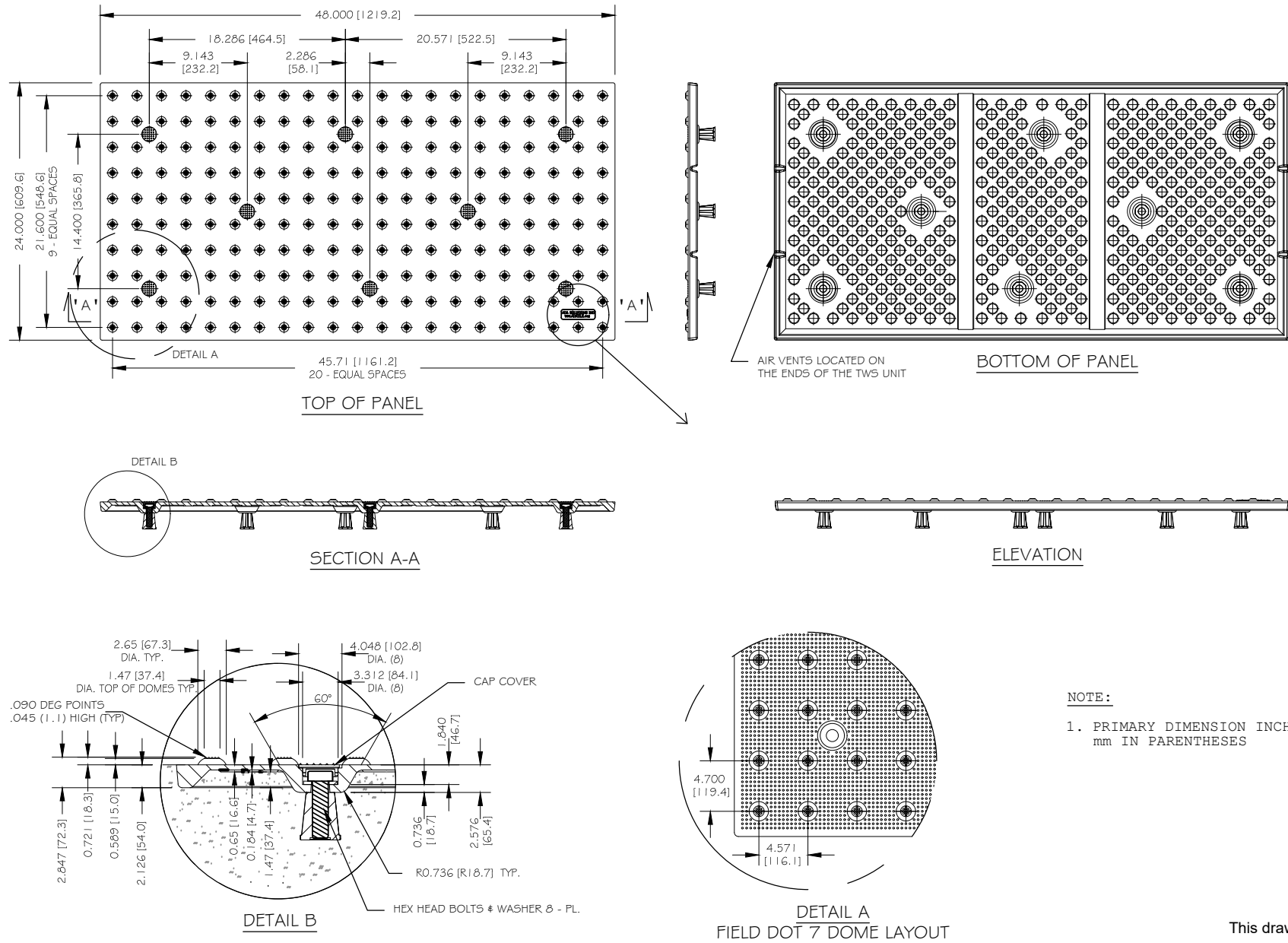
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

ADA SIDEWALK RAMP
TYPE A1

STANDARD PLAN
110.34

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

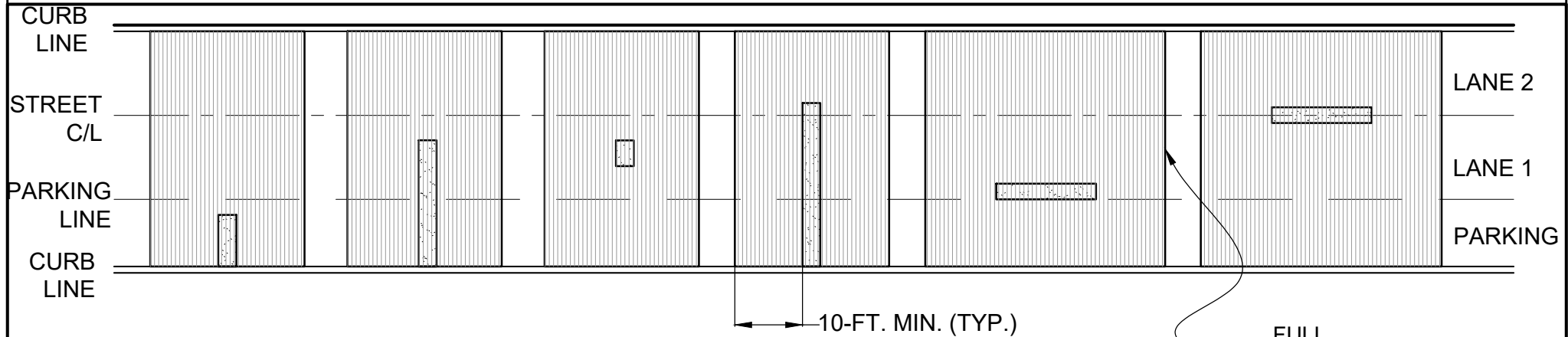


CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

ADA TRUNCATED DOMES

STANDARD PLAN
110.36

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



LEGEND



TRENCH LIMITS AT TOP OF PAVEMENT



RESTORATION AREA

NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- STREETS AT "NO CUT" RESTORATION LEVEL MAY NOT BE CUT UNLESS APPROVED IN ADVANCE BY CITY COUNCIL.
- RESTORATION AREA EXTENDS CURB-TO-CURB AND 10 FT. FROM THE TERMINUS OF TRENCH.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND COMPACTED TO 95%. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION TO 90% REQUIRED.
- ALL CUTS SHALL BE PERPINDICULAR OR PARALLEL TO DIRECTION OF TRAVEL.
- EXAMPLES ABOVE ARE NOT EXHAUSTIVE. STREET CUT RESTORATION STANDARDS TO BE APPLIED TO OTHER TRENCH CONFIGURATIONS.

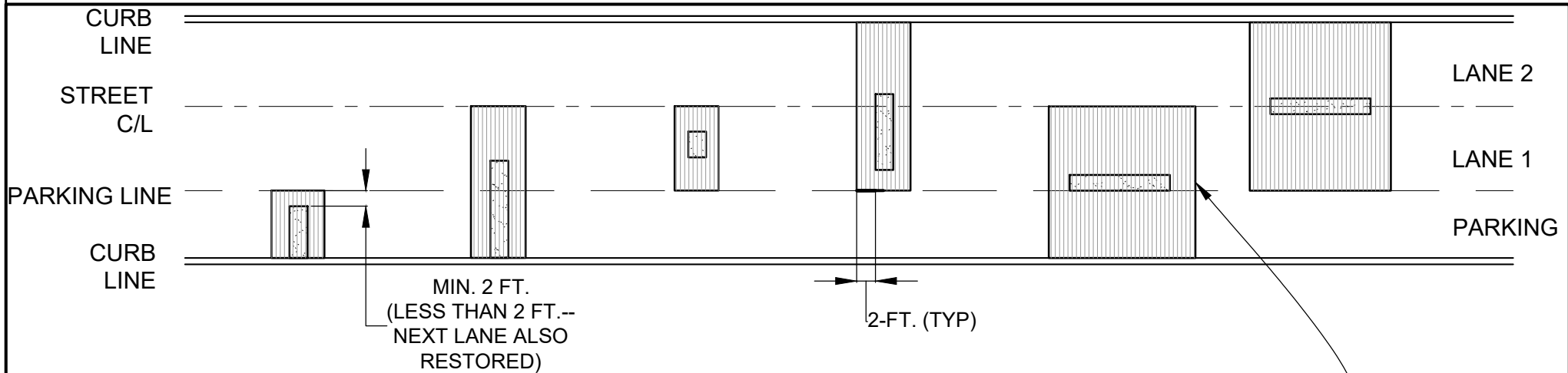
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

"NO CUT" RESTORATION STANDARDS
(COUNCIL WAIVER REQUIRED)

STANDARD PLAN
110.50

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



LEGEND



TRENCH LIMITS AT TOP OF PAVEMENT



RESTORATION AREA

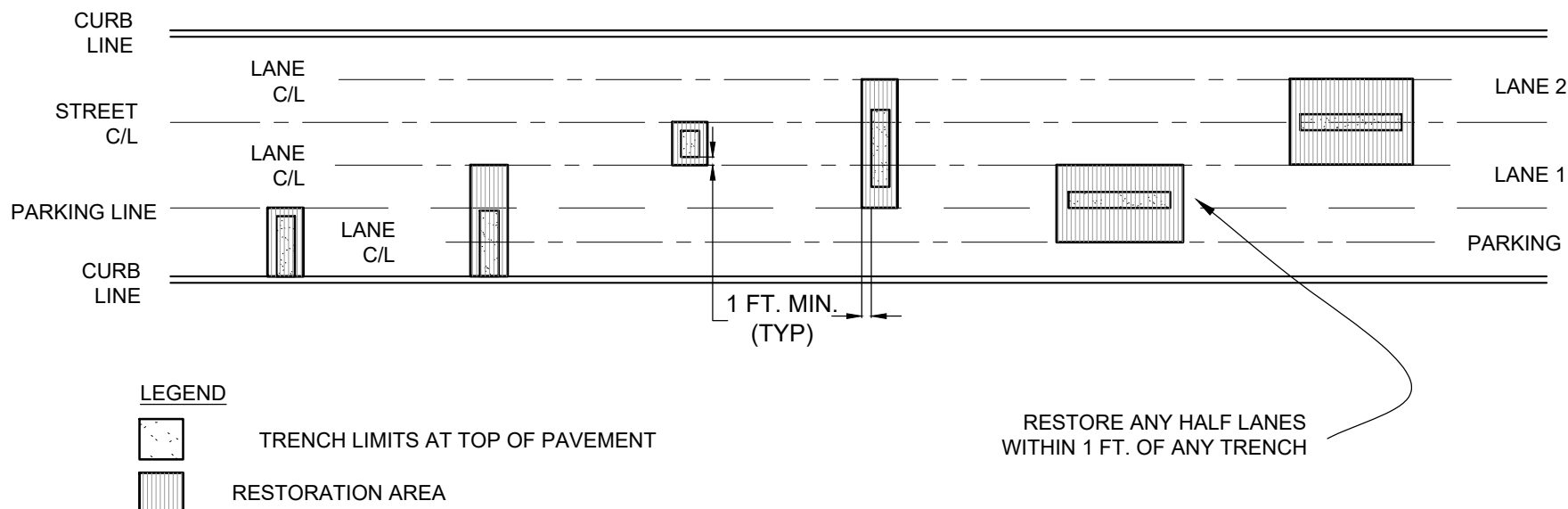
RESTORE ANY FULL LANE
WITHIN 2 FT. OF A TRENCH

NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- FULL WIDTH OF ANY LANE WITHIN 2 FT. OF A TRENCH SHALL BE RESTORED AND SHALL EXTEND A MINIMUM OF 2 FT. FROM TERMINUS OF TRENCH.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND COMPACTED TO 95%. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION TO 90% REQUIRED.
- ALL CUTS SHALL BE PERPENDICULAR OR PARALLEL TO DIRECTION OF TRAVEL. MIN. LONGITUDINAL RESTORATION LENGTH IS 6 FT.
- EXAMPLES ABOVE ARE NOT EXHAUSTIVE. STREET CUT RESTORATION STANDARDS TO BE APPLIED TO OTHER TRENCH CONFIGURATIONS.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

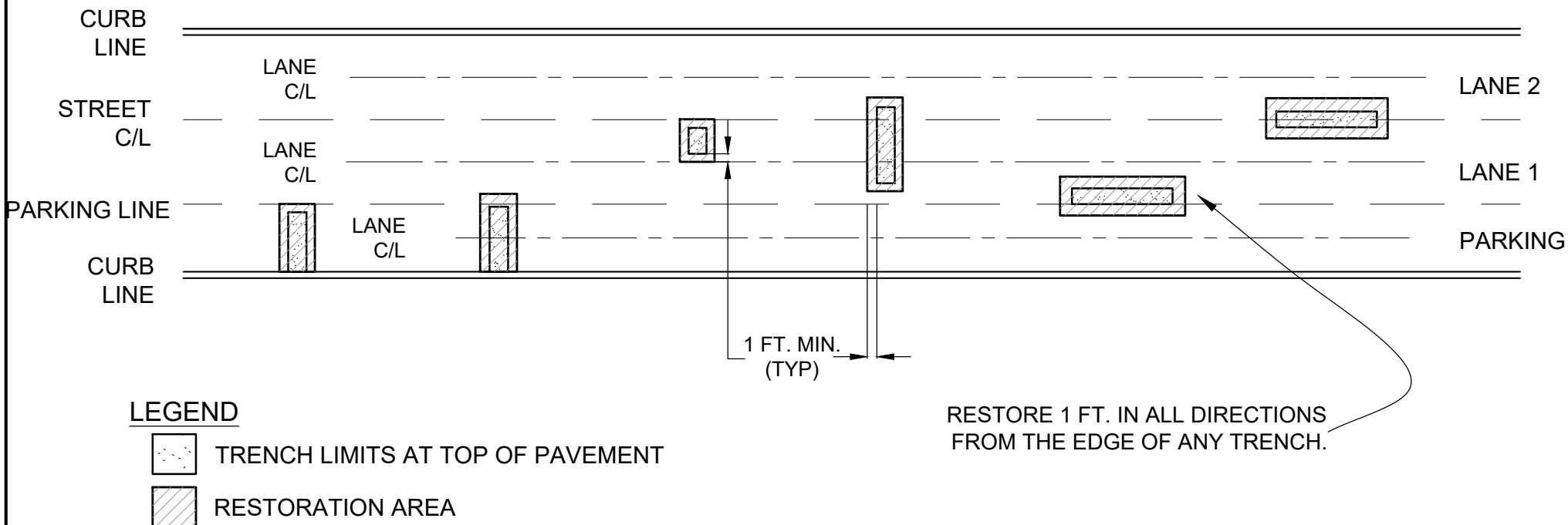


NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- ANY "HALF LANES" (LANE EDGE TO LANE CENTERLINE) WITHIN 1 FT. OF A TRENCH SHALL BE RESTORED AND SHALL EXTEND A MINIMUM OF 1' FROM TERMINUS OF TRENCH.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND COMPACTED TO 95%. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION TO 90% REQUIRED.
- ALL CUTS SHALL BE PERPENDICULAR OR PARALLEL TO DIRECTION OF TRAVEL. MIN. LONGITUDINAL RESTORATION LENGTH = 6 FT.
- EXAMPLES ABOVE ARE NOT EXHAUSTIVE. STREET CUT RESTORATION STANDARDS TO BE APPLIED TO OTHER TRENCH CONFIGURATIONS.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- ALL AREAS WITHIN 1 FT. OF A TRENCH SHALL BE RESTORED.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND MECHANICALLY COMPACTED. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION REQUIRED.
- ALL CUTS SHALL BE PERPINDICULAR OR PARALLEL TO DIRECTION OF TRAVEL.

This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

TRENCH STREET RESTORATION

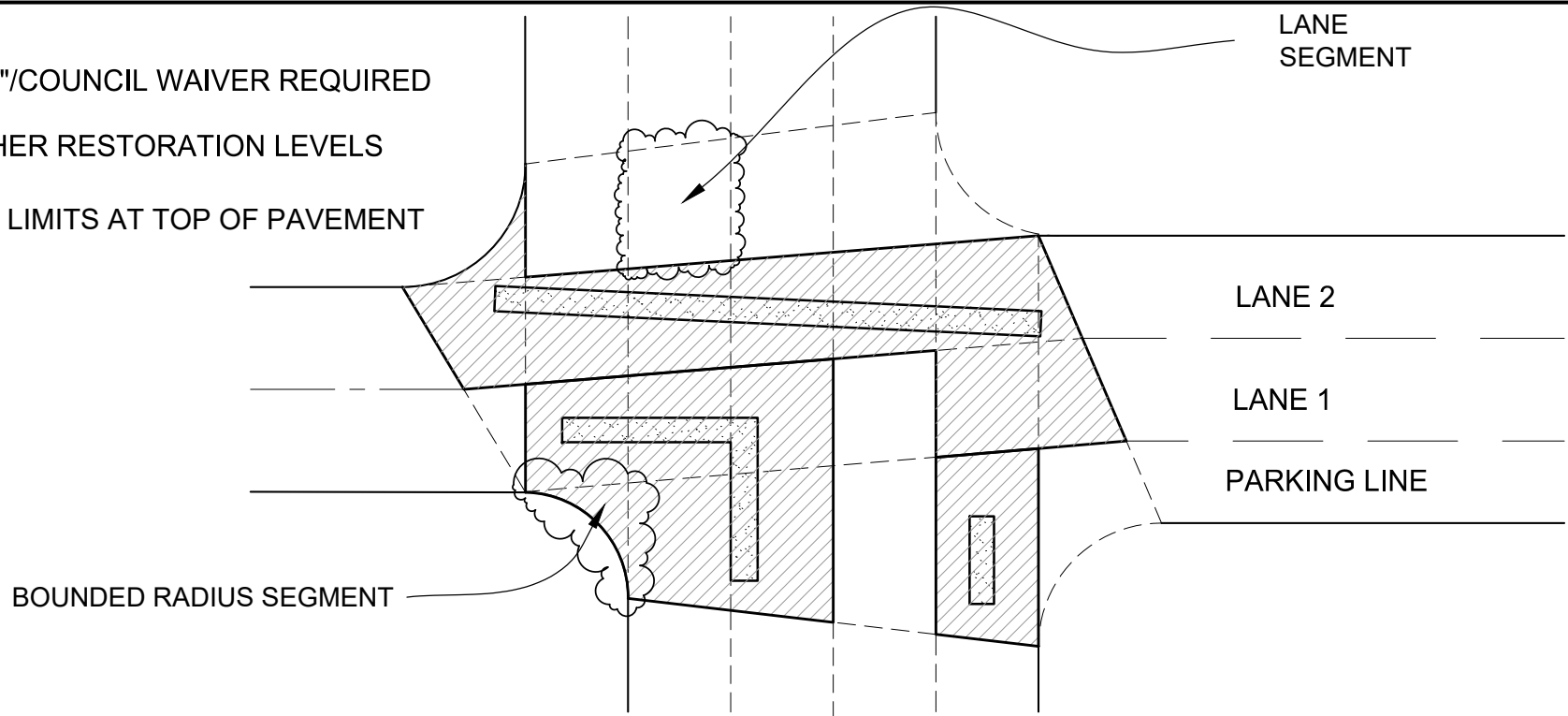
STANDARD PLAN
110.53

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



LEGEND

-  "NO CUT"/COUNCIL WAIVER REQUIRED
-  ALL OTHER RESTORATION LEVELS
-  TRENCH LIMITS AT TOP OF PAVEMENT



NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- FULL INTERSECTION RESTORATION REQUIRED FOR ANY TRENCH IN INTERSECTIONS AT "NO CUT" RESTORATION LEVEL; AT ALL OTHER RESTORATION LEVELS, ALL LANE SEGMENTS WITHIN TWO FEET OF ANY TRENCH AND ANY BOUNDED RADIUS SEGMENTS SHALL BE RESTORED.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND COMPACTED TO 95%. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION TO 90% REQUIRED.
- ALL CUTS SHALL BE PERPINDICULAR OR PARALLEL TO DIRECTION OF TRAVEL.

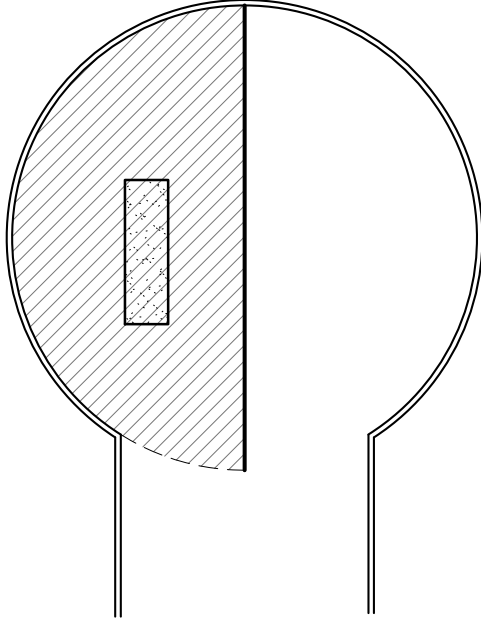
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

INTERSECTION RESTORATION

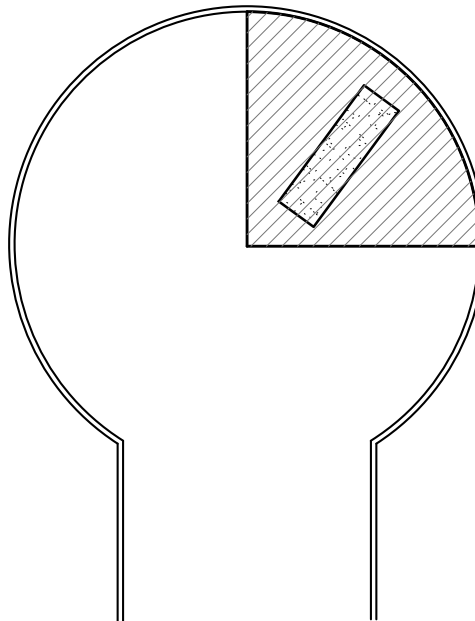
STANDARD PLAN
110.54

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



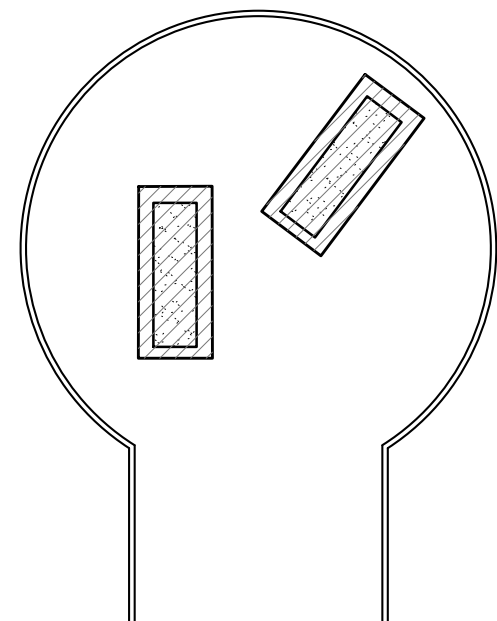
"NO CUT"/COUNCIL WAIVER REQUIRED

IF ANY PART OF THE PATCH EXTRUDES INTO ANOTHER HALF OF THE CUL-DE-SAC, THAT ADDITIONAL HALF SHALL BE REPLACED.



FULL/HALF LANE RESTORATION LEVEL

IF ANY PART OF THE PATCH EXTRUDES INTO ANOTHER QUARTER OF THE CUL-DE-SAC, THAT QUARTER SHALL ALSO BE REPLACED.



TRENCH ONLY RESTORATION LEVEL

PAVEMENT SHALL BE RESTORED 1-FT BEYOND EXTENT OF PATCH

NOTES

- PRIOR CITY APPROVAL REQUIRED FOR TRENCHING OR PLACEMENT OF UTILITIES IN CITY ROW.
- ROAD SURFACE TO BE REMOVED FROM RESTORATION AREA AND REPLACED WITH HMA MIX REQUIRED BY CITY AND COMPACTED TO 95%. PAVEMENT PATCH JOINTS TO BE SEALED.
- CRUSHED ROCK BASE COURSE REMOVAL NOT REQUIRED IF IN PLACE TO CITY STANDARDS. OTHERWISE PLACEMENT AND COMPACTION TO 90% REQUIRED.
- ALL CUTS SHALL BE PERPINDICULAR OR PARALLEL TO DIRECTION OF TRAVEL.

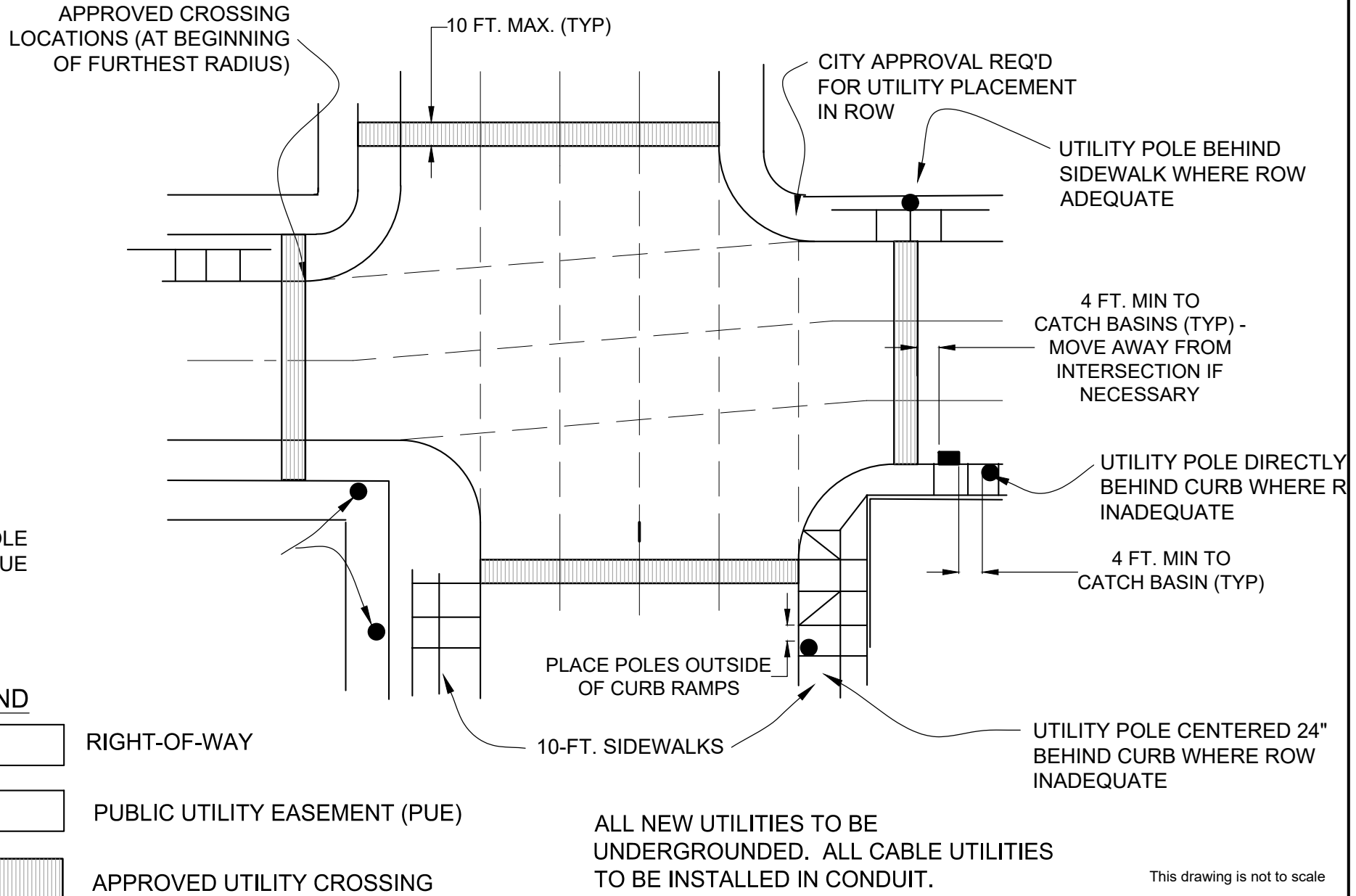
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

CUL-DE-SAC RESTORATION

STANDARD PLAN
110.55

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



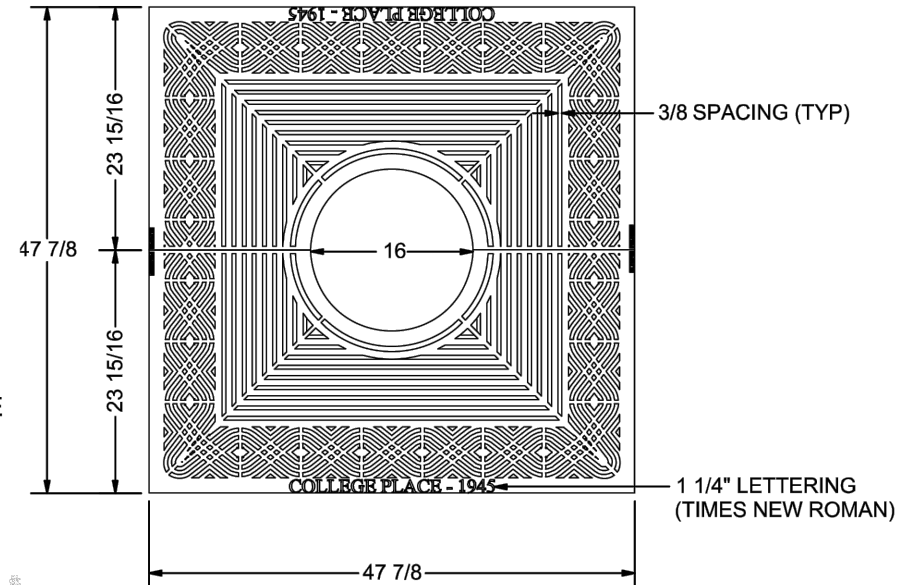
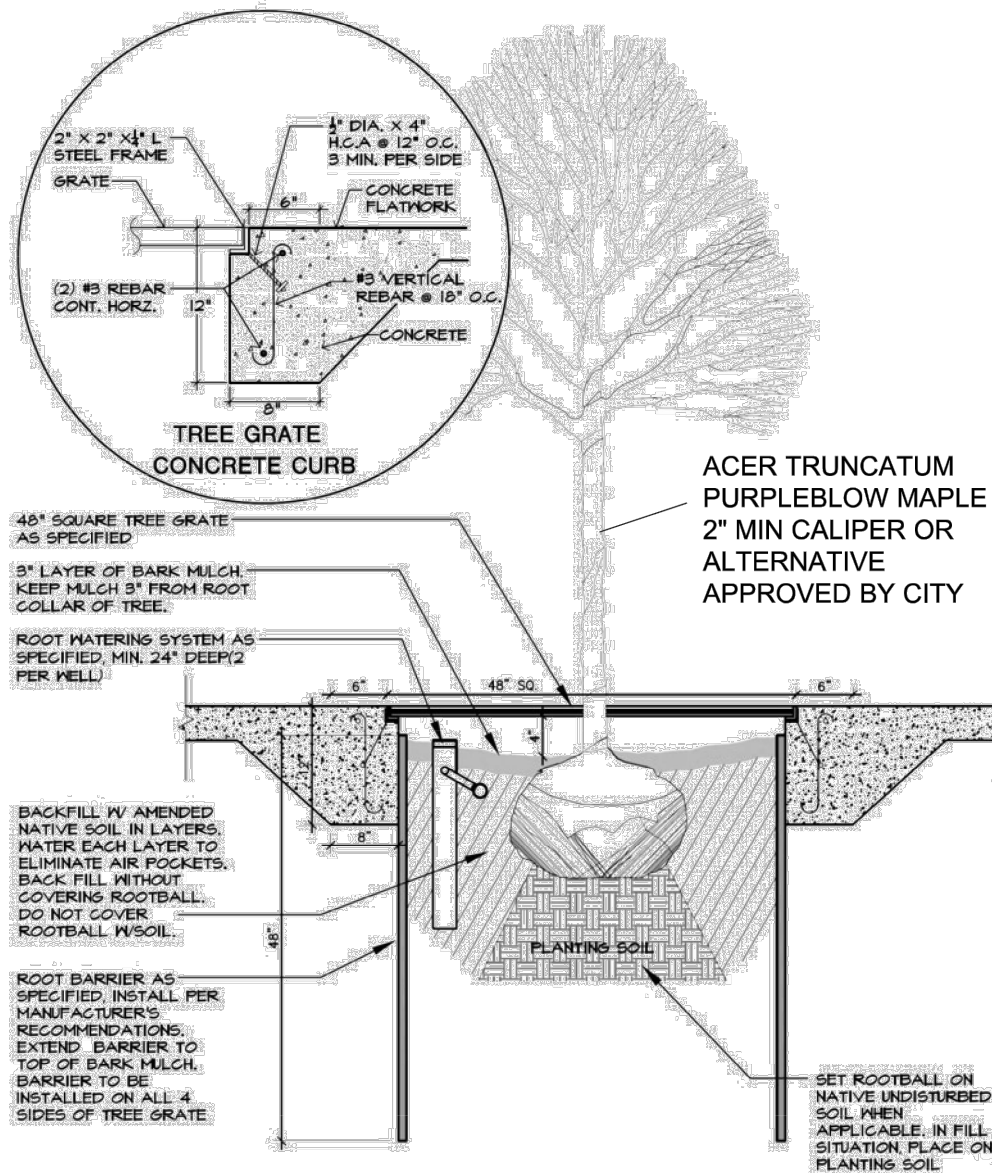
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

FRANCHISE UTILITY CORRIDORS

STANDARD PLAN
110.60

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTE: THIS STANDARD TREE GRATE PLAN PROVIDES GENERAL APPEARANCE GUIDELINES. LETTERING MAY BE REQUIRED ON A CASE-BY-CASE BASIS. SIMILAR INSTALLATIONS TO BE CONSIDERED.

TREE GRATE NOTES:
THIS STANDARD TREE GRATE PLAN PROVIDES GENERAL APPEARANCE GUIDELINES. LETTERING MAY BE REQUIRED ON A CASE-BY-CASE BASIS. SIMILAR INSTALLATIONS TO BE CONSIDERED.

This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: OCTOBER 2013

STREET TREES AND GRATES
(DOWNTOWN MIXED-USE ZONE, ETC.)

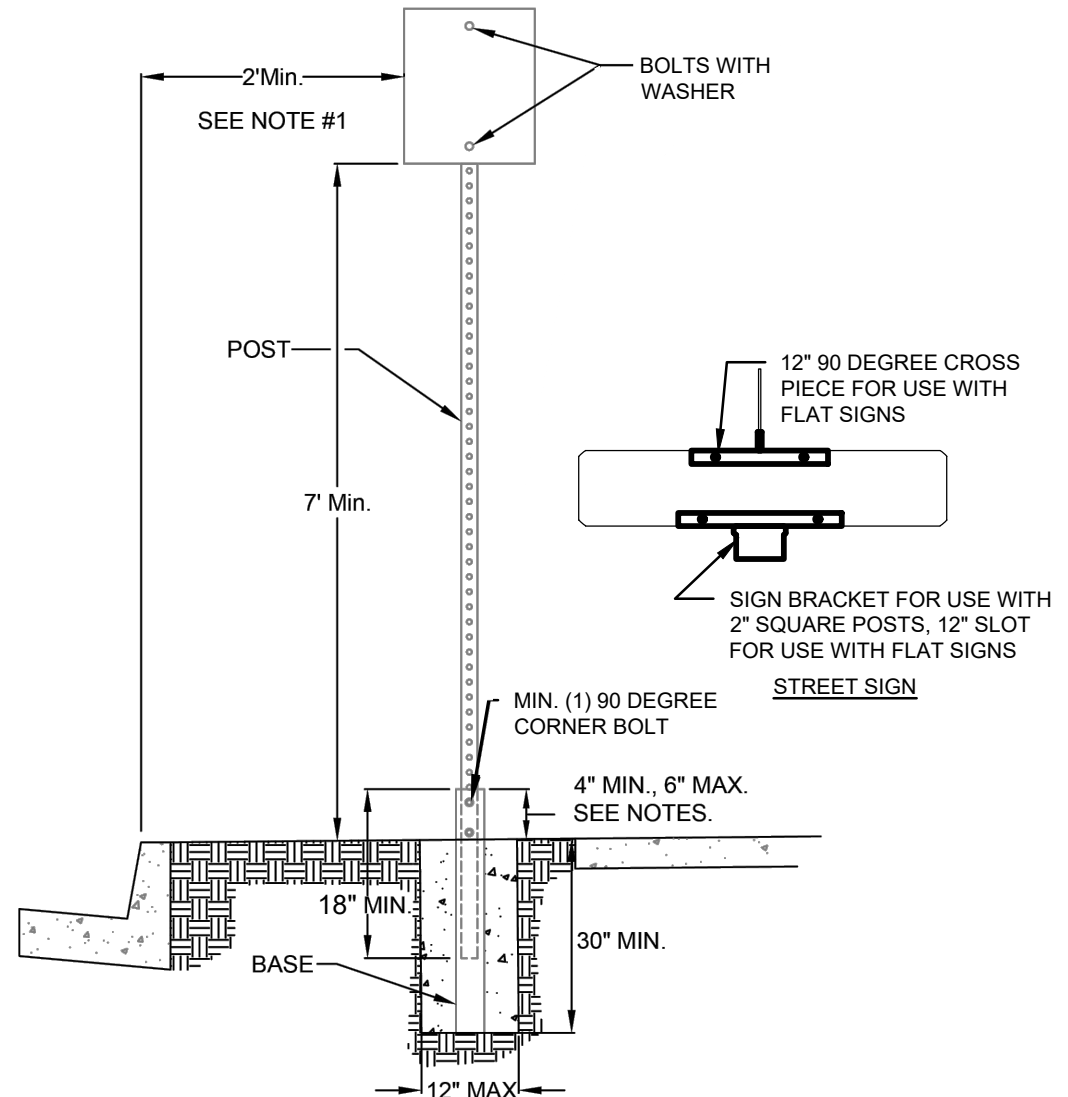
STANDARD PLAN
110.70

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. THE SIGN SHALL BE LOCATED A MINIMUM OF 2 FEET FROM THE FACE OF CURB OR EDGE OF ROADWAY IF NO CURB EXISTS. WHERE NARROW SIDEWALKS EXIST, THE SIGN SHALL BE PLACED AT THE BACK EDGE OF THE SIDEWALK. THE SIGN LOCATION SHALL BE VERIFIED BY THE CITY ENGINEER PRIOR TO PLACEMENT.
2. SECONDARY SIGNS MOUNTED BELOW ANOTHER SIGN MAY BE 1 FOOT LOWER THAN THE PRIMARY SIGN. IF THE SECONDARY SIGN IS MOUNTED LOWER THAN 7 FEET ABOVE PEDESTRIAN SIDEWALK OR PATHWAY, THE SECONDARY SIGN SHALL NOT PROJECT MORE THAN 4 INCHES INTO THE PEDESTRIAN FACILITY.
3. TWO BOLTS WITH WASHERS SHALL BE INSTALLED TO CONNECT THE SIGN TO THE POST.
4. THE POST SHALL BE INSERTED A MINIMUM OF 12 INCHES INTO THE BASE.
5. THE SIGN POST SHALL BE A MINIMUM OF 14 GAUGE, GALVANIZED PERFORATED STEEL AND SHALL BE 2 INCH SQUARE.
6. THE BASE SHALL BE A MIN 36" LONG HEAVY DUTY, 2 1/4 INCH SQUARE, 7 GAUGE, GALVANIZED SOLID SLEEVE.
7. IN HIGH WIND AREAS AS DETERMINED BY THE CITY ENGINEER, SIGN BRACING IS REQUIRED. BRACING SHALL MEET THE REQUIREMENTS OF WSDOT STANDARD PLAN G-50.10-02.
8. THE BASE SHALL BE DRIVEN (BY HAND OR MECHANICALLY). HAND DUG USING POST HOLE DIGGER OR VACTOR TRUCK TO ENSURE MINIMUM DISTURBANCE. THE HOLE SHALL BE A MAXIMUM OF 12" DIAMETER AND BACKFILLED WITH CONCRETE.
9. ALL SIGNS SHALL BE A MINIMUM HIGH INTENSITY PRISMATIC, RETRO-REFLECTIVE SHEETING
10. ADVANCED CROSSWALK, CROSSWALK, SCHOOL ZONE, AND SUPPLEMENTAL SIGNS SHALL BE FLORESCENT YELLOW-GREEN IN COLOR.



