

# Design & Post Services – Pines Village Water Main Improvements Phase II

CCNA # PSEN-18-02-04

<b>General Information</b>		
Project Cost Estimate	The City has not established a budget for this project or the consultant fees, however the City anticipates the cost of the professional services to be approximately \$500,000.	See Section 1.5 / Tab 5
Estimated Timeline	The timeline for the consultant to complete the design services would be 9 months days from award of the contract.	See Section 1.5 / Tab 5
Evaluation of Proposals	Evaluation Committee	See Section 1.6
Mandatory / Non-Mandatory Pre-Bid Meeting	Not Applicable	Not Applicable
Question Due Date	March 5, 2019	See Section 1.7
Proposals will be accepted until	2:00 p.m. on March 8, 2019	See Section 1.7
Proposal Security / Bid Bond	Not Applicable	Not Applicable
Payment and Performance Bonds	Not Applicable	Not Applicable

THE CITY OF PEMBROKE PINES  
PURCHASING DIVISION  
8300 SOUTH PALM DRIVE  
PEMBROKE PINES, FLORIDA 33025  
(954) 518-9020



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## **ATTACHMENTS**

- Attachment A: Project Map
- Attachment B: Phase I Drawings/Plans



## **SECTION 1 - INSTRUCTIONS**

### **1.1 NOTICE**

Notice is hereby given that the City Commission of the City of Pembroke Pines is seeking responses for:

**CCNA # PSEN-18-02-04**  
**Design & Post Services – Pines Village Water Main Improvements Phase II**

Solicitations may be obtained from the City of Pembroke Pines website at <http://www.ppines.com/index.aspx?NID=667> and on the [www.BidSync.com](http://www.BidSync.com) website.

If you have any problems downloading the solicitation, please contact the BidSync Support line at 1-800-990-9339.

If additional information help is needed with downloading the solicitation package please contact the Purchasing Office at (954) 518-9020 or by email at [purchasing@ppines.com](mailto:purchasing@ppines.com). The Purchasing Office hours are between 7:00 a.m. - 6:00 p.m. on Monday through Thursday and is located at 8300 South Palm Drive, Pembroke Pines, Florida 33025.

The City requires all questions relating to the solicitation be entered through the “Ask a Question” option tab available on the BidSync website. Responses to the questions will be provided online at [www.bidsync.com](http://www.bidsync.com). Such request must be received by the “Question Due Date” stated in the solicitation. The issuance of a response via BidSync is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

**Proposals will be accepted until 2:00 p.m., Friday, March 8, 2019.** Proposals must be submitted electronically at [www.BidSync.com](http://www.BidSync.com). The sealed electronic proposals will be publicly opened at 2:30 p.m. by the City Clerk’s Office, in the City Hall Administration Building, 4<sup>th</sup> Floor Conference Room located at 601 City Center Way, Pembroke Pines, Florida, 33025.

### **1.2 PURPOSE**

The City of Pembroke Pines is seeking firms to provide design engineering, and permitting services for the second phase of water main improvements located at Pines Village. The work includes, but is not limited to, approximately 44,000 linear feet of new PVC water main, replacement of existing water main, abandonment of old water mains, relocation of backyard water meters to the front of properties, installation of new water services, new meters, private plumbing to reconnect residential services, including new house service pressure valves, and restoration, in accordance with the terms, conditions, and specifications contained in this solicitation and in accordance with the Consultant’s Competitive Negotiation Act (C.C.N.A. – Florida Statute 287.055).



The City has included **Attachment A “Project Map”** which indicates the area in which the project will be located. Please note, the larger of the two outlined areas is where this project will be located.

In addition, the City has included **Attachment B “Phase I Drawings/Plans”** as a reference for the consultants so that they are familiar with the first phase of the project, as the second phase would be fairly similar.

### **1.3 BACKGROUND**

At the City Commission meeting on September 17, 2018, the following firms were selected to be included in the pool of Professional Services Providers for the specified Disciplines. In accordance with 287.055 FS, the City intends to competitively select firms from the pool and negotiate a contract with the most qualified firm for the specified professional services.

#	Firm	General Civil & Environmental Engineering	Treatment Plant Process Engineering	Electrical Engineering	Geotechnical	Structural Engineering	Land Surveying	General Architectural	Landscape Architecture	Hydro-Geological	FDOT Roadway Engineering
1	3FM Engineering, Inc		X								
2	A.D.A. Engineering, Inc	X	X								X
3	AMBRO, Inc	X									
4	Avirom & Associates, Inc						X				
5	Bailey Engineering Consultants, Inc			X							
6	Baxter & Woodman, Inc. (Matthews Consulting)	X						X			
7	Biscayne Engineering Company, Inc							X			
8	Calvin, Giordano & Associates, Inc	X	X	X	X	X	X	X	X	X	X
9	Carollo Engineers, Inc		X								
10	Cartaya and Associates, P.A							X			
11	CES Consultants, Inc	X		X	X	X		X		X	X
12	CES Engineering Services, LLC (Consulting Engineering Services)			X							
13	Chen Moore and Associates, Inc	X							X		



14	Connect Consulting, Inc								X	
15	CPH, Inc	X	X				X	X	X	X
16	CPZ Architects, Inc							X		
17	Craven, Thompson & Associates, Inc	X				X		X		
18	Debora L. Fields (DL Fields Consultants, LLC)						X			
19	EBS Engineering, Inc	X								
20	Engenuity Group, Inc	X					X			
21	Florida Technical Consultants, LLC	X								
22	GFA International, Inc			X					X	
23	Ingemel S.A. LLC	X	X	X		X	X			
24	Keith and Schnars, P.A					X		X		X
25	Kimley-Horn and Associates, Inc	X	X	X	X	X	X		X	X
26	Lakdas-Yohalem Engineering, Inc				X					
27	MARLIN Engineering, Inc					X				X
28	Miller Legg & Associates, Inc					X		X		
29	Netta Architects, LLC						X			
30	Premiere Design Solutions	X					X			X
31	R.J. Behar & Company, Inc	X				X				X
32	Saltz Michelson Architects, Inc	X		X	X	X	X	X		X
33	Slattery & Associates Architects Planners, Inc							X		
34	Synalovski Romanik Saye, LLC							X		
35	Tierra South Florida, Inc			X						
	Count	16	5	8	6	7	15	9	9	4
										10

#### **1.4 PROFESSIONAL SERVICE DISCIPLINES USED FOR THIS PROJECT**

The following professional service disciplines will be utilized for this project:

- General Civil and Environmental Engineering Services

#### **1.5 PROPOSAL REQUIREMENTS**

**The following documents will need to be completed, scanned and submitted through [www.bidsync.com](http://www.bidsync.com) as part of the bidder's submittal.** The proposer interested in responding to this solicitation must provide the information requested below. Submittals that do not respond completely to all requirements specified herein may be considered non-responsive and eliminated from the process.

Proposers must have experience in the design & construction of water main improvements of this magnitude in existing residential neighborhoods including private service line work.



**Please note: Your firm has already been pre-qualified so a marketing package is not needed for this submittal.**

All proposals shall address and be tabbed/indexed as outlined below:

**Title Page:**

List the following:

Subject: **CCNA # PSEN-18-02-04 “Design & Post Services – Pines Village Water Main Improvements Phase II”**

1. Date
2. Name of the Firm
3. Address of the local office
4. Telephone Number
5. Email Address

**Tab 1 – Letter of Interest:**

Limit to two (2) pages.

1. Attach a letter of interest that explains your firm's interest in working on this project, a positive commitment to perform the required work and a description of the firm including:
  - a. Include the size
  - b. Range of activities
  - c. Firms strength and stability
  - d. Summary of qualifications specific to the Scope of Work.
  - e. Address your ability to furnish the required services.
  - f. Summary of past performance of the firm on similar projects
  - g. Availability and access to the firms' top level management personnel.
  - h. Identification of firm's, single, professionally licensed point of contact for this project.
2. This Letter of Interest must be signed by a corporate officer.

**Tab 2 – Ability of Professional Personnel:**

1. Provide the name of the proposed Project Manager (PM). The PM is to be a Professional Engineer with experience specific to the Scope of Services who will sign and seal the work. The PM is to be the single point of contact between the City and the Consultant.
2. Provide a copy of the resume of the PM and other supporting personnel.
3. Provide any additional information relating to the ability of the professional personnel that will work on this project.



**Tab 3 – Certified Minority Business Enterprise:**

The evaluation committee has your firm's original response to RFQ # PSEN-18-02 "Professional Service Providers Architectural, Engineering, Surveying Mapping" however you may resubmit or submit updated information on the following item:

1. Please identify if you are a Certified Minority Business Enterprise as defined by the Florida Small and Minority Business Assistance Act.
  - a. If you are a Certified Minority Business Enterprise as defined by the Florida Small and Minority Business Assistance Act, please provide proof.

**Tab 4 – Past Performance:**

The evaluation committee has your firm's original response to RFQ # PSEN-18-02 "Professional Service Providers Architectural, Engineering, Surveying Mapping" as a result, please provide supplemental information regarding the following:

1. A listing of similar work signed and sealed by the proposed PM in the last 10 years with references (including names, titles, email and phone numbers).

**Tab 5 - Willingness to meet time and budget requirements:**

Please advise if your firm is willing to meet the following time and budget requirements.

1. **Budget:** The City has not established a budget for this project or the consultant fees, however the City anticipates the cost of the professional services to be approximately \$500,000.
2. **Timeline:** The timeline for the consultant to complete the design services would be 9 months from award of the contract.

Please note that during this portion of the process, the City is NOT asking for the firms to submit pricing. After the evaluation committee has selected the firms in order of preference, the City shall negotiate a contract with the most qualified firm for professional services at compensation which the agency determines is fair, competitive, and reasonable. Should the City be unable to negotiate a satisfactory contract with the firm considered to be the most qualified at a price the agency determines to be fair, competitive, and reasonable, negotiations with that firm must be formally terminated. The City shall then undertake negotiations with the next most qualified firm.

**Tab 6 - Location:**

Please provide the address and the primary location on where work will be performed by your firm for this project. If services will be performed by different offices (such as a joint venture) provide a location for each firm.



**Tab 7 - Recent, current, and projected workloads of the firms:**

Please provide any information regarding your firm's recent, current, and projected workloads for the Evaluation Committee to review.

**Tab 8 - Firm's Understanding and Approach to the Work:**

The understanding that the applicant and consultants demonstrate as to the requirements and needs of the project, including an evaluation of the thoroughness demonstrated in analyzing and investigating the scope of the project.

1. Provide a narrative statement demonstrating an understanding of the overall intent of this solicitation, as well as the methods used to complete assigned tasks.
2. Please clearly describe all aspects of the project proposed.
3. Please identify any sub-consultants that shall be used for this project and their involvement, if applicable.
4. Include details of your approach and work plans.
5. Identify any issues or concerns of significance that may be appropriate.
6. A brief statement must be included which explains why your proposal would be the most effective and beneficial to the City of Pembroke Pines.

**Tab 9 - Additional Information:**

If there is any other supplemental information that you feel the Evaluation Committee would need to score your firm and that was not contained in your original response to RFQ # PSEN-18-02 or in the previous portion of your response, you can provide that information as well.

**Please note: Your firm has already been pre-qualified so a marketing package is not needed for this submittal.**

**1.6 EVALUATION OF PROPOSALS & PROCESS OF SELECTION**

**1.6.1 QUALIFYING & SELECTING FIRMS**

- A. Staff will evaluate all responsive proposals received from proposers who meet or exceed the bid requirements contained in the RFQ. Evaluations shall be based upon the information and references contained in the proposals as submitted. **As such, the Proposal should be comprehensive and succinct as possible; clearly describing the details of services that the Proposer intends to provide.**
- B. The City will convene an Evaluation Committee to evaluate the current statements of qualifications and performance data on file for the pre-qualified pool of professional services providers, regarding the proposed project.
- C. The Evaluation Committee shall have the **option** of shortlisting the qualified firms to **no less than three firms**. In addition, the Evaluation Committee **shall conduct**



**discussions** and may require presentations from each of the short listed firms regarding their:

- (1) **Qualifications;**
- (2) **Approach to the project; and**
- (3) **Ability to furnish the required services.**

- D. The Evaluation Committee shall select in order of preference **no fewer than three firms** deemed to be the most highly qualified to perform the required services. In determining whether a firm is qualified, the Evaluation Committee shall utilize the following criteria:

Criteria	Points
Ability of Professional Personnel	30 points
Whether a firm is a Certified Minority Business Enterprise	5 points
Past Performance	30 points
Willingness to meet time and budget requirements	15 points
Location	10 points
Recent, current, and projected workloads of the firms	10 points
<b>Total Points</b>	<b>100 points</b>

- E. In the event a score for an individual evaluator results in a tie or the overall score results in a tie, the evaluator or evaluation committee will be asked to **break the tie and rank the tied vendors based on the volume of work previously awarded to each firm by the City**, with the object of effecting an equitable distribution of contracts among qualified firms, provided such distribution does not violate the principle of selection of the most highly qualified firms.

- i. In the event the score still results in a tie, the evaluator or evaluation committee will be asked to **break the tie and give preference to a business that certifies that it has implemented a drug-free workplace program on the Vendor Drug-Free Workplace Certification Form.**
- ii. In the event the score still results in a tie, the evaluator or evaluation committee will be asked to break the tie by **publicly drawing lots.**

- F. The Evaluation Committee will make a recommendation to negotiate a contract with the most qualified firm and to request the City Commission to award the contract for services. The contract shall be awarded to the most responsive/responsible proposer whose proposal is determined to be the most advantageous to the City taking into consideration the evaluation criteria.



- G. The City may request, accept, and consider proposals for the compensation to be paid under the contract only during competitive negotiations in accordance with Florida Statute 287.055(5) “Competitive Negotiation” and as stated below.

### **1.6.2 COMPETITIVE NEGOTIATION**

In accordance with Florida Statute 287.055(5) “Competitive Negotiation”:

- (a) The City’s Administrative Staff shall negotiate a contract with the most qualified firm for professional services at compensation which the agency determines is fair, competitive and reasonable. In making such determination, the City’s Administrative Staff shall conduct a detailed analysis of the cost of the professional services required in addition to considering their scope and complexity. For any lump-sum or cost-plus-a-fixed-fee professional service contract **over \$195,000** (*the threshold amount provided in s. 287.017 for CATEGORY FOUR*), the City shall require the firm receiving the award to execute a truth-in-negotiation certificate stating that wage rates and other factual unit costs supporting the compensation are accurate, complete, and current at the time of contracting. Any professional service contract under which such a certificate is required must contain a provision that the original contract price and any additions thereto will be adjusted to exclude any significant sums by which the City determines the contract price was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. All such contract adjustments must be made within 1 year following the end of the contract.
- (b) Should the City’s Administrative Staff be unable to negotiate a satisfactory contract with the firm considered to be the most qualified at a price the City’s Administrative Staff determines to be fair, competitive, and reasonable, negotiations with that firm must be formally terminated. The City’s Administrative Staff shall then undertake negotiations with the second most qualified firm. Failing accord with the second most qualified firm, the City’s Administrative Staff must terminate negotiations. The City’s Administrative Staff shall then undertake negotiations with the third most qualified firm.
- (c) Should the City’s Administrative Staff be unable to negotiate a satisfactory contract with any of the selected firms, the City’s Administrative Staff shall select additional firms in the order of their competence and qualification and continue negotiations in accordance with this subsection until an agreement is reached.

### **1.6.3 PROHIBITION AGAINST CONTINGENT FEES**

In accordance with Florida Statute 287.055(6) “Prohibition against Contingent Fees”:

- (a) Each contract entered into by the City for professional services must contain a prohibition against contingent fees as follows:

“The architect (or registered surveyor and mapper or professional engineer, as applicable) warrants that he or she has not employed or retained any company or



person, other than a bona fide employee working solely for the architect (or registered surveyor and mapper, or professional engineer, as applicable) to solicit or secure this agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the architect (or registered surveyor and mapper or professional engineer, as applicable) any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this agreement.”

For the breach or violation of this provision, the City shall have the right to terminate the agreement without liability and, at its discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

## **1.7 TENTATIVE SCHEDULE OF EVENTS**

<b>Event</b>	<b>Time &amp;/or Date</b>
Issuance of Solicitation (Posting Date)	<b>February 28, 2019</b>
Question Due Date	<b>March 5, 2019</b>
Anticipated Date of Issuance for the Addenda with Questions and Answers	<b>March 6, 2019</b>
Proposals will be accepted until	<b>2:00 p.m. on March 8, 2019</b>
Proposals will be opened at	<b>2:30 p.m. on March 8, 2019</b>
Evaluation of Proposals by Evaluation Committee	<b>March – April, 2019</b>
Recommendation of Contractor to City Commission	<b>April – May, 2019</b>

## **1.8 SUBMISSION REQUIREMENTS**

Bids/proposals **must be submitted electronically** at [www.bidsync.com](http://www.bidsync.com) **on or before 2:00 p.m. on March 8, 2019.**

Please note vendors should be registered on BidSync under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation.

The vendor must provide their information through the designated lines items listed on the BidSync website. In addition, the vendor must complete any webforms on the BidSync website and provide any additional information requested throughout this solicitation. Any additional information requested in the solicitation should be scanned and uploaded. **Unless otherwise specified, the City requests for vendors to upload their documents as one (1) PDF document in the order that is outline in the bid package.**

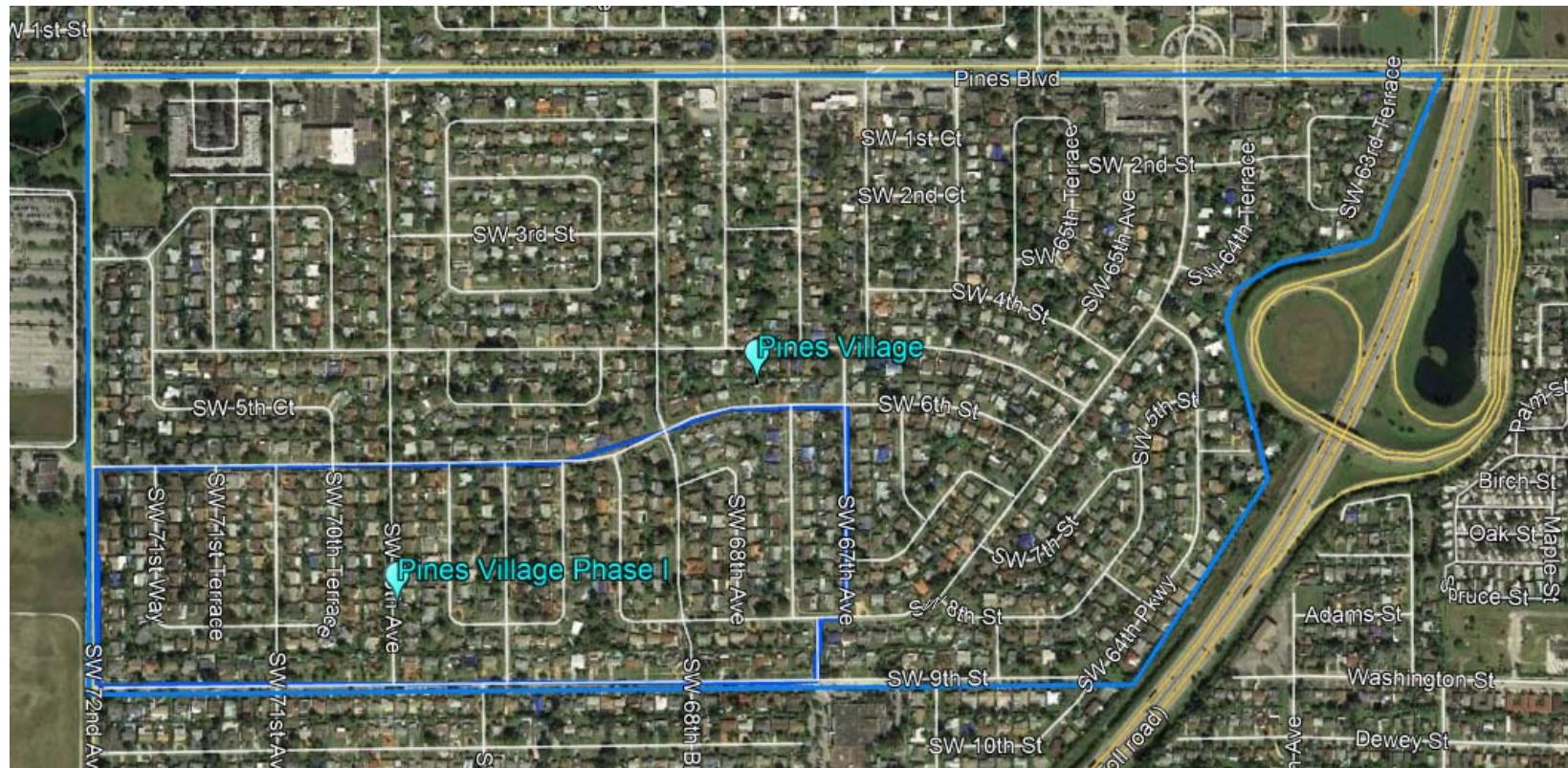
The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the BidSync website. Proposals may



be modified or withdrawn prior to the deadline for submitting Proposals. BidSync Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact their support line at 1-800-990-9339 with ample time before the bid closing date and time.

**PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.**

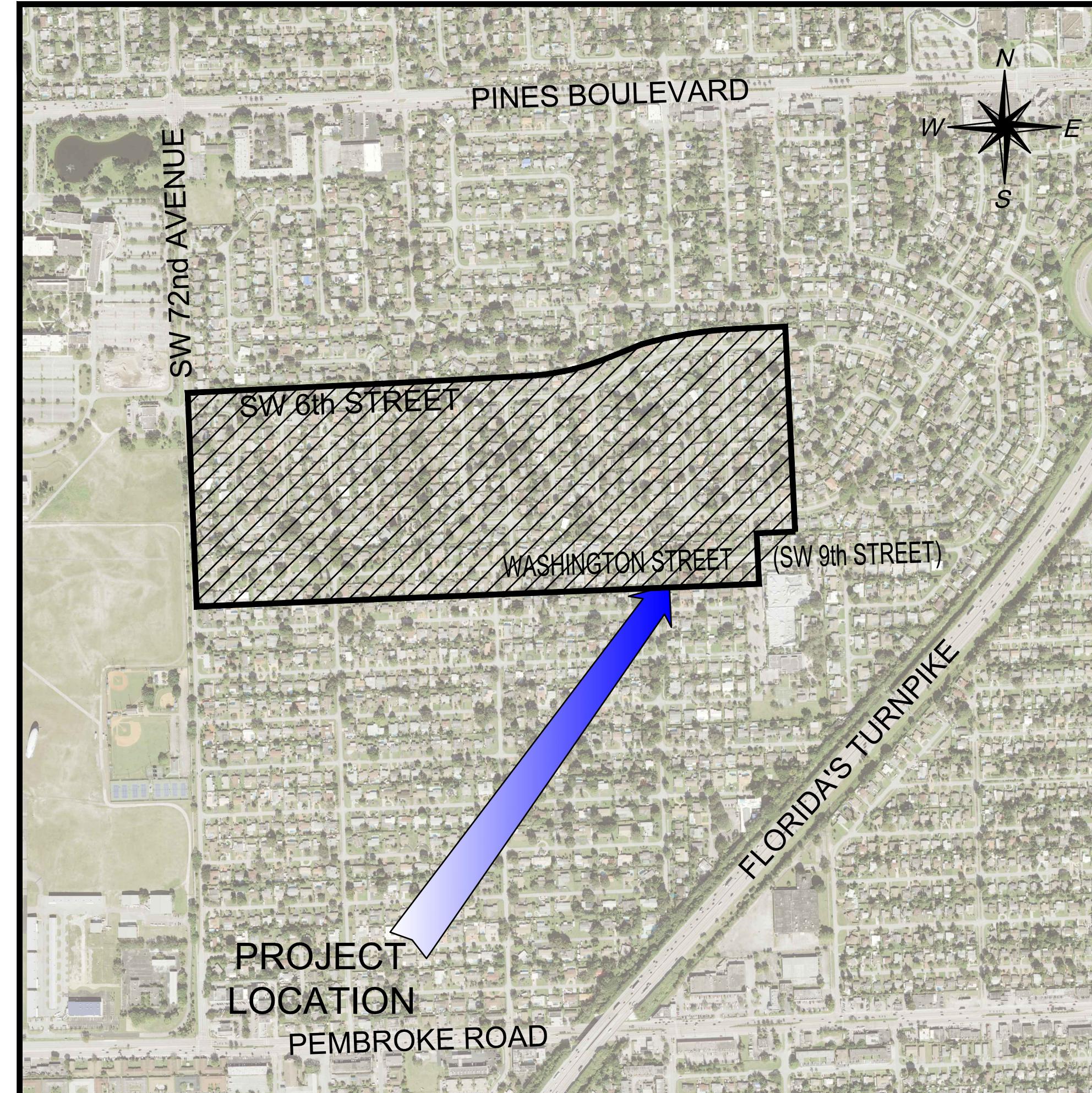
# Project Map



# PINES VILLAGE WATER MAIN REPLACEMENT

## PHASE 1

### PEMBROKE PINES, FLORIDA



LOCATION MAP

Scale: 1" = 600'

File Name: P:\Projects\1991\910134 City of PP General Engineering\CAD Files\Drawings\Pines Village WM\91-0134.1 PINES VILLAGE C-COR Drawing - (Plotted by: Nicholas Kanelidis on Wednesday, July 11, 2018 10:46:58 AM)

Sheet Number	Sheet Title
G1	COVER
G2	LEGEND AND ABBREVIATIONS
G3	GENERAL NOTES AND SPECIFICATIONS
K1	KEY MAP
WM1	PROPOSED WATER MAIN PLAN
WM2	PROPOSED WATER MAIN PLAN
WM3	PROPOSED WATER MAIN PLAN
WM4	PROPOSED WATER MAIN PLAN
WM5	PROPOSED WATER MAIN PLAN
WM6	PROPOSED WATER MAIN PLAN
WM7	PROPOSED WATER MAIN PLAN
WM8	PROPOSED WATER MAIN PLAN
WM9	PROPOSED WATER MAIN PLAN
WM10	PROPOSED WATER MAIN PLAN
WM11	PROPOSED WATER MAIN PLAN
WM12	WATER DETAILS
WM13	WATER DETAILS
WM14	WATER DETAILS
SWP1	STORMWATER POLLUTION PREVENTION PLAN
SWP2	STORMWATER POLLUTION PREVENTION NOTES
PMS1	PAVEMENT MARKING AND SIGNAGE KEY MAP
PMS2	PAVEMENT MARKING AND SIGNAGE PLAN
PMS3	PAVEMENT MARKING AND SIGNAGE PLAN
PMS4	PAVEMENT MARKING AND SIGNAGE PLAN
PMS5	PAVEMENT MARKING AND SIGNAGE DETAILS

PERMITTING AGENCIES		DATE SUBMITTED	CGA INITIALS	DATE APPROVED	PERMIT NUMBER
CITY OF PEMBROKE PINES- DEPARTMENT OF ENGINEERING		-	-	-	-
CITY OF PEMBROKE PINES - UTILITIES DEPARTMENT		-	-	-	-
BROWARD COUNTY TRAFFIC ENGINEERING DIVISION (BCTED)	4/30/2018	NK	-	-	-
BROWARD COUNTY HEALTH DEPARTMENT	5/08/2018	NK	-	-	-

NO	DATE	ADDENDUM NO. 2	NWK	ADDENDUM NO. 1	NWK	REVISION	BY	NO	DATE	REVISION	BY
07/11/18				07/10/18							



#### CITY OFFICIALS

MAYOR:	FRANK C. ORTIS
VICE MAYOR:	THOMAS GOOD, JR.
COMMISSIONERS:	ANGELO CASTILLO JAY D. SCHWARTZ
	IRIS A. SIPLE
CITY MANAGER:	CHARLES F. DODGE

#### THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT REVIEW AND APPROVE, OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, BLINKER SIGNS(TYPICAL), RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.
3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, BLINKER SIGNS (TYPICAL), RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGN AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK AND ASPHALT WORK.

#### NOTES:

1. RESPONSIBILITY FOR THE USE OF THESE PLANS FOR ANY PURPOSE PRIOR TO SECURING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THIS PROJECT WILL FALL SOLELY UPON THE USER.
2. AN ELECTRONIC CAD FILE WILL BE PROVIDED FOR SURVEY LAYOUT.

**Calvin, Giordano & Associates, Inc.**  
EXCEPTIONAL SOLUTIONS™  
1800 Eller Drive, Suite 600, Fort Lauderdale, Florida 33316  
Phone: 954.921.7781 • Fax: 954.921.8807  
Certificate of Authorization 514



G1

CURRENT REV No.: 02 - 07/11/18	NICHOLAS W. KANELIDS, P.E. STATE OF FLORIDA PROFESSIONAL ENGINEER LICENSE No. 78536	SHEET:
	DATE: JULY 11, 2018	G1

ABBREVIATION LEGEND		LINE TYPE LEGEND		PROPOSED SYMBOL LEGEND		EXISTING SYMBOL LEGEND	
ARV	AIR RELEASE VALVE	- - - - -	LOT LINE	● AIR RELEASE VALVE	◀ GUY ANCHOR		
BE	BURIED ELECTRIC	— - - - -	SECTION LINE	● B.S.P. No. BACTERIOLOGICAL SAMPLE POINT	FPL MANHOLE		PROJECT NOTES
BFP	BACKFLOW PREVENTER	— - - - -	R/W OR PROPERTY LINE	□ SINGLE WATER METER AND BOX	CLP CONC. LIGHT POLE		1. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY AND GOVERNMENT AGENCY A MINIMUM OF 2 BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES AND IS TO COORDINATE FIELD VISITS WITH UTILITY REPRESENTATIVE DURING CONSTRUCTION.
BFV	BUTTERFLY VALVE	— - - - -	CENTERLINE	□ DOUBLE WATER METER AND BOX	CLP CONC. UTILITY POLE		2. ANY DAMAGE BY THE CONTRACTOR TO PUBLIC OR PRIVATE PROPERTY SHALL BE RESTORED TO PRE-EXISTING CONDITIONS OR BETTER AT NO EXPENSE TO THE OWNER. THIS INCLUDES AREAS DISTURBED DURING THE INSTALLATION OF WATER SERVICES, INCLUDING BUT NOT LIMITED TO SOD, LANDSCAPING, AND IRRIGATION.
BM	BENCHMARK	/ / / /	LEVEL	● FIRE HYDRANT	CSP CONC. SIGNAL POLE		3. THE LOCATIONS OF ALL UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY.
BOP	BOTTOM OF PIPE	X-X-X-X	EXIST. CHAIN LINK FENCE	● FIRE DEPARTMENT CONNECTION	COMMUNICATION MH		4. THE CONTRACTOR SHALL VERIFY IF OTHER UTILITIES NOT SHOWN IN THE PLANS EXIST WITHIN THE AREA OF CONSTRUCTION. SHOULD UTILITY CONFLICTS ARISE, THE CONTRACTOR SHALL INFORM THE ENGINEER, AND CORRESPONDING UTILITY COMPANY OF THE CONFLICT.
BSP	BACTERIOLOGICAL SAMPLING POINT	— - - - -	GUARDRAIL	■ SINGLE WATER SERVICE	COMMUNICATION RISER		5. PRE-CONSTRUCTION VIDEO OF EXISTING CONDITIONS SHALL BE TAKEN BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION.
CAP	CORRUGATED ALUMINUM PIPE	○-○-○-○	PROPOSED CHAIN LINK FENCE	■ DOUBLE WATER SERVICE	CABLE TV MANHOLE		6. THE CONTRACTOR SHALL COORDINATE SELECTION AND REVIEW OF ANY PROPOSED STAGING AREA WITH THE CITY AT LEAST 72 HOURS PRIOR TO USE. THE STAGING AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER AT NO ADDITIONAL COST TO THE CITY.
CB	CATCH BASIN	□-□-□-□	EXISTING WOOD FENCE	□ BACKFLOW PREVENTER	CABLE TV RISER		7. ALL CONSTRUCTION DEBRIS SHALL BE PROPERLY DISPOSED OF OFFSITE.
CI	CURB INLET	○-○-○-○	EXISTING PICKET FENCE	□ DOUBLE DETECTOR CHECK VALVE	EHH ELEC. HANDHOLE		8. THE CONTRACTOR SHALL UTILIZE BEST MANAGEMENT PRACTICES, AS ESTABLISHED BY THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT FOR ALL WORK.
CIP	CAST IRON PIPE	XXXXXX	TO BE DEMOLISHED	● BLOWOFF	FPL TRANSFORMER		9. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND COMPLY WITH THE PERMIT REQUIREMENTS BEFORE AND DURING CONSTRUCTION.
CLF	CHAIN LINK FENCE	xSAN	EXISTING SANITARY SEWER	● REDUCER	GAS METER		10. ALL QUESTIONS CONCERNING MATERIALS OR CONSTRUCTION METHODS SHALL BE DIRECTED TO THE ENGINEER.
CMP	CORRUGATED METAL PIPE	xWM	EXISTING WATER MAIN	● GATE VALVE	● LIGHT POLE		11. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL COMPLY WITH FLORIDA STATUTE 553.851 FOR THE PROTECTION OF UNDERGROUND GAS LINES.
CO	CLEANOUT	xSTM	EXISTING STORM SEWER	THREE 90°, 45°, 22.5° & 11.25° BENDS	TRAFFIC CONTROL BOX		12. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH CURRENT FOOT DESIGN STANDARDS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. NO RESIDENTIAL PROPERTY SHALL BE WITHOUT DRIVEWAY ACCESS FOR A PERIOD OF MORE THAN 4 HOURS.
CONC	CONCRETE	xFM	EXISTING FORCE MAIN	■ TEE	WPP WOOD POWER POLE		13. CONTRACTOR MUST PROVIDE LATERAL SUPPORT FOR ALL EXISTING WATER MAINS AND MAINTAIN SOIL DEVELOPMENT EQUAL TO OR GREATER THAN EXISTING TO PREVENT WATER MAIN SEPARATION.
DE	DRAINAGE EASEMENT	xFIRE	EXISTING FIRE MAIN	■ CROSS	GV GAS VALVE		14. ALL EXISTING UTILITIES MH COVERS, ELECTRICAL BOXES, VALVE BOXES, METER BOXES, DRAINAGE STRUCTURES, ETC. WITHIN PROPOSED AREAS OF IMPROVEMENTS SHALL BE ADJUSTED TO GRADE ELEVATION, UNLESS OTHERWISE NOTED.
DIP	DUCTILE IRON PIPE	xIRR	EXISTING IRRIGATION	■ PLUG	SV SEWER VALVE		15. THE CONTRACTOR SHALL EMPLOY QUALIFIED ARBORIST TO REMOVE BRANCHES, AND TREAT ANY CUTS.
E	EAST	xOXY	EXISTING OXYGEN	● BLOWOFF	WV WATER VALVE		16. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING AND PROTECTING ALL EXISTING TREES BY USING 6' HIGH FLUORESCENT NYLON FENCING AS A TEMPORARY BARRIER. PRESERVED TREES SHALL BE BARRICADED BEFORE AND DURING CONSTRUCTION. IF DURING THE COURSE OF CONSTRUCTION ANY OF THE PROTECTED VEGETATION DIES, IT SHALL BE REPLACED AS REQUIRED BY THE LOCAL JURISDICTION BY THE CONTRACTOR WITH EQUAL SIZE AND CALIPER. THE TREES, WOODY SHRUBS (INCLUDING SAW PALMETTO'S) AND GROUND COVERS SHALL BE INCLUDED WITHIN THE PRESERVATION AREAS AND SHALL BE RETAINED, WHERE SUPPLEMENTAL LANDSCAPING INFRINGES ON THIS AREA, DISTURBANCE SHALL BE MINIMIZED.
EL	ELEVATION	xFPL	EXISTING UNDERGROUND POWER	— VERTICAL BENDS	● GATE VALVE		17. COMPLETELY REMOVE BARRICADES WHEN CONSTRUCTION HAS PROGRESSED TO THE POINT THAT THEY ARE NO LONGER NEEDED.
EOW	EDGE OF WATER	xNGAS	EXISTING NATURAL GAS	— SANITARY FLOW DIRECTION	● CLEANOUT		18. CONTRACTOR SHALL NOTIFY THE CITY OF PEMBROKE PINES PUBLIC WORKS DEPARTMENT 14 DAYS PRIOR TO CONSTRUCTION.
EXIST	EXISTING	xCD	EXISTING CONDENSATION	○ CLEAN OUT	● FIRE HYDRANT		19. CONTRACTOR SHALL USE SPECIAL CARE WHEN WORKING NEAR EXISTING CLAY SANITARY SEWER LINE. SEWER POINT REPAIRS SHALL BE REQUIRED WHENEVER A PROPOSED WATER MAIN CROSSES THE SEWER WITHIN 12 INCHES. COSTS SHALL BE CONSIDERED INCIDENTAL TO WATER MAIN CONSTRUCTION AND INCLUDED IN THE CONTRACTOR'S UNIT PRICE FOR WATER MAIN.
EXFILT	EXFILTRATION	xBFO	EXISTING BURIED FIBER OPTIC	— DOUBLE SANITARY LATERAL	● REDUCER		20. SEWER LATERALS EXIST ON RESIDENTIAL STREETS AND BACKYARDS OF PROPERTY WITHIN THE PROJECT LIMITS. CONTRACTOR TO AVOID DAMAGING EXISTING SEWER LATERALS. IF DAMAGE OCCURS TO EXISTING SEWER LATERALS, CONTRACTOR SHALL REPLACE AT NO ADDITIONAL COST TO THE CITY.
FF EL	FINISHED FLOOR ELEVATION	xCOMCAST	EXISTING UNDERGROUND COMCAST	○ CONFLICT ID	● IRRIGATION VALVE		21. CONTRACTOR IS TO RESTRAIN ALL WATER MAIN AND FORCE MAIN PIPE JOINTS AND FITTINGS USING MEGALUG MECHANICAL JOINT RESTRAINT OR APPROVED EQUAL.
FH	FIRE HYDRANT	xCH	EXISTING CHILLER	— DRAINAGE FLOW	○ MANHOLE		22. THE CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF ALL EXISTING UTILITIES, IRRIGATION, CABLES, ETC. DISTURBED DURING CONSTRUCTION OF PROPOSED IMPROVEMENTS.
FM	FORCE MAIN	xATT	EXISTING AT&T UNDERGROUND	0.00 SPOT GRADE	● FIRE DEPARTMENT		23. EXISTING WATER METERS ON PLANS ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION. CONTRACTOR TO INSTALL NEW METER BOXES AND APPURTENANCES.
GALV	GALVANIZED	xFUEL	EXISTING FUEL LINE	— SIGN	■ CATCH BASIN		24. CONTRACTOR SHALL REMOVE EACH EXISTING METER AND DELIVER TO THE CITY UTILITY DEPARTMENT AT 13975 PEMBROKE ROAD.
GV	GATE VALVE	xOE	EXISTING OVERHEAD ELECTRIC	● CATCH BASIN	● GROUND/LANDSCAPING LIGHTING		25. CONTRACTOR SHALL TAG EACH EXISTING METER WITH THE HOUSE ADDRESS AND THE NEW METER NUMBER PRIOR TO DELIVERY TO THE CITY.
HORZ	HORIZONTAL	xUGE	EXISTING UNDERGROUND ELECTRIC	● MANHOLE	— SIGN		26. CONTRACTOR SHALL PROVIDE IN HIS BID A UNIT PRICE FOR INDIVIDUAL HOUSE CONNECTIONS. CONTRACTOR MUST PERFORM A SITE INSPECTION PRIOR TO BID AND INCLUDE ALL NECESSARY LABOR AND APPURTENANCES REQUIRED FOR EACH HOUSE CONNECTION.
INV	INVERT	xJNCP	ABANDONED 6" ACP WATER MAIN	● CLEANOUT	● WATER METER		27. CONTRACTOR SHALL PROVIDE THEIR OWN VERTICAL CONTROL FOR CONSTRUCTION LAYOUT, RECORD DRAWING, RESTORATION, AND ALL OTHER CONSTRUCTION RELATED ACTIVITY.
JB	JUNCTION BOX	x12WPVC	EXISTING 12" PVC WATER MAIN	— SLOTTED DRAIN	X SBS SOFT DIG ID		28. DEPTHS TO EXISTING UTILITIES AS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES SHOWN, AND THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS OF ALL UTILITIES THAT MAY INTERFERE WITH THE WORK. ALL SUCH EXPLORATORY EXCAVATIONS SHALL BE PERFORMED AS SOON AS PRACTICABLE AFTER AWARD OF THE CONTRACT AND, IN ANY EVENT, A SUFFICIENT TIME IN ADVANCE OF CONSTRUCTION TO AVOID POSSIBLE DELAYS TO THE CONTRACTOR'S WORK. WHEN SUCH EXPLORATORY EXCAVATIONS SHOW THE UTILITY LOCATION AS SHOWN TO BE IN ERROR, THE CONTRACTOR SHALL SO NOTIFY THE ENGINEER IMMEDIATELY. THE NUMBER OF EXPLORATORY EXCAVATIONS REQUIRED SHALL BE THAT NUMBER WHICH IS SUFFICIENT TO DETERMINE THE ALIGNMENT AND GRADE OF THE UTILITY. EXCAVATIONS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION AND SHALL BE CONDUCTED AT THE CONTRACTOR'S EXPENSE.
LF	LINEAR FEET	x2WMSP	EXISTING 2" GALVANIZED STEEL PIPE	— STORM YARD DRAIN			29. A PLUMBING PERMIT IS REQUIRED TO BE SUBMITTED BY A LICENSED PLUMBING CONTRACTOR AS PER THE BROWARD COUNTY ADMINISTRATIVE PROVISIONS FOR THE 2017 FLORIDA BUILDING CODE, 6TH EDITION, SECTION 105.3.1.4.4.
MAX	MAXIMUM	x6WMACP	EXISTING 6" ACP PIPE	— P5 STORM INLET			30. AN APPROVED THERMAL EXPANSION CONTROL DEVICE IS REQUIRED TO BE INSTALLED AS PER FBC 2017, 6TH ED., RESIDENTIAL, SEC. P2903.
MH	MANHOLE	x8WMPC	EXISTING 8" PVC PIPE	— EXFILTRATION TRENCH			31. ROUGH INSPECTION: THE BURIAL DEPTH FOR THE WATER SUPPLY LINE IS REQUIRED TO BE A MINIMUM OF 12 INCH TO THE TOP OF THE WATER LINE WITH CLEAN BACKFILL AS PER FBC 2017, 6TH ED., RESIDENTIAL, SEC P26604.3. IF THE WATER LINE IS TRENCHED OR JUKED INTO THE EARTH, THE TRENCH MUST BE KEPT OPEN AT THE WATER METER / CHECK VALVE, HOUSE CONNECTION, ONE POINT IN BETWEEN AND AT ALL JOINTS FOR THE ROUGH INSPECTION. IF DIRECTIONAL BORE A COPY OF THE BURIAL DEPTH WILL NEED TO BE PROVIDED.
MIN	MINIMUM	XXXXX	EXIST. 2" G.S. WM TO BE ABANDONED IN PLACE	— HEADWALL			32. FINAL INSPECTION: ALL BACKFILL COMPLETED WITH SOD AND WATER SUPPLY LINE COMPLETED AS PER CODE.
MJ	MECHANICAL JOINT	XXXXX	EXIST. 6" ACP WM TO BE GROUTED AND ABANDONED IN PLACE	— MITERED END – RCP			FOR BIDDING PURPOSES ONLY
N	NORTH	XXXXX	EXIST. 8" PVC WM TO BE GROUTED AND ABANDONED IN PLACE	— MITERED END – HDPE			
NTS	NOT TO SCALE			— HAY BALES			
OE	OVERHEAD ELECTRIC			— ROCK BAGS W/ HAY BALES			
PCAP	PERFORATED CORRUGATED ALUMINUM PIPE			— SILT BARRIER FENCE			
PRB	POLLUTION RETARDANT BAFFLE			— TURBIDITY BARRIER			
PROP	PROPOSED						
PSI	POUNDS PER SQUARE INCH						
PV	PLUG VALVE						
PVC	POLYVINYL CHLORIDE						
R	RADIUS						
RCP	REINFORCED CONCRETE PIPE						
RCW	RECLAIMED WATER						
RED	REDUCER						
RW	RIGHT-OF-WAY						
S	SOUTH						
SAN	SANITARY						
SB	SOIL BORING						
STA	STATION						
TOB	TOP OF BANK						
TOP	TOP OF PIPE						
TYP	TYPICAL						
UE	UTILITY EASEMENT						
VERT	VERTICAL						
W	WEST						
WM	WATER MAIN						



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PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDA

LEGEND AND ABBREVIATIONS

NICHOLAS W. KANELLIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536

SCALE  
AS SHOWN  
PROJECT No  
91-0134.1



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## I. APPLICABLE CODES

- A. GENERAL: ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF PEMBROKE PINES, BROWARD COUNTY DEPARTMENT OF PLANNING AND ENVIRONMENTAL PROTECTION (BCDEP), BROWARD COUNTY HEALTH DEPARTMENT (BCHD), SOUTH FLORIDA WATER MANAGEMENT DISTRICT (SWMD), AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.
- B. CONSTRUCTION SAFETY: ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
- C. TRENCH SAFETY ACT
1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE STATE OF FLORIDA TRENCH SAFETY ACT.
2. WHERE EXCAVATIONS TO A DEPTH IN EXCESS OF FIVE FEET ('5') ARE REQUIRED THE CONTRACTOR SHALL INCLUDE THE FOLLOWING INFORMATION IN THE BID.
- A. A REFERENCE TO THE SAFETY STANDARDS THAT WILL BE IN EFFECT DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT.
- B. WRITTEN ASSURANCES BY THE CONTRACTOR PERFORMING THE TRENCH EXCAVATION THAT SUCH CONTRACTOR WILL COMPLY WITH THE APPLICABLE TRENCH SAFETY STANDARDS.
- C. A SEPARATE ITEM IDENTIFYING THE COST OF COMPLIANCE WITH THE APPLICABLE TRENCH SAFETY STANDARDS.
3. WHERE A BID IS NOT SUBMITTED, THE CONTRACTOR SHALL SUBMIT THE INFORMATION LISTED IN ITEM 2, TO THE ENGINEER PRIOR TO STARTING WORK.

