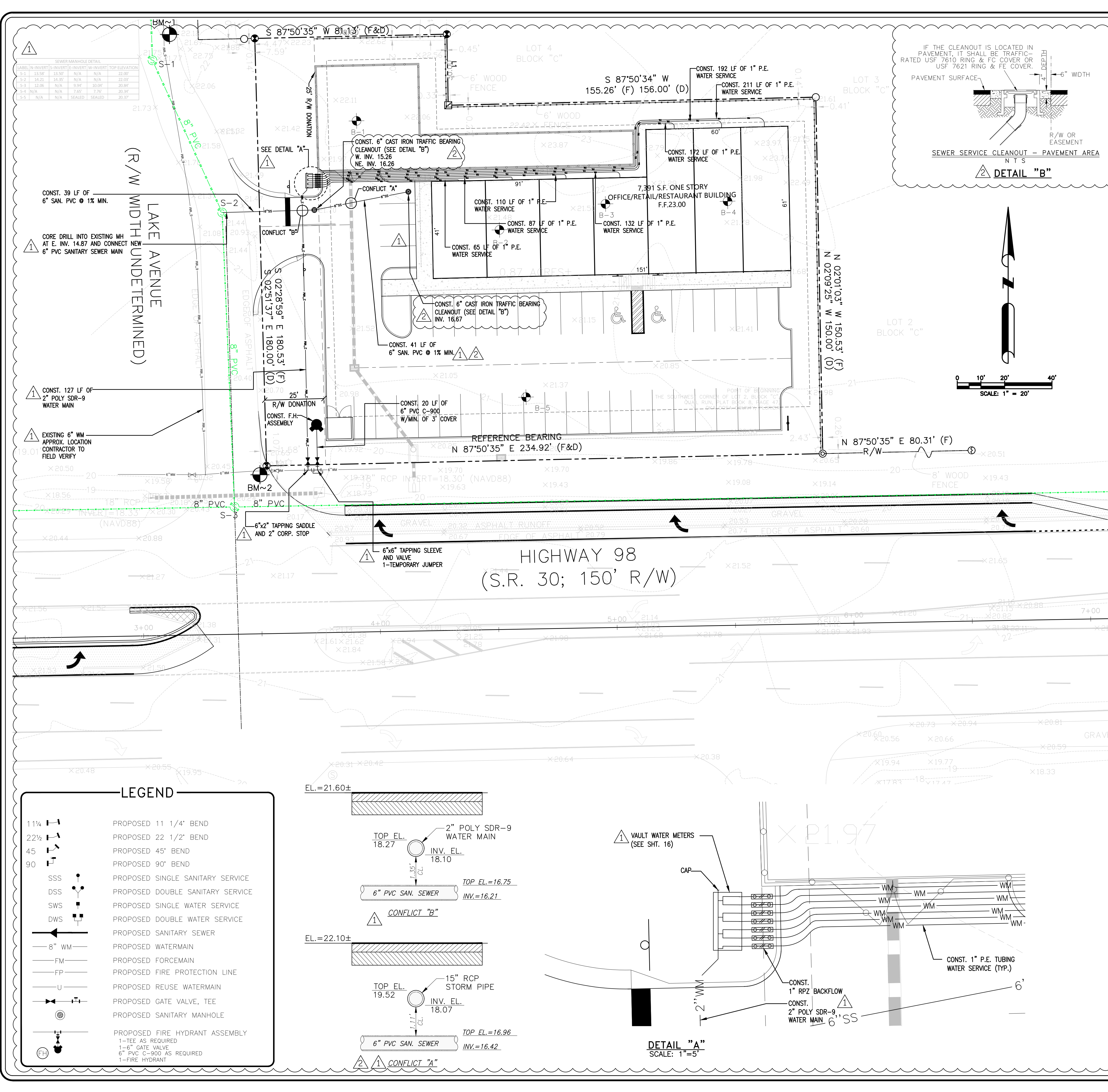




FIRE FLOW WORKSHEET I.S.O. METHOD	
Date 12 / 13 / 23	CALCULATED BY: Charles Peay
OKALOOSA COUNTY PERMIT #	OCCUPANCY TYPE "II-B" (Family Shopping Center)
PROJECT ADDRESS	
CONSTRUCTION TYPE II-B	NUMBER OF STORIES 1 OWNER
STEP 1 Take Ai which is 100% Sq. Ft. of 1st Floor Plus the Following Percentage of the Total Area of the Other Floors, and Find Its Square Root:	
1st Fl 7,391	Sq. Ft. @ 100 %
BUILDINGS CLASSIFIED AS CONSTRUCTION CLASSES 1 - 4 : 50% OF ALL OTHER FLOORS.	
BUILDINGS CLASSIFIED AS CONSTRUCTION CLASS 5 OR 6 : IF ALL VERTICAL OPENINGS ARE PROTECTED, 25% OF THE AREA NOT EXCEEDING THE TWO OTHER LARGEST FLOORS. IF ONE OR MORE VERTICAL OPENINGS IN THE BUILDING ARE UNPROTECTED, 50% OF THE AREA OF NOT EXCEEDING 8 OTHER FLOORS	
TOTAL 85.97	SQ. FT. FOR FIRE FLOW = Ai
(Find square root of "TOTAL SQ. FT. for fire flow)	
7.391	SQ. FT. = 85.97
STEP 2 TAKE SQUARE ROOT OF Ai AND MULTIPLY BY "F" (COEFFICIENT FOR CONSTRUCTION TYPE):	
F = Coefficient Related to the Class of Construction	Type
F = 1.5 for Construction Class 1 (Frame)	VI
F = 1.0 for Construction Class 2 (Joisted Masonry)	V