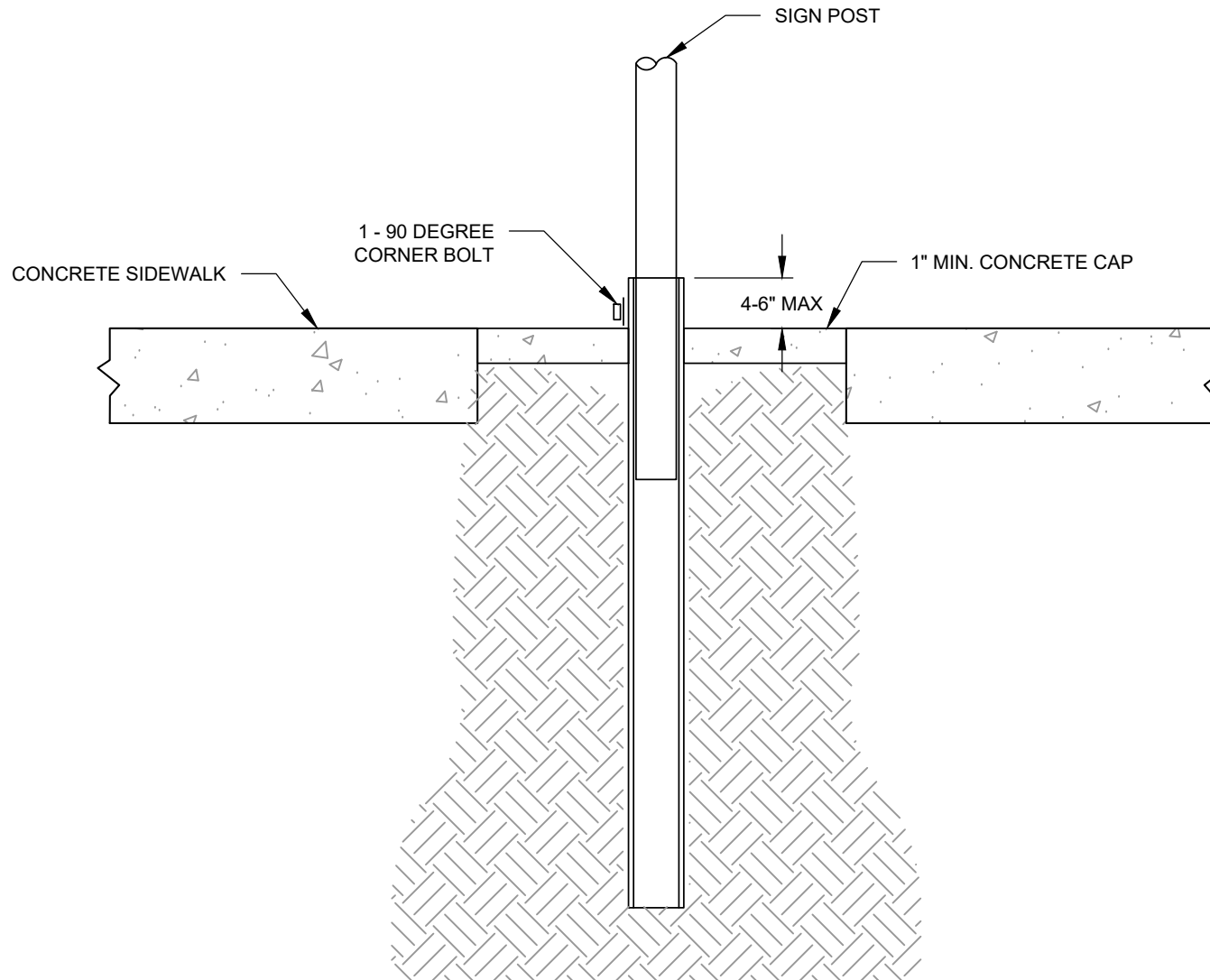
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

SIGN POST DETAIL

STANDARD PLAN
110.71

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



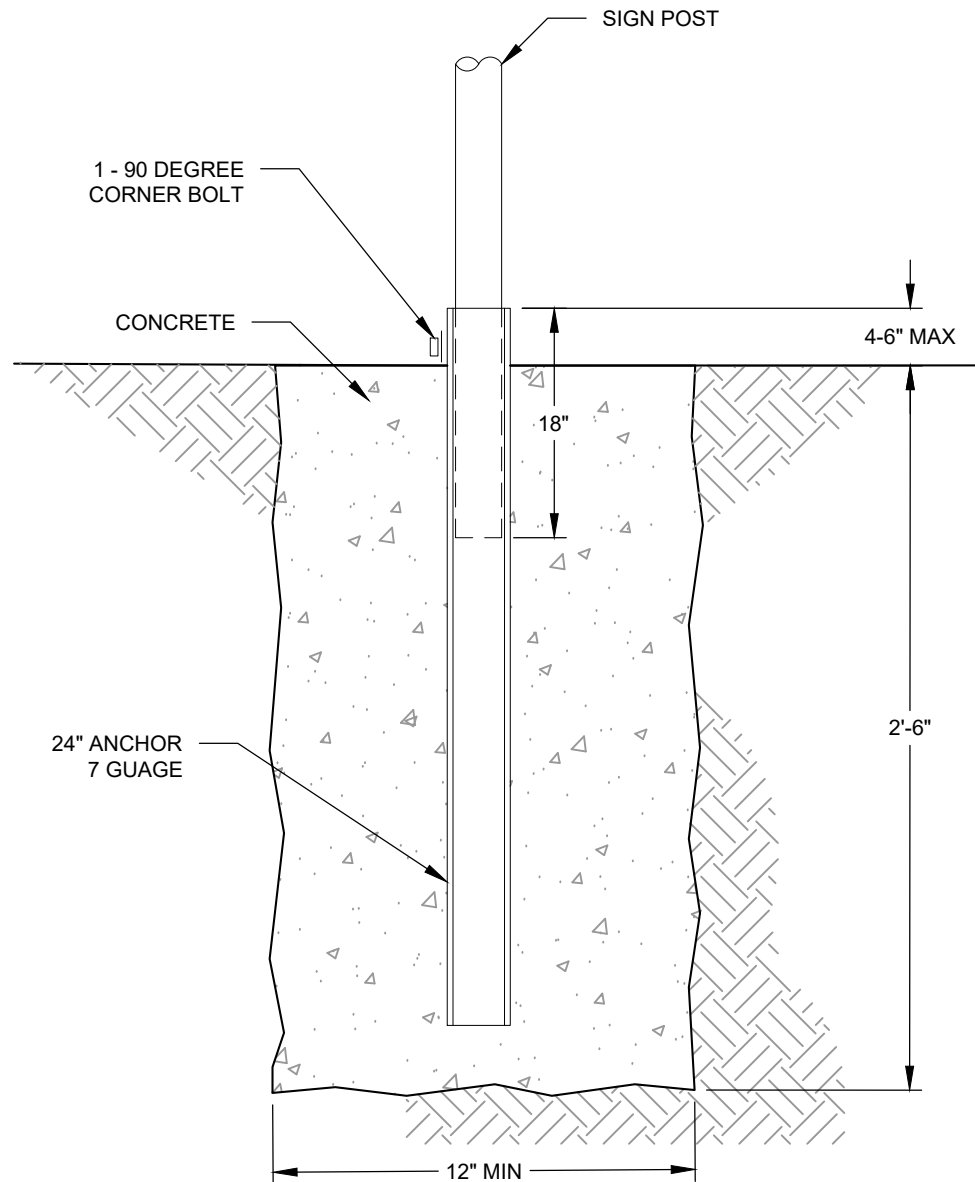
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

SIGN POST IN CONCRETE/ASPHALT

STANDARD PLAN
110.71A

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



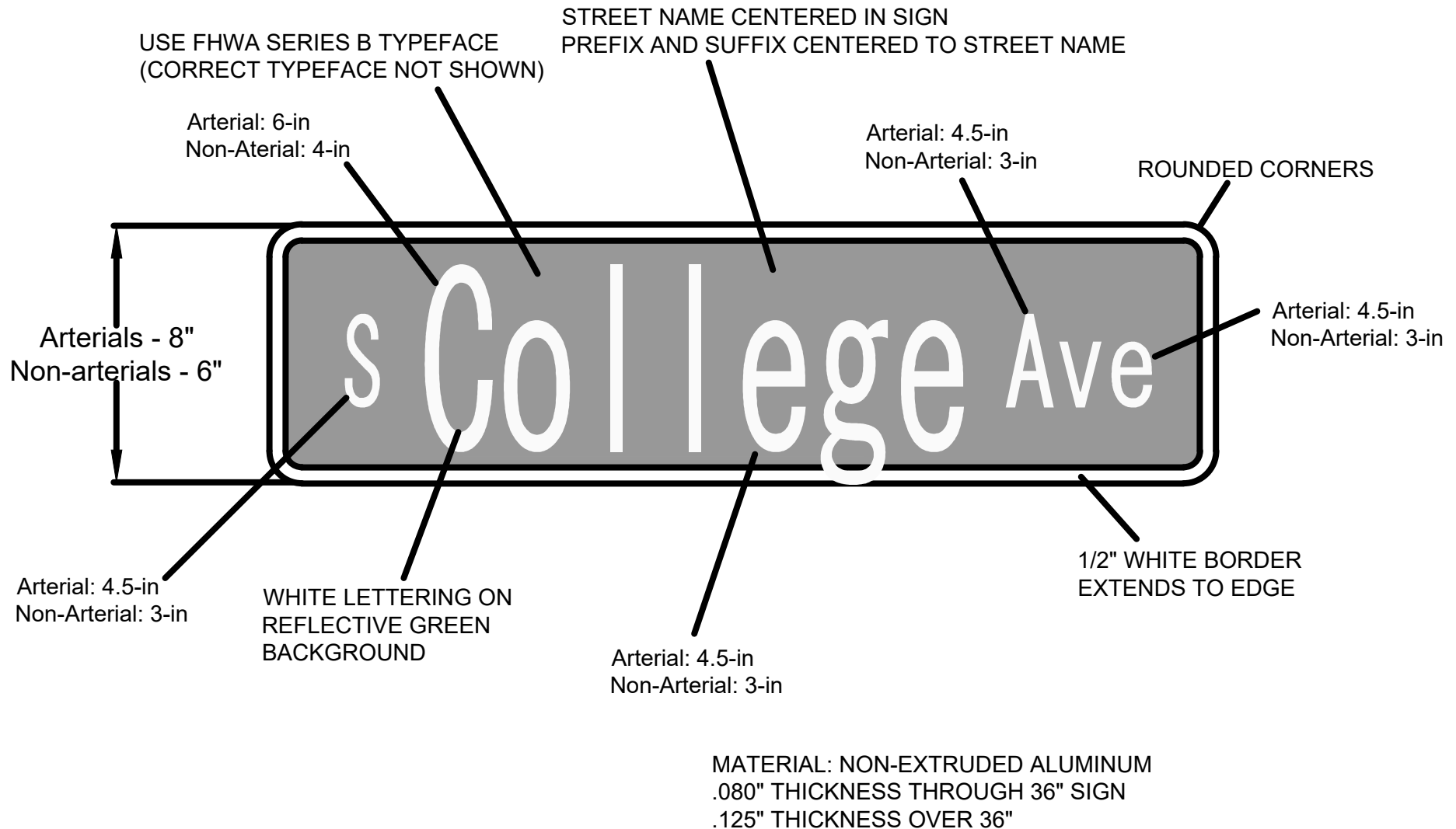
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

SIGN POST IN GROUND

STANDARD PLAN
110.71B

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



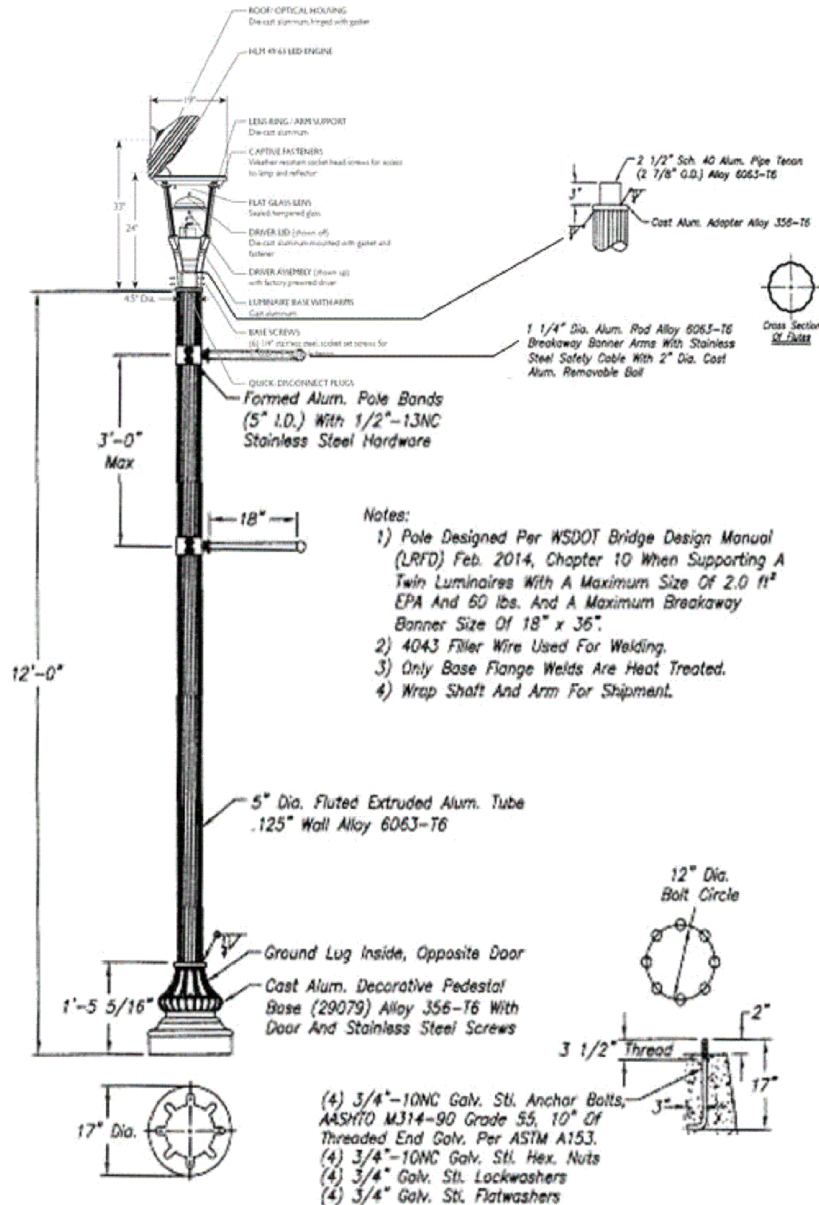
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STREET SIGNS

STANDARD PLAN
110.72

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

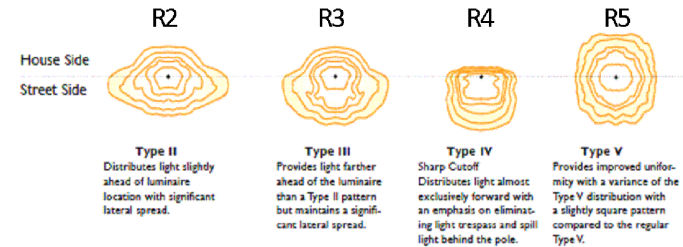


POLE SPECIFICATIONS

STANDARD SUPPLIER: HAPCO
 POLE MODEL: **A7S12B5 SFO***BLACK**
 MATERIAL: ALUMINUM
 COLOR: BLACK
 FINISH: POLYESTER POWER COAT
 ANCHOR BOLTS (WSDOT COMPLIANT)

LUMINAIRE SPECIFICATIONS

STANDARD SUPPLIER: ANTIQUE STREET LAMPS
 LAMP TYPE: LED
 MATERIAL: ALUMINUM
 VOLTAGE: CONTACT CITY TO CONFIRM
 LUMINAIRE MODEL: **RC 15L P20 40K GCF R3 MVOLT DBK**



*Contact City to confirm light distribution for desired application.

This drawing is not to scale

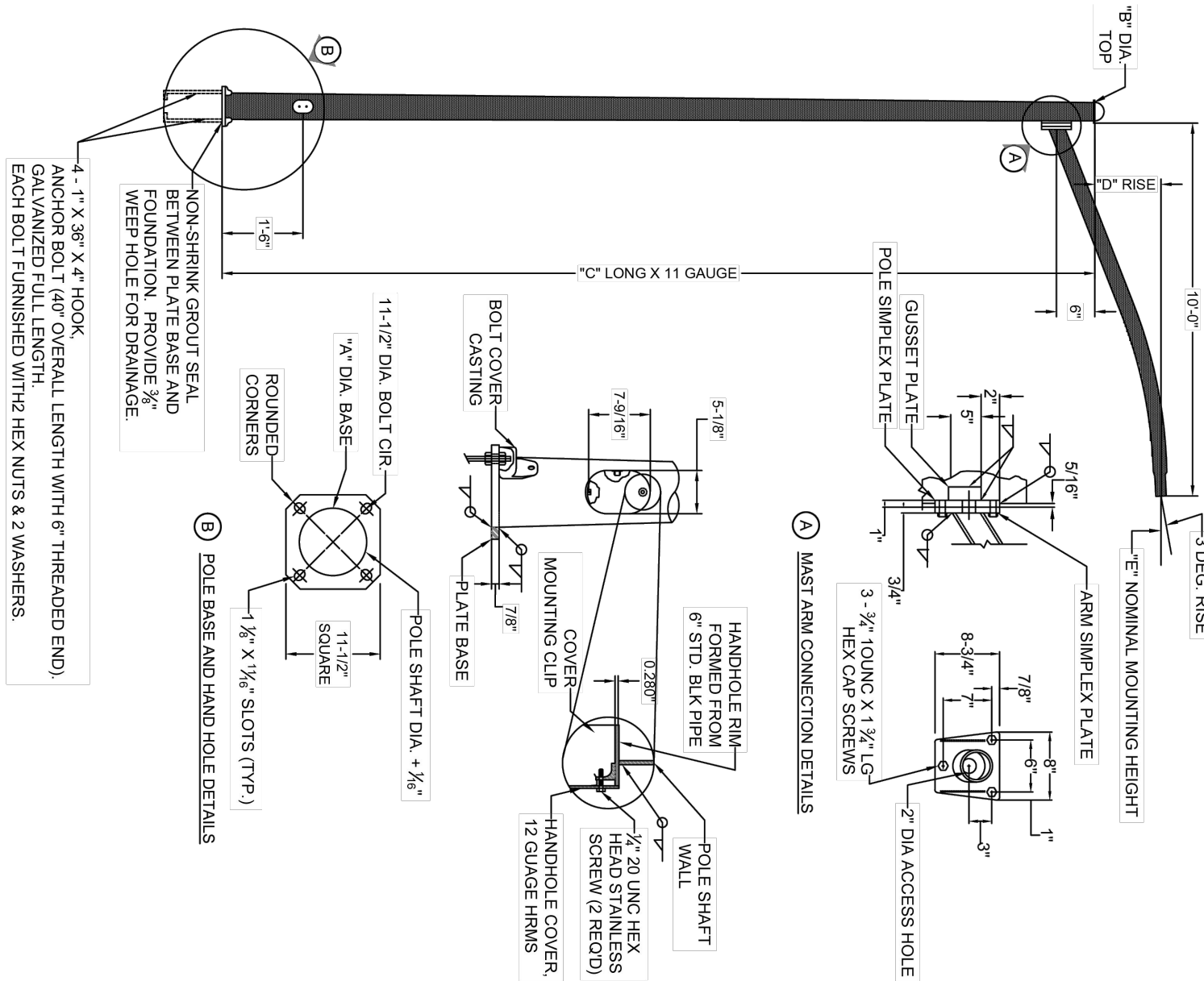
CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



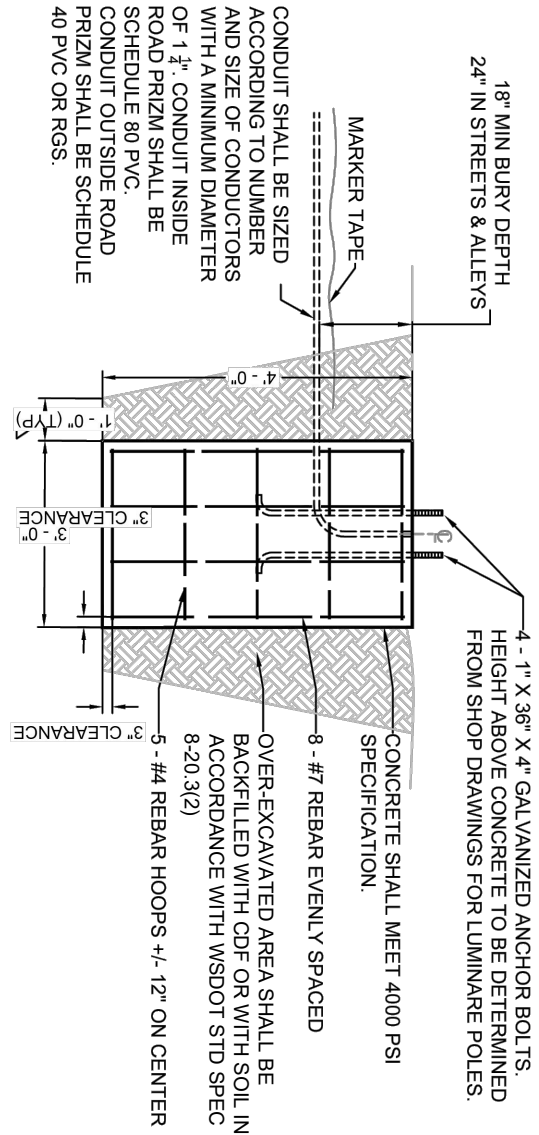
	"A"	"B"	"C"	"D"	"E"
RESIDENTIAL	7.5'	4.0'	25'0"	5'0"	30'
ARTERIAL	8.0'	3.8'	30'0"	5'0"	35'

NOTE: ALL POLES SHALL BE VALMONT DRWG #MTB-04 FOR THE CITY OF COLLEGE PLACE SEE STD PLANS 110.75 AND 110.76 FOR ADDITIONAL NOTES.

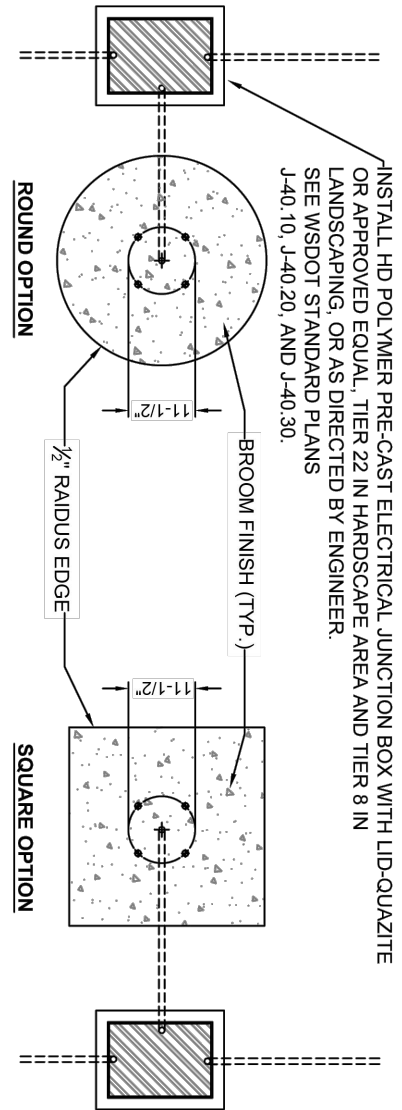
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CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



LUMINAIRE BASE - ELEVATION



PLAN VIEW

NOTES:

1. WHERE THE POLE BASE FALLS OUT SIDE OF THE SIDEWALK AREA, THE TOP OF BASE ELEVATION SHALL BE SET 1" ABOVE EXISTING GROUND SURFACE.
2. WHERE THE POLE BASE FALLS PARTIALLY OR WHOLLY INSIDE THE SIDEWALK, THAT PORTION BORDERED BY THE SIDEWALK SHALL BE SEPARATED WITH 3/8" TO 1/2" JOINT MATERIAL PROVIDING A VERTICAL PLANE SEPARATION BETWEEN THE SIDEWALK AND THE BASE.
3. WHEN APPROVED BY THE ENGINEER, THE BASE MAY BE SET BELOW SIDEWALK ELEVATION. A THRU JOINT WILL BE REQUIRED ON EITHER SIDE OF THE VERTICAL PROJECTION OF THE BASE TO CONTROL CRACKING DUE TO MOVEMENT. THE SIDEWALK CONCRETE SHALL MAKE CONTACT WITH THE TOP OF THE BASE AND SHALL COMPLETELY SEAL THE BOLTS.
4. CONDUIT RUNS SHALL TERMINATE IN JUNCTION BOXES. CONDUCTOR WIRE SHALL BE CONTINUOUS FROM BOX TO BOX AND BOX TO POLE. NO SPLICES WILL BE ALLOWED IN CONDUIT RUNS. SPLICES IN JUNCTION BOXES SHALL BE 3M-1m SPLICE KIT. EACH POLE SHALL HAVE A QUICK DISCONNECT FUSE IN THE POLE.

This drawing is not to scale



CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

LUMINAIRE NOTES

ALL LUMINAIRES SHALL BE LED COBRA HEAD STYLE FIXTURES. GE EVOLVE LED ROADWAY LIGHTING OR LEOTEK LED GREEN COBRA STREET LIGHT MODELS SHALL BE USED UNLESS AN EQUAL PRODUCT IS APPROVED BY THE CITY ENGINEER

LUMINAIRES SHALL MEET THE FOLLOWING SPECIFICATIONS:

- 1) LUMINAIRE SHALL BE SIZED ACCORDING TO THE ILLUMINATION REQUIREMENTS OF THE ROADWAY.
- 2) TYPE III MEDIUM DISTRIBUTION WITH CUTOFF OPTICS.
- 3) LED LIGHT SOURCES SHALL PRODUCE A LIGHT COLOR TEMPERATURE BETWEEN 3,000 TO 4,000K.
- 4) ENERGIZED BY 240 VOLTS.
- 5) LUMINAIRE SHALL INCLUDE "PER" RECEPTACLE AND PHOTOCELL.
- 6) FINISH SHALL BE BATTLESHIP GRAY.
- 7) LIGHT SOURCES WILL MEET OR EXCEED THE FOLLOWING EFFICIENCY AND LONGEVITY BENCHMARKS:
 - * LUMINOUS EFFICACY: 65 LUMENS/WATT
 - * AVERAGE LAMP LIFE: >50,000 HOURS.
 - * MAINTENANCE FACTOR @ 50,000 HOURS: 0.80

PLACEMENT OF STREET LIGHTS SHALL BE DETERMINED BY THE CITY ENGINEER.

POLE NOTES

(SEE STD. PLAN 110.74 FOR PLAN DETAILS)

- 1) POLE SHAFT-HOT ROLLED COMMERCIAL QUALITY CARBON STEEL CONFORMING TO ASTM DESIGNATION: A 595 GRADE A - 55,000 PSI MINIMUM YIELD STRENGTH; LINEAR TAPER - 0.14"/FT.
- 2) LUMINAIRE ARM SHAFT - 11GA. HOT ROLLED COMMERCIAL QUALITY CARBON STEEL WITH 55,000 PSI MINIMUM YIELD STRENGTH. LINEAR TAPER 0.14"/FT WITH 2.3/8" O.D. x 8" STRAIGHT SECTION LUMINAIRE END.
- 3) ARM CONNECTION SIMPLEX PLATES 36,000 PSI MINIMUM YIELD STRENGTH. GUSSET PLATES 36,000 PSI MINIMUM YIELD STRENGTH.
- 4) BASE PLATE - 36,000 PSI MINIMUM YIELD STRENGTH.
- 5) FOUR CAST ANCHOR BOLT COVERS SECURED IN PLACE WITH STAINLESS STEEL SELF-TAPPING SCREWS
- 6) CAST POLE TOP CAP SECURED IN PLACE WITH 3 PLATED SET SCREWS.
- 7) ALL THREADED FASTENERS TO BE GALVANIZED UNLESS OTHERWISE NOTED.
- 8) ANCHOR BOLTS CONFORM TO ASTM DESIGNATION: A449.
- 9) EACH LUMINAIRE SHALL HAVE AN INLINE FUSEHOLDER, SEC MODEL 1791-SF, WITH A FRM-5 FUSE ON EACH PHASE CONDUCTOR AT THE BASE OF THE POLE. ACCESS TO THESE FUSEHOLDERS SHALL BE THROUGH THE HAND HOLE ON THE POLE. ADDITIONAL CONDUCTOR LENGTH SHALL BE LEFT INSIDE THE POLE TO EQUAL A LOOP HAVING A DIAMETER OF ONE (1) FOOT.

FINISH NOTES:

- 1) ACCESSORIES TO BE HOT DIP GALVANIZED TO ASTM DESIGNATION: A 153.
- 2) POLE TO BE HOT DIP GALVANIZED TO ASTM DESIGNATION: A 123.
- 3) ARM TO BE HOT DIP GALVANIZED TO ASTM DESIGNATION: A 123.

This drawing is not to scale

STANDARD PLAN 210.00

WATER UTILITY SYSTEM NOTES

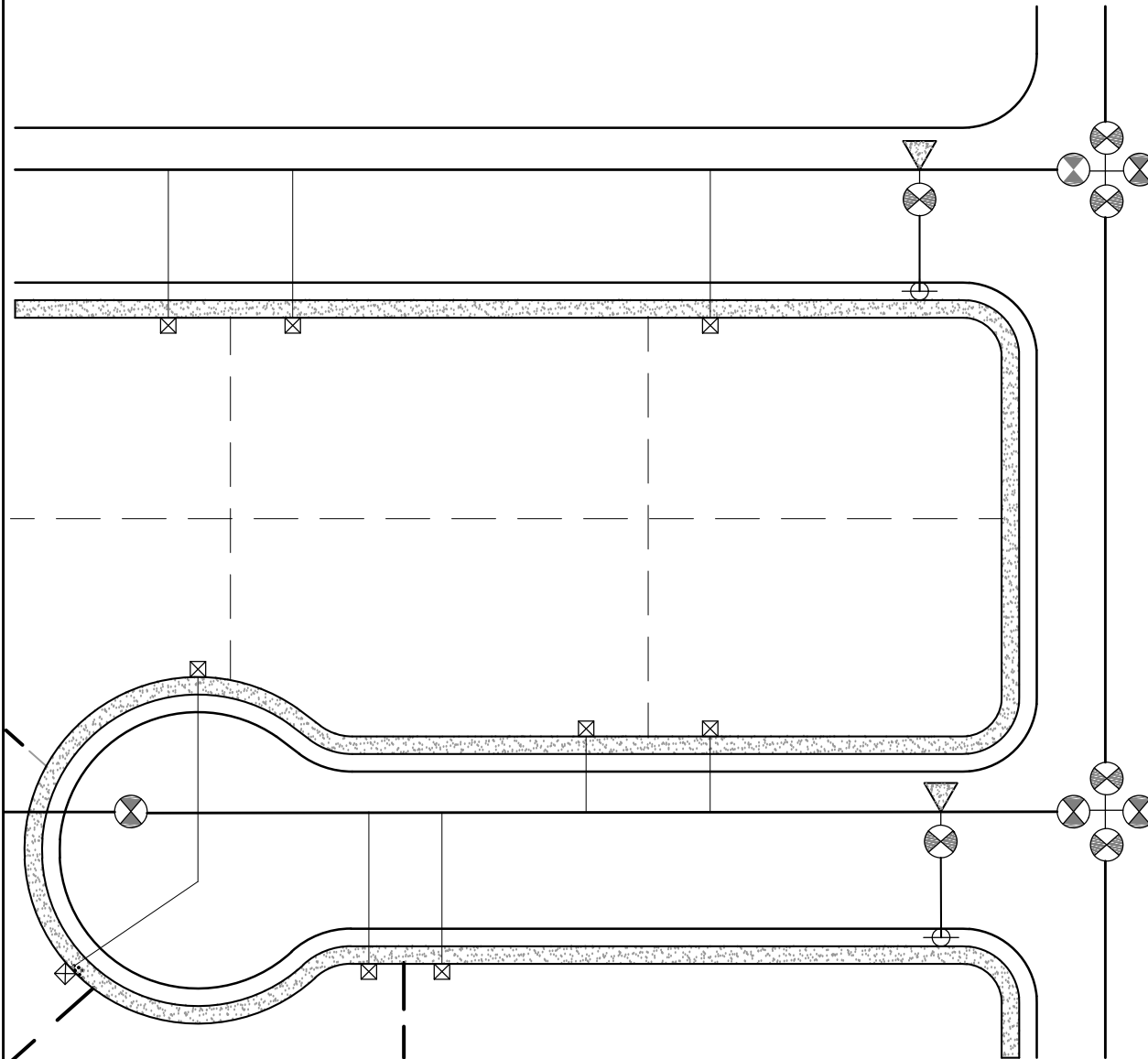
1. ALL VALVE OPERATIONS AND OTHER ACTIVITIES IMPACTING THE WATER DISTRIBUTION SYSTEM SHALL BE PERFORMED BY THE CITY OF COLLEGE PLACE PUBLIC WORKS. 24-HOUR NOTIFICATION OF ANY INTERRUPTION IN WATER SERVICE IS REQUIRED TO ALL AFFECTED CUSTOMERS.
2. DISINFECTION OF WATER LINES SHALL COMPLY WITH AWWA C651—DISINFECTING WATER MAINS, SSRB&MC. PRESSURE TESTING, FLUSHING, BACTERIAL SAMPLING AND STARTUP SHALL TAKE PLACE AFTER ALL UNDERGROUND UTILITIES ARE INSTALLED AND COMPACTION OF THE ROADWAY SECTION IS COMPLETE. SPECIAL INSPECTION AND CERTIFICATION OF ADEQUACY BY A PROFESSIONAL ENGINEER IS REQUIRED. ALL NEW FITTINGS AND EXISTING FITTINGS EXPOSED DURING INSTALLATION SHALL BE SWABBED WITH CHLORINE AND THE LINE CHLORINATED. ONCE THE LINE IS CHLORINATED, VALVES SHALL BE CLOSED AND THE LINE LEFT UNDISTURBED FOR 24 HOURS. THE LINE SHALL THEN BE THOROUGHLY FLUSHED AND WATER SAMPLES TAKEN BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE FOR APPROVAL BY THE LOCAL HEALTH AGENCY. WATER SHALL NOT BE FLUSHED TO NATURAL WATERS OR WATERWAY. SHOULD THE INITIAL TREATMENT RESULT IN AN UNSATISFACTORY BACTERIOLOGICAL TEST, THE ORIGINAL CHLORINATION PROCEDURE SHALL BE REPEATED BY THE CONTRACTOR UNTIL SATISFACTORY RESULTS ARE OBTAINED.
3. NEW WATER LINE INSTALLATIONS SHALL BE PRESSURE TESTED AND MEET MINIMUM LEAKAGE STANDARDS IN CONFORMANCE WITH SSRB&MC.
4. 12" AND SMALLER LINES SHALL BE AWWA C151 CLASS 50 DUCTILE IRON WITH CLASS C104 CEMENT MORTAR LINING WITH ALL JOINTS MECHANICALLY RESTRAINED. PIPE JOINTS SHALL BE RESTRAINED USING TR-FLEX OR FLEX RING DUCTILE IRON PIPE OR BY USING FIELD-LOK OR FAST GRIP GASKETS. THE GASKET USED SHALL BE MANUFACTURED BY THE MANUFACTURER OF THE PIPE BEING USED AND SHALL BE RECOMMENDED FOR THE APPLICATION. LARGER WATER LINES LARGER THAN 12" SHALL BE TR FLEX OR FLEX-RING DUCTILE IRON PIPE CLASS 52.
5. WATER MAINS AND SERVICE LINES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 30" TO OUTSIDE CROWN OF PIPE.
6. ALL FIRE HYDRANTS SHALL BE DRY BARREL, THREE PORT TYPE AND MEET ALL SPECIFICATIONS OUTLINED IN ARTICLE 200.02 OF THE CITY STANDARD SPECIFICATIONS.
7. CLEAN, WASHED 1 ½" DRAIN ROCK SHALL BE PLACED AROUND THE BASE OF ALL FIRE HYDRANTS AND BLOWOFF ASSEMBLIES AND SHALL BE COVERED WITH FILTER FABRIC.
8. AN 8X8X4 INCH PRE-CAST 3000 PSI CONCRETE BLOCK SHALL BE PLACED BENEATH THE BASE OF ALL FIRE HYDRANTS. THIS IS TO ALLOW THE 1 ½" DRAIN ROCK TO COMPLETELY SURROUND THE BASE OF THE HYDRANT TO FACILITATE PROPER DRAINAGE.
9. 3000 PSI CONCRETE THRUST BLOCKS SHALL BE USED TO RESTRAIN FIRE HYDRANTS AND CONTROL VALVES. THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL. SEE STANDARD PLAN 210.02, 210.09, 210.10, 210.11.

10. A SHEET OF 6 MIL. POLY SHEETING SHALL BE PLACED BETWEEN THE BASE OF ALL FIRE HYDRANTS, VALVES, PIPE FITTINGS AND INSTALLED THRUST BLOCKS. SEE STANDARD PLAN 210.02
11. A STORTZ COUPLER SHALL BE MOUNTED TO THE 4 1/2" PORT ON ALL NEW FIRE HYDRANTS. EXISTING FIRE HYDRANTS WILL BE RETROFIT WITH A THREADED STORTZ ADAPTER.
12. ALL GATE VALVES SHALL BE MUELLER A2360 RESILIENT WEDGE GATE VALVES WITH A 2" SQUARE WRENCH NUT OR AN APPROVED EQUAL.
13. ALL GATE VALVE RISER PIPE SHALL BE 8" SDR-35 (*UN-USED SEWER PIPE*).
14. ALL WATER MAINS SHALL BE A MINIMUM CLASS 50 DUCTILE IRON PIPE WITH A MINIMUM DIAMETER OF 8".
15. CORPORATION STOPS SHALL BE MALE IRON PIPE THREAD (MIPT) X COPPER TUBE SIZE (CTS) COMPRESSION FITTINGS.
16. SINGLE STRAP SADDLES SHALL BE ROMAC 101S. DOUBLE STRAP SADDLES SHALL BE ROMAC 202S OR APPROVED EQUAL.
17. SERVICE LINES SHALL BE NO LESS THAN 1" DIAMETER TYPE K COPPER TUBE OR CTS POLYETHYLENE PIPE. SERVICE LINES LARGER THEN 1" SHALL BE CONSTRUCTED WITH CTS POLYETHYLENE. USE OF POLYETHYLENE PIPE SHALL REQUIRE INSPECTION AT THE TIME ALL COMPRESSION FITTINGS ARE INSTALLED. A STAINLESS STEEL INSERT WILL BE PLACED AT ALL COMPRESSION JOINTS. FAILURE TO OBTAIN AN INSPECTION WILL RESULT IN REMOVAL OF ALL OR A PORTION OF THE WORK IN ORDER TO FACILITATE A PROPER INSPECTION.
18. WATER METERS SHALL BE METRON FARNIER SPECTRUM SERIES INNOV 8 RADIO REGISTER METERS REGISTERING IN 1000 GALLONS. MINIMUM SIZE SHALL BE FULL 3/4" SHORT BODY FOR RESIDENTIAL WATER SERVICES.
19. A MINIMUM DEPTH OF 16" SHALL BE MAINTAINED BETWEEN THE TOP OF THE METER SETTER AND FINISHED GRADE.
20. BLOWOFF ENCLOSURE SHALL BE MID-STATES 1324 METER BOX WITH A CAST IRON LID.
21. THE MAIN GATE VALVE FOR THE BLOWOFF ASSEMBLY SHALL BE A MUELLER 2" A-2360 #10A.14 WITH A 2" SQUARE WRENCH NUT OR AN APPROVED EQUAL. SEE STANDARD PLAN 210.08.
22. TOTAL DEPTH OF METER BOX BURY SHALL BE 30" MINIMUM. ALL METER BOXES USED SHALL BE CONSTRUCTED OF PLASTIC. THE SET SHALL CONSIST OF ONE 12" TOP SECTION AND ONE 18" BOTTOM SECTION. NO PIPE SLOTS ARE ALLOWED. METER BOXES SHALL BE MID-STATES 1324 OR APPROVED EQUAL FOR 1" OR SMALLER METERS. METER BOXES FOR 1 1/2" AND 2" METERS SHALL BE MID-STATES 1730. LID/COVER SHALL BE BROOKS #66 CONCRETE.
23. ALL WATER PIPE SHALL HAVE 6-IN. OF CRUSHED ROCK ABOVE AND 4-IN. OF CRUSHED ROCK UNDERNEATH FOR BEDDING.

24. NATIVE FILL MAY BE USED FOR BACKFILL UNLESS DEEMED UNSUITABLE BY THE ENGINEER. COMPACT TO 95% MODIFIED PROCTOR DENSITY BEFORE PROCEEDING TO PLACEMENT OF BASE ROCK AND PAVING. LABORATORY TESTING SHALL BE PERFORMED TO DETERMINE MAXIMUM MODIFIED PROCTOR DENSITY FOR NATIVE FILL. IMPORT FILL REQUIRES SUPPLIER PROCTOR TEST RESULTS. IF NATIVE FILL IS UNSUITABLE AS DETERMINED BY THE CITY ENGINEER, BANK RUN GRAVEL PER THE STANDARD SPECIFICATIONS 9-03.19 OR OTHER GRANULAR MATERIAL APPROVED BY THE CITY ENGINEER SHALL BE USED. THIS BACKFILL REQUIREMENT APPLIES TO ALL WATER MAINS AND SERVICE LINES.
25. ALL WATER MAINS AND SERVICE LINES SHALL BE MARKED WITH A NO. 12 SOLID COPPER LOCATOR WIRE FASTENED TO THE PIPE WITH DUCT TAPE AT EACH JOINT. LOCATOR WIRE SHALL EXTEND TO ALL SERVICE LINES AND VALVES INCLUDING PLACEMENT WITHIN ALL VALVE RISERS. FOR THE PURPOSE OF PIPE LINE DETECTION, LOCATOR WIRE WITHIN THE VALVE RISERS SHALL BE LONG ENOUGH TO REACH THE TOP TO THE RISER WHEN EXTENDED. SERVICE LINE LOCATING WIRE SHALL EXTEND INTO THE METER BOX TERMINATING AT THE TOP OF THE METER SET.
26. HYDRANT FIRE FLOW WILL BE REQUIRED PER INTERNATIONAL FIRE CODE SECTION C105.1 PRIOR TO PROJECT APPROVAL.

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



	WATER MAIN
	FIRE HYDRANT FEED
	WATER SERVICE LINE
	PROPERTY LINE
	SIDEWALKS
	WATER METER
	GATE VALVE
	3-PORT FIRE HYDRANT
	BLOWOFF
	END CAP
	THRUST BLOCK

NOTES:

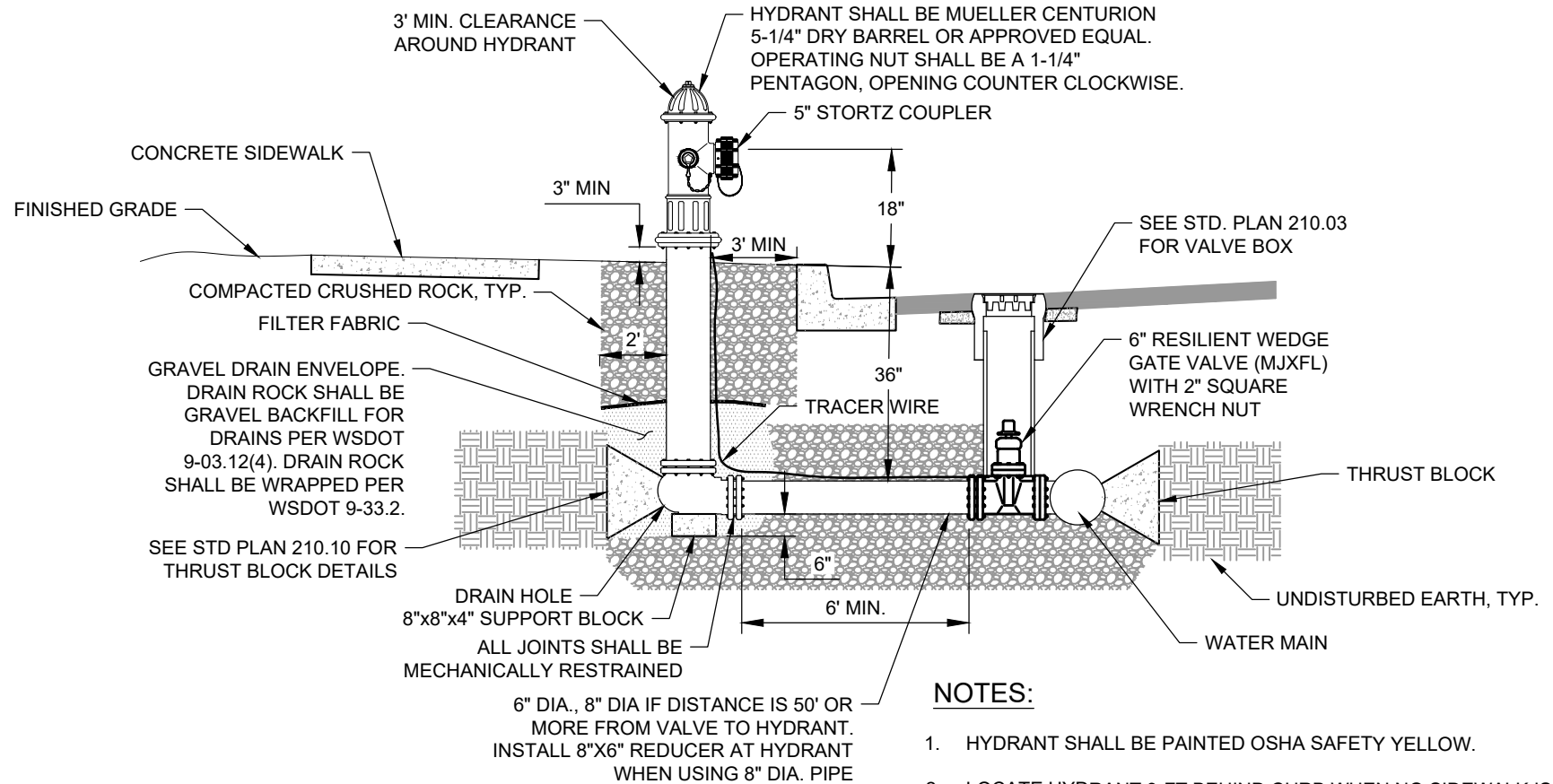
1. NO WATER METERS IN DRIVEWAY.
 2. 10-FT MIN. SEPARATION FROM WATER AND SEWER SERVICES.
 3. WATER SERVICES SHALL BE A MIN OF 10-FT FROM ANY TREES
- This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

GENERAL WATER SYSTEM COMPONENT
PLACEMENT OVERVIEW

STANDARD PLAN
210.01

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. HYDRANT SHALL BE PAINTED OSHA SAFETY YELLOW.
2. LOCATE HYDRANT 3-FT BEHIND CURB WHEN NO SIDEWALK IS PRESENT.
3. WHERE CONCRETE CURBING IS NOT INSTALLED, GUARD POSTS SHALL BE INSTALLED ON SIDE FACING STREET.
4. PLACE FIRE HYDRANT 2-FT FROM BACK EDGE OF SIDEWALK WITH CURB TIGHT SIDEWALKS.
5. GUARD POSTS SHALL BE 4" DIA. STEEL PIPE FILLED WITH CONCRETE, BURIED 3-FT BELOW GRADE, EXTEND 3-FT ABOVE GRADE, HAVE A MIN. 15-IN CONCRETE FOOTING AND SHALL BE PAINTED THE SAME AS FIRE HYDRANT.