## II. PRECONSTRUCTION RESPONSIBILITY

- A. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRECONSTRUCTION MEETING WITH THE CITY OF PEMBROKE PINES ENGINEERING AND COMMUNITY DEVELOPMENT DEPARTMENT, THE CIVIL AND THE ENGINEER, AFTER OBTAINING A CONSTRUCTION PERMIT FROM THE ENGINEERING AND COMMUNITY DEVELOPMENT DEPARTMENT.
- B. THE CONTRACTOR SHALL OBTAIN A "SUNSHINE CERTIFICATION NUMBER" AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- C. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF CONSTRUCTION.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH HE FAILS TO REQUEST LOCATIONS SUNSHINE CERTIFICATION NUMBER. HE IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
- E. IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, WHO WILL IN TURN NOTIFY THE CITY OF PEMBROKE PINES PUBLIC WORKS DEPARTMENT.

## III. INSPECTIONS

THE CONTRACTOR SHALL NOTIFY THE CITY OF PEMBROKE PINES ENGINEERING AND COMMUNITY DEVELOPMENT DEPARTMENT (954-980-4775), AND THE ENGINEER OF RECORD AT LEAST 24 HOURS PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS:

- A. STORM DRAINAGE.  
B. SANITARY SEWER.  
C. WATER SYSTEM.  
D. SURVEYED AND HAVE APPROVED DENSITIES PRIOR TO PLACEMENT OF ROCK.  
E. LIMEROCK BASE: SUBMIT AND HAVE APPROVED DENSITIES AND AS-BUILTS PRIOR TO THE PLACEMENT OF ANY ASPHALT.  
F. ASPHALT CONCRETE.  
G. FINAL.

## IV. SHOP DRAWINGS

- A. PRIOR TO ISSUANCE OF A CONSTRUCTION PERMIT, A MATERIAL LIST SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD AND THE CITY OF PEMBROKE PINES FOR SANITARY MANIFOLDS, HYDRANTS, VALVES, PIPING, LF1 STATIONS AND OTHER ACCESSORIES. CATALOGUE LITERATURE SHALL BE SUBMITTED FOR WATER AND SEWER PIPES, FITTINGS AND APPURTEANCES.
- B. ANY PRODUCT THAT IS NOT ON THIS LIST MUST BE APPROVED IN ADVANCE BY THE ENGINEER OF RECORD AND THE CITY OF PEMBROKE PINES. SUCH APPROVAL REQUIRES THE SUBMISSION OF A SHOP DRAWING FOR EACH PRODUCT. SHOP DRAWINGS WILL ALSO BE REQUIRED FOR ALL NON-STANDARD ITEMS.
- C. INDIVIDUAL SHOP DRAWINGS FOR ALL PRECAST STRUCTURES ARE REQUIRED. CATALOGUE LITERATURE WILL NOT BE ACCEPTED FOR PRECAST STRUCTURES.

## V. TEMPORARY FACILITIES

## A. TEMPORARY UTILITIES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO HIS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING CONSTRUCTION.
2. OBTAIN CONSTRUCTION METER FOR ALL WATER USED ON JOB. ALL WATER USED FOR CLEANING, TESTING, ETC. WILL BE PAID FOR BY THE CONTRACTOR. IF WATER CAN NOT BE METERED THEN IT WILL BE CALCULATED.

## B. TRAFFIC REGULATION:

1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD AND BCTED AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
3. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERES ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS WRITTEN PERMISSION OF THE CITY OF PEMBROKE PINES.

## VI. PROJECT CLOSE OUT

## A. CLEANING UP:

1. DURING CONSTRUCTION, THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH. THE PAVED AREAS SHALL BE BROOM SWEEP CLEAN.
2. THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE ENGINEER OR THE CITY OF PEMBROKE PINES, ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY HIS WORK, EQUIPMENT, OR THOSE OF HIS SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF THE OPERATIONS. TO THIS END, THE CONTRACTOR SHALL DO AS REQUIRED, ALL NECESSARY HIGHWAY OR DRIVEWAY, SIDEWALK AND LANDSCAPING WORK. SUITABLE MATERIALS AND METHODS SHALL BE USED FOR SUCH RESTORATION.
3. WHERE MATERIAL OR DEBRIS HAS BEEN WASHED OR FLOWED INTO OR BEEN PLACED IN WATER, WATER COURSES, GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.

4. WHEN WORKING IN AND AROUND EXISTING CANALS, APPROPRIATE SILT BARRIERS SHALL BE INSTALLED AS REQUIRED BY THE CANAL OWNER.

## B. PROJECT RECORD DOCUMENTS:

1. THE CONTRACTOR SHALL MAINTAIN ACCURATE AND COMPLETE RECORDS OF ALL WORK ITEMS COMPLETED.
2. ALL "AS-BUILT" INFORMATION SUBMITTED TO THE ENGINEER SHALL BE SUFFICIENTLY ACCURATE, CLEAR AND LEGIBLE TO SATISFY THE ENGINEER THAT THE INFORMATION PROVIDED IS A TRUE REPRESENTATION OF THE IMPROVEMENTS CONSTRUCTED.
3. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER OF RECORD ONE COMPLETE SET OF "AS-BUILT" CONSTRUCTION DRAWINGS. THESE DRAWINGS SHALL BE MARKED TO SHOW "AS-BUILT" CONSTRUCTION CHANGES AND DIMENSIONED LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS AND SHALL BE SIGNED BY THE CONTRACTOR.
4. ALL "AS-BUILT" INFORMATION ON ELEVATIONS, STATIONING OFFSETS AND TIES OF THE WATER, SANITARY SEWER, PAVING AND DRAINAGE SHALL BE CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.
5. "AS-BUILT" INFORMATION ON THE WATER SYSTEM SHALL INCLUDE, BUT IS NOT LIMITED TO LOCATIONS OF VALVES, FITTINGS, FIRE HYDRANTS AND WATER SERVICES AND TOP-OF-PIPE ELEVATION ON 100-FOOT INTERVALS AT A MINIMUM.
6. PRIOR TO A FINAL INSPECTION BY THE CITY OF PEMBROKE PINES, THE ENGINEER, AND THE CONTRACTOR SHALL SUBMIT TWO (2) SETS OF BLUEPRINTS OF "AS-BUILT" CONSTRUCTION.

## DRAWINGS:

7. UPON A FINAL INSPECTION BY THE CITY OF PEMBROKE PINES, THE ENGINEER SHALL SUBMIT TO THE CITY ONE (1) COMPLETE SET OF REPRODUCIBLE MYLARS AND THREE (3) SETS OF BLUEPRINTS OF "AS-BUILT" CONSTRUCTION DRAWINGS THAT HAVE BEEN CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR AND THE ENGINEER OF RECORD AND COMPUTER FILES OF "AS-BUILT" CONSTRUCTION DRAWINGS ON A CD IN AUTOCAD RELEASE 16 FORMAT OR LATEST ADDITION.
8. PRIOR TO PLACEMENT OF ANY ASPHALT OR CONCRETE PAVEMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER "AS-BUILT" PLANS SHOWING LIMEROCK BASE GRADES AND ALL DRAINAGE, WATER, AND SEWER IMPROVEMENTS. PAVING OPERATIONS SHALL NOT COMMENCE UNTIL THE ENGINEER AND THE CITY OF PEMBROKE PINES HAVE REVIEWED AND APPROVED THE "AS-BUILTS".
9. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR SUBGRADE SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE CITY OF PEMBROKE PINES PRIOR TO THE PLACING THE LIMEROCK BASE MATERIAL.
10. ALL REQUIRED DENSITY AND LBR TEST RESULTS FOR LIMEROCK SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER AND THE CITY OF PEMBROKE PINES PRIOR TO PLACING ASPHALT.

## VII. WATER DISTRIBUTION AND/OR SEWAGE FORCE MAIN SYSTEM

## A. GENERAL:

1. THE CONTRACTOR SHALL NOTIFY THE CITY OF PEMBROKE PINES AND THE ENGINEER OF RECORD NO LATER THAN 72 HOURS PRIOR TO MAKING CONNECTIONS TO EXISTING SYSTEMS. A CITY OF PEMBROKE PINES REPRESENTATIVE AND THE ENGINEER OF RECORD MUST BE PRESENT.
2. SEPARATION OF WATER AND SEWER MAINS SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST REVISION OF THE FLORIDA ADMINISTRATIVE CODE.
3. NO CONNECTIONS TO THE EXISTING LINES SHALL BE MADE UNTIL PRESSURE TESTS FOR THE WATER MAINS AND SEWER FORCE MAINS, AND BACTERIOLOGICAL TESTS HAVE BEEN PERFORMED AND THE SYSTEM IS ACCEPTABLE TO THE CITY OF PEMBROKE PINES AND THE BROWARD COUNTY HEALTH DEPARTMENT.
4. CLEANING OF NEWLY INSTALLED PIPING SYSTEMS SHALL BE ACCOMPLISHED USING PIPE PIGGING METHODS. OPEN FLUSHING SHALL NOT BE ALLOWED UNTIL PRIOR APPROVAL OF THE UTILITIES DEPARTMENT. ALL WATER WILL BE ACCOUNTED FOR.
5. ALL EFFORTS SHALL BE MADE SO THAT WATER AND FORCE MAINS CROSS ABOVE DRAINAGE LINES WITH ADEQUATE COVER AND SEPARATION. IF THIS IS NOT POSSIBLE, IT SHALL BE INDICATED ON THE PLANS.
6. A THREE (3) FOOT LATERAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER/SEWER LINES AND OBSTRUCTIONS (I.E., CATCH BASINS, CONCRETE POLES, ETC.), FIVE (5) FEET FROM TREES.
7. THE MAXIMUM DEPTH TO THE BOTTOM OF THE PRESSURE MAIN INSTALLED SHALL NOT EXCEED SIX (6) FEET UNLESS APPROVED BY THE CITY OF PEMBROKE PINES.

8. RESTRAINED JOINTS SHALL BE USED, IN LIEU OF CONCRETE THRUST BLOCKS, AT ALL CHANGES IN DIRECTION OF WATER MAINS, SEWAGE FORCE MAINS AND ELSEWHERE AS INDICATED ON THE DRAWINGS. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCES ON EACH SIDE OF FITTINGS INDICATED TO PROPERLY RESTRAIN AND SUPPORT BENDS, TEES, VALVES, DOLLS, ETC. AND OTHER SUCH FITTINGS WITH THE EXCEPTION OF FIRE HYDRANTS IN ACCORDANCE WITH THE DETAILS.

9. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(2)(1)(3), F.A.C., USING BLUE AS A PREDOMINANT COLOR. UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE PIPE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SIDE, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES APPLIED TO THE PIPE. PEAK PIPE WILL BE SOLID-WALL METAL OR CONCRETE PIPE, WILL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF THE PIPE IS LOCATED IN A TRENCH, THE PIPE STRIPES WILL BE APPLIED TO THE PIPE WALL, OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE. FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE) [F.A.C. 62-555.320(2)(b)(3)]

## B. MATERIALS:

1. PIPE:
- THE WATER MAIN AND/OR SEWAGE FORCE MAIN SHALL BE EITHER POLYVINYL CHLORIDE (PVC) OR DUCTILE IRON PIPE (DIP).

- A. PVC PIPE SHALL BE ASTM 1120 PRESSURE PIPE WITH IRON O.D., CLASS 150 (OR 18), CONFORMING TO ANSI/AWWA C900-97 OR C905-97 AND SHALL HAVE PUSH RUBBER GASKET JOINTS.

- B. DIP SHALL BE CLASS 350 WALL THICKNESS (UP TO 12"), CLASS 300 (14"-18"), CLASS 250 (20" OR GREATER) WITH INTERIOR CEMENT LINING AND EXTERIOR COAL TAR COATING CONFORMING TO ANSI/AWWA C151/A21.51-02, OR LATEST REVISION. PIPE SHALL CONFORM TO ANSI/AWWA C606. THE PIPE SHALL WITHSTAND A WORKING PRESSURE OF 350 PSI UP TO 12", AND 300 PSI FOR DIAMETERS GREATER THAN OR EQUAL TO 14". THE PIPE SHALL BE DELIVERED SPUN ON ONE END, AND FLANGED. FLANGED PIPE SHALL CONFORM WITH THE PHYSICAL AND CHEMICAL REQUIREMENTS AS SET FORTH IN THE HANDBOOK OF DUCTILE IRON PIPE OF THE CAST IRON PIPE RESEARCH ASSOCIATION.

## 2. FITTINGS:

- FITTINGS SHALL BE DUCTILE IRON COMPACT MECHANICAL JOINT AND SHALL BE CLASS 350 THROUGH 24" CONFORMING TO ANSI/AWWA C151/A21.51-02, OR LATEST REVISION, AND CLASS 250 IN SIZES 24" AND LARGER CONFORMING TO ANSI/AWWA C101.10-03, OR LATEST REVISION, COMPLETE WITH CLAMPS, GASKETS, BOLTS AND NUTS. ALL FITTINGS SHALL BE CEMENT LINED AND SEAL COATED WITH THE SAME AS PIPE.

## 3. VALVES:

- A. VALVES SHALL BE GATE VALVES FOR WATER (4"-12" SIZE), BUTTERFLY VALVES FOR WATER (16" AND UP SIZE) OR PLUG VALVES FOR FORCE MAIN (ALL SIZES).
- I. GATE VALVES SHALL BE DUCTILE IRON BODY, FULLY RESILIENT SEAT, BRONZE MOUNTED NON-RISING STEM, DOUBLE DISC, RATED AT 200 PSI AND CONFORMING TO ANSI/AWWA C509-01 OR LATEST REVISION. EXPOSED VALVES SHALL BE OUTSIDE SCREW AND Yoke TYPE.

- II. BUTTERFLY VALVES AND OPERATORS SHALL CONFORM TO ANSI/AWWA C504-00 STANDARD FOR RUBBER SEATED BUTTERFLY VALVES, OR LATEST REVISIONS. VALVES SHALL BE CLASS 150 A OR B.

- III. PLUG VALVES SHALL BE SEMI-STEEL BODY, NON-LUBRICATED, ECCENTRIC TYPE, WITH PLUG FACED PLATE AND CAPS OF 100% THICK PLATE AT 1" RATED PRESSURE. VALVES ARE TO BE EQUIPPED WITH ACTUATING NUTS, CAST IRON HANDWHEELS OR CHAIN OPERATORS, WITH GALVANIZED STEEL CHAINS, AS APPROPRIATE FOR THE INSTALLATION AND TYPE OF OPERATOR.

## B. AIR RELEASE VALVES:

- I. SEWER FORCE MAIN AIR RELEASE VALVES - SYSTEM SHALL BE A COMBINATION OF ONE SEWER AIR RELEASE VALVE AND ONE SEWER AIR/VACUUM VALVE. THE DUAL BOLTED AIR VALVE IS THE SEWER BODY AND VALVES SHALL BE OF CAST IRON CONSTRUCTION, ASTM A-126-B. ALL INTERNAL PARTS SHALL BE STAINLESS STEEL, ASTM A-240 - TYPE 304, AND ASTM A296 - TYPE 316. THE VENTING ORIFICE SHALL BE 5/16" IN DIAMETER WITH STAINLESS STEEL SEAT. THE INLET OPENINGS SHALL BE A MINIMUM OF 2" NPT SCREWED CONNECTION FOR BOTH VALVES. THE VALVES SHALL FULLY CAPABLE OF OPERATION IN SEWAGE FORCE MAIN. BOTH VALVES SHALL INCLUDE A BACK-FLUSHING FEATURE FOR PERIODIC CLEANING OF THE INTERNAL MECHANISM. THE OVERALL HEIGHT SHALL NOT EXCEED 22-1/2 INCHES.

- II. WATER MAIN AIR RELEASE VALVES - VALVE BODY AND COVER SHALL BE OF DUCTILE IRON CONSTRUCTION. ALL INTERNAL WORKING PARTS SHALL BE OF STAINLESS STEEL ASTM A240, TYPE 303 FOR THE FLOAT AND ASTM A296 - TYPE 316 FOR THE LINKAGE. THE VENTING ORIFICE SHALL BE 3/16" IN DIAMETER WITH BRASS SEAT. THE INLET OPENING SHALL BE A 2" NPT SCREWED CONNECTION. THE OVERALL HEIGHT SHALL NOT EXCEED 13 INCHES.

- C. A REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED IN THE CENTER OF THE NEAREST LANE OF ROAD PAVEMENT ADJACENT TO ALL VALVE LOCATIONS OUTSIDE THE ROAD

## DRAWINGS:

4. FIRE HYDRANTS:
- A. FIRE HYDRANTS SHALL HAVE A MINIMUM 5 1/4" VALVE OPENING AND SHALL OPEN AGAINST THE PRESSURE AND CLOSE WITH THE FLOW. HYDRANTS SHALL MEET OR EXCEED ANSI/AWWA C502-05, C503-05 OR LATEST REVISION, AND SHALL COMPLY WITH FACTORY MUTUAL RESEARCH CORPORATION AND UNDERWRITERS LABORATORIES UL246 STANDARD.
- B. A BLUE REFLECTIVE PAVEMENT MARKER SHALL BE PROVIDED IN THE CENTER OF THE NEAREST LANES OF ROAD PAVEMENT ADJACENT TO ALL FIRE HYDRANT LOCATIONS.

## 5. DETECTOR TAPE:

- A. DETECTOR TAPE SHALL BE 3" WIDE BLUE TAPE FOR WATER MAIN AND GREEN TAPE FOR FORCE MAIN, WITH A METALLIZED FOIL CORE LAMINATED BETWEEN 2 LAYERS OF PLASTIC FILM. THE WORDS "CAUTION WATER LINE BURIED BELOW" OR "CAUTION FORCE MAIN BURIED BELOW" SHALL BE PRINTED AT 30" INTERVALS ALONG THE TAPE. TAPE SHALL BE PLACED 18" BELOW GRADE ABOVE PVC MAINS AND SERVICES OR AS RECOMMENDED BY MANUFACTURER. NONMETALLIC TAPE SHALL BE USED ABOVE DUCTILE IRON PIPE. DETECTOR TAPE SHALL BE BY EMPIRE (MAGNATEC) PREMIUM DETECTABLE TAPE.

## 6. SERVICE CONNECTIONS:

- A. SERVICE SADDLES SHALL BE DUCTILE IRON EPOXY OR NYLON COATED WITH DOUBLE STAINLESS STEEL STRAPS. SADDLES SHALL CONFORM TO ANSI/AWWA C111/21.11-00 AND ASTM A-588 OR LATEST REVISION.

- B. SERVICE LINES SHALL BE POLYETHYLENE (PE) TUBING AS DESCRIBED IN ANSI/AWWA C901-02 OR LATEST REVISION. WITH A WORKING PRESSURE OF 200 PSI (1400). PIPE JOINTS SHALL BE OF THE COMPRESSED TYPE. VALVE COUPLINGS AND VALVE COUPLINGS NOT POLYETHYLENE SHALL BE EXTRACTED FROM PE 3408 HIGH MOLECULAR WEIGHT MATERIAL AND MUST CONFORM TO ASTM D-2737.

- C. CORPORATION STOPS SHALL BE MANUFACTURED OF BRASS ALLOY IN ACCORDANCE ASTM B-62 WITH THREADS ENDS.
- D. METER STOPS SHALL BE THE 90 DEGREE LOCKING TYPE AND SHALL BE OF BRONZE CONSTRUCTION IN ACCORDANCE WITH ASTM B-62. METER STOPS SHALL BE CLOSED BUTTON DESIGN AND RESILIENT "O" RING SEALED AGAINST EXTERNAL LEAKAGE AT THE TOP. STOPS SHALL BE EQUIPPED WITH A METER COUPLING NUT ON THE OUTLET SIDES.

## 7. TAPPING SLEEVES:

- A. TAPPING SLEEVES SHALL BE DUCTILE IRON, ASTM GRADE 65-45-12, MECHANICAL JOINT.

## 8. VALVE BOXES:

- A. VALVE BOXES FOR WATER MAINS AND SEWER FORCE MAINS SHALL BE ADJUSTABLE SCREW TYPE WITH 5-1/4" SHAFT, 18 TO 24 INCH EXTENSION, CAST IRON ASTM-A48 CLASS 30 MARKED "WATER" OR "SEWER".

- B. VALVE BOXES FOR BLOW-OFF ASSEMBLY SHALL BE CAST IRON ASTM A-48 CLASS 30 MARKED "W".

## 9. RETAINER GLANDS:

- A. RETAINER GLANDS SHALL CONFORM TO ANSI/AWWA C111/A21.11-00 OR LATEST REVISION. ALL GLANDS SHALL BE MANUFACTURED FROM DUCTILE IRON AS LISTED BY UNDERWRITERS LABORATORIES FOR 250 PSI MINIMUM WATER PRESSURE RATING.

## 10. DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY:

- A. THE ASSEMBLY SHALL CONFORM TO ANSI/AWWA C50-97, OR LATEST REVISION, AND CAPABLE OF WITHSTANDING A WORKING PRESSURE OF AT LEAST 150 PSI WITHOUT DAMAGE TO WORKING PARTS OR IMPAIRMENT OF FUNCTION. IT SHALL CONSIST OF TWO INTERNALLY LOADED, INDEPENDENTLY OPERATING CHECK VALVES, LOCATED BETWEEN TWO TIGHTLY CLOSING RESILIENT-SEALED SHUT OFF VALVES, WITH FOUR PROPERLY PLACED RESILIENT-SEALED TEST COCKS.

## C. INSTALLATION:

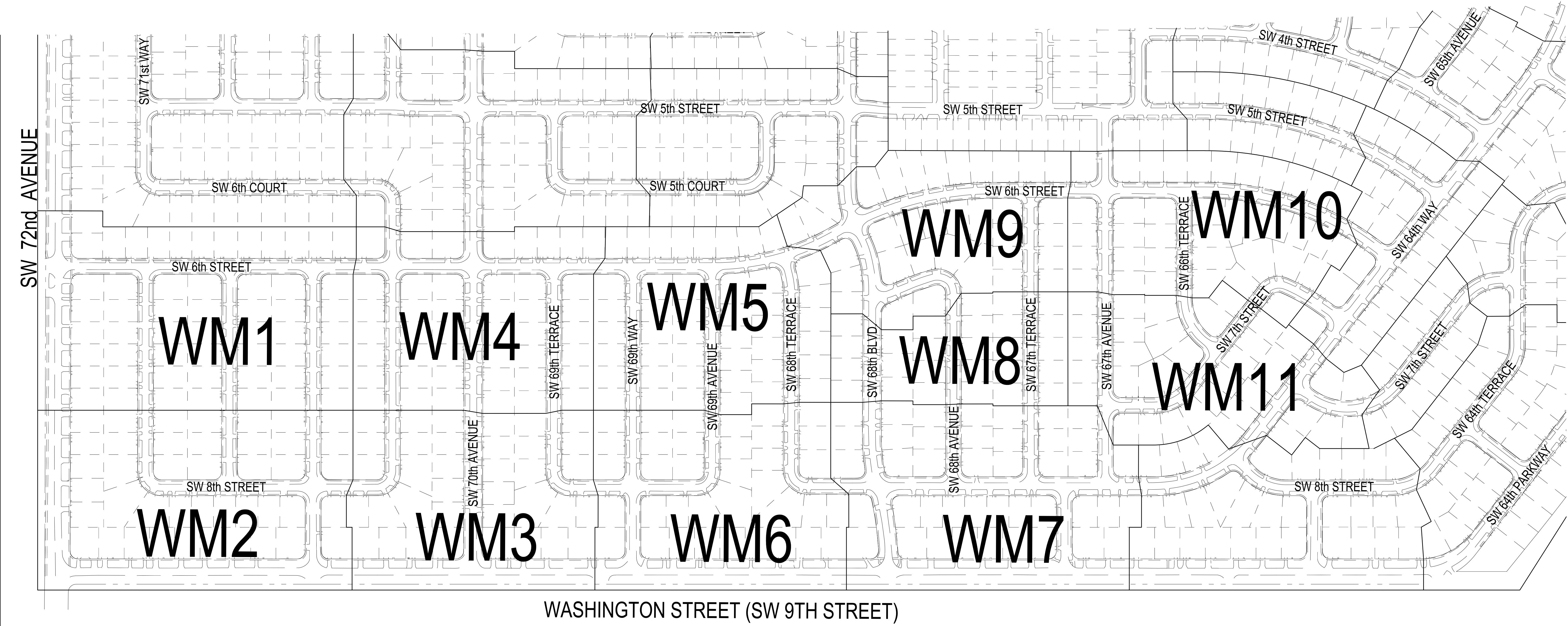
## 1. GENERAL:

- CONNECTION OF ALL NEW SYSTEMS TO EXISTING MAINS SHALL BE DONE USING ONE OF THE THREE FOLLOWING METHODS:

- A. METHOD "A", WHICH INVOLVES A REDUCED SIZE TEMPORARY CONNECTION BETWEEN THE EXISTING MAIN AND THE NEW MAIN.
- B. METHOD "B", WHICH INVOLVES A DIRECT CONNECTION BETWEEN THE NEW AND EXISTING MAINS USING TWO GATE VALVES SEPARATED BY A SLEEVE WITH A VENT PIPE.
- C. METHOD "C", WHICH INVOLVES A TAP WITH ONE GATE VALVE REQUIRING DISINFECTION OF THE NEW SYSTEM PRIOR TO CONDUCTING THE PRESSURE TEST.

## 2. BEDDING:

- A. BEDDING AND INITIAL BACKFILL (12 INCHES ABOVE PIPE) FOR ALL PIPES SHALL BE SAND WITH NO ROCK LARGER THAN 1" IN DIAMETER. PEA ROCK OR 3/4" WASHED ROCK WILL BE IN WATER OR WHERE UNS



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PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDA

KEY MAP

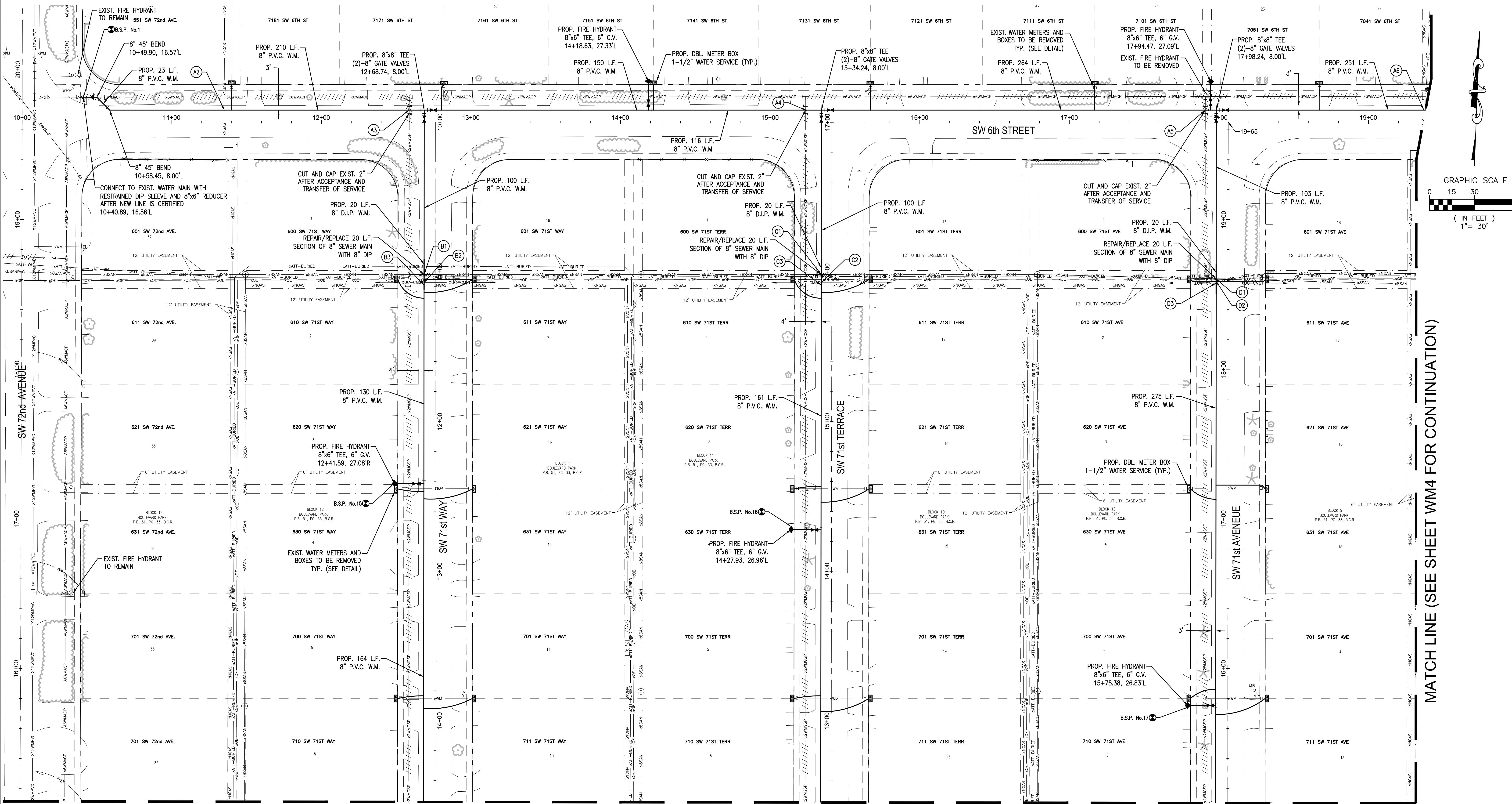
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NICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536  
DATE: JUNE 6, 2018



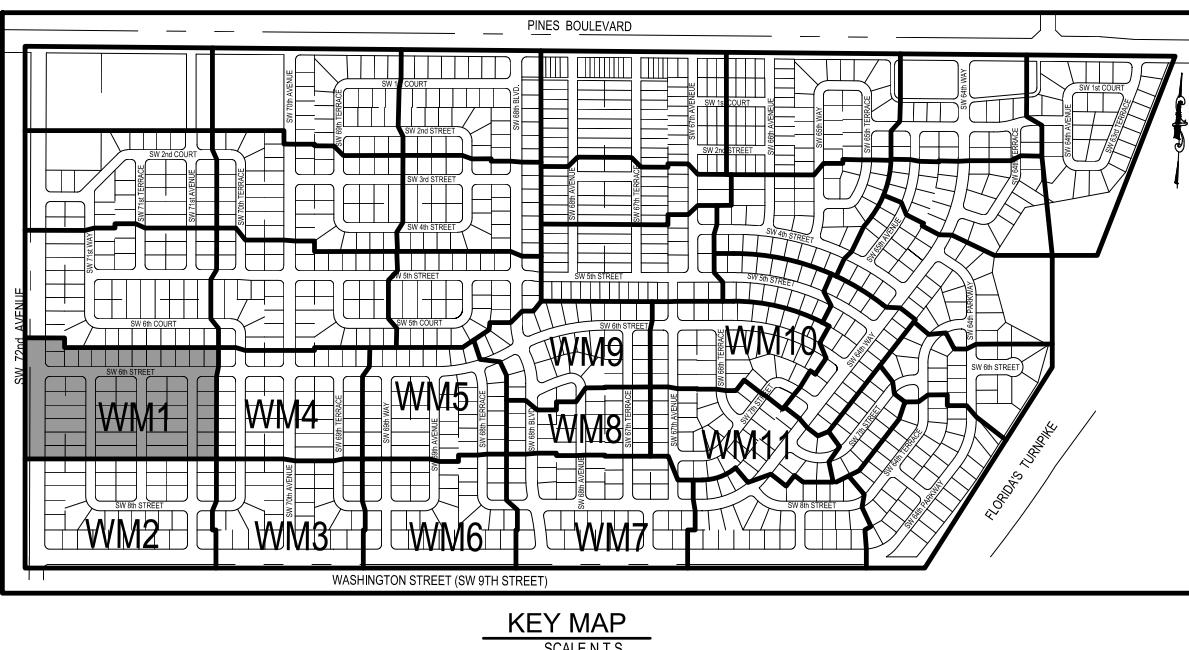
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SCALE  
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PROJECT No  
91-0134.1  
SHEET  
K1



MATCH LINE (SEE SHEET WM4 FOR CONTINUATION)



CONFLICTS

NO.	PIPES	CLEARANCE
A1	REMOVED	N/A
A2	Existing NGAS Over Proposed 8" PVC WM	12" MIN.
A3	Existing 2" WM BOP 3.25 ft Below Surface Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A4	Existing 2" WM BOP 3.25 ft Below Surface Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A5	Existing 2" WM BOP 3.25 ft Below Surface Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A6	Existing NGAS Over Proposed 8" PVC WM	12" MIN.

MATCH LINE (SEE SHEET WM2 FOR CONTINUATION)

NO.	PIPES	CLEARANCE
B1	Existing 8" Clay SS BOP 4.64 ft Below Surface Over Proposed 8" DIP WM TOP 5.14 ft Below Surface	18"
B2	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
B3	Existing NGAS Over Proposed 8" PVC WM	12" MIN.

NOTES:  
1. ALL EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.  
2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.

NO.	PIPES	CLEARANCE
C1	Existing 8" Clay SS BOP 3.48 ft Below Surface Over Proposed 8" DIP WM TOP 4.98 ft Below Surface	18"
C2	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
C3	Existing NGAS Over Proposed 8" PVC WM	12" MIN.

NO.	PIPES	CLEARANCE
D1	Proposed 8" DIP WM BOP 3.76 ft Below Surface Over Existing 8" Clay SS TOP 5.51 ft Below Surface	21"
D2	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
D3	Existing NGAS Over Proposed 8" PVC WM	12" MIN.

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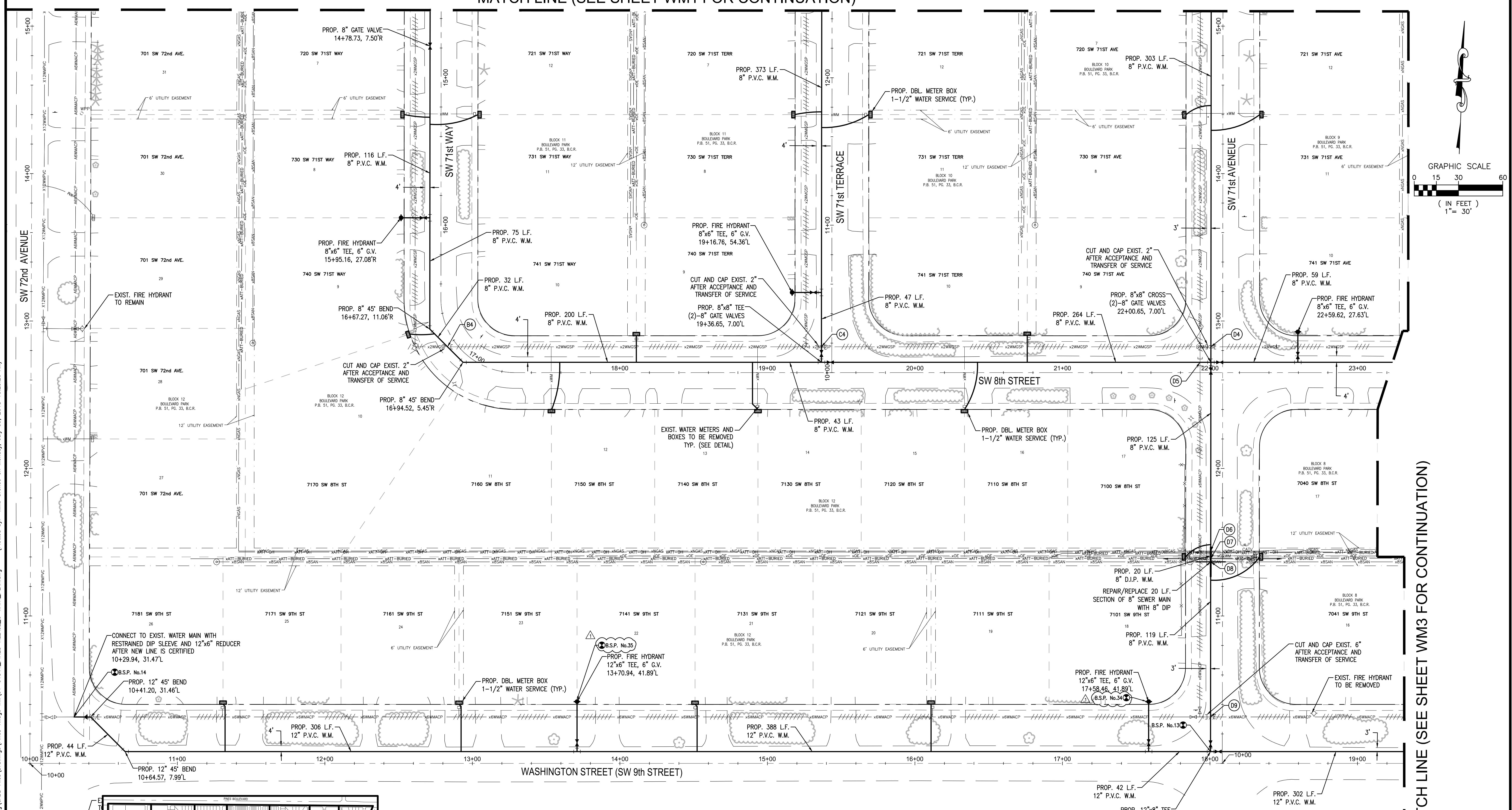
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PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDA

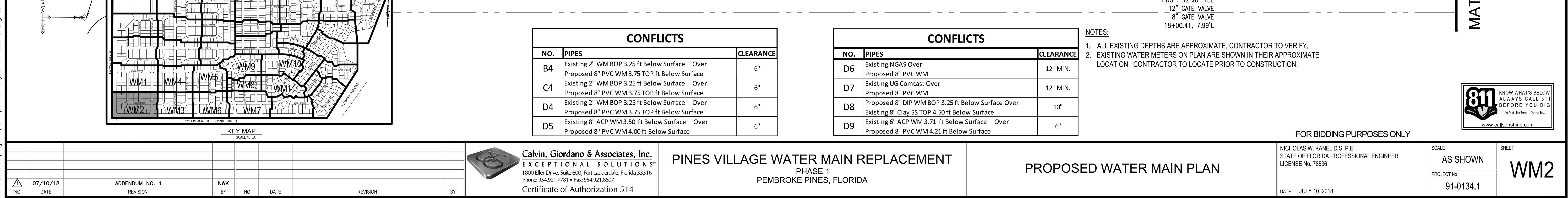
PROPOSED WATER MAIN PLAN

SCALE  
AS SHOWN  
SHEET  
WM1  
PROJECT NO  
91-0134.1

# MATCH LINE (SEE SHEET WM1 FOR CONTINUATION)

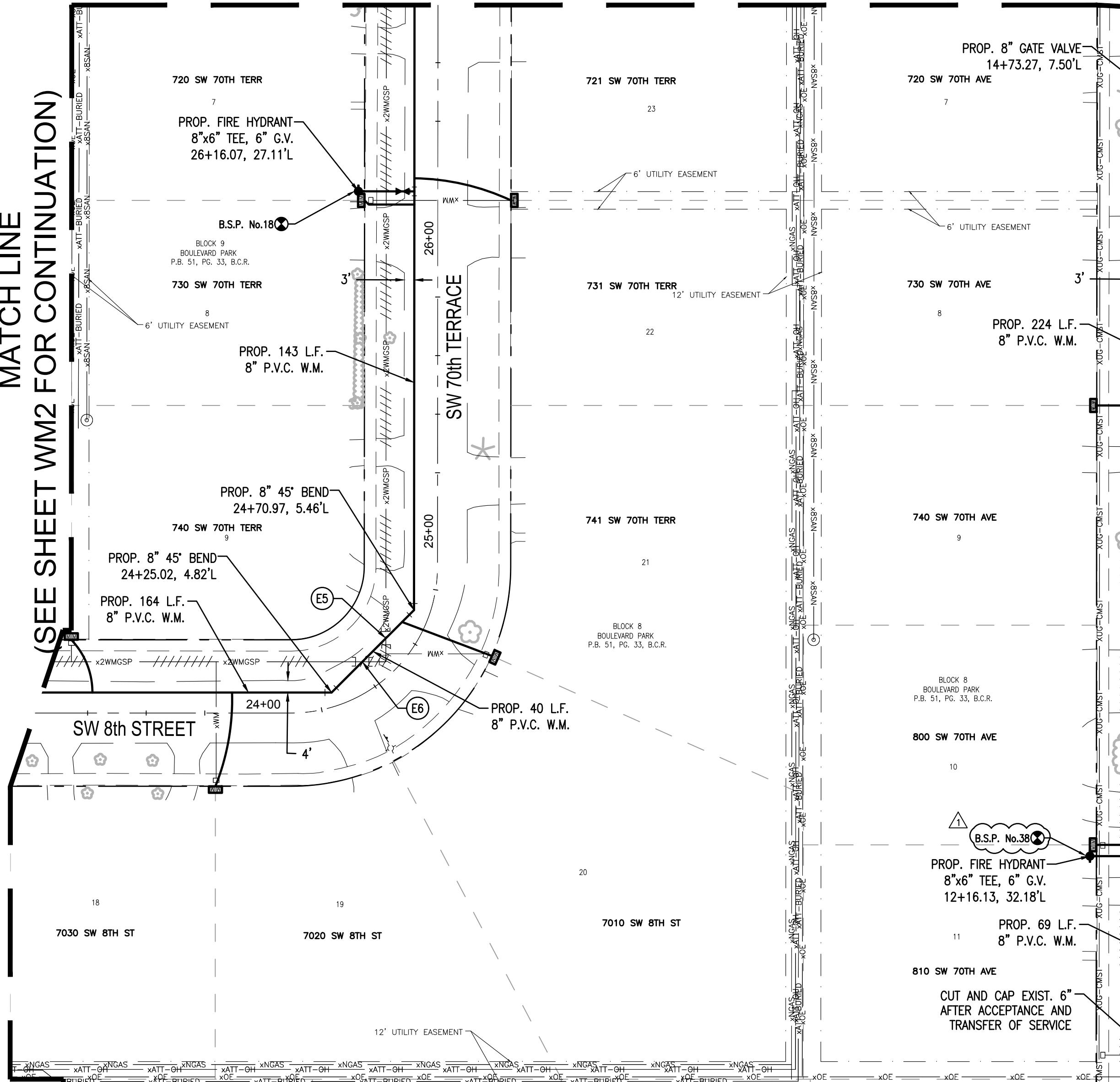


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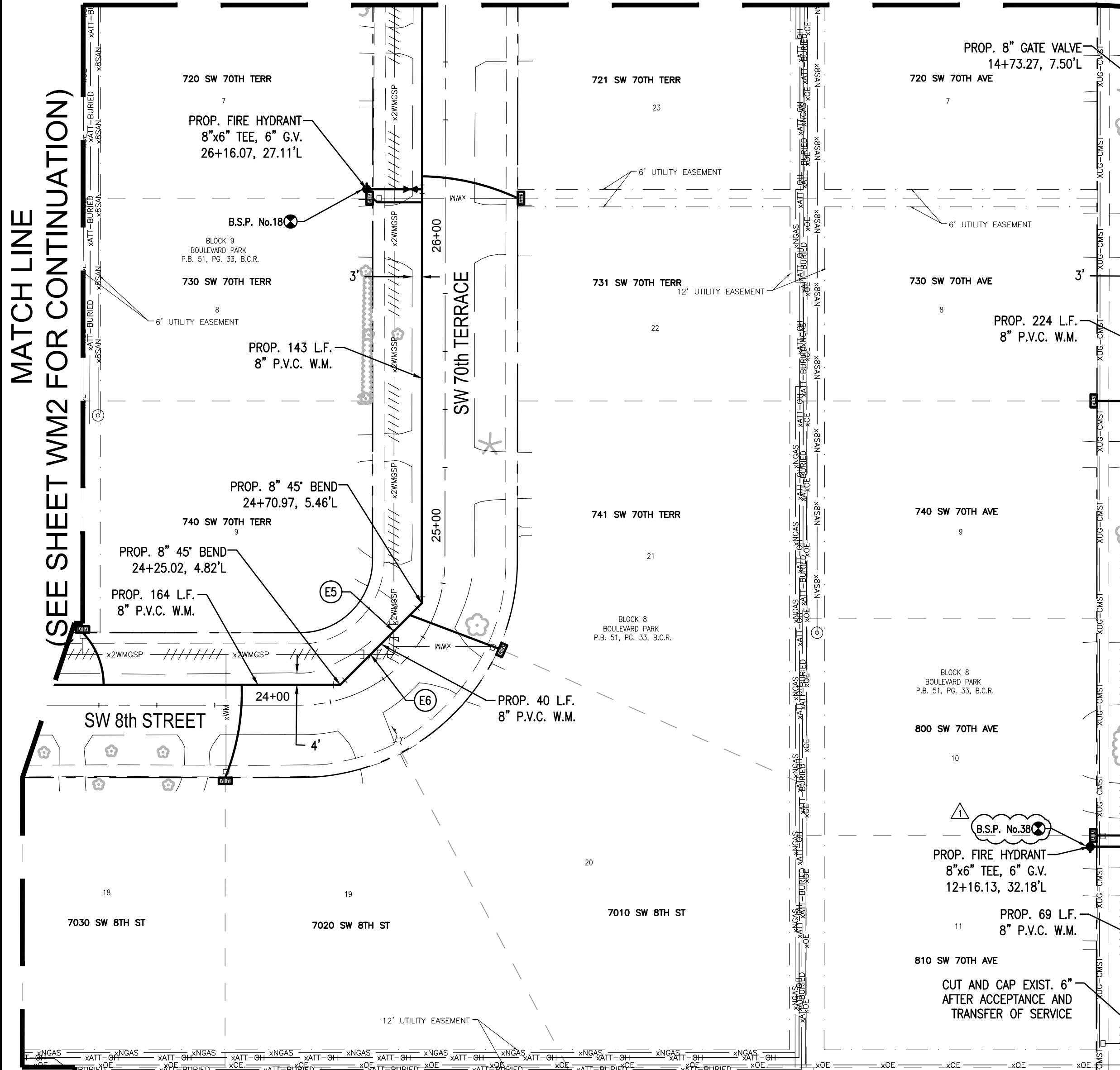
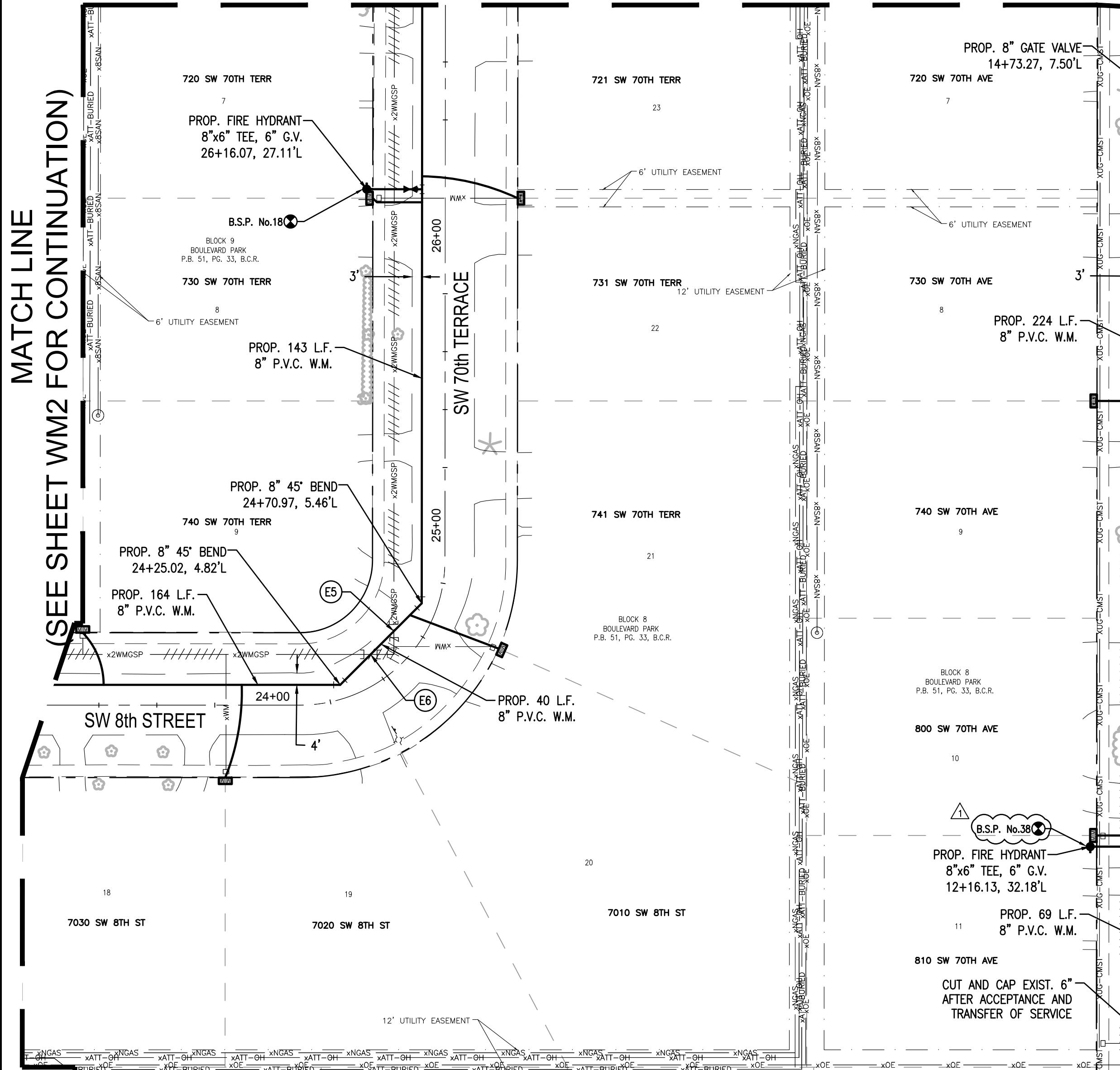
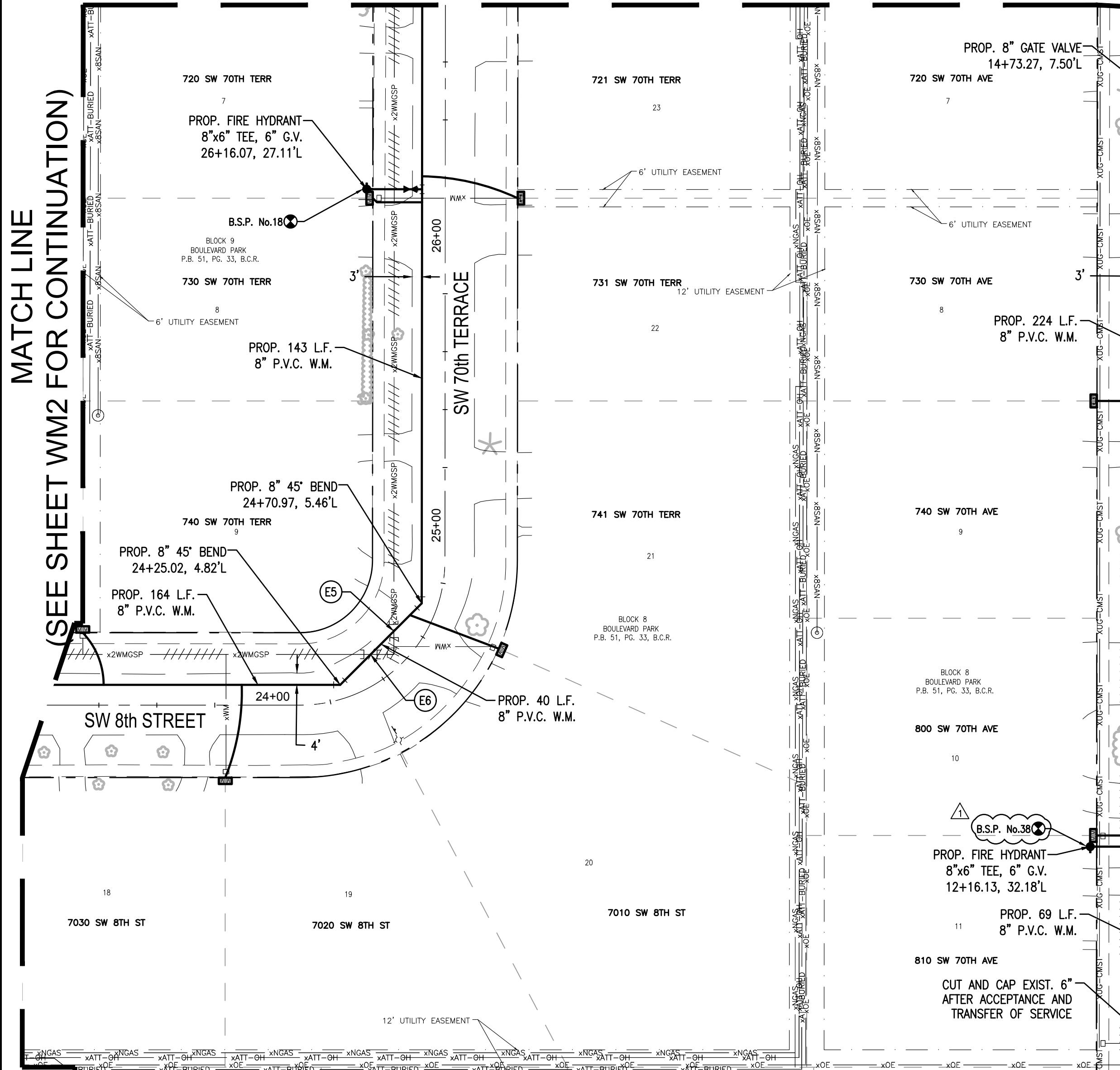
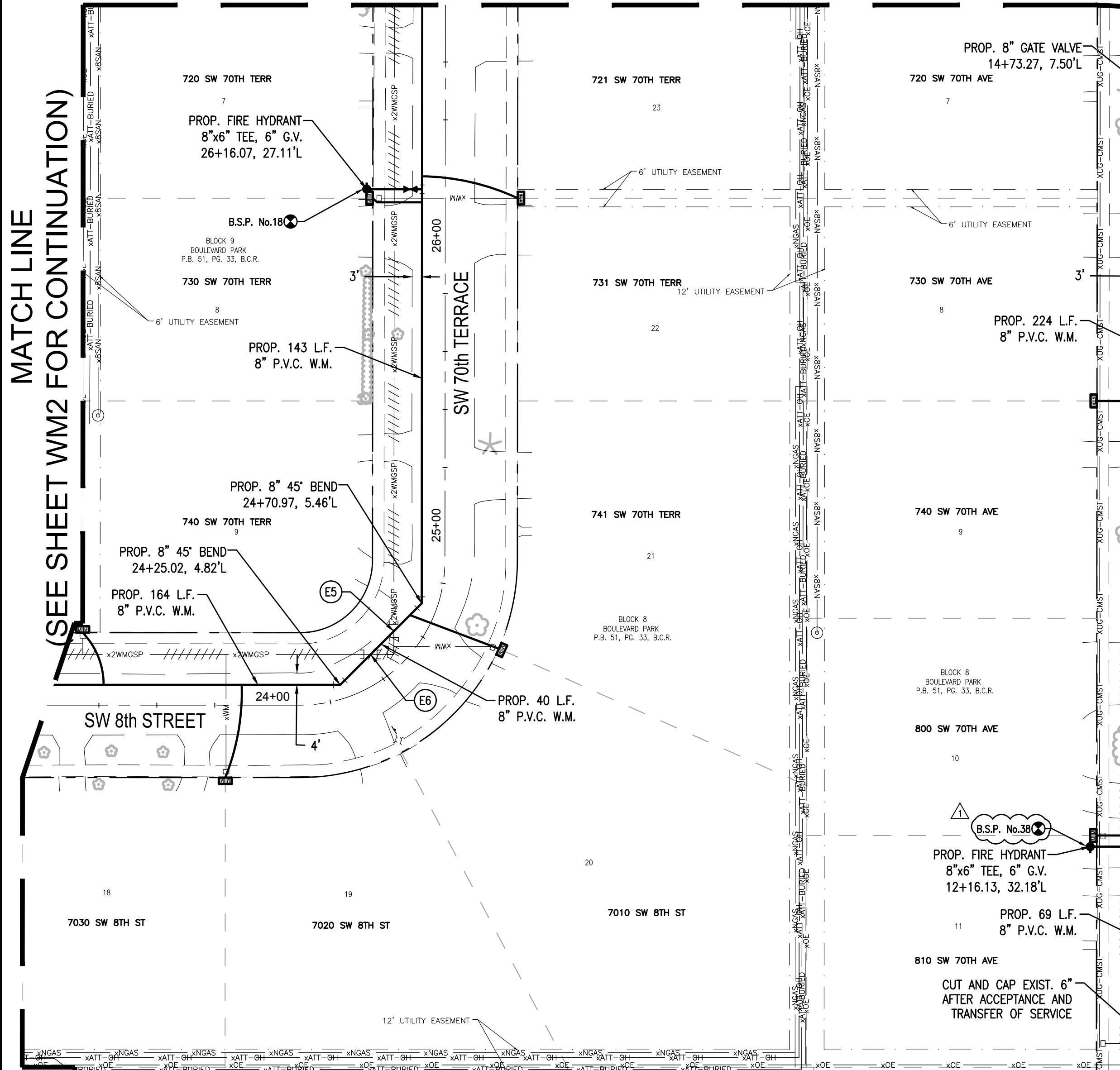
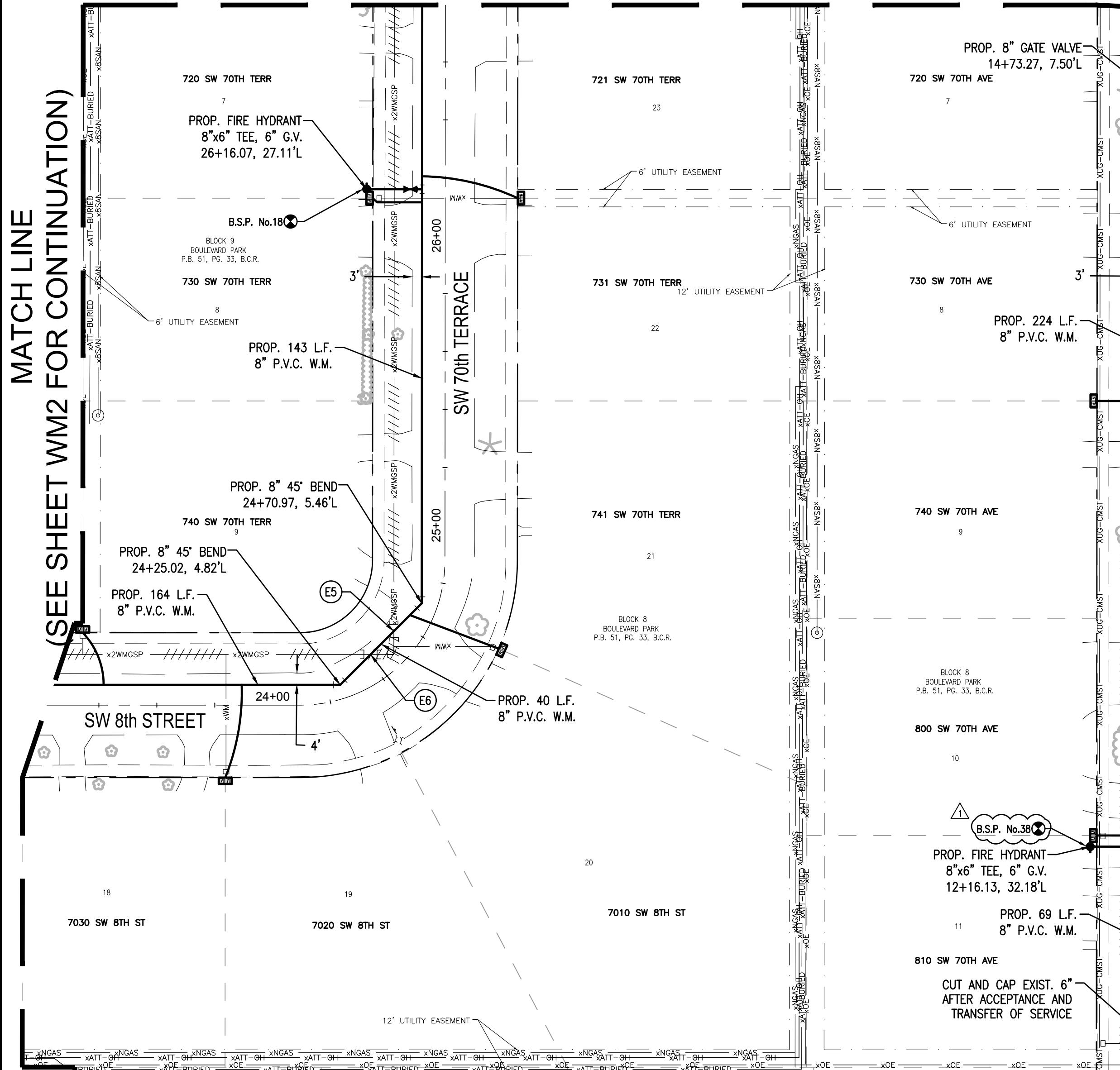
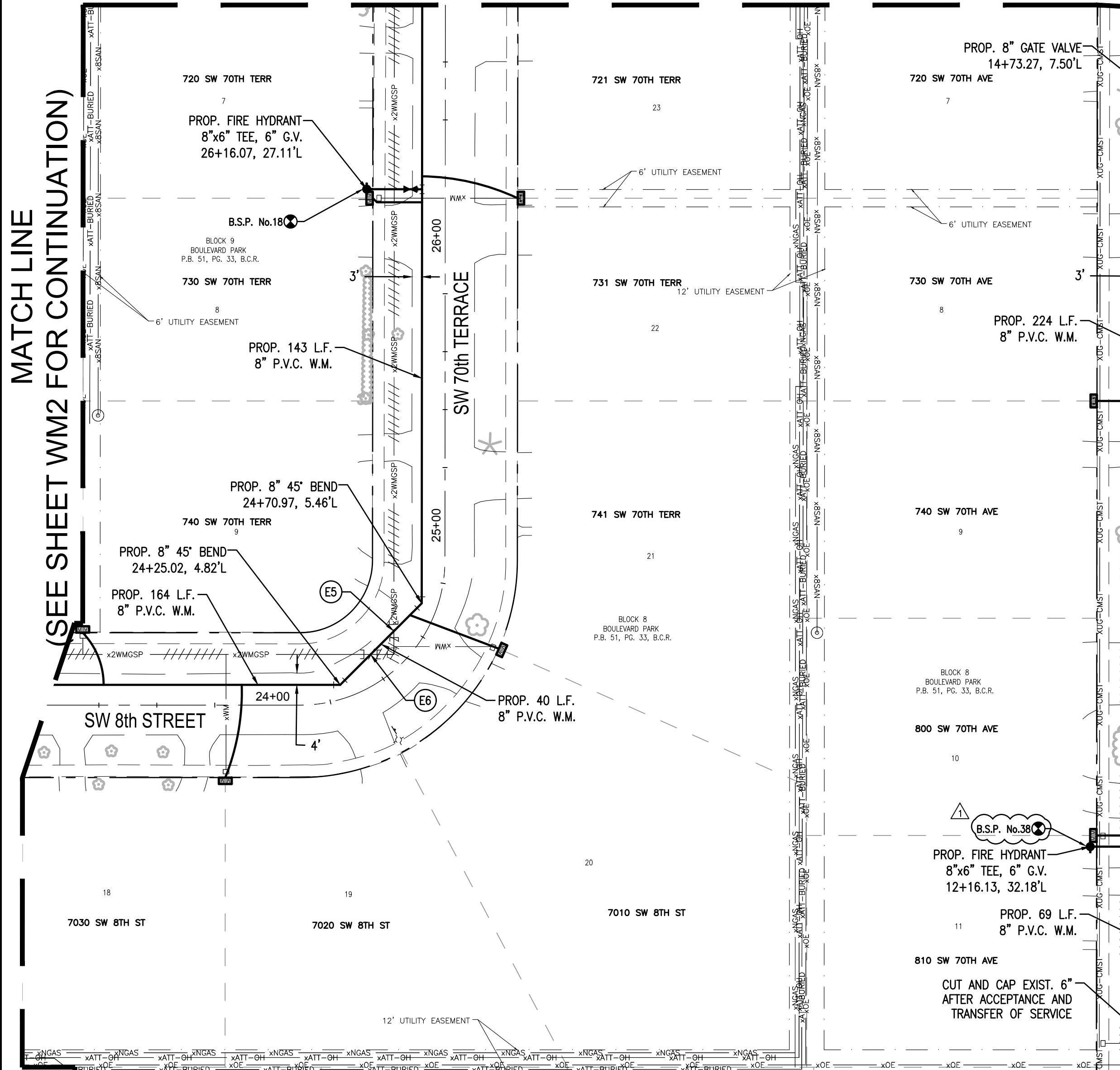
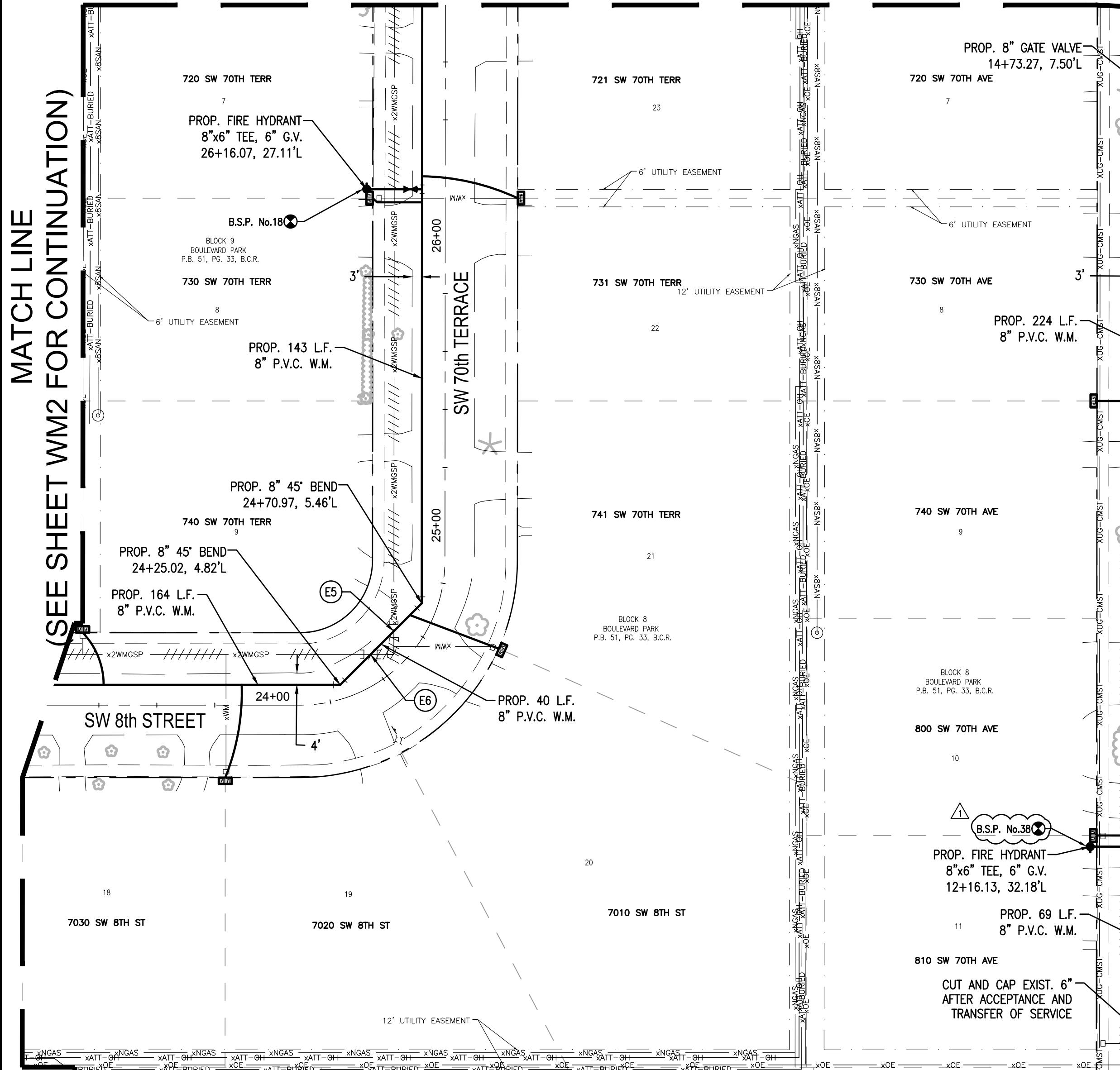
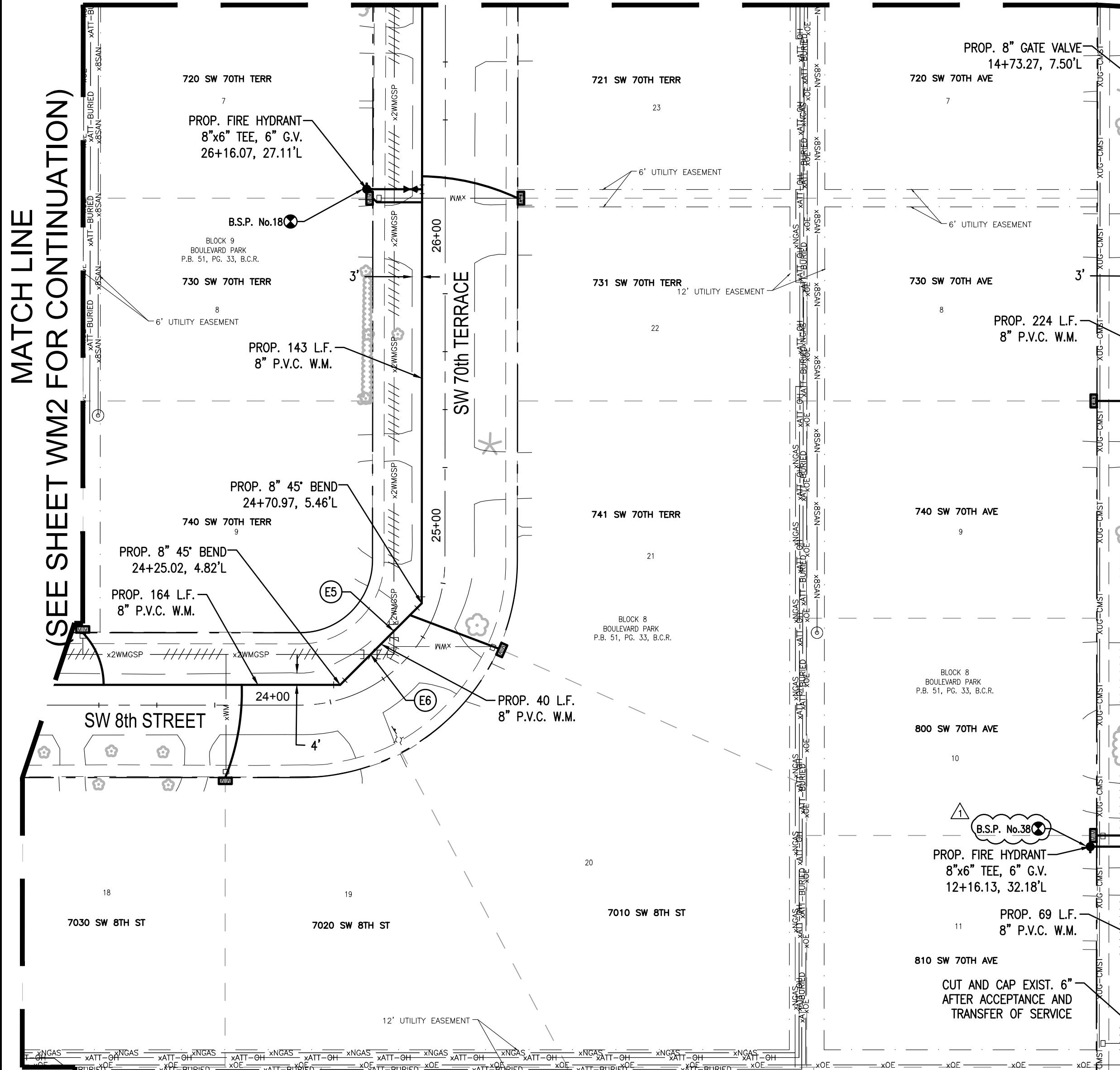
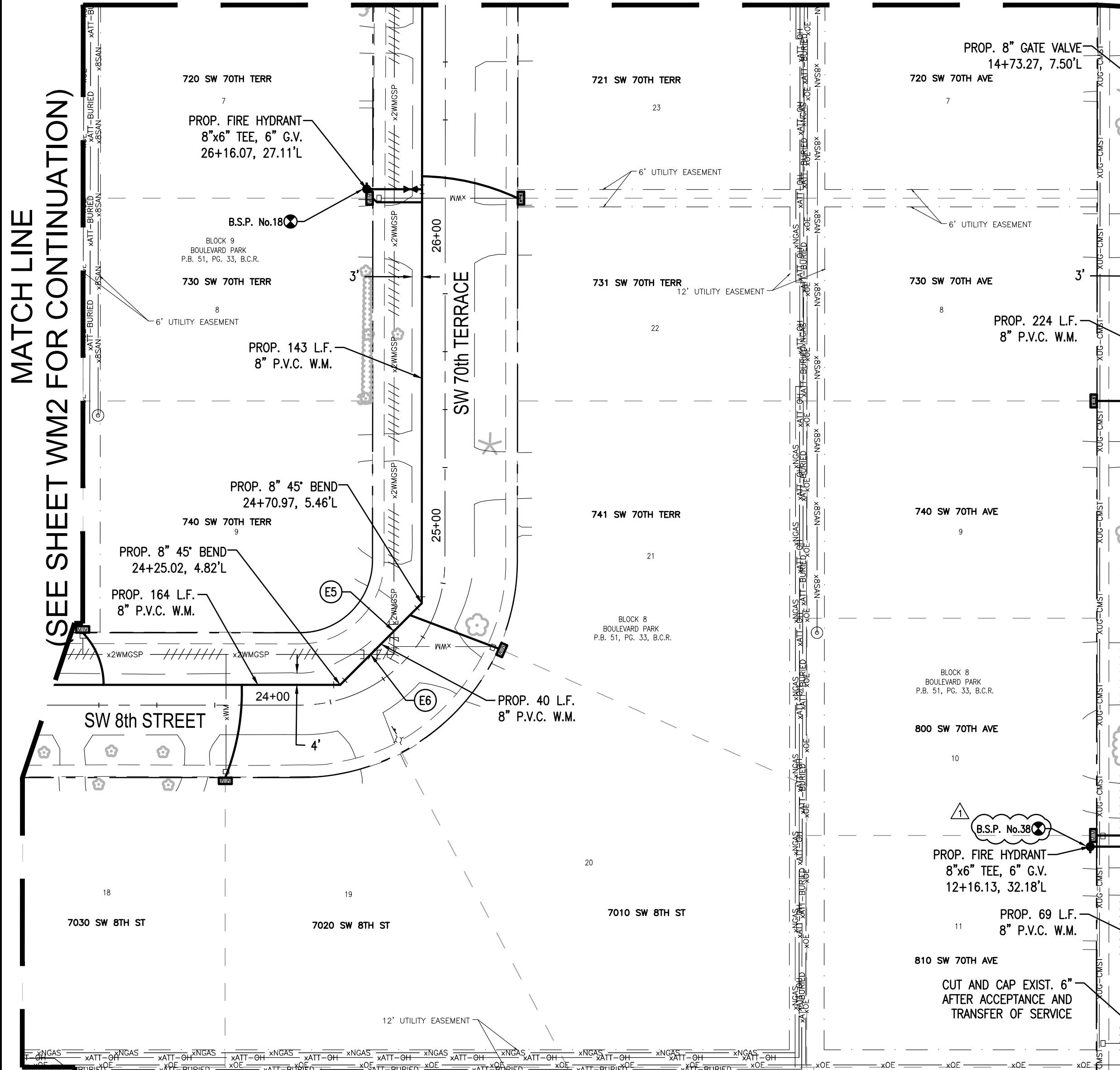
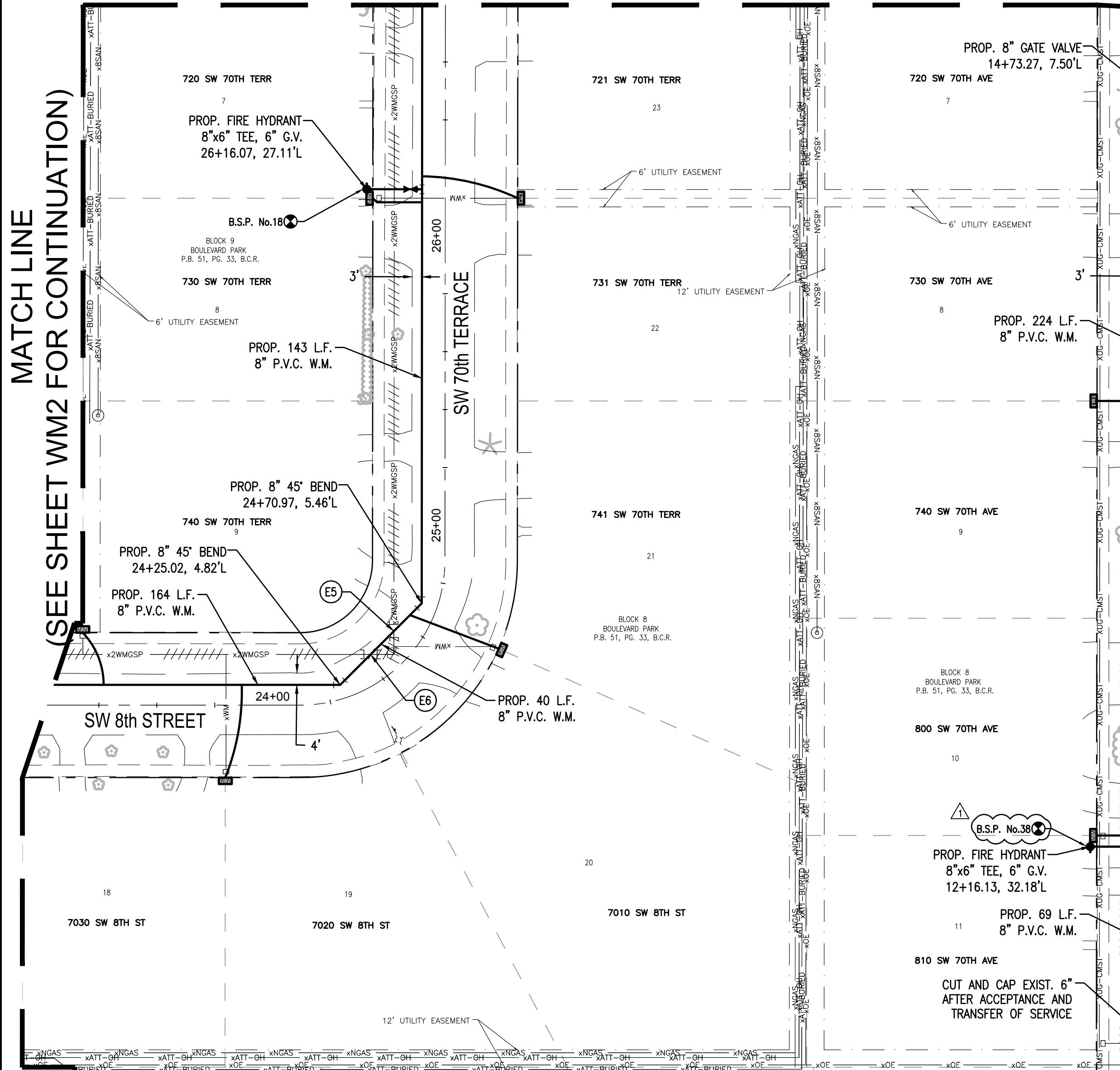
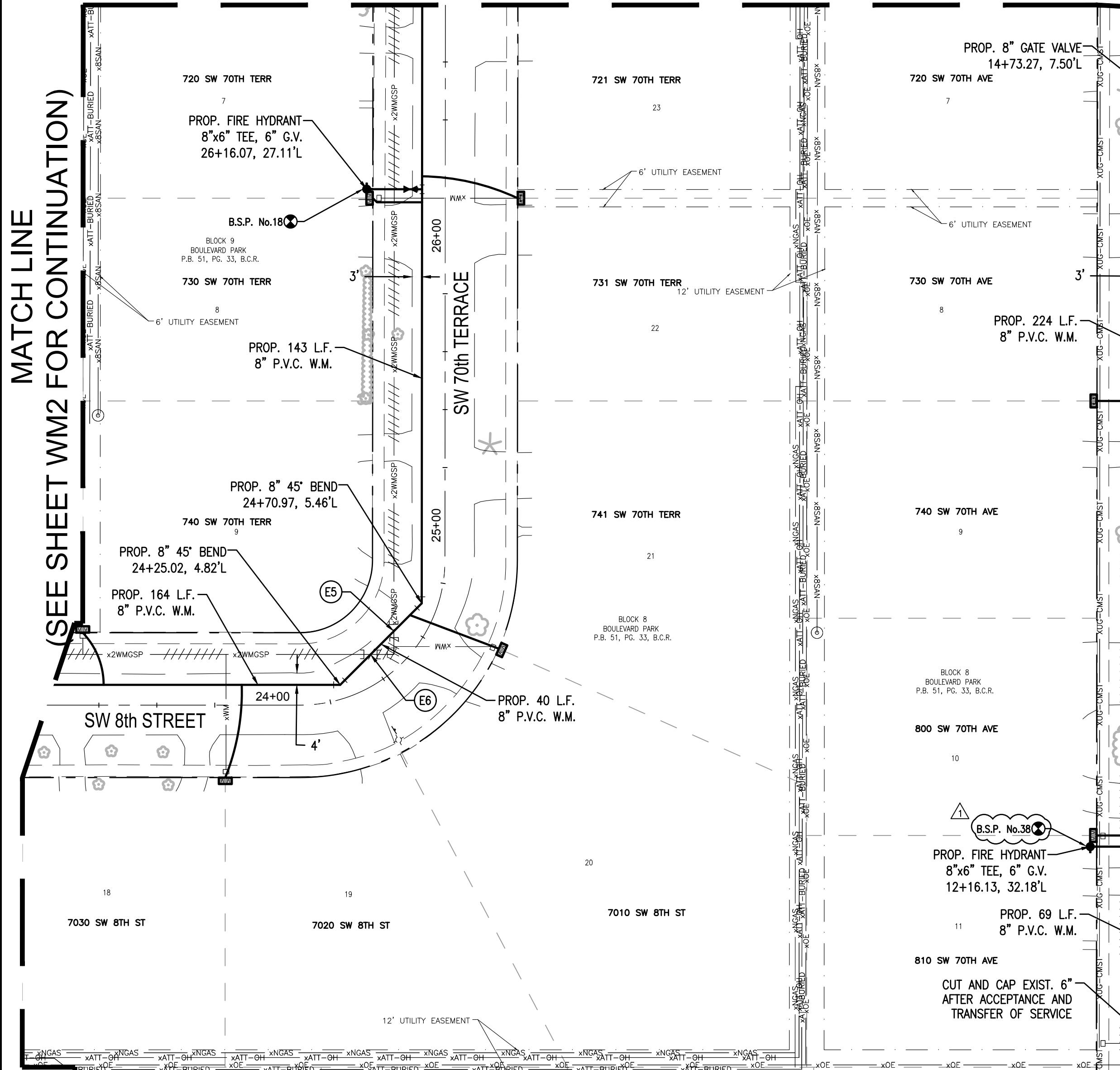
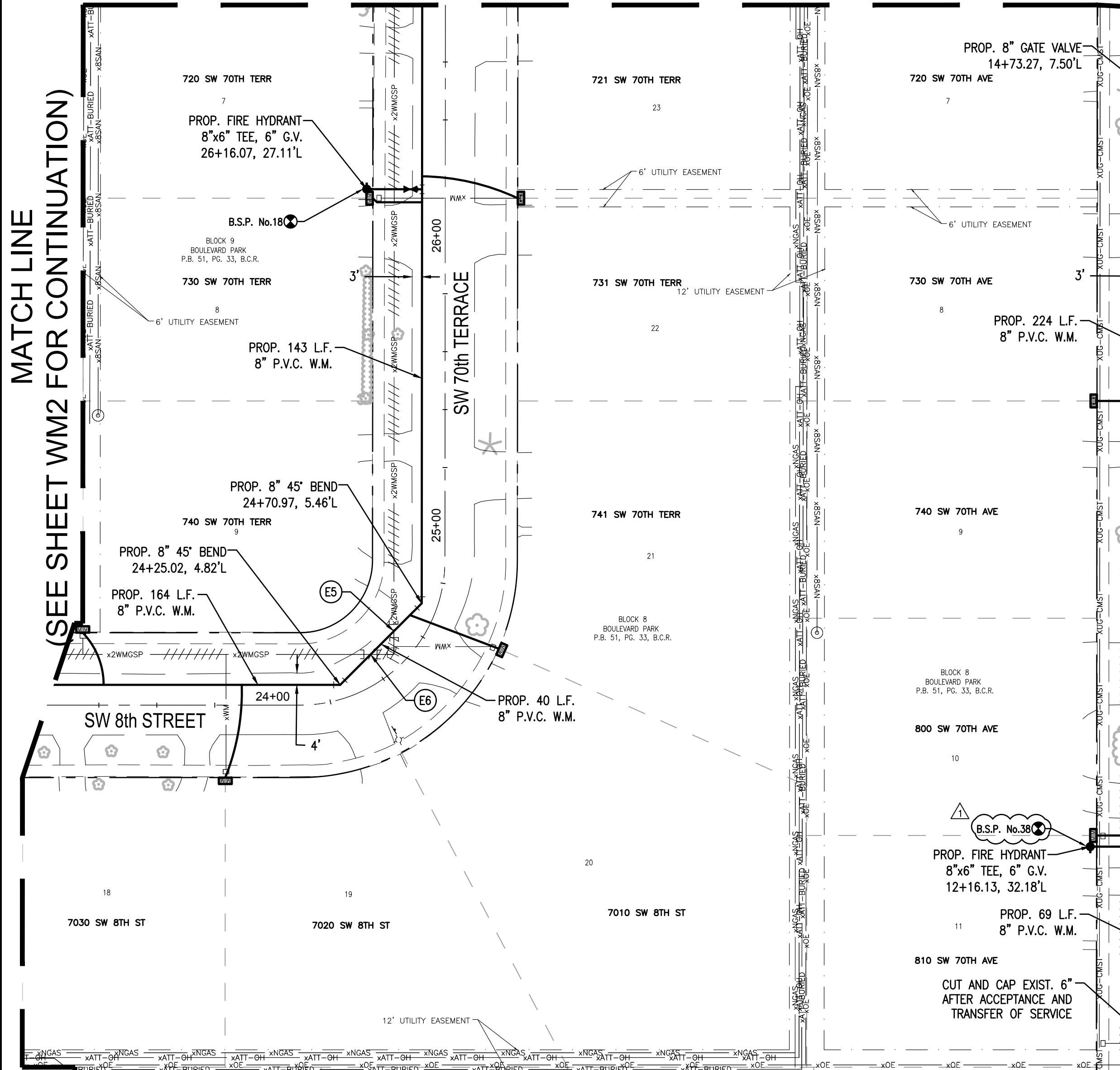
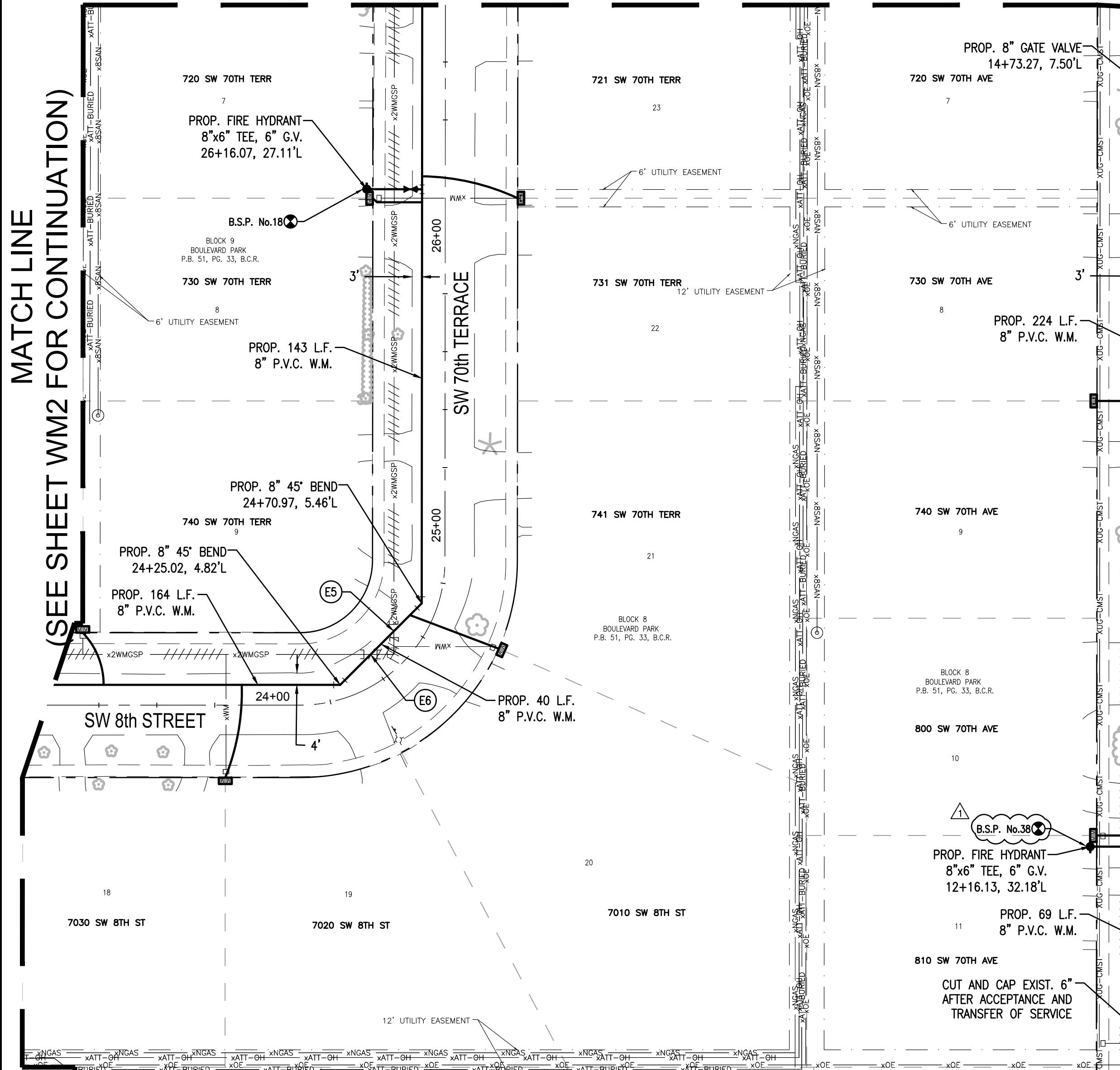
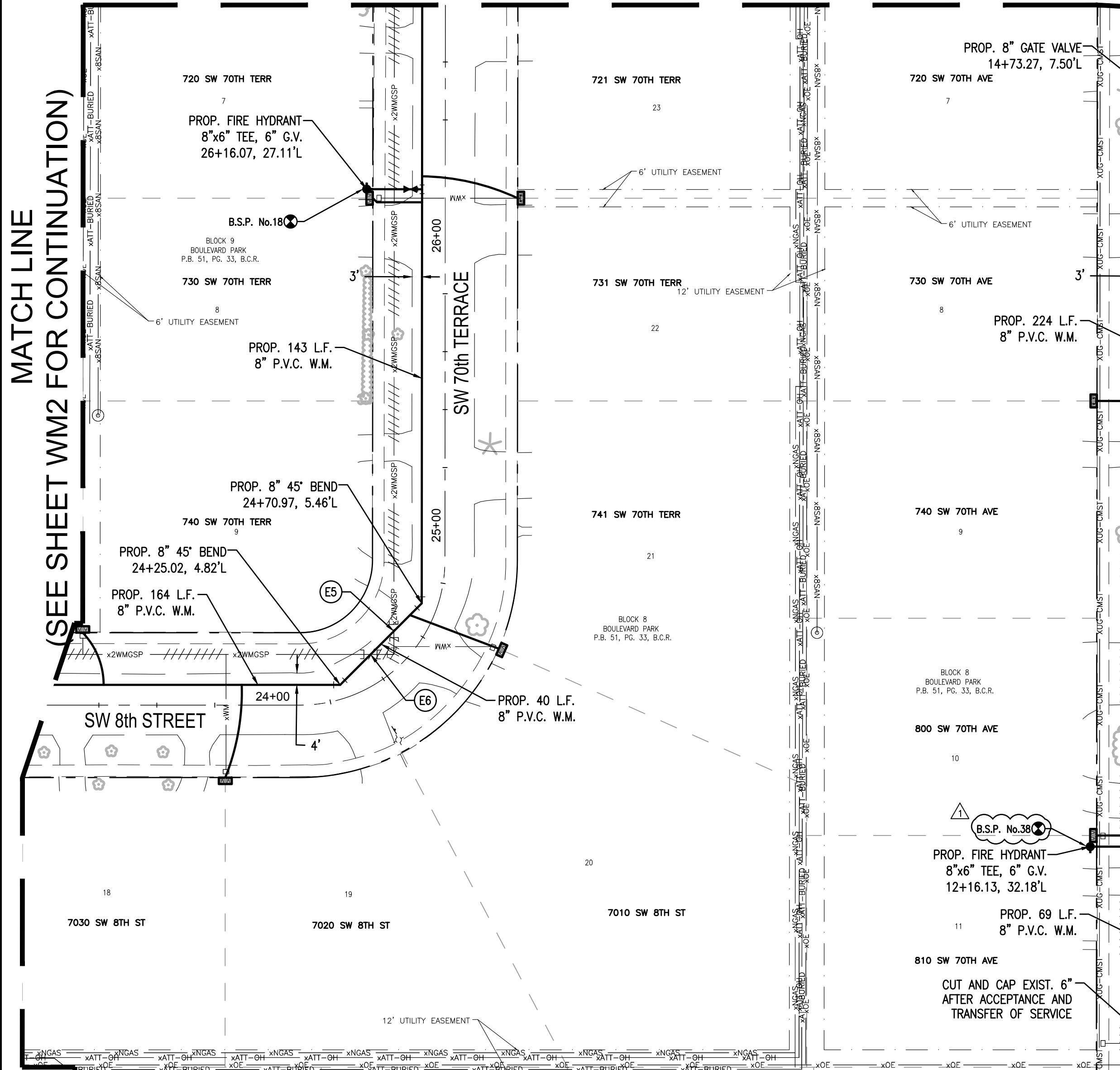
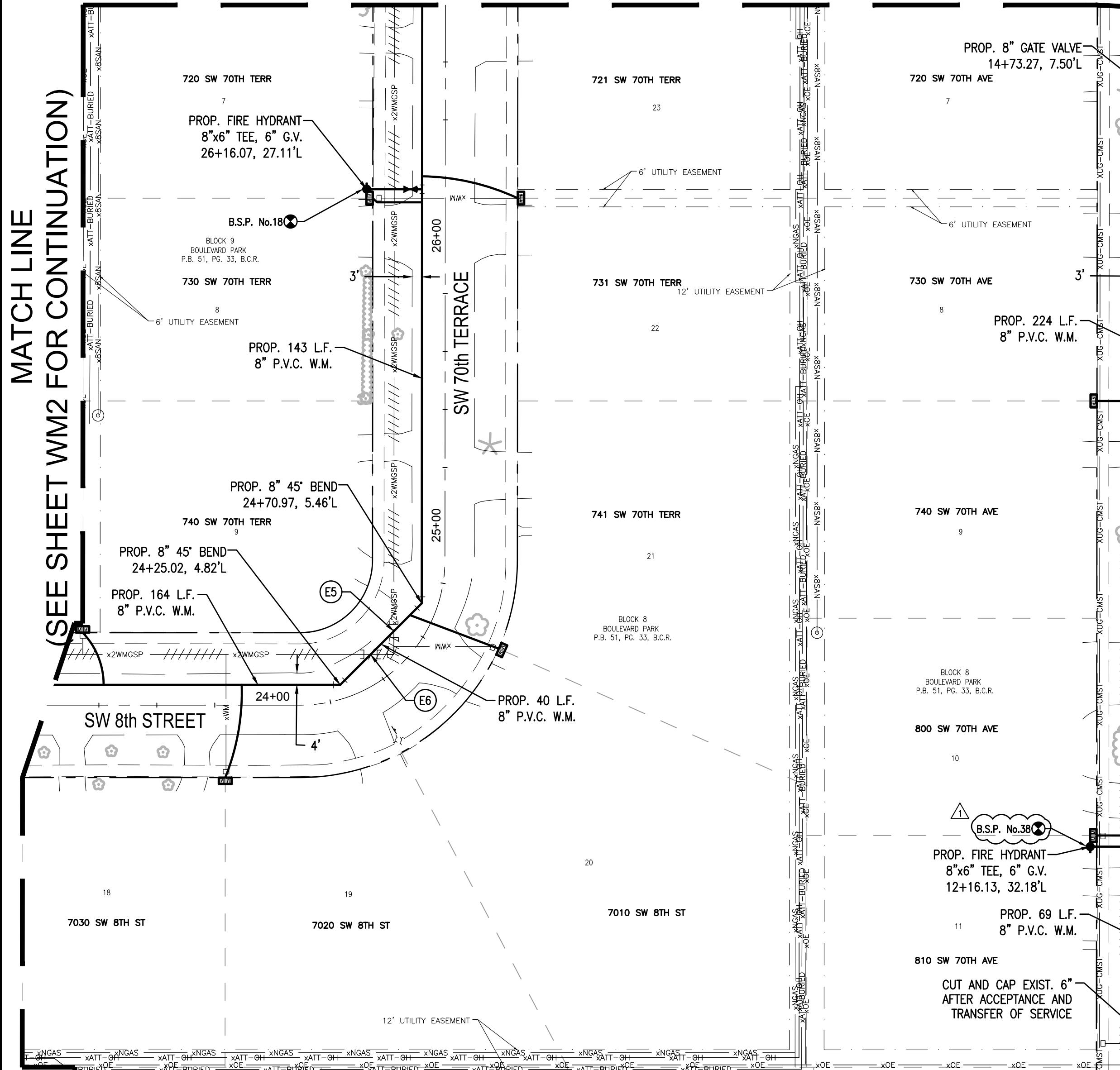
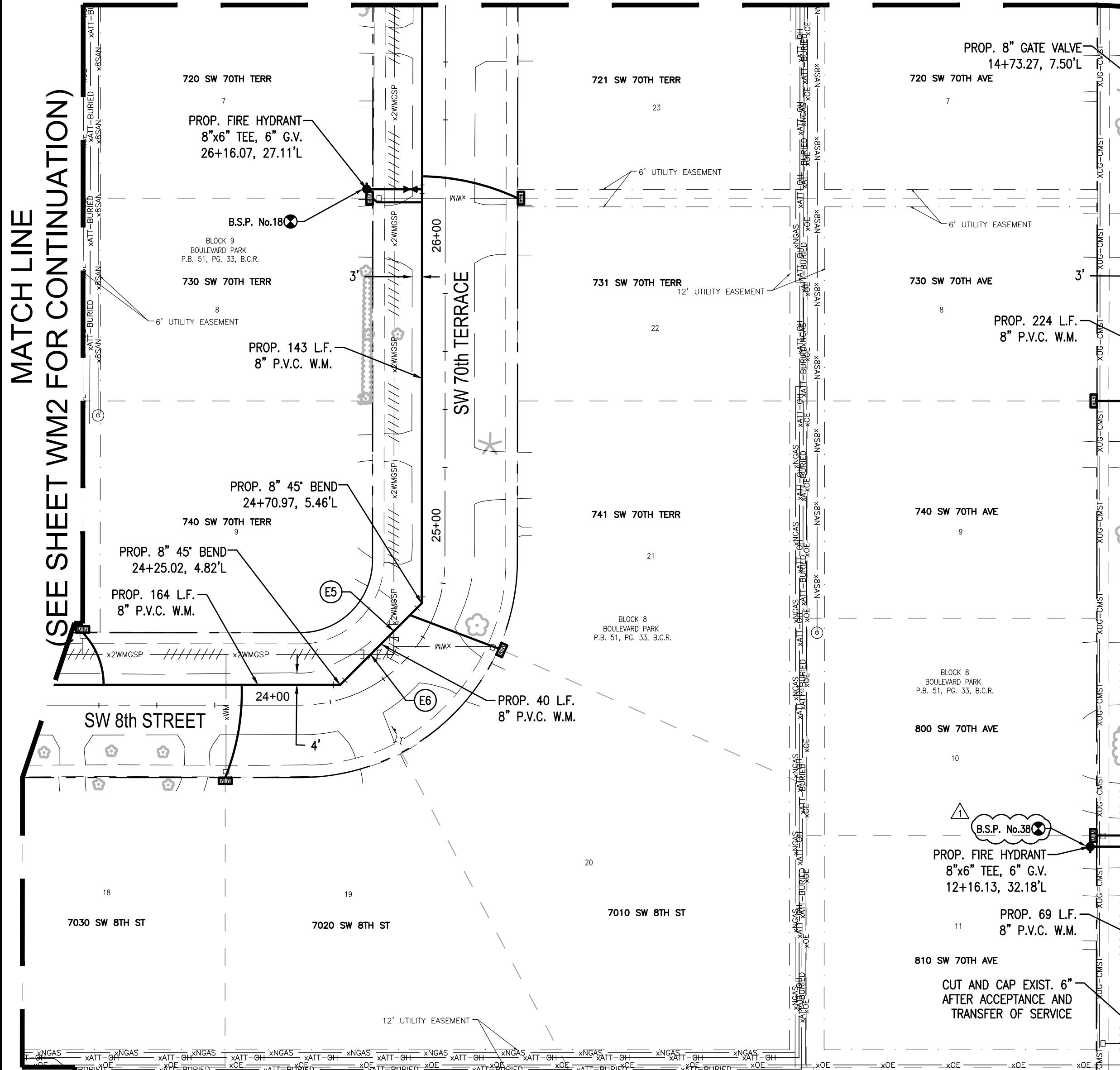
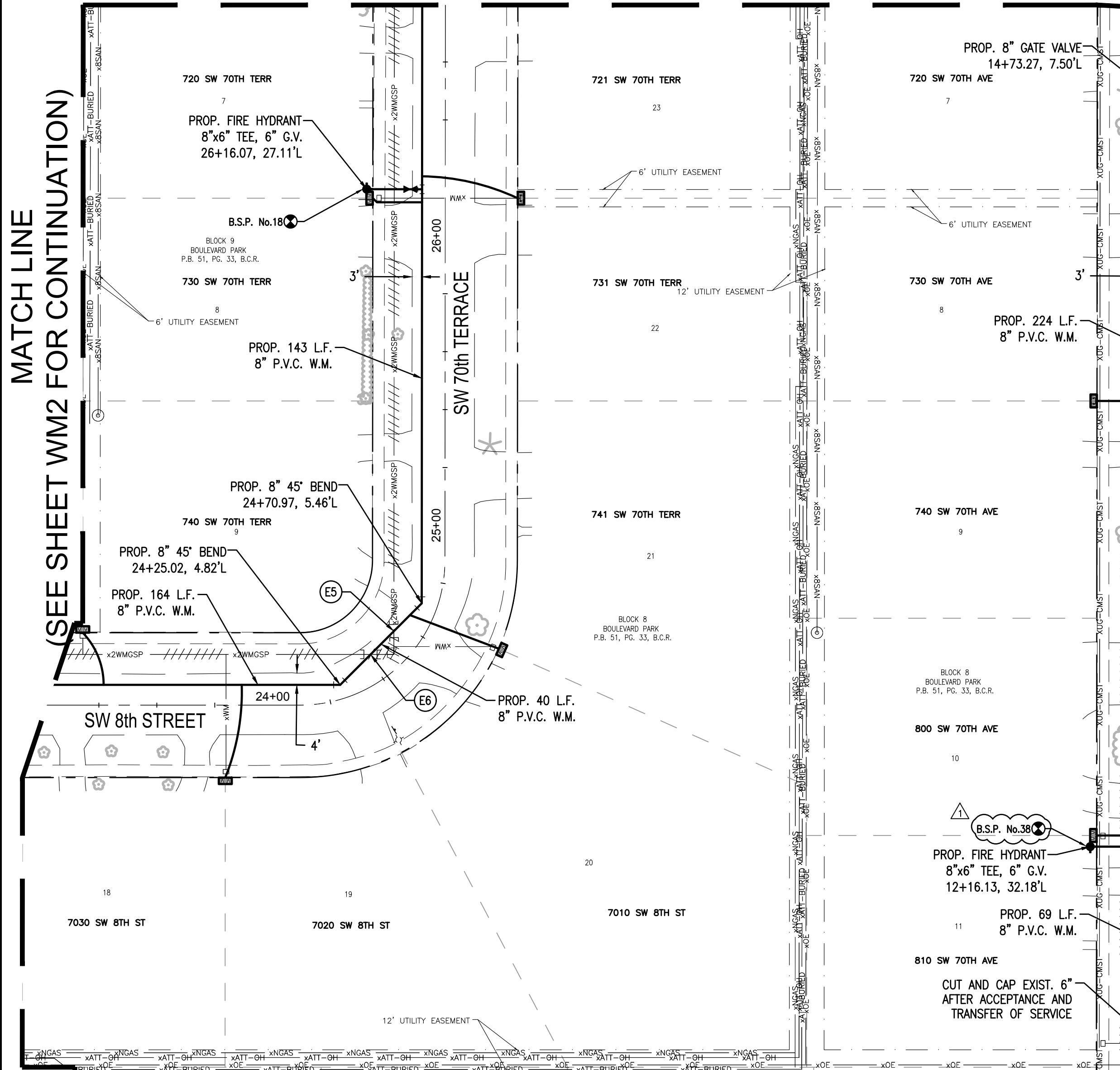
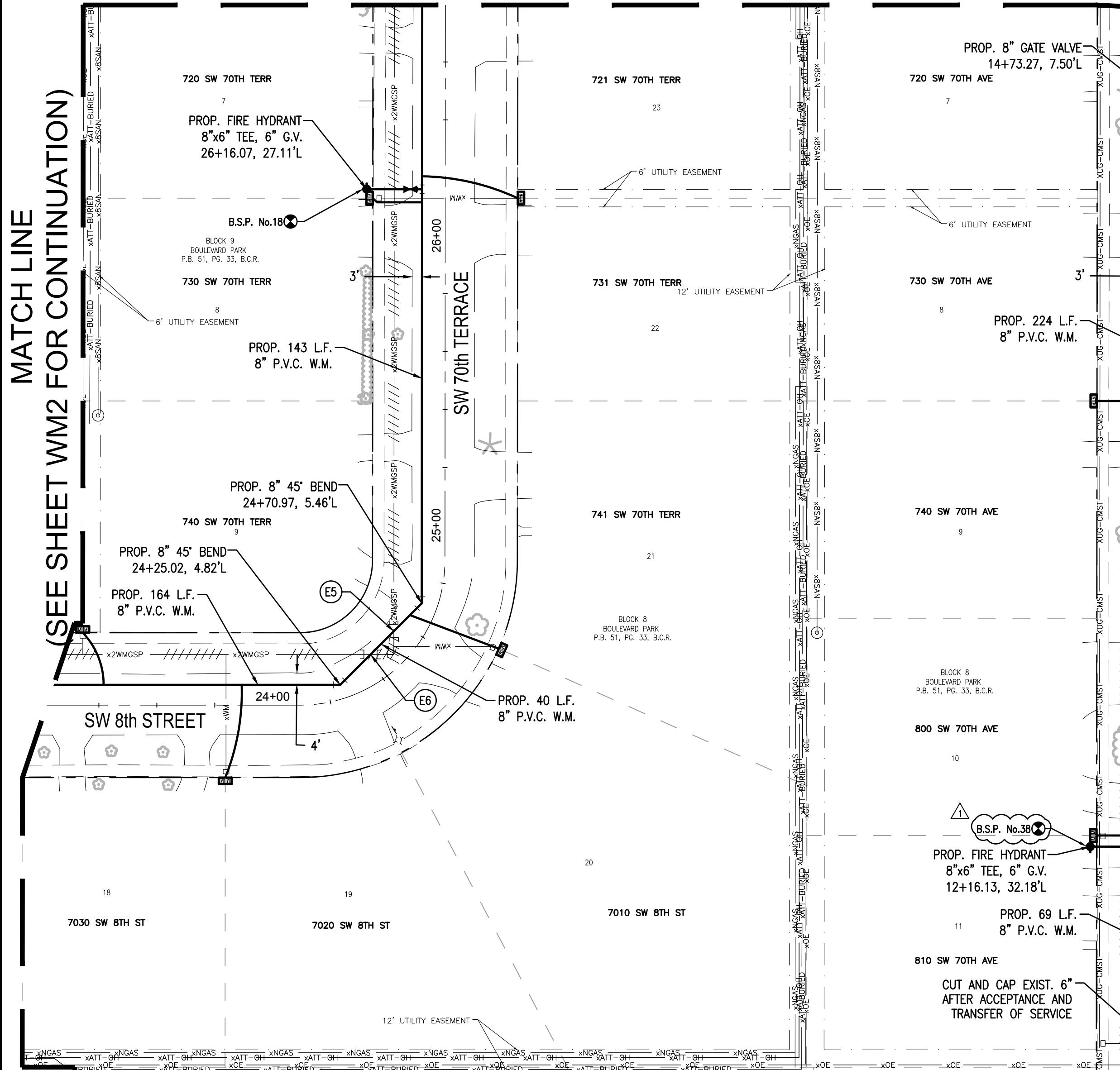