F = 0.8 for Construction Class 3 (Non-Combustible) &	IV(II-B)
Construction Class 4 (Masonry Non-Combustible)	III
F = 0.6 for Construction Class 5 (Modified Fire Resistive)	II
& Construction Class 6 (Fire Resistive)	I
SQ. RT. 85.97	X F 0.8 = 68.78
STEP 3 MULTIPLY RESULT OF STEP 2 (above) by 18:	
68.78 X 18 = 1238 GPM (round off to nearest GPM by step 5 below)	
STEP 4 MULTIPLY RESULT OF ROUNDED OFF GPM (X) FROM ABOVE BY THE OI (OCCUPANCY FACTOR)	
C-1 (NON-COMB) CLAY, BLOCK STORAGE, ETC.	0.75
C-2 (LIMITED COMB) APPTS, OFFICE, CHURCH, ETC.	0.85
C-3 (COMB) MERCANTILE, RESTAURANTS, ETC.	1.00
C-4 (FREE BURNING) MIXED STG, COMB, & FLAM.	1.15
C-5 (RAPID BURNING) EXPLOSIVES, VAPORS, ETC.	1.25
ROUNDED GPM 1238 X OI 1.00 = 1238 GPM Sub Total	
STEP 5 ROUND OFF TO THE NEAREST 250 GPM (ROUND UP OR DOWN)	
500 TO 625 = 500 GPM	1876 TO 2125 = 2000 GPM
626 TO 875 = 750 GPM	2126 TO 2375 = 2250 GPM
876 TO 1125 = 1000 GPM	2376 TO 2625 = 2500 GPM
1126 TO 1375 = 1250 GPM	2626 TO 2875 = 2750 GPM
1376 TO 1625 = 1500 GPM	2876 TO 3125 = 3000 GPM
1626 TO 1875 = 1750 GPM	3126 TO 3375 = 3250 GPM
ROUNDED OFF TO THE NEAREST 250 GPM = 1250	GPM Sub Total

