320 North Lincoln Avenue, Loveland, CO 80537
970.613.1447 TAIT.COM

Oct 17th, 2025

Ken Torres, PE
Castle Rock Water and Sewer
100 North Wilcox Street
Castle Rock, CO 80104

RE:SDP25-0005, O'Reilly Auto Parts – Utility Conformance Letter

Dear Mr. Torres,

This utility letter has been prepared for O'Reilly Auto Parts, regarding the proposed commercial retail lot 5 at 730 North Ridge Road, Castle Rock, Colorado 80104, within Founders Marketplace Filing No. 1. The purpose of this letter is to demonstrate that the proposed utilities for the site comply with both the Town of Castle Rock's Water System Design Criteria Manual 2018 version, and the Wastewater Collection Design Criteria Manual, ensuring that the water, fire, and sanitary sewer requirements, as outlined in the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 by CLC Associates, Inc., are met.

Project Location and Description

The site is owned by Kings Bank LLC, and is bordered to the north by an existing King Soopers, to the east by an electric substation owned and operated by the Intermountain Rural Electric Association, and to the south and west by North Ridge Road. The proposed project covers an area of 1.212 acres and will feature a 6,721 square-foot retail building. The proposed development will also include associated parking, driveways, and landscaping. Utility easements, as required, will be provided during the final design and construction phases, in accordance with the Town's standards for type, location, and size of easements. Refer to Appendix A, for a vicinity map.

Water System

Calculated Water Demands

The Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 assumes the Max Hour water demand as 3.49 GPM for the proposed O'Reilly Auto Parts Retail Lot C as shown in the image below.

FOUNDERS MARKETPLACE FILING NO. 1, BLOCK 1

Domestic Water Demand Analysis

CLC Associates, Inc.
8480 E. Orchard Road, Ste. 2000
Greenwood Village, CO 80111
Date: 22-Jun-2004

	Land Use	Area (acre)	Average Day Demand (gpad)	Average Day Demand (gpd)	Peak Daily Ratio	Peak Hour Ratio	Max Day Flow (gpd)	Max Hour Flow (gpd)
Founders Marketplace	commercial	12.03	1200.0	14,436	2.65	4.5	38,255	64,962
			or:	10.03 gpm		or:	26.57	45.11 gpm

	Building Size (s.f.)	Percent Total	Average Day Demand (gpm)	Max Day Demand (gpm)	Max Hour Demand (gpm)
King Soopers	58676	75.74%	7.59	20.12	34.17
Retail A	7800	10.07%	1.01	2.67	4.54
Retail B	5000	6.45%	0.65	1.71	2.91
Retail C	6000	7.74%	0.78	2.06	3.49
Totals =>		100.00%	10.03	26.57	45.11

Steady State Storage Requirements

Average Day	14,436	Gallons
Max Day	38,259	Gallons

Fire Flow Demand Analysis / **Required Storage**

King Soopers

Building Size	58676	S.F.	Fire Flow	1625	GPM
Construction Type	V-N		Duration	4	HR
Required Fire Flow[1]	6500	GPM			
Fire Flow Reduction[2]	75%		Total	390,000	Gallons
Net Required Fire Flow	1625	GPM	(812.5 gpm per hydrant)		

Retail A

Building Size	7800	S.F.	Fire Flow	1500	GPM
Construction Type	V-N		Duration	2	HR
Required Fire Flow[1]	2250	GPM			
Fire Flow Reduction[2]	75%		Total	180,000	Gallons
Net Required Fire Flow[3]	1500	GPM			

Retail B

Building Size	5000	S.F.	Fire Flow	1500	GPM
Construction Type	V-N		Duration	2	HR
Required Fire Flow[1]	2000	GPM			
Fire Flow Reduction[2]	75%		Total	180,000	Gallons
Net Required Fire Flow[3]	1500	GPM			

Retail C

Building Size	6000	S.F.	Fire Flow	1500	GPM
Construction Type	V-N		Duration	2	HR
Required Fire Flow[1]	2000	GPM			
Fire Flow Reduction[2]	75%		Total	180,000	Gallons
Net Required Fire Flow[3]	1500	GPM			

[1]From the Uniform Fire Code Table A-III-A-1
[2]Sprikler reduction per local Fire Department
[3]Absolute minimum of 1500 GMP

Assumed values for the O'Reilly lot.

Image A extracted from Page 13 of 73 of the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 by CEC Associates dated 10/8/04.

The Town of Castle Rock's standards have been updated and now include irrigation demands, resulting in increased ADD, PHD, and MDD compared to original projections. Additionally, the expected building size for the site has increased from 6,000 sf to 6,721 sf. The building type is II-B with a 25% reduction allowed per the 2018 International Fire Code since the building will be sprinkled.

This results in a required fire flow of 1750 gpm as the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1 report, accounted for. Previous calculations, based on fire flow test data as well as the water model in the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 by CLC Associates, indicated that a maximum hourly demand of 3.49 GPM would be required for Lot 5. However, according to the updated calculations provided below, the peak hour water demand now requires a slight increase, from 3.49 GPM to 5.6 GPM.

Average Day Demands

Average Daily Demand (ADD) for the water distribution flows were calculated based upon the Town of Castle Rock Water System Design Criteria Manual demand rates of 0.2gpd/sf for commercial retail use.

Land Use	Areas	Demand	ADD (gpd)
Retail	6,721 sf	0.2(gdp/sf)	1,345
Irrigated Land	0.18 ac	3750(gpd/ac)	675

Max Day Demands

The Maximum Daily Demand (MDD) was calculated by multiplying the ADD by the Maximum Day Demand Factor of 2.5.

Land Use	ADD (gpd)	MDD Factor	MDD (gpd)
Retail	1,345	2.5	3,363
Irrigated Land	675	1	675
Total			4,038

Peak Hour Demands

The Peak Hour Demand (PHD) was calculated by multiplying the ADD by the Peak Hour Demand Factor of 5.5.

Land Use	ADD (gpd)	PHD Factor	PHD (gpm)
Retail	1,345	5.5	5.1
Irrigated Land	675	1	0.5
Total			5.6

SFE

The total Single-Family Equivalent (SFE) for water flows were calculated per the Town of Castle Rock Water System Design Criteria flow rates listed in the table below. The Founders Marketplace assumed SFE of 3 SFE/AC, with a site total of 1.2 Ac the report planned for 3.6 SFE for

the site. As mentioned above, the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1 report did not account for any irrigation demands. The final meter size will be determined based on the required demand of the total building water supply fixture units and any additional water usage, as shown on the commercial fixture unit worksheet to be provided to the Town of Castle Rock at the time of building permitting. Based on the fixture worksheet and a meeting held with the Town of Castle Rock on June 24th, 2025, a ¾" meter will be sufficient for the domestic line, and the irrigation meter will be 1" for a total SFE of 2.67.

Land Use	Area	Typical SFE/unit	SFE
Retail	6,721 sf	0.0005	3.36
Irrigated Land	0.18 ac	9.38	1.69
Total			5.05

Note: the values calculated in the table above are based on the Town of Castle Rock, water criteria manual section 4.4.1 design demands table; however, the final single-family equivalents for water rights dedication are determined by the size of the tap as described above.

Water Storage

The water storage required for this development has been calculated to be the maximum daily Demand plus the required fire flow per the Town of Castle Rock requirements and the 2018 International Fire Code. The Max Day Demand (MDD) has previously been calculated in this section, and the fire flow has been provided as 1,750 gpm for a 2-hour duration. The required storage is as follows:

	Q	Units	Gallons
Max Day Demand	4,038	gallons per day	4,038
Fire Flow*	1,750	gallons per minute	210,000

*- 1750 gpm for 2-hour duration

Total Required Storage	214,038	Gallons
	0.214	MG

Existing Water System

Existing Distribution System

An existing 12-inch water main runs along the private drive aisle on the north side of the development, extending northeast. This water main loops around the King Soopers site and ties into the existing water main in North Ridge Road. According to the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1, the expected static pressure at the site is 68.79 psi.

Existing Supply Facilities

According to the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1, this site is located within the Green Pressure zone and will rely on water supply from Storage Tank 6, situated near 2803 Ridge Road. Storage Tank 6A has a capacity of 1.99 MG, and Storage Tank 6C has a

capacity of 2.23 MG. Furthermore, the master report specifies that this lot will be served by the 12" looped main, which aligns with the current plan.

Proposed Water System

Proposed Distribution System

It is anticipated that the proposed building will have one domestic service line, and one fire service line. The service lines will connect to the existing 12-inch water main within the drive aisle. The proposed irrigation system will be served by a separate tap and meter from the buildings domestic service line. An existing fire hydrant located near the entrance drive will need to be relocated behind the sidewalk. No additional fire hydrants are proposed for the site.

The Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 by CLC Associates, Inc. outlines limits for water demand, which are listed in the tables provided. The proposed demands were calculated based on Town of Castle Rock demand per use for the proposed building. Any future development of the existing water infrastructure needed to serve this site is the responsibility of the developer. Refer to Appendix C for the proposed utility plan for this site.

Wastewater System

Calculated Wastewater Flows

The Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 defines the sewer peak flow as the difference between the contributing Basin A and Basin B, totaling 0.0570 cfs, as illustrated in the image below.

Sanitary Sewer Calculations
Founders Marketplace Filing No. 1
Castle Rock, Colorado

Node Summary

Node ID	Contributing Basins	S.F. Equivelents	Average Day Flow (gpd)	Average Day Flow (cfs)	Peak Factor[1]	Infiltration (gpd)	Design Peak Flow (gpd)	Design Peak Flow (cfs)
MH-1	A	152.7	30537	0.0472	5	3054	155739	0.2410
MH-2	A and B	188.8	37755	0.0584	5	3776	192551	0.2979
MH-3	C	120.6	24125	0.0373	5	2413	123040	0.1904
MH-4	A, B, and C	309.4	61880	0.0957	5	6188	315590	0.4883
MH-5	A thru E	516.5	103298	0.1598	5	10330	526822	0.8151
MH-6	A thru F	776.6	155317	0.2403	4.82	15532	763507	1.1813
Off-Site	A thru F, East Treatment	781.6	156317	0.2419	4.81	15632	767612	1.1877

[1]Peak Factor equals the minimum of 5 or $3.79 \times Q^{-0.168}$, where Q is the average day flow in cfs.