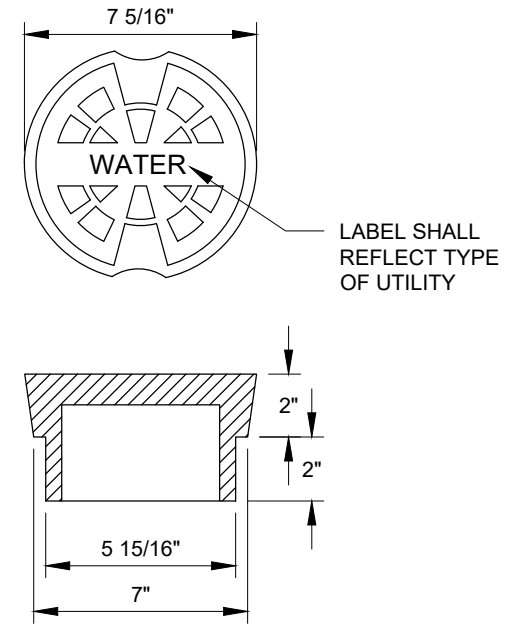
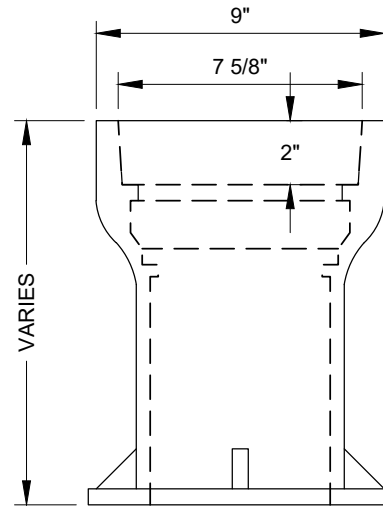
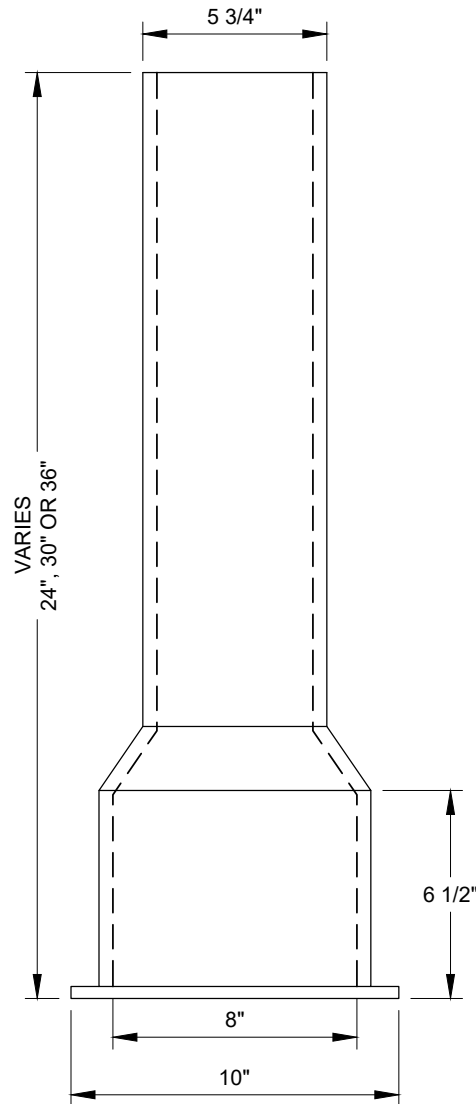
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

FIRE HYDRANT PLACEMENT PROFILE

STANDARD PLAN
210.02

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES

1. CAST IRON ADJUSTABLE VALVE BOX SHALL BE A TYLER UNION SERIES 6855 OR APPROVED EQUAL.
2. INTERMEDIATE RISER SECTION FROM VALVE TO VALVE BOX SHALL BE CAST IRON ASTM A-48.
3. THE ADJUSTABLE VALVE BOX, INTERMEDIATE RISER SECTION, AND BASE SE SECTION SHALL BE INSTALLED PLUMB AND CENTERED OVER THE OPERATING NUT ON THE VALVE.

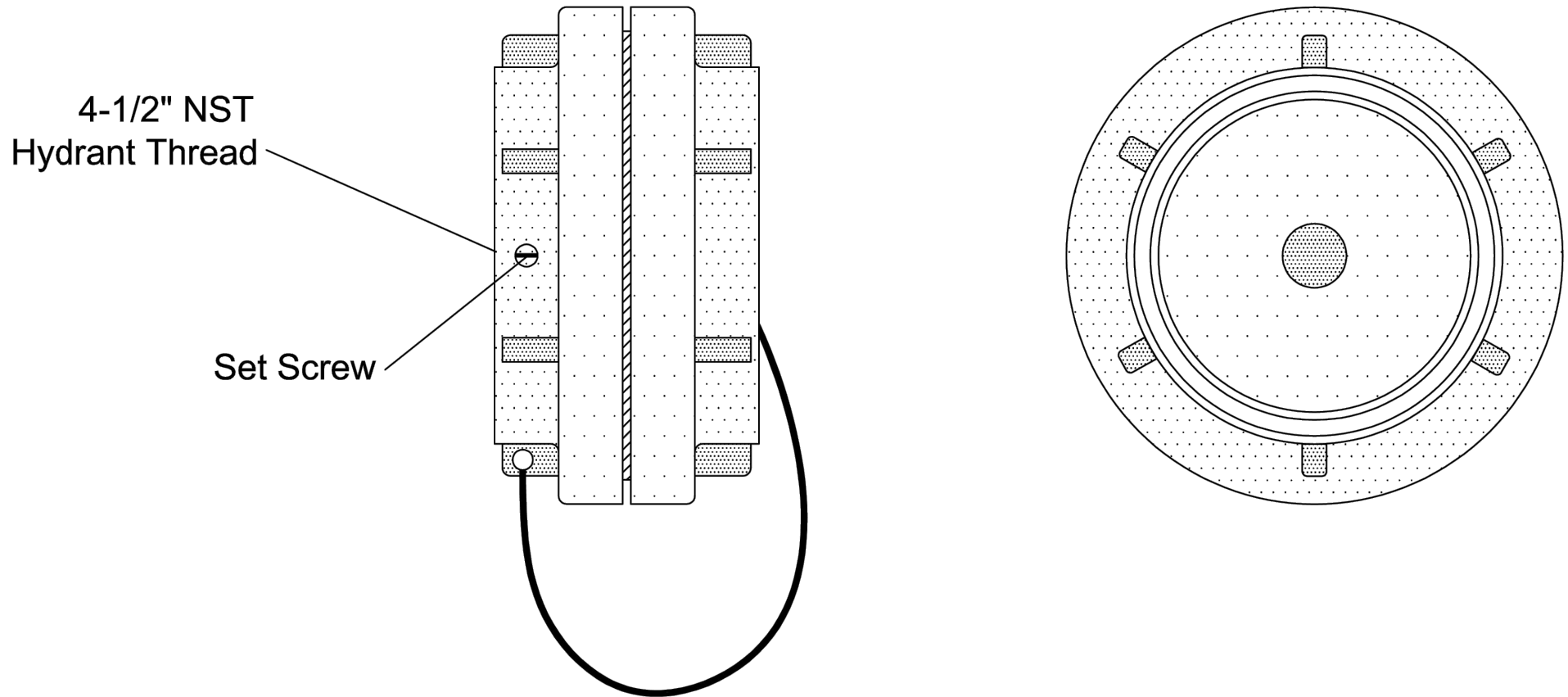
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

VALVE BOX COLLAR PLACEMENT
DETAIL

STANDARD PLAN
210.03

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



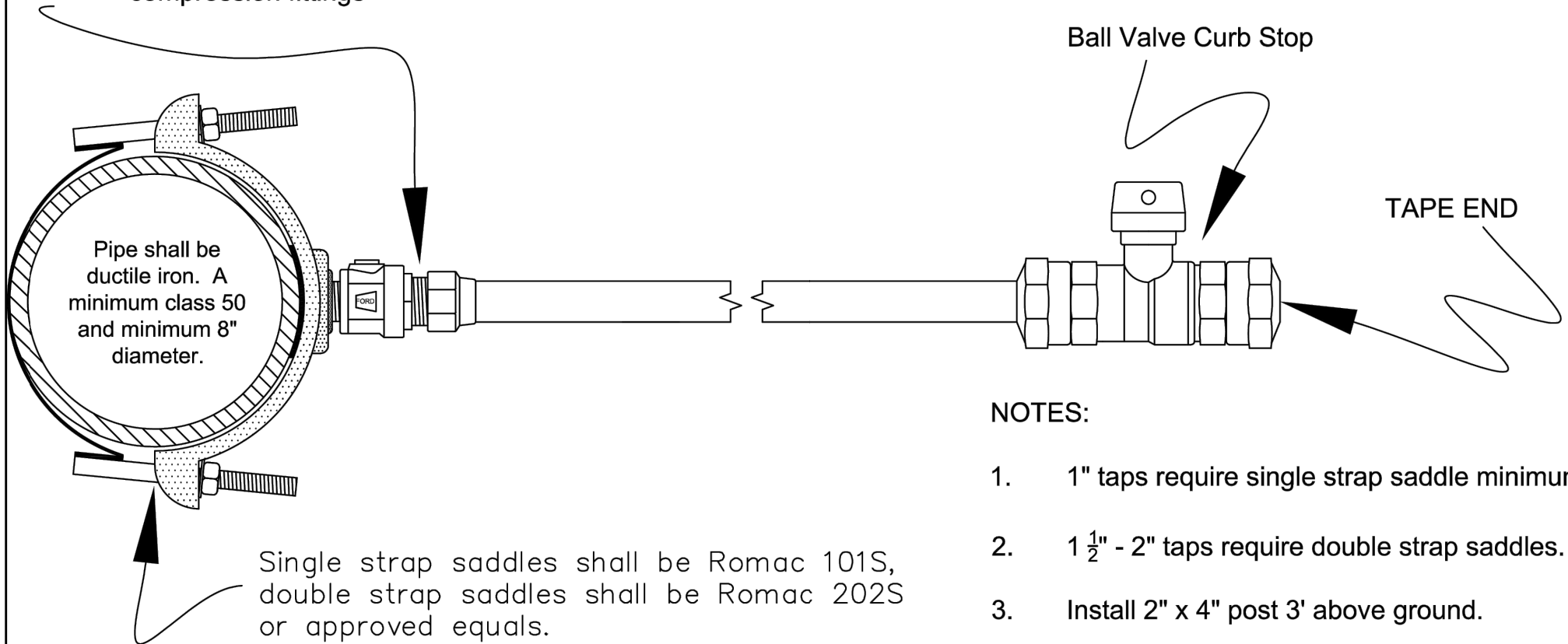
Stortz coupler shall be mounted permanently to the 4-1/2" port on all new fire hydrants.
A threaded adapter will only be used for retro fit Stortz couplers on existing fire hydrants.

This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



Corporation stops shall be male Ford or Mueller male iron pipe thread (MIPT) x copper tube size (CTS) compression fittings



NOTES:

1. 1" taps require single strap saddle minimum.
2. 1 $\frac{1}{2}$ " - 2" taps require double strap saddles.
3. Install 2" x 4" post 3' above ground.

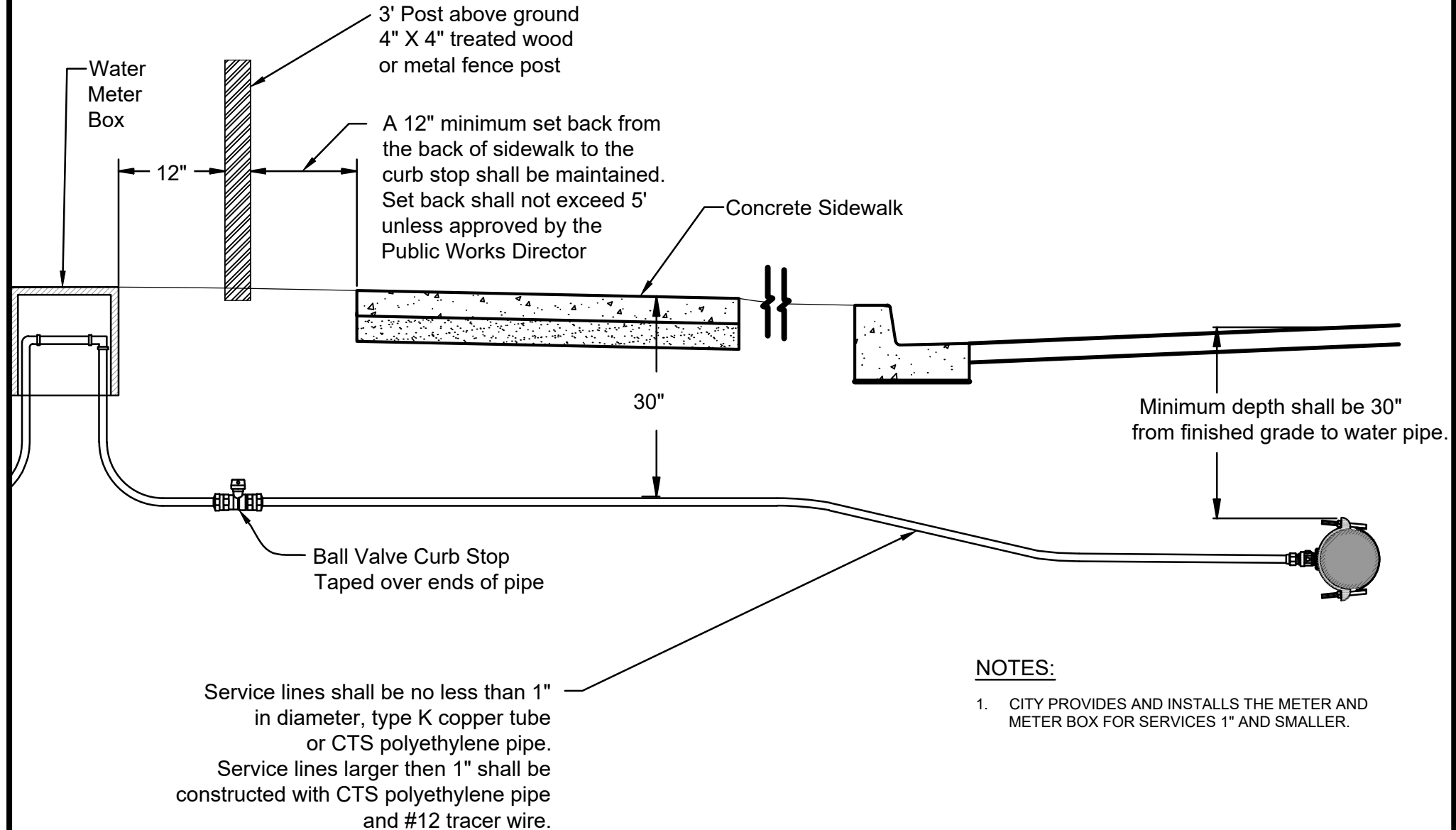
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CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JUNE 2007

STANDARD WATER SERVICE STUB
CONNECTION COMPONENTS

STANDARD PLAN
210.05

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



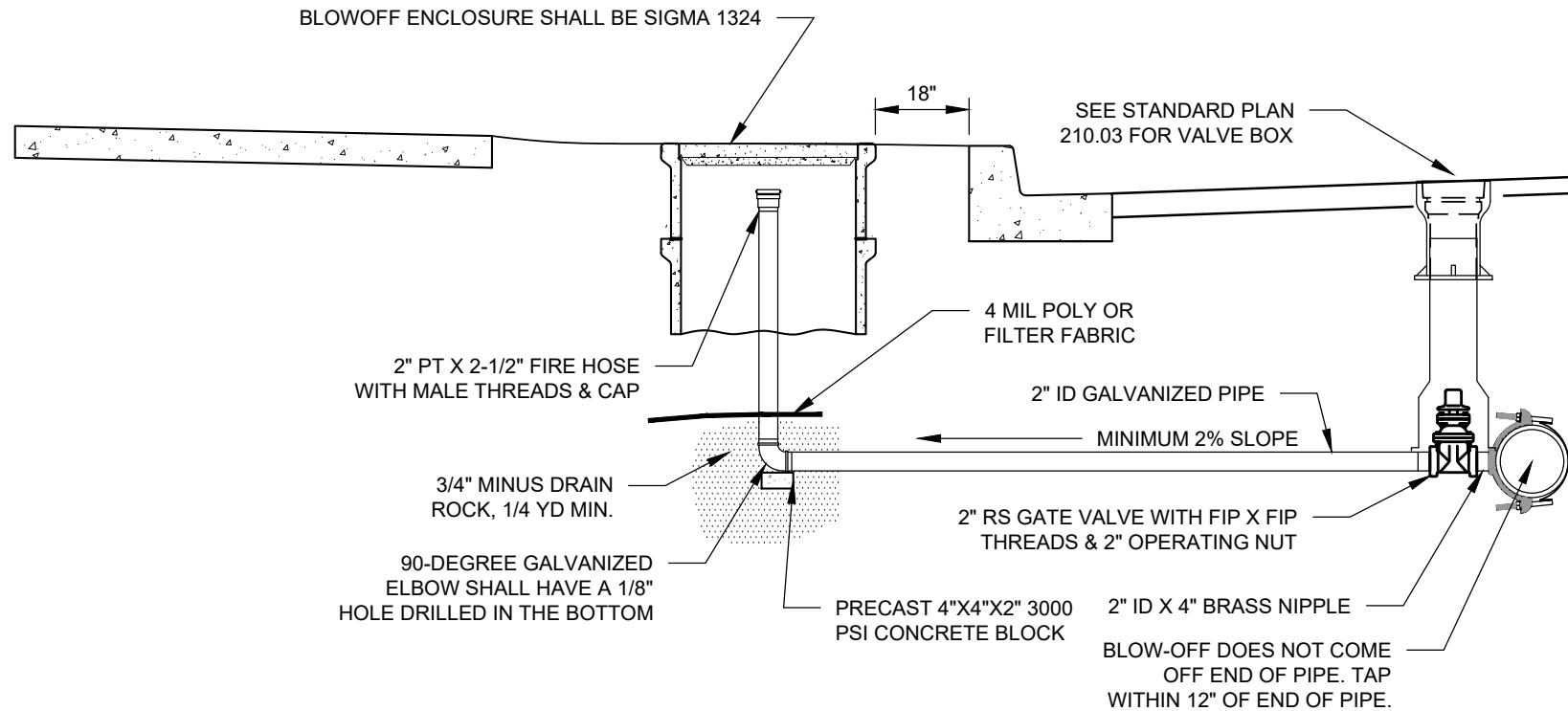
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

WATER SERVICE PLACEMENT
PROFILE

STANDARD PLAN
210.06

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

WATER BLOW-OFF PLACEMENT
PROFILE

STANDARD PLAN
210.08



CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

This drawing is not to scale

1. THRUST BLOCKS SHALL BE REQUIRED AT THE FOLLOWING LOCATIONS:
 - A. ALL CHANGES IN DIRECTION VERTICAL AND HORIZONTAL
 - B. ALL DEAD ENDS,
 - C. ALL VALVES 12-INCH AND LARGER (SIZE FOR CLOSED CONDITION)
 - D. AT OTHER LOCATIONS REQUIRED BY THE CITY ENGINEER.
2. THRUST BLOCKS SHALL BE SIZED AS REQUIRED BY SOIL CONDITIONS AND DESIGN PRESSURE.
3. PLACE CONCRETE AGAINST UNDISTURBED TRENCH WALL.
4. CONCRETE SHALL BE 3000 PSI MINIMUM.
5. ALL CONCRETE SHALL BE PLACED SO THAT PIPE, FITTING JOINTS, BOLTS & NUTS, ETC. WILL BE ACCESSIBLE FOR REPAIRS.
6. PLACE ONE LAYER OF 6 MIL. PLASTIC BETWEEN THE FITTING AND CONCRETE TO FACILITATE FUTURE REMOVAL OF THE THRUST BLOCK IF REQUIRED. FOR BLOCKS THAT WILL BE REMOVED IN THE FUTURE, PLACE 2, #4 RE-BAR LIFTING LOOPS IN TO OF THE WET CONCRETE.
7. ANCHOR RODS SHALL BE ¾" DIAMETER GALVANIZED STEEL RODS OR #6 EPOXY COATED REINFORCEMENT BAR, AASHTO M284, HAVING AN 18" MINIMUM EMBEDMENT IN THE CONCRETE.
8. ALL THRUST BLOCKS SHALL BE SIZED FOR 150 PSI WATER PRESSURE. (MINIMUM TESTING PRESSURE)
9. IF THE REQUIRED BEARING AREA IS LESS THEN 1 SQUARE FOOT, A THRUST BLOCK SHALL NOT BE REQUIRED.

DETERMINATION OF THRUST BLOCK AREA

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED IN THE PLANS OR DETERMINED BY THE ENGINEER, THE FOLLOWING PROCEDURE SHALL BE USED TO DETERMINE REQUIRED BEARING AREA.

1. DETERMINE THRUST (T) FOR THE TYPE OF FITTING OR JOINT AND SIZE OF PIPE, FROM TABLE NO. 1 OR TABLE NO. 3 OF CITY STANDARD PLAN 210.10.
2. DETERMINE BEARING CAPACITY (B) OF SOIL FROM TABLE NO. 2 OF CITY STANDARD PLAN 210.10
3. DETERMINE REQUIRED BEARING AREA (A) AS FOLLOWS:

$$A = \frac{T \times \text{PRESSURE FACTOR}}{B}$$

DESIGN PRESSURE = 175 PSI
PIPE = 12"
FITTING = TEE
EXAMPLE:
SOIL = SILT

FROM TABLE NO. 1: T = 15,310 LB.
FROM TABLE NO. 2: B = 1,000 LB/FT²

$$A = \frac{15,310 \times 1.75}{1,000} = 26.8 \text{ FT}^2$$



CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

TABLE NO. 1
THRUST AT FITTINGS IN POUNDS AT 100 PSI OF WATER PRESSURE

This drawing is not to scale

PIPE SIZE	TEES AND DEAD ENDS	90 DEGREE BEND	45 DEGREE BEND	22.5 DEGREE BEND	11.25 DEGREE BEND
4"	1850	2610	1420	720	394
6"	3800	5370	2910	1470	810
8"	6580	9300	5040	2650	1372
10"	10750	15200	8240	4170	2216
12"	15310	21640	11720	5940	3128
14"	20770	29360	15910	8060	4241
16"	26880	38010	20590	10430	5468
18"	29865	42235	22858	11653	5855

NOTE: FOR WATER PRESSURE DIFFERENT THEN 100 PSI, MULTIPLY THRUST FOUND IN TABLE NO. 1 BY REQUIRED PROPORTION.

EXAMPLE: DESIGN PRESSURE = 175, MULTIPLY VALUE IN TABLE BY 1.75

TABLE NO. 2

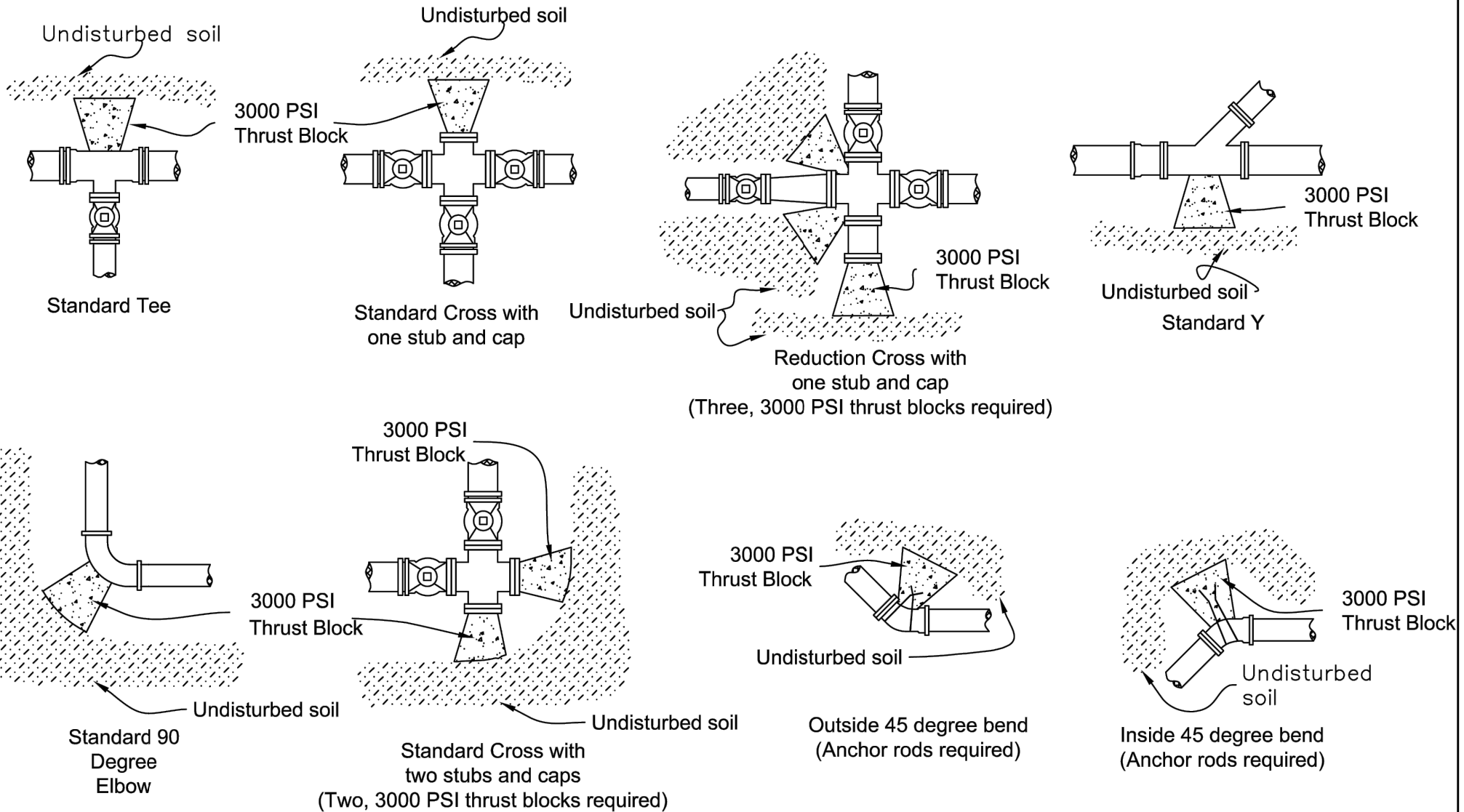
SOIL	SAFE BEARING LOAD LB/SQ.FT.
SOFT CLAY	500
SILT	1000
SAND	2000
SAND & GRAVEL	3000
SAND GRAVEL CEMENTED WITH CLAY	4000
HARD CLAY	4000

TABLE NO. 3

SIDE THRUST PER 100 LB/SQ.IN. PRESSURE PER DEGREE OF DEFLECTION			
PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4"	N/A	14"	377
6"	N/A	16"	486
8"	N/A	18"	665
10"	197	20"	790
12"	278	24"	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



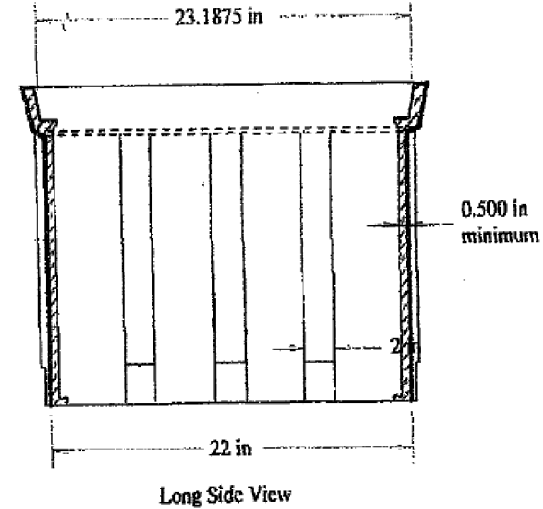
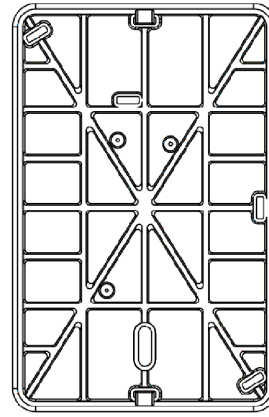
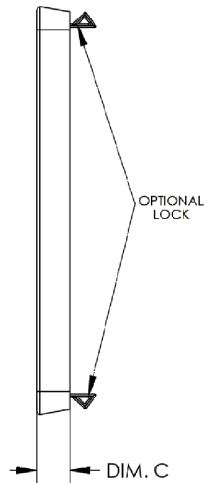
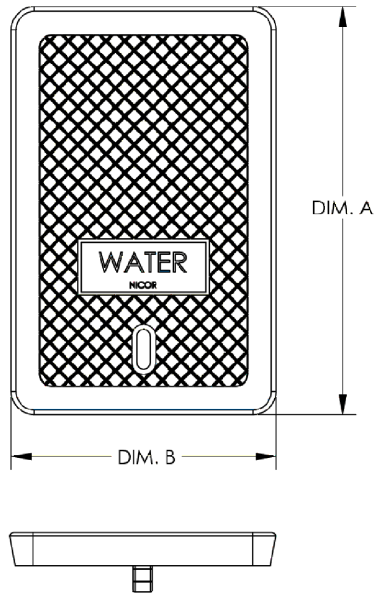
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JUNE 2007

THRUST BLOCK
PLACEMENT OVERVIEW

STANDARD PLAN
210.11

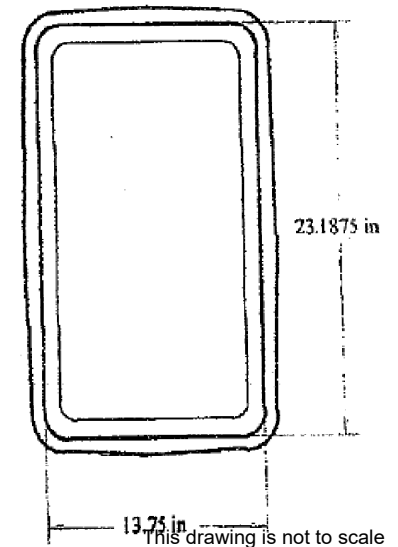
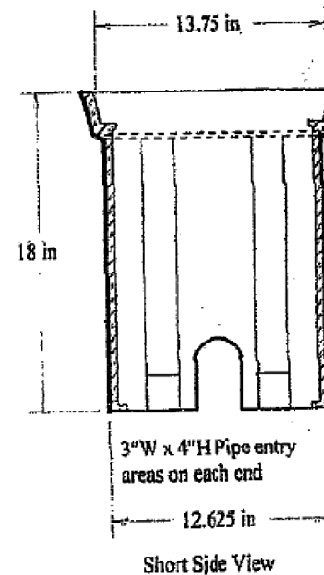
CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



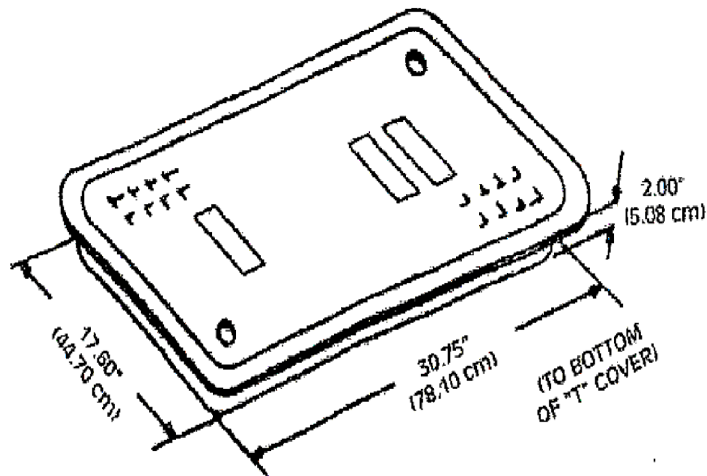
MSBCF-1324-18 Meter Box

METER LID
STANDARD SUPPLIER: NICOR INC.
PART NO: B36
NOMINAL SIZE: 13" X 24"
DIM A = 23-1/8"
DIM B = 13-3/4"
DIM C = 2"

METER BOX
STANDARD SUPPLIER: MID-STAES PLASTICS, INC
PART NO: MSBCF-1324-18 METER BOX
FITS NOMINAL SIZE 13" X 24" METER LID
INTERIOR COLLAR DIMENSIONS: 13.75" X 23.1875"
HEIGHT: 18"



CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



METER BOX

STANDARD SUPPLIER: APPLIED ENGINEERING PRODUCTS

PART NO: 1730-2P

FITS NOMINAL SIZE 17" X 30" METER BOX

INTERIOR COLLAR DIMENSIONS: 17.60" X 30.75"

HEIGHT: 2"

NO METER DOOR

METER BOX

STANDARD SUPPLIER: APPLIED ENGINEERING PRODUCTS

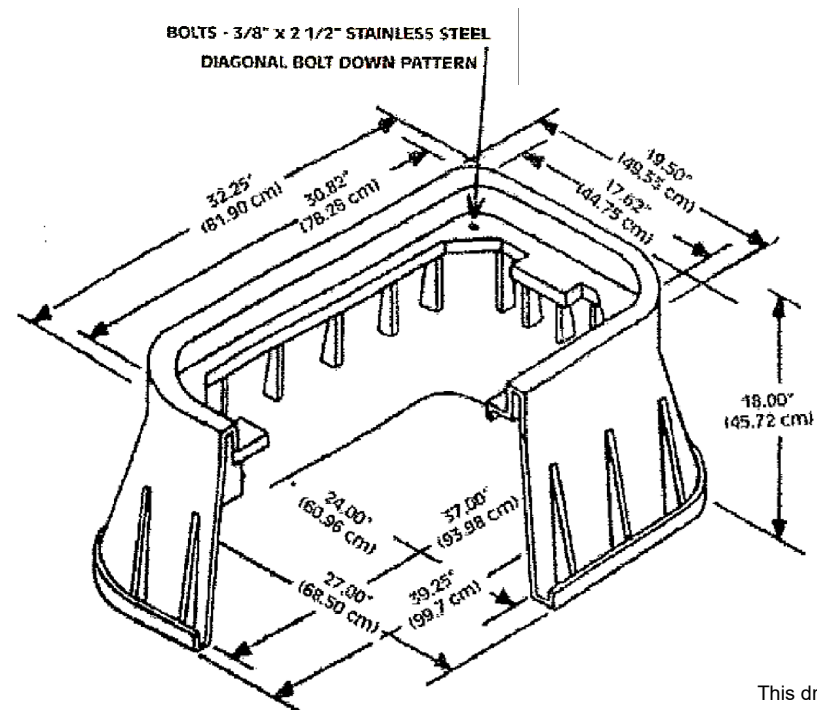
PART NO: 1730P

FITS NOMINAL SIZE 17" X 30" METER LID

INTERIOR COLLAR DIMENSIONS: 17.62" X 30.82"

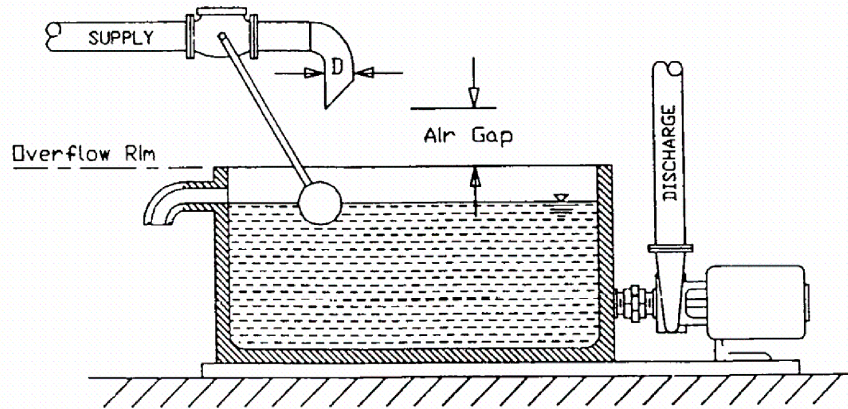
HEIGHT: 18"

EXTENSION(S) HEIGHT: 6"



This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES

MANUFACTURED AIR GAP FITTINGS MUST MEET THE DIMENSION CRITERIA OF AN APPROVED AIR GAP AS SHOWN IN THIS DOCUMENT.

FLEXIBLE HOSES OR TUBING WHICH MAY BE BENT OR EASILY ALTERED TO REDUCE THE AIR GAP ARE NOT ALLOWED.

AIR GAPS MUST BE INSTALLED ABOVE GRADE UNLESS OTHERWISE APPROVED BY THE CROSS CONNECTION CONTROL SPECIALIST.

ADEQUATE ACCESS AND CLEARANCES FOR INSPECTION, TESTING, AND REPAIRS MUST BE PROVIDED.

ALL INSTALLATIONS ARE SUBJECT TO APPROVAL BY THE CROSS CONNECTION CONTROL SPECIALIST.

MINIMUM AIR GAP DIMENSIONS

EFFECTIVE DIAMETER OF SUPPLY PIPE OPENING "D"	AIR GAP SEPARATION	IF WALLS, RIBS, OR OBSTRUCTIONS ARE WITHIN 3 TIMES D FROM THE AIR GAP CENTERLINE	IF INTERSECTING WALLS ARE WITHIN 4 TIMES D FROM THE AIR GAP CENTERLINE
NOT GREATER THAN 0.5 INCH	1 INCH	1.5 INCHES	2 INCHES
NOT GREATER THAN 0.75 INCH	1.5 INCHES	2.25 INCHES	3 INCHES
NOT GREATER THAN 1 INCH	2 INCHES	3 INCHES	4 INCHES
1 INCH AND GREATER	2 TIMES D	3 TIMES D	4 TIMES D

SOME MATERIAL REPRODUCED COURTESY OF THE NORTHWEST SECTION OF THE AMERICAN WATER WORKS ASSOCIATION.

This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: MARCH 2007

APPROVED AIR GAP

STANDARD PLAN
220.01

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



MIN 6 INCHES ABOVE HIGHEST POINT IN DOWNSTREAM PIPING
MAX 60 INCHES ABOVE GRADE. MAY NOT BE INSTALLED IN
ENCLOSED SPACE.

ATMOSPHERIC VACUUM BREAKER (ONE ON EACH STATION)
NO VALVES ALLOWED DOWNSTREAM OF ATMOSPHERIC VACUUM
BREAKER

Union

SHUT OFF VALVE AND
CONTROL VALVES

SPRINKLER HEADS

CITY
METER

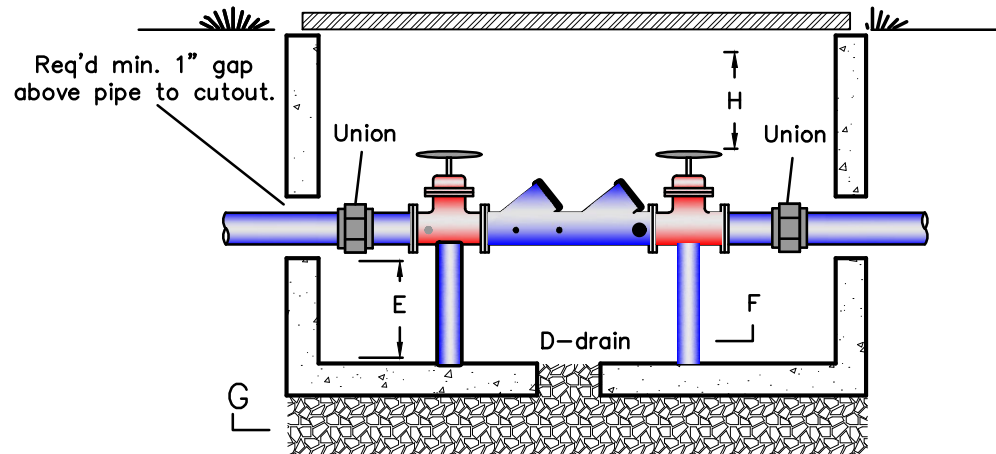
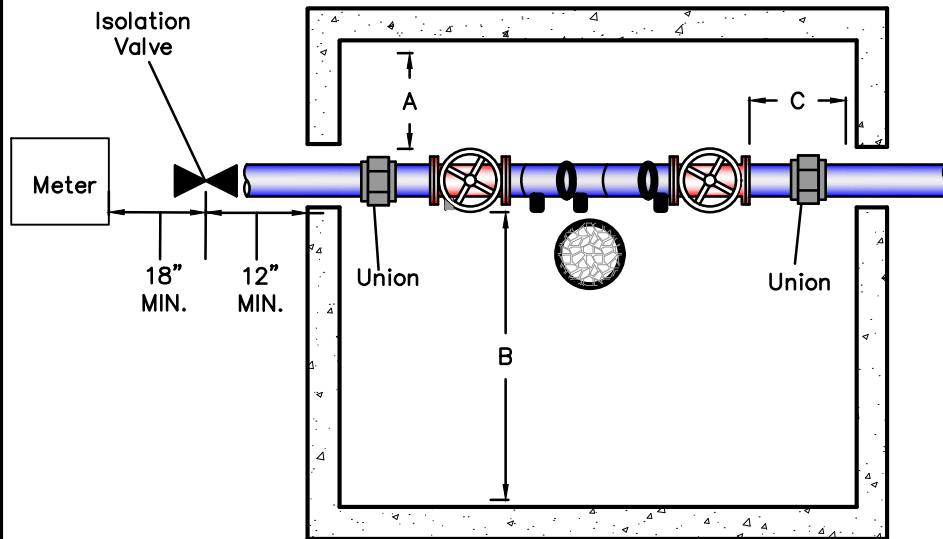
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: FEBRUARY 2013

ATMOSPHERIC VACUUM BREAKER
(AVB)

STANDARD PLAN
220.02

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



MINIMUM AND MAXIMUM CLEARANCES

ASSY SIZE:	LESS THAN 2.5 INCHES		2.5 INCHES AND GREATER	
	MIN	MAX	MIN	MAX
A	6	(NONE)	12	(NONE)
B	6	(NONE)	36	(NONE)
C	3	(NONE)	12	(NONE)
D	PROVIDE ADEQUATE DRAINAGE, THIS MEANS NO STANDING WATER ON FLOOR EXCEPT ON A TEMPORARY AND OCCASIONAL BASIS			
E	6	60	12	60
F	NO SUPPORT REQUIRED		PROVIDE SUPPORTS	
G	6 INCH GRAVEL DRAINFIELD (1,3)		12 INCH GRAVEL DRAINFIELD (1,3)	
H	6	18 (3)	12 (2)	(NONE)

(1) APPLIES ONLY IF INSTALLED IN UNDERGROUND VAULT OR PIT.

(2) MEASURE WHEN VALVE IS FULLY OPEN ON OS&Y VALVES.

(3) APPLIES ONLY IF INSTALLED IN ENCLOSURE WITH ACCESS DOOR ON TOP.

NOTES

INSTALL IN HORIZONTAL ORIENTATION WITH ID PLATE FACING UP UNLESS OTHERWISE APPROVED BY THE CROSS CONNECTION CONTROL SPECIALIST.

IF INSTALLED OUTDOORS ABOVE GROUND, PROVIDE FREEZE PROTECTION.

WINTERIZATION ARRANGEMENT OR BLOWOUT REQUIRED DOWNSTREAM OF ASSEMBLY. UNIONS ON BOTH SIDES OF ASSEMBLY ARE REQUIRED.

ALL INSTALLATIONS ARE SUBJECT TO APPROVAL BY THE CROSS CONNECTION CONTROL SPECIALIST.

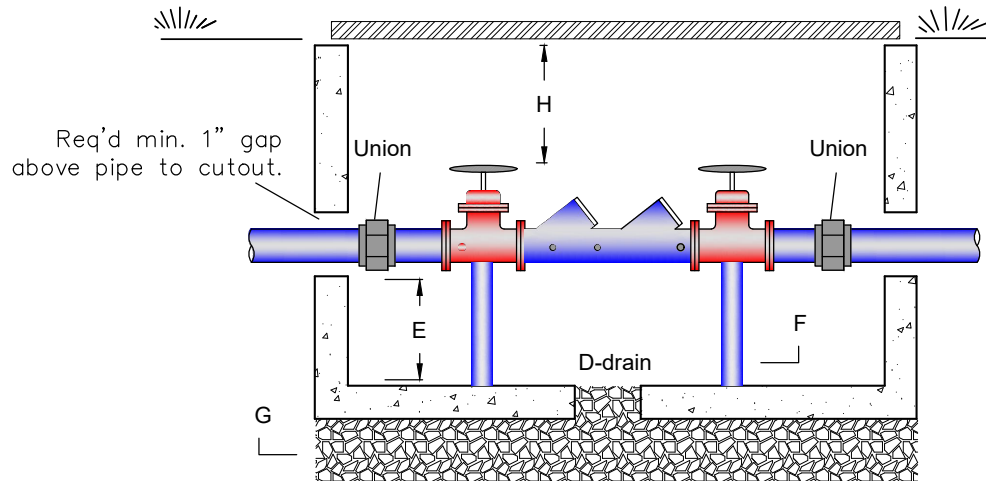
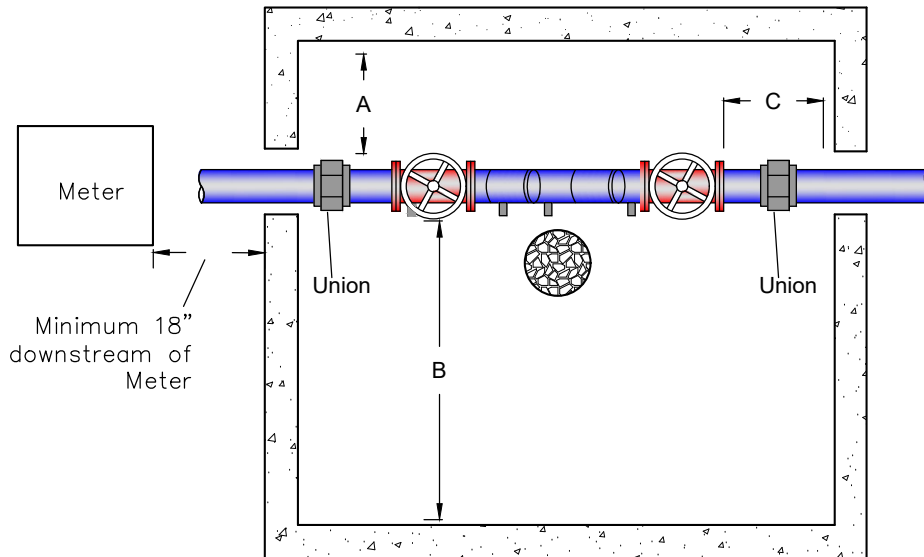
This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

DOUBLE CHECK VALVE ASSEMBLY
(DCVA/DCDA) IRRIGATION APPLICATION

STANDARD PLAN
220.03

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



MINIMUM AND MAXIMUM CLEARANCES

ASSY SIZE:	LESS THAN 2.5 INCHES		2.5 INCHES AND GREATER	
	MIN	MAX	MIN	MAX
A	6	(NONE)	12	(NONE)
B	6	(NONE)	36	(NONE)
C	3	(NONE)	12	(NONE)
D	PROVIDE ADEQUATE DRAINAGE, THIS MEANS NO STANDING WATER ON FLOOR EXCEPT ON A TEMPORARY AND OCCASIONAL BASIS			
E	6	60	12	60
F	NO SUPPORT REQUIRED		PROVIDE SUPPORTS	
G	6 INCH GRAVEL DRAINFIELD (1,3)		12 INCH GRAVEL DRAINFIELD (1,3)	
H	16	18 (3)	18 (2)	(NONE)

(1) APPLIES ONLY IF INSTALLED IN UNDERGROUND VAULT OR PIT.