Fire Flow Estimate Continuation:	
Okaloosa County Permit #	Date 12 / 13 / 23
Rounded off GPM Sub Total from step 5 above 1250 b = (GPM)	
I.S.O. Sprinkler Reduction & Varies with Building Hazard.	
Automatic Sprinklers: 0	Subtract 0 % Times b = 0 GPM
Subtotal 625	GPM
Building exposures: Distance Exposure	
1. Front +150-ft	Add 0 %
2. Left +150-ft	Add 0 %
3. Rear 61-100-ft	Add 10 %
4. Right 61-100-ft	Add 10 %
The Percentage for any one side generally should not exceed the following limits for the separations shown:	
Separation	Percentage
10 feet	25%
11 - 30 feet	20%
31 - 60 feet	15%
61 - 100 feet	10%
101 - 150 feet	5%
Dwellings - For groupings of 1-family and small 2-family dwellings not exceeding 2 stories in height, the following short method may be used. (For other residential buildings, the regular method should be used.)	
Exposure Distances over 100' (feet)	Suggested required fire flow
31' - 100'	500 gpm
11' - 30'	750 - 1000 gpm
10' or less	1000 - 1500 gpm
	1500 - 2000 gpm

OCWS WATER & SEWER NOTES:

1. A MANDATORY PRECONSTRUCTION MEETING SHALL BE HELD, AT THE OCWS ENGINEERING DEPT, WITH ALL INVOLVED PARTIES, INCLUDING THE DEVELOPER, ENGINEER-OF-RECORD, AND CONTRACTOR, A MINIMUM OF TWO (2) WEEKS PRIOR TO CONSTRUCTION, IN ORDER TO ADDRESS CONSTRUCTION AND INSPECTION REQUIREMENTS. FAILURE TO HOLD A PRECONSTRUCTION MEETING COULD RESULT IN EXPENSIVE REWORK OF ITEMS NOT ACCEPTABLE BY OCWS STANDARDS.
2. COORDINATE WITH LOCAL FIRE DEPARTMENT ON INSPECTION REQUIREMENTS AND TESTING.
3. COORDINATE WITH LOCAL FIRE DEPARTMENT (850) 609-7034 A MINIMUM OF FIFTEEN (15) WORKING DAYS PRIOR TO CONSTRUCTION.
4. ALL UTILITY CONSTRUCTION SHALL BE INSPECTED BY THE OCWS ENGINEERING DEPARTMENT (850) 609-6161, INCLUDING, BUT NOT LIMITED TO PRESSURE TESTING, FINISHED GRADE DEPTH, AND SERVICE LOCATIONS. AS A MINIMUM, A MANDATORY FORTY-EIGHT (48) HOUR NOTICE IS REQUIRED FOR ALL INSPECTIONS.
5. PRIOR TO OCWS SIGNING FDEP CLEARANCE APPLICATIONS (INVOLVING NEW MAINS), THE FOLLOWING ITEMS ARE REQUIRED:
 - a. PASSING PRESSURE TESTS
 - b. PASSING BACTERIOLOGICAL TESTS
 - c. SATISFACTORY INSPECTION
 - d. COMPLETE, ACCURATE AS-BUILTS RECEIVED
6. PRIOR TO OCWS ACCEPTANCE OF INFRASTRUCTURE AND THE SETTING OF WATER METERS, THE FOLLOWING ITEMS ARE REQUIRED:
 - a. FDEP CLEARANCE
 - b. PASSING FINAL INSPECTION, AT ESTABLISHED FINISHED GRADE
 - c. ASSOCIATED RIGHT-OF-WAY AND/OR EASEMENTS EXECUTED AND RECORDED
 - d. WATER & SEWER CONSTRUCTION COST