Image extracted from Page 40 of 73 of the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1 by CEC Associates dated 10/8/04.

Previous calculations established a Peak Design Flow of 0.241 cfs for the multi-family development (Basin A) located across N. Ridge Rd. to the west. For Founders Marketplace (Basin B), the total flow is the difference between MH-2 and MH-1, which results in a single family equivalents of 36.1 and a Design Peak Flow of 0.0570 cfs. Lot 5, or Retail C, is a portion of the overall discharge from Basin B, with an allocated flow of approximately 0.0044 cfs.

Average Daily Flows (ADF) for wastewater flows were calculated per the Town of Castle Rock Waste Water System Design Criteria flow rates listed in the table below.

Land Use	Area (sf)	Typical ADF/unit	ADF (gpd)
Retail	6,721	0.1	672

Peak Flows were determined by multiplying the Average Daily Flow by Peaking Factor (PF). The Peaking Factor is calculated using the following equation:

$PF = 3.65 \times [(ADF)^{-0.168}]$, ADF in millions of gallons per day; Max PF = 5.0

$PF = 3.65 \times [(0.000672)^{-0.168}] = 12.45$, therefore PF=5.0

The Peak Design flowrate is calculated by multiplying the Average Design Flows with the Peaking Factor and adding 10% of the Average Design Flow to allow for pipe infiltration and inflow.

Land Use	ADF (mgd)	Peaking Factor	PDF (mgd)	PDF+ADF*0.1 (mgd)	Peak Flow (cfs)
Retail	0.000672	5	0.00336	0.00343	0.0052

The total SFE for wastewater flows were calculated per the Town of Castle Rock Wastewater System Design Criteria flow rates listed in the table below.

Land Use	Area (sf)	Typical SFE/unit	SFE
Retail	6,721	0.0005	3.4

Existing Wastewater System

The proposed development will be tributary to an existing 8" sanitary sewer located within the utility easement that runs through the King Soopers site. These calculations indicate that, due to the increase in building square footage, the wastewater demand will also rise. The original study estimated a Peak Flow of 0.0044 cfs. The analysis above shows that the Peak Flow for the proposed development will be 0.0052 cfs, resulting in an increase of approximately 0.001 cfs in peak flow.

Proposed Wastewater System

I affirm that the proposed utility design for Lot 5, Founders Marketplace Filing No. 1, is in general conformance with the Water and Sanitary Sewer Study for Founders Marketplace Filing No. 1, Block 1, prepared by CEC Associates on 10/8/04, as well as the current Town of Castle Rock Water System Design Criteria Manual. Any future development of the existing wastewater infrastructure needed to serve this site is the responsibility of the developer. The development of this site does not require a grease interceptor. To be in accordance with Castle Rock Water a stub has been provided for a future grease interceptor. Refer to Appendix D for a copy of the Castle Rock Water Grease Interceptor Acknowledgement.

UTILITY REPORT APPROVAL BLOCKS

Engineer's Statement:

The enclosed utility report, and exhibits, were prepared by me or under my direct supervision and is correct to the best of my knowledge and belief. Said utility report has been prepared in accordance with applicable Town of Castle Rock criteria and is in conformance with the master utility plans for the affected area. I accept responsibility for any liability caused by negligent acts, errors, or omissions on my part in preparing this report.

Signature: _____
Registered Professional Engineer
State Of Colorado No. 52448
(Affix Seal)

COLORADO LICENSED
TIMOTHY LEE UHRIK
52448
10/13/25
PROFESSIONAL ENGINEER

Owner/Developer's Statement:

As Owner/Developer of Land(s) identified within this report; I agree to proceed, implement and comply with all recommendations and requirements outlined herein.

John McCoy VP Store Install & Design
Name of Developer

_____
Authorized Signature

APPENDICES

Appendix A – Vicinity Map

Appendix B – Master Utility Report

Appendix C – Utility Plan

Appendix D – Grease Interceptor Acknowledgement

Appendix E – Confirmation Memo for Required Fire Flow

Appendix F – Commercial Water Fixture Worksheet

Appendix A – Vicinity Map

VICINITY MAP

(NOT TO SCALE)

N

Appendix B – Master Utility Report

WATER AND SANITARY SEWER STUDY
FOR
FOUNDERS MARKETPLACE
FILING NO. 1, BLOCK 1
TOWN OF CASTLE ROCK, COLORADO

October 8, 2004

Prepared for:

Flamingo Partners LLC
7600 East Arapahoe Road, Ste. 211
Centennial, Colorado 80112
Ph. (303) 771-3344
Mr. Glen Smith, Manager

Prepared by:

Joel D. Tompkins, PE
CLC Associates, Inc.
8480 E. Orchard Rd, #2000
Greenwood Village, CO 80111

(CLC Job No. 03.0292)

2.00 WATER SYSTEM ANALYSIS

2.01 Description

Founders Marketplace Filing No. 1, Block 1will be serviced by a looped water system which connects to the adjacent green zone line at two locations. The existing green zone line being tapped was installed in Ridge Road in the summer of 2003 and is part of the Founders Parkway Transmission Line Improvements. The "green-zone" has a maximum tank elevation of 6820.0 with an operating elevation of 6807.0. The starting hydraulic grade of 6792.0 was provided by the Town's Utility Department from their master water model.

Nominal finished floor elevations for Block 1 are between 6611.0 and 6632.1; the largest structure, King Soopers, will be at 6617.5. Pressure reducing valves on the domestic service lines will be required for all proposed buildings.

Please refer to the included "Water Service Plan" for depiction of existing and proposed water lines in or affecting Founders Marketplace Filing No. 1, Block 1. Only the appurtenances in the South Ridge Road right-of-way are in-place at this time.

2.02 Modeling Assumptions

For purposes of modeling the system the following assumptions were made:

- Roughness factors for ductile iron pipe were used throughout (C=120.0). This will provide a level of conservativeness when analyzing those pipes less than 12 inches in diameter, which are or will be PVC.
- Two points of connection to the Town's "green-zone" water line in South Ridge Road will be made.
- Domestic maximum daily and hourly peak demands were distributed to the individual buildings prorated based on their percent of total building coverage.

The average water demand was determined using the land use demand rate of 1200 gpad for commercial properties, as printed in the Town's Public Works Regulations. From the same publication factors of 2.65 and 4.5 were applied to the average rate to determine the maximum day demand and peak hour demands, respectively. Thus, for the 12.03 acres of Block 1 the average demand was determined to be 14,436 gallons per day. The maximum day flow calculates to 38,255 gpd and peak hourly flow estimates to 64,962 gpd. All calculations are presented in the Appendix A.

2.03 Design Scenarios

Four different steady state models were established to determine the adequacy of the proposed system. The first model uses only the peak hourly demand of 45.12 gpm. The flows were distributed on a prorated basis to the individual buildings as described above. The resulting pipe velocities and pressure determinations were compared to the published parameters and determined to be acceptable. A summary is provided in Appendix C.

The remaining three models were developed to test fire flow parameters against the published criteria. Fire flow requirements were determined using the 1997 Uniform Fire Code and an assumption of Type V-N construction and applying a 75% reduction factor for sprinklered buildings. The flows were determined to be 1625 gpm for the King Soopers and 1500 gpm for the other three in-line retail structures. The maximum day demand is modeled as supplied in addition to those fire flows.

Fire demands were divided between two hydrants in the case of a King Soopers fire and applied to a single hydrant for fires in each of the remaining structures. Only the 6" ductile iron fire leads in the case of the Retail A and C fire models demonstrated an operating parameter outside of the Town criteria; pipe velocity reached up to 17.02 fps in both instances *which will not adversely effect these ductile iron segments* (identified as pipes f2 and f9 in the modeling). However, in the King Soopers, Retail A, and Retail C fire flow models the water mains themselves demonstrated operating parameters within the Town's specifications.

HYDRAULICS SUMMARY TABLE

Scenario	Velocity (fps)		Pressure (psi)	
	Maximum	Minimum	Maximum	Minimum
Peak Hour	0.16	0.01	78.96	68.79
Maximum Day	0.09	0.01	78.96	68.79
King Soopers Fire	10.54	0.01	76.91	55.53
Retail A Fire	9.74	0.01	77.04	64.84
Retail C Fire	9.74	0.01	77.04	47.56

Note: Does not include 6-inch ductile iron fire leads.

2.04 Volume

The calculations in the appendix demonstrate a need for 390,000 gallons of storage to provide for fire fighting needs associated with the largest structure proposed in Block 1. However, that was not the worst case fire scenario in this zone. According to data provided by (and included here at the request of) the Town of Castle Rock a fire at the future Rock Ridge Elementary would require 630,000 gallons. Total water storage required for the Green Zone and portions of the Red Zone, which are currently drawing from the Green Zone through PRV's, is estimated as 4,878,000 gallons for the maximum day demand without fire scenario consideration. Total current storage available is only 4,000,000 gallons. Including the fire flow requirement for the Elementary School there is a deficit of 1,508,279 gallons in the Red Zone tanks.

According to Town of Castle Rock representatives there exists a cross connection between the Red Zone and Green Zone which allows transfer of water into the Green Zone. This connection provides the Town the mechanism through which they have already approved developments in excess of storage capacity calculations. By approving this development the Town acknowledges that the same requirement exists

and is exacerbated by Founders Marketplace Filing No. 1 and assumes all responsibility for meeting demand requirements through the porting of water between zones or the addition of storage capacity within the Green Zone itself.

2.05 Conclusion

Peak hour demands and fire flows can be serviced within Founders Marketplace Filing No. 1, Block 1 in compliance with the residual pressure and velocity requirements established in the Public Works Regulations of the Town of Castle Rock.