(2) MEASURE WHEN VALVE IS FULLY OPEN ON OS&Y VALVES.

(3) APPLIES ONLY IF INSTALLED IN ENCLOSURE WITH ACCESS DOOR ON TOP.

NOTES

INSTALL IN HORIZONTAL ORIENTATION WITH ID PLATE FACING UP UNLESS OTHERWISE APPROVED BY THE CROSS CONNECTION CONTROL SPECIALIST.

IF INSTALLED OUTDOORS ABOVE GROUND, PROVIDE FREEZE PROTECTION.

WINTERIZATION ARRANGEMENT OR BLOWOUT REQUIRED DOWNSTREAM OF ASSEMBLY. UNIONS ON BOTH SIDES OF ASSEMBLY ARE REQUIRED.

ALL INSTALLATIONS ARE SUBJECT TO APPROVAL BY THE CROSS CONNECTION CONTROL SPECIALIST.

This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: DECEMBER 2015

DOUBLE CHECK VALVE ASSEMBLY
(DCVA/DCDA) RESIDENTIAL APPLICATION

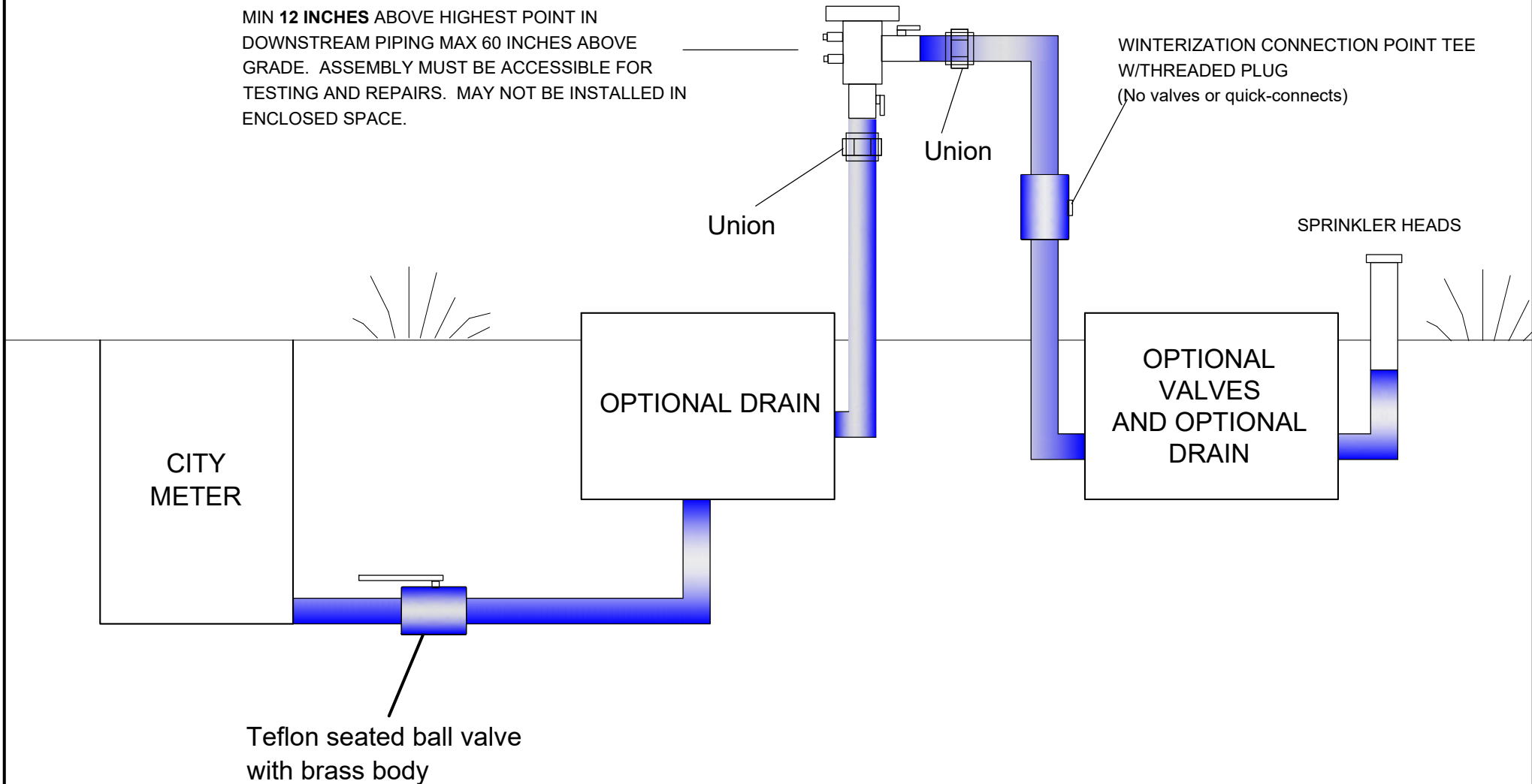
STANDARD PLAN
220.04

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



PRESSURE VACUUM BREAKER ASSEMBLY

MIN 12 INCHES ABOVE HIGHEST POINT IN
DOWNSTREAM PIPING MAX 60 INCHES ABOVE
GRADE. ASSEMBLY MUST BE ACCESSIBLE FOR
TESTING AND REPAIRS. MAY NOT BE INSTALLED IN
ENCLOSED SPACE.



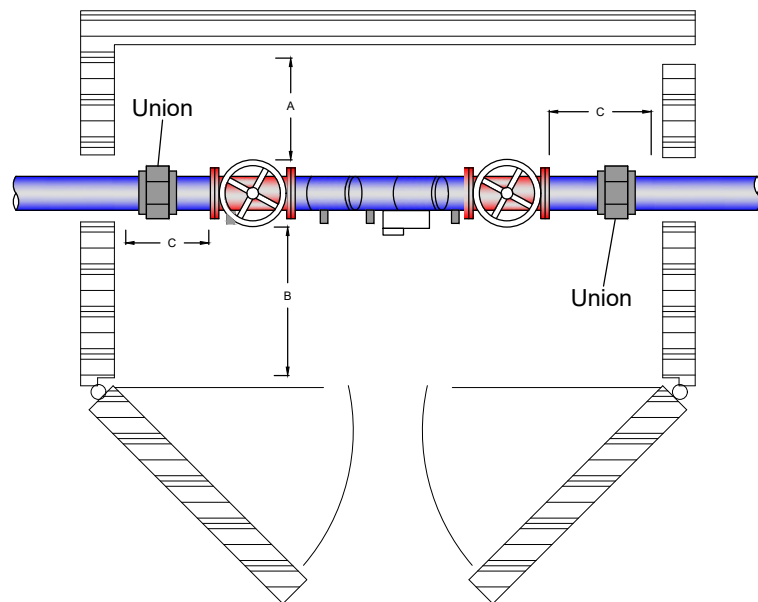
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: FEBRUARY 2013

PRESSURE VACUUM BREAKER
ASSEMBLY (PVBA/SVBA)

STANDARD PLAN
220.05

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



MINIMUM AND MAXIMUM CLEARANCES

ASSY SIZE:	LESS THAN 2.5 INCHES		2.5 INCHES AND GREATER	
	MIN	MAX	MIN	MAX
A	8	(NONE)	12	(NONE)
B	8	18 (1)	12	18 (1)
C	6	(NONE)	12	(NONE)
D	3	18 (3)	12 (2)	18 (3,2)
E	12	60	12	60
F	NO SUPPORT REQUIRED		PROVIDE SUPPORTS	

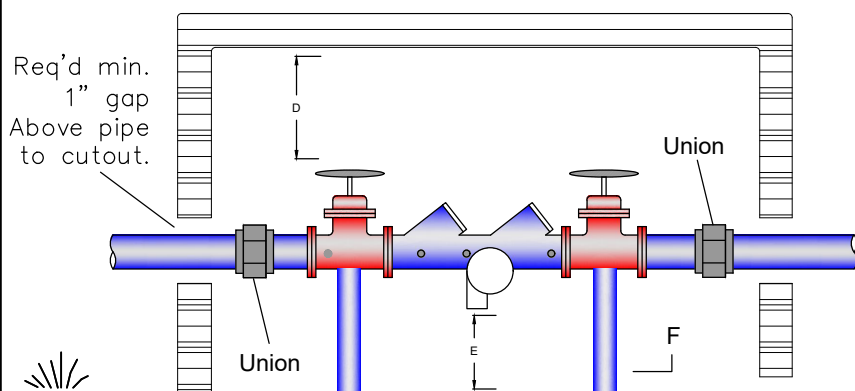
(1) APPLIES ONLY IF INSTALLED IN ENCLOSURE WITH ACCESS DOOR(S) ON SIDE.

(2) MEASURE WHEN VALVE IS FULLY OPEN ON OS&Y VALVES.

(3) APPLIES ONLY IF INSTALLED IN ENCLOSURE WITH ACCESS DOOR ON TOP.

NOTES

1. INSTALL SO THAT THE LOWEST POINT ON THE DIFFERENTIAL RELIEF VALVE IS AT LEAST 12 INCHES ABOVE GRADE.
2. IF DRAIN LINE IS TO BE INSTALLED UNDER THE DIFFERENTIAL PRESSURE RELIEF VALVE PROVIDE APPROVED AIR GAP BETWEEN RELIEF VALVE OUTLET AND RECEIVING PIPE.
3. INSTALL IN HORIZONTAL ORIENTATION WITH ID PLATE FACING UP UNLESS OTHERWISE APPROVED BY THE CROSS CONNECTION CONTROL SPECIALIST.
4. FOR OUTDOOR INSTALLATIONS, PROVIDE HEATED ENCLOSURE WITH SUFFICIENTLY SIZED DAYLIGHT DRAIN.
5. IF INSTALLED INDOORS, PROVIDE FOR ADEQUATE DRAINAGE (FLOOR DRAINS ARE GENERALLY ACCEPTABLE IF DRAIN SIZE IS TWICE THE DIAMETER OF BACKFLOW PREVENTER).
6. WINTERIZATION ARRANGEMENT OR BLOWOUT REQUIRED DOWNSTREAM OF ASSEMBLY. UNIONS ON BOTH SIDES OF ASSEMBLY ARE REQUIRED.
7. ALL INSTALLATIONS ARE SUBJECT TO APPROVAL BY THE CROSS CONNECTION CONTROL SPECIALIST.



This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JANUARY 2015

REDUCED PRESSURE BACKFLOW
ASSEMBLY (RPBA/RPDA)

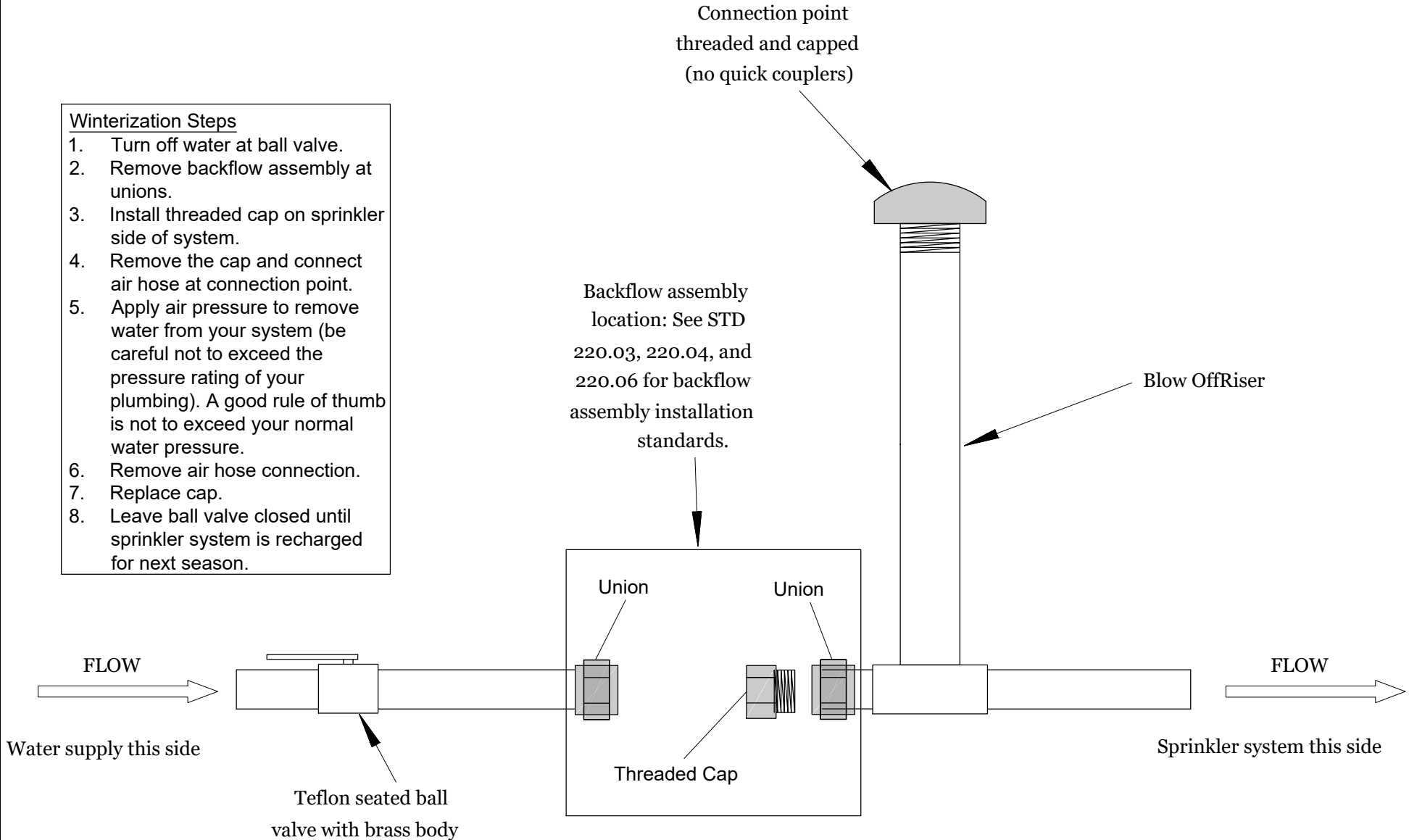
STANDARD PLAN
220.06

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



Winterization Steps

1. Turn off water at ball valve.
2. Remove backflow assembly at unions.
3. Install threaded cap on sprinkler side of system.
4. Remove the cap and connect air hose at connection point.
5. Apply air pressure to remove water from your system (be careful not to exceed the pressure rating of your plumbing). A good rule of thumb is not to exceed your normal water pressure.
6. Remove air hose connection.
7. Replace cap.
8. Leave ball valve closed until sprinkler system is recharged for next season.



This drawing is not to scale

STANDARD PLAN 310.00

SANITARY SEWER NOTES

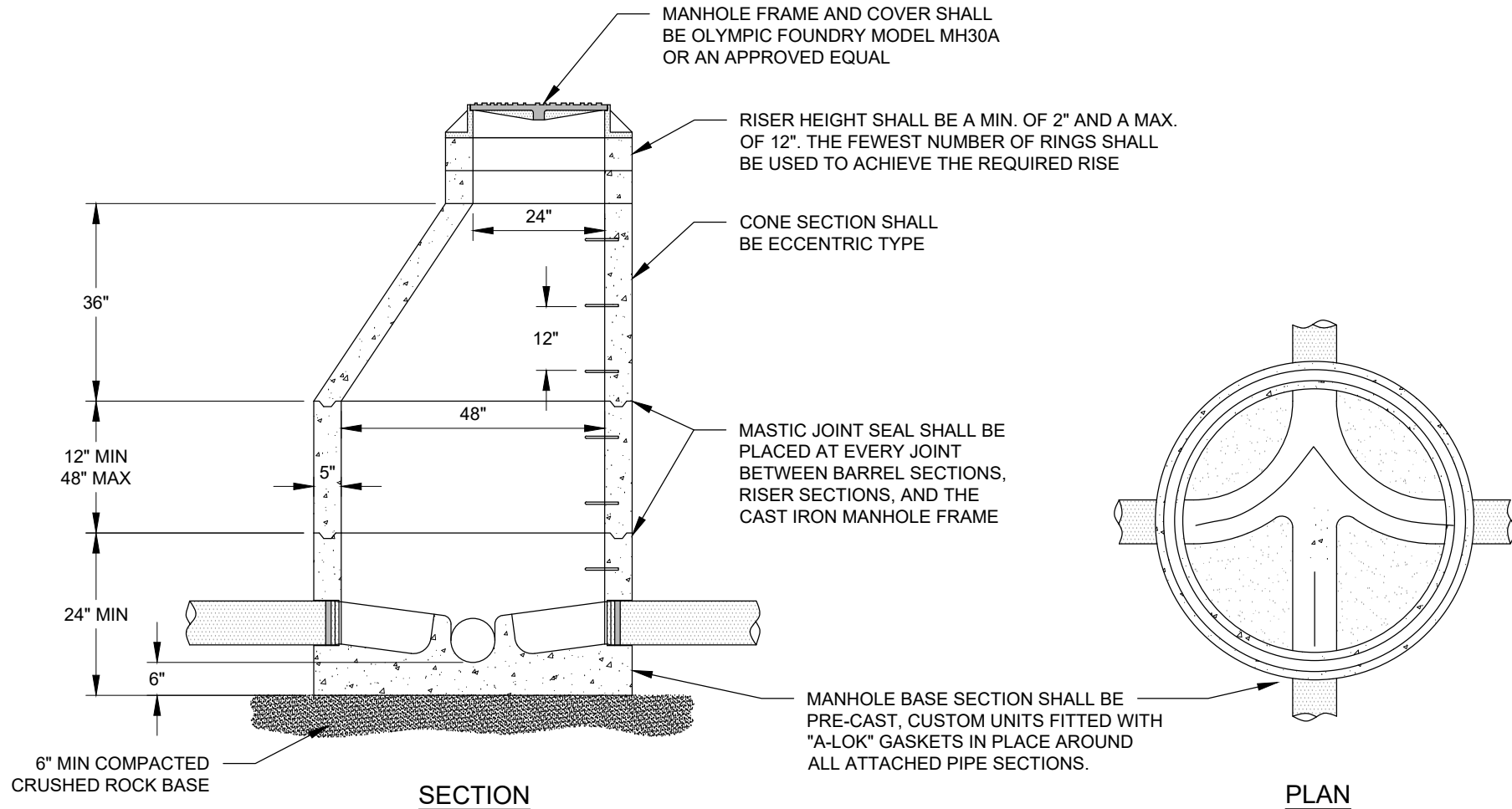
1. ALL MANHOLES AND CURB INLETS SHALL BE PRE-CAST CONCRETE UNITS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. MANHOLE PIPE CONNECTORS SHALL BE CAPABLE OF A 10⁰ DEFLECTION IN ANY ONE DIRECTION AND SHALL BE INSTALLED AS REQUIRED BY THE MANUFACTURER. SANITARY MANHOLES WITH PVC PIPE CONNECTIONS SHALL USE THE A-LOK PIPE CONNECTOR, MANUFACTURED BY A-LOK PRODUCTS OR PSX, MANUFACTURED BY PRESS-SEAL GASKETS CORP. OR APPROVED EQUAL. ALL OTHER CONNECTION SYSTEMS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
3. ANY GAPS, HOLES, ROUGH SPOTS, ETC., IN THE CHANNELS, AT PIPE CONNECTIONS, AND JOINTS, SHALL BE FILLED OR REPAIRED IN THE FIELD.
4. MANHOLES SHALL BE SET A MINIMUM OF 8 INCHES AND NOT MORE THAN 12 INCHES BELOW FINISH GRADE AND THEN ADJUSTED TO GRADE WITH RISER RINGS AS REQUIRED.
5. MANHOLE CONE SECTION SHALL BE ECCENTRIC.
6. IN MANUFACTURING THE MANHOLES, THE CONTRACTOR SHALL REVIEW THE DETAILS AS OUTLINED IN ANY TECHNICAL SPECIFICATIONS AND/OR PLANS, WHICH SHOW THE SEWER PIPE SLOPE CALCULATED TO THE CENTERLINE OF THE MANHOLE AND MANUFACTURE/INSTALL ACCORDINGLY..
7. MASTIC JOINT SEAL SHALL BE PLACED AT EVERY JOINT BETWEEN BARREL SECTIONS, RISER SECTIONS, AND THE CAST IRON TOP.
8. MANHOLE RING & COVER SHALL BE INLAND FOUNDRY COMPANY INC. #817 WITH A SOLID COVER LABELED "SEWER" OR APPROVED EQUAL.
9. CAST IRON MANHOLE RING AND COVER USED WITH THE SHALLOW TYPE MANHOLE DISPLAYED IN STANDARD PLAN 310.03 SHALL BE INLAND FOUNDRY COMPANY INC. #723-1 OR #723-2 WITH A SOLID 48" MAIN COVER AND A SOLID 24" LIMITED ACCESS COVER OR AN APPROVED EQUAL.
10. WHEN USING THE SHALLOW TYPE MANHOLE REFERRED TO IN STANDARD PLAN 310.02, A MINIMUM SEPARATION BETWEEN THE FLAT TOP AND THE INSIDE BOTTOM SURFACE SHALL BE NO LESS THAN 2'-0". IN THE EVENT THE MINIMUM SEPARATION CANNOT BE MAINTAINED, THE SHALLOW TYPE MANHOLE REFERRED TO IN STANDARD PLAN 310.03 SHALL BE USED.
11. PRE-CAST MANHOLE BASE SHALL BE NO LESS THAN 24" IN HEIGHT. A THICKNESS OF 6" SHALL BE MAINTAINED BETWEEN THE FLOW CHANNEL AND BASE ROCK.
12. SANITARY BASE SECTIONS SHALL BE PRE-CAST, CUSTOM UNITS FITTED WITH "A-LOK", PSX GASKETS (OR APPROVED EQUAL) AROUND ALL ATTACHED PIPE SECTIONS. WHERE A "KNOCK OUT" VS. A "PRE-CAST" HOLE MUST BE PLACED, A SAND COLLAR OR AN APPROVED EQUAL SHALL BE USED FOR PIPE CONNECTION. THE SAND COLLAR SHALL BE PROPERLY SEALED INSIDE AND OUTSIDE WITH NON-SHRINK, QUICK SET GROUT.

13. BARREL SECTIONS SHALL BE NO LESS THAN 12" IN HEIGHT. BARREL SECTIONS FOR THE 310.03 SHALLOW TYPE MANHOLE SHALL BE NO LESS THAN 12" AND NO MORE THAN 30" IN HEIGHT. IF GRADE REQUIRES MORE THAN A 30" BARREL HEIGHT, AN ECCENTRIC CONE SECTION SHALL BE USED. THE BARREL SECTION FOR THE 310.02 SHALLOW TYPE MANHOLE SHALL BE NO LESS THE 24" AND NO MORE THAN 30" IN HEIGHT. IF GRADE REQUIRES MORE THAN A 30" BARREL HEIGHT, AN ECCENTRIC CONE SECTION SHALL BE USED.
14. RISER RINGS VARY IN HEIGHT FROM 1" TO 6". ANY NEED FOR ADJUSTMENT OVER 12" AT THE TOP SHOULD BE SATISFIED BY USING A 12" BARREL SECTION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. A MINIMUM 2" OF RISERS SHALL BE USED ON ALL MANHOLES. USE THE LEAST NUMBER OF RISER RINGS TO ACHIEVE THE REQUIRED RISE. RISER RINGS SHALL BE PRE-CAST 3000 PSI CONCRETE OR HDPE (HIGH DENSITY POLYETHYLENE) MANHOLE ADJUSTING RINGS. ALL RISERS SHALL HAVE BUTYL OR MASTIC SEALER APPLIED TO BOTH THE TOP AND BOTTOM SURFACES. RISER STACKS SHALL BE WATER TIGHT.
15. MANHOLE STEPS SHALL BE LANE BRAND, POLYPROPYLENE MANHOLE STEPS MODEL NO. P-13938E OR AN APPROVED EQUAL.
16. ALL SANITARY SEWER PIPE SHALL BE FULLY BEDDED WITH A MINIMUM OF 4-IN. UNDER THE PIPE AND A MINIMUM OF 6-IN. OVER ANY PIPE. BEDDING MATERIALS SHALL BE CRUSHED ROCK AS PER THE STANDARD SPECIFICATION. ALL OTHER BEDDING MATERIALS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
17. PRE-CAST MANHOLE BASES SHALL BE SET LEVEL ON A MINIMUM OF 6-IN. OF WELL-COMPACTED CRUSHED AGGREGATE. SANITARY SEWER PIPE AND MANHOLES SUBJECTED TO GROUNDWATER SHALL BE PLACED ON 4-IN. OF CRUSHED ROCK BEDDING OVER 12" OF CLASS B FOUNDATION ROCK SEPARATED BY FILTER FABRIC AS PER STANDARD SPECIFICATION 9-03.17 AND CITY STANDARD PLAN 310, SECTIONS 16 & 17.
18. THE BEDDING UNDER SANITARY SEWER PIPE AND MANHOLES SHALL BE COMPACTED PRIOR TO PIPE AND MANHOLE PLACEMENT TO PROVIDE UNIFORM SUPPORT ALONG THE ENTIRE LENGTH OF THE PIPE AND UNDER MANHOLES. ONLY PIPE BEDDING MATERIAL SHALL BE IN CONTACT WITH SANITARY SEWER PIPE OR MANHOLES. ANY DITCH RUN GRAVEL, ASPHALT OR CONCRETE CHUNKS OR SIMILAR MATERIALS SHALL BE REMOVED.
19. ELEVATIONS AND DISTANCES BETWEEN ELEVATIONS SHALL BE PROVIDED TO THE CITY BY A REGISTERED SURVEYOR OR PROFESSIONAL ENGINEER AFTER BEDDING PIPE ON COMPACTED BEDDING, PRIOR TO BACKFILL, AT A MINIMUM OF EVERY 100' AND AT MANHOLE TERMINATIONS. SEWER PIPE GRADE SHALL CORRESPOND TO APPROVED PLANS AND IN NO CASE SHALL BE LESS THAN 0.4% WITHOUT BELLIES OR RISES.
20. NATIVE FILL MAY BE USED FOR BACKFILL UNLESS DEEMED UNSUITABLE BY THE ENGINEER. COMPACT TO 95% MODIFIED PROCTOR DENSITY BEFORE PROCEEDING TO PLACEMENT OF BASE ROCK AND PAVING. LABORATORY TESTING SHALL BE PERFORMED TO DETERMINE MAXIMUM MODIFIED PROCTOR DENSITY FOR NATIVE FILL. IMPORT FILL REQUIRES SUPPLIER PROCTOR TEST RESULTS. IF NATIVE FILL IS UNSUITABLE AS DETERMINED BY THE CITY ENGINEER, BANK RUN GRAVEL PER THE STANDARD SPECIFICATIONS 9-03.19 OR OTHER GRANULAR MATERIAL APPROVED BY THE CITY ENGINEER SHALL BE USED.
21. MANHOLE BARREL SECTIONS AND RISER RINGS SHALL BE SEALED WATERTIGHT WITH MASTIC. IN ADDITION, ALL SANITARY MANHOLES SUBJECTED TO GROUNDWATER SHALL BE SEALED WITH CITY-APPROVED SEALANT ON THE EXTERIOR FROM THE BASE TO 3' ABOVE THE SEASONAL HIGH GROUNDWATER LEVEL AND SHALL BE VACUUM TESTED PER ASTM C-1244 WHEN SEASONAL HIGH GROUNDWATER IS OVER 3' HIGH FROM THE BASE.

22. ALL SANITARY SEWER PIPE SHALL BE TESTED BY APPLICATION OF AN AIR PRESSURE TEST IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS (7-17.3(2)E OR F AS APPLICABLE). CLEANING AND REMOVAL OF ANY ROCK IN THE PIPE AND MANHOLES IS REQUIRED. AFTER CLEANING, THE CITY SHALL BE NOTIFIED FOR TV INSPECTION OF ALL LINES 6-IN. AND LARGER. ANY WORK FAILING AIR TEST AND OR TV INSPECTION MUST BE REPAIRED AND RE-TESTED FOR CITY APPROVAL. THE CITY ENGINEER OR HIS DESIGNEE MUST WITNESS, VERIFY, AND RECORD ALL TESTS.
23. LATERAL SIDE SEWER SERVICES MUST BE MARKED WITH A NO. 12 SOLID COPPER LOCATOR WIRE AND THE ENDS, MARKED WITH A BURIED STEEL FENCE POST EXTENDED ABOVE THE GROUND AT LEAST 6-IN. IN URBAN AREAS AND 4 FT. IN RURAL AREAS. THE LOCATOR WIRE SHALL BE TIED AROUND THE MAIN LINE AND EXTENDED ALONG THE SIDE SEWER AND UP THE MARKER POST.
24. SEWER SERVICE LATERALS SHALL BE LAID BETWEEN MINIMUM AND MAXIMUM GRADES AS DETERMINED BY THE BUILDING OFFICIAL.
25. SEWER SERVICE LATERALS SHALL HAVE A MIN. OF ONE CLEANOUT A MIN. OF 12" BEHIND THE BACK OF SIDEWALK.

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. SAND COLLARS SHALL BE USED ONLY FOR RETRO FIT BREAKINS ON MANHOLES.

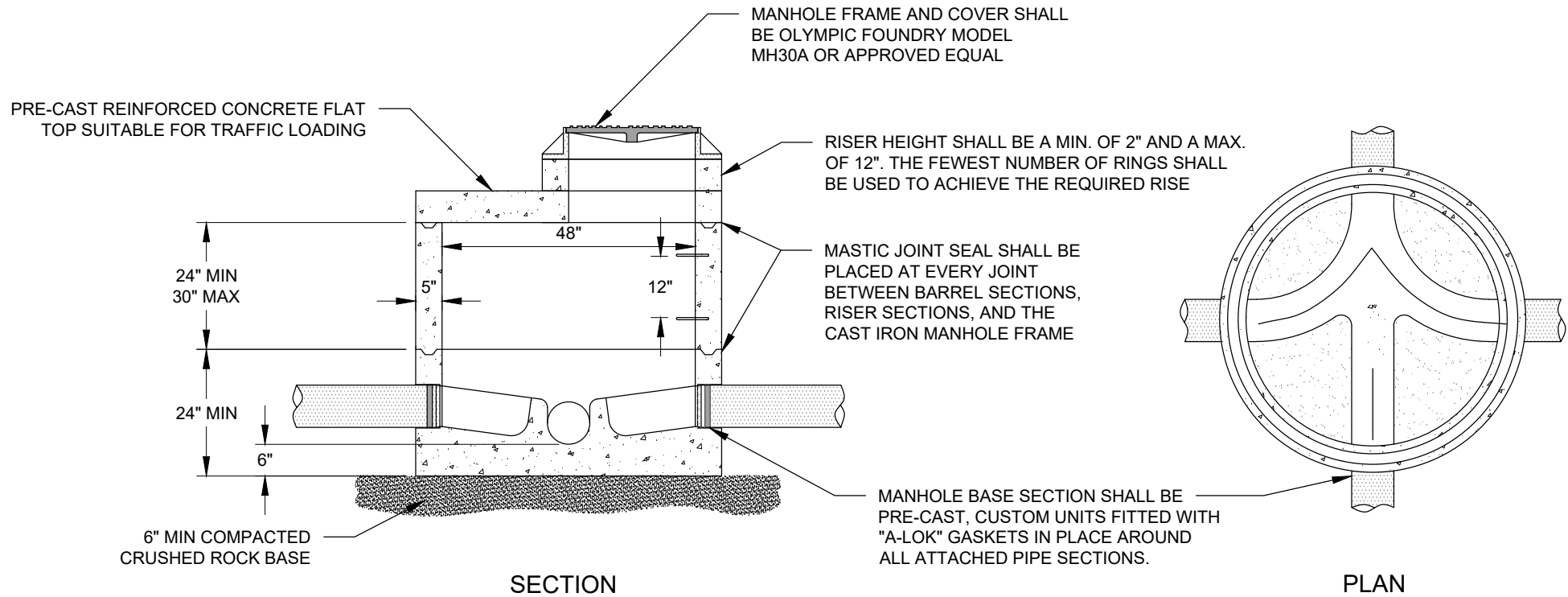
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: DECEMBER 2013

SANITARY SEWER MANHOLE

STANDARD PLAN
310.01

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. SAND COLLARS SHALL BE USED ONLY FOR RETRO FIT BREAKINS ON MANHOLES.
2. AN ECCENTRIC CONE SECTION SHALL BE USED IF GRADE REQUIRES MORE THAN A 30" BARREL HEIGHT.

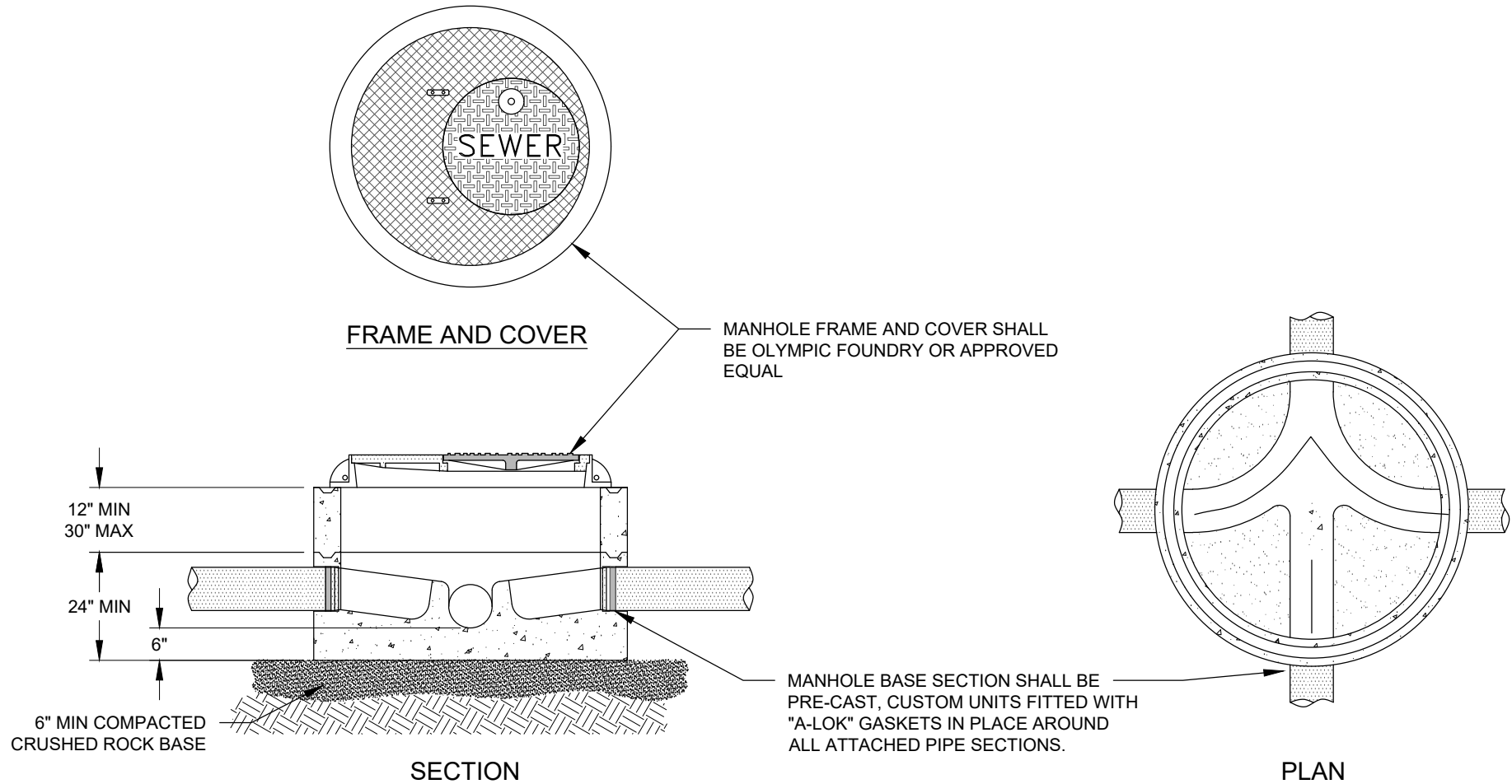
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: DECEMBER 2013

SANITARY SEWER MANHOLE
(FLAT TOP STYLE)

STANDARD PLAN
310.02

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. SAND COLLARS SHALL BE USED ONLY FOR RETRO FIT BREAKINS ON MANHOLES.
2. AN ECCENTRIC CONE SECTION SHALL BE USED IF GRADE REQUIRES MORE THAN A 30" BARREL HEIGHT.

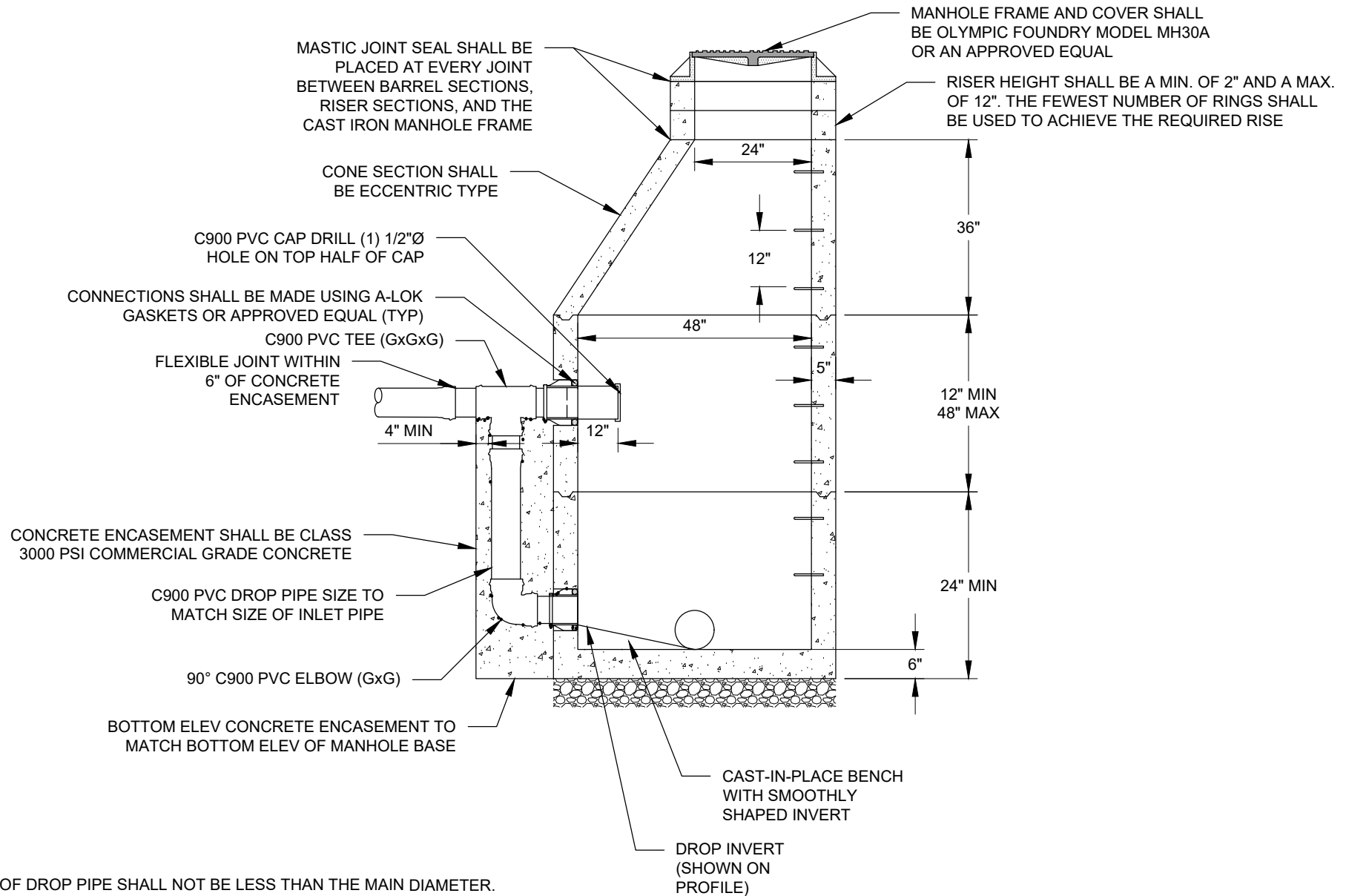
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

SANITARY/STORM SEWER MANHOLE (SHALLOW
W/ LARGE CAST IRON COVER)

STANDARD PLAN
310.03

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. DIAMETER OF DROP PIPE SHALL NOT BE LESS THAN THE MAIN DIAMETER.