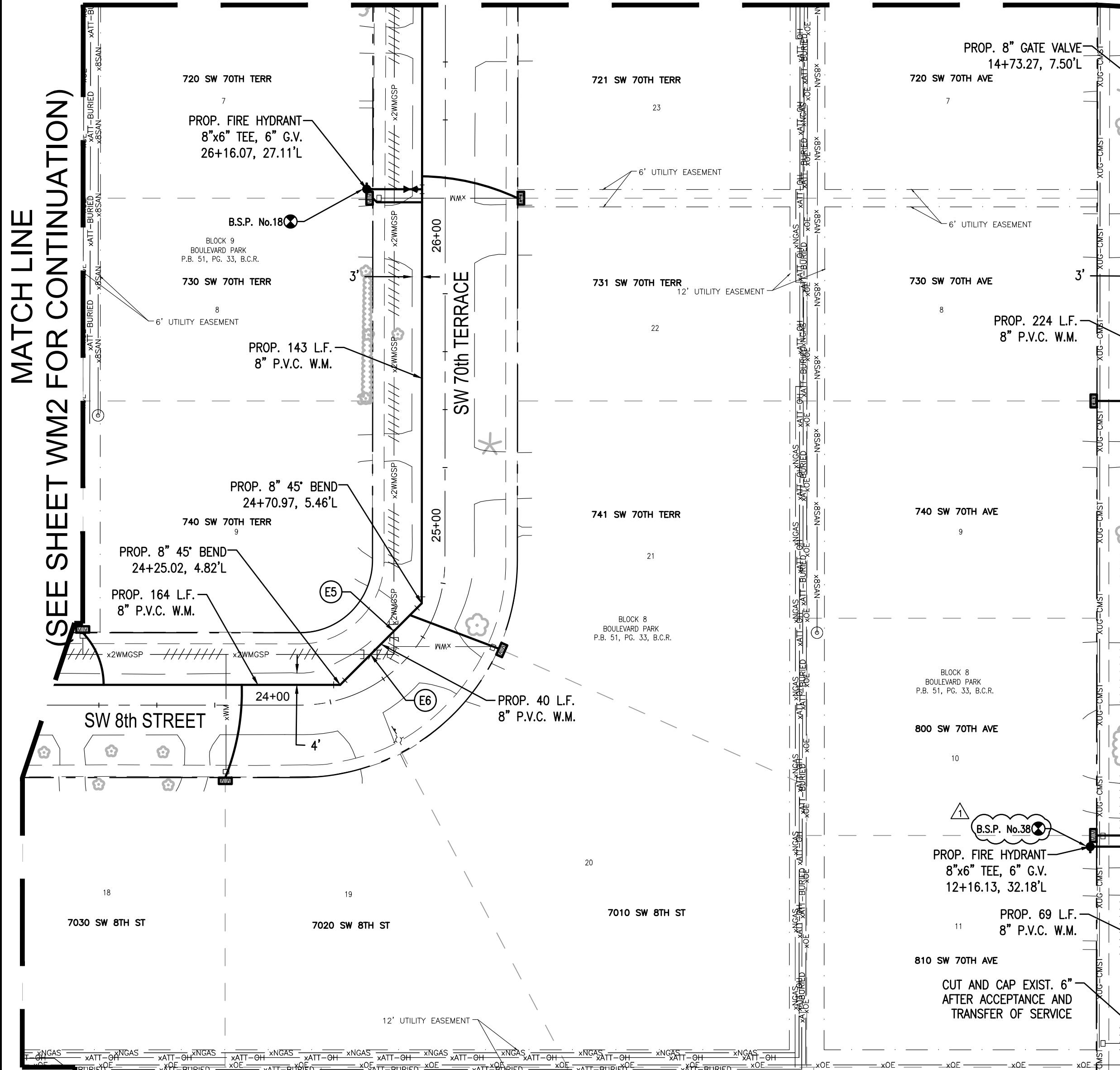
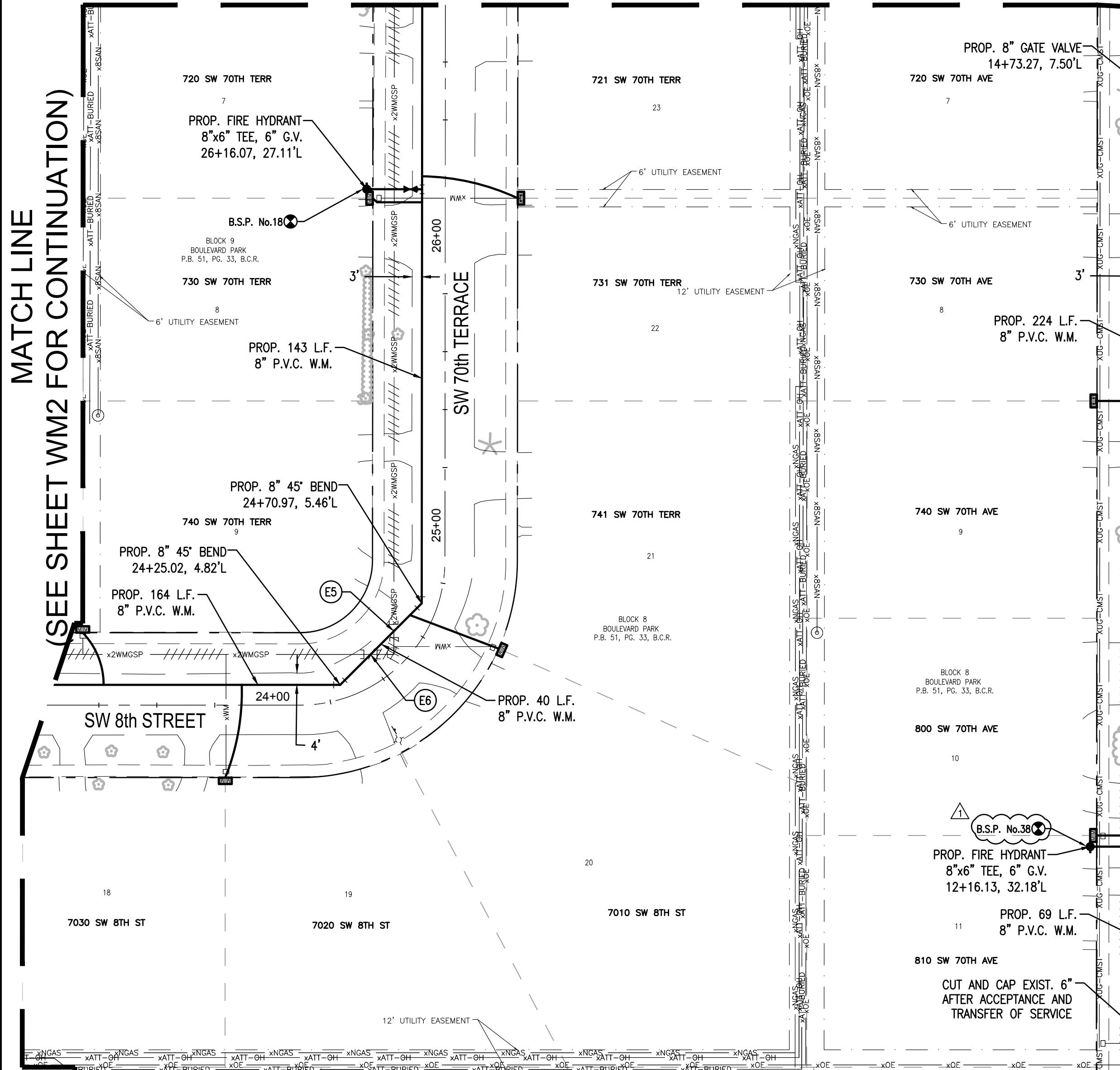
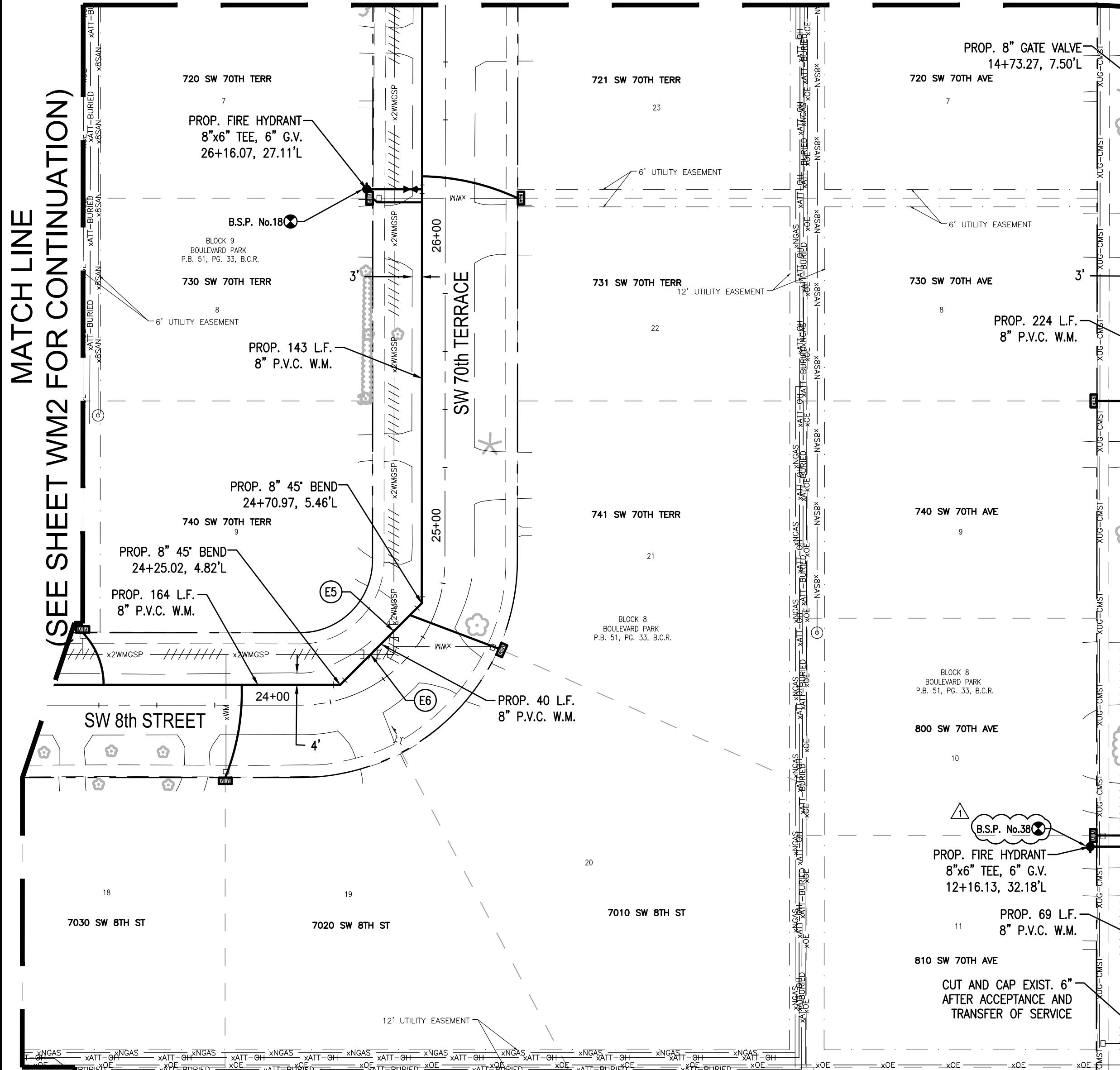
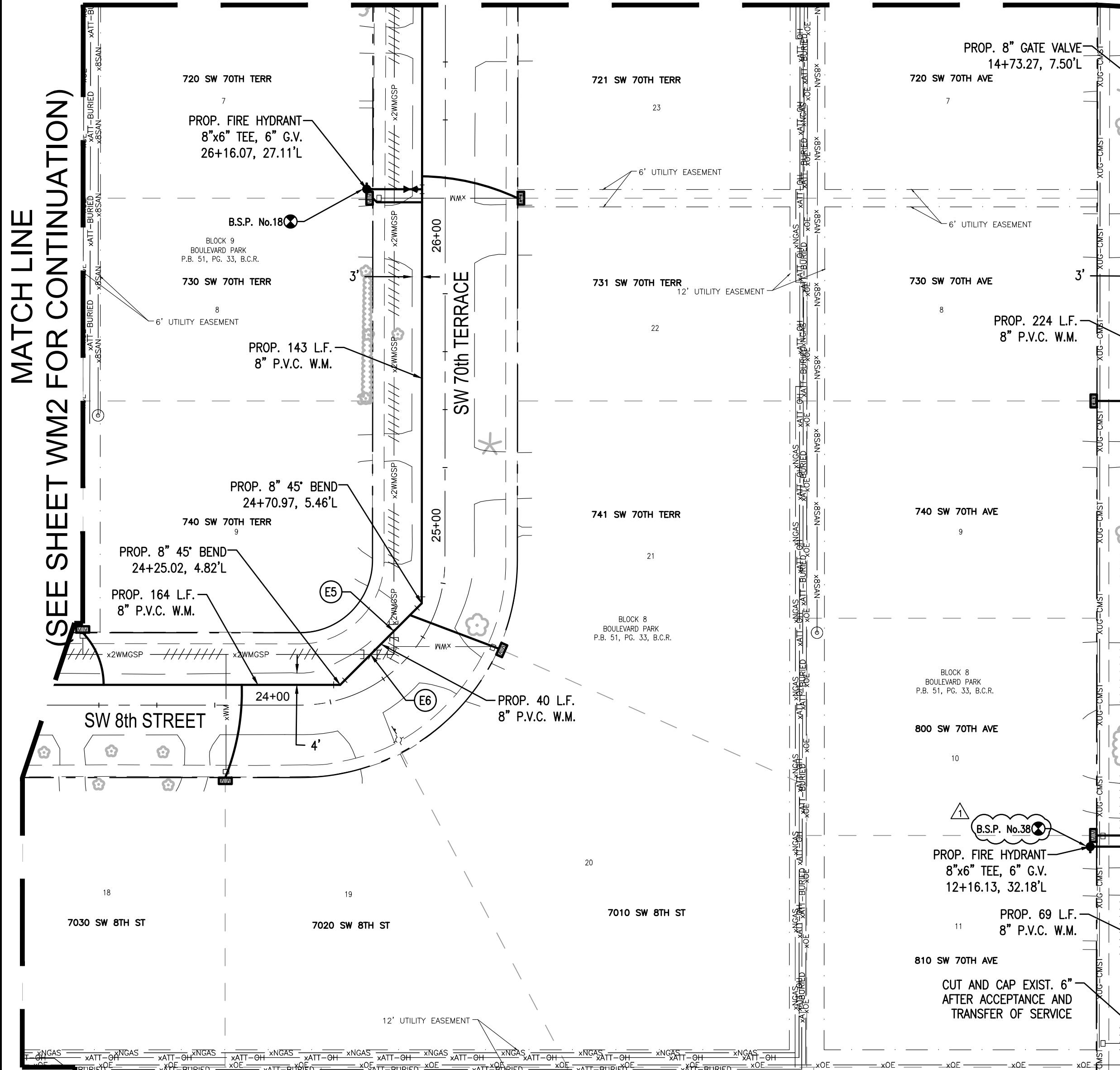
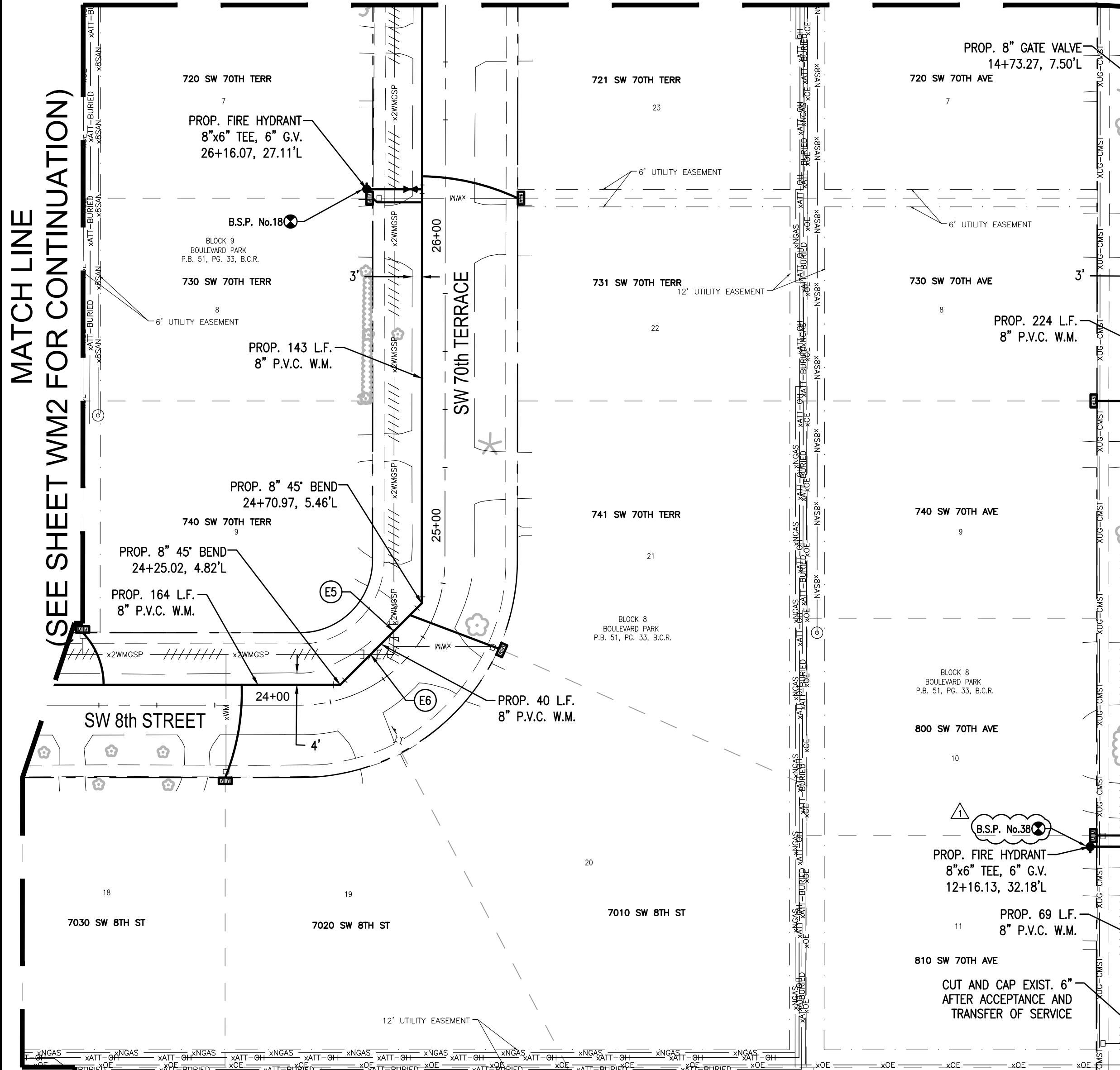
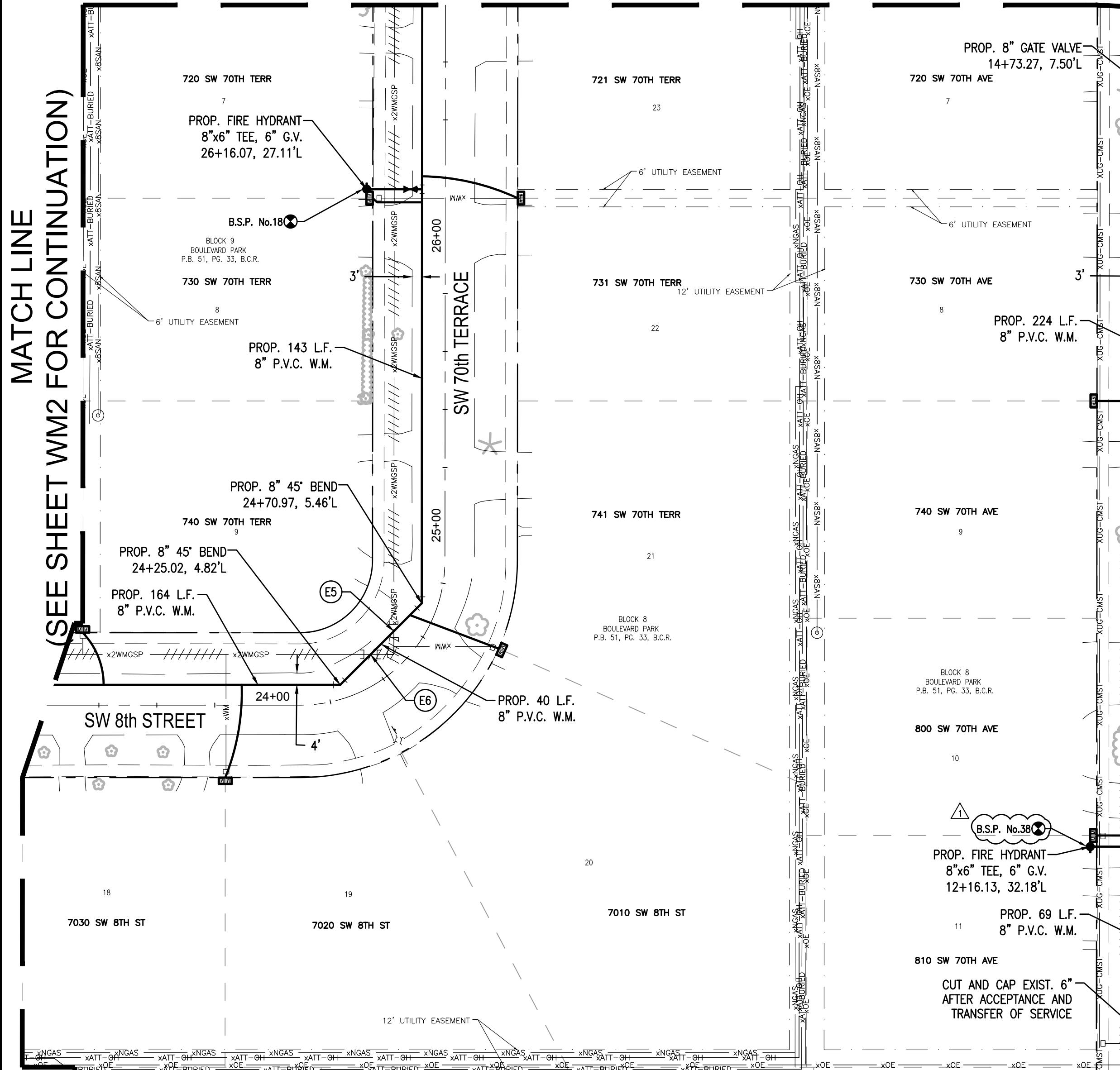
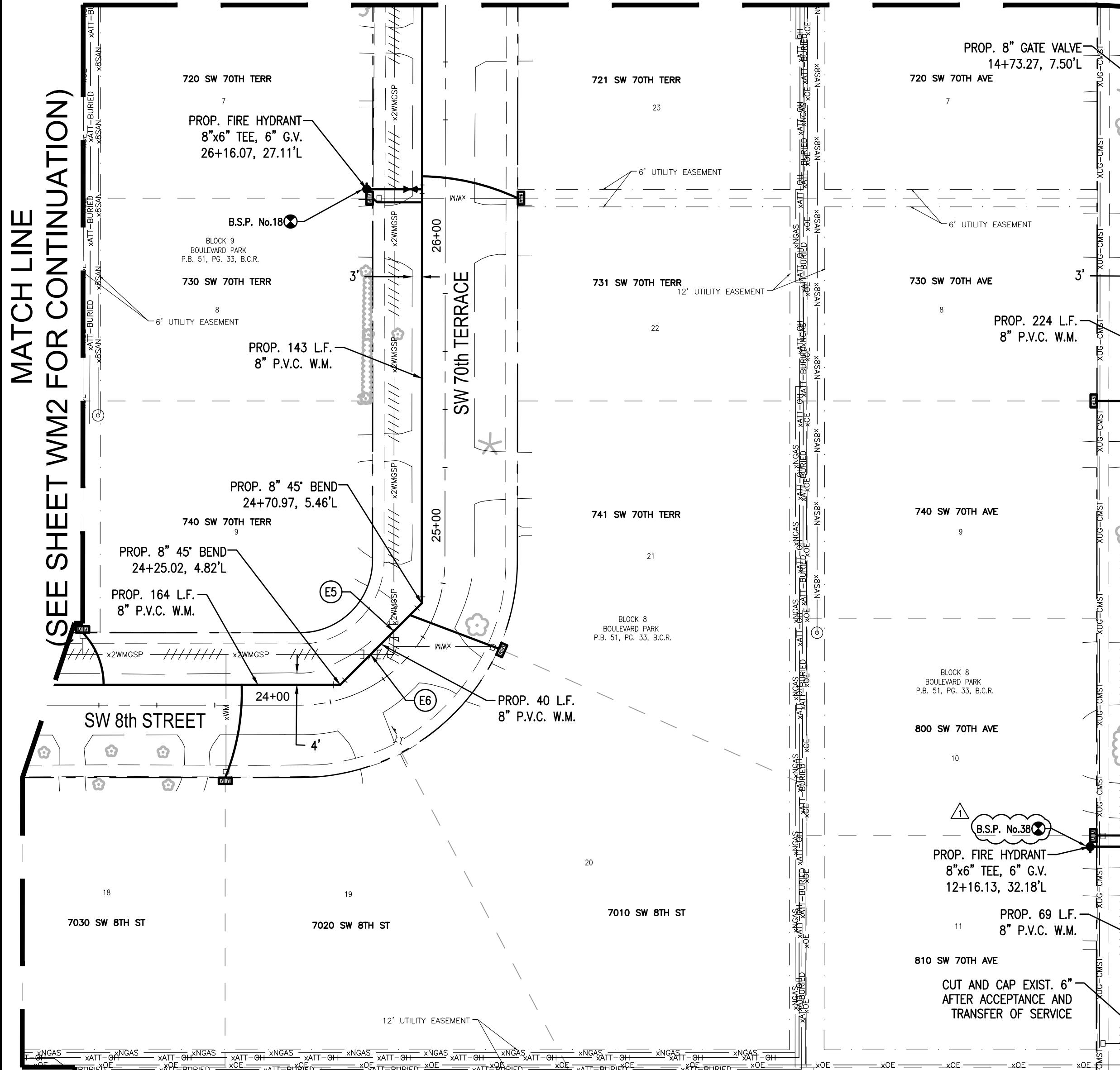
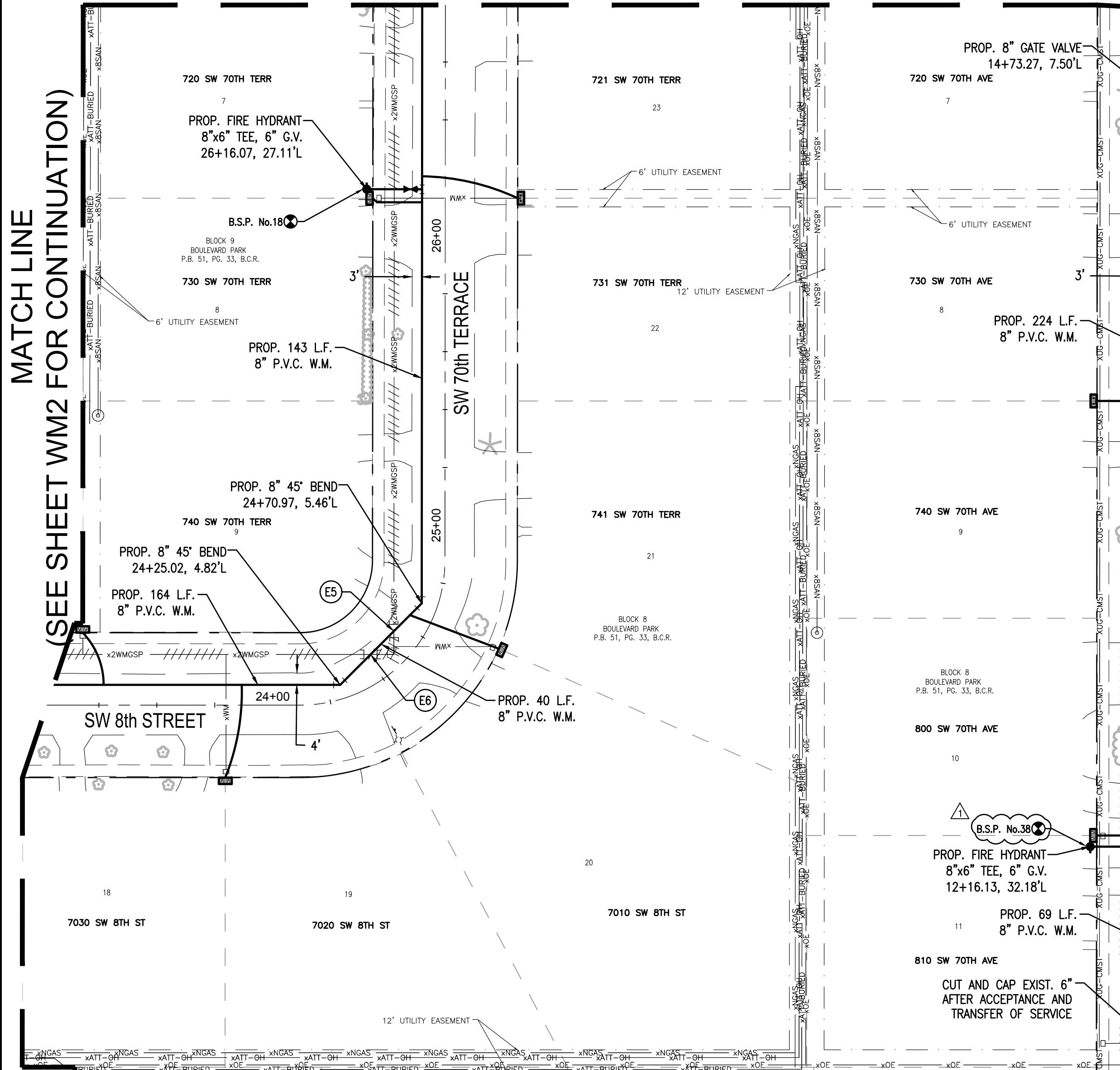
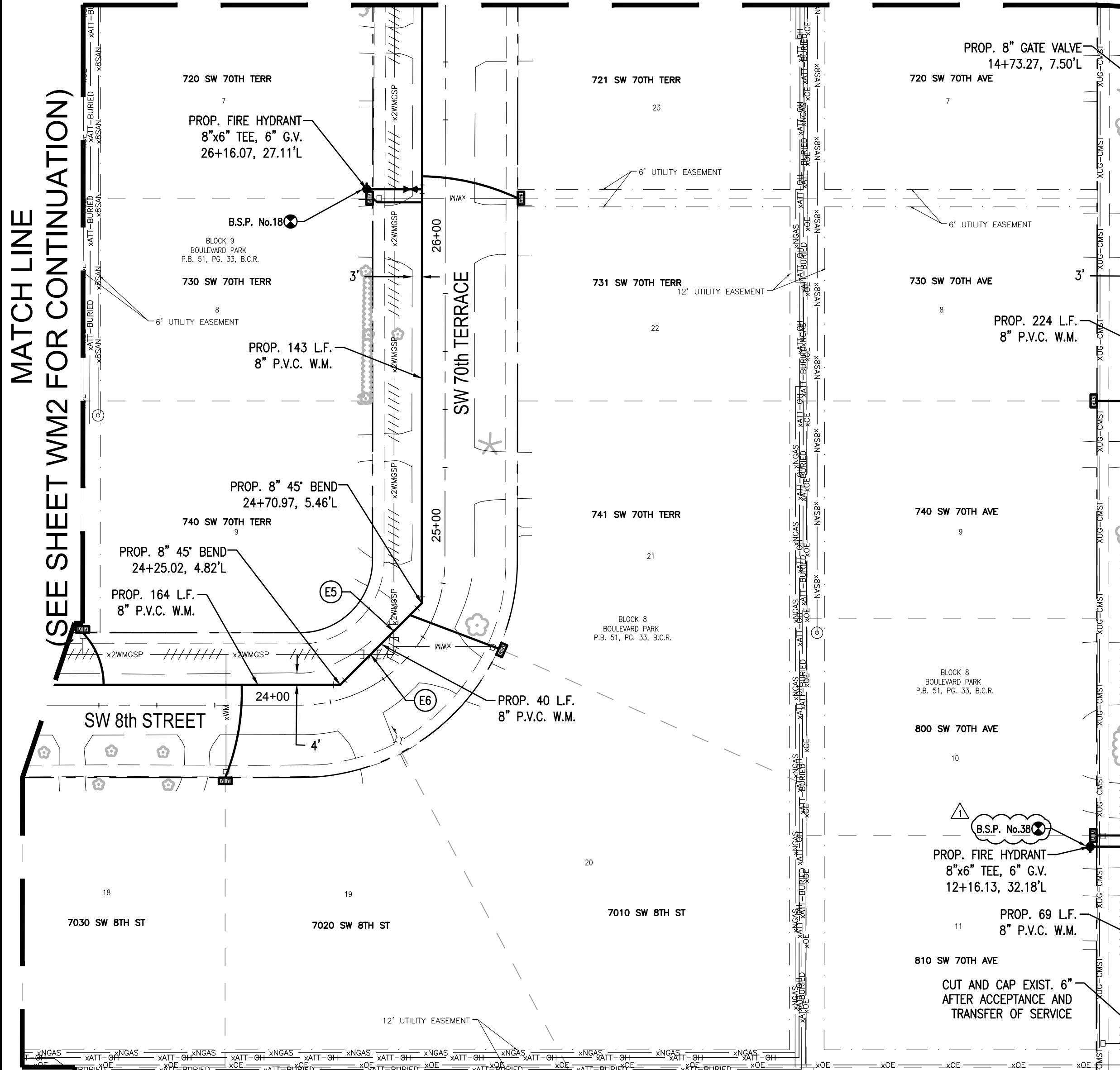
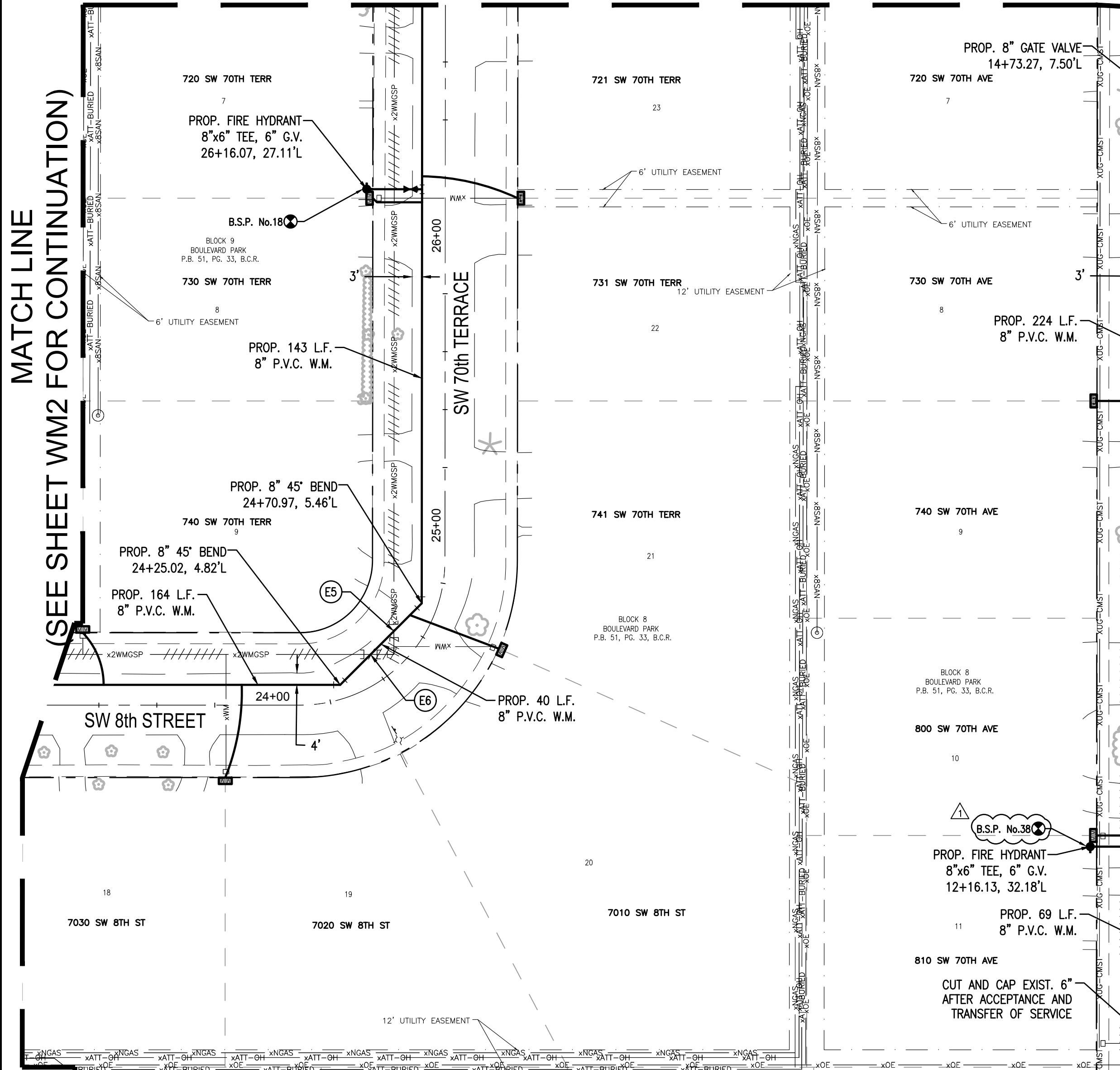
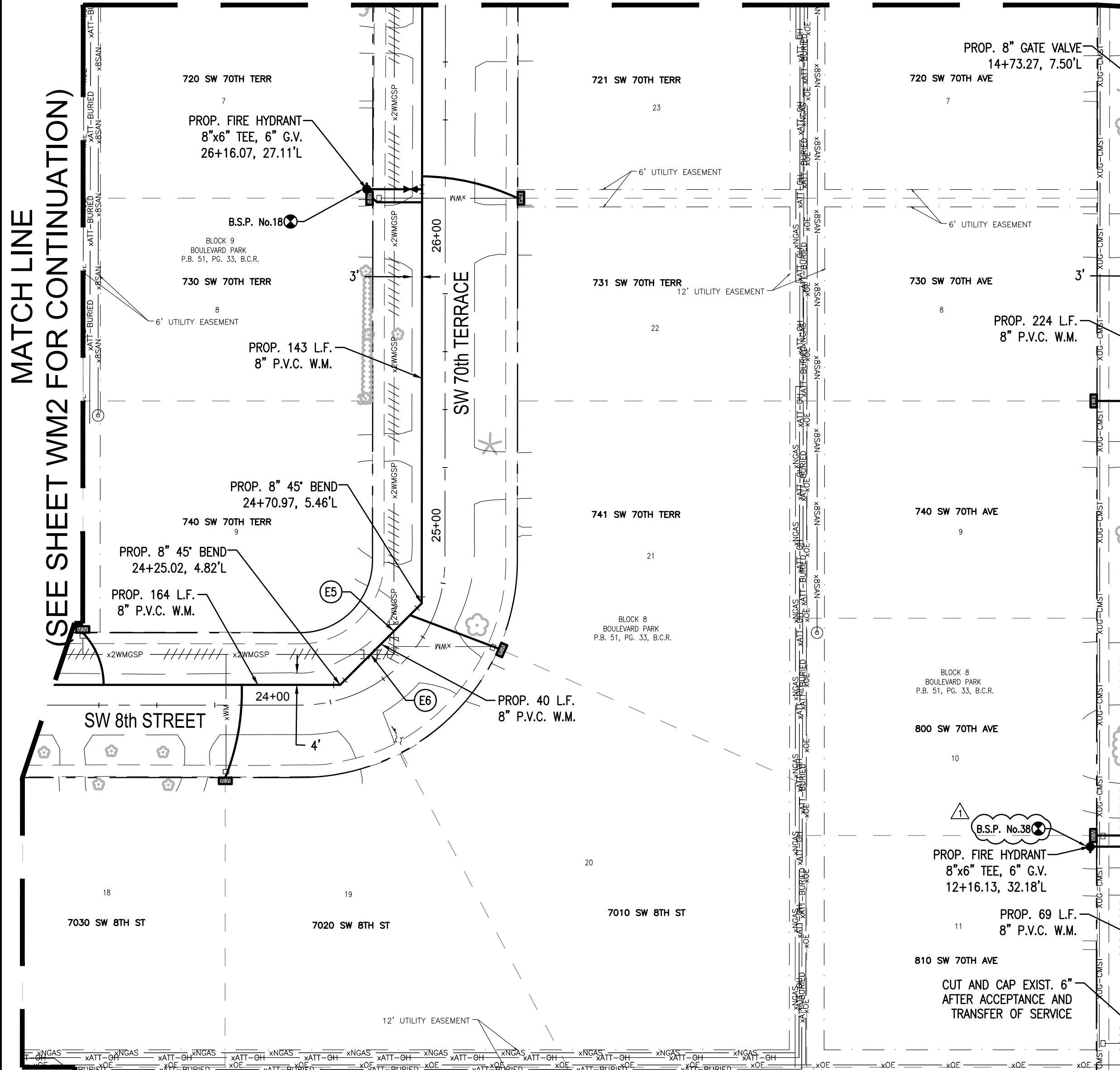
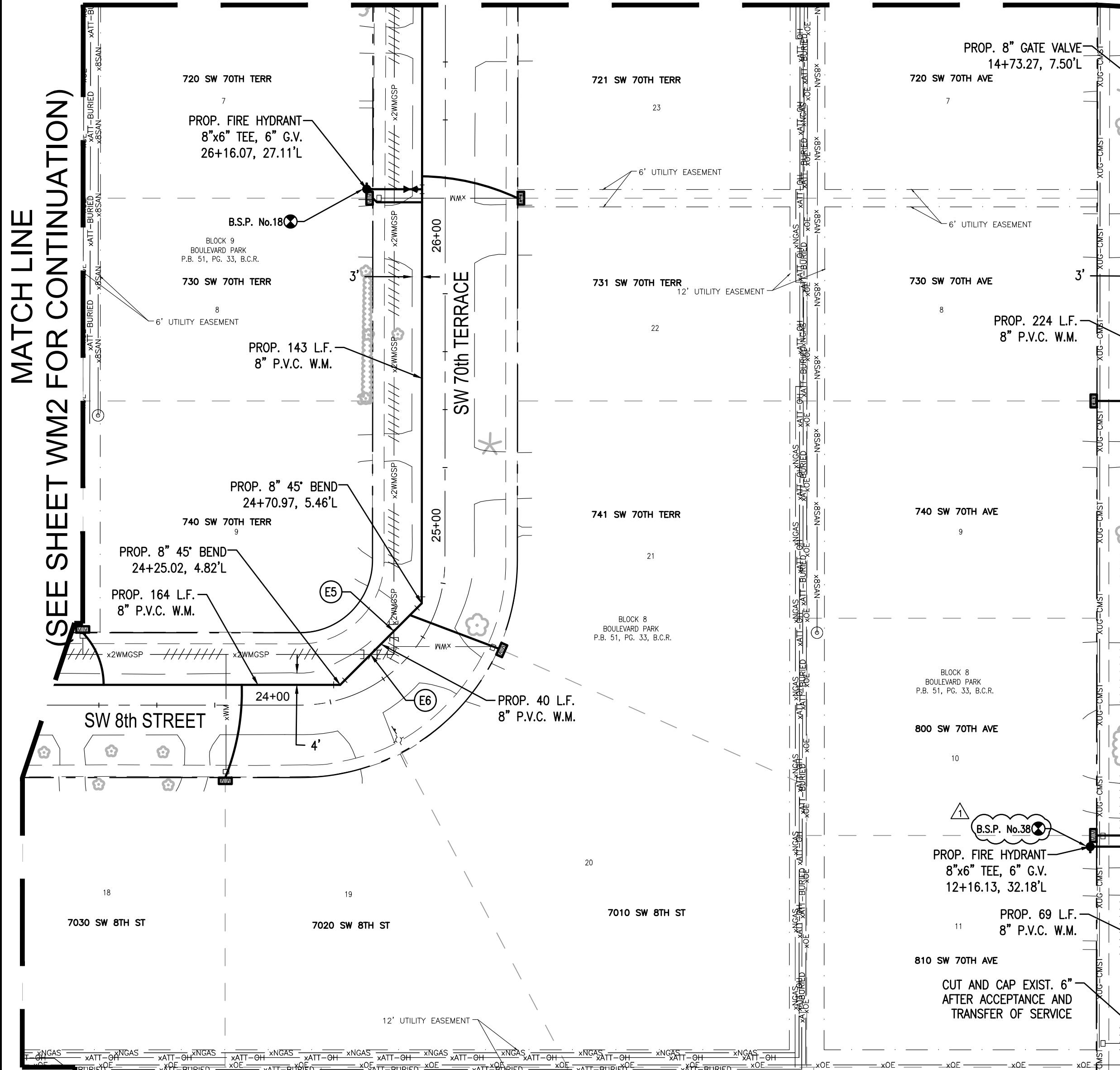
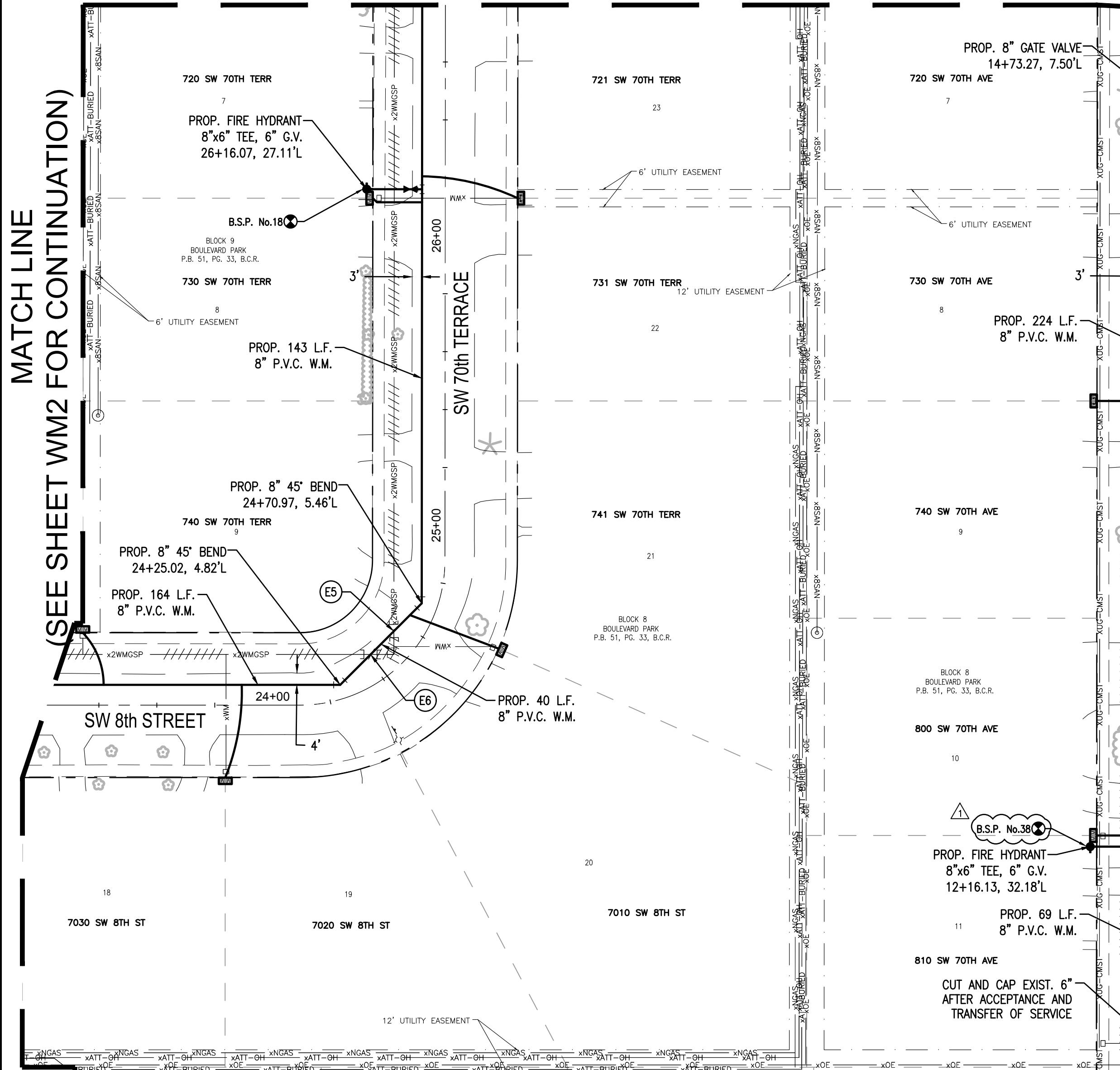
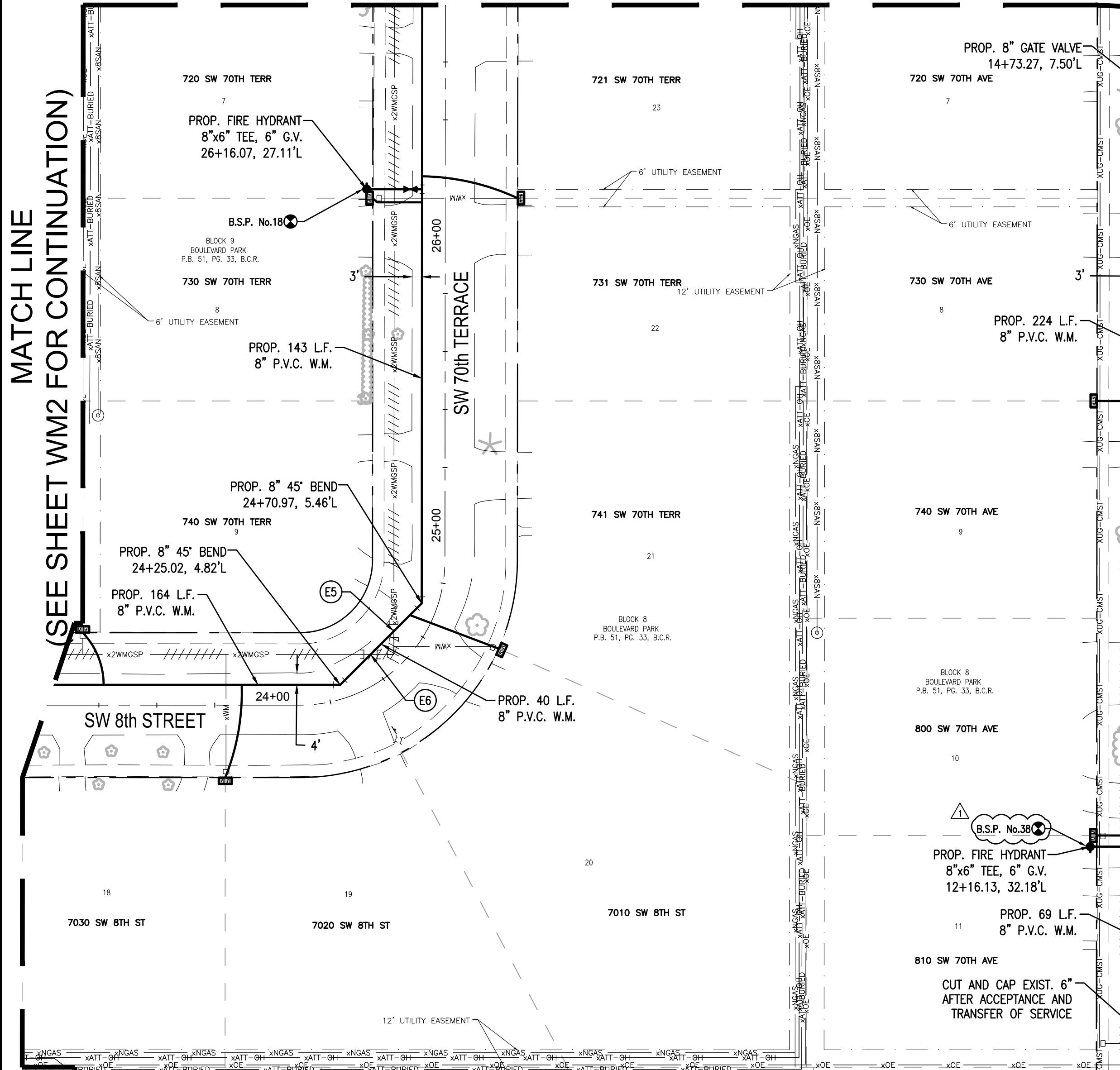
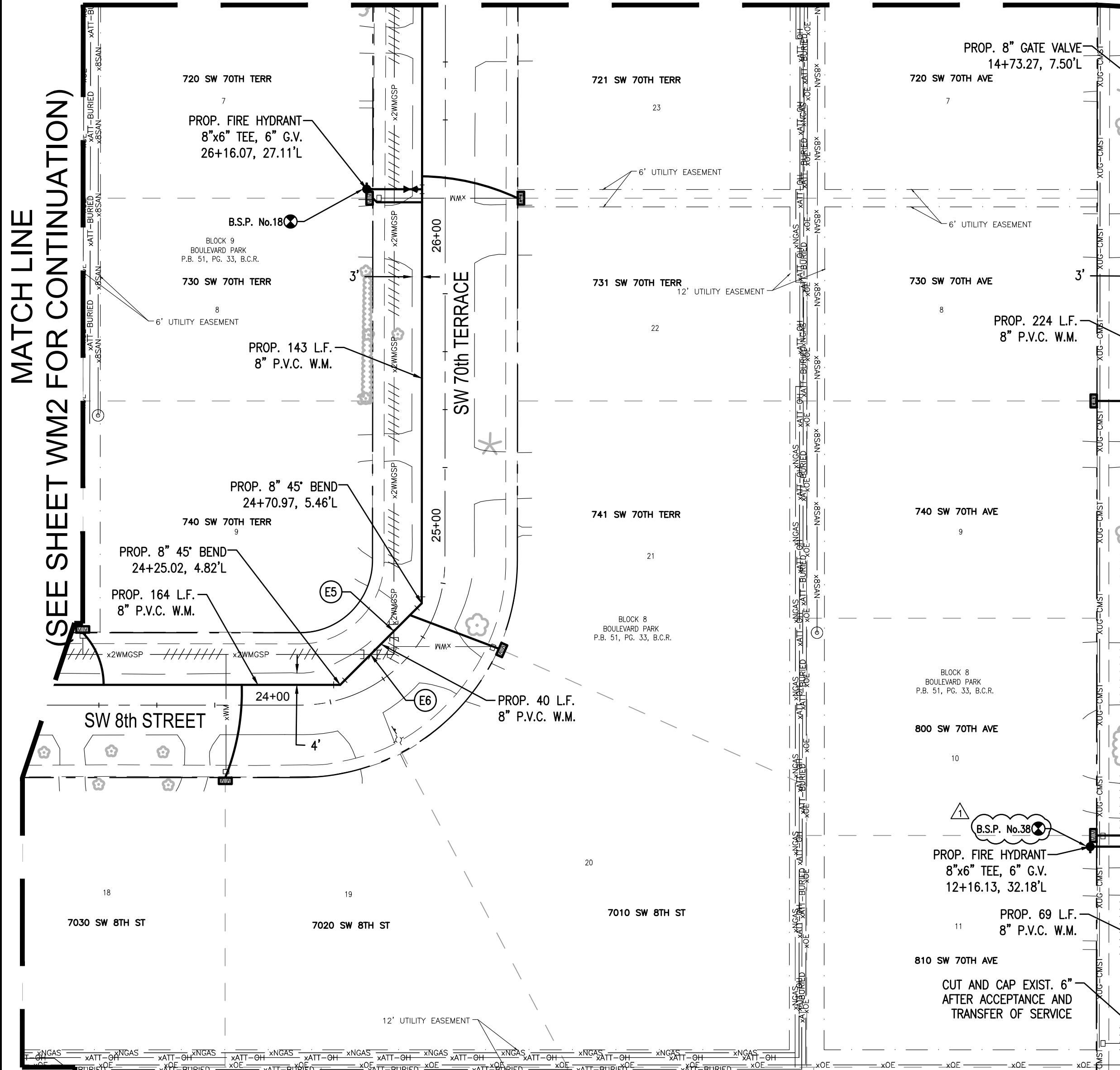
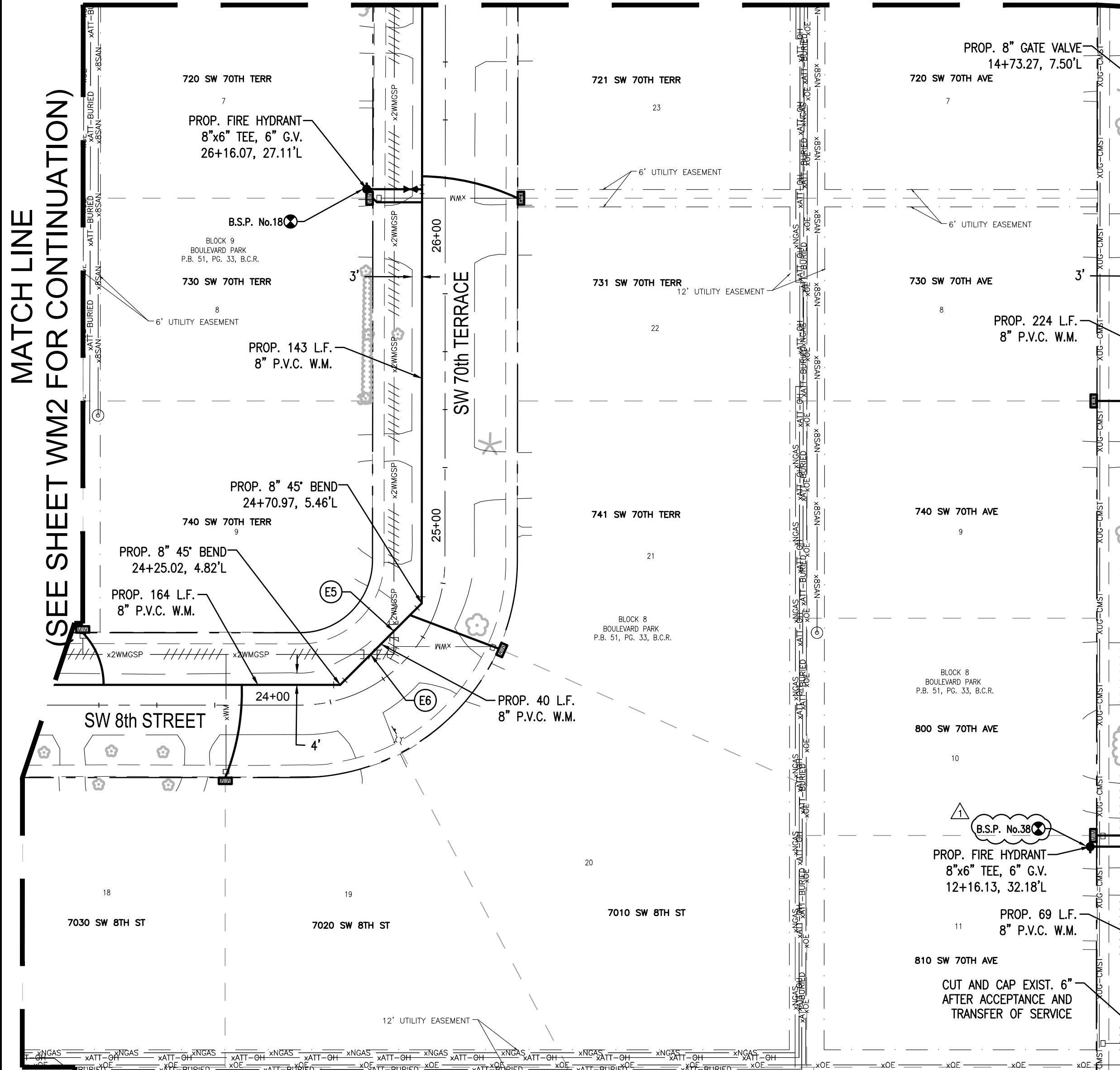
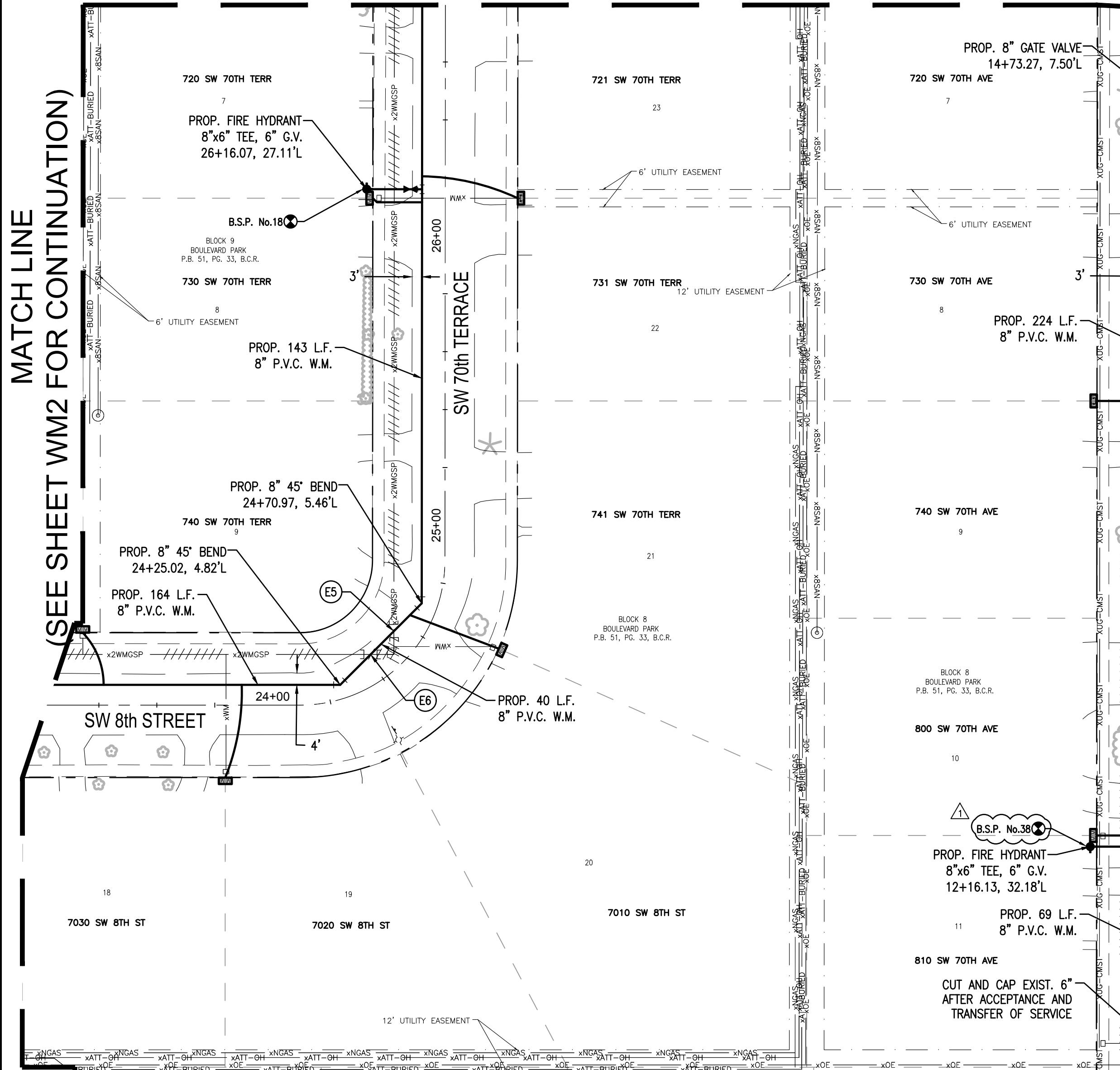
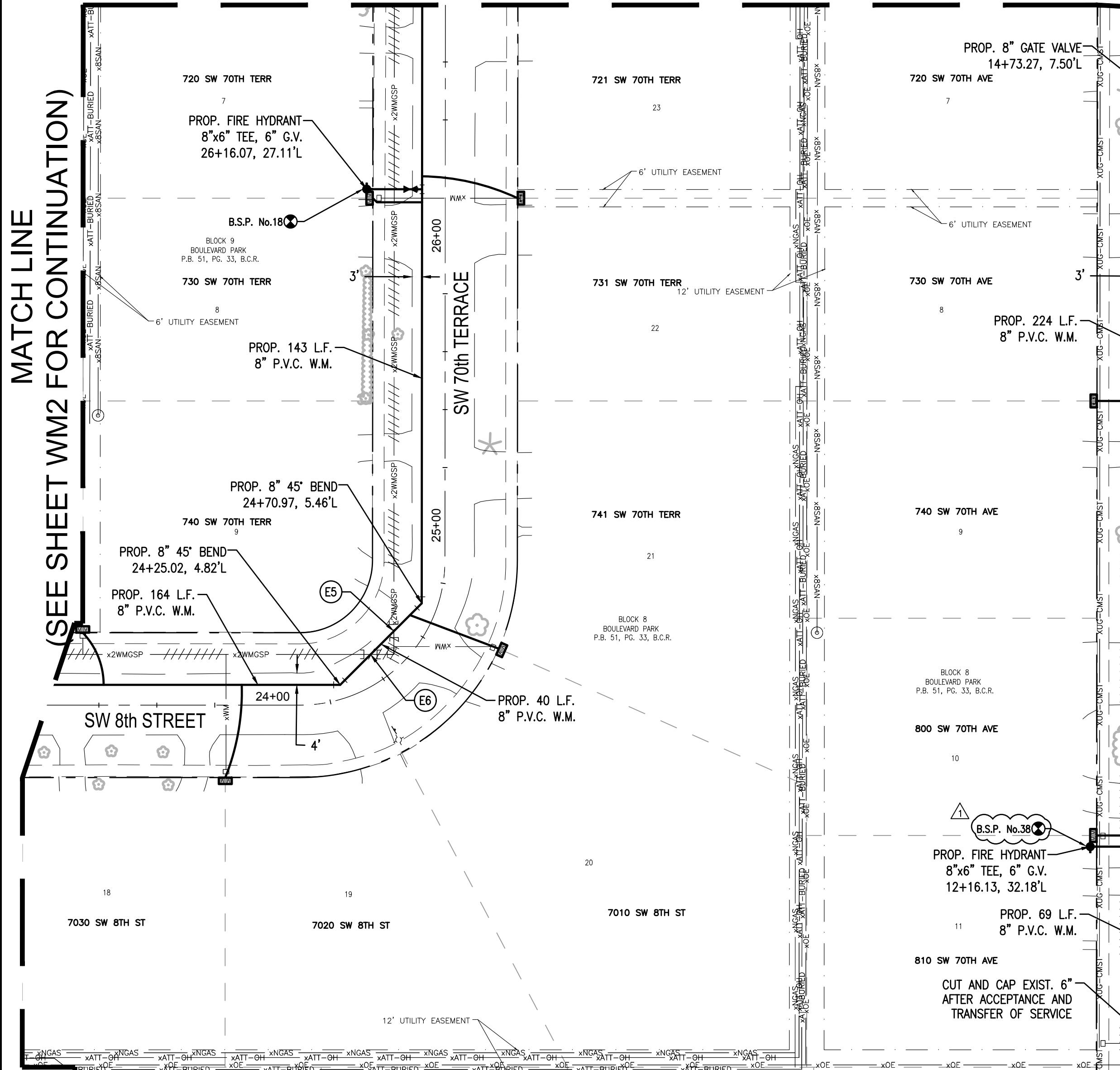
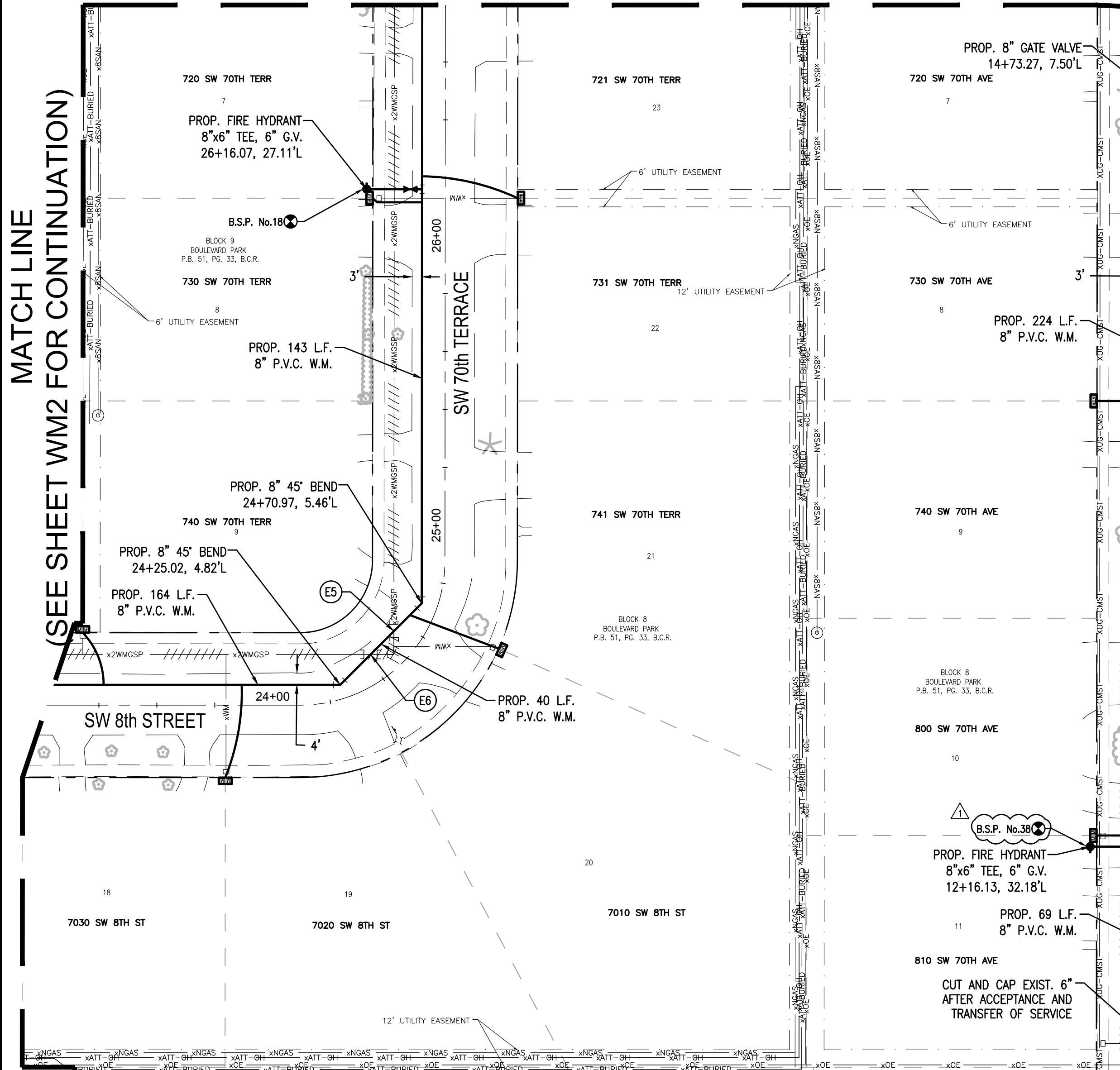
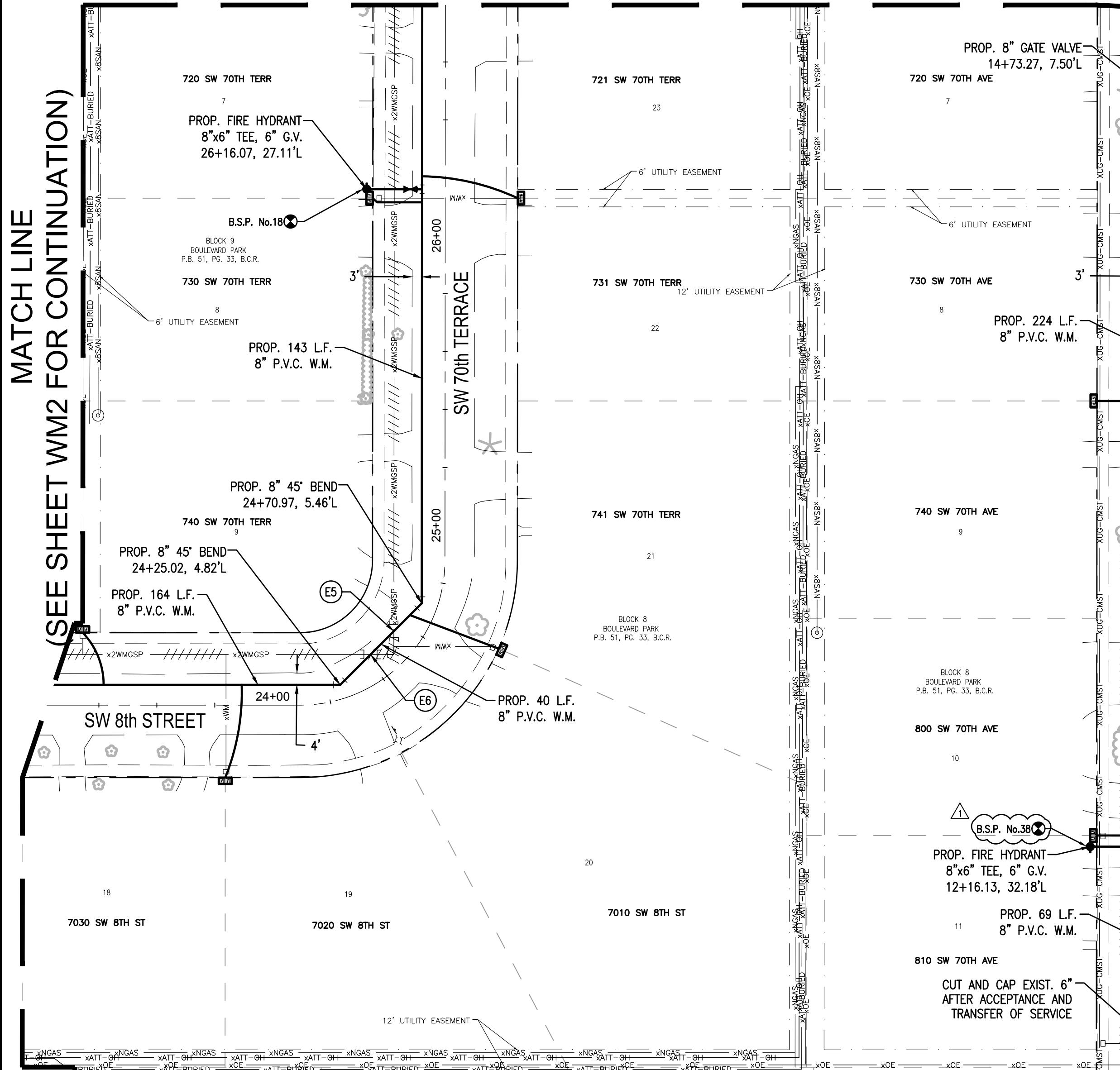
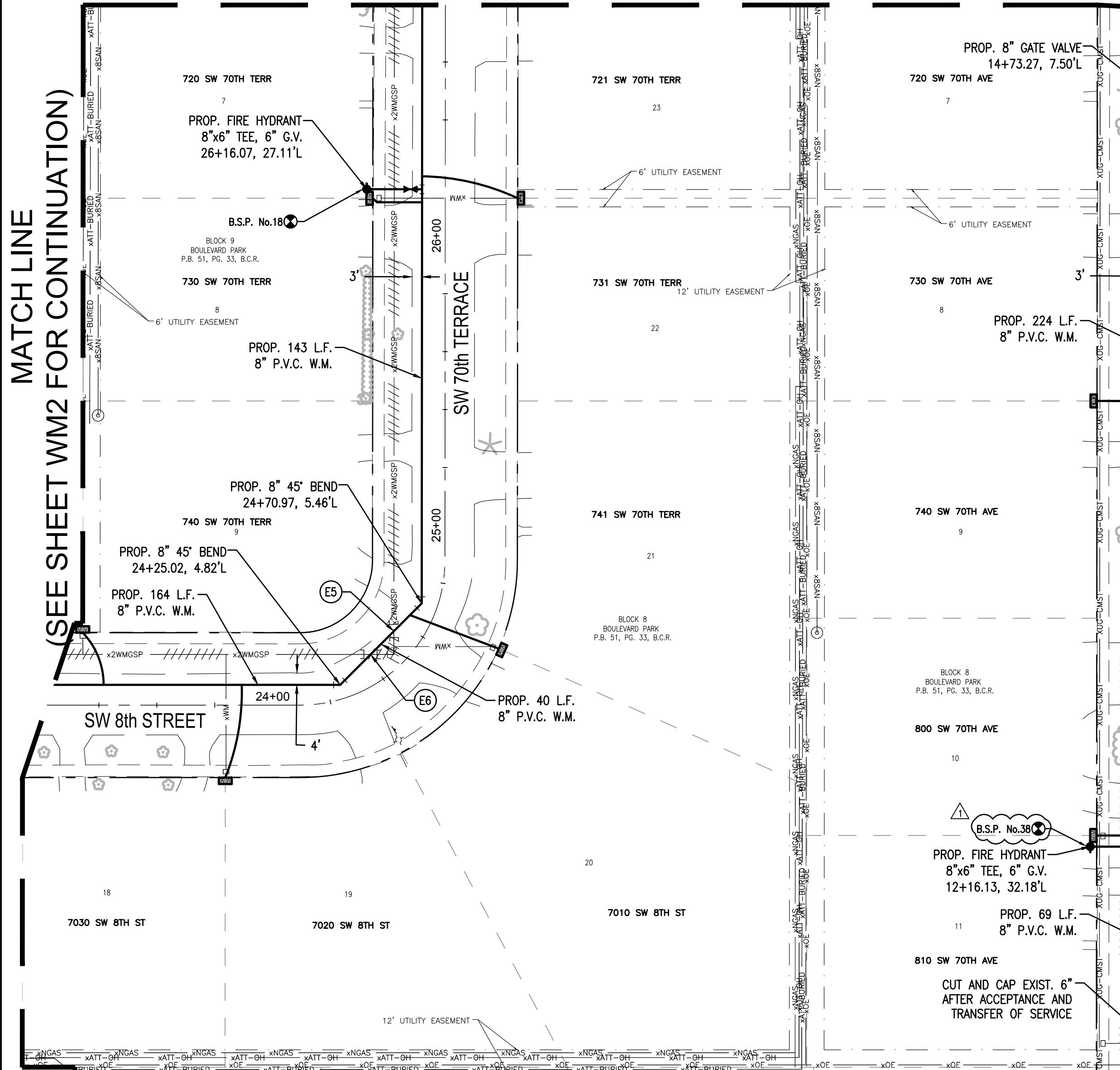
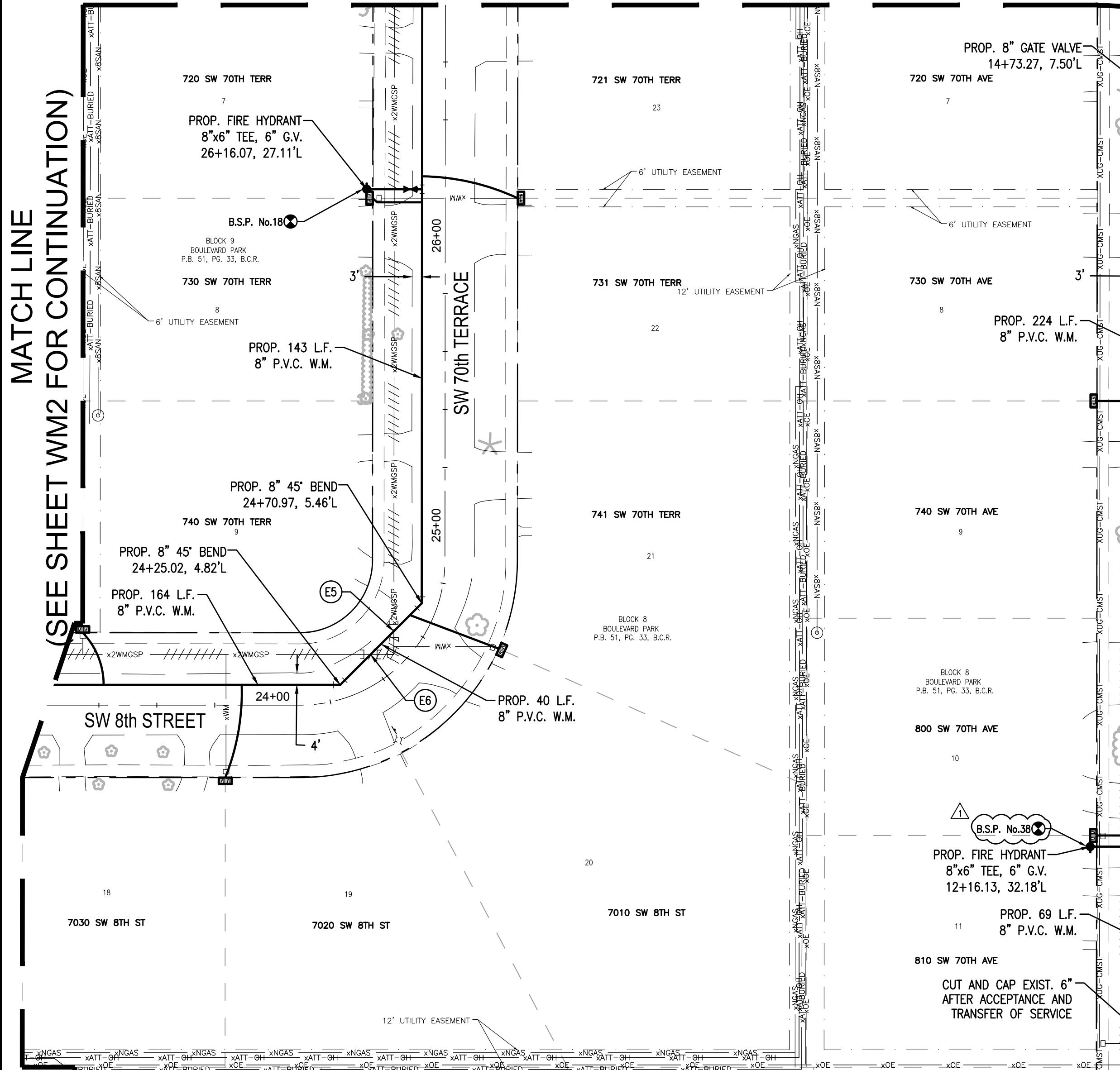
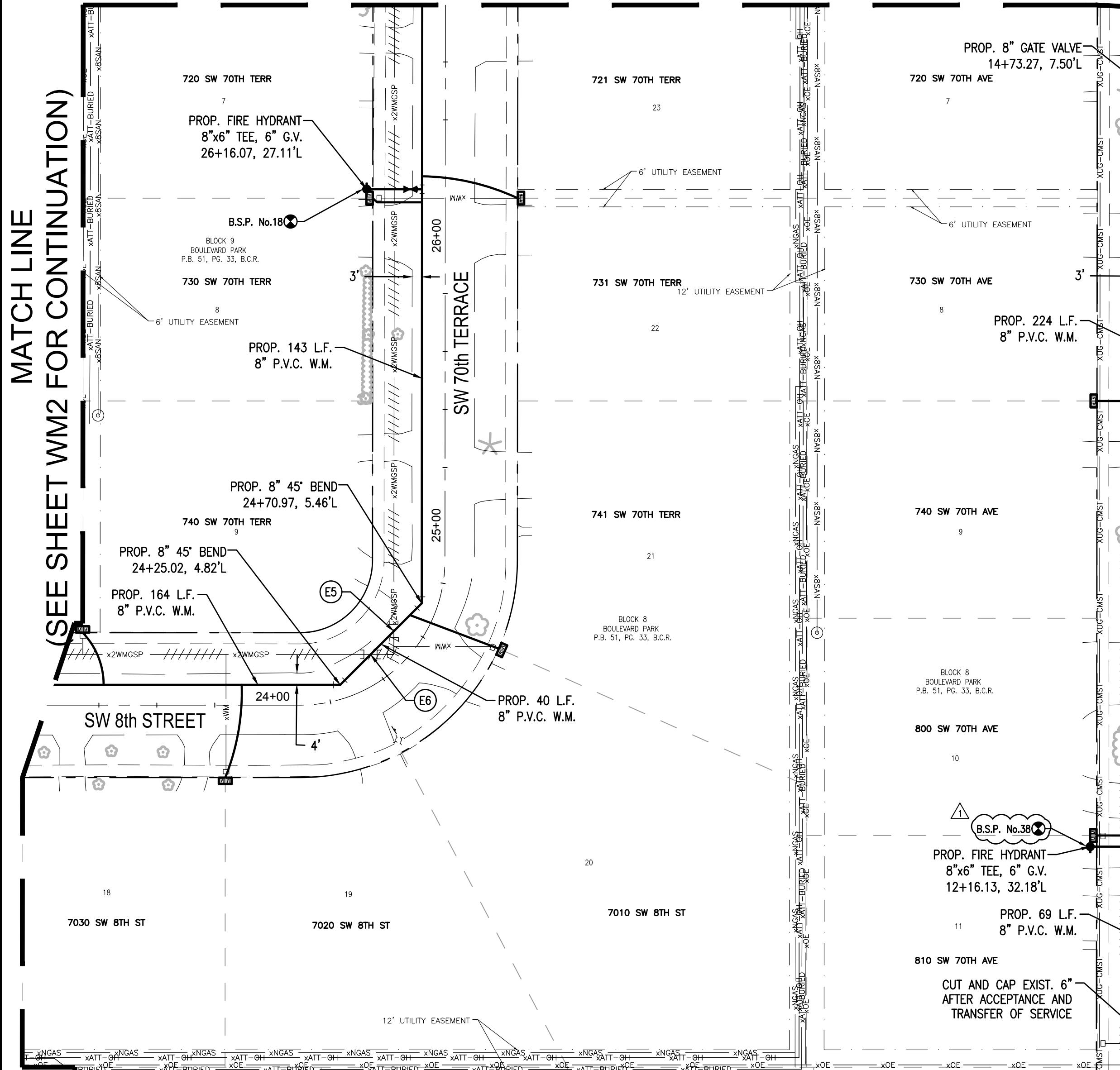
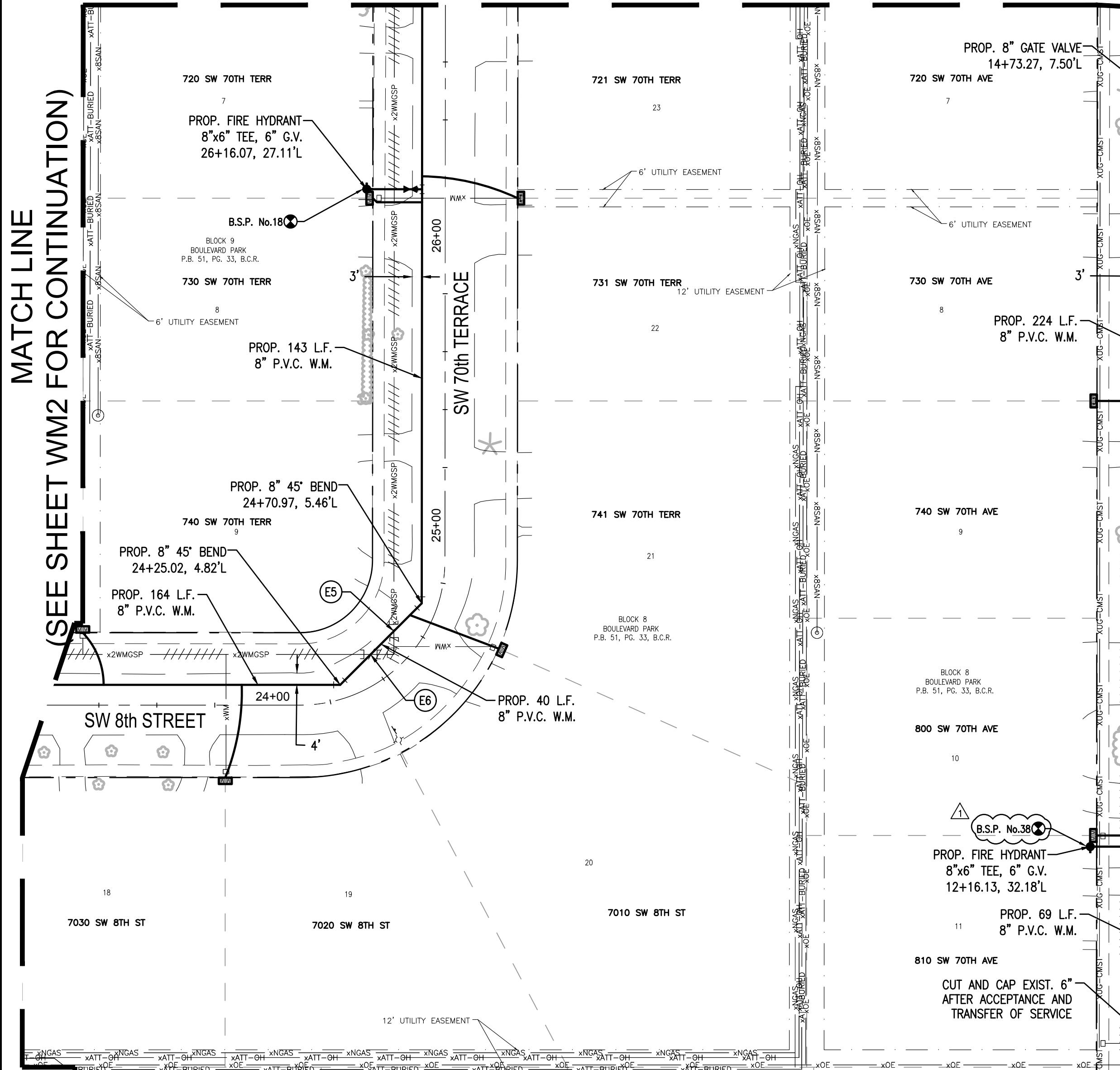
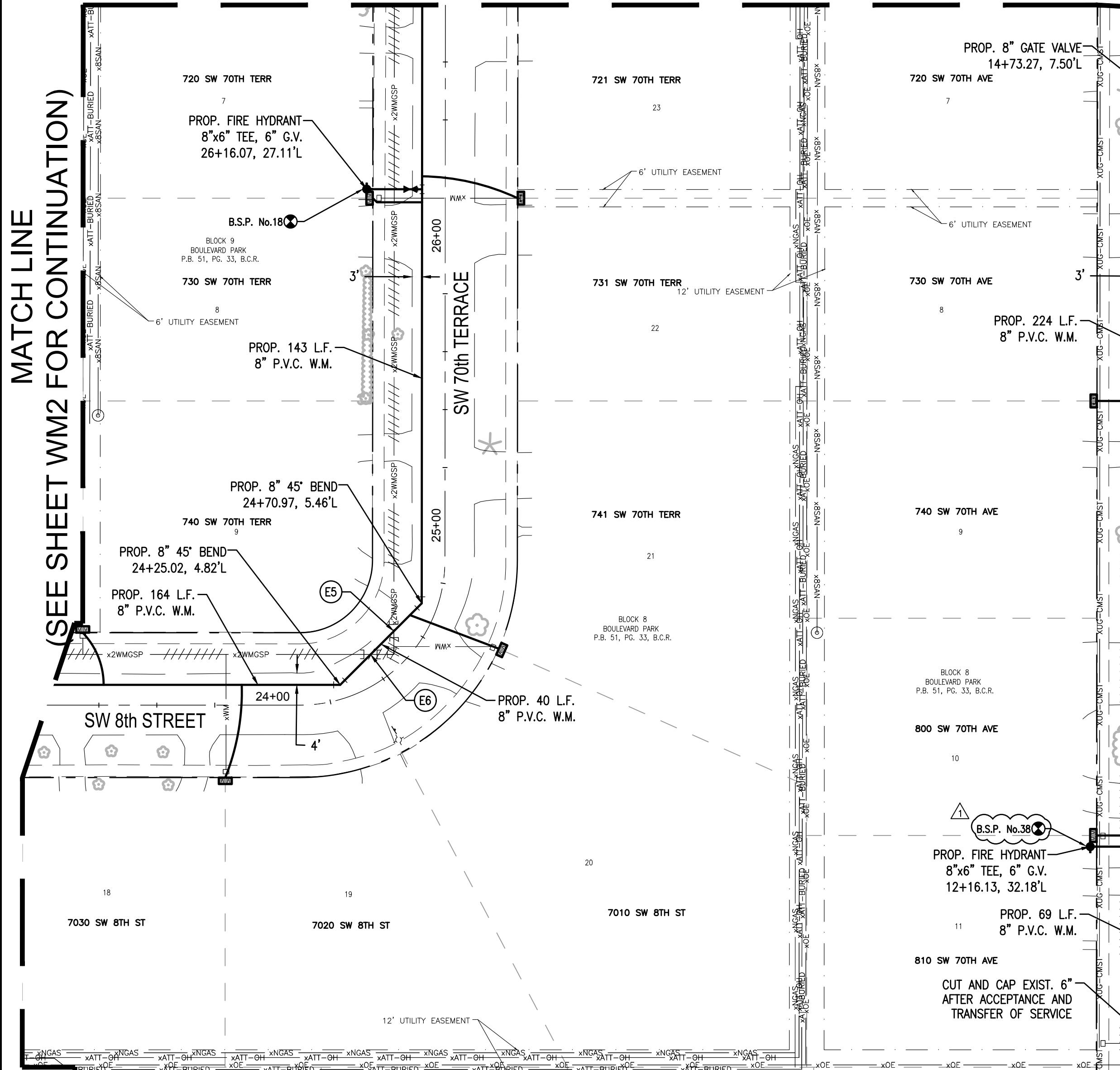