3.00 SANITARY SEWER SYSTEM ANALYSIS

3.01 Description

The sanitary sewer design for Founders Marketplace Filing No. 1, Block 1 consists of the construction of approximately 3110 lf of off-site main in addition to the on-site mains and stubs. The internal lines will stub to the Ridge Road ROW to provide for future connection of 13.05 acres on the west side of that street. On the down-gradient side of the site a stub is provided to the east, in the Highway 86 ROW, for 10.31 acres of potential Multi Family development in Castle Oaks Estates. Further down-gradient of the Highway 86 ROW the sewer main provides for an additional 20.28 acres of commercial property (Founders Marketplace Block 2) and another 53.60 acres of multi-family development.

After the final contribution point in this analysis (MH-5) the last 1550 lf of main is tied to a proposed system servicing Castle Oaks Estates at Valley View and Castle Oaks Drives. Information for the system at that location and downstream thereof is detailed in the Sanitary Sewer Study for Castle Oaks Filing No. 1. However, design grade and required pipe sizes up to the first Castle Oaks connection are as provided on the "Pipe Summary" table in Appendix D.

3.02 Design

Information in Appendix D demonstrates the expected sanitary flows generated up-stream of the Castle Oaks Estates Outfall C-2. An inflow estimate of 5 SFE equivalents has been used for the East Water Treatment Plant. All sewer lines up to the Outfall C-2 connection have had their design flows quantified and are given acceptable grade envelopes in that Appendix. All sanitary installation to the Castle Oaks Estates C-2 pipe will be 8-inches in diameter comply with the grades demonstrated in the appendix.

According to Meurer & Associates, Inc., the engineers for Castle Oaks Estates, the C-2 Outfall of the Castle Oaks Estates Utility Study, to which Founders Marketplace is tributary, is designed for 913 SFE. Of the 175.9 SFE excess, 152.7 SFE is attributed to the inclusion of the 13.05 acres on the west side of Ridge Road which has never been identified as within the sanitary district in question. It is expected that actual build out conditions will support the flow boundaries as delineated and no further action is warranted until the review of the Castle Oaks Phase II Lift Station improvements; which are triggered by build out of 1250 SFE in the Castle Oaks Sanitary District.

FOUNDERS MARKETPLACE FILING NO. 1, BLOCK 1

CLC Associates, Inc.
8480 E. Orchard Road, Ste. 2000
Greenwood Village, CO 80111
Date: 22-Jun-2004

Domestic Water Demand Analysis

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Founders Marketplace	commercial	12.03	1200.0	14,436	2.65	4.5	38,255	64,962
			or:	10.03 gpm		or:	26.57	45.11 gpm

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Retail B	5000	6.45%	0.65	1.71	2.91
Retail C	6000	7.74%	0.78	2.06	3.49
Totals =>		100.00%	10.03	26.57	45.11

Steady State Storage Requirements

Average Day	14,436	Gallons
Max Day	38,259	Gallons

Fire Flow Demand Analysis

Required Storage

King Soopers

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Net Required Fire Flow[3]	1500	GPM			

Retail B

Building Size	5000	S.F.	Fire Flow	1500	GPM
Construction Type	V-N		Duration	2	HR
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Fire Flow Reduction[2]	75%		Total	180,000	Gallons
Net Required Fire Flow[3]	1500	GPM			

Retail C

Building Size	6000	S.F.	Fire Flow	1500	GPM
Construction Type	V-N		Duration	2	HR
Required Fire Flow[1]	2000	GPM			
Fire Flow Reduction[2]	75%		Total	180,000	Gallons
Net Required Fire Flow[3]	1500	GPM			

[1]From the Uniform Fire Code Table A-III-A-1
[2]Sprikler reduction per local Fire Department
[3]Absolute minimum of 1500 GMP

FOUNDERS MARKETPLACE FILING NO. 1, BLOCK 1

CLC Associates, Inc
8480 E. Orchard Road, Ste 2000
Greenwood Village CO 80111
Date: 14-Jul-2004

Domestic Water Demand Analysis

	Land Use	Area (acre)	Average Day Demand (gpad)	Average Day Demand (gpd)	Peak Daily Ratio	Peak Hour Ratio	Max Day Flow (gpd)	Max Hour Flow (gpd)
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(812.5 gpm per hydrant)

Retail A

Building Size	7800	S.F
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Construction Type	V-N	
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Retail C

Building Size	6000	S.F.
Construction Type	V-N	
Required Fire Flow[1]	2000	GPM
Fire Flow Reduction[2]	75%	
Net Required Fire Flow[3]	1500	GPM

Required Storage

Fire Flow	1625	GPM
Duration	4	HR
Total	390,000	Gallons

Fire Flow	1500	GPM
Duration	2	HR
Total	180,000	Gallons

Fire Flow	1500	GPM
Duration	2	HR
Total	180,000	Gallons

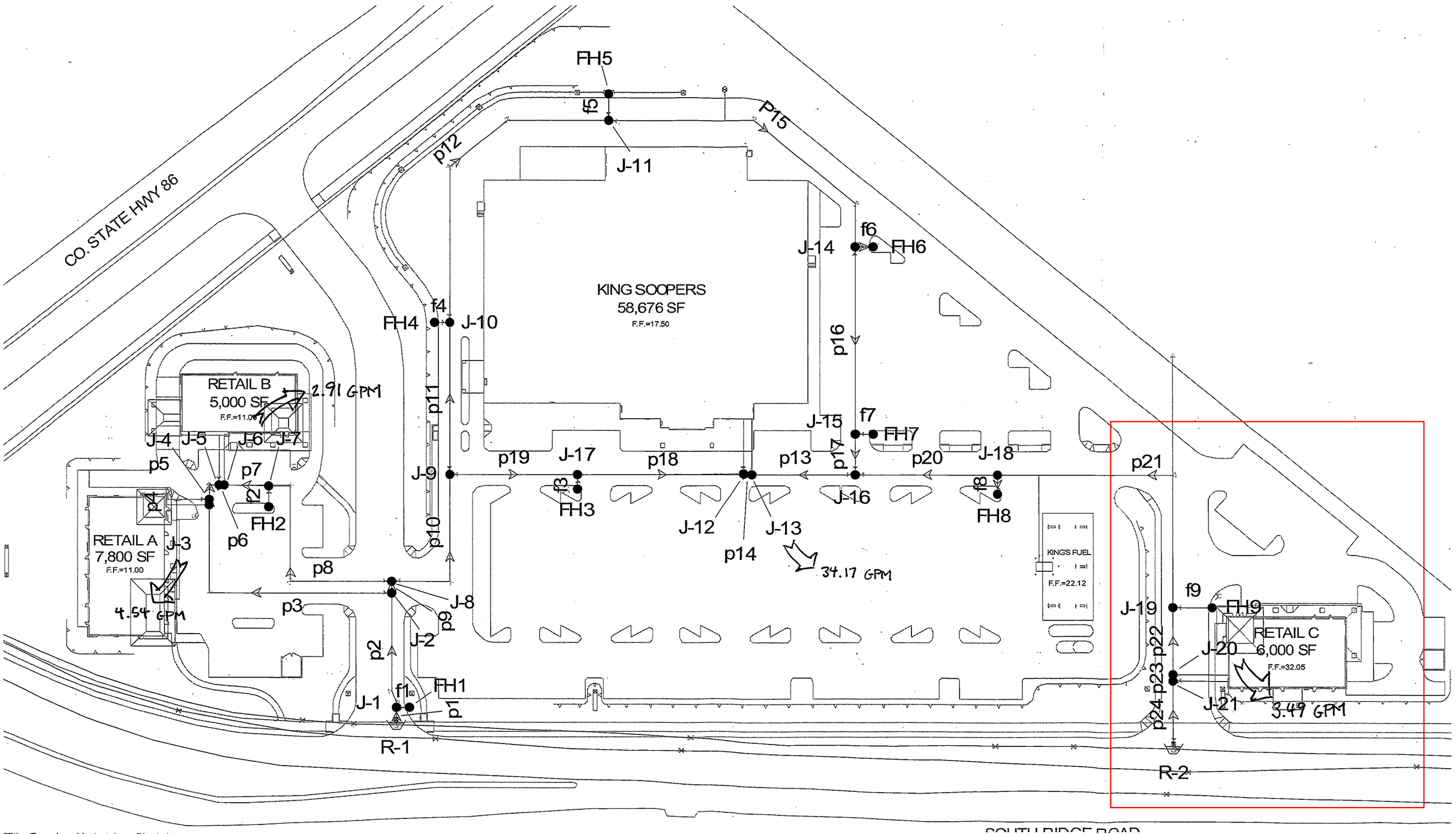
Fire Flow	1500	GPM
Duration	2	HR
Total	180,000	Gallons

[1]From the Uniform Fire Code Table A-III-A-1
[2]Sprinkler reduction per local Fire Department
[3]Absolute minimum of 1500 GMP

TOWN OF CASTLE ROCK APPROVALS:

CASTLE ROCK FIRE AND RESCUE SUPPORT SERVICES — DATE 7/15/04

Scenario: Peak Hour



Title: Founders Marketplace Block 1
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06/21/04 01:50:04 PM