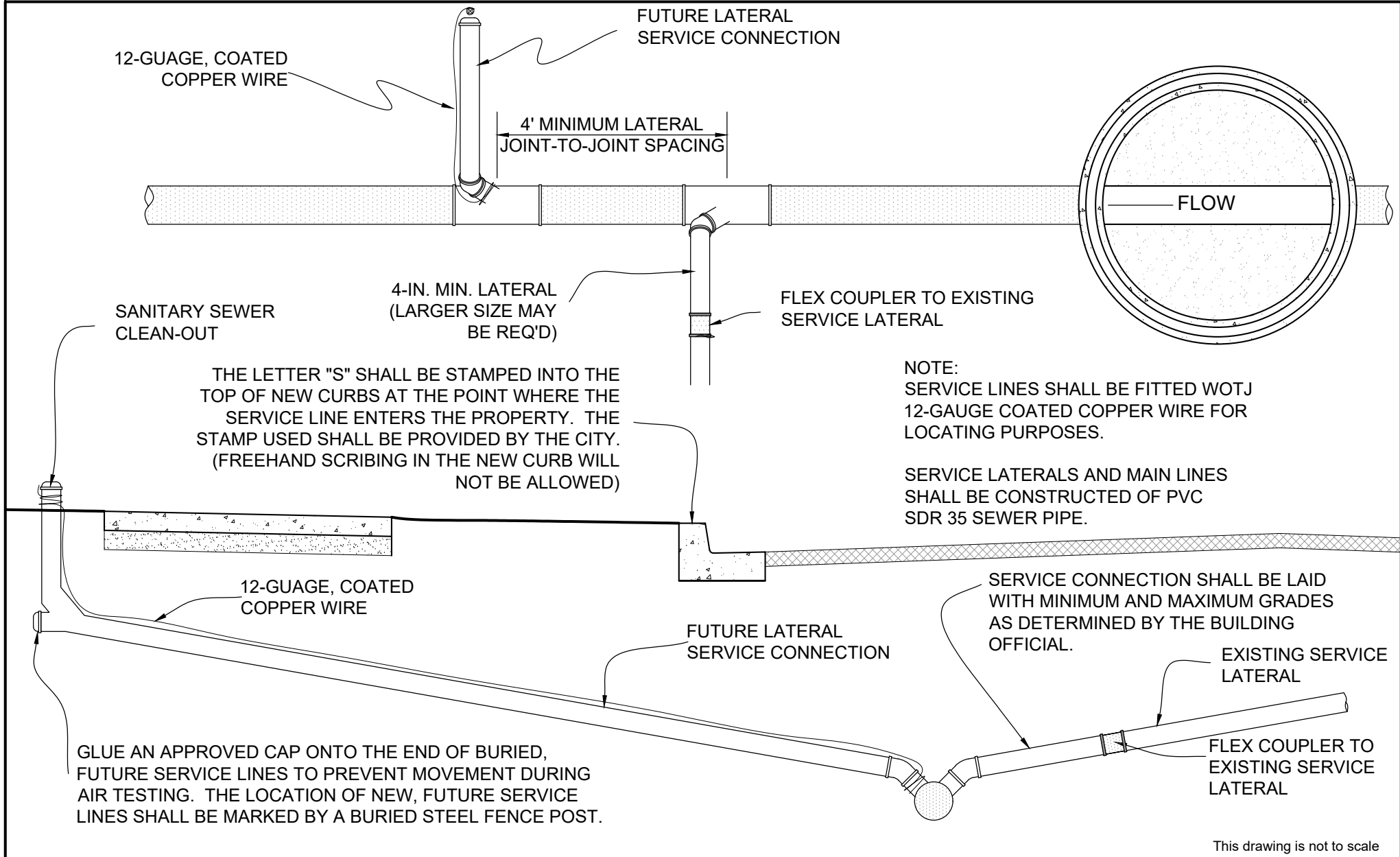
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

DROP MANHOLE

STANDARD PLAN
310.04

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS

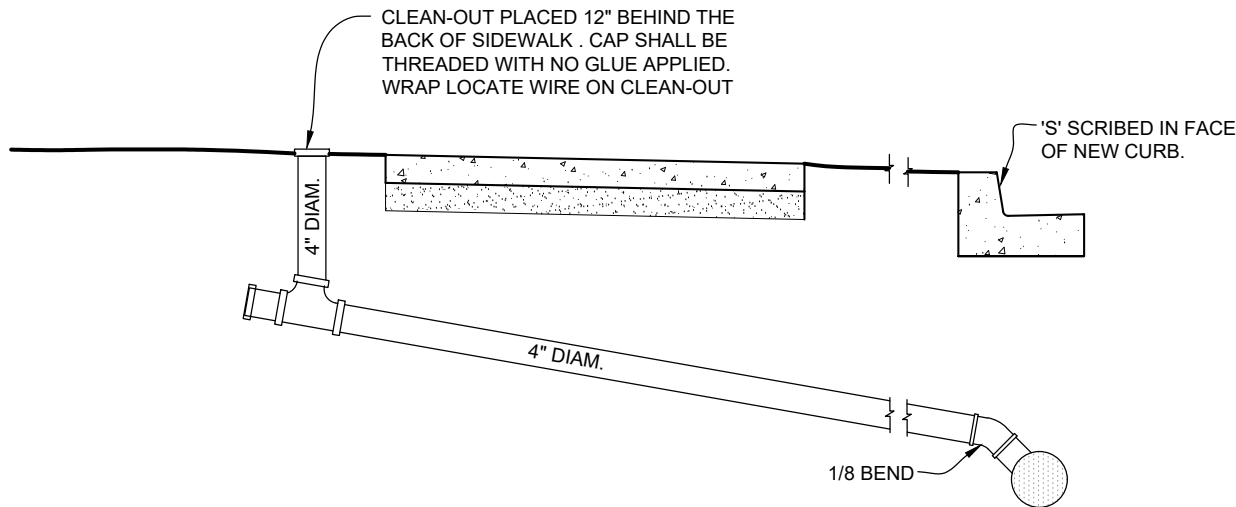
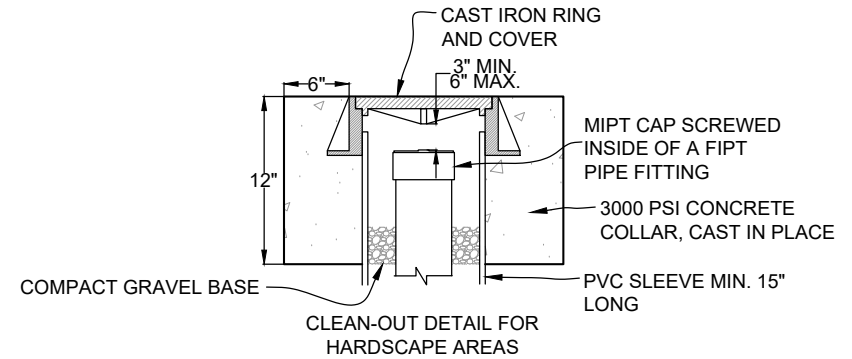
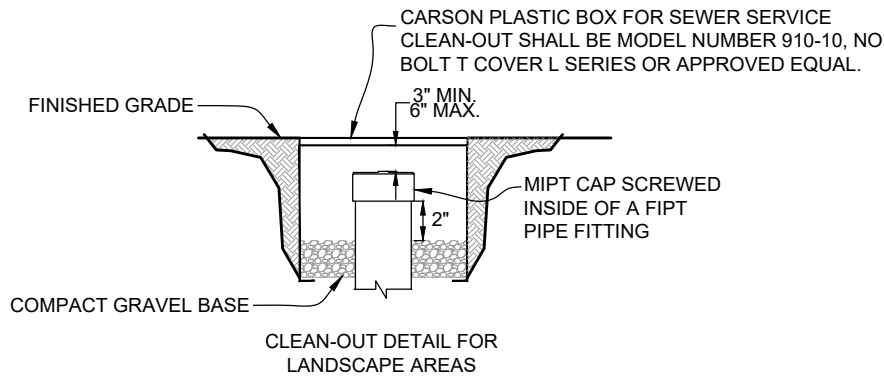


CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

SANITARY SEWER SERVICE
CONNECTION

STANDARD PLAN
310.05

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. LATERALS CONNECTING TO NEW MAINS SHALL BE CONNECTED WITH WYE.
2. LATERALS CONNECTING TO EXISTING MAINS SHALL BE CONNECTED WITH "ROMAC CB", "INSERTA TEE", OR APPROVED EQUAL.
3. MAINS, LATERALS & FITTINGS IN THE ROW SHALL BE PVC 3034 SDR 35.
4. SERVICES AT A DEPTH OF 12 FEET OR GREATER SHALL USE SDR 26 FITTINGS. FITTINGS SHALL BE FIELD INSPECTED BY THE CITY PRIOR TO INSTALLATION.
5. HDPE MAY BE SUBSTITUTED FOR PVC FOR SEWER SERVICE REPAIRS USING PIPE BURSTING OR LONGITUDINAL BORE, UPON APPROVAL BY THE CITY ENGINEER.

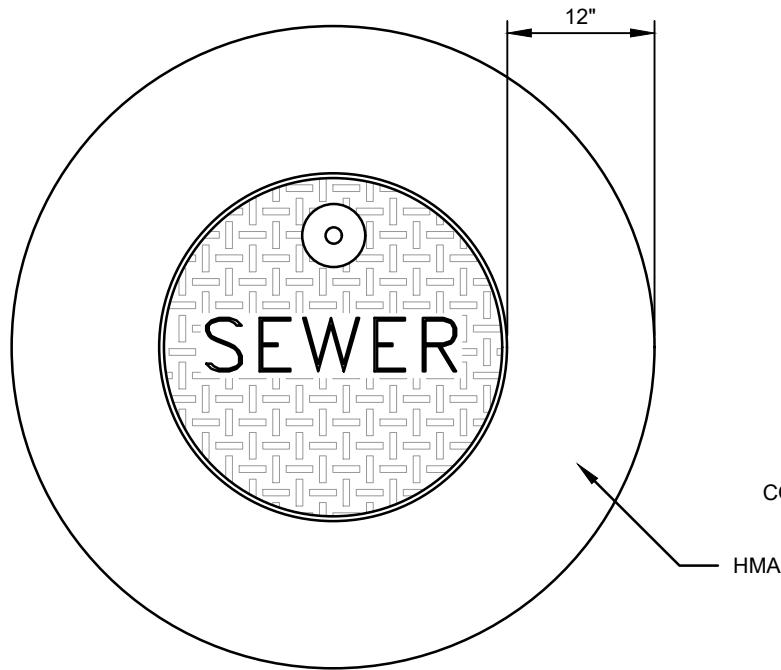
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

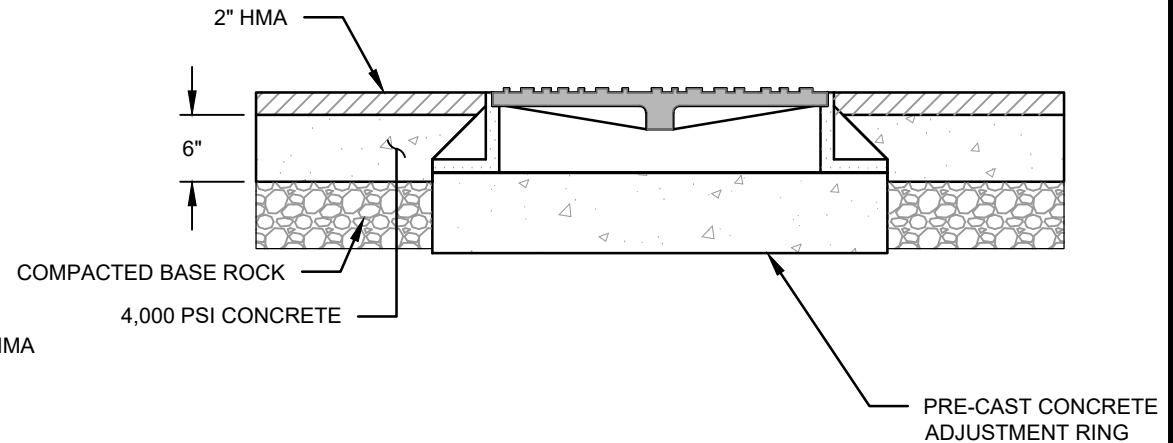
SANITARY SEWER LATERAL
AND CLEANOUT

STANDARD PLAN
310.06

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



PLAN



SECTION

NOTES:

1. HOT MIX ASPHALT PLACED AT THE TIME THE ROAD IS PAVED, SHALL BE USED AROUND MANHOLE RINGS IN PLACE OF CONCRETE ONLY IN CASE OF NEW ROAD CONSTRUCTION OR COMPLETE ROAD RESURFACING. IN THE EVENT HOT MIX ASPHALT CANNOT BE PROPERLY PLACED, A CONCRETE COLLAR SHALL BE PLACED AFTER THE MAIN PAVING IS COMPLETE.

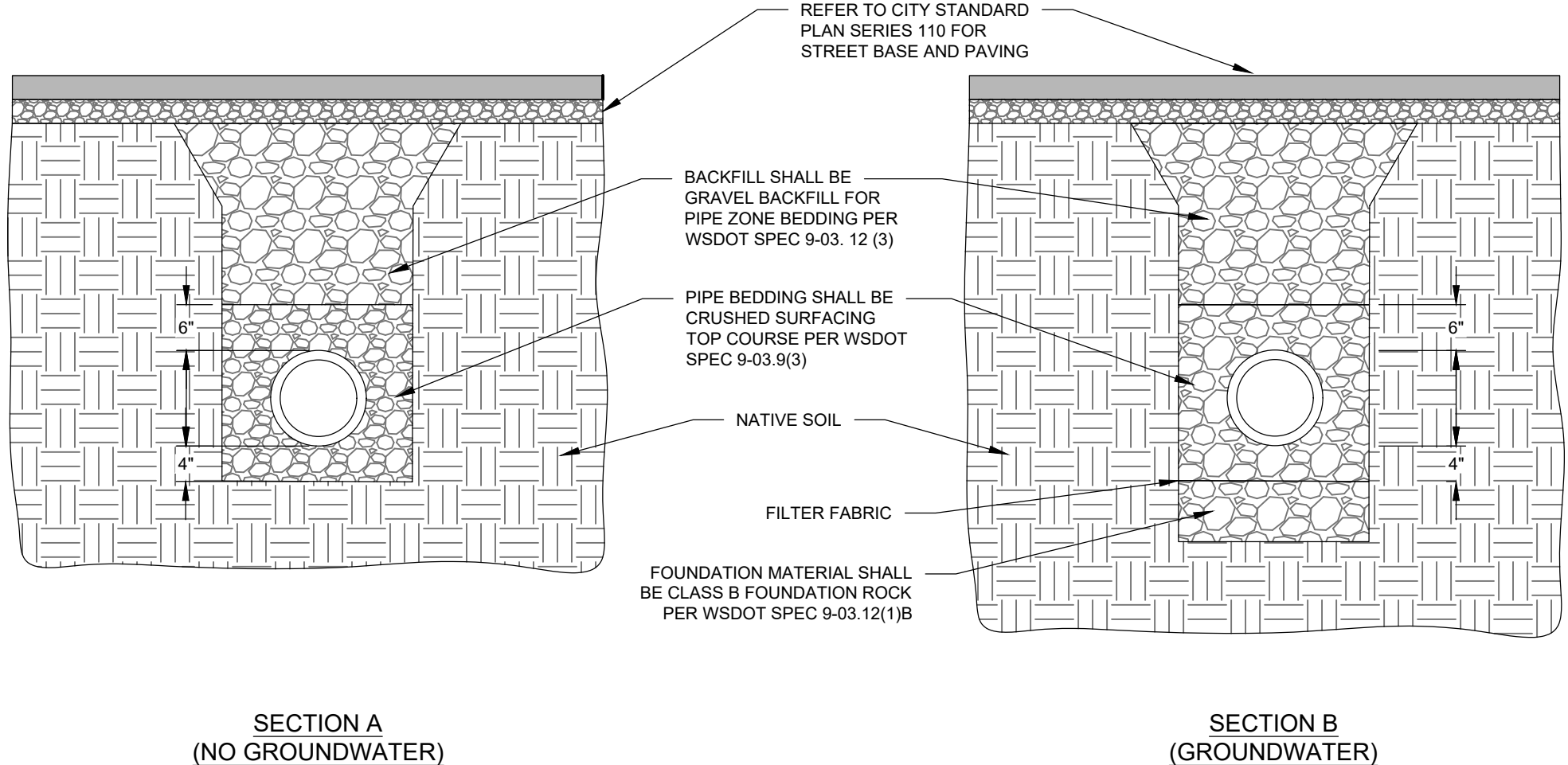
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

MANHOLE COLLAR PLACEMENT
DETAIL

STANDARD PLAN
310.07

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



This drawing is not to scale

CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STANDARD TRENCH DETAILS
(WATER, SANITARY & STORM)

STANDARD PLAN
310.08

STANDARD PLAN 410.00

STORMWATER NOTES

1. THE CONTRACTOR SHALL PREVENT DISCHARGE OF CONSTRUCTION STORMWATER AND SEDIMENTATION FROM LEAVING THE SITE USING BEST MANAGEMENT PRACTICES TO INCLUDE ONE OR MORE OF THE FOLLOWING AS NECESSARY:
 - A. PRESERVE VEGETATION AND MARK CLEARING LIMITS. PROTECT NATURAL VEGETATION AND TREES. USE VEGETATED BUFFERS. BEFORE GRADING, MARK CLEARING LIMITS AND SENSITIVE AREAS FOR PROTECTION.
 - B. ESTABLISH CONSTRUCTION ACCESS REDUCE VEHICLE ACCESS POINTS AND STABILIZE ENTRANCE WITH CRUSHED ROCK OR SIMILAR MATERIAL. MINIMIZE MUD AND DIRT TRACKED ONTO PAVED ROADS. CLEAN ROAD SURFACES ON A REGULAR BASIS. SHOVEL AND SWEEP MUD OFF ROADWAY.
 - C. CONTROL FLOW RATES. PROTECT PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE SITE FROM IMPACTS OF STORMWATER RUNOFF. REDUCING FLOW AND PREVENTING EROSION ARE TWO WAYS TO DO THIS.
 - D. INSTALL SEDIMENT CONTROLS. PASS STORMWATER THROUGH A SEDIMENT POND, SEDIMENT TRAP, FILTER OR OTHER EQUIVALENT MEASURE BEFORE IT LEAVES THE SITE OR ENTERS DRAIN INLETS. CONSTRUCT SEDIMENT PONDS, TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND SILT FENCES AS FIRST STEP IN GRADING.
 - E. STABILIZE SOILS. SOIL STABILIZATION INCLUDES TEMPORARY AND PERMANENT SEEDING, MULCHING, GEOTEXTILES, EROSION CONTROL FABRICS, AND SOD STABILIZATION.
 - F. PROTECT SLOPES. DIVERT RUNOFF AROUND SLOPES AND DISTURBED AREAS WITH PIPE SLOPE DRAINS. DESIGN AND CONSTRUCT CUT AND FILL SLOPES TO MINIMIZE EROSION. METHODS MAY INCLUDE TERRACING AND DIVERSIONS AND REDUCING STEEPNESS.
 - G. PROTECT DRAIN INLETS. PROTECT ALL OPERABLE STORM DRAIN INLETS FROM SEDIMENT. CLEAN AND REMOVE SEDIMENT FROM INLET PROTECTION DEVICES WHEN THEY FILL TO 1/3 OF THEIR CAPACITY.
 - H. STABILIZE CHANNELS AND OUTLETS STABILIZE DRAIN OUTLETS, ADJACENT STREAM BANKS, SLOPES AND CHANNELS WITH ARMORING SUCH AS ROCKS OR GRAVEL.
 - I. CONTROL POLLUTANTS. PREVENT CHEMICALS AND OTHER POLLUTANTS FROM CONTACT WITH STORMWATER. HANDLE AND DISPOSE OF POLLUTANTS PROPERLY. TYPICAL POLLUTANTS INCLUDE: WASTE MATERIALS, CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, OIL, DEMOLITION DEBRIS, AND BATTERIES. PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY ALKALINE SOURCES SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, AND WATER USED TO WASH AND CURE CONCRETE. OBTAIN WRITTEN APPROVAL FROM ECOLOGY PRIOR TO USING CHEMICAL TREATMENT OTHER THAN CO₂ TO ADJUST PH.
 - J. CONTROL DE-WATERING. CAREFULLY CONTROL DE-WATERING. IF YOU HAVE MUDDY OR CONTAMINATED DE-WATERING WATER, THEN TREAT IT SEPARATELY FROM OTHER STORMWATER RUNOFF.

- K. MAINTAIN BMP'S. REGULARLY INSPECT, MAINTAIN AND REPAIR ALL BMPS. INSPECT EROSION AND SEDIMENT CONTROL BMPS AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER ANY DISCHARGE FROM THE SITE. REMOVE ALL TEMPORARY EROSION AND SEDIMENT BMPS WITHIN 30 DAYS OF FINAL SITE STABILIZATION. REMOVE OR STABILIZE ON-SITE TRAPPED SEDIMENT.
2. THE ENGINEER (OR HIS AGENT) CERTIFYING STORMWATER FACILITIES SHALL BE PROVIDED ACCESS TO STORMWATER FACILITIES FOR OBSERVATION AT ANY TIME DURING CONSTRUCTION.
 3. INFILTRATION FACILITIES SHALL BE CONSTRUCTED WITHOUT ALLOWING HEAVY EQUIPMENT TO TRACK ON INFILTRATION SURFACE. ANY COMPACTION AFTER INFILTRATION FACILITIES ARE FORMED SHALL REQUIRE INFILTRATION SURFACE TO BE SCARIFIED TO A DEPTH OF 12" TO ALLEVIATE COMPACTION OF THE INFILTRATION SURFACE.
 4. THE CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION STORMWATER GENERAL PERMIT (CGP) IN ACCORDANCE WITH THE LATEST REGULATION REQUIREMENT PER WASHINGTON STATE DEPARTMENT OF ECOLOGY. THIS INCLUDES USING BEST MANAGEMENT PRACTICES TO PREVENT DISCHARGE OF STORM WATER AND SEDIMENTATION FROM THIS SITE DURING CONSTRUCTION. THE IMPLEMENTATION, CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE BMP'S ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
 5. ALL NEW DRYWELLS AND/OR INFILTRATION TRENCHES SHALL BE REGISTERED USING CITY-PROVIDED IDENTIFICATION NUMBER/LABEL WITH THE UNDERGROUND INJECTION CONTROL PROGRAM AT DEPARTMENT OF ECOLOGY PRIOR TO USE (UIC PROGRAM, DEPARTMENT OF ECOLOGY, P.O. BOX 47600, OLYMPIA, WA 98504-7600.
 6. THE CITY ENGINEER MAY REQUIRE THE APPLICATION OF AN AIR PRESSURE TEST ON ANY STORM SEWER PIPES PER STANDARD SPECIFICATIONS (7-04.3(1) E OR F AS APPLICABLE). CLEANING AND REMOVAL OF ANY ROCK IS REQUIRED. AFTER CLEANING, THE CITY SHALL BE NOTIFIED FOR TV INSPECTION OF ALL STORM SEWER LINES. ANY WORK FAILING AN AIR TEST AND OR TV INSPECTION MUST BE REPAIRED AND RE-TESTED FOR CITY APPROVAL. THE CITY ENGINEER OR HIS DESIGNEE MUST WITNESS, VERIFY, AND RECORD ALL TESTS.
 7. ALL MANHOLES AND CURB INLETS SHALL BE PRE-CAST CONCRETE UNITS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 8. MANHOLE PIPE CONNECTORS SHALL BE CAPABLE OF A 10⁰ DEFLECTION IN ANY ONE DIRECTION AND SHALL BE INSTALLED AS REQUIRED BY THE MANUFACTURER. ALL STORM SEWER MANHOLES WITH PVC PIPE CONNECTIONS) SHALL USE THE A-LOK PIPE CONNECTOR, MANUFACTURED BY A-LOK PRODUCTS OR PSX, MANUFACTURED BY PRESS-SEAL GASKETS CORP. OR APPROVED EQUAL. ALL OTHER CONNECTION SYSTEMS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE. STORM SEWER MANHOLES WITH HDPE PIPE CONNECTIONS MAY BE GROUTED (A-LOK NOT REQUIRED).
 9. ANY GAPS, HOLES, ROUGH SPOTS, ETC., IN THE CHANNELS, AT PIPE CONNECTIONS, AND JOINTS, SHALL BE FILLED OR REPAIRED IN THE FIELD.

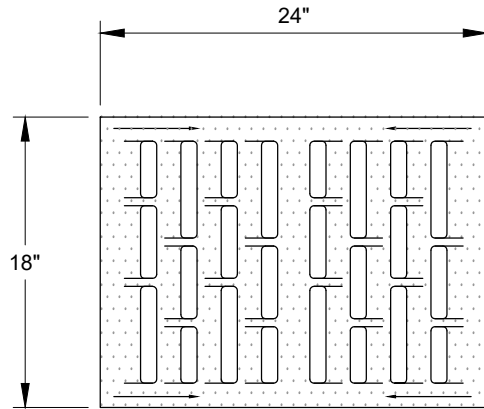
10. MANHOLES SHALL BE SET A MINIMUM OF 8 INCHES AND NOT MORE THAN 12 INCHES BELOW FINISH GRADE AND THEN ADJUSTED TO GRADE WITH RISER RINGS AS REQUIRED.
11. MANHOLE CONE SECTION SHALL BE ECCENTRIC.
12. MASTIC JOINT SEAL SHALL BE PLACED AT EVERY JOINT BETWEEN BARREL SECTIONS, RISER SECTIONS, AND THE CAST IRON TOP.
13. MANHOLE RING & COVER SHALL BE INLAND FOUNDRY COMPANY INC. #817 WITH A SOLID COVER LABELED "STORM" OR APPROVED EQUAL.
14. RISER RINGS VARY IN HEIGHT FROM 1" TO 6". ANY NEED FOR ADJUSTMENT OVER 12" AT THE TOP SHOULD BE SATISFIED BY USING A 12" BARREL SECTION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. A MINIMUM 2" OF RISERS SHALL BE USED ON ALL MANHOLES. USE THE LEAST NUMBER OF RISER RINGS TO ACHIEVE THE REQUIRED RISE. RISER RINGS SHALL BE PRE-CAST 3000 PSI CONCRETE OR HDPE (HIGH DENSITY POLYETHYLENE) MANHOLE ADJUSTING RINGS. ALL RISERS SHALL HAVE BUTYL OR MASTIC SEALER APPLIED TO BOTH THE TOP AND BOTTOM SURFACES. RISER STACKS SHALL BE WATER TIGHT.
15. MANHOLE STEPS SHALL BE LANE BRAND, POLYPROPYLENE MANHOLE STEPS MODEL NO. P-13938E OR AN APPROVED EQUAL.
16. ALL STORMWATER SEWER PIPE SHALL BE FULLY BEDDED WITH A MINIMUM OF 4-IN. UNDER THE PIPE AND A MINIMUM OF 6-IN. OVER ANY PIPE. BEDDING MATERIALS SHALL BE CRUSHED ROCK AS PER THE STANDARD SPECIFICATION. ALL OTHER BEDDING MATERIALS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
17. PRE-CAST MANHOLE BASES SHALL BE SET LEVEL ON A MINIMUM OF 6-IN. OF WELL-COMPACTED CRUSHED AGGREGATE. STORMWATER SEWER PIPE AND MANHOLES SUBJECTED TO GROUNDWATER SHALL BE PLACED ON 4-IN. OF CRUSHED ROCK BEDDING OVER 12" OF CLASS B FOUNDATION ROCK SEPARATED BY FILTER FABRIC AS PER STANDARD SPECIFICATION 9-03.17.
18. THE BEDDING UNDER STORMWATER SEWER PIPE AND MANHOLES SHALL BE COMPACTED PRIOR TO PIPE AND MANHOLE PLACEMENT TO PROVIDE UNIFORM SUPPORT ALONG THE ENTIRE LENGTH OF THE PIPE AND UNDER MANHOLES. ONLY PIPE BEDDING MATERIAL SHALL BE IN CONTACT WITH STORMWATER SEWER PIPE OR MANHOLES. ANY DITCH RUN GRAVEL, ASPHALT OR CONCRETE CHUNKS OR SIMILAR MATERIALS SHALL BE REMOVED.
19. ELEVATIONS AND DISTANCES BETWEEN ELEVATIONS SHALL BE PROVIDED TO THE CITY BY A REGISTERED SURVEYOR OR PROFESSIONAL ENGINEER AFTER BEDDING PIPE ON COMPACTED BEDDING, PRIOR TO BACKFILL, AT A MINIMUM OF EVERY 100' AND AT MANHOLE TERMINATIONS. STORM PIPE GRADE SHALL CORRESPOND TO APPROVED PLANS AND IN NO CASE SHALL BE LESS THAN 0.4% WITHOUT BELLIES OR RISES.
20. NATIVE FILL MAY BE USED FOR BACKFILL UNLESS DEEMED UNSUITABLE BY THE ENGINEER. COMPACT TO 95% MODIFIED PROCTOR DENSITY BEFORE PROCEEDING TO PLACEMENT OF BASE ROCK AND PAVING. LABORATORY TESTING SHALL BE PERFORMED TO DETERMINE MAXIMUM MODIFIED PROCTOR DENSITY FOR NATIVE FILL. IMPORT FILL

REQUIRES SUPPLIER PROCTOR TEST RESULTS. IF NATIVE FILL IS UNSUITABLE AS DETERMINED BY THE CITY ENGINEER, BANK RUN GRAVEL PER THE STANDARD SPECIFICATIONS 9-03.12 (3) OR OTHER GRANULAR MATERIAL APPROVED BY THE CITY ENGINEER SHALL BE USED.

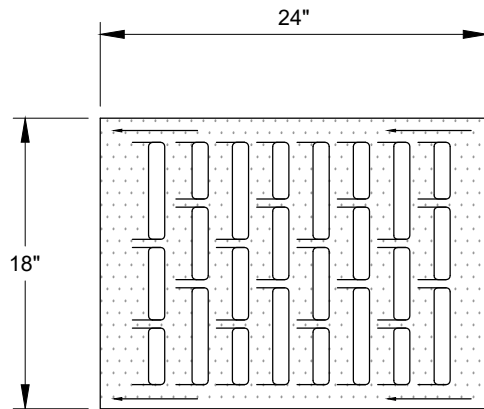
21. MANHOLE BARREL SECTIONS AND RISER RINGS SHALL BE SEALED WATERTIGHT WITH MASTIC. IN ADDITION, ALL MANHOLES SUBJECTED TO GROUNDWATER SHALL BE SEALED WITH CITY-APPROVED SEALANT ON THE EXTERIOR FROM THE BASE TO 3' ABOVE THE SEASONAL HIGH GROUNDWATER LEVEL AND SHALL BE VACUUM TESTED PER ASTM C-1244 WHEN SEASONAL HIGH GROUNDWATER IS OVER 3' HIGH FROM THE BASE.
22. MINIMUM DIAMETER OF STORMWATER PIPES SHALL BE 10". LARGER SIZES MAY BE REQUIRED.
23. PRE-CAST CURB INLET BOX (CATCH BASIN) SHALL BE NO LESS THAN 48" IN HEIGHT. A THICKNESS OF 6" SHALL BE MAINTAINED BETWEEN THE INSIDE BASE AND BASE ROCK. CURB INLET BOXES SHALL BE PRE-CAST CUSTOM UNITS CONSTRUCTED WITH A REINFORCEMENT CAGE AND PUNCH OUT SECTIONS NO LESS THAN 2" THICK ON ALL FOUR VERTICAL SIDES AS INDICATED IN STANDARD PLAN 410.02. INSTALLATION SHALL BE PER STANDARD PLAN 410.05.
24. CURB INLET BOXES (CATCHBASINS) WITH PVC LINE CONNECTIONS SHALL USE SAND COLLARS WITH GROUT SEAL ("A-LOK" ALSO ACCEPTABLE). SIMILAR TRANSITIONS MAY BE USED WITH CITY ENGINEER APPROVAL. HDPE PIPE CONNECTIONS TO CURB INLET BOXES MAY BE GROUTED (SAND COLLARS NOT REQUIRED).
25. THE CAST IRON CURB INLET GRATE SHALL BE UNI-DIRECTIONAL OR BI-DIRECTIONAL GRATES ONLY. INLAND FOUNDRY COMPANY #571-3 OR #571-5 OR AN APPROVED EQUAL.
26. THE DIRECTIONAL CONFIGURATION OF THE CURB INLET GRATE SHALL BE DETERMINED AT THE TIME OF DESIGN. CLOSE ATTENTION SHOULD BE PAID TO THIS DETAIL WHEN ORDERING THE GRATE FROM THE MANUFACTURER. REFER TO STANDARD PLAN 410.01.
27. CURB INLET GRATES SHALL NOT BE PLACED WITHIN ADA ACCESS ROUTES AND SHALL NOT UTILIZE A HOOD WHEN LOCATED ADJACENT TO A CURB RAMP.
28. BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT DISCHARGE OF STORM WATER AND SEDIMENTATION FROM THIS SITE SHALL BE IN PLACE AND UTILIZED DURING CONSTRUCTION. THE IMPLEMENTATION, CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE BMPS IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED. A STOP WORK NOTICE MAY BE ISSUED FOR NON-COMPLIANCE WITH THIS REQUIREMENT UNTIL THE ISSUE IS RESOLVED.

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

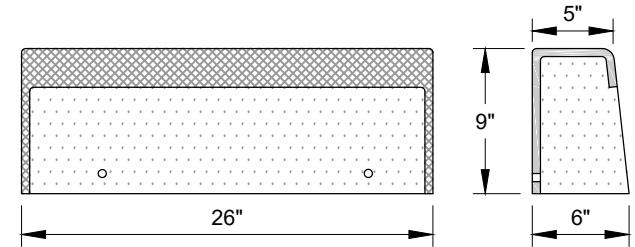
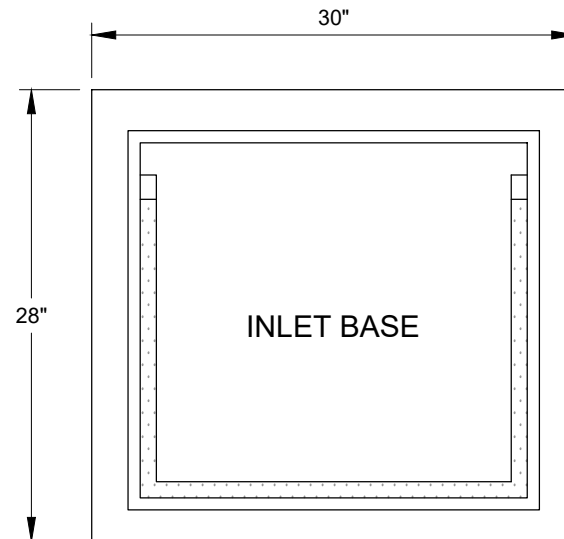
CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



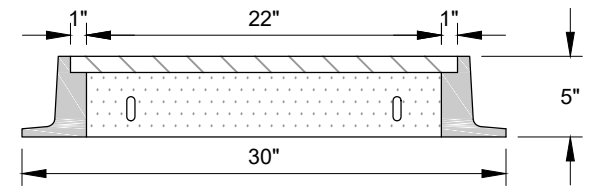
BI-DIRECTIONAL FLOW



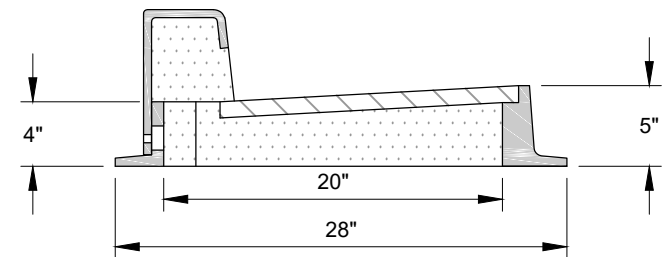
SINGLE DIRECTIONAL FLOW



INLET HOOD



INLET BASE



INLET BASE & HOOD

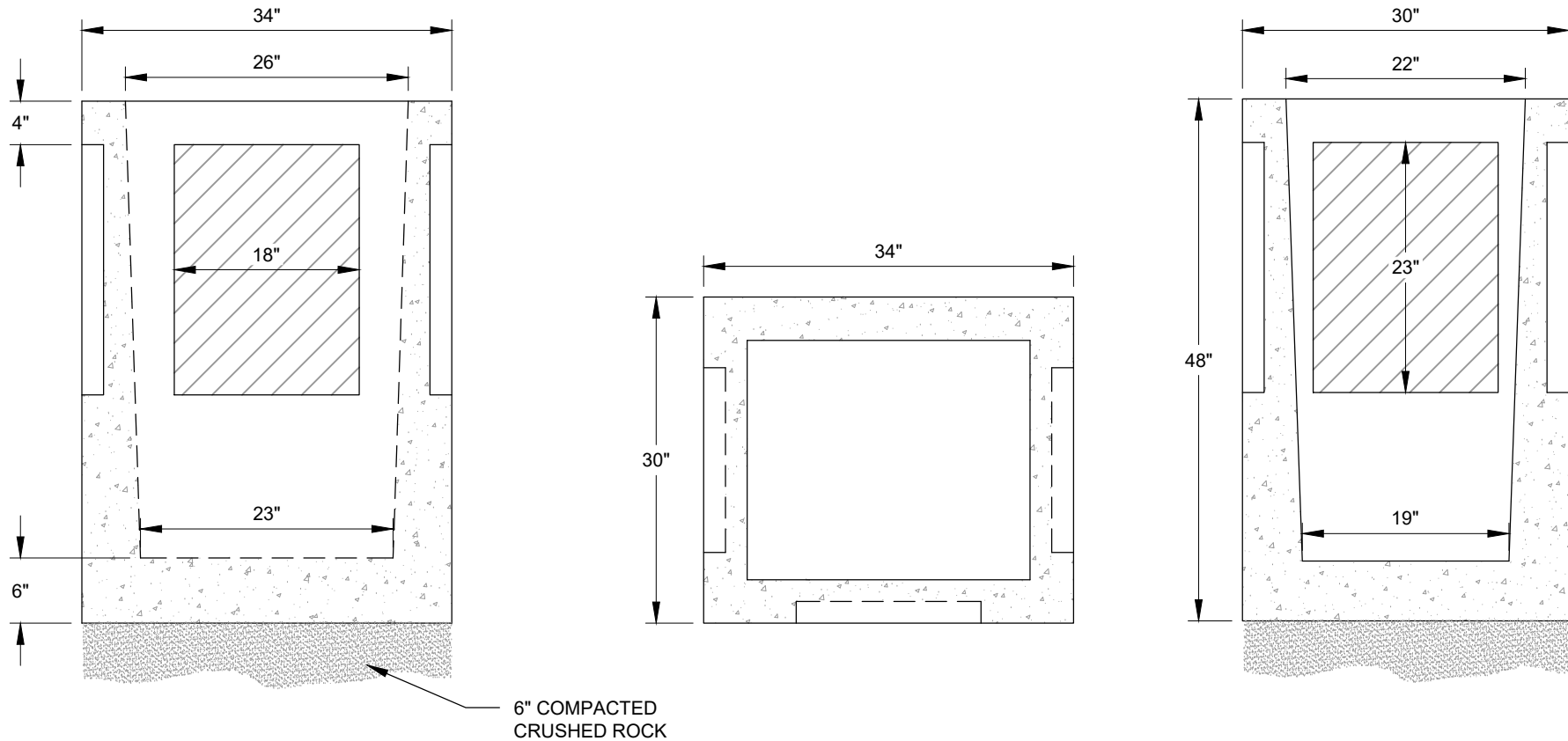
This drawing is not to scale

CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JUNE 2007

CURB INLET FRAME, GRATE &
HOOD DETAIL

STANDARD PLAN
410.01

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. BREAK-IN HOLES SHALL BE MADE USING A ROTO HAMMER TO REDUCE DAMAGE TO THE BOX.
2. SAND COLLARS SHALL BE ATTACHED TO PVC PIPE AT THE POINT OF ENTRY AND SEALED INSIDE AND OUTSIDE WITH QUICKSET NON-SHRINK GROUT. HDPE PIPE MAY BE GROUTED.
3. A MIN. OF 2-FT OF CRUSHED SURFACING TOP COARSE PER WSDOT SPEC 9-03.9(3) SHALL BE BACKFILLED AROUND CATCH BASIN.

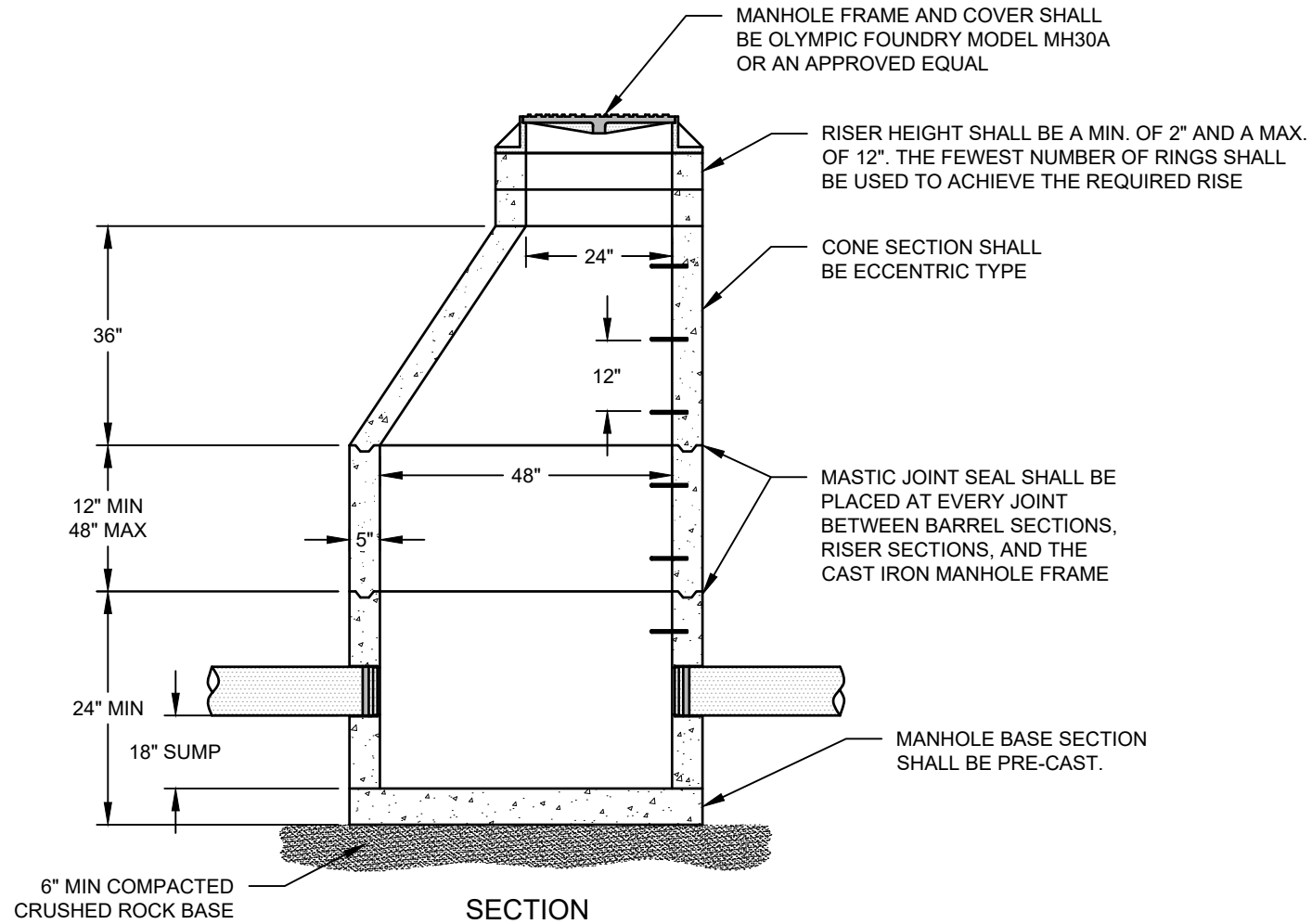
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CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JANUARY 2015

PRECAST CURB INLET BOX DETAIL

STANDARD PLAN
410.02

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTES:

1. SAND COLLARS SHALL BE USED ONLY FOR RETRO FIT BREAKINS ON MANHOLES.

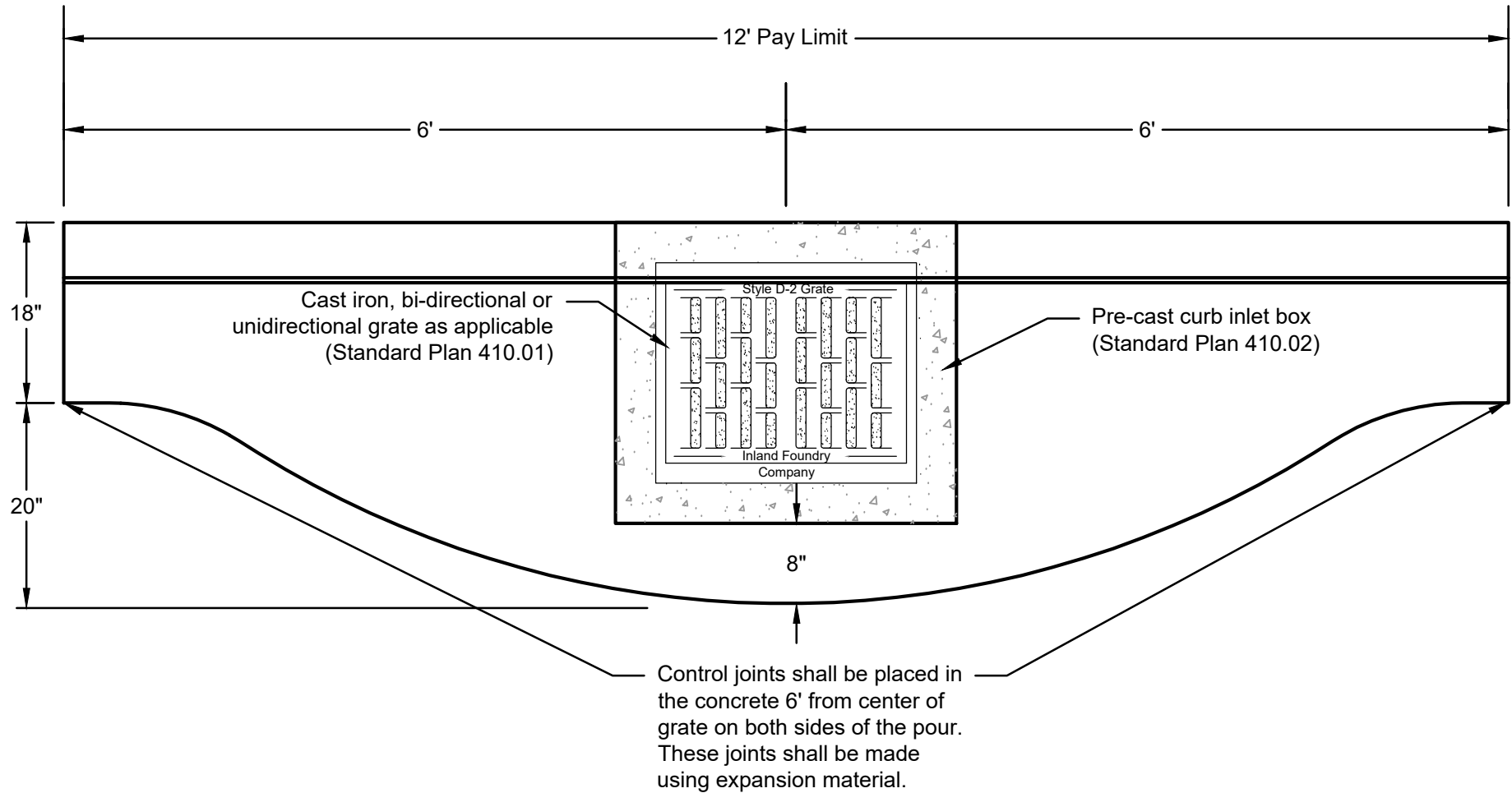
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CITY ENGINEER: ALEX FAZZARI, PE
LAST REVISION: 03/03/23 DRAFT

STORM SEWER
MANHOLE PROFILE

STANDARD PLAN
410.04

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



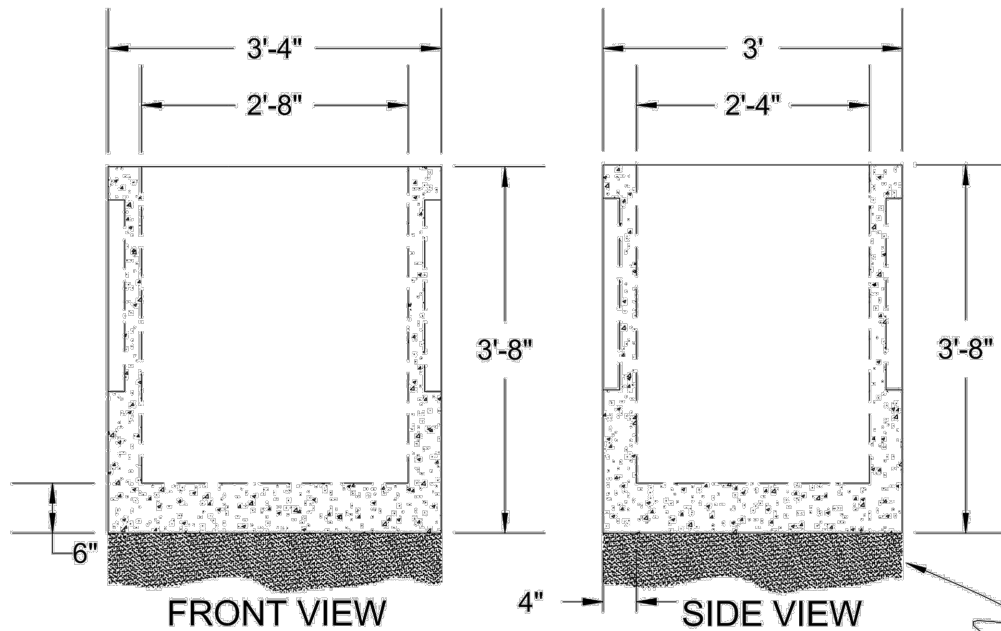
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CITY ENGINEER: Robert Gordon, P.E.
LAST REVISION: JUNE 2007

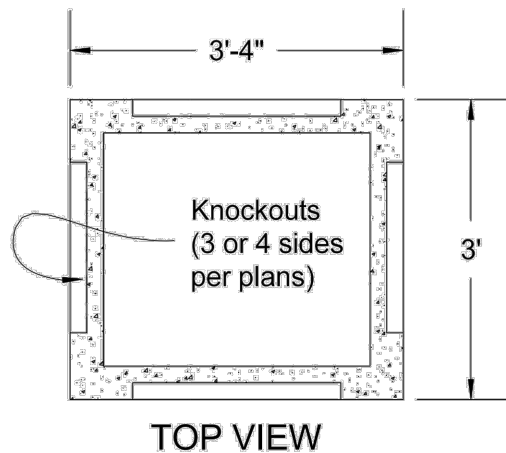
CURB INLET PLACEMENT DETAIL

STANDARD PLAN
410.05

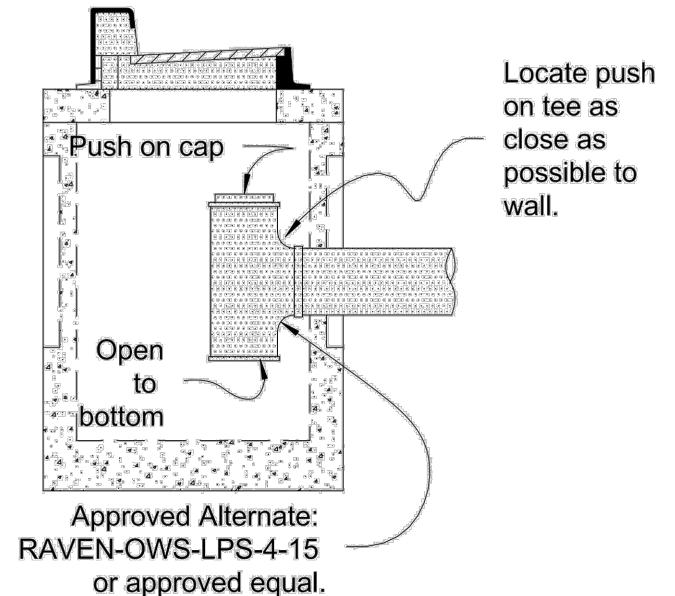
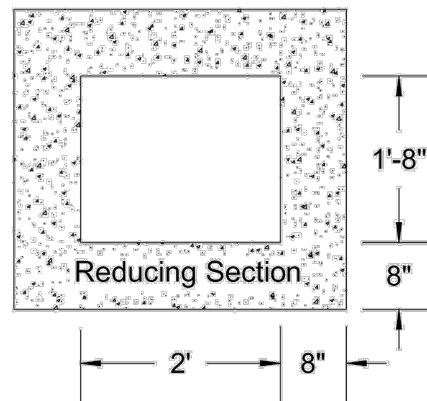
CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



NOTE: SAND COLLARS SHALL BE ATTACHED TO PVC PIPE AT THE POINT OF ENTRY TO ENSURE PROPER ADHESION TO THE GROUT MATERIAL. HDPE MAY BE GROUTED. BREAK-IN HOLES SHALL BE MADE USING A ROTO HAMMER TO REDUCE DAMAGE TO THE BOX.