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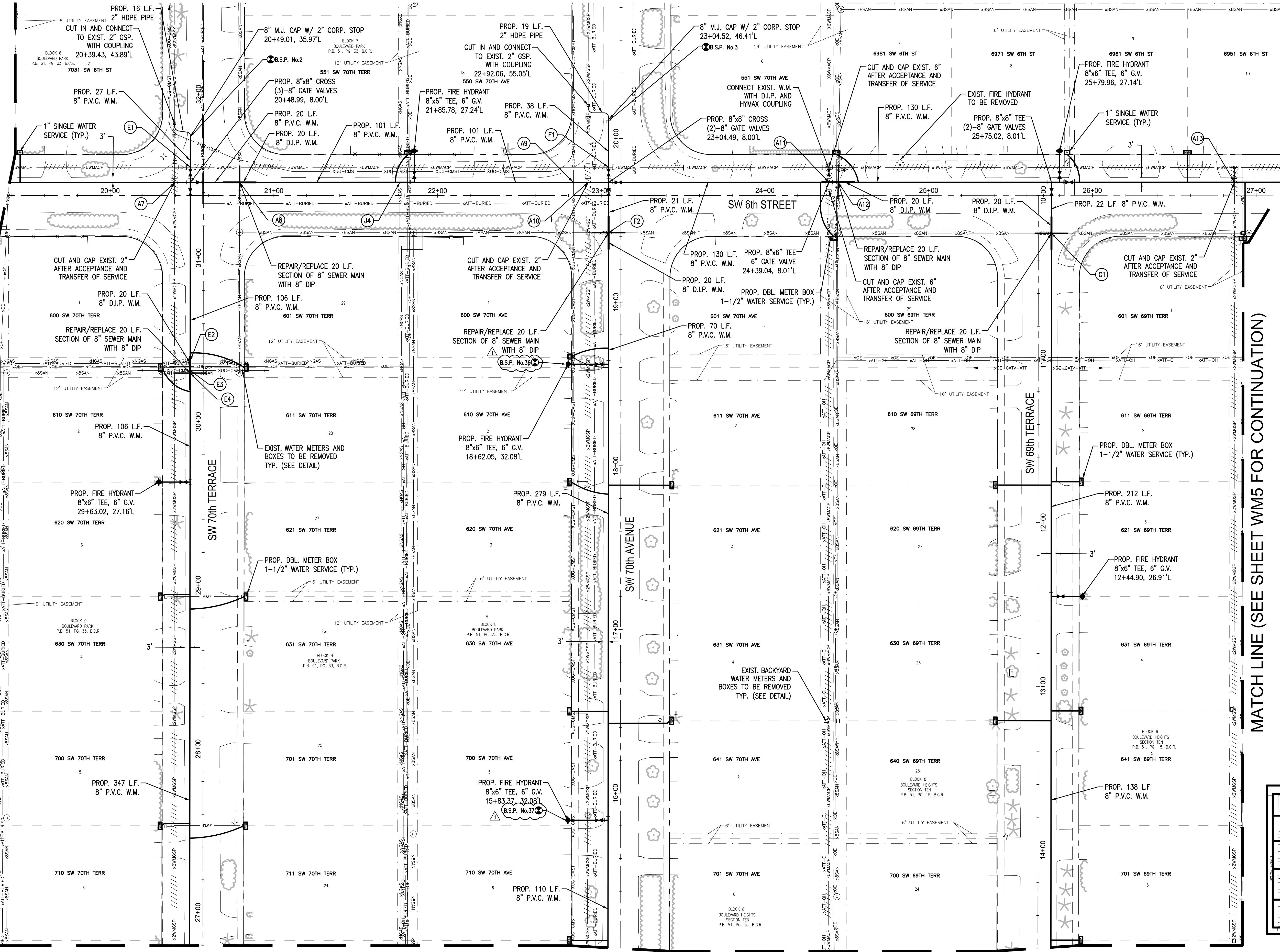
MATCH LINE  
(SEE SHEET WM2 FOR CONTINUATION)