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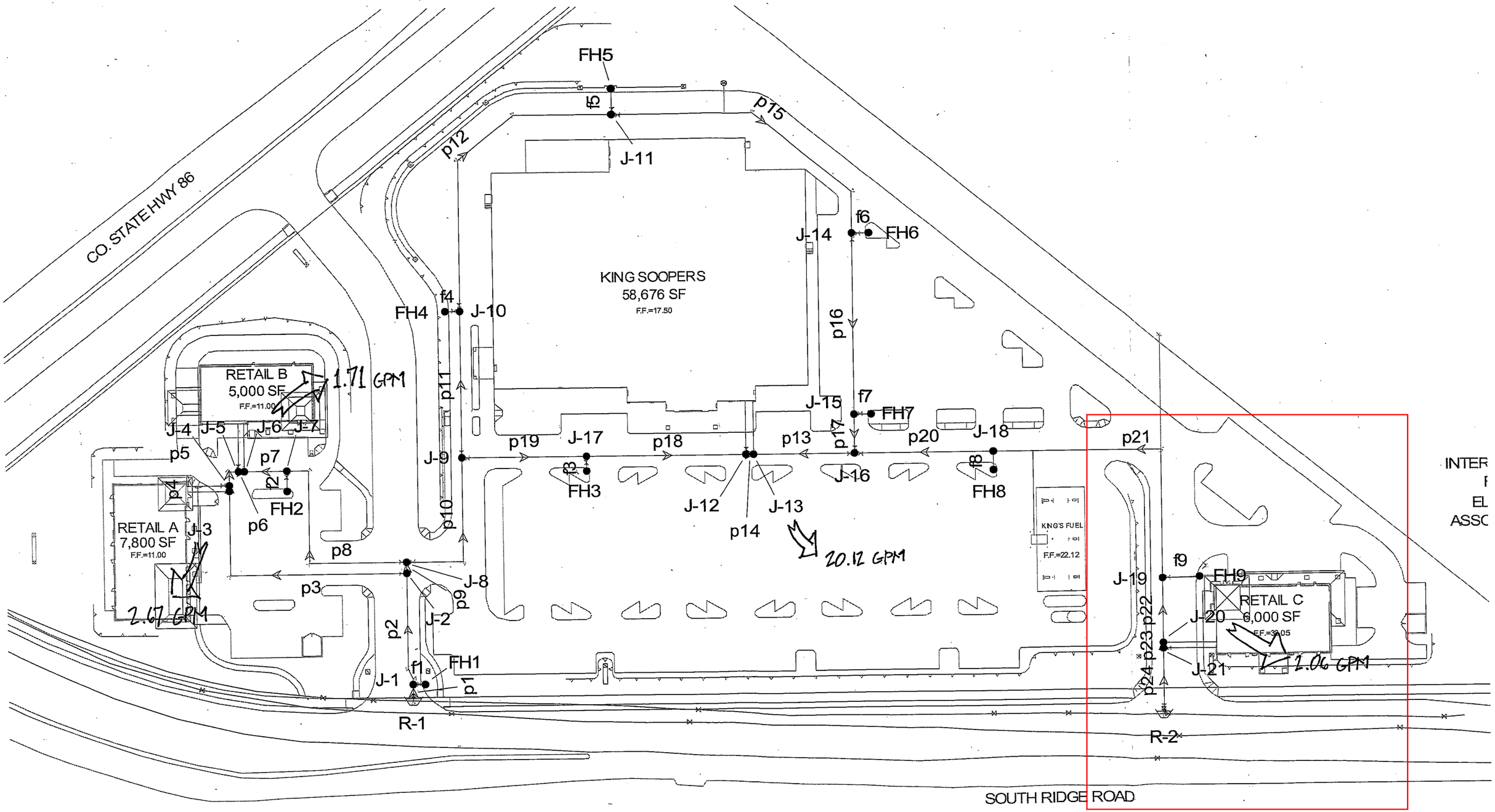
Page 1 of 1

Scenario: Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	6,612.15	Green	Demand	0.00	Fixed	0.00	6,792.00	77.81
J-2	6,611.90	Green	Demand	0.00	Fixed	0.00	6,792.00	77.92
J-3	6,609.50	Green	Demand	4.54	Fixed	4.54	6,792.00	78.96
J-4	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-5	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-6	6,609.50	Green	Demand	2.91	Fixed	2.91	6,792.00	78.96
J-7	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-8	6,611.90	Green	Demand	0.00	Fixed	0.00	6,792.00	77.92
J-9	6,615.00	Green	Demand	0.00	Fixed	0.00	6,791.99	76.58
J-10	6,615.50	Green	Demand	0.00	Fixed	0.00	6,791.99	76.36
J-11	6,613.00	Green	Demand	0.00	Fixed	0.00	6,791.99	77.44
J-14	6,615.75	Green	Demand	0.00	Fixed	0.00	6,791.99	76.25
J-15	6,617.25	Green	Demand	0.00	Fixed	0.00	6,791.99	75.60
J-16	6,617.00	Green	Demand	0.00	Fixed	0.00	6,791.99	75.71
J-17	6,616.50	Green	Demand	0.00	Fixed	0.00	6,791.99	75.93
J-18	6,619.50	Green	Demand	0.00	Fixed	0.00	6,792.00	74.63
J-19	6,630.00	Green	Demand	0.00	Fixed	0.00	6,792.00	70.09
J-20	6,633.00	Green	Demand	3.49	Fixed	3.49	6,792.00	68.79
J-21	6,633.00	Green	Demand	0.00	Fixed	0.00	6,792.00	68.79
FH1	6,612.65	Green	Demand	0.00	Fixed	0.00	6,792.00	77.60
FH2	6,610.00	Green	Demand	0.00	Fixed	0.00	6,792.00	78.74
FH3	6,617.00	Green	Demand	0.00	Fixed	0.00	6,791.99	75.71
FH4	6,616.00	Green	Demand	0.00	Fixed	0.00	6,791.99	76.14
FH5	6,613.50	Green	Demand	0.00	Fixed	0.00	6,791.99	77.23
FH6	6,616.25	Green	Demand	0.00	Fixed	0.00	6,791.99	76.04
FH7	6,617.75	Green	Demand	0.00	Fixed	0.00	6,791.99	75.39
FH8	6,620.00	Green	Demand	0.00	Fixed	0.00	6,792.00	74.41
FH9	6,630.50	Green	Demand	0.00	Fixed	0.00	6,792.00	69.87
J-12	6,616.50	Green	Demand	0.00	Fixed	0.00	6,791.99	75.93
J-13	6,616.50	Green	Demand	34.17	Fixed	34.17	6,791.99	75.93

Scenario: Maximum Day



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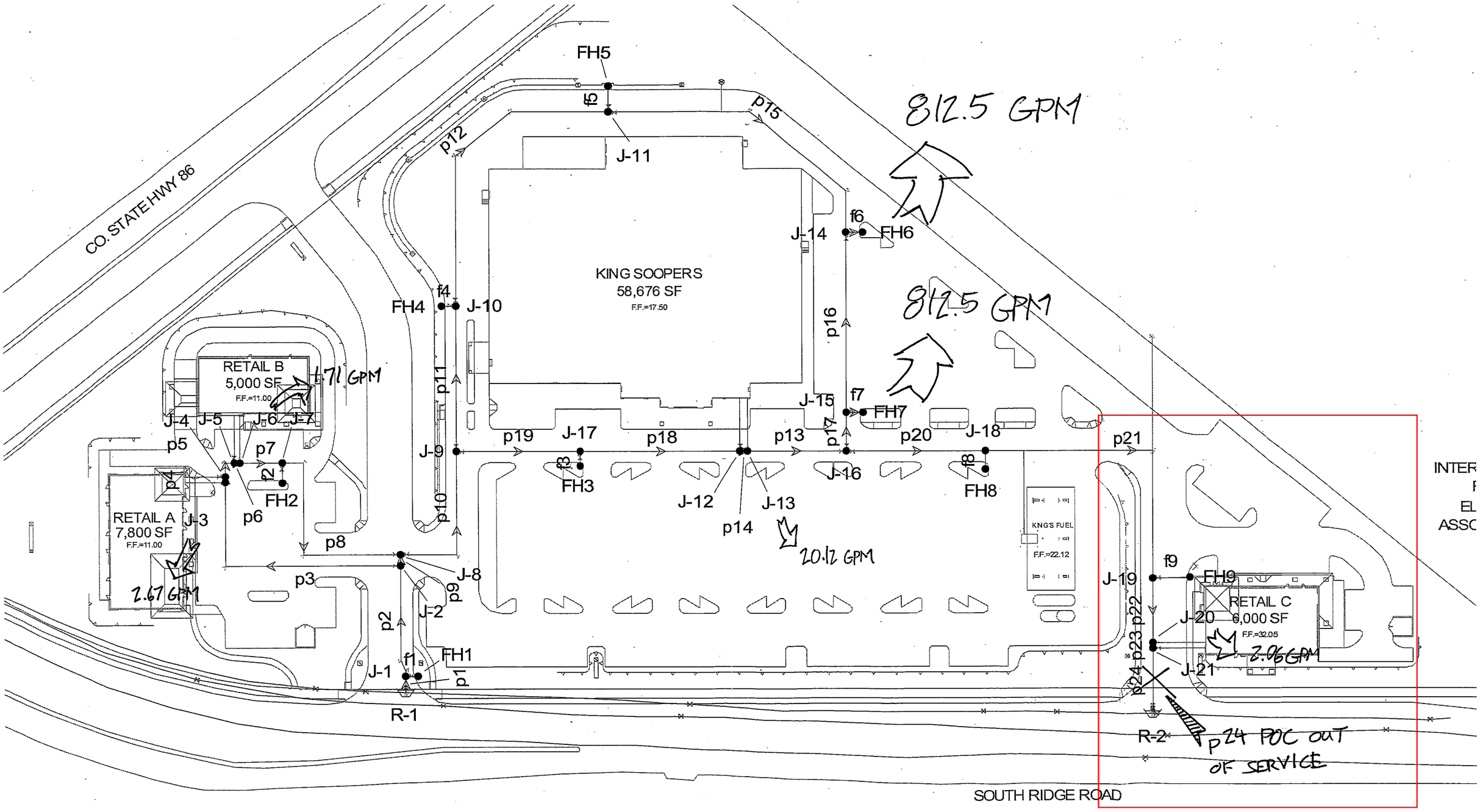
Scenario: Maximum Day
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	6,612.15	Green	Demand	0.00	Fixed	0.00	6,792.00	77.81
J-2	6,611.90	Green	Demand	0.00	Fixed	0.00	6,792.00	77.92
J-3	6,609.50	Green	Demand	2.67	Fixed	2.67	6,792.00	78.96
J-4	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-5	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-6	6,609.50	Green	Demand	1.71	Fixed	1.71	6,792.00	78.96
J-7	6,609.50	Green	Demand	0.00	Fixed	0.00	6,792.00	78.96
J-8	6,611.90	Green	Demand	0.00	Fixed	0.00	6,792.00	77.92
J-9	6,615.00	Green	Demand	0.00	Fixed	0.00	6,792.00	76.58
J-10	6,615.50	Green	Demand	0.00	Fixed	0.00	6,792.00	76.36
J-11	6,613.00	Green	Demand	0.00	Fixed	0.00	6,792.00	77.44
J-14	6,615.75	Green	Demand	0.00	Fixed	0.00	6,792.00	76.25
J-15	6,617.25	Green	Demand	0.00	Fixed	0.00	6,792.00	75.60
J-16	6,617.00	Green	Demand	0.00	Fixed	0.00	6,792.00	75.71
J-17	6,616.50	Green	Demand	0.00	Fixed	0.00	6,792.00	75.93
J-18	6,619.50	Green	Demand	0.00	Fixed	0.00	6,792.00	74.63
J-19	6,630.00	Green	Demand	0.00	Fixed	0.00	6,792.00	70.09
J-20	6,633.00	Green	Demand	2.06	Fixed	2.06	6,792.00	68.79
J-21	6,633.00	Green	Demand	0.00	Fixed	0.00	6,792.00	68.79
FH1	6,612.65	Green	Demand	0.00	Fixed	0.00	6,792.00	77.60
FH2	6,610.00	Green	Demand	0.00	Fixed	0.00	6,792.00	78.74
FH3	6,617.00	Green	Demand	0.00	Fixed	0.00	6,792.00	75.71
FH4	6,616.00	Green	Demand	0.00	Fixed	0.00	6,792.00	76.15
FH5	6,613.50	Green	Demand	0.00	Fixed	0.00	6,792.00	77.23
FH6	6,616.25	Green	Demand	0.00	Fixed	0.00	6,792.00	76.04
FH7	6,617.75	Green	Demand	0.00	Fixed	0.00	6,792.00	75.39
FH8	6,620.00	Green	Demand	0.00	Fixed	0.00	6,792.00	74.42
FH9	6,630.50	Green	Demand	0.00	Fixed	0.00	6,792.00	69.87
J-12	6,616.50	Green	Demand	0.00	Fixed	0.00	6,792.00	75.93
J-13	6,616.50	Green	Demand	20.12	Fixed	20.12	6,792.00	75.93