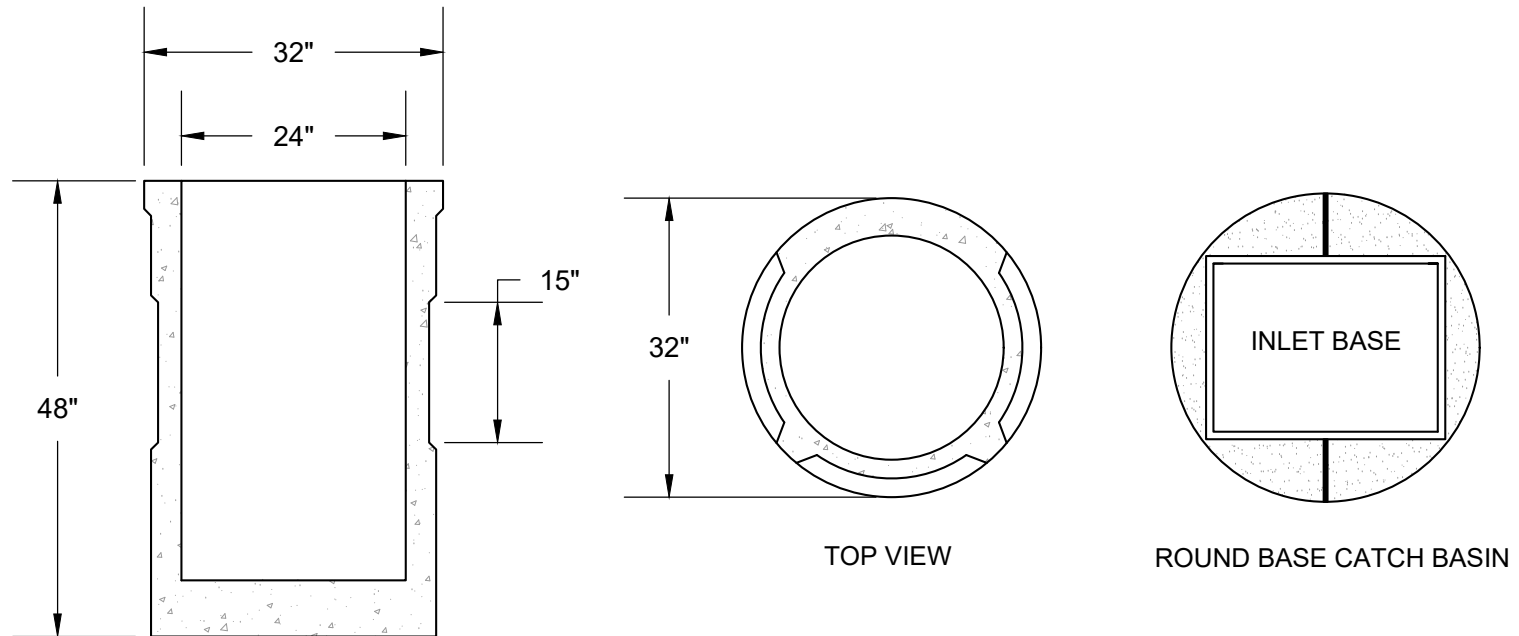


6" minimum compacted crushed rock shall be placed under the Curb Inlet base.



This drawing is not to scale

CITY OF COLLEGE PLACE - STANDARD SPECIFICATIONS



CONSTRUCTION NOTES

1. BREAK-IN HOLES SHALL BE MADE USING A ROTO HAMMER TO REDUCE DAMAGE TO THE BOX. SAND COLLARS SHALL BE ATTACHED TO PVC PIPE AT THE POINT OF ENTRY AND SEALED INSIDE AND OUTSIDE WITH QUICKSET NON-SHRINK GROUT. HDPE PIPE MAY BE GROUTED.
2. IN THE EVENT ALIGNMENT OF INLET BOX WILL RESULT IN ENTRY AT LOCATIONS OTHER THAN THE PRE-CAST KNOCK OUT SECTIONS, A ROUND TYPE PRE-CAST CURB INLET BOX MAY BE SUBSTITUTED WITH PRIOR APPROVAL OF THE CITY ENGINEER.
3. A MINIMUM OF 2-FT OF CRUSHED SURFACE TOP COARSE PER WSDOT SPEC 9-03.9(3) SHALL BE BACKFILLED AROUND CATCH BASIN.

This drawing is not to scale



City of College Place

Stormwater Facility Standards

Update Approved by City Council: 3/24/2020

Contact Information

City Contacts:

City Engineer (509) 394-8525

Public Works Director (509) 394-8526

Utility Contacts:

Call before you Dig (One Call) (800) 424-5555 or 811

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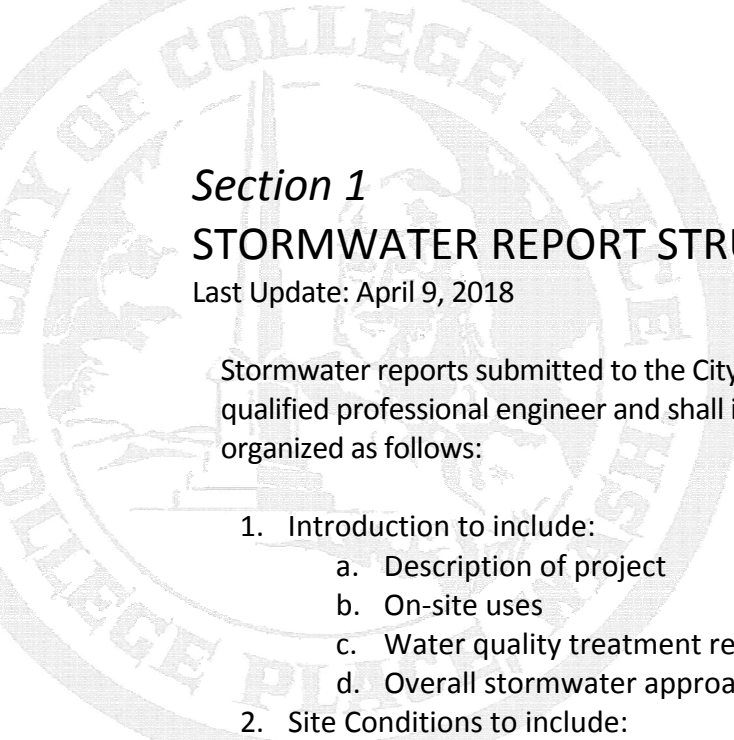
STD PLAN 410.00 STORMWATER FACILITY NOTES

STD PLAN 410.10 STORMWATER DESIGN CERTIFICATION

STD PLAN 410.11 STORMWATER DESIGN CERTIFICATION

STD PLAN 410.12 STORMWATER DESIGN CERTIFICATION

STD PLAN 410.20 STORMWATER FACILITY CONSTRUCTION CERTIFICATION

The seal of the City of College Place is visible in the background, featuring a circular design with the city's name and a central emblem.

Section 1

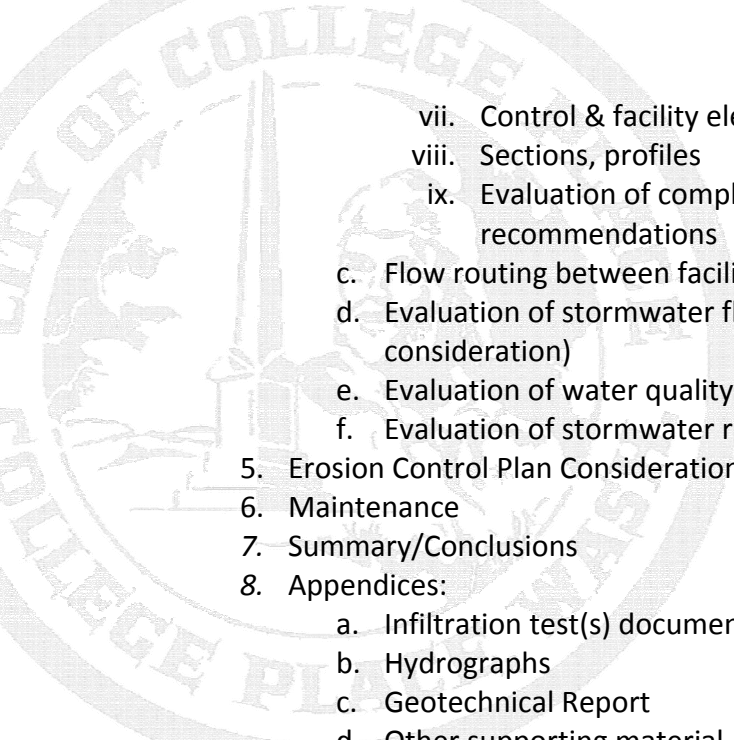
STORMWATER REPORT STRUCTURE

Last Update: April 9, 2018

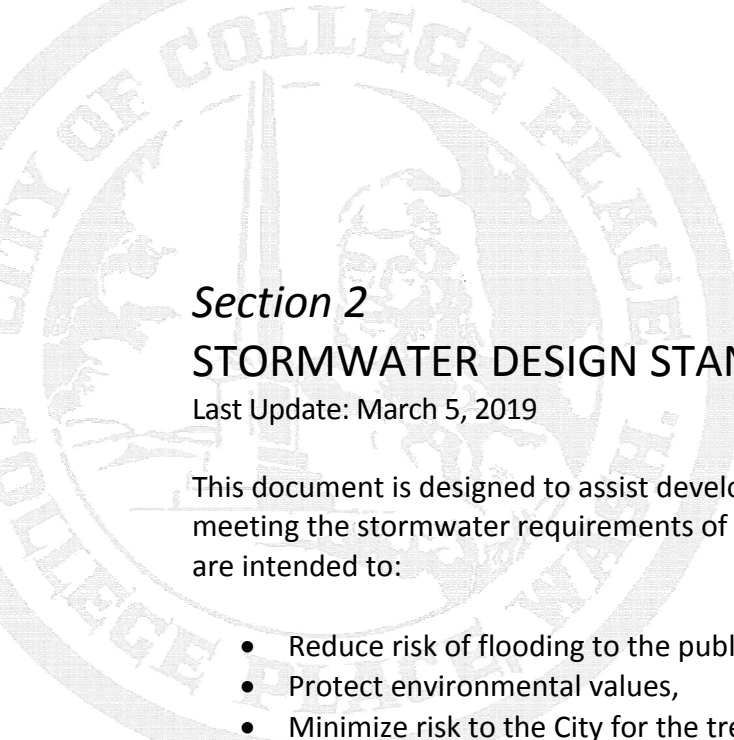
Stormwater reports submitted to the City of College Place for review shall be stamped by a qualified professional engineer and shall include the following information and be generally organized as follows:

1. Introduction to include:
 - a. Description of project
 - b. On-site uses
 - c. Water quality treatment requirements per the storm manual
 - d. Overall stormwater approach
2. Site Conditions to include:
 - a. Slopes
 - b. Waterbodies
 - c. Site Exploration
 - i. Soils Info & Profile
 - ii. Seasonal High Groundwater levels
 - iii. Saturated Condition Infiltration Test Results
 - d. Additional geotechnical considerations
(Include drawing showing where each observation was noted.)
3. Stormwater Calculations
 - a. Pre-developed drainage summary to include:
 - i. Map of contributory areas with topography*
 - ii. Assumptions
 - iii. Methodology
 - iv. Supporting calculations & results

Note: Pre-developed drainage summary is only necessary if returning stormwater to a water body.
 - b. Post-developed drainage summary to include:
 - i. Map of contributory areas with flow-routing with topography*
 - ii. Assumptions
 - iii. Methodology
 - iv. Supporting calculations & results
4. Stormwater Design(s) to include:
 - a. Overall drawing of facility locations
 - b. Facility Designs
 - i. Type (reference BMP of storm manual)
 - ii. Site Suitability Criteria
 - iii. Assumptions (to include infiltration rate and applied safety factor)
 - iv. Dimensions
 - v. Volumes
 - vi. Peak Flows

- 
- vii. Control & facility elevations, grades, slopes
 - viii. Sections, profiles
 - ix. Evaluation of compliance with storm manual BMP's design recommendations
 - c. Flow routing between facilities (include final topography)
 - d. Evaluation of stormwater flood control capacity (25-year storm & larger event consideration)
 - e. Evaluation of water quality treatment requirement compliance
 - f. Evaluation of stormwater return to stream
 - 5. Erosion Control Plan Considerations
 - 6. Maintenance
 - 7. Summary/Conclusions
 - 8. Appendices:
 - a. Infiltration test(s) documentation (stamped)
 - b. Hydrographs
 - c. Geotechnical Report
 - d. Other supporting material

* Submittals shall show existing and planned drainage basins on a minimum 11" x 17" size sheet. Drainage areas should be highlighted or hatched to define them visually to the reviewer. Length and layout for time of concentration calculations should be delineated. The plan shall include arrows showing proposed drainage directions. The plan shall show existing and proposed drainage facilities and points of entry.

The seal of the City of College Place is visible in the background. It features a circular design with the words "CITY OF COLLEGE PLACE" around the perimeter. Inside the circle, there is a depiction of a person, possibly a historical figure or a personification of the city, and some other symbols.

Section 2

STORMWATER DESIGN STANDARDS

Last Update: March 5, 2019

This document is designed to assist developers, engineers, contractors and the public in meeting the stormwater requirements of the City of College Place (City). These requirements are intended to:

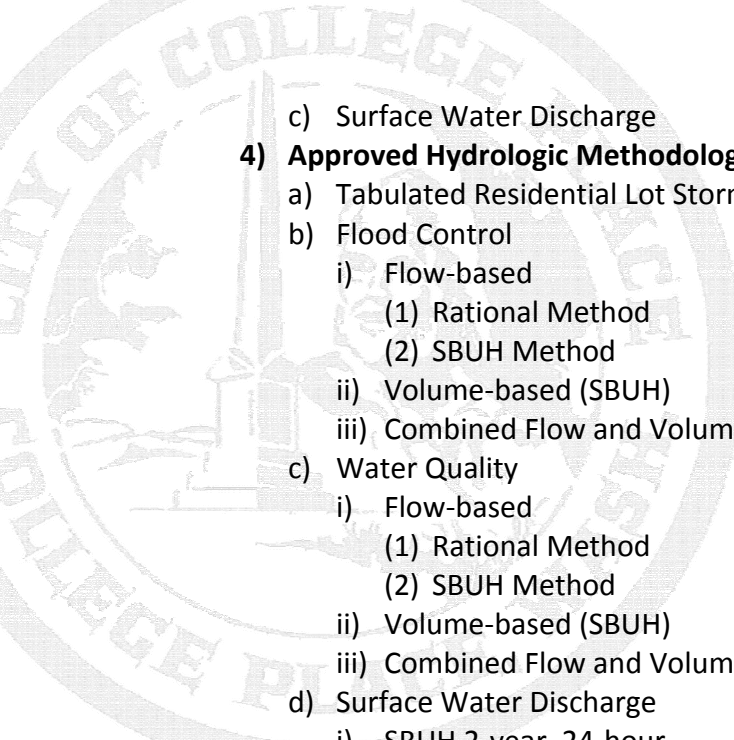
- Reduce risk of flooding to the public,
- Protect environmental values,
- Minimize risk to the City for the treatment of stormwater originating on private properties,
- Approximate the natural distribution of shallow groundwater replenishment,
- Reduce and equitably distribute the costs of stormwater management consistent with the level of public funding, and
- Comply with regulatory mandates.

The City actively applies the requirements and recommendations of the Stormwater Management Manual for Eastern Washington (SMMEW) consistent with the guidance offered below. Stormwater submittals are reviewed for appropriate scope as well as appropriate application of assumptions and methodology consistent with the SMMEW and these guidelines. All references within this document are to the SMMEW or most recently proposed update unless indicated otherwise. The standards in this document are also informed by the understanding that the City would only be reasonably responsible for stormwater discharges to the City's Municipal Separate Storm Sewer System (MS4) not to include discharges from private facilities into the MS4 exceeding the 24-hour/100 year design storm as per Department of Ecology guidance provided at the February 12, 2020 Spokane Valley meeting.

Designs that are not compliant with the requirements below may be considered for review by the City; however, non-compliant designs may be subject to additional review fees and typically require substantial additional review time. Compliant design reviews shall take priority over non-compliant reviews. Acceptance of a compliant or non-compliant design for review does not implicitly or explicitly warrant any final approval or acceptance by the City.

The document is organized as follows:

- 1) Stormwater Design Report Requirement**
- 2) Policy & Standard Practice Considerations**
- 3) Stormwater Design Criteria**
 - a) Flood Control
 - b) Water Quality

- 
- c) Surface Water Discharge
 - 4) Approved Hydrologic Methodologies**
 - a) Tabulated Residential Lot Storm Volumes
 - b) Flood Control
 - i) Flow-based
 - (1) Rational Method
 - (2) SBUH Method
 - ii) Volume-based (SBUH)
 - iii) Combined Flow and Volume Based (SBUH)
 - c) Water Quality
 - i) Flow-based
 - (1) Rational Method
 - (2) SBUH Method
 - ii) Volume-based (SBUH)
 - iii) Combined Flow and Volume-based (SBUH)
 - d) Surface Water Discharge
 - i) SBUH 2-year, 24-hour
 - ii) SBUH 25-year, 24 hour
 - 5) Hydrologic Criteria Summary**
 - 6) Other Design Considerations**

1) STORMWATER DESIGN REPORT REQUIREMENT

All projects shall design and construct stormwater facilities and shall submit a stormwater design report for review by the city. The requirement for a report may be waived by the City for individual residential lot development where the City determines that on-site grading consistent with Building Department requirements mitigates stormwater detention and treatment requirements.

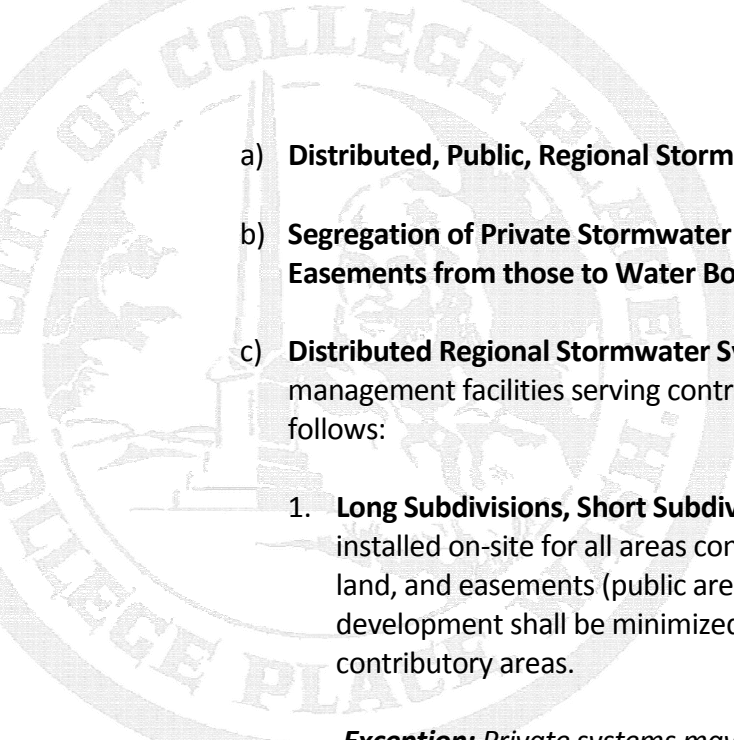
Exception. This requirement does not apply to lots for which stormwater management and water quality treatment facilities were expressly designed and approved by the City. The original design must be consistent with the SMMEW and the proposed physical configuration of the lots must be consistent with assumptions of the originally-approved design.

Exception. This requirement does not apply to individual residential lots with up to three units where stormwater measures on the lot were not required as part of development conditions applicable to the lot unless the City is aware of an inundation hazard.

Stormwater design reports shall include all assumptions, calculations and results and shall be consistent with the City's *Stormwater Design Report Requirements*.

2) POLICY & STANDARD PRACTICE CONSIDERATIONS

The design of stormwater systems and selection of facilities shall be consistent with current City policy and design standards. The following policies and standards shall guide the selection and design of stormwater facilities:

- 
- a) **Distributed, Public, Regional Stormwater Systems**
 - b) **Segregation of Private Stormwater Contributions to Public Rights-of-Way, Properties and Easements from those to Water Bodies**
 - c) **Distributed Regional Stormwater System.** All development shall provide stormwater management facilities serving contributory areas of their lots and public infrastructure as follows:

- 1. **Long Subdivisions, Short Subdivision and Binding Site Plans:** Public systems shall be installed on-site for all areas contributing directly or indirectly to public rights-of-way, land, and easements (public areas). The number of public facilities within the development shall be minimized. Private facilities shall be installed on-site for all other contributory areas.

***Exception:** Private systems may be allowed in lieu of public systems on Short Subdivisions where lots front established gutter, curb, sidewalk, and public utility easements.*

- 2. **Single-family Residential Lots.** Stand-alone single-family homes and duplexes shall not require stormwater management facilities.
 - 3. **All Other Individual Lots (Commercial, Multi-family, Industrial, etc.).** Public or on-site private facilities meeting public facility requirements (100 year/24-hour storm, etc.) are required for all areas contributing or with the potential to contribute directly or indirectly to public rights-of-way, land, and easements unless public downstream stormwater management capacity is available. Private facilities serving up to the full lot area may be required by the City. Private facilities shall be installed on-site for all other contributory areas.
- d) **Direction of Stormwater Discharge.** Discharge to public rights-of-way shall be permitted where demonstrated downstream capacity exists. Stormwater shall not be directed to rights-of-way or public facilities where downstream capacity does not exist except that emergency overflows sized for discharges exceeding the 24-hour, 100 year storm shall be permitted. Except by agreement between affected parties to run with the land; no discharge shall be permitted across private property lot lines except where a professional engineer licensed in the State of Washington, based on a stamped stormwater design for the lot, certifies that the no more than the predevelopment flow quantities and discharge rates at the same pre-development location(s) are being released. Stormwater facilities shall be designed to preserve flows to downstream water rights.

***Exception:** Direction of stormwater to common drainage depressions between lots shall not be construed to be discharge across property lines when such discharge does not include any contribution from impermeable surfaces and does not encroach within 4 feet of adjacent lot foundations and cause inundation and flooding concerns to the adjoining neighbor during the 25-year, 24-hour storm or the short-term high-intensity storm.*

- 
- e) **Separation of Storm Facilities from Third-party Interests.** Except for approved utility crossings, other facilities shall not be placed within or under stormwater facilities.
 - f) **Man-hole Based Stormwater Collection Systems.** Stormwater collection systems shall be based on routing of individual inlets to manholes (as opposed to inlets).

Prohibition of Inverted Crown Street/Road Profiles. Inverted crown roadways are not permitted.

3) **STORMWATER DESIGN CRITERIA**

All projects requiring stormwater management facilities approved by the City shall comply with the following design criteria:

a) **Subdivision (Long and Short Plat) Standards**

1. Alternative 1: Custom Stormwater Design

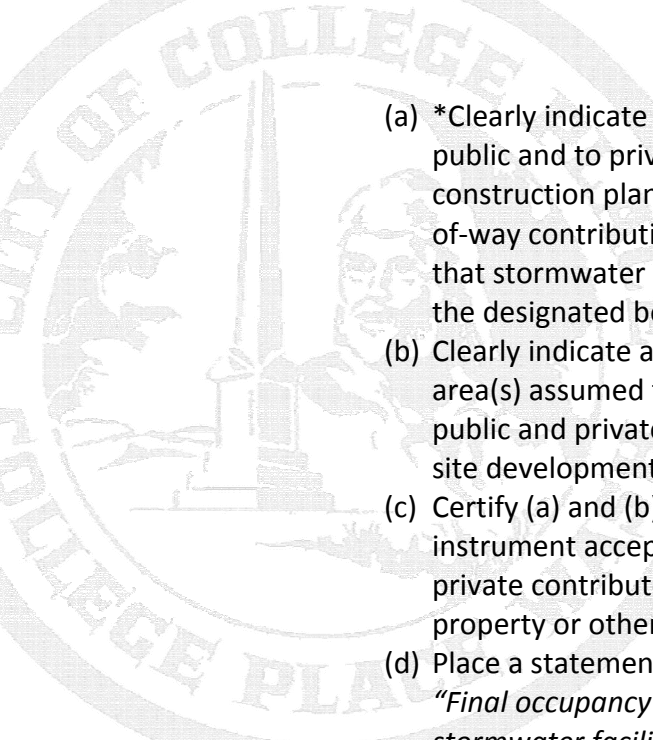
- (1) Upon City approval, subdivisions may elect to use full stormwater design criteria as described under the “All Other” section below. Additional review fees apply.

2. Alternative 2: Prescriptive Design Approach

- (1) Provide Public Stormwater Facilities to address:
 - (a) Full lot stormwater contribution with full buildable area (areas within setbacks) including driveways calculated as impervious contributions to city rights-of-way.
 - (b) All public facility contributions (streets, sidewalks, etc.)
 - (c) 25 year/24-hour storm design requirement or 100 year/24-hour storm requirement where City deems there is a down-stream inundation risk
 - (d) Treat to at least the minimum SMMEW treatment requirements.
- (2) Provide Property Owner Inundation Protection/Conveyance
Provide final grading plan with PE Stormwater Certification showing...
 - (a) Alternative A: Roof gutters to drains and front yard pop-outs or exempt underground infiltration control wells (UICs) and all other impermeable surfaces draining to the ROW.
 - (b) Alternative B: Custom Design Review. Requires 1) Surveyor certification of final grades against approved grading plan or 2) PE certification that there is no inundation threat to adjacent property owner outside of commonly-shared stormwater facilities/features if adjacent lots constructed to approved grading plan. Additional fees apply.

3. Alternative 3: Abbreviated Design Approach

- (1) Upon City approval, subdivisions may elect to use an abbreviated design approach to address situations where significant portions of stormwater from private lots cannot or will not be directed to the City right-of-way. Under the abbreviated design approach, the designer shall design private facilities as follows:

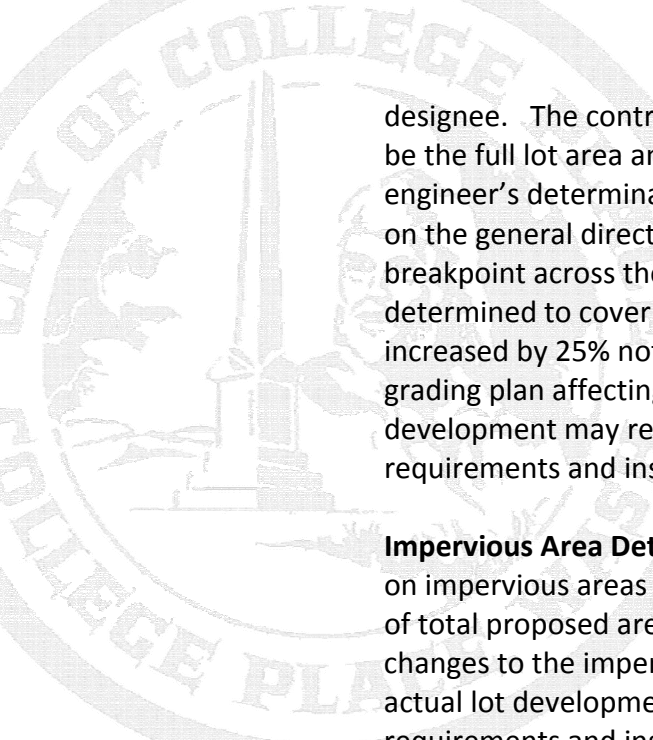
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- (a) *Clearly indicate and call out the contributory area(s) of the design flowing to public and to private stormwater facilities in the storm report , on the construction plans and on the final plat (if applicable) by means of a “right-of-way contribution boundary limit” or some similar designation with a note that stormwater contributions to the ROW shall be limited to areas within the designated boundary.
- (b) Clearly indicate and call out the area or the percentage(s) of the impervious area(s) assumed for that part of each contributory area flowing to each public and private stormwater facility as well as any additional constraints on site development with regard to the stormwater design.
- (c) Certify (a) and (b) above by means of Standard Plan 410.11, 410.12 or similar instrument acceptable to the City that stormwater originating from the private contributory areas will not contribute to City rights-of-way or City property or other parcels up to the 24-hour/100-year design storm.
- (d) Place a statement on the final plat to the effect that:
“Final occupancy permits shall require professional engineer certification that stormwater facilities as constructed shall function as designed. Development and improvement of lots departing from city-approved stormwater design and grading plan on file shall require professionally-engineered and stamped stormwater redesign in compliance with city standards and the current version of the Stormwater Management Manual of Eastern Washington.”
- (2) Under the abbreviated design approach, public stormwater facilities shall be designed consistent with the Prescriptive Design Approach except that the contributory area to the public facilities shall be reduced by those areas contributing to the private facilities. It is advised that contributory and impervious area assumptions exceed actual areas to allow for future lot development flexibility.
- (3) *Simplified Application: Subdivisions may be graded to contribute stormwater from all public facilities and the 20-ft. set back on each private lot to public facilities within the ROW with the remaining portions of the lot graded to direct runoff away from the ROW and with all impervious surfaces contributing stormwater to exempt UICs.

b) All Other (Commercial, Multi-family, Industrial, etc.)

Public Downstream Stormwater Capacity Available.

Discharge to public rights-of-way shall be permitted where demonstrated downstream capacity exists based on the following requirements.

Contributory Area Determination. Contributory area determinations for direct and indirect contributions to public rights of way, land and easement vs. on-site detention or direction to a water body shall be based upon stamped final, lot build-out grading plans and determinations provided by a professional engineer or land surveyor registered in the state of Washington and shall be subject to approval and modification as deemed necessary by the City Engineer or



designee. The contributory area to the public rights-of-way shall be deemed to be the full lot area and any associated public right-of-way where a professional engineer's determination is not available. The contributory area shall be based on the general direction of grade at determined from the major grade breakpoint across the lot(s). Where the contributory area to public areas is determined to cover less than the full lot area, the contributory area shall be increased by 25% not to exceed the full lot area. Significant changes to the final grading plan affecting stormwater contributory area during actual lot development may require reassessment of the required stormwater requirements and installation of additional facilities and/or capacity.

Impervious Area Determination. Impervious area across each lot shall be based on impervious areas within the contributory area and shall be estimated at 125% of total proposed area as approved by the City Engineer or designee. Significant changes to the impervious area affecting stormwater contributory area during actual lot development may require reassessment of the required stormwater requirements and installation of additional facilities and/or regrading of the site.

Public Downstream Stormwater Capacity Inadequate.

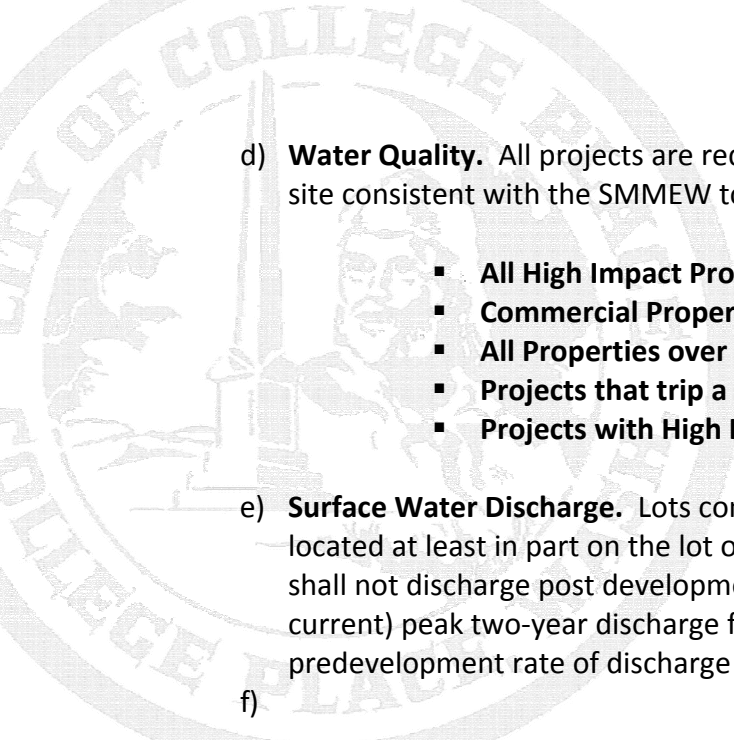
In cases where public downstream capacity is unavailable or inadequate, stormwater shall not be directed to rights-of-way or public facilities except that emergency overflows sized for discharges to the ROW exceeding the 24-hour, 100 year storm shall be permitted. Private on-site facilities shall be designed in keeping with the current SMMEW guidance and the requirements below.

c) **Flood Control.** All stormwater designs must protect the public against flooding and shall observe the following flood control requirements:

1. All public stormwater management facilities shall be designed to retain the full 100-year, 24-hour post-development contribution without consideration for on-site retention or detention of stormwater on private lots from areas identified as contributing stormwater to the ROW..

All private stormwater facilities that are not contributing to the public right-of-way, properties, or easement shall be designed for the full 25-year, 24-hour storm. As long as SMMEW surface water discharge guidelines are followed and there is no impact to abutting lots, these private facilities may be designed to discharge predevelopment flow directly to a water body located at least in part on the lots under consideration consistent with the "Surface Water Discharge Criteria" (SD #1) with the net post-development flow retained on site or subsequently discharged per SD#1.

Exception. The City may, at its discretion, exempt individual residential lots where stormwater measures on the lot were not required as part of development conditions applicable to the lot or the lot's subdivision.

- 
- d) **Water Quality.** All projects are required to treat the standard water quality storm on-site consistent with the SMMEW to include:

- **All High Impact Properties**
- **Commercial Properties over 0.5 acres.**
- **All Properties over 1.0 acres.**
- **Projects that trip a Transportation Impact Analysis (TIA).**
- **Projects with High Impact Treatment Risks.**

- e) **Surface Water Discharge.** Lots contributing predevelopment discharges to a water body located at least in part on the lot or through a public stormwater conveyance facility shall not discharge post development flows in excess of 50% of the predevelopment (or current) peak two-year discharge flow and shall maintain the 25-year, 24-hour predevelopment rate of discharge to the stream.

f)

4) ***STORMWATER DESIGN DETAILS**

The following design details shall apply to stormwater designs under any of the Stormwater Design Criteria described above.

- a) **Roof Gutters.** Roof gutters are required if roof eaves are closer than 10-feet from property lines and shall discharge to infiltration facilities or to “pop-ups” located at least 10ft. from property lines and ROW .
- b) **Hardscape.** No ground hardscape is allowed within 10-feet of property line (building with gutters is allowed within 5-feet) unless directed to infiltration galleries (or to the right-of-way for areas if within area designate as contributing to the ROW) as obvious to the naked eye per City inspector determination. Driveways shall be a minimum of 2 feet from property lines separating lots. The 2-ft. separation within ROW may be waived by City Engineer.
- c) **Infiltration Facility Placement.** Downstream infiltration facilities shall be located a minimum of 20-ft from foundations and 15-ft from property lines or as per stamped engineering recommendation (but no less than 5-ft). Upstream infiltration facilities shall be located a minimum of 100 feet from property lines or foundations on or off the site or as per stamped engineering recommendation recognized by City Engineer.

5) **APPROVED HYDROLOGIC METHODOLOGIES**

Design methodology shall be selected based on the function of the facility (flood control, water quality, surface water discharge) and how the facility is designed to operate (flow-based, volume-based, combined basis). Note that values for 25-year/24-hour stormwater computations are in parentheses.

- a) **Tabulated Swale Dimensions.** In lieu of providing stormwater calculations, stormwater designs for may use the following tables in providing adequate on-site stormwater storage volumes through shallow yard grading

1. **Tabulated Swale Dimensions for Public or Private Facilities Contributing to Public Areas (100-year, 24-hour SCS Type 1A On-site Storm Storage).** Use the table below to determine the dimensions of a 4:1 swale required to retain the 100-year/24-hour storm event for areas that are contributing stormwater to public right-of-way, public land, or public easements.

TABULATED SWALE DIMENSIONS (100-Year)

(No Overflow to ROW)

Width (ft)	4	5	6	7	8	9	10	11	12	13	14	15
Depth (in)	6	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5

Length (ft.) of 4:1 Swale Needed Per 1000 sq. ft. of Area

% Impervious Area		Length (ft.) of 4:1 Swale Needed Per 1000 sq. ft. of Area											
		0	5	10	15	20	25	30	35	40	45	50	55
	0	44	30	21	16	13	10	8	7	6	5	4	4
	5	47	32	23	18	14	11	9	8	6	6	5	4
	10	51	35	25	19	15	12	10	8	7	6	5	5
	15	55	38	27	21	16	13	11	9	8	7	6	5
	20	59	40	29	22	17	14	12	10	8	7	6	5
	25	63	43	31	24	19	15	12	10	9	8	7	6
	30	67	46	33	25	20	16	13	11	9	8	7	6
	35	71	49	35	27	21	17	14	12	10	9	7	7
	40	75	52	37	28	22	18	15	12	11	9	8	7
	45	79	54	40	30	24	19	16	13	11	10	8	7
	50	83	57	41	32	25	20	16	14	12	10	9	8
	55	87	60	44	33	26	21	17	15	12	11	9	8
	60	92	63	46	35	27	22	18	15	13	11	10	9
	65	96	66	48	36	29	23	19	16	14	12	10	9
	70	100	68	50	38	30	24	20	17	14	12	11	9
	75	104	71	52	39	31	25	21	17	15	13	11	10
	80	108	74	54	41	32	26	21	18	15	13	11	10
	85	112	77	56	43	33	27	22	19	16	14	12	10
	90	116	80	58	44	35	28	23	19	16	14	12	11
	95	120	82	60	46	36	29	24	20	17	15	13	11
	100	125	85	62	47	37	30	25	21	18	15	13	12

In addition to the swale width, a minimum of a foot of level buffer area should be left on all sides of the swale.