(Printed by: Mike Orifice on Monday, July 09, 2018 10:45:44 AM)



**MATCH LINE (SEE SHEET WM1 FOR CONTINUATION)**



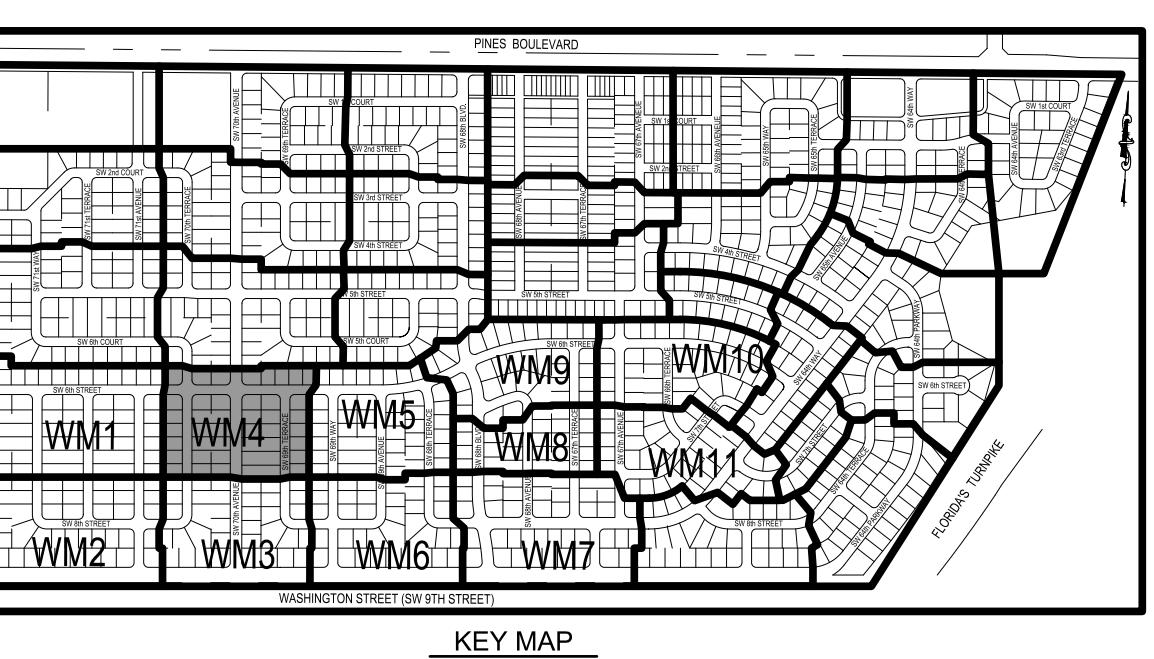
**MATCH LINE (SEE SHEET WM3 FOR CONTINUATION)**

**MATCH LINE (SEE SHEET WM5 FOR CONTINUATION)**

CONFLICTS		
NO.	PIPES	CLEARANCE
A7	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A8	Proposed 8" DIP WM BOP 3.75 ft Below Surface Over Existing 8" CLAY SS TOP 5.58 ft Below Surface	21"
A9	Existing NGAS Over Proposed 8" PVC WM	12" MIN.
A10	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A11	Existing 6" ACP WM BOP 3.42 ft Below Surface Over Proposed 8" PVC WM BOP 4.42 ft Below Surface	12"
A12	Proposed 8" DIP WM BOP 3.75 ft Below Surface Over Existing 8" CLAY SS TOP 7.00 ft Below Surface	39"
A13	Existing 2" WM BOP 2.75 ft Below Surface Over Proposed 8" PVC WM TOP 3.25 ft Below Surface	6"
E1	Existing 6" ACP WM BOP 3.67 ft Below Surface Over Proposed 8" PVC WM TOP 4.17 ft Below Surface	6"
E2	Existing NGAS Over Proposed 8" PVC WM	12" MIN.
E3	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
E4	Proposed 8" DIP WM BOP 4.00 ft Below Surface Over Existing 8" CLAY SS TOP 6.49 ft Below Surface	30"
F1	Existing 6" ACP WM BOP 3.67 ft Below Surface Over Proposed 8" PVC WM TOP 4.17 ft Below Surface	6"
F2	Proposed 8" DIP WM BOP 3.76 ft Below Surface Over Existing 8" ACP SS TOP 7.20 ft Below Surface	41"
G1	Proposed 8" DIP WM BOP 3.76 ft Below Surface Over Existing 8" CLAY SS TOP 7.48 ft Below Surface	44"
J4	Existing NGAS Over Proposed 8" PVC WM	12" MIN.

NOTES:

1. ALL EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.
2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.



FOR BIDDING PURPOSES ONLY



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Certificate of Authorization 514

**PINES VILLAGE WATER MAIN REPLACEMENT**  
PHASE 1  
PEMBROKE PINES, FLORIDA

**PROPOSED WATER MAIN PLAN**

NICHOLAS KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE NO. 78536

SCALE  
AS SHOWN  
PROJECT No  
91-0134.1



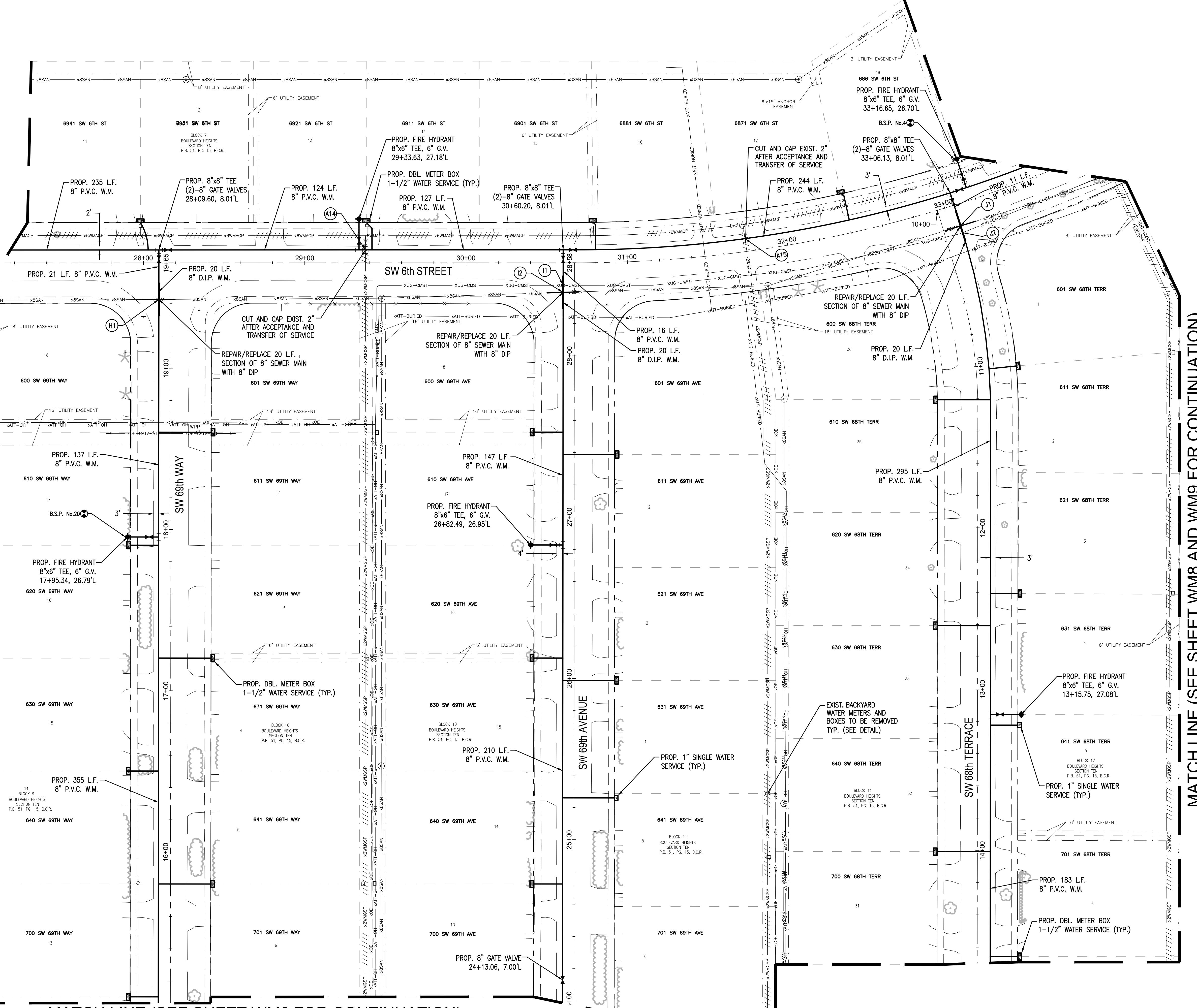
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**WM4**

**MATCH LINE (SEE SHEET WM4 FOR CONTINUATION)**

**MATCH LINE (SEE SHEET WM6 FOR CONTINUATION)**

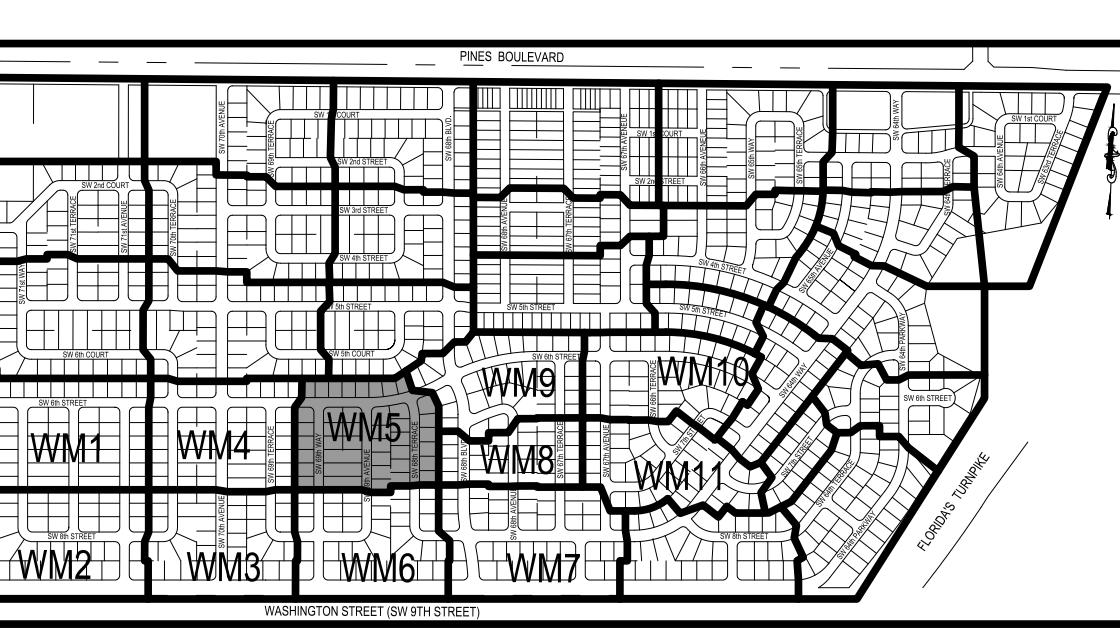


**MATCH LINE (SEE SHEET WM8 AND WM9 FOR CONTINUATION)**

CONFLICTS		
NO.	PIPES	CLEARANCE
A14	Existing 2" WM BOP 3.25 ft Below Surface Proposed 8" PVC WM 3.75 TOP ft Below Surface	6"
A15	Existing 2" WM BOP 3.25 ft Below Surface Proposed 8" PVC WM 3.75 TOP ft Below Surface	6"
H1	Existing 8" Clay SS TOP 6.84 ft Below Surface Proposed 8" PVC WM	37"
I1	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
I2	Proposed 8" DIP WM BOP 3.76 ft Below Surface Existing 8" Clay SS TOP 6.22 ft Below Surface	29"
J1	Proposed 8" DIP WM BOP 3.48 ft Below Surface Existing 8" Clay SS TOP 4.98 ft Below Surface	18"
J2	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.

NOTES:

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2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.