Scenario: Fire - KS



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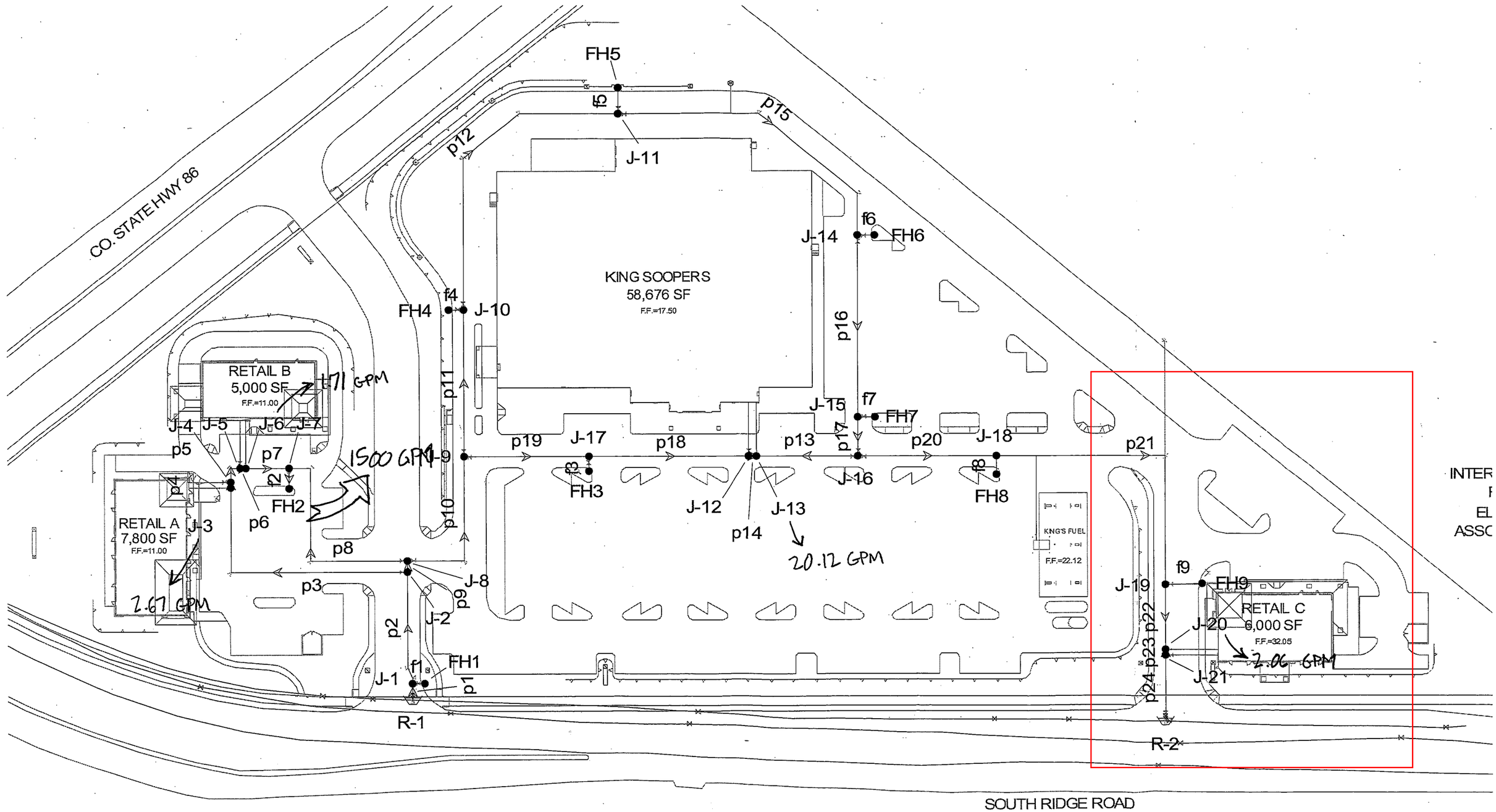
Scenario: Fire - KS
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	6,612.15	Green	Demand	0.00	Fixed	0.00	6,789.92	76.91
J-2	6,611.90	Green	Demand	0.00	Fixed	0.00	6,782.23	73.69
J-3	6,609.50	Green	Demand	2.67	Fixed	2.67	6,781.46	74.40
J-4	6,609.50	Green	Demand	0.00	Fixed	0.00	6,781.42	74.38
J-5	6,609.50	Green	Demand	0.00	Fixed	0.00	6,781.31	74.33
J-6	6,609.50	Green	Demand	1.71	Fixed	1.71	6,781.27	74.32
J-7	6,609.50	Green	Demand	0.00	Fixed	0.00	6,781.14	74.26
J-8	6,611.90	Green	Demand	0.00	Fixed	0.00	6,780.48	72.94
J-9	6,615.00	Green	Demand	0.00	Fixed	0.00	6,768.66	66.48
J-10	6,615.50	Green	Demand	0.00	Fixed	0.00	6,766.91	65.51
J-11	6,613.00	Green	Demand	0.00	Fixed	0.00	6,763.27	65.01
J-14	6,615.75	Green	Demand	0.00	Fixed	0.00	6,759.83	62.34
J-15	6,617.25	Green	Demand	0.00	Fixed	0.00	6,759.87	61.71
J-16	6,617.00	Green	Demand	0.00	Fixed	0.00	6,761.35	62.45
J-17	6,616.50	Green	Demand	0.00	Fixed	0.00	6,766.43	64.87
J-18	6,619.50	Green	Demand	0.00	Fixed	0.00	6,761.35	61.37
J-19	6,630.00	Green	Demand	0.00	Fixed	0.00	6,761.35	56.83
J-20	6,633.00	Green	Demand	2.06	Fixed	2.06	6,761.35	55.53
J-21	6,633.00	Green	Demand	0.00	Fixed	0.00	6,761.35	55.53
FH1	6,612.65	Green	Demand	0.00	Fixed	0.00	6,789.92	76.70
FH2	6,610.00	Green	Demand	0.00	Fixed	0.00	6,781.14	74.04
FH3	6,617.00	Green	Demand	0.00	Fixed	0.00	6,766.43	64.65
FH4	6,616.00	Green	Demand	0.00	Fixed	0.00	6,766.91	65.29
FH5	6,613.50	Green	Demand	0.00	Fixed	0.00	6,763.27	64.80
FH6	6,616.25	Green	Demand	812.50	Fixed	812.50	6,758.44	61.52
FH7	6,617.75	Green	Demand	812.50	Fixed	812.50	6,758.48	60.89
FH8	6,620.00	Green	Demand	0.00	Fixed	0.00	6,761.35	61.16
FH9	6,630.50	Green	Demand	0.00	Fixed	0.00	6,761.35	56.61
J-12	6,616.50	Green	Demand	0.00	Fixed	0.00	6,763.63	63.65
J-13	6,616.50	Green	Demand	20.12	Fixed	20.12	6,763.31	63.52