 - e. 12-MONTH WARRANTY AGREEMENT, TO COVER ANY DAMAGES TO OCWS MAINTAINED UTILITIES, WHICH MAY BE CAUSED BY THE INSTALLATION OF OTHER UTILITIES OR INFRASTRUCTURE. THE WARRANTY REQUIRES THE DEVELOPER AND CONTRACTOR TO MAKE ALL REPAIRS OR PAY ASSOCIATED COST REQUIRED TO CORRECT DAMAGE(S).
 - f. CAPACITY EXPANSION CHARGES SHALL BE PAID IN FULL PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. COORDINATE CAPACITY EXPANSION CHARGES, ACCOUNT SETUP, AND HYDRANT METERS WITH THE OCWS TAPS OFFICE AT (850) 609-6182.
 - g. A MINIMUM 15'-0" CLEARANCE SHALL BE MAINTAINED BETWEEN UTILITY MAINS AND PROPOSED BUILDINGS. THE CONTRACTOR SHALL PROVIDE PROPER SEPARATION FROM PROPOSED DRAINAGE SYSTEMS AND UTILITY PIPES, INCLUDING SERVICES.
 - h. 11' ALL WATER UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH OCWS REQUIREMENTS AND SPECIFICATIONS. ALL WATER MAIN PIPING SHALL BE C-900 OR 18" OR LESS, WITH 2 EXCEPTIONS: DUCTILE IRON PIPE IS REQUIRED FROM TEES TO HYDRANTS, OR AS OTHERWISE SPECIFIED BY OCWS.
 - i. HYDRANTS SHALL BE MUELLER SUPER CENTURION A423 OR AMERICAN DARLING BR48.
 - j. A MINIMUM 36" (AND A MAXIMUM 42" FOR WATER) COVER IS REQUIRED FROM TOP OF ALL PROPOSED UTILITY LINES AND SERVICES FROM FINISHED GRADES, INCLUDING SWALES AND BASINS.
 - k. 13. ALL LOT CORNERS, RIGHTS-OF-WAY, AND REAR EASEMENT LINES SHALL BE LOCATED AND PROPERLY MARKED, PRIOR TO THE CONTRACTOR INSTALLING MAINS AND SERVICES, THEN AGAIN PRIOR TO FINAL INSPECTION. OCWS ENGINEERING WILL REQUIRE EXACT VERIFICATION OF EACH SERVICE PLACEMENT, BEFORE FINAL ACCEPTANCE IS MADE.
 - l. 14. A MINIMUM HORIZONTAL CLEARANCE OF 36" IS REQUIRED FROM POWER TRANSFORMER/BOX PERIMETER TO ANY UTILITY MAINS AND SERVICES.
 - m. 15. CLEANOUTS ARE REQUIRED ON ALL SEWER SERVICES AND SHOULD BE LOCATED AT THE BACK OF THE RIGHT-OF-WAY OR EASEMENT LINE. THE TOP OF THE CLEANOUT SHALL BE 6"-12" BELOW GRADE AND INSIDE A PLASTIC METER BOX WITH A GREEN UID. IF THE CLEANOUT IS LOCATED IN PAVEMENT, IT SHALL BE TRAFFIC-RATED/BRASS, AND NO METER BOX IS REQUIRED.

REVISIONS

1	07/08/24	REVISED PER OKALOOSA COUNTY COMMENTS
2	08/24/24	REVISED PER OKALOOSA COUNTY COMMENTS
3	01/16/25	REVISED PER OKALOOSA COUNTY COMMENTS

UTILITY PLAN

US 98 / LAKE AVENUE INTERSECTION
OKALOOSA COUNTY, FLORIDA

HERMINIO CRUZ
DATE March 24, 2025

SHEET NO.
09 OF 19

4650 WASHINGTON AVE
SUITE 352
NEW ORLEANS LA 70125
P(504)454-0500
LICENSE: 60048

ENGINEERING

FAMILY SHOPPING CENTER

F:\CURRENT_PROJECTS\2023\0112_FAMILY PLAZA UNIC\06 UTILITY PLAN.dwg * Mar 24, 2025-1:21pm * plotted by cpeay