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PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDA

PROPOSED WATER MAIN PLAN

NICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536

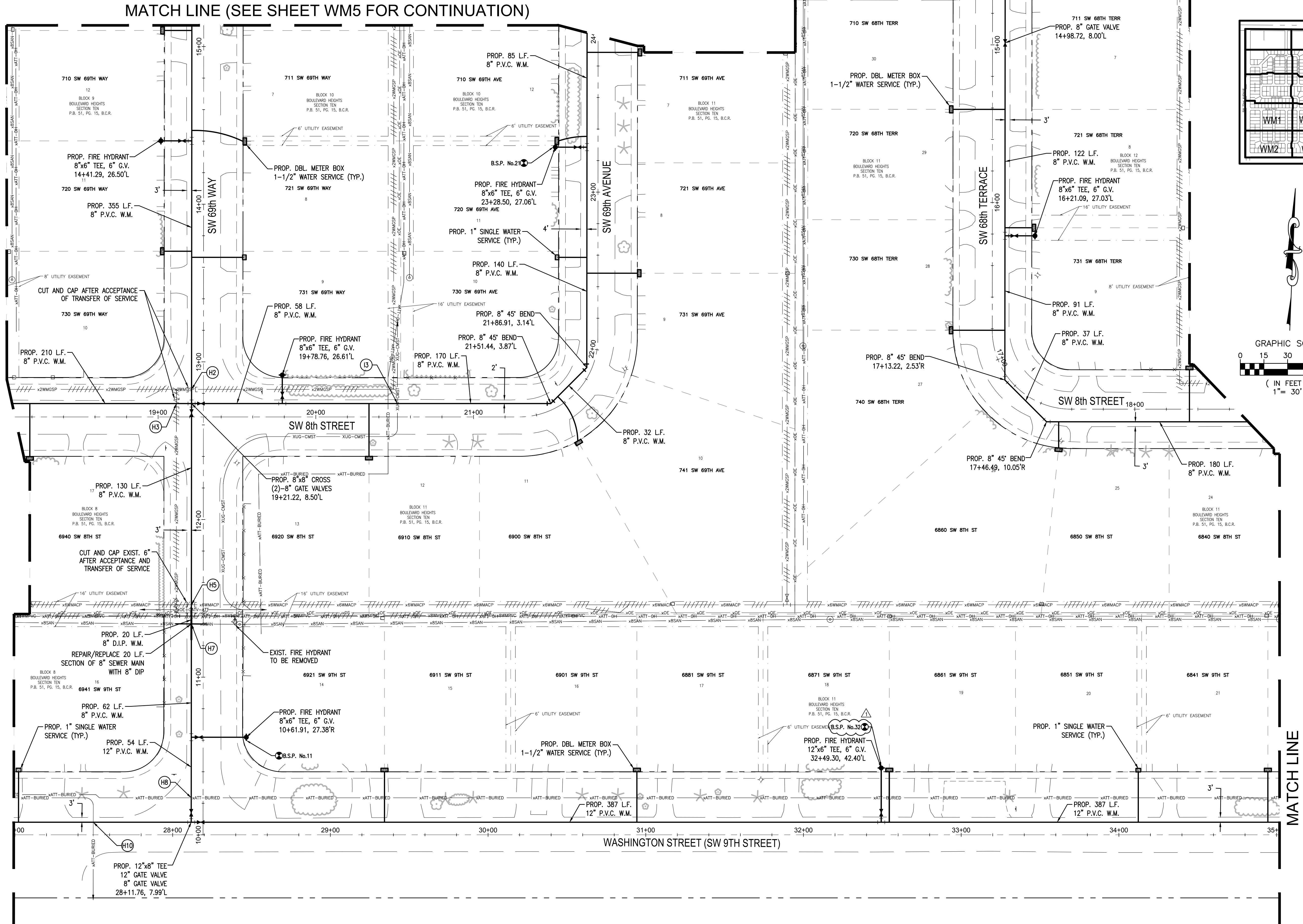
DATE: JUNE 6, 2018

SCALE AS SHOWN  
PROJECT No. 91-0134.1

SHEET WM5

MATCH LINE  
(SEE SHEET WM3 FOR CONTINUATION)

## MATCH LINE (SEE SHEET WM5 FOR CONTINUATION)



SEE SHEET WM7 FOR CONTINUATION)

## NOTES:

- EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.  
EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE  
LOCATION, CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.

CONFLICTS

PIPES	CLEARANCE
Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
Existing 6" ACP WM BOP 3.67 ft Below Surface Over Proposed 8" PVC WM TOP 4.17 ft Below Surface	6"
Proposed 8" DIP WM BOP 3.75 ft Below Surface Over Existing 8" Clay SS TOP 6.84 ft Below Surface	37"
REMOVED	N/A
Existing ATT Over Proposed 12" PVC WM	12" MIN.
Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.



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AS W. KANELDIS, P.E.  
OF FLORIDA PROFESSIONAL ENGINEER  
E No. 78536

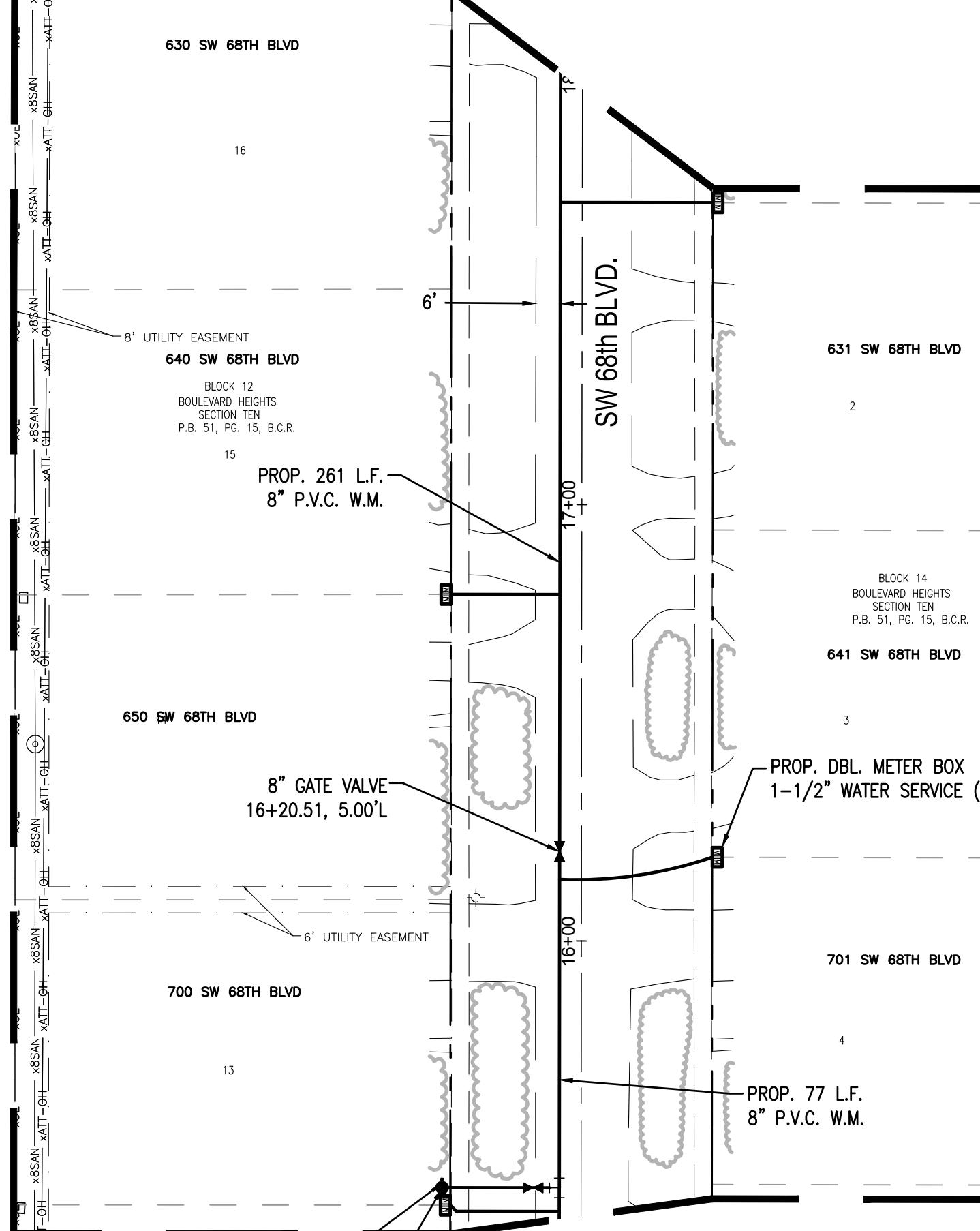
JULY 10, 2018

W/M6

100

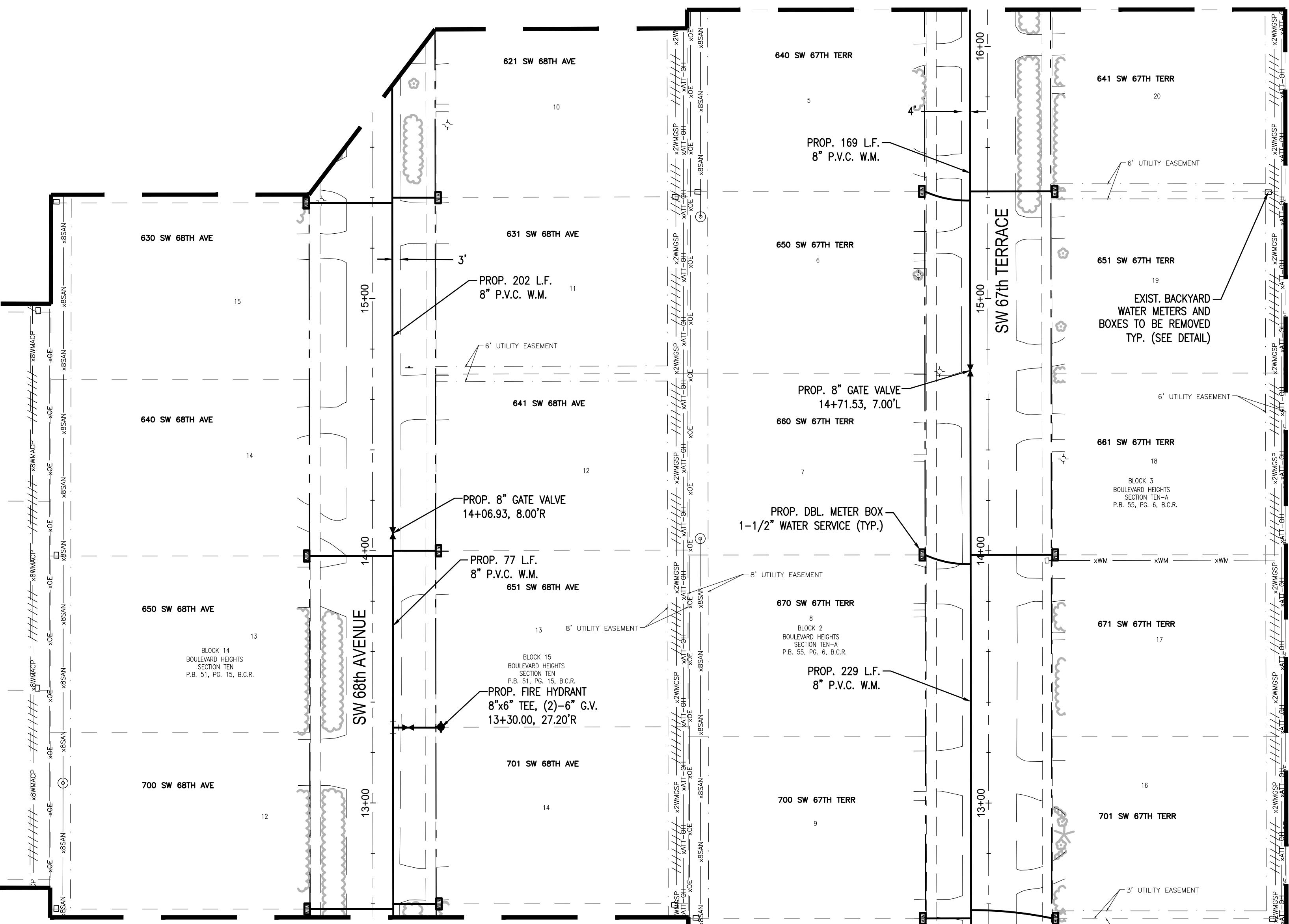


MATCH LINE (SEE SHEET WM5 FOR CONTINUATION)



**MATCH LINE (SEE SHEET WM7 FOR CONTINUATION)**

MATCH LINE (SEE SHEET WM9 FOR CONTINUATION)



## MATCH LINE (SEE SHEET WM11 FOR CONTINUATION)

A graphic scale with a horizontal line. The word 'APHIC SCALE' is at the top. The number '0' is at the left end, '30' is in the middle, and '60' is at the right end. Below the line, the text '( IN FEET )' is in parentheses, with '1' above '0' and '5' above '60'.

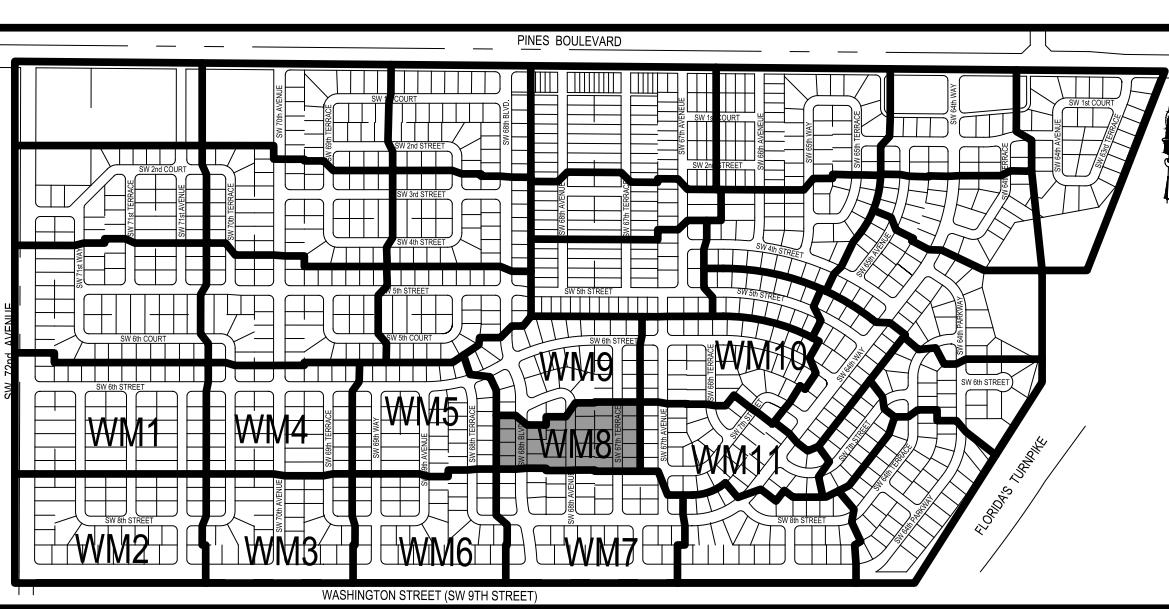
# SEE SHEET WM7 FOR CONFLICT LOCATIONS

CONFLICTS		
NO.	PIPES	CLEARANCE
K6	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
K7	Existing 6" ACP WM BOP 4.10 ft Below Surface Over Proposed 8" PVC WM TOP 5.10 ft Below Surface	12"
K8	Proposed 8" DIP WM BOP 3.38 ft Below Surface Over Existing 15" RCP TOP 3.88 ft Below Surface	6"
K9	Existing 2" WM 3.25 ft Below Surface Over Proposed 8" PVC WM 3.75 ft Below Surface	6"
K10	Existing ATT Over Proposed 8" PVC WM	12" MIN.
K11	Existing ATT Over Proposed 6" PVC WM	12" MIN.
L3	Proposed 8" PVC WM 3.76 ft Below Surface Existing 6" ACP WM 4.33 ft Below Surface	6"
M3	Existing 8" Clay SS BOP 4.40 ft Below Surface Over Proposed 8" DIP WM TOP 5.90 ft Below surface	18"
M4	Existing 6" ACP WM 3.25 ft Below Surface Over Proposed 8" PVC WM BOP 4.25 ft Below Surface	12"
N4	Proposed 8" DIP WM BOP 3.65 ft Below Surface Over Existing 8" Clay SS TOP 5.15 ft Below Surface	18"
N5	Existing 8" ACP WM BOP 3.95 ft Below Surface Over Proposed 8" PVC WM TOP 4.95 ft Below Surface	12"
N7	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
N8	Existing 2" WM 3.25 ft Below Surface Over Proposed 8" PVC WM 3.75 ft Below Surface	6"
N9	Proposed 8" DIP WM BOP 3.24 ft Below Surface Over Existing 8" Clay SS TOP 4.74 ft Below Surface	18"

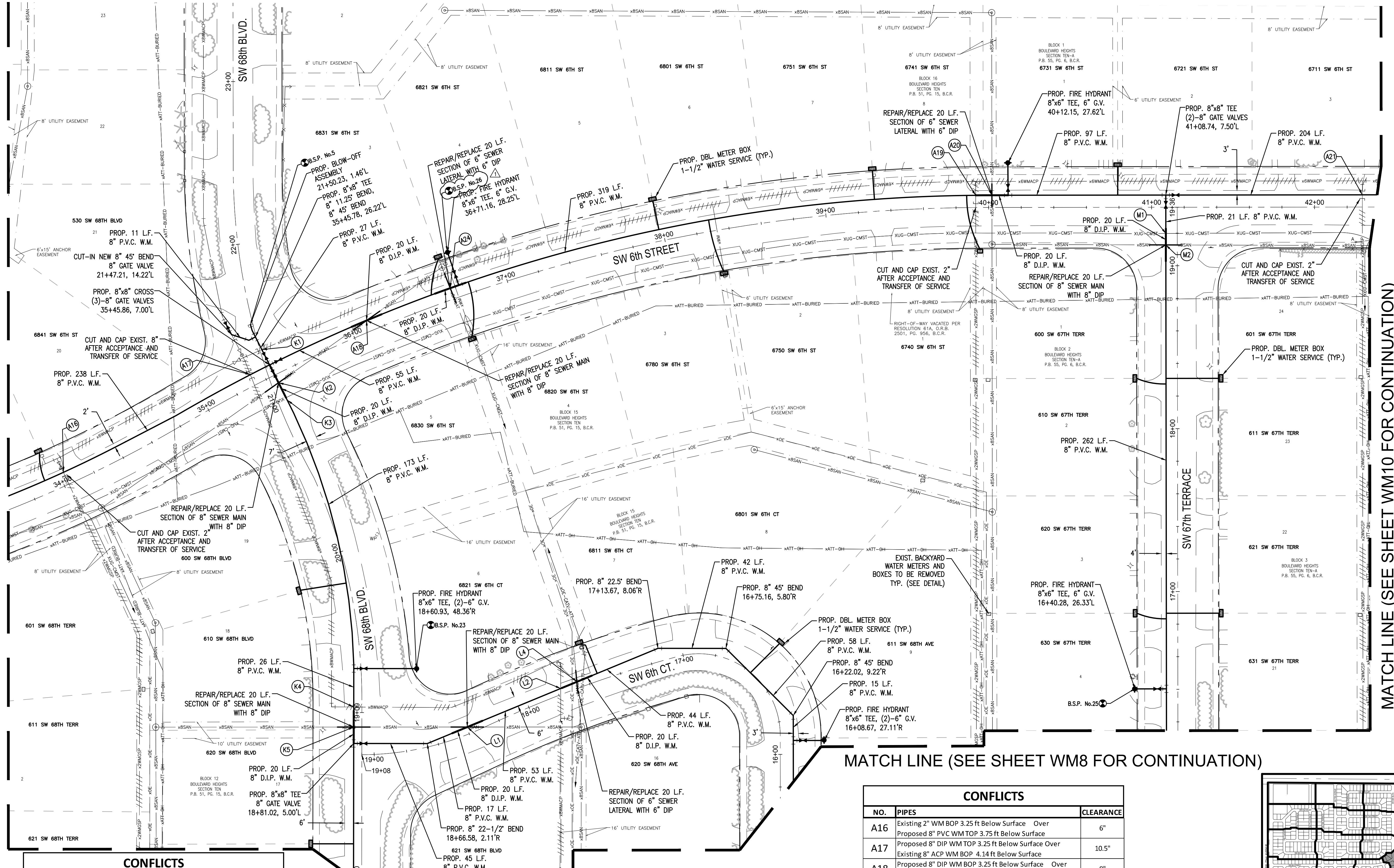
## NOTES

- NOTES:

  1. ALL EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.
  2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION



**MATCH LINE (SEE SHEET WM5 FOR CONTINUATION)**



**MATCH LINE (SEE SHEET WM8 FOR CONTINUATION)**

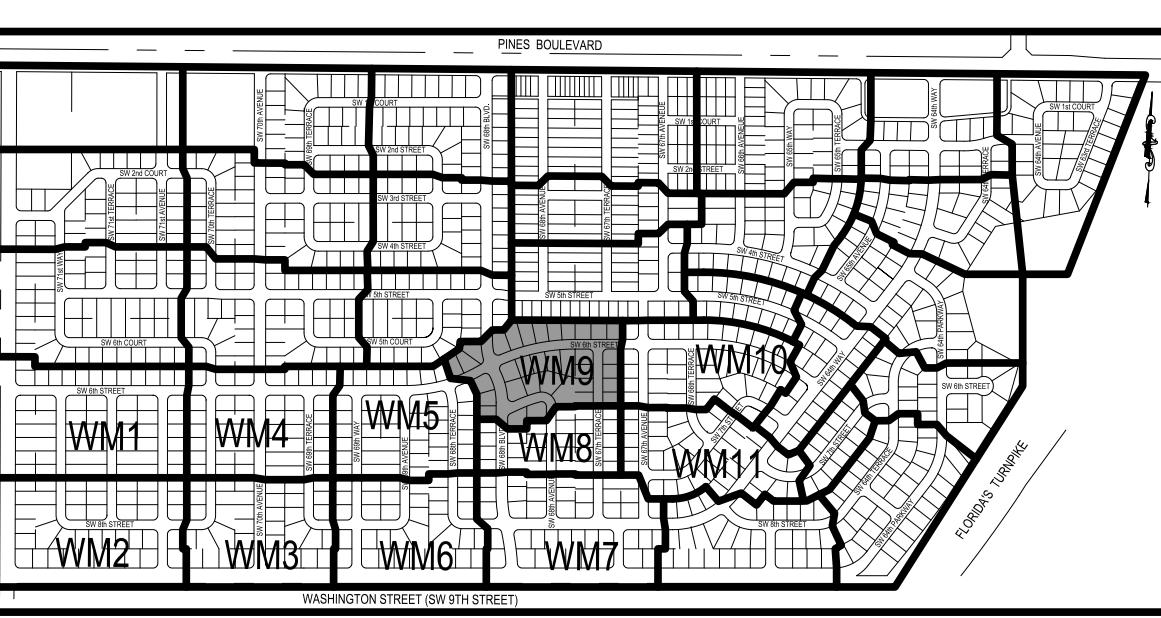
CONFLICTS		
NO.	PIPES	CLEARANCE
K1	Existing 6" ACP WM BOP 3.67 ft Below Surface Over Proposed 8" PVC WM TOP 4.67 ft Below Surface	12"
K2	Proposed 8" DIP WM BOP 3.25 ft Below Surface Over Existing 8" Clay SS TOP 4.13 ft Below Surface	10.6"
K3	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
K4	Existing 8" WM BOP 3.76 ft Below Surface Over Proposed 8" PVC WM TOP 4.76 ft Below Surface	12"
K5	Proposed 8" DIP WM TOP 2.65 ft Below Surface Over Existing 8" Clay SS TOP 4.15 ft Below Surface	18"

NOTES:

1. ALL EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.
2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.

CONFLICTS		
NO.	PIPES	CLEARANCE
L1	Proposed 8" DIP WM BOP 3.25 ft Below Surface Over Existing 8" Clay SS TOP 3.96 ft Below Surface	8.5"
L2	Existing 8" ACP WM 3.76 ft Below Surface Over Proposed 8" PVC WM 4.76 ft Below Surface	12"
L4	Existing 6" Clay San Lat BOP ft Below Surface Over Proposed 8" DIP WM TOP 3.50 ft Below Surface	12" MIN.
M1	Existing UG Comcast Over Proposed 8" PVC WM	12" MIN.
M2	Proposed 8" DIP WM BOP 3.25 ft Below Surface Over Existing 8" Clay SS TOP 4.75 ft Below Surface	18"

CONFLICTS		
NO.	PIPES	CLEARANCE
A16	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A17	Proposed 8" DIP WM TOP 3.25 ft Below Surface Over Existing 8" ACP WM BOP 4.14 ft Below Surface	10.5"
A18	Proposed 8" DIP WM BOP 3.25 ft Below Surface Over Existing 8" Clay SS TOP 3.91 ft Below Surface	8"
A19	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.75 ft Below Surface	6"
A20	Proposed 8" DIP WM BOP 3.25 ft Below Surface Over Existing 8" Clay SS TOP 4.09 ft Below Surface	10"
A21	Existing 2" WM BOP 3.25 ft Below Surface Over Proposed 8" PVC WM TOP 3.50 ft Below Surface	6"
A24	Existing 8" Clay San Lat BOP ft Below Surface Over Proposed 8" DIP WM TOP ft Below Surface	12" MIN.



FOR BIDDING PURPOSES ONLY

NICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536

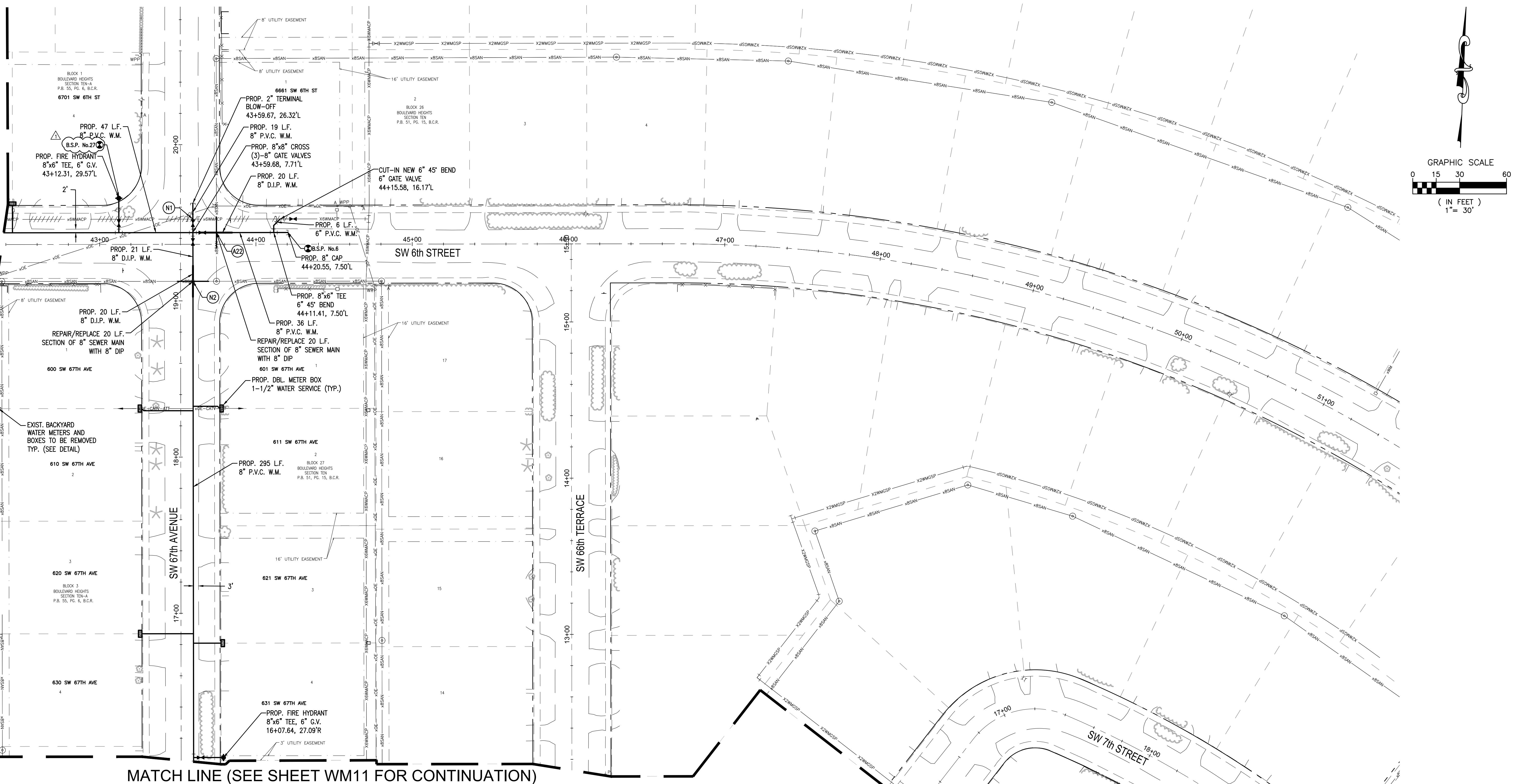
DATE: JULY 10, 2018



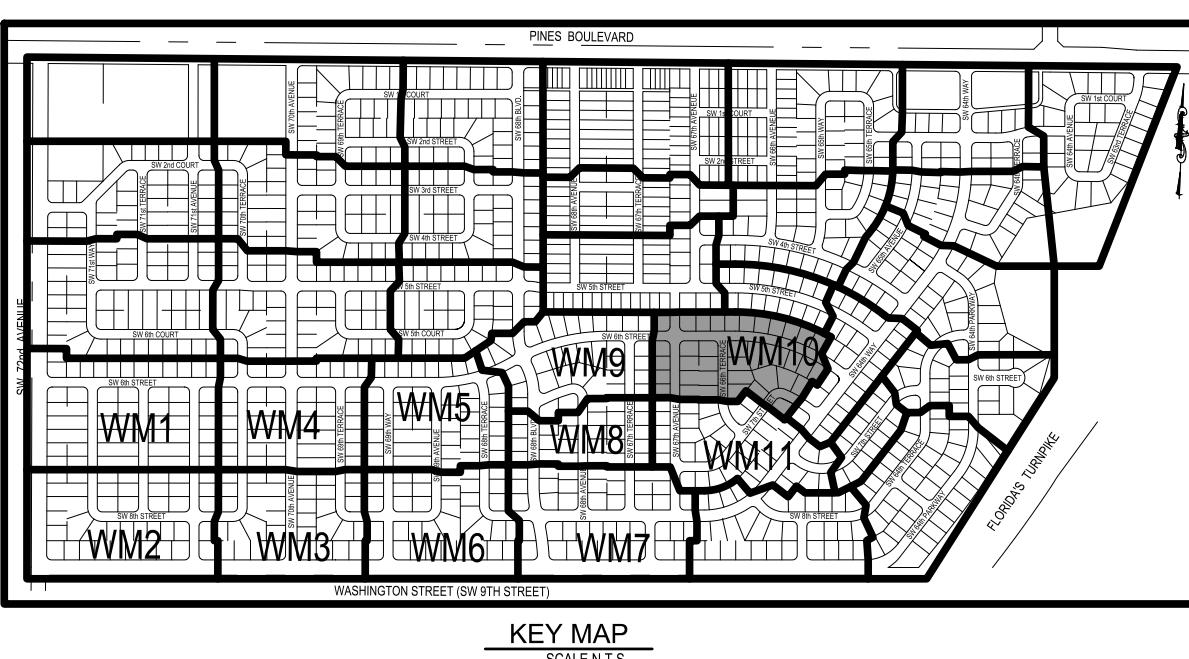
SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

SHEET  
WM9

# MATCH LINE (SEE SHEET WM9 FOR CONTINUATION)



MATCH LINE (SEE SHEET WM11 FOR CONTINUATION)



## CONFLICTS

CONFLICTS			
NO.	PIPES	CLEARANCE	
A22	Proposed 8" DIP WM BOP 3.50 ft Below Surface Existing 8" Clay SS TOP 5.00 ft Below Surface Over		18"
N1	Existing 6" ACP WM BOP 3.46 ft Below Surface Over Proposed 8" PVC WM TOP 4.46 ft Below Surface		12"
N2	Proposed 8" DIP WM BOP 3.76 ft Below Surface Over Existing 8" Clay SS TOP 5.35 ft Below Surface		19"

NOT

1. ALL EXISTING DEPTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY.
  2. EXISTING WATER METERS ON PLAN ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION.

<b>1</b>	<b>07/10/18</b>	
<b>NO</b>	<b>DATE</b>	

**ADDENDUM NO. 1**  
**REVISION**

NWK  
BY

0


1

REV

1

1

BY

1

1

954.921

• Fax: 95

# PINES VILLAGE WATER MAIN REPLACEMENT

## PHASE 1

### PEMBROKE PINES, FLORIDA

# PROPOSED WATER MAIN PLAN

CHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
CENSE No. 78536

DATE: JULY 10, 2010

SHEET  
**WM**

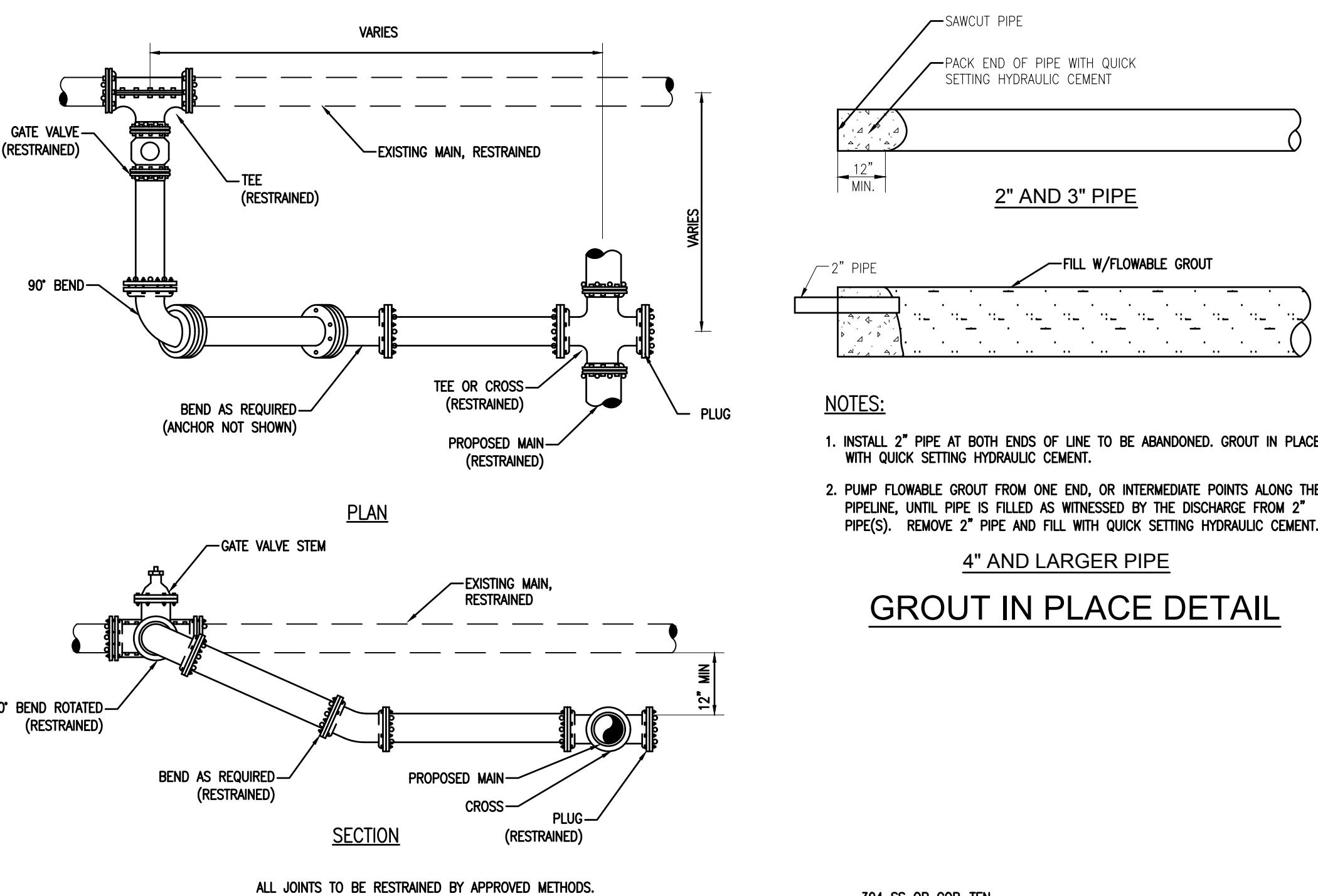


WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAMED WATER (2)	Water Main 10 ft. min.	Water Main 18 inches is the minimum	Alternate 3 ft. minimum
VACUUM SANITARY SEWER	Water Main 10 ft. min.	Water Main 18 inches is the minimum	Alternate 3 ft. minimum
GRAVITY SANITARY SEWER (3) SANITARY SEWER FORCE MAIN, RECLAMED WATER	Water Main 10 ft. min.	Water Main 18 inches is the minimum	Alternate 6 ft. minimum
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 ft. minimum	—	—

- (1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, PIPE SHALL BE DIP.  
 (2) RECLAMED WATER REGULATED UNDER PART III OF CHAPTER 62-510, F.A.C.  
 (3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.

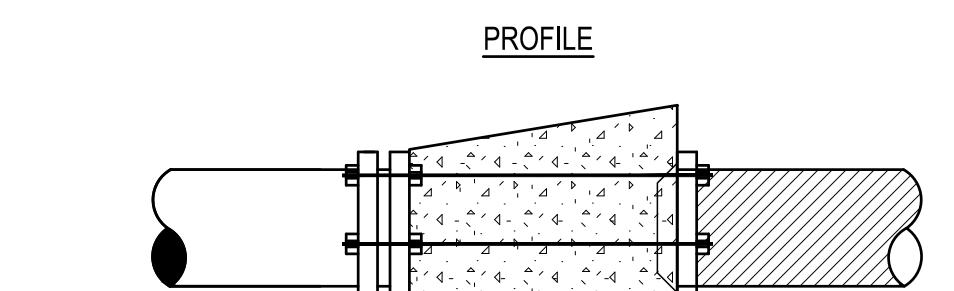
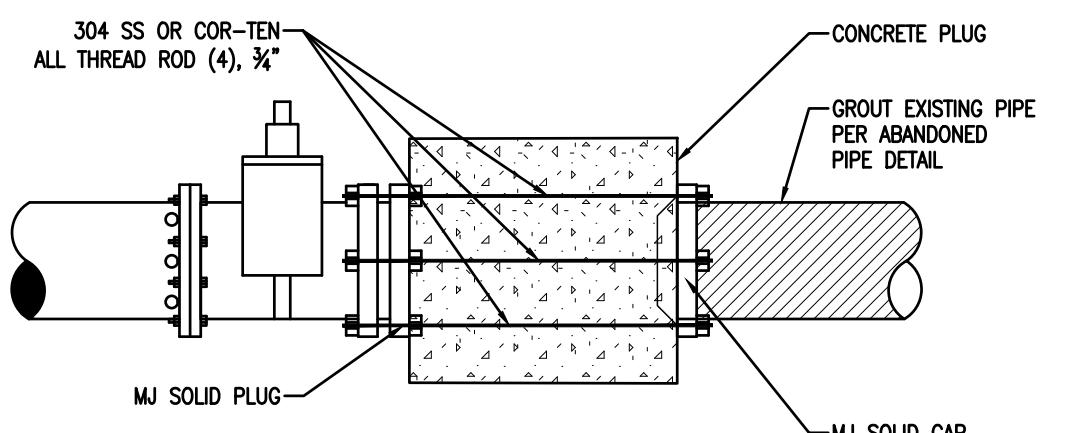
WATER MAIN SEPARATION



- NOTES:
1. INSTALL 2" PIPE AT BOTH ENDS OF LINE TO BE ABANDONED. GROUT IN PLACE WITH QUICK SETTING HYDRAULIC CEMENT.
  2. PUMP FLOWABLE GROUT FROM ONE END, OR INTERMEDIATE POINTS ALONG THE PIPELINE, UNTIL PIPE IS FILLED AS INTESTED BY THE DISCHARGE FROM 2" PIPE(S). REMOVE 2" PIPE AND FILL WITH QUICK SETTING HYDRAULIC CEMENT.

4" AND LARGER PIPE

GROUT IN PLACE DETAIL

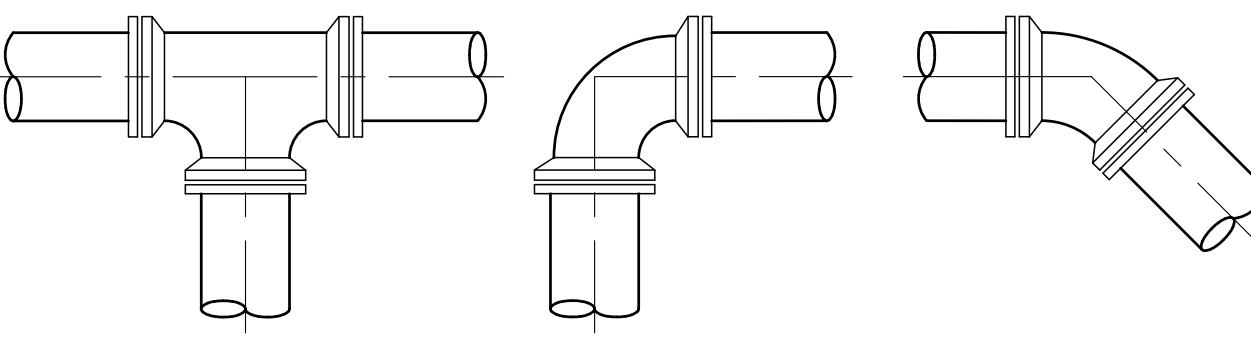
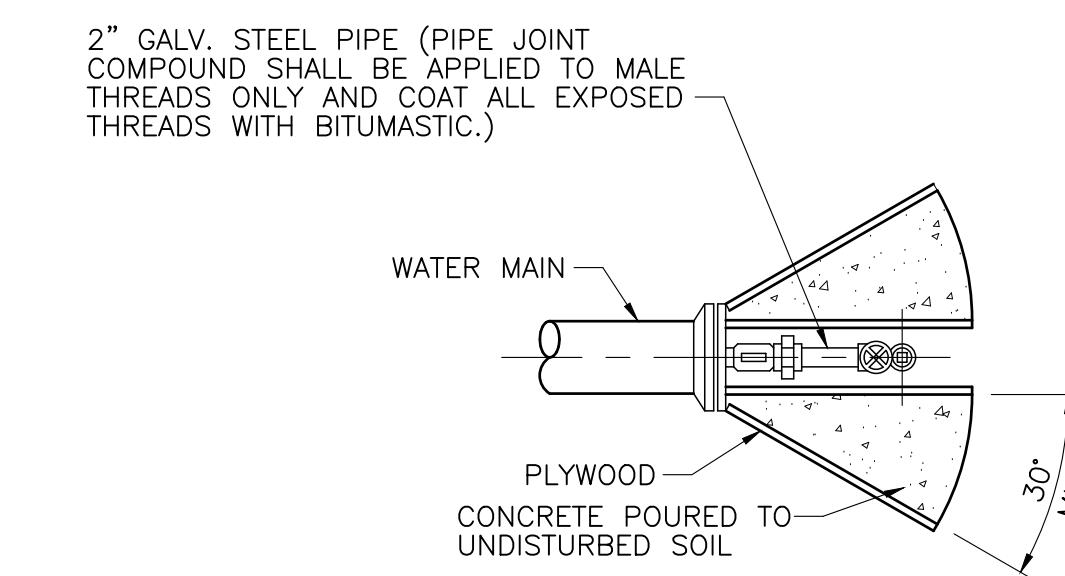


AT EXISTING VALVE OR FITTING

SEQUENCE OF CONSTRUCTION

1. RESTRAIN VALVE OR FITTING. CONTRACTOR TO PROVIDE TEMPORARY RESTRAINT AS REQUIRED.
2. REMOVE EXISTING PIPE FOR NEW CONCRETE PLUG.
3. INSTALL PLUG INTO BELL OF VALVE OR FITTING AND CAP ON END OF EXISTING PIPE TO BE ABANDONED.
4. INSTALL ALL THREAD RODS (COATED, 3/4" DIA., MIN) AND POUR CONCRETE PLUG.