Scenario: Fire - RetA



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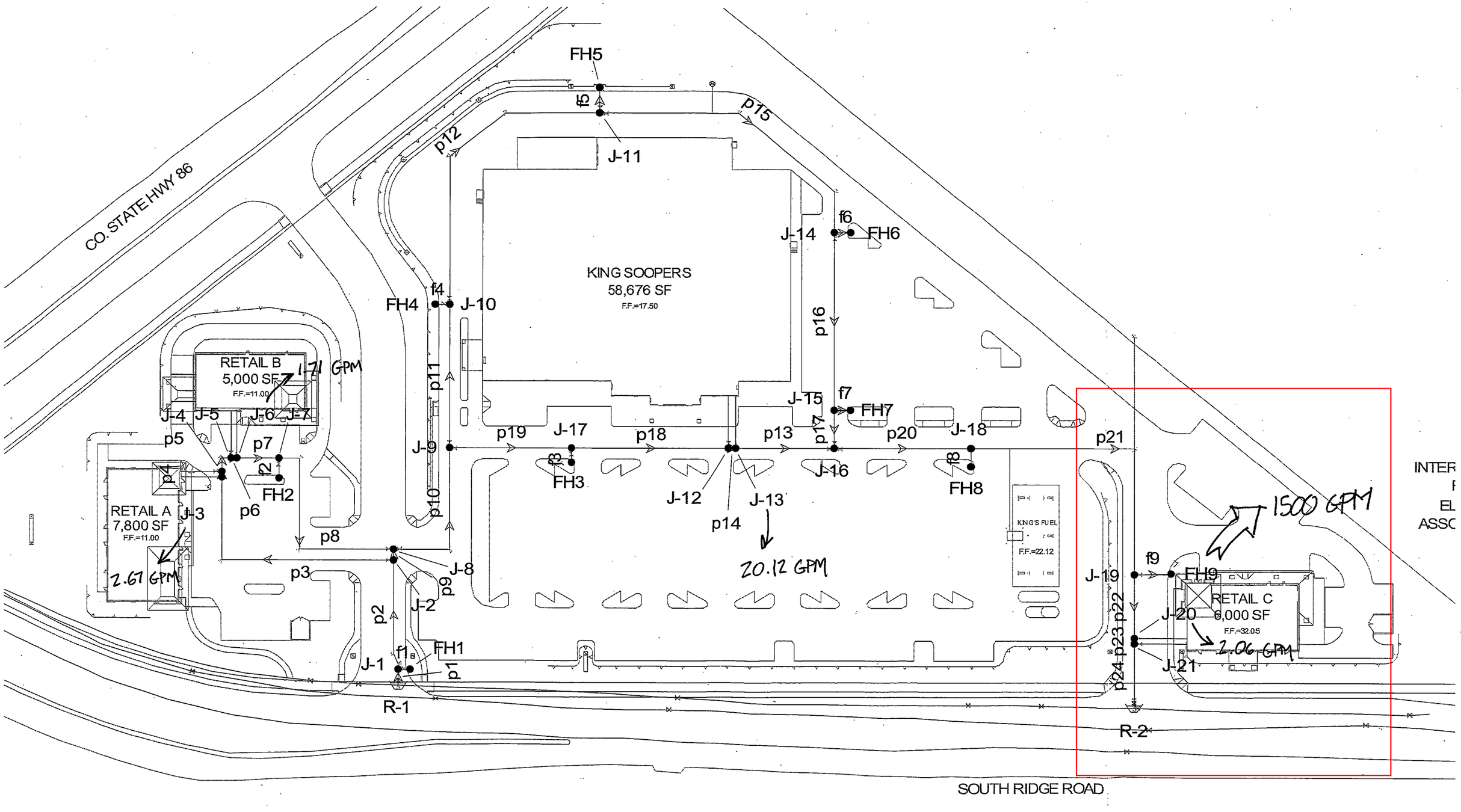
Scenario: Fire - RetA
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	6,612.15	Green	Demand	0.00	Fixed	0.00	6,790.21	77.04
J-2	6,611.90	Green	Demand	0.00	Fixed	0.00	6,783.59	74.28
J-3	6,609.50	Green	Demand	2.67	Fixed	2.67	6,780.63	74.04
J-4	6,609.50	Green	Demand	0.00	Fixed	0.00	6,780.47	73.97
J-5	6,609.50	Green	Demand	0.00	Fixed	0.00	6,780.03	73.78
J-6	6,609.50	Green	Demand	1.71	Fixed	1.71	6,779.88	73.71
J-7	6,609.50	Green	Demand	0.00	Fixed	0.00	6,779.37	73.49
J-8	6,611.90	Green	Demand	0.00	Fixed	0.00	6,782.88	73.97
J-9	6,615.00	Green	Demand	0.00	Fixed	0.00	6,782.87	72.63
J-10	6,615.50	Green	Demand	0.00	Fixed	0.00	6,782.87	72.41
J-11	6,613.00	Green	Demand	0.00	Fixed	0.00	6,782.87	73.50
J-14	6,615.75	Green	Demand	0.00	Fixed	0.00	6,782.87	72.31
J-15	6,617.25	Green	Demand	0.00	Fixed	0.00	6,782.87	71.66
J-16	6,617.00	Green	Demand	0.00	Fixed	0.00	6,782.87	71.76
J-17	6,616.50	Green	Demand	0.00	Fixed	0.00	6,782.87	71.98
J-18	6,619.50	Green	Demand	0.00	Fixed	0.00	6,782.87	70.68
J-19	6,630.00	Green	Demand	0.00	Fixed	0.00	6,782.87	66.14
J-20	6,633.00	Green	Demand	2.06	Fixed	2.06	6,782.87	64.84
J-21	6,633.00	Green	Demand	0.00	Fixed	0.00	6,782.87	64.84
FH1	6,612.65	Green	Demand	0.00	Fixed	0.00	6,790.21	76.82
FH2	6,610.00	Green	Demand	1,500.00	Fixed	1,500.00	6,774.33	71.10
FH3	6,617.00	Green	Demand	0.00	Fixed	0.00	6,782.87	71.76
FH4	6,616.00	Green	Demand	0.00	Fixed	0.00	6,782.87	72.20
FH5	6,613.50	Green	Demand	0.00	Fixed	0.00	6,782.87	73.28
FH6	6,616.25	Green	Demand	0.00	Fixed	0.00	6,782.87	72.09
FH7	6,617.75	Green	Demand	0.00	Fixed	0.00	6,782.87	71.44
FH8	6,620.00	Green	Demand	0.00	Fixed	0.00	6,782.87	70.47
FH9	6,630.50	Green	Demand	0.00	Fixed	0.00	6,782.87	65.92
J-12	6,616.50	Green	Demand	0.00	Fixed	0.00	6,782.87	71.98
J-13	6,616.50	Green	Demand	20.12	Fixed	20.12	6,782.87	71.98

Scenario: Fire - RetC



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Scenario: Fire - RetC
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Demand (Calculated) (gpm)	Calculated Hydraulic Grade (ft)	Pressure (psi)
J-1	6,612.15	Green	Demand	0.00	Fixed	0.00	6,790.21	77.04
J-2	6,611.90	Green	Demand	0.00	Fixed	0.00	6,783.59	74.28
J-3	6,609.50	Green	Demand	2.67	Fixed	2.67	6,782.93	75.03
J-4	6,609.50	Green	Demand	0.00	Fixed	0.00	6,782.89	75.02
J-5	6,609.50	Green	Demand	0.00	Fixed	0.00	6,782.80	74.98
J-6	6,609.50	Green	Demand	1.71	Fixed	1.71	6,782.77	74.96
J-7	6,609.50	Green	Demand	0.00	Fixed	0.00	6,782.66	74.92
J-8	6,611.90	Green	Demand	0.00	Fixed	0.00	6,782.09	73.63
J-9	6,615.00	Green	Demand	0.00	Fixed	0.00	6,771.92	67.89
J-10	6,615.50	Green	Demand	0.00	Fixed	0.00	6,770.79	67.19
J-11	6,613.00	Green	Demand	0.00	Fixed	0.00	6,768.43	67.25
J-14	6,615.75	Green	Demand	0.00	Fixed	0.00	6,766.21	65.10
J-15	6,617.25	Green	Demand	0.00	Fixed	0.00	6,764.84	63.86
J-16	6,617.00	Green	Demand	0.00	Fixed	0.00	6,764.24	63.70
J-17	6,616.50	Green	Demand	0.00	Fixed	0.00	6,769.57	66.23
J-18	6,619.50	Green	Demand	0.00	Fixed	0.00	6,757.69	59.79
J-19	6,630.00	Green	Demand	0.00	Fixed	0.00	6,742.93	48.86
J-20	6,633.00	Green	Demand	2.06	Fixed	2.06	6,742.93	47.56
J-21	6,633.00	Green	Demand	0.00	Fixed	0.00	6,742.93	47.56
FH1	6,612.65	Green	Demand	0.00	Fixed	0.00	6,790.21	76.82
FH2	6,610.00	Green	Demand	0.00	Fixed	0.00	6,782.66	74.70
FH3	6,617.00	Green	Demand	0.00	Fixed	0.00	6,769.57	66.01
FH4	6,616.00	Green	Demand	0.00	Fixed	0.00	6,770.79	66.97
FH5	6,613.50	Green	Demand	0.00	Fixed	0.00	6,768.43	67.03
FH6	6,616.25	Green	Demand	0.00	Fixed	0.00	6,766.21	64.88
FH7	6,617.75	Green	Demand	0.00	Fixed	0.00	6,764.84	63.64
FH8	6,620.00	Green	Demand	0.00	Fixed	0.00	6,757.69	59.57
FH9	6,630.50	Green	Demand	1,500.00	Fixed	1,500.00	6,734.98	45.20
J-12	6,616.50	Green	Demand	0.00	Fixed	0.00	6,766.63	64.95
J-13	6,616.50	Green	Demand	20.12	Fixed	20.12	6,766.29	64.81