2. **Swale Dimensions for Private Property**
hour SCS Type 1A On-site Stormwater
 dimensions of a 4:1 swale required
 not contributing to the public right-of-way.
- TABULATED SWALE DIMENSIONS**
 (Overflow to ROW)
- | | | | |
|-------------------|----------|------------|----------|
| Width (ft) | 4 | 5 | 6 |
| Depth (in) | 6 | 7.5 | 9 |
-
- | | |
|----|------------------------|
| | Length (ft.) of |
| 0 | 29 19 14 |
| 5 | 32 22 16 |
| 10 | 36 24 18 |
| 15 | 39 27 19 |
| 20 | 43 29 21 |

(Overflow to ROW)

	Length (ft.) of 4:1 Swale Needed Per 1000 sq. ft. of Area											
0	29	19	14	11	8	7	5	5	4	3	3	3
5	32	22	16	12	9	7	6	5	4	4	3	3
10	36	24	18	13	10	8	7	6	5	4	4	3
15	39	27	19	15	11	9	8	6	5	5	4	4
20	43	29	21	16	13	10	8	7	6	5	4	4
25	47	32	23	17	14	11	9	8	6	6	5	4
30	50	34	25	19	15	12	10	8	7	6	5	5
35	54	37	27	20	16	13	11	9	8	6	6	5
40	57	39	28	22	17	14	11	9	8	7	6	5
45	61	42	30	23	18	15	12	10	9	7	6	6
50	64	44	32	24	19	15	13	11	9	8	7	6
55	68	47	34	26	20	16	13	11	10	8	7	6
60	72	49	36	27	21	17	14	12	10	9	8	7
65	76	52	38	29	22	18	15	13	11	9	8	7
70	79	54	39	30	24	19	16	13	11	10	8	7
75	83	57	41	31	25	20	16	14	12	10	9	8
80	86	59	43	33	26	21	17	14	12	11	9	8
85	90	62	45	34	27	22	18	15	13	11	10	8
90	94	64	47	36	28	23	19	16	13	11	10	9
95	97	67	48	37	29	23	19	16	14	12	10	9
100	101	69	50	38	30	24	20	17	14	12	11	9

- b) **Flood Control.** Stormwater facilities are designed to meet both the 100-year (public) or 25-year (private non-contributing), 24-hour storm and the short duration storm. The SCS Type 1A storm produces a higher volume of water and is used to evaluate volume-based flood-control facilities; the short-duration storm produces a higher peak flow and is used to evaluate flow-based flood-control facilities. Both storms are used to evaluate facilities based on both volume and flow.

1. **Flow-rate Based Facilities.** Elements of stormwater facilities that must accommodate the maximum rate-of-flow during a storm event without regard for storage shall be sized using either the Rational Method per Section 4.8 in the storm manual or the Santa Barbara Urban Hydrograph (SBUH) method described in Section 4.5. These methods may be used for storm line sizing, drywells reliant solely on infiltration, and water quality biofiltration swales.

- (1) **Rational Method. 100 (25) year** peak rainfall intensity for use in the Rational Method may be determined for sizing flow-based facilities by the following equation:

$$I = m/(T_c)^n \text{ where}$$

$m = 13.28$ (9.67) and $n = 0.660$ (0.645) for 100 (25)-year/24-hour storm

Note: The SBUH method (below) must be used for all elements of projects with over 10,000 square feet of impervious area that influence the discharge rate to surface waters.

- (2) **SBUH Method.** The 25-year short duration storm may be used with the SBUH method to develop a SBUH runoff hydrograph for sizing flow-based facilities. The total precipitation depth is derived by multiplying the 2-year, 2-hour isopluvial's 2-hour precipitation value (0.45 inch) by 1.06 to obtain the 3-hour, short-storm total precipitation value which is in turn adjusted by 1.82 (Table 4.3.6) for a 25-year recurrence interval. The resulting 0.87 inches is then distributed across the intervals of the Short Storm Hyetograph to obtain the SBUH runoff hydrograph.

Isopluvial: 2-year, 2-hour (Figure 4.3.6)

Total Precipitation Amount: $0.45 \text{ in} \times 1.06 \times 2.48 (1.82) = 1.18 (0.87) \text{ in}$

Hyetograph: Short-duration Storm Hyetograph (Table 4.D-3)

2. **Volume-Based Facilities: SBUH Method (24-hour SCS Type 1A Storm).** Volume-based facility designs that do not rely upon movement of water through or out of the facility shall be sized using the 100-year (public) or 25-year (private, no-contributing), 24-hour SCS Type 1A storm with the SBUH method.

Isopluvial: 100 (25)-year, 24-hour (Figure 4.4.4(4.4.2))

Total Precipitation Amount: 2.1 (1.9) in

Hyetograph: SCS Type 1A (Table 4.D.1)

3. **Combined Flow & Volume-Based Facilities: SBUH Method (25-year, 3 and 24-hour Short-Duration & SCS Type 1A Storms).** Facilities that rely on both flow and volume to address flood control shall evaluate both the long and short storms using the SBUH method.
- c) **Water Quality Treatment (6-month storm).** Flow-based water quality treatment facility designs are evaluated for their ability to treat the 6-month storm. Note that specific storm design criteria for treatment facilities, such as infiltration and bio-infiltration swales (2-year, 24-hour storm) may also apply in order to achieve the performance goal of a particular best management practice (BMP). The SBUH method is used for all water quality treatment designs except that the Flow-based facility designs may be based on either the Rational

Method or the SBUH method. Volume based facilities and facilities and “combined” designs must use the SBUH method.

1. **Flow-rate Based Treatment Facility Design Methodologies.** Elements of stormwater facilities that treat the 6-month storm without regard for storage shall be sized using either the Rational Method per Section 4.8 in the storm manual or the Santa Barbara Urban Hydrograph (SBUH) method described in Section 4.5. These methods may be used for drywells reliant solely on infiltration, and water quality biofiltration swales.

- (1) **Rational Method (6-month storm Peak Intensity).** 6-month peak rainfall intensity for use with the Rational Method may be determined by computing rainfall intensity for the two year return frequency ($m=3.33$, $n=0.569$) and then multiplying by 0.66 adjust for the 6-month return frequency based on the factors found in Table 4.3.6. This approach is based on the assumption that the peak run-off is proportional to total runoff. No adjustment is made the duration of the storm since “I” already reflects the maximum intensity for a particular recurrence interval independent of storm duration.

$$I = 0.66 * (m / (T_d)^n) \text{ where } m = 3.33 \text{ and } n = 0.569$$

- (2) **SBUH Method (6-month, 3-hour Short Duration Storm).** The SBUH method may be used to design flow-based facilities based on upon their ability to successfully treat the short-duration 6-month, 3-hour storm (Method 1, p. 26). Short duration storm precipitation is obtained by multiplying the isopluvial’s 2-year, 2-hour precipitation value (Figure 4.3.6) of 0.45 inch by 1.06 (see Chapter 4, p. 17) to obtain the 3-hour, short duration storm value and then by 0.66 (Table 4.3.6) to adjust for the 6-month recurrence interval for a total of 0.32 in. Note that some BMPs may require different return intervals of the 3-hour storm and Table 4.3.6 shall be consulted for the appropriate conversion factor.

Isopluvial: 2-year, 2-hour (Figure 4.3.6)

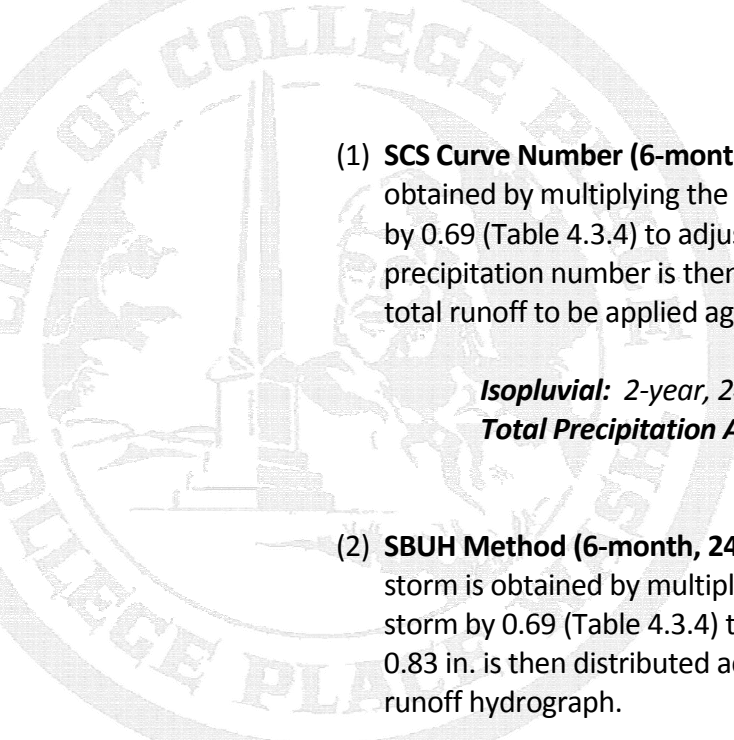
Total Precipitation Amount: $0.45 \text{ in} \times 1.06 \times 0.66 = 0.31 \text{ in}$

Hyetograph: Short-duration Storm Hyetograph (Table 4.3.6)

Exception. Facilities affected by upstream detention facilities shall be sized based on the full 2-year release rate of the detention facility.

Exception. Specific storm design criteria for treatment facilities, such as infiltration and bio-infiltration swales (2-year, 24-hour storm) may also apply in order to achieve the performance goal of a particular best management practice (BMP).

2. **Volume-based Treatment Facility Design Methodologies.** Volume-based treatment facility designs that do not rely upon movement of water through or out of the facility shall be sized using the long duration 6-month, SCS Type 1A storm with either the **SCS Curve Number** or **SBUH** methods.

- 
- (1) **SCS Curve Number (6-month, 24-hour Storm).** The 6-month, 24-hour storm is obtained by multiplying the total precipitation values of the 2 year, 24-hour storm by 0.69 (Table 4.3.4) to adjust for the 6-month return interval. The resulting total precipitation number is then used in the curve number equation to produce the total runoff to be applied against the total area under consideration.

Isopluvial: 2-year, 24-hour (Figure 4.3.7)

Total Precipitation Amount: $1.2 \text{ in} \times 0.69 = 0.83 \text{ in}$

- (2) **SBUH Method (6-month, 24-hour SCS Type 1A Storm).** The 6-month, SCS Type 1A storm is obtained by multiplying the total precipitation values of the 2 year, 24-hour storm by 0.69 (Table 4.3.4) to adjust for the 6-month return interval. The resulting 0.83 in. is then distributed across the SCS Type 1A hyetograph to generate the SBUH runoff hydrograph.

Isopluvial: 2-year, 24-hour (Figure 4.3.7)

Total Precipitation Amount: $1.2 \text{ in} \times 0.69 = 0.83 \text{ in}$

Hyetograph: SCS Type 1A (Table 4.D-1)

3. **Combined Flow & Volume-Based Treatment Facility Design Methodology: SBUH 6-month Long & Short-duration Storms.** Facilities that rely on both flow and volume to address flood control shall evaluate both the short duration and Type 1A storms using the SBUH method.
- d) **Surface Water Discharge Facility Design (2-year, 25-year, 24-hour storms).** Facilities designed to discharge stormwater to a surface water body must meet two peak discharge criteria based on 2 and 25-year, 24-hour Modified Type 1A design storms using the SBUH method.
1. **SBUH Method for 2-year, 24-hour SCS Type 1A Storm.** Facilities discharging water to a surface water body cannot exceed 50% of the predevelopment 2-year, 24-hour discharge to the water body. Distribute the total precipitation of 1.0 inches obtained from the 2-year, 24-hour isopluvial across the SCS Type 1A (Table 4.D-1) hyetograph.

Isopluvial: 2-year, 24-hour (Figure 4.3.7)

Total Precipitation Amount: 1.2 in

Hyetograph: SCS Type 1A (Table 4.D-1)

2. **SBUH Method for 25-year, 24-hour SCS Type 1A Storm.** Facilities discharging water to a surface water body cannot exceed the peak 25-year, 24-hour predevelopment discharge rate to the water body. Distribute a total precipitation of 1.9 inches obtained from the 25-year, 24-hour isopluvial across the SCS Type 1A (Table 4.D-1) hyetograph.

Isopleth: 25-year, 24-hour (Figure 4.3.7)

Total Precipitation Amount: 1.9 in

Hyetograph: SCS Type IA (Table 4.D-1)

6) HYDROLOGIC CRITERIA SUMMARY

The design criteria describe above is summarized in the chart below. Values on this table may be referenced in the storm design report without further explanation. Note that the table reports 100-year values with 25-year values are in parentheses.

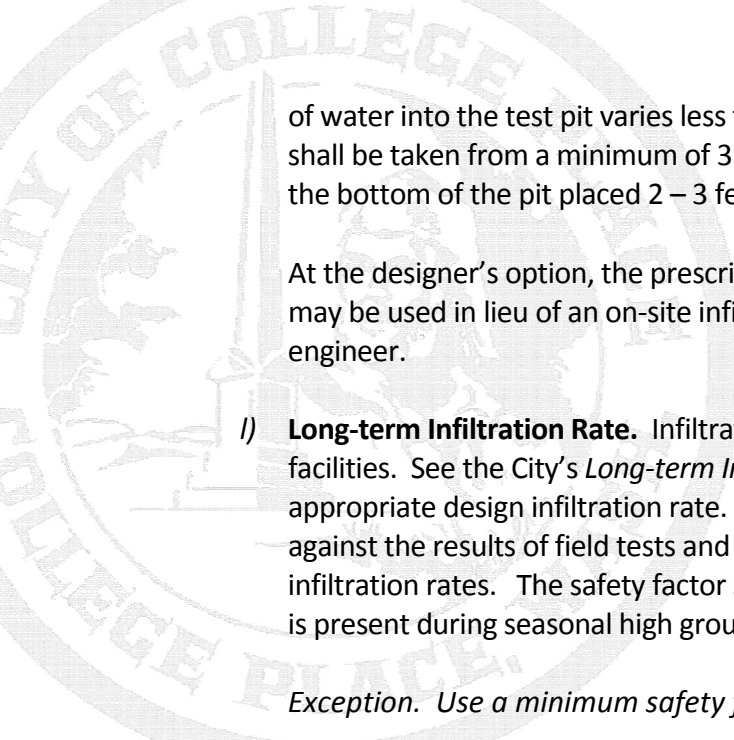
Criteria	Facility Type	Method	Hydrologic Design Criteria	Hyetograph
Flood Control				
	Flow-Based	Rational Method	m=13.28 (9.67), n=0.660(0.645)	N/A
		SBUH	1.18 (0.87) in.	Table 4.D-3
	Volume-Based	SBUH	2.1 (1.9) in.	Table 4.D-1
	Combined	SBUH	1.18 (0.87) in.	Table 4.D-3
			2.1 (1.9) in.	Table 4.D-1
Treatment				
	Flow-Based	Rational Method	m=3.33, n=0.569	N/A
		SBUH	0.31 in.	Table 4.D-3
	Volume-Based	SCS Curve #'s	0.83 in.	N/A
		SBUH	0.83 in.	Table 4.D-1
	Combined	SBUH	0.31 in.	Table 4.D-3
			0.83 in.	Table 4.D-1
Discharge				
	All	SBUH (2-year)	1.2 in.	Table 4.D-1
		SBUH (25-year)	1.9 in.	Table 4.D-1

Table 5.1

- 7) **OTHER DESIGN CONSIDERATIONS.** Please note the following as important considerations that should also be observed in preparing a storm design:
- Structure of Design Report.** See the City's *Stormwater Report Structure Guidance* for information on how to structure your stormwater report.
 - Role of the SMMEW.** The City implements the recommendations and requirements of the SMMEW and utilizes the SMMEW as its defacto specification for stormwater design. The SMMEW should be consulted as necessary for specific guidance on design procedures and facility design.
 - Area of Contribution.** For the purposes of calculating stormwater runoff, the design area of

contribution shall include:

- (1) The entire site, including swale areas and ponds
 - (2) Off-site and upstream contributing areas.
- d) **Flow Routing.** The design shall take into account flow-routing where one or more storm facility's function impacts another.
- e) **Imperious and Pervious Areas.** The design pervious and impervious assumptions and C/CN values shall conservatively reflect existing and proposed site conditions.
- f) **Flood Control vs. Water Quality Design.** In cases where storm facilities are designed for both flood control and treatment of the 25-year, 24-hour storm, it may not be necessary to calculate the lower flows of stormwater associated with the water quality event.
- g) **Role of 72-hour Drainage Requirement.** Swales and other impoundment features must drain within 72-hours to provide capacity for the next storm system. The low rate of infiltration in many of our silty soils in this area can pose a challenge. Areas fronting on creeks may drain water to water bodies as long as they treat adequately and observe the Surface Water Discharge criteria.
- h) **Reserved Requirements.** The following additional design requirements are to be addressed as deemed necessary by the engineer-of-record to meet the flood control (FC) criteria:
- (1) Rain-on-snow and snowmelt design.
 - (2) Design for regional storm with antecedent precipitation.
 - (3) Use of saturated soil condition curve numbers in design calculations.
 - (4) Soil CEC (treatment capacity) testing confirmation.
- i) **Role of High Groundwater.** The "seasonal high groundwater level" will dictate the kinds of stormwater facilities that can be utilized on a site. On-site groundwater explorations during the months of January through April will be considered seasonal high groundwater levels. Unless other factors dictate, the City will typically add 3 ft. to groundwater levels observed outside of these times.
- Generally speaking, the higher the groundwater, the more area will be required for stormwater management. If fine-grained soils are present, drywells can generally be used when depths exceed 12 feet. Sites with shallower groundwater within 6 feet of the surface can often use surface swale systems for treatment and storage. Sites with groundwater shallower than 6 feet may need to resort to wet-ponds or wetlands for treatment.
- j) **Role of Soil Type.** Facility configuration is closely related to the types of soil on the site when treatment is required. Finer-grained soils can more readily support infiltration facilities whereas coarse-grained materials may limit options to surface swales and on-site soil amendment measures.
- k) **On-site Infiltration Rate Testing.** Any on-site testing shall be conducted under fully saturated conditions with minimum test duration of two hours or until rate of introduction



of water into the test pit varies less than 5% over a 10-minute period. Falling head readings shall be taken from a minimum of 3 ft. of depth to 6 inches above the bottom of the pit with the bottom of the pit placed 2 – 3 feet below the bottom of the proposed infiltration facility.

At the designer's option, the prescriptive rates provided in the Table 5.4.2 of the guidance may be used in lieu of an on-site infiltration test where soil types are identified by a licensed engineer.

- l) **Long-term Infiltration Rate.** Infiltration rates will significantly impact the design of storm facilities. See the City's *Long-term Infiltration Rate Guidance* for guidance in selecting an appropriate design infiltration rate. Note that a minimum safety factor of 4 shall be applied against the results of field tests and prescriptive short-term values to obtain long-term infiltration rates. The safety factor shall be increased to 6 or more where high groundwater is present during seasonal high groundwater conditions.

Exception. Use a minimum safety factor of 2 in gravelly soils.

Exception. Use a safety factor of 2 when calculating the below-grade 10-year, 24-hour stormwater component on constrained sites.

- m) **Treatment Requirements.** The City consults the SMMEW for guidance on treatment requirements on a case-by-case basis. Spill control "T" type catch basins, though not endorsed as an approved treatment process in the manual, have been verbally recognized by Ecology as a pragmatic oil treatment device for transportation systems.
- n) **Stormwater Collection Design.** Consult Section 301 of the City's *Standard Specifications* and the 310 series of standard plans for specific facility requirements related to stormwater collection design.

Section 3

PROCEDURE FOR CONDUCTING A PILOT INFILTRATION TEST

Last Update: May 8, 2009

(Source: The following information is reproduced from *Appendix III-D* of the *Stormwater Manual for Western Washington* except as amended to apply typical infiltration correction factors (Table 3.7 of *Western Washington Manual*) consistent with recommendations of *Stormwater Manual for Eastern Washington, Table 5.4.1, footnote #3.*)

The Pilot Infiltration Test (PIT) consists of a relatively large-scale infiltration test to better approximate infiltration rates for design of stormwater infiltration facilities. The PIT reduces some of the scale errors associated with relatively small-scale double ring infiltrometer or “stovepipe” infiltration tests. It is not a standard test but rather a practical field procedure recommended by Ecology’s Technical Advisory Committee.

Infiltration Test

- Excavate the test pit to the depth of the bottom of the proposed infiltration facility. Lay back the slopes sufficiently to avoid caving and erosion during the test.
- The horizontal surface area of the bottom of the test pit should be approximately 100 square feet. For small drainages and where water availability is a problem smaller areas may be considered as determined by the site professional.
- Accurately document the size and geometry of the test pit.
- Install a vertical measuring rod (minimum 5-ft. long) marked in half-inch increments in the center of the pit bottom.
- Use a rigid 6-inch diameter pipe with a splash plate on the bottom to convey water to the pit and reduce side-wall erosion or excessive disturbance of the pond bottom. Excessive erosion and bottom disturbance will result in clogging of the infiltration receptor and yield lower than actual infiltration rates.
- Add water to the pit at a rate that will maintain a water level between 3 and 4 feet above the bottom of the pit. A rotameter can be used to measure the flow rate into the pit.

Note: *A water level of 3 to 4 feet provides for easier measurement and flow stabilization control. However, the depth should not exceed the proposed maximum depth of water expected in the completed facility.*

Every 15-30 min, record the cumulative volume and instantaneous flow rate in gallons per minute necessary to maintain the water level at the same point (between 3 and 4 feet) on the measuring rod.

Add water to the pit until one hour after the flow rate into the pit has stabilized (constant flow rate) while maintaining the same pond water level. (usually 17 hours)

After the flow rate has stabilized, turn off the water and record the rate of infiltration in inches per hour from the measuring rod data, until the pit is empty.

Data Analysis

Calculate and record the infiltration rate in inches per hour in 30 minutes or one-hour increments until one hour after the flow has stabilized.

Note: Use statistical/trend analysis to obtain the hourly flow rate when the flow stabilizes. This would be the lowest hourly flow rate.

Apply appropriate correction factors for site heterogeneity, anticipated level of maintenance and treatment to determine the site-specific design infiltration rate. The chart below provides typical long-term correction factors.

Table 3.7 -- Recommended Infiltration Rates based on USDA Soil Textural Classification.			
	*Short-Term Infiltration Rate (in./hr)	Correction Factor, CF	Estimated Long- Term (Design) Infiltration Rate (in./hr)
Clean sandy gravels and gravelly sands (i.e., 90% of the total soil sample is retained in the #10 sieve)	20	2	10**
Sand	8	4	2***
Loamy Sand	2	4	0.5
Sandy Loam	1	4	0.25
Loam	0.5	4	0.13

*From WEF/ASCE, 1998.

**Not recommended for treatment

*** Refer to SSC-4 and SSC-6 for treatment acceptability criteria

The correction factors noted above may not adequately predict the long-term infiltration rate and may be increased as deemed necessary by the City based on the table below:

Table 3.9 Correction Factors to be Used With In-Situ Infiltration Measurements to Estimate Long-Term Design Infiltration Rates.	
Issue	Partial Correction Factor
Site variability and number of locations tested	$CF_v = 1.5$ to 6
Degree of long-term maintenance to prevent siltation and bio-buildup	$CF_m = 2$ to 6
Degree of influent control to prevent siltation and bio-buildup	$CF_i = 2$ to 6

$$\text{Total Correction Factor (CF)} = CF_v + CF_m + CF_i$$

(Note: Both Table 3.7 and 3.9 are found in the Stormwater Management Manual for Western Washington.)

Example

The area of the bottom of the test pit is 8.5-ft. by 11.5-ft.

Water flow rate was measured and recorded at intervals ranging from 15 to 30 minutes throughout the test. Between 400 minutes and 1,000 minutes the flow rate stabilized between 10 and 12.5 gallons per minute or 600 to 750 gallons per hour, or an average of $(9.8 + 12.3) / 2 = 11.1$ inches per hour.

Example: $(750 \text{ gallons/hour}) * (1 \text{ cu. ft.} / 7.4805 \text{ gallons}) * 1 / (8.5 \text{ ft.} \times 11.5 \text{ ft.}) * (12 \text{ in.} / \text{ft.}) = 12.3$ inches per hour

Applying a correction factor of 4 for sand in table 3.7 the design long-term infiltration rate becomes 2.8 inches per hour, anticipating adequate maintenance and pre-treatment.

Section 4

LONG-TERM INFILTRATION RATE GUIDELINES

Last Update: May 8, 2009

(Source: *Section 3, Stormwater Management Manual for Western Washington*)

Long-term infiltration rates used in the design of infiltration facilities may be determined using one of the three methods described below. Verification testing of the completed facility is may be required.

A. USDA Soil Textual Classification Method.

Presumptive long-term infiltration rates based on USDA soil texture gradations from soil samples and textural analysis may be utilized below. Short-term infiltration rates are corrected for the effects of site variability and long-term clogging due to siltation and biomass buildup in the infiltration facility by safety factors to provide the “Estimated” or presumptive long-term infiltration rate. Note that the first two soil classifications are not suitable for treatment.

Table 3.7 -- Recommended Infiltration Rates based on USDA Soil Textural Classification.			
	*Short-Term Infiltration Rate (in./hr)	Correction Factor, CF	Estimated Long- Term (Design) Infiltration Rate (in./hr)
Clean sandy gravels and gravelly sands (i.e., 90% of the total soil sample is retained in the #10 sieve)	20	2	10 ^{**}
Sand	8	4	2 ^{***}
Loamy Sand	2	4	0.5
Sandy Loam	1	4	0.25
Loam	0.5	4	0.13

*From WEF/ASCE, 1998.

**Not recommended for treatment

*** Refer to SSC-4 and SSC-6 for treatment acceptability criteria

Correction factors higher than those provided in Table 3.7 may be required where long-term maintenance will be difficult to implement, where little or no pretreatment is anticipated, or

where site conditions are highly variable or uncertain. An Operation and Maintenance plan and a financial bonding plan may be required.

The infiltration rates provided in Table 3.7 represent rates for homogeneous soil conditions. If more than one soil unit is encountered within 6 feet of the facility base or 2.5 times the proposed maximum water design depth, use the lowest infiltration rate determined from each of the soil units as the representative site infiltration rate. If soil mottling, fine silt or clay layers, which cannot be fully represented in the soil gradation tests is present below the bottom of the infiltration pond, the infiltration rate for homogeneous conditions shall be reduced by a factor of 4.

B. ASTM Gradation Testing at Full Scale Infiltration Facilities Method.

Table 3.8 can be used to estimate long-term design infiltration rates directly from soil gradation data. As is true of Table 3.7, the long-term rates provided in Table 3.8 represent average conditions regarding site variability, the degree of long-term maintenance and pretreatment for TSS control. The long-term infiltration rates in Table 3.8 may need to be decreased if the site is highly variable, or if maintenance and influent characteristics are not well controlled. Table 3.8 applies to sands or sandy gravels and should not be used for soils with a d_{10} size (10% passing the size listed) less than 0.05 mm (U.S. Standard Sieve).

Coarse Soil Presumptive Long-term Infiltration Rates

Table 3.8 -- Alternative Recommended Infiltration Rates based on ASTM Gradation Testing.	
D_{10} Size from ASTM D422 Soil Gradation Test (mm)	Estimated Long-Term (Design) Infiltration Rate (in./hr)
≥ 0.4	9*
0.3	6.5*
0.2	3.5*
0.1	2.0**
0.05	0.8

* Not recommended for treatment

** Refer to SSC-4 and SSC-6 for treatment acceptability criteria

Presumptive long-term Infiltration rates for finer soils may be obtained from Figure 3.28.

Fine Soil Presumptive Long-term Infiltration Rates

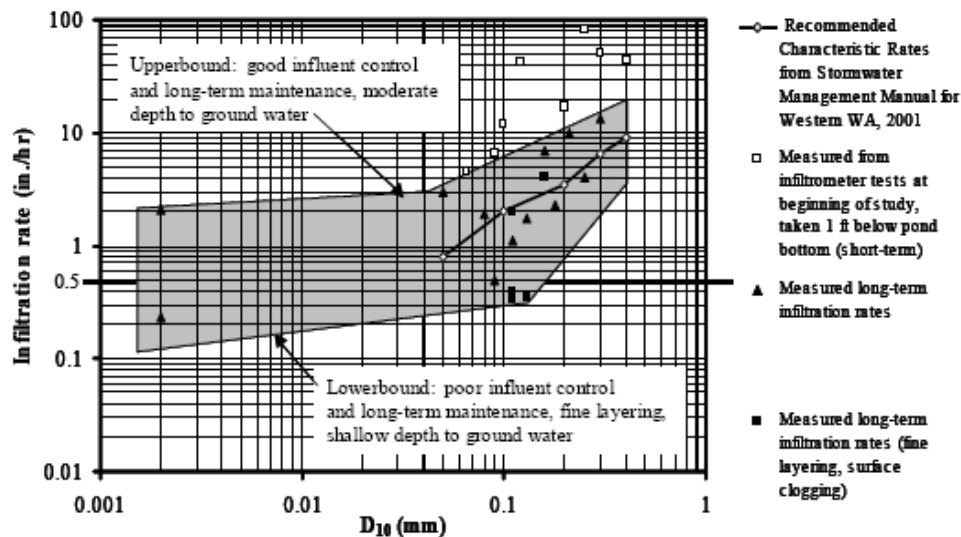


Figure 3.28 – Infiltration Rate as a Function of the D₁₀ Size of the Soil for Ponds in Western Washington

(the mean values represent low gradient conditions and relatively shallow ponds)

The long-term rates provided in Table 3.8 represent average conditions regarding site variability, the degree of long-term maintenance, and pretreatment for TSS control, and represent a moderate depth to ground water below the pond. The long-term infiltration rates in Table 3.8 may need to be decreased (i.e., toward the lower bound in Figure 3.28) if the site is highly variable, the ground water table is shallow, there is fine layering present that would not be captured by the soil gradation testing, or maintenance and influent characteristics are not well controlled. However, if influent control is good (e.g., water entering the pond is pretreated through a biofiltration swale, pre-sedimentation pond, etc.), a good long-term maintenance plan will be implemented, and the water table is moderate in depth, then an infiltration rate toward the upper bound in the figure could be used.

The infiltration rates provided in Table 3.8, and Figure 3.28 represent rates for homogeneous soil conditions. If more than one soil unit is encountered within 6 feet of the base of the facility or 2.5 times the proposed maximum water design depth, use the lowest infiltration rate determined from each of the soil units as the representative site infiltration rate. If soil mottling, fine silt or clay layers, which cannot be fully represented in the soil gradation tests is present below the bottom of the infiltration pond, the infiltration rate for homogeneous conditions shall be reduced by a factor of 4.

The rates shown in Table 3.8 and Figure 3.28 are long-term design rates. No additional correction factors are needed.

C. PIT Test

In-situ infiltration measurements, using the Pilot Infiltration Test (PIT) (*Procedure for Conducting a Pilot Infiltration Test*) are encouraged and may be required by the City. Small-scale infiltration tests such as the see EPA Falling Head or double ring infiltrometer test (ASTM D3385-88) are not permitted.

The infiltration rates obtained from the PIT test are short-term rates and shall be reduced to account for site variability and number of tests conducted, degree of long-term maintenance and influent pretreatment/control, and potential for long-term clogging due to siltation and bio-buildup. The typical range of correction factors to account for these issues is summarized in Table 3.9. The range of correction factors is for general guidance only. The specific correction factors used shall be determined at the discretion of the City based on the following factors:

Site variability and number of locations tested - The number of locations tested must be capable of producing a picture of the subsurface conditions that fully represents the conditions throughout the facility site. The partial correction factor used for this issue depends on the level of uncertainty that adverse subsurface conditions may occur. If the range of uncertainty is low - for example, conditions are known to be uniform through previous exploration and site geological factors - one pilot infiltration test may be adequate to justify a partial correction factor at the low end of the range. If the level of uncertainty is high, a partial correction factor near the high end of the range may be appropriate. This might be the case where the site conditions are highly variable due to a deposit of ancient landslide debris, or buried stream channels. In these cases, even with many explorations and several pilot infiltration tests, the level of uncertainty may still be high. A partial correction factor near the high end of the range could be assigned where conditions have a more typical variability, but few explorations and only one pilot infiltration test that does not match the degree of site variability anticipated.

Degree of long-term maintenance to prevent siltation and bio-buildup - The standard of comparison here is the long-term maintenance requirements provided in Volume V, Chapter 4, and any additional requirements by local jurisdictional authorities. Full compliance with these requirements would be justification to use a partial correction factor at the low end of the range. If there is a high degree of uncertainty that long-term maintenance will be carried out consistently, or if the maintenance plan is poorly defined, a partial correction factor near the high end of the range may be justified.

Degree of influent control to prevent siltation and bio-buildup – A partial correction factor near the high end of the range may be justified under the following circumstances:

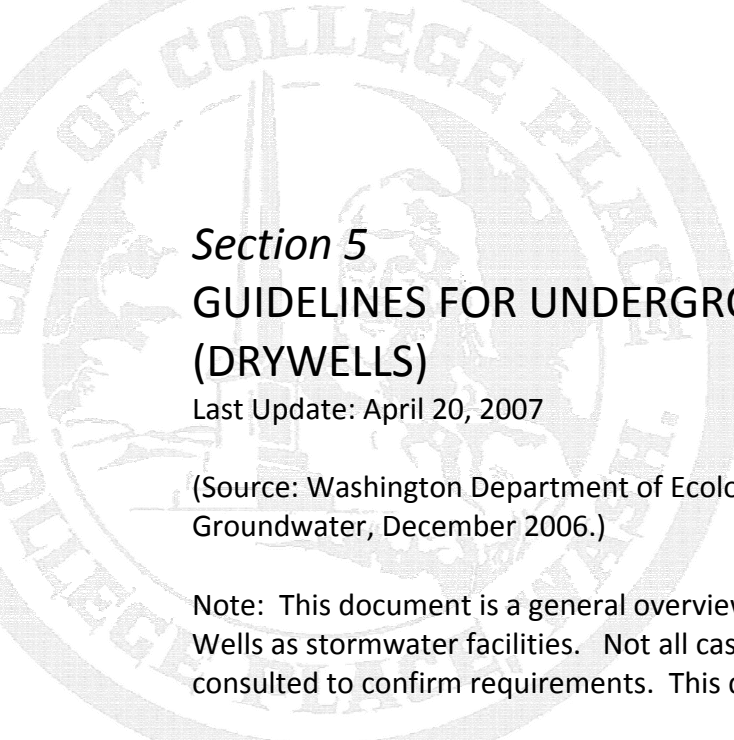
1. If the infiltration facility is located in a shady area where moss buildup or litter fall buildup from the surrounding vegetation is likely and cannot be easily controlled through long-term maintenance.
2. If there is minimal pre-treatment, and the influent is likely to contain moderately high TSS levels. If influent into the facility can be well controlled such

that the planned long-term maintenance can easily control siltation and biomass buildup, then a partial correction factor near the low end of the range may be justified. The determination of long-term design infiltration rates from in-situ infiltration test data involves a certain level of uncertainty and the City may require textural analyses at its discretion.

Table 3.9 Correction Factors to be Used With In-Situ Infiltration Measurements to Estimate Long-Term Design Infiltration Rates.

Issue	Partial Correction Factor
Site variability and number of locations tested	$CF_v = 1.5 \text{ to } 6$
Degree of long-term maintenance to prevent siltation and bio-buildup	$CF_m = 2 \text{ to } 6$
Degree of influent control to prevent siltation and bio-buildup	$CF_i = 2 \text{ to } 6$

Total Correction Factor (CF) = $CF_v + CF_m + CF_i$



Section 5

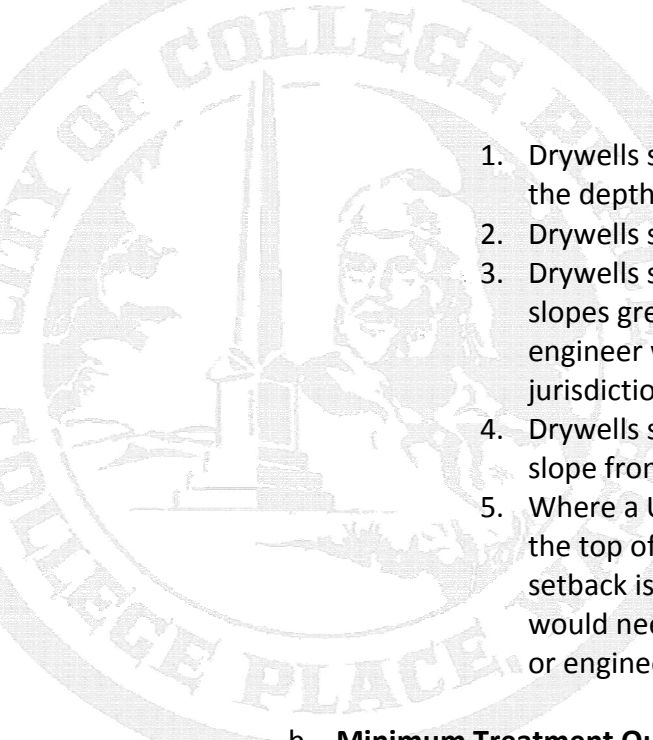
GUIDELINES FOR UNDERGROUND INJECTION CONTROL WELLS (DRYWELLS)

Last Update: April 20, 2007

(Source: Washington Department of Ecology Guidance for UIC Wells that Manage Groundwater, December 2006.)

Note: This document is a general overview of the requirements and restrictions on use of UIC Wells as stormwater facilities. Not all cases are covered here and Ecology's guidance shall be consulted to confirm requirements. This document is subject to change.

1. **PROHIBITIONS:** UIC Wells may not be used to dispose of stormwater from areas that include:
 - a. Vehicle maintenance, repair and service.
 - b. Commercial or fleet vehicle washing.
 - c. Storage or handling of hazardous materials.
 - d. Industrial or commercial areas that have outdoor processing, handling, or storage of raw solid materials or finished products at the facility and are without management plans for proper storage and spill prevention, control, and containment appropriate to the types of materials handled at the facility (see the Ecology stormwater management manuals for information on stormwater pollution prevention plans and source control).
 - e. Other. See the Guidance manual for other situations where UIC may not be used.
2. **PERMITTING:** All UIC wells are permitted through the Department of Ecology, not the City of College Place; however, we do require that their design and installation meets Ecology requirements as part of our permitting process. All wells must be registered with the Department of Ecology before construction and must not contaminate groundwater.
3. **DESIGN REQUIREMENTS:**
 - a. **Siting Restrictions:** UIC Wells cannot be sited in the following locations:
 - i. Anywhere they might introduce contamination into groundwater.
 - ii. They must be sited at least 100' away from any well or spring used for drinking water supply.
 - iii. In areas where they may contribute to slope instability.

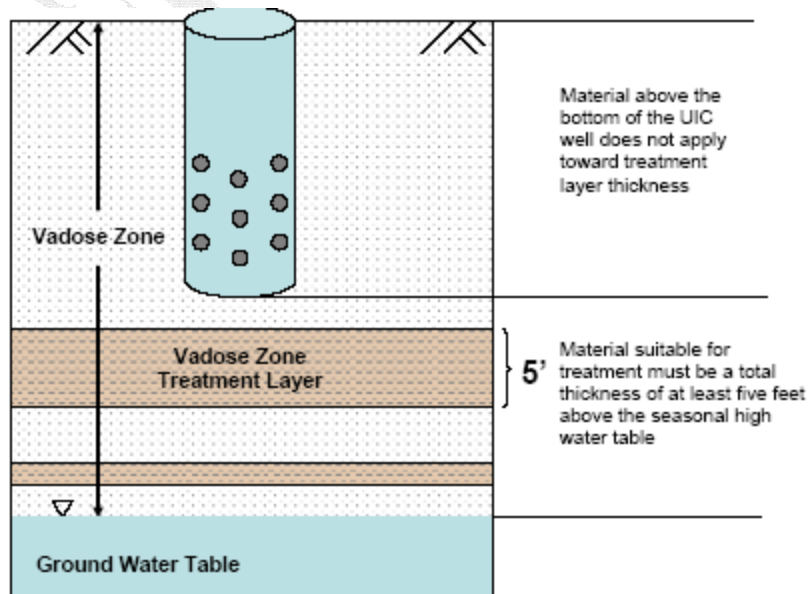
- 
1. Drywells should be no closer than 30 feet center to center or twice the depth, whichever is greater.
 2. Drywells should not be built on slopes greater than 25 percent (4:1).
 3. Drywells should not be placed on or above a landslide hazard area or slopes greater than 15 percent without evaluation by a professional engineer with geotechnical expertise or qualified geologist and jurisdiction approval.
 4. Drywells should be sited at least 100 feet up-slope and 20 feet down-slope from building foundations.
 5. Where a UIC well will be situated up-slope from a structure or behind the top of a slope inclined in excess of 15 percent, the minimum setback is typically equal to the height of the slope. This evaluation would need to be done by a qualified licensed professional engineer or engineering geologist.

b. **Minimum Treatment Quantity:** The UIC well must be designed to treat, at a minimum, the amount of runoff predicted from the 6-month, 24-hour storm. The total facility capacity will usually be higher as dictated by the requirements of the "Draft Stormwater Design Requirements".

c. **Facility Drainage.** The facility must drain within 72 hours.

d. **Vertical Separation from Groundwater.** UIC wells must not directly discharge into ground water.

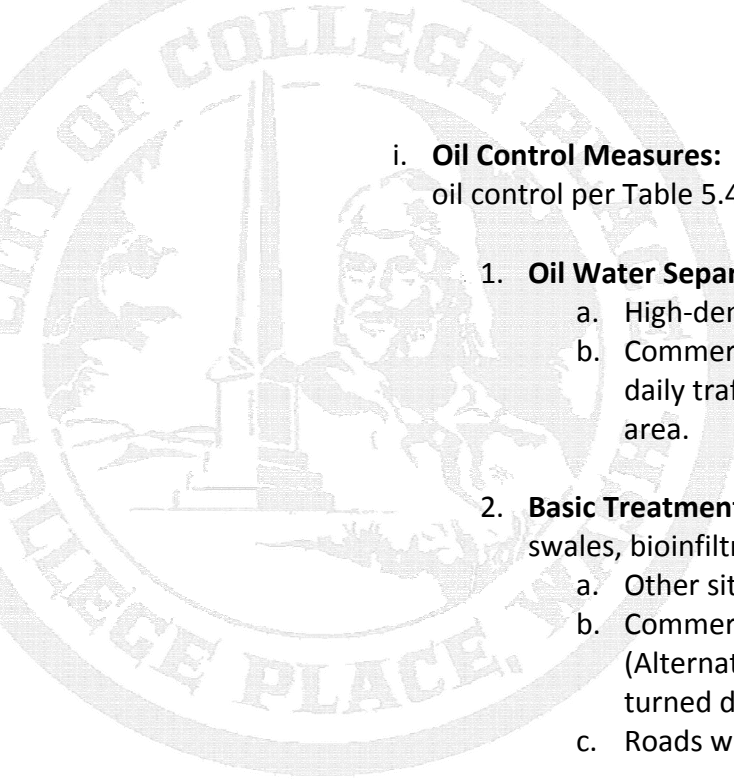
- i. The bottom of the drywell must be a minimum of five feet above the seasonal high groundwater; *however, the required depth can be much greater depending upon treatment requirements and the type of underlying soil.*
- ii. If the five feet separation cannot be met *and the pretreatment requirements are met*, a separation down to three feet may be considered if the ground water mounding analysis, the volumetric water holding capacity of the zone receiving the water, and the design of the overflow and/or bypass structures are judged by the design professional to be adequate to prevent overtopping.



e. **Spill Control Requirement:** The following types of sites will require spill control facilities in addition to the UIC well installation:

- i. **Parking areas** with trip end count equal to or greater than 300 vehicles or 100 trip ends per 1000 square feet of gross building area.
- ii. **A commercial or industrial site** subject to use, storage, or maintenance of a fleet of 25 or more diesel vehicles that are over 10 tons gross weight (trucks, buses, trains, heavy equipment, etc.). See Chapter 2.2 for prohibitions.
- iii. **A commercial or industrial site** subject to petroleum storage and transfer in excess of 1,500 gallons per year.
- iv. **Maintenance and repair facilities** for vehicles, aircraft, construction equipment, railroad equipment, or industrial machinery and equipment
- v. **Fueling stations and facilities.**
- vi. **Outdoor areas where hydraulic equipment is stored.**
- vii. **Sites subject to frequent use of forklifts** and (or) other hydraulic equipment.
- viii. **Roads** with ADT equal to or greater than 30,000 vehicles per day.
- ix. **Commercial on-street parking areas** on streets with an expected total ADT count equal to or greater than 7,500.

f. **Pretreatment Requirement:** Pretreatment requirements fall into two categories: oil control and solids removal. Ecology's Table 5.2, Table 5.3 and Table 5.4 determine when these requirements are triggered.



i. **Oil Control Measures:** Control measures must be taken at sites identified for oil control per Table 5.4 as follows:

1. **Oil Water Separator:**

- a. High-density intersections
- b. Commercial or industrial sites subject to an expected average daily traffic count (ADT) ≥ 100 vehicles/1000 ft² gross building area.

2. **Basic Treatment Techniques with Adsorptive Capacity** (biofiltration swales, bioinfiltration swales, filters, and catch basin inserts):

- a. Other sites where oil control is required
- b. Commercial parking and streets with ADT > 7500.
(Alternatively, a simple passive oil control device, such as a turned down elbow, may be used in these cases.
- c. Roads with ADT greater than 30,000.