CLC ASSOCIATES

8480 E. ORCHARD RD.
SUITE 2000
GREENWOOD VILLAGE
COLORADO 80111
P 303 770 5600
F 303 770 2349

DESIGN PAD

DENVER
SPOKANE
SALT LAKE CITY

PROJECT:	FOUNDERS MARKETPLACE	DATE:	JULY 21, 2004		
SUBJECT:	PARTIAL SAN FLOWS [PEAK HOUR]	BY:	JDT	JOB NO:	03.0292

PEAK FLOW FOR BASIN B' ⟹ 0.0570 CFS

- APPORTIONED OVER PROJECT BUILDING BASED ON RELATIVE SQUARE FOOTAGE
  - RETAIL A AND B

$$\left(\frac{7800 + 5000}{77476}\right) \times 0.0570 = 0.0094 \text{ CFS}$$

  - RETAIL C

$$\left(\frac{6000}{77476}\right) \times 0.0570 = 0.0044 \text{ CFS}$$

  - KING SOOPERS

$$\left(\frac{58676}{77476}\right) \times 0.0570 = 0.0432 \text{ CFS}$$

PIPE FLOWS

PIPE RUN	CONTRIBUTING	FLOW CFS	PIPE DIAMETER	MINIMUM GRADE	MAXIMUM GRADE
MH2A TO MH2B	RETAIL C	0.0044	8"	2.90%	3.01%
MH2B TO MH2	KING SOOPERS + RETAIL C	0.0476	8"	0.65%	2.76%
MH2C TO MH2	RETAIL A AND B	0.0094	8"	1.00%	1.00%

NOTE - THE ON-SITE SANITARY SYSTEM MEETS ALL THE DESIGN REQUIREMENTS OF THE PUBLIC WORKS REGULATIONS. THE PARTIAL FLOW ANALYSIS IS PROVIDED FOR INFORMATION ONLY AT THE REQUEST OF THE DEVELOPMENT PROJECT MANAGER.

MH2A to MH2B
Worksheet for Circular Channel

Project Description	
Project File	q:\03-0088\civil\util\founders.fm2
Worksheet	Partial Flow Calculations
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

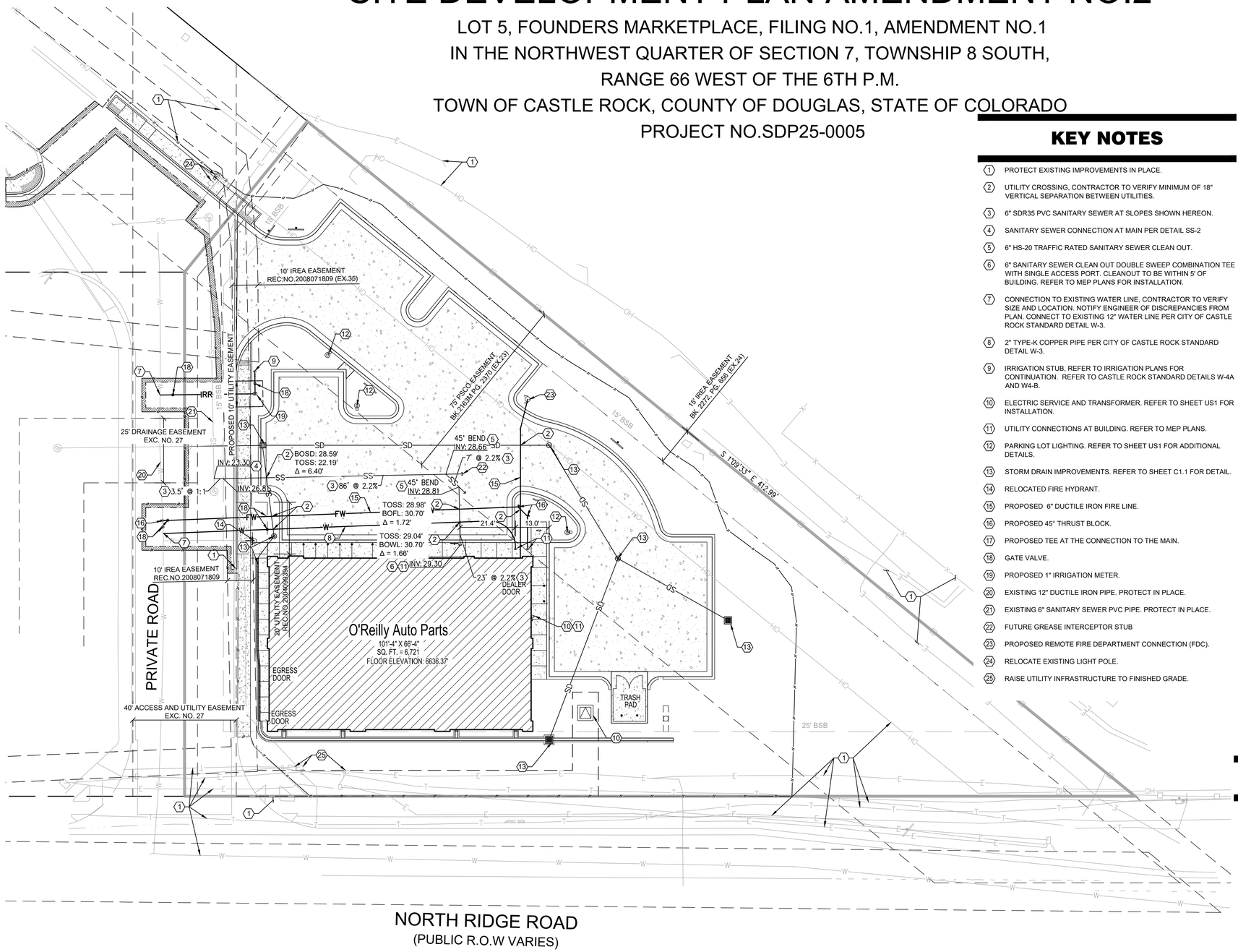
Input Data		
Mannings Coefficient	0.011	
Channel Slope	0.029000	ft/ft
Diameter	8.00	in
Discharge	0.0044	cfs

Results		
Depth	0.02	ft
Flow Area	0.33e-2	ft^2
Wetted Perimeter	0.24	ft
Top Width	0.23	ft
Critical Depth	0.03	ft
Percent Full	3.17	
Critical Slope	0.006769	ft/ft
Velocity	1.33	ft/s
Velocity Head	0.03	ft
Specific Energy	0.05	ft
Froude Number	1.97	
Maximum Discharge	2.62	cfs
Full Flow Capacity	2.43	cfs
Full Flow Slope	0.949338e-7	ft/ft
Flow is supercritical.		

Appendix C – Utility Plan

SITE DEVELOPMENT PLAN AMENDMENT NO.2

LOT 5, FOUNDERS MARKETPLACE, FILING NO.1, AMENDMENT NO.1
IN THE NORTHWEST QUARTER OF SECTION 7, TOWNSHIP 8 SOUTH,
RANGE 66 WEST OF THE 6TH P.M.
TOWN OF CASTLE ROCK, COUNTY OF DOUGLAS, STATE OF COLORADO
PROJECT NO.SDP25-0005



KEY NOTES

1. PROTECT EXISTING IMPROVEMENTS IN PLACE.
2. UTILITY CROSSING. CONTRACTOR TO VERIFY MINIMUM OF 18" VERTICAL SEPARATION BETWEEN UTILITIES.
3. 6" SDR35 PVC SANITARY SEWER AT SLOPES SHOWN HEREON.
4. SANITARY SEWER CONNECTION AT MAIN PER DETAIL SS-2
5. 6" HS-20 TRAFFIC RATED SANITARY SEWER CLEAN OUT.
6. 6" SANITARY SEWER CLEAN OUT DOUBLE SWEEP COMBINATION TEE WITH SINGLE ACCESS PORT. CLEANOUT TO BE WITHIN 5' OF BUILDING. REFER TO MEP PLANS FOR INSTALLATION.
7. CONNECTION TO EXISTING WATER LINE, CONTRACTOR TO VERIFY SIZE AND LOCATION. NOTIFY ENGINEER OF DISCREPANCIES FROM PLAN. CONNECT TO EXISTING 12" WATER LINE PER CITY OF CASTLE ROCK STANDARD DETAIL W-3.
8. 2" TYPE-K COPPER PIPE PER CITY OF CASTLE ROCK STANDARD DETAIL W-3.
9. IRRIGATION STUB, REFER TO IRRIGATION PLANS FOR CONTINUATION. REFER TO CASTLE ROCK STANDARD DETAILS W-4A AND W4-B.
10. ELECTRIC SERVICE AND TRANSFORMER. REFER TO SHEET US1 FOR INSTALLATION.
11. UTILITY CONNECTIONS AT BUILDING. REFER TO MEP PLANS.
12. PARKING LOT LIGHTING. REFER TO SHEET US1 FOR ADDITIONAL DETAILS.
13. STORM DRAIN IMPROVEMENTS. REFER TO SHEET C1.1 FOR DETAIL.
14. RELOCATED FIRE HYDRANT.
15. PROPOSED 6" DUCTILE IRON FIRE LINE.
16. PROPOSED 45° THRUST BLOCK.
17. PROPOSED TEE AT THE CONNECTION TO THE MAIN.
18. GATE VALVE.
19. PROPOSED 1" IRRIGATION METER.
20. EXISTING 12" DUCTILE IRON PIPE. PROTECT IN PLACE.
21. EXISTING 6" SANITARY SEWER PVC PIPE. PROTECT IN PLACE.
22. FUTURE GREASE INTERCEPTOR STUB
23. PROPOSED REMOTE FIRE DEPARTMENT CONNECTION (FDC).
24. RELOCATE EXISTING LIGHT POLE.
25. RAISE UTILITY INFRASTRUCTURE TO FINISHED GRADE.