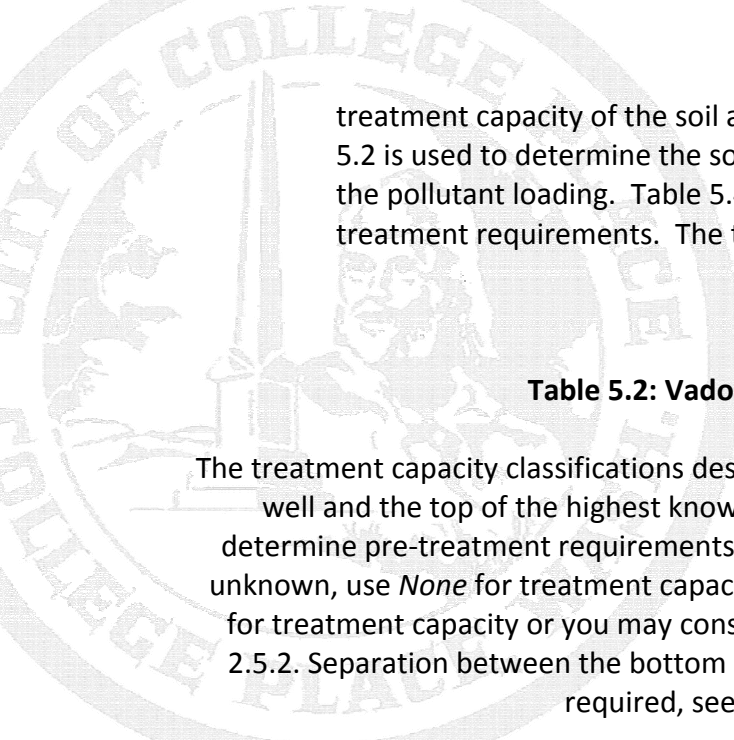
ii. **Solids Removal Measures:** Solids removal measures must be taken at sites as identified per Table 5.4. Solids removal is also required at:

1. Commercial sites with outdoor handling or storage of raw solid materials. Examples include gravel, sands, logs, salts and compost.
2. Industrial sites where outdoor processing, handling, or storage of raw solid materials or finished products, including outdoor loading areas for these materials or products, takes place.

iii. **Special Sites:** In addition to Table 5.4, the pretreatment of stormwater shall be provided in the following special situations:

1. The UIC well is less than 100 feet from a drinking water supply well and the seasonal high water table is less than 15 feet below the bottom of the UIC well.
2. The UIC well is less than 1000 feet from a drinking water supply well or less than 100 feet from a surface water body that is impaired due to coliform bacteria, and the vadose zone treatment capacity is categorized as “low” or “none.” See Table 5.2 at the end of this chapter.
3. The UIC well is located where it could receive runoff from areas or sites that generate high coliform bacteria loadings.
4. Roof runoff from industries or commercial businesses with ventilation systems specifically designed to remove commercial indoor pollutants must be evaluated on a case-by-case basis to identify the pollutants of concern and the appropriate pre-treatment requirements.

g. **Use of Ecology Tables 5.2, 5.3 and 5.4.** Consult Ecology’s guidance manual for detailed instructions. In general, treatment requirements are a function of the



treatment capacity of the soil and the level of pollutant loading from the site. Table 5.2 is used to determine the soils treatment capacity. Table 5.3 is used to determine the pollutant loading. Table 5.4 uses the results from the prior two tables to define treatment requirements. The tables are attached for your convenience.

Table 5.2: Vadose Zone Treatment Capacity

The treatment capacity classifications describe the vadose zone between the bottom of the UIC well and the top of the highest known seasonal water table. This table will be used to determine pre-treatment requirements when using Table 5.4. If vadose zone conditions are unknown, use *None* for treatment capacity. If thicknesses are less than those listed, use *None* for treatment capacity or you may consider using the demonstrative approach, see section 2.5.2. Separation between the bottom of the UIC well and the top of the water table is still required, see WAC 173-218-090(1) (b).

Treatment Capacity Classification and Required Minimum Thickness	Description of Vadose Zone Layer
HIGH A minimum thickness of five feet	Materials with median grain size < 0.125 mm Having a sand to silt/clay ratio of less than 1:1 and sand plus gravel < 50% Lean, fat, or elastic clay Sandy or silty clay Silt Clayey or sandy silt Sandy loam or loamy sand Silt/clay with inter-bedded sand Well-compacted, poorly-sorted materials This category generally includes till, hardpan, caliche, and loess
MEDIUM A minimum thickness of ten feet	Materials with median grain size 0.125mm to 4mm Sand to silt/clay ratio from 1:1 to 9:1 and percent sand > percent gravel Fine, medium or coarse sand Sand with interbedded clay and/or silt Poorly-compacted, poorly-sorted materials This category includes some alluvium and outwash deposits
LOW A minimum thickness of twenty-five feet	Materials with median grain size > 4mm to 64mm Having a sand to silt/clay ratio greater than 9:1 and percent sand less than percent gravel Poorly-sorted, silty or muddy gravel Sandy gravel, gravelly sand, or sand and gravel This category includes some alluvium and outwash deposits
NONE Minimum thickness not applicable	Materials with median grain size >64mm Having total fines (sand and mud) less than 5% Well-sorted or clean gravel Boulders and/or cobbles Fractured rock This category generally includes fractured basalt, other fractured bedrock, and cavernous limestone

Table 5.3: Pollutant Loading Classifications for Solids, Metals, and Oil in Stormwater Runoff Directed to UIC Wells

These are the categories of pollutant loadings used to determine whether the facility is exempt from the pre-treatment requirement when using Table 5.4.

Classification	Areas Contributing Runoff to the UIC Well (ADT = Average Daily Traffic)
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Insignificant	Impervious surfaces not subject to motorized vehicle traffic or application of sand or deicing compounds Un-maintained open space
Low	Parking areas with <40 trip ends per 1000 SF of gross building area or <100 total trip ends Other land uses with similar traffic/use characteristics (e.g. most residential parking and employee-only parking areas for small office parks or other commercial buildings) Inside Urban Growth Management Areas Fully controlled and partially controlled limited access highways with ADT less than 15000 Other roads with ADT less than 7500 vehicles per day Outside Urban Growth Management Areas All roads with ADT less than 15000 vehicles per day
Medium	Parking areas with between 40 and 100 trip ends per 1000 SF of gross building area or between 100 and 300 total trip ends Primary access points for high-density residential apartments Intersections controlled by traffic signals that do not meet the definition of a high-density intersection (see Glossary) Transit center bus stops Other land uses with similar traffic/use characteristics (e.g. visitor parking for small to medium commercial buildings with a limited number of daily customers) Inside Urban Growth Management Areas Fully controlled and partially controlled limited access highways with ADT between 15000 and 30000 vehicles per day Other roads with ADT between 7500 and 30000 vehicles per day Outside Urban Growth Management Areas All roads with ADT between 15,000 and 30,000 vehicles per day
High	High Use Sites In eastern Washington, all roads with ADT >30000 vehicles per day High-density intersections Parking areas with >100 trip ends per 1000 SF of gross building area or >300 total trip ends On-street parking areas of municipal streets in commercial and industrial areas Highway rest areas Other land uses with similar traffic/use characteristics (e.g., commercial buildings with a frequent turnover of visitors, such as grocery stores, shopping malls, restaurants, drive-through services, etc.

Table 5.4: Pre-treatment Required for Solids, Oil and Metals

Find the *Treatment Capacity Classification* from Table 5.2 and the *Pollutant Loading Classification* from Table 5.3. Use Table 5.4 to determine the pre-treatment requirements for

solids, oil, and metals based on these classifications. Pre-treatment technologies for solids, oil, and metals removal are provided by the Department of Ecology stormwater manuals.

Treatment capacity Pollutant loading	High	Medium	Low	None
Insignificant	None	None	None	None
Low	None	None	None	Remove solids ²
Medium	Two-stage drywells ¹	Two-stage drywells ¹	Remove solids ²	Remove solids ²
High	Remove oil ³	Remove oil ³	Remove oil and solids ^{2,3}	Remove oil and solids ^{2,3}

¹ **A two-stage drywell** is a catch basin or other pre-settling/spill control structure that traps small quantities of oils and solids. The catch basin or other pre-settling/spill control device must be inspected and cleaned regularly (see the operation and maintenance requirements in Ecology stormwater management manuals).

² **Treatment to remove solids** means basic treatment. See the definition for basic treatment in the glossary. Removal of solids should remove a large portion of the metals in most stormwater runoff. Any special treatment requirements in this chapter still apply. For **low** pollutant loading sites, implementation of appropriate source control BMPs may be employed in lieu of structural treatment BMPs (see Ecology stormwater management manuals).

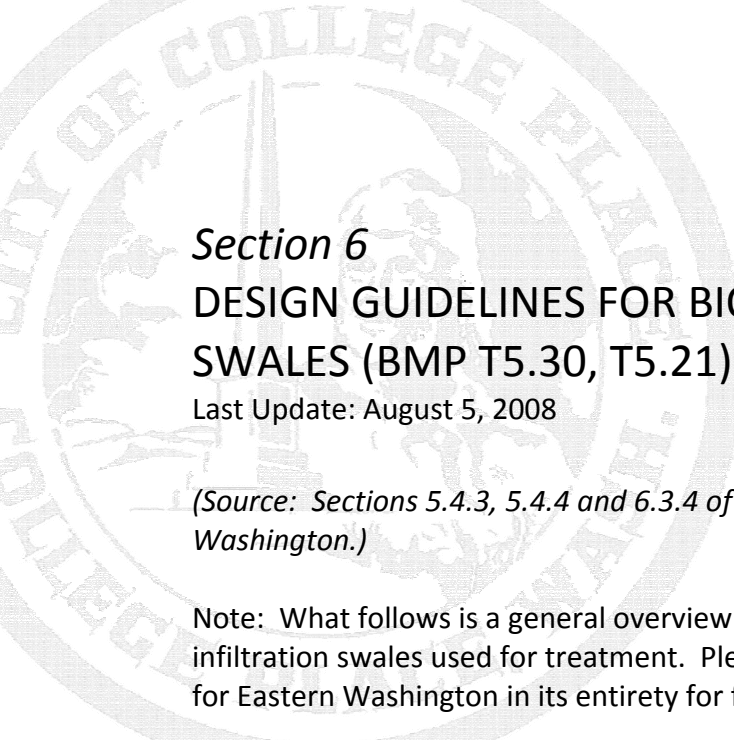
³ **Treatment to remove oil** is to be accomplished by applying one of the technologies identified in the Ecology stormwater management manuals.

At high-density intersections and at commercial or industrial sites subject to an expected average daily traffic count (ADT) of 100 vehicles/1000 ft² gross building area, sufficient quantities of oil will be generated to justify operation of a separator BMP.

At other high-use sites, project proponents may select a basic runoff treatment BMP that also provides adsorptive capacity, such as a biofiltration or bioinfiltration swale, a filter or catch basin insert, or other adsorptive technology, in lieu of a separator BMP.

The requirement to remove oil for all roads with ADT > 30,000 applies only in eastern Washington. For these roads in eastern Washington, an oil control facility is not required; instead a basic treatment facility with sorptive characteristics (i.e., swale or sand filter) is required.

This requirement to apply a basic treatment facility with adsorptive characteristics also applies to commercial parking and to streets with ADT > 7500; alternatively, a simple passive oil control device such as a turned down elbow may be used.



Section 6

DESIGN GUIDELINES FOR BIOINFILTRATION AND INFILTRATION SWALES (BMP T5.30, T5.21)

Last Update: August 5, 2008

(Source: Sections 5.4.3, 5.4.4 and 6.3.4 of Stormwater Management Manual for Eastern Washington.)

Note: What follows is a general overview of the requirements for bio-infiltration and infiltration swales used for treatment. Please reference the Stormwater Management Manual for Eastern Washington in its entirety for final design compliance.

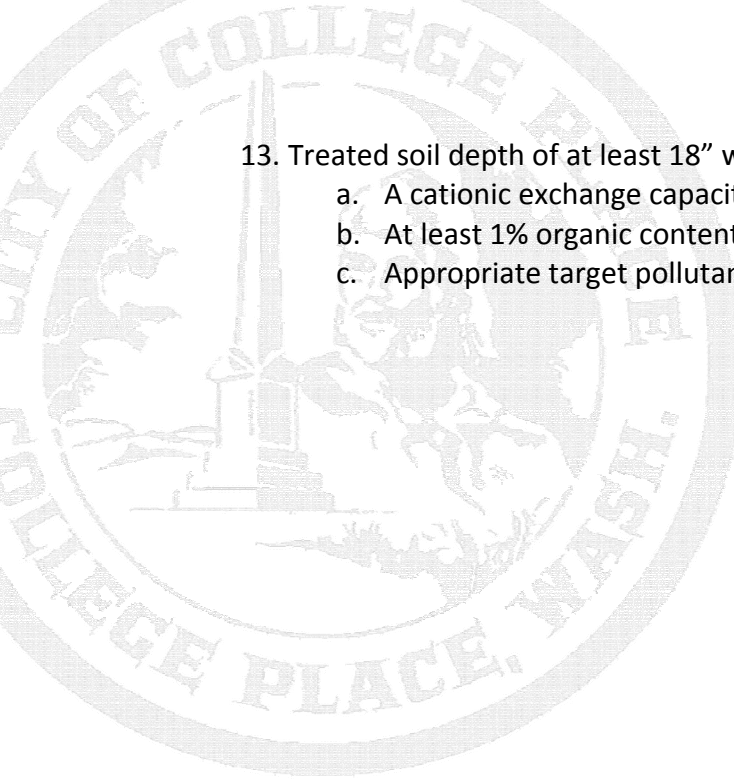
Basic Requirements

1. See the “Basic” and “Alternative” design methods of BMP T5.30 and BMP T5.21 for minimum individual swale treatment sizing. Note that the full stormwater system must contain all stormwater from 25-year (1-hour and 24-hour) storms on-site.
2. Swale volumes must also be at least equal to the volume of water to be treated based on 2-year, 24-hour precipitation.
3. Swales must drain completely in 72 hours.
4. Provide non-erodible overflow provision for 100-year storm.
5. The swale bottom should be flat with a longitudinal slope of no greater than 1%.
6. Must provide access for maintenance.
7. Provide concrete or rip-rap apron at any curb opening.
8. Infiltration rate must be at least 0.5 in/hr and should not exceed 1 in/hr. The maximum infiltration rate is 2.4 in/hr.
9. Base of swale (including treated soil depth) must be 5’ above seasonal high groundwater.
10. Be sure your plans include a cross-section detail of your swale showing the slope and section including any plantings or other surface treatments as well as the treated soil depth. Also include swale floor, rim, and overflow spot elevations on plan views to ensure swale features are built at hydraulically effective elevations.

Specific Requirements for Bio-infiltration Swales

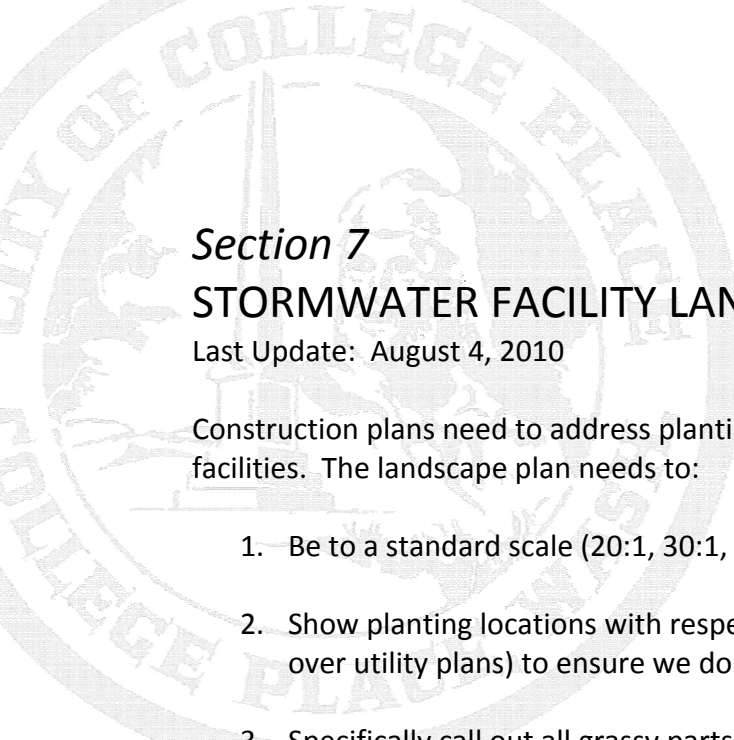
11. Treated soil depth of at least 6” with:
 - a. A cationic exchange capacity (CEC) of at least 5 meq/100gpm dry soil, and
 - b. At least 1% organic content, and
 - c. Appropriate target pollutant loading capacity.
12. Swale must be planted with native/drought-tolerant grass.

Specific Requirements for Infiltration Swales



13. Treated soil depth of at least 18" with:

- a. A cationic exchange capacity (CEC) of at least 5 meq/100gpm dry soil, and
- b. At least 1% organic content, and
- c. Appropriate target pollutant loading capacity.



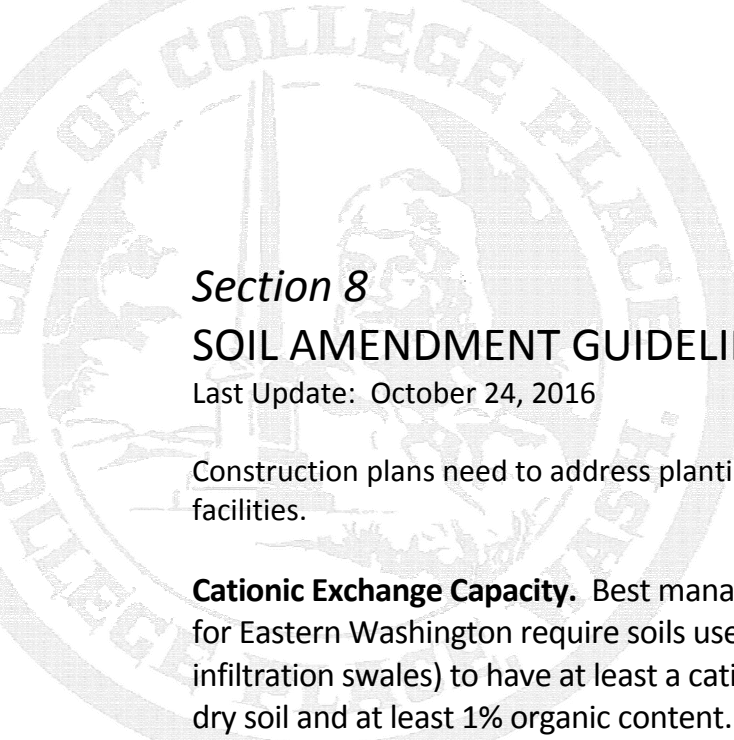
Section 7

STORMWATER FACILITY LANDSCAPE PLAN/SWALE GRASSES

Last Update: August 4, 2010

Construction plans need to address planting requirements for grassy swales and stormwater facilities. The landscape plan needs to:

1. Be to a standard scale (20:1, 30:1, or 40:1)
2. Show planting locations with respect to underlying utilities (recommend superimposing over utility plans) to ensure we do not have conflicts.
3. Specifically call out all grassy parts of swales to be planted consistent with intent of original design.
4. Call out that grassy swale/stormwater facility areas are to be planted with a drought-tolerant, native grass variety. Native Bluebunch and Intermediate Wild Rye are available locally and are approved. The Native Bunch holds its color better through winter. The Intermediate Wild Rye goes dormant (brown). Other varieties may be proposed and the City will consider in consultation with the Walla Walla County Conservation District (Mike Denny @ 509 522-6340). Plans shall call out that grasses shall not be planted before November 1 unless an irrigation source is provided and shown on the plans.



Section 8

SOIL AMENDMENT GUIDELINES

Last Update: October 24, 2016

Construction plans need to address planting requirements for grassy swales and stormwater facilities.

Cationic Exchange Capacity. Best management practices under the Stormwater Manual for Eastern Washington require soils used in infiltration technologies (bioinfiltration and infiltration swales) to have at least a cationic exchange capacity (CEC) of 5 meq/100 gm dry soil and at least 1% organic content. The City will need documentation that this requirement has been met.

In order to assist contractors in meeting this requirement, we have identified the following resources that may be of assistance. ***The City of College Place does not warrant or certify the accuracy, the products, or the companies associated with these links.*** The City will continue to update this list as additional resources are identified.

Soil Testing Source (Soil Test Package S1B)

<http://www.al-labs-west.com/fee-schedule.php?section=Soil Analysis>

Soil Amendment Source

<http://www.lebanonturf.com/education/the-value-of-humate>

Background on Testing Procedures

<https://www.epa.gov/hw-sw846/sw-846-test-method-9080-cation-exchange-capacity-soils-ammonium-acetate>

<https://hal.archives-ouvertes.fr/hal-00885820/document>

We strongly recommend obtaining certification of your soil before installation and planting/sodding of grass. Non-compliant soils will need to be removed and replaced with amended soils. Amendments need to be spread evenly throughout the soil profile.

STANDARD PLAN 410.00

STORMWATER NOTES

1. THE CONTRACTOR SHALL PREVENT DISCHARGE OF CONSTRUCTION STORMWATER AND SEDIMENTATION FROM LEAVING THE SITE USING BEST MANAGEMENT PRACTICES TO INCLUDE ONE OR MORE OF THE FOLLOWING AS NECESSARY:
 - A. PRESERVE VEGETATION AND MARK CLEARING LIMITS. PROTECT NATURAL VEGETATION AND TREES. USE VEGETATED BUFFERS. BEFORE GRADING, MARK CLEARING LIMITS AND SENSITIVE AREAS FOR PROTECTION.
 - B. ESTABLISH CONSTRUCTION ACCESS REDUCE VEHICLE ACCESS POINTS AND STABILIZE ENTRANCE WITH CRUSHED ROCK OR SIMILAR MATERIAL. MINIMIZE MUD AND DIRT TRACKED ONTO PAVED ROADS. CLEAN ROAD SURFACES ON A REGULAR BASIS. SHOVEL AND SWEEP MUD OFF ROADWAY.
 - C. CONTROL FLOW RATES. PROTECT PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE SITE FROM IMPACTS OF STORMWATER RUNOFF. REDUCING FLOW AND PREVENTING EROSION ARE TWO WAYS TO DO THIS.
 - D. INSTALL SEDIMENT CONTROLS. PASS STORMWATER THROUGH A SEDIMENT POND, SEDIMENT TRAP, FILTER OR OTHER EQUIVALENT MEASURE BEFORE IT LEAVES THE SITE OR ENTERS DRAIN INLETS. CONSTRUCT SEDIMENT PONDS, TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND SILT FENCES AS FIRST STEP IN GRADING.
 - E. STABILIZE SOILS. SOIL STABILIZATION INCLUDES TEMPORARY AND PERMANENT SEEDING, MULCHING, GEOTEXTILES, EROSION CONTROL FABRICS, AND SOD STABILIZATION.
 - F. PROTECT SLOPES. DIVERT RUNOFF AROUND SLOPES AND DISTURBED AREAS WITH PIPE SLOPE DRAINS. DESIGN AND CONSTRUCT CUT AND FILL SLOPES TO MINIMIZE EROSION. METHODS MAY INCLUDE TERRACING AND DIVERSIONS AND REDUCING STEEPNESS.
 - G. PROTECT DRAIN INLETS. PROTECT ALL OPERABLE STORM DRAIN INLETS FROM SEDIMENT. CLEAN AND REMOVE SEDIMENT FROM INLET PROTECTION DEVICES WHEN THEY FILL TO 1/3 OF THEIR CAPACITY.
 - H. STABILIZE CHANNELS AND OUTLETS STABILIZE DRAIN OUTLETS, ADJACENT STREAM BANKS, SLOPES AND CHANNELS WITH ARMORING SUCH AS ROCKS OR GRAVEL.
 - I. CONTROL POLLUTANTS. PREVENT CHEMICALS AND OTHER POLLUTANTS FROM CONTACT WITH STORMWATER. HANDLE AND DISPOSE OF POLLUTANTS PROPERLY. TYPICAL POLLUTANTS INCLUDE: WASTE MATERIALS, CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, OIL, DEMOLITION DEBRIS, AND BATTERIES. PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY ALKALINE SOURCES SUCH AS: BULK CEMENT, CEMENT KILN DUST, FLY ASH, AND WATER USED TO WASH AND CURE CONCRETE. OBTAIN WRITTEN APPROVAL FROM ECOLOGY PRIOR TO USING CHEMICAL TREATMENT OTHER THAN CO₂ TO ADJUST PH.
 - J. CONTROL DE-WATERING. CAREFULLY CONTROL DE-WATERING. IF YOU HAVE MUDDY OR CONTAMINATED DE-WATERING WATER, THEN TREAT IT SEPARATELY FROM OTHER STORMWATER RUNOFF.

- K. MAINTAIN BMP'S. REGULARLY INSPECT, MAINTAIN AND REPAIR ALL BMPS. INSPECT EROSION AND SEDIMENT CONTROL BMPS AT LEAST ONCE EVERY SEVEN DAYS AND WITHIN 24 HOURS AFTER ANY DISCHARGE FROM THE SITE. REMOVE ALL TEMPORARY EROSION AND SEDIMENT BMPS WITHIN 30 DAYS OF FINAL SITE STABILIZATION. REMOVE OR STABILIZE ON-SITE TRAPPED SEDIMENT.
2. THE ENGINEER (OR HIS AGENT) CERTIFYING STORMWATER FACILITIES SHALL BE PROVIDED ACCESS TO STORMWATER FACILITIES FOR OBSERVATION AT ANY TIME DURING CONSTRUCTION.
 3. INFILTRATION FACILITIES SHALL BE CONSTRUCTED WITHOUT ALLOWING HEAVY EQUIPMENT TO TRACK ON INFILTRATION SURFACE. ANY COMPACTION AFTER INFILTRATION FACILITIES ARE FORMED SHALL REQUIRE INFILTRATION SURFACE TO BE SCARIFIED TO A DEPTH OF 12" TO ALLEVIATE COMPACTION OF THE INFILTRATION SURFACE.
 4. THE CONTRACTOR SHALL COMPLY WITH THE CONSTRUCTION STORMWATER GENERAL PERMIT (CGP) IN ACCORDANCE WITH THE LATEST REGULATION REQUIREMENT PER WASHINGTON STATE DEPARTMENT OF ECOLOGY. THIS INCLUDES USING BEST MANAGEMENT PRACTICES TO PREVENT DISCHARGE OF STORM WATER AND SEDIMENTATION FROM THIS SITE DURING CONSTRUCTION. THE IMPLEMENTATION, CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE BMP'S ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
 5. ALL NEW DRYWELLS AND/OR INFILTRATION TRENCHES SHALL BE REGISTERED USING CITY-PROVIDED IDENTIFICATION NUMBER/LABEL WITH THE UNDERGROUND INJECTION CONTROL PROGRAM AT DEPARTMENT OF ECOLOGY PRIOR TO USE (UIC PROGRAM, DEPARTMENT OF ECOLOGY, P.O. BOX 47600, OLYMPIA, WA 98504-7600.
 6. THE CITY ENGINEER MAY REQUIRE THE APPLICATION OF AN AIR PRESSURE TEST ON ANY STORM SEWER PIPES PER STANDARD SPECIFICATIONS (7-04.3(1) E OR F AS APPLICABLE). CLEANING AND REMOVAL OF ANY ROCK IS REQUIRED. AFTER CLEANING, THE CITY SHALL BE NOTIFIED FOR TV INSPECTION OF ALL STORM SEWER LINES. ANY WORK FAILING AN AIR TEST AND OR TV INSPECTION MUST BE REPAIRED AND RE-TESTED FOR CITY APPROVAL. THE CITY ENGINEER OR HIS DESIGNEE MUST WITNESS, VERIFY, AND RECORD ALL TESTS.
 7. ALL MANHOLES AND CURB INLETS SHALL BE PRE-CAST CONCRETE UNITS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
 8. MANHOLE PIPE CONNECTORS SHALL BE CAPABLE OF A 10⁰ DEFLECTION IN ANY ONE DIRECTION AND SHALL BE INSTALLED AS REQUIRED BY THE MANUFACTURER. ALL STORM SEWER MANHOLES WITH PVC PIPE CONNECTIONS) SHALL USE THE A-LOK PIPE CONNECTOR, MANUFACTURED BY A-LOK PRODUCTS OR PSX, MANUFACTURED BY PRESS-SEAL GASKETS CORP. OR APPROVED EQUAL. ALL OTHER CONNECTION SYSTEMS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE. STORM SEWER MANHOLES WITH HDPE PIPE CONNECTIONS MAY BE GROUTED (A-LOK NOT REQUIRED).
 9. ANY GAPS, HOLES, ROUGH SPOTS, ETC., IN THE CHANNELS, AT PIPE CONNECTIONS, AND JOINTS, SHALL BE FILLED OR REPAIRED IN THE FIELD.

10. MANHOLES SHALL BE SET A MINIMUM OF 8 INCHES AND NOT MORE THAN 12 INCHES BELOW FINISH GRADE AND THEN ADJUSTED TO GRADE WITH RISER RINGS AS REQUIRED.
11. MANHOLE CONE SECTION SHALL BE ECCENTRIC.
12. MASTIC JOINT SEAL SHALL BE PLACED AT EVERY JOINT BETWEEN BARREL SECTIONS, RISER SECTIONS, AND THE CAST IRON TOP.
13. MANHOLE RING & COVER SHALL BE INLAND FOUNDRY COMPANY INC. #817 WITH A SOLID COVER LABELED "STORM" OR APPROVED EQUAL.
14. RISER RINGS VARY IN HEIGHT FROM 1" TO 6". ANY NEED FOR ADJUSTMENT OVER 12" AT THE TOP SHOULD BE SATISFIED BY USING A 12" BARREL SECTION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. A MINIMUM 2" OF RISERS SHALL BE USED ON ALL MANHOLES. USE THE LEAST NUMBER OF RISER RINGS TO ACHIEVE THE REQUIRED RISE. RISER RINGS SHALL BE PRE-CAST 3000 PSI CONCRETE OR HDPE (HIGH DENSITY POLYETHYLENE) MANHOLE ADJUSTING RINGS. ALL RISERS SHALL HAVE BUTYL OR MASTIC SEALER APPLIED TO BOTH THE TOP AND BOTTOM SURFACES. RISER STACKS SHALL BE WATER TIGHT.
15. MANHOLE STEPS SHALL BE LANE BRAND, POLYPROPYLENE MANHOLE STEPS MODEL NO. P-13938E OR AN APPROVED EQUAL.
16. ALL STORMWATER SEWER PIPE SHALL BE FULLY BEDDED WITH A MINIMUM OF 4-IN. UNDER THE PIPE AND A MINIMUM OF 6-IN. OVER ANY PIPE. BEDDING MATERIALS SHALL BE CRUSHED ROCK AS PER THE STANDARD SPECIFICATION. ALL OTHER BEDDING MATERIALS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO USE.
17. PRE-CAST MANHOLE BASES SHALL BE SET LEVEL ON A MINIMUM OF 6-IN. OF WELL-COMPACTED CRUSHED AGGREGATE. STORMWATER SEWER PIPE AND MANHOLES SUBJECTED TO GROUNDWATER SHALL BE PLACED ON 4-IN. OF CRUSHED ROCK BEDDING OVER 12" OF CLASS B FOUNDATION ROCK SEPARATED BY FILTER FABRIC AS PER STANDARD SPECIFICATION 9-03.17.
18. THE BEDDING UNDER STORMWATER SEWER PIPE AND MANHOLES SHALL BE COMPACTED PRIOR TO PIPE AND MANHOLE PLACEMENT TO PROVIDE UNIFORM SUPPORT ALONG THE ENTIRE LENGTH OF THE PIPE AND UNDER MANHOLES. ONLY PIPE BEDDING MATERIAL SHALL BE IN CONTACT WITH STORMWATER SEWER PIPE OR MANHOLES. ANY DITCH RUN GRAVEL, ASPHALT OR CONCRETE CHUNKS OR SIMILAR MATERIALS SHALL BE REMOVED.
19. ELEVATIONS AND DISTANCES BETWEEN ELEVATIONS SHALL BE PROVIDED TO THE CITY BY A REGISTERED SURVEYOR OR PROFESSIONAL ENGINEER AFTER BEDDING PIPE ON COMPACTED BEDDING, PRIOR TO BACKFILL, AT A MINIMUM OF EVERY 100' AND AT MANHOLE TERMINATIONS. STORM PIPE GRADE SHALL CORRESPOND TO APPROVED PLANS AND IN NO CASE SHALL BE LESS THAN 0.4% WITHOUT BELLIES OR RISES.
20. NATIVE FILL MAY BE USED FOR BACKFILL UNLESS DEEMED UNSUITABLE BY THE ENGINEER. COMPACT TO 95% MODIFIED PROCTOR DENSITY BEFORE PROCEEDING TO PLACEMENT OF BASE ROCK AND PAVING. LABORATORY TESTING SHALL BE PERFORMED TO DETERMINE MAXIMUM MODIFIED PROCTOR DENSITY FOR NATIVE FILL. IMPORT FILL

REQUIRES SUPPLIER PROCTOR TEST RESULTS. IF NATIVE FILL IS UNSUITABLE AS DETERMINED BY THE CITY ENGINEER, BANK RUN GRAVEL PER THE STANDARD SPECIFICATIONS 9-03.12 (3) OR OTHER GRANULAR MATERIAL APPROVED BY THE CITY ENGINEER SHALL BE USED.

21. MANHOLE BARREL SECTIONS AND RISER RINGS SHALL BE SEALED WATERTIGHT WITH MASTIC. IN ADDITION, ALL MANHOLES SUBJECTED TO GROUNDWATER SHALL BE SEALED WITH CITY-APPROVED SEALANT ON THE EXTERIOR FROM THE BASE TO 3' ABOVE THE SEASONAL HIGH GROUNDWATER LEVEL AND SHALL BE VACUUM TESTED PER ASTM C-1244 WHEN SEASONAL HIGH GROUNDWATER IS OVER 3' HIGH FROM THE BASE.
22. MINIMUM DIAMETER OF STORMWATER PIPES SHALL BE 10". LARGER SIZES MAY BE REQUIRED.
23. PRE-CAST CURB INLET BOX (CATCH BASIN) SHALL BE NO LESS THAN 48" IN HEIGHT. A THICKNESS OF 6" SHALL BE MAINTAINED BETWEEN THE INSIDE BASE AND BASE ROCK. CURB INLET BOXES SHALL BE PRE-CAST CUSTOM UNITS CONSTRUCTED WITH A REINFORCEMENT CAGE AND PUNCH OUT SECTIONS NO LESS THAN 2" THICK ON ALL FOUR VERTICAL SIDES AS INDICATED IN STANDARD PLAN 410.02. INSTALLATION SHALL BE PER STANDARD PLAN 410.05.
24. CURB INLET BOXES (CATCHBASINS) WITH PVC LINE CONNECTIONS SHALL USE SAND COLLARS WITH GROUT SEAL ("A-LOK" ALSO ACCEPTABLE). SIMILAR TRANSITIONS MAY BE USED WITH CITY ENGINEER APPROVAL. HDPE PIPE CONNECTIONS TO CURB INLET BOXES MAY BE GROUTED (SAND COLLARS NOT REQUIRED).
25. THE CAST IRON CURB INLET GRATE SHALL BE UNI-DIRECTIONAL OR BI-DIRECTIONAL GRATES ONLY. INLAND FOUNDRY COMPANY #571-3 OR #571-5 OR AN APPROVED EQUAL.
26. THE DIRECTIONAL CONFIGURATION OF THE CURB INLET GRATE SHALL BE DETERMINED AT THE TIME OF DESIGN. CLOSE ATTENTION SHOULD BE PAID TO THIS DETAIL WHEN ORDERING THE GRATE FROM THE MANUFACTURER. REFER TO STANDARD PLAN 410.01.
27. CURB INLET GRATES SHALL NOT BE PLACED WITHIN ADA ACCESS ROUTES AND SHALL NOT UTILIZE A HOOD WHEN LOCATED ADJACENT TO A CURB RAMP.
28. BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT DISCHARGE OF STORM WATER AND SEDIMENTATION FROM THIS SITE SHALL BE IN PLACE AND UTILIZED DURING CONSTRUCTION. THE IMPLEMENTATION, CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE BMPS IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED. A STOP WORK NOTICE MAY BE ISSUED FOR NON-COMPLIANCE WITH THIS REQUIREMENT UNTIL THE ISSUE IS RESOLVED.

THE CITY ENGINEER OR HIS DESIGNEE MAY IMPOSE OTHER DESIGN AND CONSTRUCTION CONSIDERATIONS, AS CIRCUMSTANCES REQUIRE.

City of College Place

STORMWATER DESIGN CERTIFICATION

Project Name _____

Project Location _____

Engineer of Record (Name) _____

Firm _____

Address _____

Telephone _____ FAX _____

Email _____

Certification:

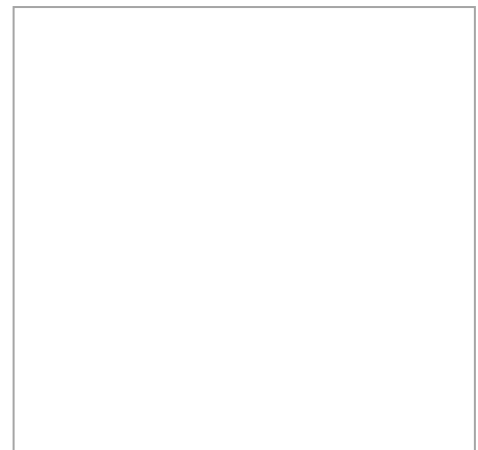
I hereby certify that:

“I am a professional engineer licensed to practice in the State of Washington and the stormwater facility design submitted under my seal is within my area of qualified practice and meets or exceeds the recommendations and requirements of the current version of the *Stormwater Management Manual for Eastern Washington* and the *Stormwater Facility Specifications* of the *City of College Place Engineering Specifications*. Furthermore, I certify that the stormwater design report dated _____ and submitted to the City of College Place adequately documents the assumptions, data and procedures used to produce the design and that the construction drawings submitted for final approval dated _____ conform to my design.”

Signature

Date _____

License Number _____



(Sign & Date Seal)

City of College Place

STORMWATER FACILITY CONSTRUCTION CERTIFICATION

Project Name _____

Project Location _____

Engineer of Record (Name) _____

Firm _____

Address _____

Telephone _____ FAX _____

Email _____

Certification:

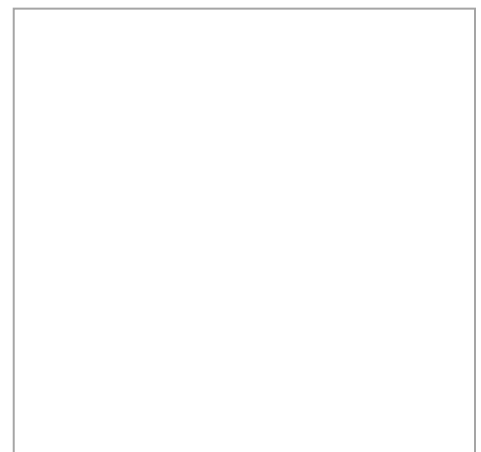
I hereby certify that:

“I or someone under my direct supervision has adequately inspected the stormwater facilities during construction and our observations indicate the stormwater facilities are complete and that the project was built according to the approved plan and specifications. At the time of completion, to the best of my professional knowledge, the stormwater facilities, as constructed, will function as designed.”

Signature

Date _____

License Number _____



(Sign & Date Seal)

STANDARD PLAN 410.11
(Non-ROW Contributory Areas)

City of College Place

STORMWATER DESIGN CERTIFICATION

Project Name _____

Project Location _____

Engineer of Record (Name) _____

Firm _____

Address _____

Telephone _____ FAX _____

Email _____

Certification:

I hereby certify that:

"I am a professional engineer licensed to practice in the State of Washington and the stormwater design submitted under my seal is within my area of qualified practice and meets or exceeds the recommendations and requirements of the current version of the *Stormwater Management Manual for Eastern Washington (SMMEW)* and the *Stormwater Facility Specifications* of the *City of College Place Engineering Specifications*. I certify this stormwater design has been designed per the current Stormwater Management Manual for Eastern Washington and supplemental guidelines by City of College Place to evaluate the 100-year, 24-hour design storm. The project has been designed so there is no increase in offsite flows in excess of the existing conditions between lots within and abutting the development with a storm design grade break line incorporated into the design such that all flows beyond this point shall flow to private stormwater facilities with no contribution to City rights-of-way.

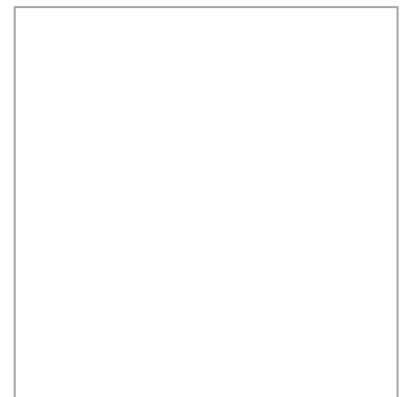
Upon development of residential parcels, developer shall review the assumptions for design of stormwater facilities and notify Engineer of Record if areas are in excess of the assumptions for appropriate revisions.

Furthermore, I certify that the stormwater design report dated _____ and submitted to the City of College Place adequately documents the assumptions, data and procedures used to produce the design and that the construction drawings submitted for final approval dated _____ conform to my design."

Signature

Date _____

License Number _____



(Sign & Date Seal)

STANDARD PLAN 410.12
(Percentage Basis Non-ROW Contributory Areas)

City of College Place

STORMWATER DESIGN CERTIFICATION

Project Name _____
Project Location _____
Engineer of Record (Name) _____
Firm _____
Address _____
Telephone _____ FAX _____
Email _____

Certification:

I hereby certify that:

"I am a professional engineer licensed to practice in the State of Washington and the stormwater design submitted under my seal is within my area of qualified practice and meets or exceeds the recommendations and requirements of the current version of the *Stormwater Management Manual for Eastern Washington (SMMEW)* and the *Stormwater Facility Specifications* of the *City of College Place Engineering Specifications*. In addition to certifying that the public facilities receiving stormwater meet or exceed the standards noted above, I also certify this stormwater design, based on SMMEW design criteria, shall (initial one) ...

_____ retain all stormwater originating from private lots assuming full impervious buildout of areas within lot set-backs and driveway/parking access...

_____ retain all stormwater originating from the private contributory areas of the private lots delineated in the design based on up to _____% of the contributory area being impervious...

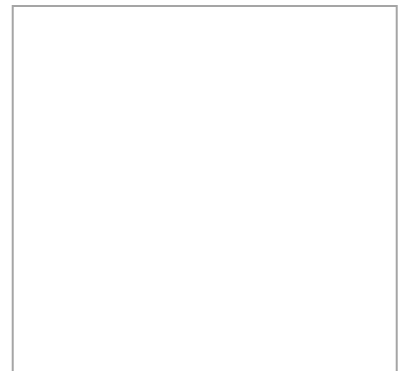
...within the private facilities of the design without any contribution to City rights-of-way or City property or other parcels up to and exceeding the 24-hour/100-year design storm.

Furthermore, I certify that the stormwater design report dated _____ and submitted to the City of College Place adequately documents the assumptions, data and procedures used to produce the design and that the construction drawings submitted for final approval dated _____ conform to my design."

Signature

Date _____

License Number _____



(Sign & Date Seal)

The City of College Place Specifications and Standard Plans have been updated to reflect current industry standards, remove outdated/un-used details, reorganized for better flow and added additional information to address common design or construction issues. The following is a general summary of the changes that have been incorporated.

- Removed older/un-used details that were not relevant or outdated
- Reorganized details based upon their classification for better flow
- Street paving notations updates to reflect current WSDOT paving standards.
- Sidewalks updated to 6-ft of width
- Sidewalk sections updated to reflect off-set sidewalks 5.5-ft from back of sidewalk (110.17)
- Added Cul-De-Sac standard detail
- Updated residential and commercial driveways to reflect off-set sidewalk (110.11, 110.12)
- Added curb tight sidewalks (110.18) and driveway details (110.13, 110.14) for retro-fit areas
- Added curb and gutter detail (110.19)
- Updated sign post detail (110.71) to reflect current trends
- Updated street sign detail (110.72) with current letter sizing
- Updated street lighting detail (110.74, 110.75 and 110.76) using City of Walla Walla standard detail
- Updated water meter placement detail (210.01) to specifically note desired meter locations
- Updated fire hydrant detail (210.02) with additional information
- Updated water service placement detail (210.06) to reflect off-set sidewalks. Meter to remain behind the back of sidewalk
- Added isolation valve and minimum distance requirements for the irrigation DCVA (220.03)
- Modified Sanitary Sewer Notes (310.00) to remove storm drainage notes. Storm drainage notes moved to 410.00.
- Updated Drop Manhole detail (310.04) with updated drop connection with PVC piping.
- Added new detail for sewer services to have cleanouts behind the back of sidewalk (310.06)
- Moved stormwater notes from 310.00 and added them to 410.00.
- Added a storm sewer manhole (410.04)