LEGEND

- AREA OF LIGHT DUTY CONCRETE
- NEW BUILDING CONSTRUCTION
- AREA OF CONCRETE
- PROPERTY LINE
- ADJACENT PROPERTY/ ROW LINE
- BUILDING SETBACK LINE
- PROPOSED EASEMENT
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING TELEPHONE SERVICE LINE
- EXISTING ELECTRIC LINE
- PROPOSED WATER SERVICE LINE
- PROPOSED FIREWATER LINE
- PROPOSED SS SERVICE LINE
- PROPOSED STORM DRAIN
- PROPOSED RIDGELINE
- PROPOSED GRADE BREAK
- PROPOSED SWALE
- LIMITS OF DISTURBANCE
- PROPOSED WALL
- PROPOSED SITE SIGN
- PROPOSED SIGN
- PROPOSED TRANSFORMER
- PROPOSED BOLLARD
- PROPOSED WATER METER
- PROPOSED SS CLEANOUT
- PROPOSED BACKFLOW PREVENTOR
- EXISTING FIRE HYDRANT
- PROPOSED LIGHT POLE
- EXISTING ELEVATION (40.00)ES
- PROPOSED ELEVATION 40.00FS
- EXISTING CONTOUR (2940)
- PROPOSED CONTOUR 2940
- EXISTING SLOPE (5.2%)
- PROPOSED SLOPE 5.4%
- EXISTING MANHOLE
- EXISTING INLET
- PROPOSED INLET
- PROPOSED RIPRAP
- PROPOSED SAWCUT
- MILL AND OVERLAY

UTILITY NOTES

1. THIS SITE IS LOCATED WITHIN THE TOWN OF CASTLE ROCK WATER PRESSURE GREEN ZONE.
2. ALL PROPOSED EASEMENTS MUST BE RECORDED PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
3. ALL UTILITY EASEMENTS FOR WATER AND WASTEWATER LINES SHALL BE FOR THE EXCLUSIVE USE OF THE TOWN SO THAT ACCESS AND MAINTENANCE MAY BE PERFORMED.
4. THE MINIMUM SEPARATION BETWEEN WATERLINES, SANITARY SEWER AND STORM SEWER LINES IS 10 FEET.
5. THE MINIMUM SEPARATION BETWEEN WATER SERVICE LINES IS 5 FEET.
6. ANY TIE-IN, CROSSING OR LOWERING OF TOWN CRITICAL INFRASTRUCTURE WILL REQUIRE A TIME AND MATERIALS PERMIT (TMU) WITH FEES REQUIRED PRIOR TO CONSTRUCTION.
7. UNUSED EXISTING SERVICES WILL NEED TO BE REMOVED AND CAPPED AT THE WATER OR SANITARY MAIN.

8 **SITE UTILITY PLAN**
C3.1 SCALE: 1" = 20'-0"

20 0 20 40 60
GRAPHIC SCALE - FEET

UNAUTHORIZED CHANGES & USES

THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES OF THESE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS PRIOR TO CONSTRUCTION. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

NOTE TO CONTRACTOR

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES, PIPES, AND/OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THERE MAY BE EXISTING UTILITIES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL ASCERTAIN THE TRUE VERTICAL AND HORIZONTAL LOCATION OF THOSE UNDERGROUND UTILITIES TO BE USED PRIOR TO CONSTRUCTION AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY PUBLIC OR PRIVATE UTILITIES, SHOWN OR NOT SHOWN HEREON.

CAUTION:
INFORMATION ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND AND OTHER UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

811 Know what's below Call before you dig.

SDP25-0005- SITE DEVELOPMENT PLAN AMENDMENT NO.2-
LOT 5, FOUNDERS MARKETPLACE

PREPARED UNDER THE SUPERVISION OF TAIT & ASSOCIATES, INC.

TAIT & ASSOCIATES
Since 1964
320 North Lincoln Avenue
Loveland, CO 80537
p: 970.613.1447
www.tait.com
ENGINEERING ENVIRONMENTAL BUILDING LAND
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TIMOTHY LHRIK, PE 52448

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ARCHITECT
1736 East Sunshine, Suite 417
Springfield, Missouri 65804
417.862.0558
Fax: 417.862.3265
e-mail: architect@estierlyschneider.com

PROJECT:
NEW O'REILLY AUTO PARTS STORE
N. RIDGE RD.
CASTLE ROCK, CO #2
SITE UTILITY PLAN

O'Reilly AUTO PARTS
CORPORATE OFFICES
233 S. PATTON AVENUE
SPRINGFIELD, MISSOURI 65802
(417) 862-2674 TELEPHONE

COMM # 4880	
DATE:	01/31/25
REVISION DATE:	02/14/25
	04/28/25
	05/16/25
	06/10/25
	07/11/25
	08/22/25
	10/17/25

Appendix D – Grease Interceptor Acknowledgement

CASTLE ROCK water
Securing our future drop by drop

Commercial Business Building Permit

Grease Interceptor Requirement

All Commercial Business Building Permits for new business and construction of new buildings, remodels, or tenant improvement permits will be required to comply with Town Code 13.05, Grease Interceptors Required. Applicant will be required to submit an Industry Information Questionnaire through Plum Creek Water Reclamation Authority (PCWRA) to verify if the business will require an oil/grease interceptor. Please go to the PCWRA website at:

https://www.pcwracolorado.org/pretreatment/commercial_businesses/index.php

CONSTRUCTION DRAWINGS

Please note PCWRA requires all new commercial buildings to provide a stub-out for a separate waste line for future interceptor installation, if not proposed with the project. All drainage fixtures and grease waste lines that are tied to the oil/grease must be shown in the construction drawings as well as the location of the oil/grease.

ACKNOWLEDGEMENT

The applicant must sign and date this form to acknowledge that the applicant has read and understands the Town's Code requirement regarding Grease Interceptors, PCWRA's requirement to complete an Industry Information Questionnaire and Food Service Application, and the Town's requirement that a letter from PCWRA must be provided with the Town of Castle Rock Building Permit. This signed form is required to be included in the Utility Report with the Predevelopment Plan (PDP), Site Development Plan (SDP) and Construction Document (CD) submittals.

O'Reilly Auto Parts , Lot 5 Founders Marketplace, Filing No 1 Amendment No. 2

Name of Project

730 N Ridge Road

Address of property, if known

Signature

6-18-25

Date

Appendix E – Confirmation Memo for Required Fire Flow

320 North Lincoln Avenue, Loveland, CO 80537
970.613.1447 TAIT.COM

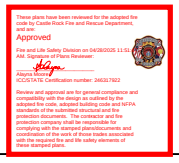
April 21, 2025
Confirmation Memo for Required Fire Flow
Castle Rock Fire and Rescue Department
FPO@crgov.com

RE: O'Reilly Auto Parts, 730 N. Ridge Rd Castle Rock, CO #2 (CR2)

A new O'Reilly Auto Parts store is proposed at 730 N. Ridge Rd., a currently vacant site that is part of the Villages at Castle Rock planned development. The facility will provide automotive parts, accessories, and services for both individual customers and local repair shops. The project fully complies with town design standards and the 2030 Comprehensive Master Plan, with no anticipated impacts on surrounding properties or requirements for public infrastructure improvements.

The project site is approximately 1.21 acres and will consist of a parking lot with 31 parking spaces (2 will be ADA accessible), a single-story 6,721 sq.ft. building type IIB, and site landscaping. The building will be fully sprinkled per the Town of Castle Rock fire codes and requirements.

Required Fire Flow: 1750 GPM
Required Duration: 2 Hours


These plans have been reviewed for the adopted fire code by Castle Rock Fire and Rescue Department, and are:
Approved
Fire and Life Safety Division on 04/28/2025 11:51 AM. Signature of Plans Reviewer:
Alayna Moore
ICC/STATE Certification number: 2463179022
Review and approval are for general compliance and compatibility with the design as outlined by the adopted fire code, adopted building code and NFPA standards of the submitted structural and fire protection documents. The contractor and fire protection company shall be responsible for complying with the stamped plans/documents and coordination of the work of those trades associated with the required fire and life safety elements of these stamped plans.

4/28/2025

Castle Rock Fire And Rescue Department Signature Date

Appendix F – Commercial Water Fixture Worksheet

Commercial Water Meter Fixture Unit Worksheet

COMMERCIAL FIXTURE UNIT WORKSHEET

In order to determine the required water meter and water supply line size the following information must be provided and completed by the applicant, and must be **signed and sealed** by a registered professional engineer.

Address of Project: 730 N. Ridge Rd. Castle Rock, CO

Permit #:

1) TOTAL NUMBER OF NEW AND EXISTING WATER SUPPLY FIXTURE UNITS:

TYPE OF FIXTURE	NUMBER OF EXISTING FIXTURES	NUMBER OF NEW FIXTURES		WATER FIXTURE UNIT VALUE*		TOTAL FIXTURE UNITS
Clothes Washer	0	0	X	1.4	=	0
Dishwasher	0	0	X	1.4	=	0
Drinking Fountain	0	2	X	0.25	=	0.5
Hose Bibb	0	2	X	2.5	=	5
Kitchen Sink	0	0	X	1.4	=	0
Lavatory	0	2	X	2	=	4
Service or Mop Basin	0	1	X	3	=	3
Service Sink	0		X	3	=	0
Shower	0	0	X	1.4	=	0
Urinal	0	1	X	5	=	5
Water Closet (Flush Valve)	0	0	X	10	=	0
Water Closet (Flush Tank)	0	2	X	5	=	10
Other (Specify)	0		X		=	0
Other (Specify)	0		X		=	0
Other (Specify)	0		X		=	0
					TOTAL WATER SUPPLY FIXTURE UNITS	27.5

* Based on 2018 IPC Table E103.3(2)
Attach additional sheets if necessary.

2) SYSTEM IS PRIMARILY: Flush Tank _____ (check one)
Flush Valve _____

3) CONVERTED WATER DEMAND IN GPM:

4) ADDITIONAL WATER USAGE IN GPM: (irrigation, cooling towers, process equipment, etc.)

5) TOTAL DEMAND IN GPM (add lines 3+4)

6) Total Building Gross Floor Area: 6,721 SQFT

7) P.E. CERTIFICATION:
(required)

COLORADO LICENSED
BRADY LAWS COLLINS
0047284
PROFESSIONAL ENGINEER
7/11/25

TOWN OF CASTLE ROCK COLORADO