LIVE LINE SEALING

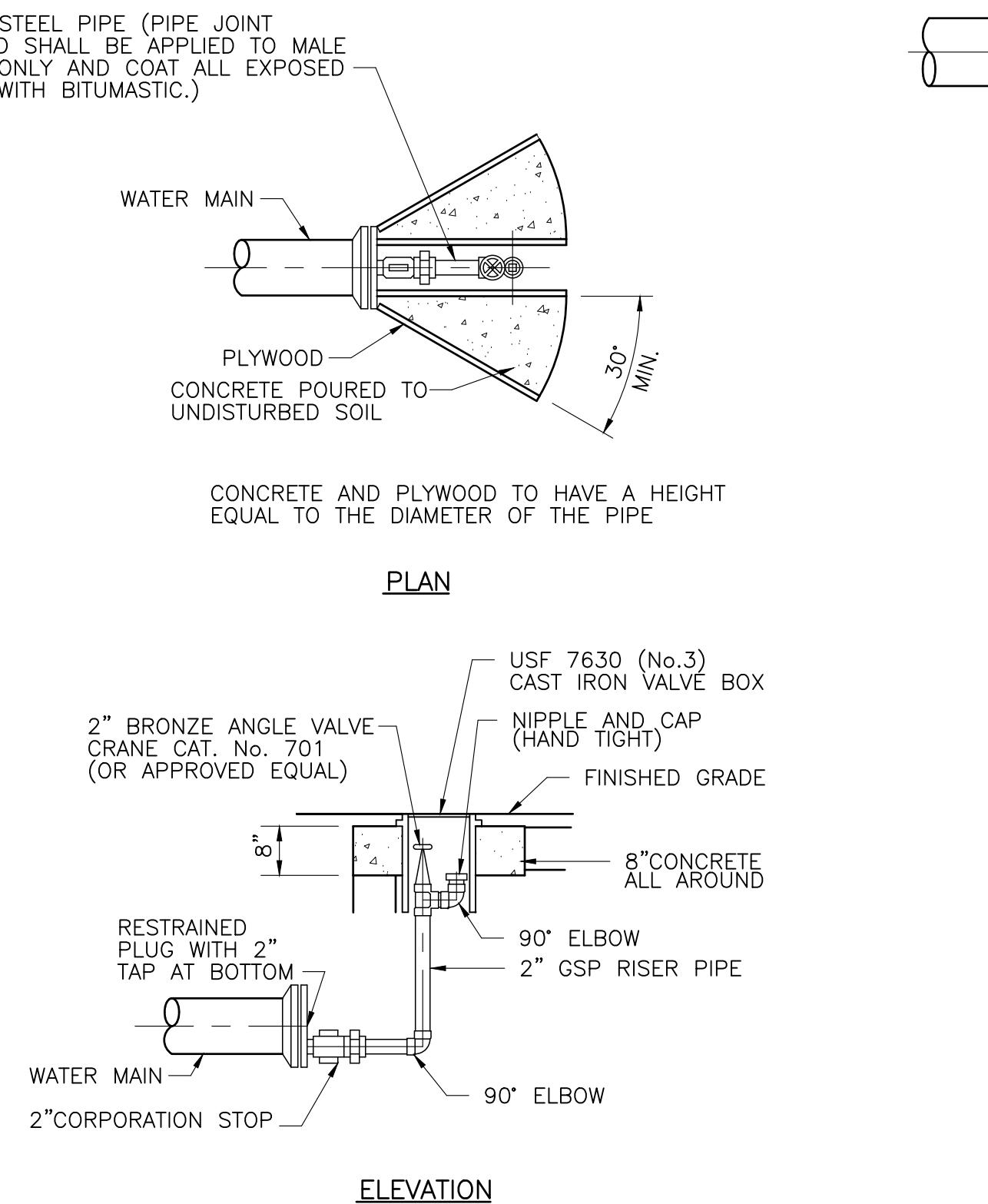


TEE & WYE      90° BEND      45° & 22 1/2° BEND

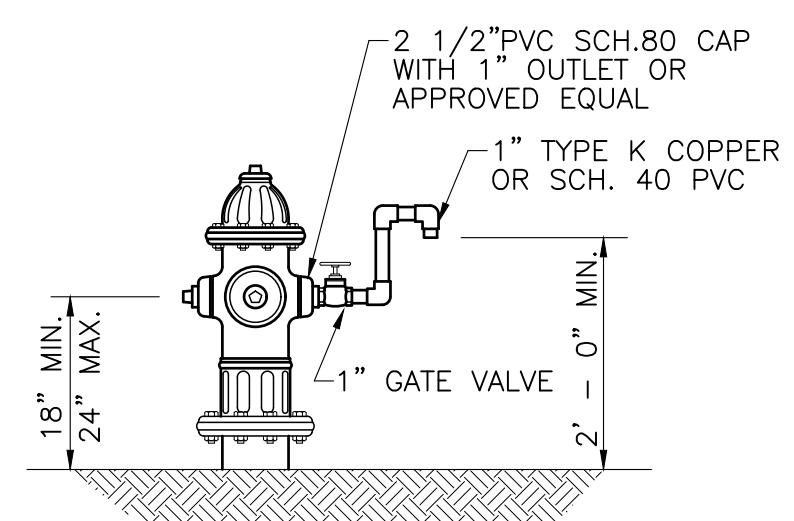
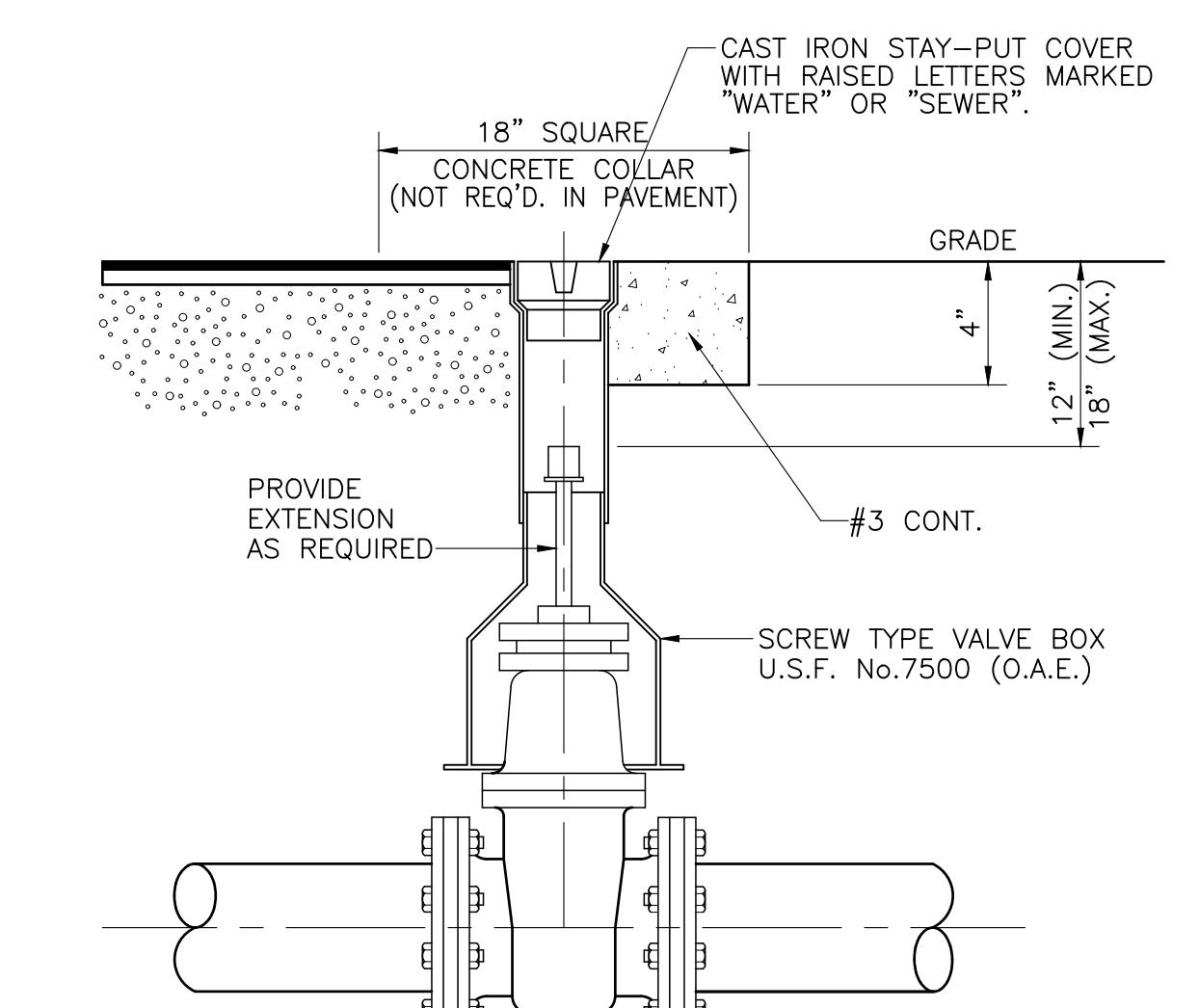
RESTRAINED PIPE LENGTH (LINEAL FEET)					
PIPE SIZE	TEE & WYE	90°BEND	45°BEND	22 1/2°BEND	11 1/4°BEND
6"	27	27	16	9	5
8"	34	34	20	11	6
10"	41	41	24	14	7
12"	48	48	28	16	8
14"	55	55	32	18	10
16"	62	62	35	20	11
18"	69	69	39	22	12
20"	75	75	42	24	13
24"	87	87	49	27	14
30"	104	104	57	31	17
36"	120	120	65	35	19
42"	134	134	72	39	21
48"	147	147	79	42	22
54"	160	160	85	45	24

NOTE:  
 THE FIGURES IN THIS TABLE ARE BASED ON 150 PSI TEST PRESSURE WITH 2.5 FEET OF COVER AND 2000 POUNDS PER SQUARE FOOT SOIL BEARING AGAINST UNDISTURBED TRENCH. A 20% SAFETY FACTOR HAS BEEN ADDED.

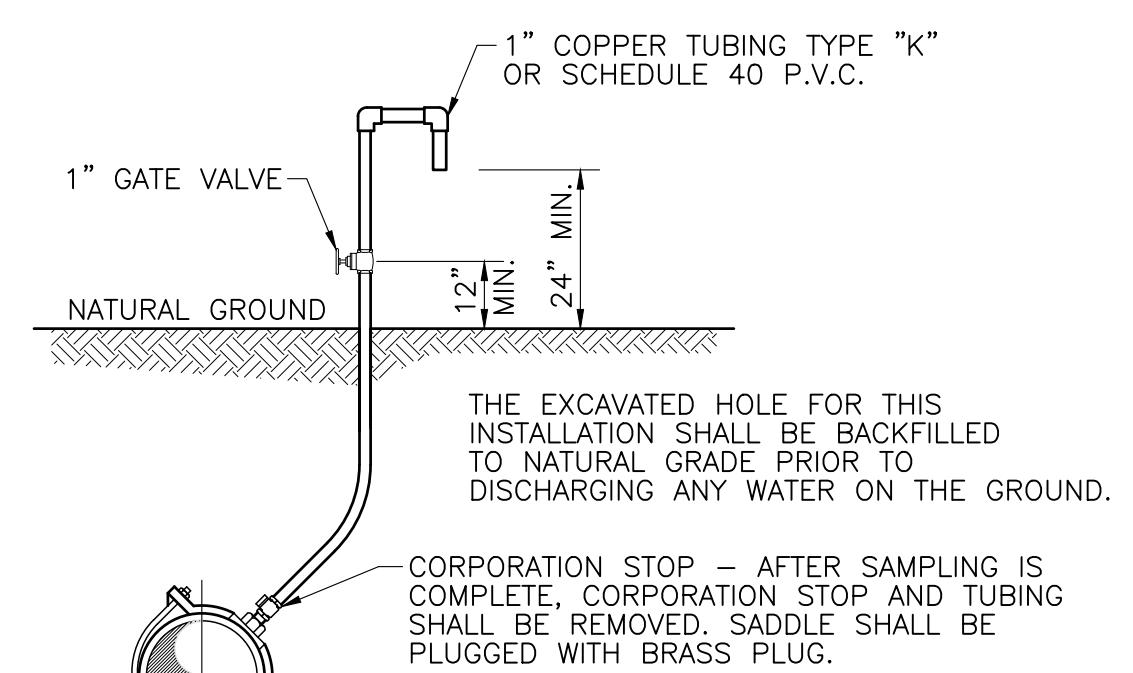
RESTRAINED JOINT DETAIL



2" TERMINAL BLOW-OFF



HYDRANT CONNECTION



NOTE:  
 THE EXCAVATED HOLE FOR THIS INSTALLATION SHALL BE BACKFILLED TO NATURAL GRADE PRIOR TO DISCHARGING ANY WATER ON THE GROUND.

CORPORATION STOP - AFTER SAMPLING IS COMPLETE, CORPORATION STOP AND TUBING SHALL BE REMOVED. SADDLE SHALL BE PLUGGED WITH BRASS PLUG.

DOUBLE STRAP TAPPING SADDLE - AWWA THREADS AND NO DIRECT TAPS SHALL BE PERMITTED.

WATER MAIN

MAIN CONNECTION

SEE 2" TERMINAL BLOW OFF ALSO.

TYPICAL SAMPLING POINTS



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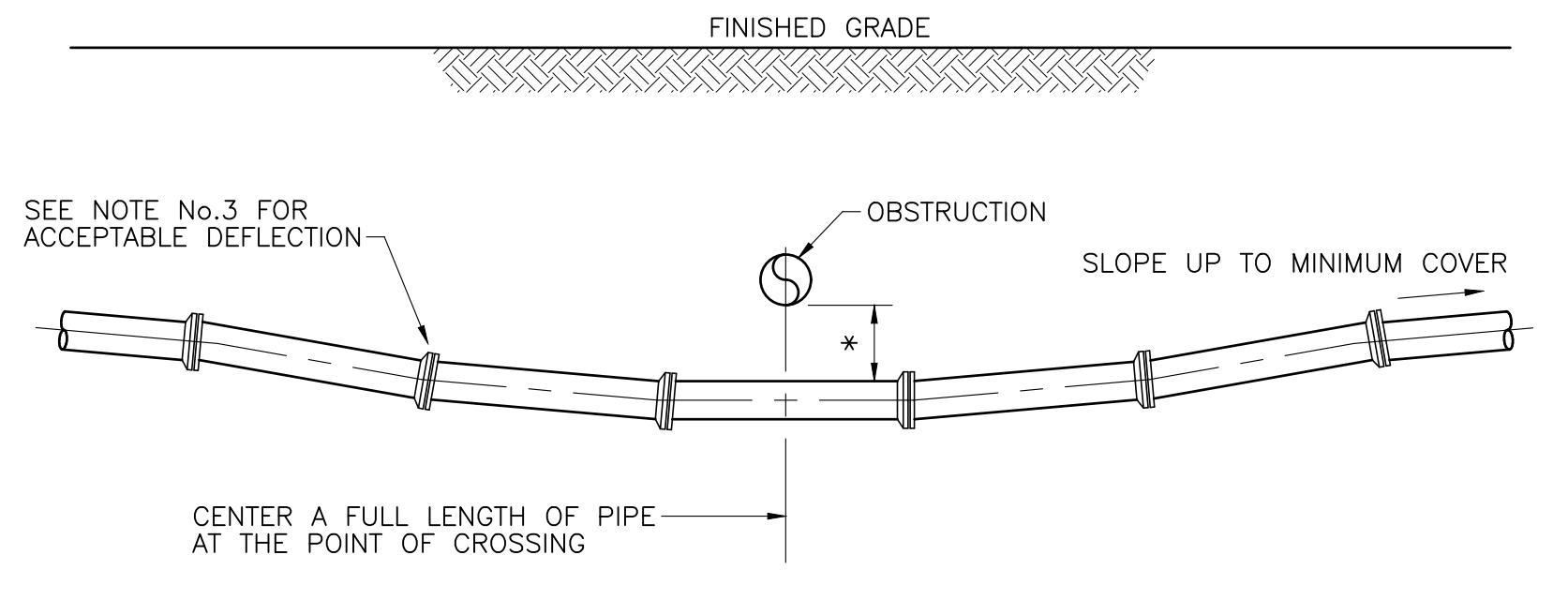
NICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536

SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

SHEET

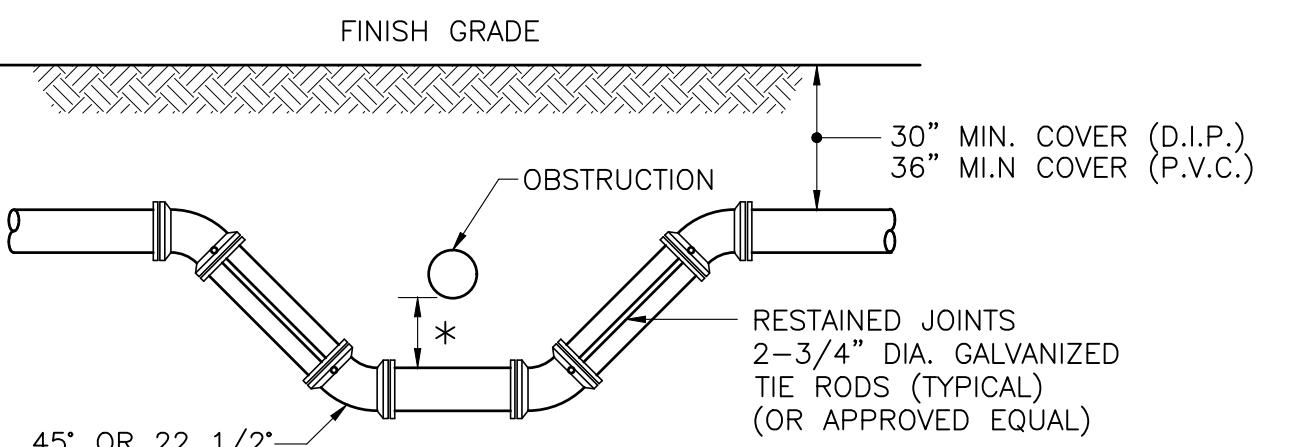
WM12





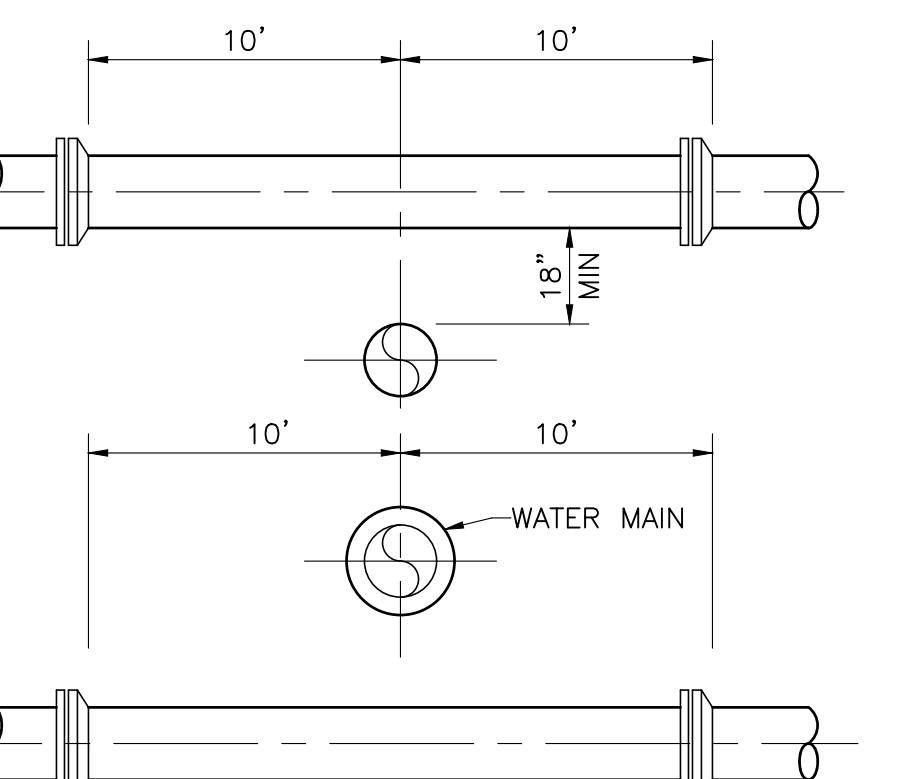
- NOTES:
1. (\*) 18" MINIMUM CLEARANCE REQUIRED FOR WATER AND SEWER MAIN CROSSINGS, 12" MINIMUM CLEARANCE REQUIRED FOR OTHER UTILITY CROSSINGS.
  2. THE DEFLECTION TYPE CROSSING SHALL BE USED WHENEVER POSSIBLE, ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSING BE ALLOWED.
  3. CONSTRUCT CROSSING USING 50% OF MANUFACTURES MAXIMUM JOINT DEFLECTION (MAXIMUM).

#### UTILITY CROSSING DEFLECTION TYPE



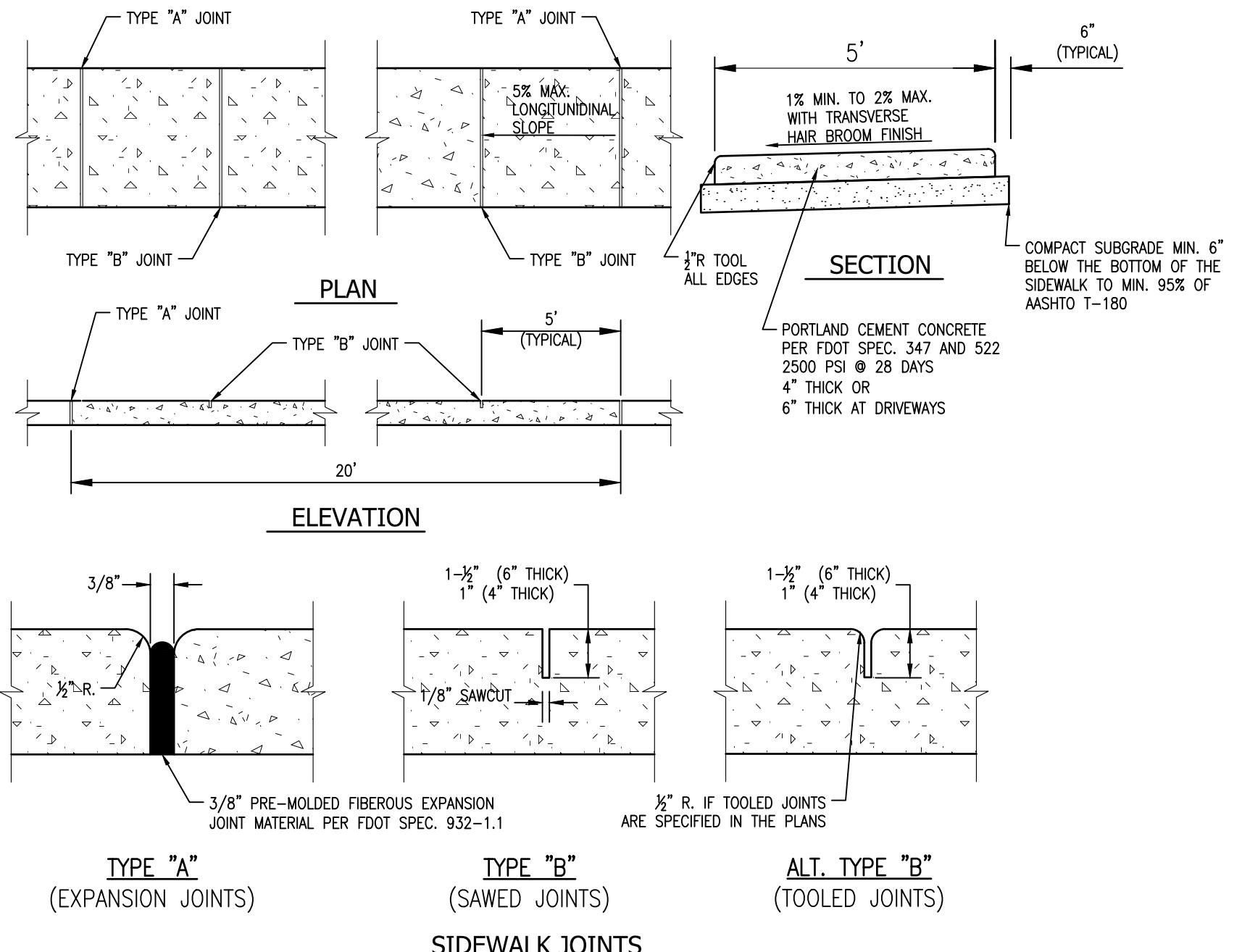
- NOTES:
1. (\*) 18" MINIMUM CLEARANCE REQUIRED FOR WATER AND SEWER MAIN CROSSINGS, 12" MINIMUM CLEARANCE REQUIRED FOR OTHER UTILITY CROSSINGS.
  2. COAT TIE RODS WITH A COAL TAR ENAMEL AFTER ASSEMBLY (2 COATS MIN.).
  3. TIE RODS MAY BE OMITTED WHEN OTHER APPROVED METHODS OF RESTRAINING ARE UTILIZED.

#### UTILITY CROSSING FITTING TYPE



- NOTES:
1. A WATER MAIN SHOULD CROSS OVER PIPES WHEREVER POSSIBLE, MAINTAINING A 36 INCH COVER FOR PVC, 30 INCH COVER FOR D.I.P. AND 18 INCH SEPARATION AS MINIMUMS.
  2. WHEREVER A WATER MAIN CROSSES UNDER A SEWER MAIN, OR CROSSES OVER WITH LESS THAN 18 INCHES VERTICAL SEPARATION, THEN D.I.P. SHALL BE USED FOR BOTH PIPES FOR A DISTANCE OF 20 FEET CENTERED ON CROSSING WITH NO JOINTS WITHIN 10 FEET OF THE CROSSING.
  3. 18 INCH SEPARATION SHOULD BE MAINTAINED BETWEEN ALL PIPES (STORM, SEWER, WATER) WHENEVER POSSIBLE. 12 INCHES IS THE ABSOLUTE MINIMUM SEPARATION WITH D.I.P. REQUIRED FOR ANY SEPARATION LESS THAN 18 INCHES.
  4. MAINTAIN 10 FEET HORIZONTAL SEPARATION BETWEEN WATER AND SEWER AS A MINIMUM.
  5. 3 FOOT HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN UTILITIES AND ANY OBSTRUCTIONS (CATCH BASINS, CONCRETE POLES, ETC.)
  6. 5 FOOT HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN UTILITIES AND TREES.

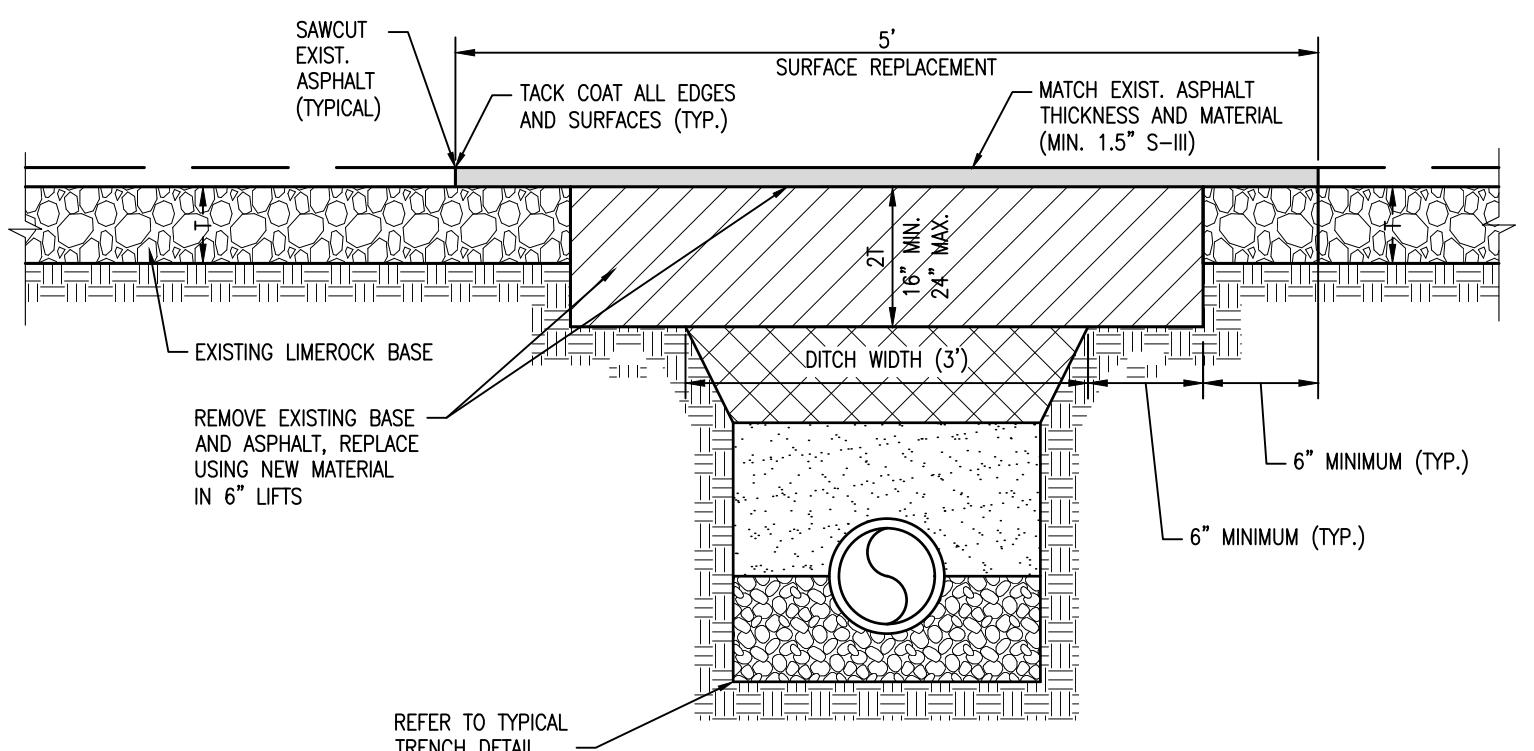
#### UTILITY CROSSING GENERAL REQUIREMENTS



SIDEWALK JOINTS	
TYPE	LOCATION
"A"	30'-0" CENTER TO CENTER P.C. AND P.T. OF CURVES, JUNCTION OF EXISTING AND NEW SIDEWALKS, WHERE SIDEWALK ABUTS CONCRETE CURBS, DRIVEWAYS, AND SIMILAR STRUCTURES OR AT THE DISCRETION OF THE ENGINEER.
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS THROUGHOUT THE SITE.

#### CONCRETE SIDEWALK

SCALE: N.T.S. CURRENT

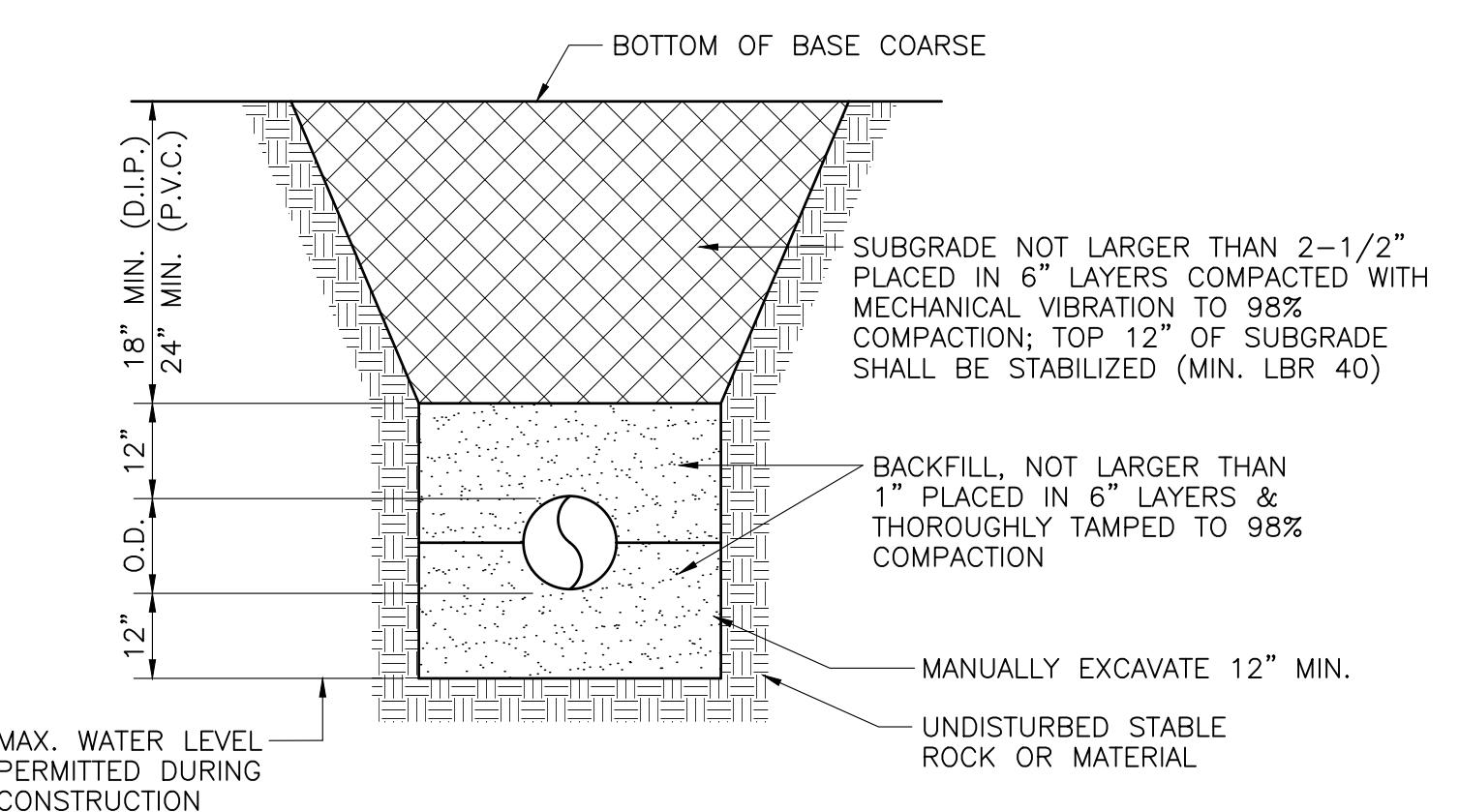


#### NOTES:

1. REFER TO GENERAL NOTES AND TECHNICAL SPECIFICATIONS FOR INSTALLATION AND MATERIAL REQUIREMENTS.
2. ALL EDGES OF THE EXISTING ASPHALT PAVEMENT WHERE RESURFACING WILL ABUT, SHALL BE SAWCUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO ROADWAY, PRIOR TO RESURFACING.
3. NEW LIMEROCK BASE SHALL HAVE A MINIMUM LBR OF 100.

#### PAVEMENT RESTORATION

SCALE: N.T.S. CURRENT



#### NOTES:

1. MAXIMUM DENSITY DETERMINED BY AASHTO T-180. TRENCH SHALL BE EXCAVATED AND COMPACTION FOR 12" ON EACH SIDE OF THE PIPE.
2. MAXIMUM DEPTH TO BOTTOM OF PRESSURE MAINS SHALL NOT EXCEED SIX (6) FEET UNLESS OTHERWISE APPROVED BY THE CITY OF PEMBROKE PINES UTILITY DEPARTMENT.

#### TYPICAL TRENCH DETAIL



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FOR BIDDING PURPOSES ONLY

NICHOLAS W. KANELLIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536

DATE: JULY 10, 2018

SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

SHEET  
WM14

Calvin, Giordano & Associates, Inc.  
EXCEPTIONAL SOLUTIONS™  
1800 Eller Drive, Suite 600, Fort Lauderdale, Florida 33316  
Phone: 954.921.7781 • Fax: 954.921.8807  
Certificate of Authorization 514

PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDA

WATER DETAILS

07/10/18 ADDENDUM NO. 1 NWK  
NO DATE BY NO DATE REVISION BY

STORM WATER POLLUTION PREVENTION PLAN																				
SITE DESCRIPTION		GENERAL																		
<p>PROJECT NAME AND LOCATION: PINES VILLAGE WATER MAIN REPLACEMENT PEMBROKE PINES, FLORIDA</p> <p>OWNER NAME AND ADDRESS: CITY OF PEMBROKE PINES UTILITIES DIVISION 8300 SOUTH PALM DRIVE PEMBROKE PINES, FL 33025</p> <p>DESCRIPTION: REPLACEMENT OF WATER MAINS, WATER SERVICES, WATER METERS, AND FIRE HYDRANTS.</p>		<p>THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN, IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULANTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.</p> <p>SEQUENCE OF MAJOR ACTIVITIES:</p> <ol style="list-style-type: none"> <li>1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES.</li> <li>2. INSTALL UNDERGROUND UTILITIES.</li> <li>3. CONTINUE WITH E&amp;S CONTROL MEASURES.</li> <li>4. COMPLETE FINAL PAVING OPERATIONS.</li> <li>5. REMOVE ACCUMULATED SEDIMENTS FROM STORM WATER MANAGEMENT SYSTEM.</li> </ol> <p>TIMING OF CONTROLS/MEASURES</p> <p>AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA WILL BE STABILIZED PERMANENTLY IN ACCORDANCE WITH THE PLANS. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT WILL BE REMOVED FROM THE SEDIMENT TRAPS IN ACCORDANCE WITH THE SWPP PLAN.</p> <p>ENDANGERED SPECIES AND CRITICAL HABITAT</p> <p>1. ARE THERE ENDANGERED SPECIES ON SITE? <u>NO</u>. 2. ARE THERE CRITICAL HABITAT ON SITE? <u>NO</u>. IF YES TO EITHER QUESTION, PLEASE EXPLAIN.  CONTROLS</p> <p>THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUNOFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE AND LOCAL LAWS. REFER TO "CONTRACTOR'S RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.</p> <p>STORM WATER MANAGEMENT STORM WATER DRAINAGE WILL BE PROVIDED BY A POSITIVE DRAINAGE COLLECTION SYSTEM DISCHARGING INTO EXISTING LAKE.</p> <p>FOR THE PROJECT, AREAS WHICH ARE NOT TO BE CONSTRUCTED ON, BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE, WHEN CONSTRUCTION IS COMPLETE, WHERE PRACTICAL, TEMPORARY SEDIMENT BASINS WILL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE ONSITE DRAINAGE SYSTEM. THIS IS IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY FEDERAL, STATE AND LOCAL REGULATIONS.</p> <p>TIMING OF CONTROLS/MEASURES REFER TO "CONTRACTOR'S RESPONSIBILITY" FOR THE TIMING OF CONTROL/MEASURES.</p> <p>CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS RELATED TO STORM WATER MANAGEMENT AND EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED. SFWM PERMIT # _____ NPDES PERMIT # CONTRACTOR</p> <p>POLLUTION PREVENTION PLAN CERTIFICATION I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.</p>																		
<p>RUNOFF CURVE NUMBERS: <u>CN</u></p> <table border="1"> <tr> <td>1. PRE-CONSTRUCTION</td> <td>98</td> </tr> <tr> <td>2. DURING CONSTRUCTION</td> <td>98</td> </tr> <tr> <td>3. POST-CONSTRUCTION</td> <td>98</td> </tr> </table> <p>SITE MAPS: REFER TO CONSTRUCTION PLANS</p> <p>SITE AREA: 1. TOTAL AREA OWNED: 313.00 AC. 2. AREA TO BE DISTURBED: 10.38 AC. (PROJECT AREA)</p> <p>NAME OF RECEIVING WATERS: EXISTING ROADWAY DRAINAGE SYSTEM</p>		1. PRE-CONSTRUCTION	98	2. DURING CONSTRUCTION	98	3. POST-CONSTRUCTION	98	<p>4. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.</p> <p>5. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING AND GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL BE MINIMIZED.</p> <p>6. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT-LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.</p> <p>7. DUST CONTROL: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL TREATMENT WITHIN 30 DAYS SHALL BE STABILIZED.</p> <p>8. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.</p> <p>9. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDRATED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER. TEMPORARY GRASSING SHALL BE THE SAME MIX &amp; AMOUNT REQUIRED FOR PERMANENT GRASSING IN THE CONTRACT SPECIFICATIONS.</p> <p>10. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.</p> <p>11. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.</p> <p>12. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.</p> <p>13. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.</p> <p>STRUCTURAL PRACTICES (IF APPLICABLE):</p> <p>1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF THROUGH A SEDIMENT-TRAPPING FACILITY.</p> <p>2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP SHALL BE INSTALLED IN A DRAINAGE WAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA. THE FOLLOWING SEDIMENT TRAPS MAY BE CONSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTION WITH A TEMPORARY DIVERSION DIKE:</p> <p>A. BLOCK &amp; GRAVEL SEDIMENT FILTER – THIS PROTECTION IS APPLICABLE WHERE HEAVY FLOWS AND/OR WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.</p> <p>B. GRAVEL SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES &amp; UNPROTECTED AREAS.</p> <p>C. DROP INLET SEDIMENT TRAP – THIS PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (<math>S &lt; 5\%</math>) AND WHERE SHEET OR OVERLAND FLOWS (<math>Q &lt; 0.5 \text{ CFS}</math>) ARE TYPICAL. THIS METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS SUCH AS IN STREET OR HIGHWAY MEDIANS.</p> <p>3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE FLOW COULD CAUSE EROSION &amp; SEDIMENT PROBLEM TO THE RECEIVING WATER BODY. SILT FENCES &amp; HAY BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF THE DISCHARGING STRUCTURE AS SHOWN ON THE OUTLET PROTECTION DETAIL.</p> <p>4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS, THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 67 CUBIC YARDS OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE VOLUME OF THE BASIN AT CLEAN OUT SHALL BE 22 CUBIC YARDS PER ACRE.</p>												
1. PRE-CONSTRUCTION	98																			
2. DURING CONSTRUCTION	98																			
3. POST-CONSTRUCTION	98																			
<p>WATERFALL CURVE NUMBER: <u>CN</u></p> <p>SOIL DISTURBING ACTIVITIES SOIL DISTURBING ACTIVITIES WILL INCLUDE, UTILITY TRENCHING AND TRENCH RESTORATION.</p>		<p>THE 67 CUBIC YARDS OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.</p> <p>OTHER CONTROLS</p> <p>WASTE DISPOSAL (IF APPLICABLE):</p> <p>WASTE MATERIALS</p> <p>ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.</p> <p>HAZARDOUS WASTE</p> <p>ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.</p> <p>PAINTS</p> <p>ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.</p> <p>CONCRETE TRUCKS</p> <p>CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.</p> <p>SPILL CONTROL PRACTICES</p> <p>IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:</p> <p>MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE.</p> <p>EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOOGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.</p> <p>ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.</p> <p>THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.</p> <p>SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.</p> <p>THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.</p> <p>THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SH/ WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ON SITE.</p> <p>MATERIAL MANAGEMENT PRACTICES</p> <p>THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.</p> <p>GOOD HOUSEKEEPING</p> <p>THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ON SITE DURING THE CONSTRUCTION PROJECT.</p> <p>* AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.</p> <p>* ALL MATERIALS STORED ON SITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.</p> <p>* PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.</p> <p>* SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.</p> <p>* WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.</p> <p>* MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.</p> <p>* THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ON SITE RECEIVE PROPER USE AND DISPOSAL.</p> <p>MAINTENANCE/INSPECTION PROCEDURES</p> <p>EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES</p> <p>THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.</p> <p>NO MORE THAN 5 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.</p> <p>ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.</p> <p>ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.</p> <p>BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.</p>																		
<p>NON-STORM WATER DISCHARGES</p> <p>IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:</p> <ul style="list-style-type: none"> <li>* WATER FROM WATER LINE FLUSHING</li> <li>* PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).</li> <li>* UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).</li> </ul> <p>ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.</p>		<p>CONTRACTOR'S CERTIFICATION</p> <p>I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.</p> <table border="1"> <tr> <td>RESPONSIBLE FOR/DUTIES</td> <td>GENERAL CONTRACTOR</td> <td>SUB-CONTRACTOR</td> <td>SUB-CONTRACTOR</td> <td>SUB-CONTRACTOR</td> </tr> <tr> <td>BUSINESS NAME AND ADDRESS OF CONTRACTOR &amp; ALL SUBS</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SIGNATURE</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				RESPONSIBLE FOR/DUTIES	GENERAL CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	SUB-CONTRACTOR	BUSINESS NAME AND ADDRESS OF CONTRACTOR & ALL SUBS					SIGNATURE				
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SIGNATURE																				



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FOR BIDDING PURPOSES ONLY

1

NICHOLAS W. KANELIDIS, P.E.

STATE OF FLORIDA PROFESSIONAL ENGINEER

LICENSE NO. 78536

SCALE AS SHOWN

PROJECT NO

91-0134.1

SHEET

SWP1

## PINES VILLAGE WATER MAIN REPLACEMENT

### PHASE 1

### PEMBROKE PINES, FLORIDA

## STORMWATER POLLUTION

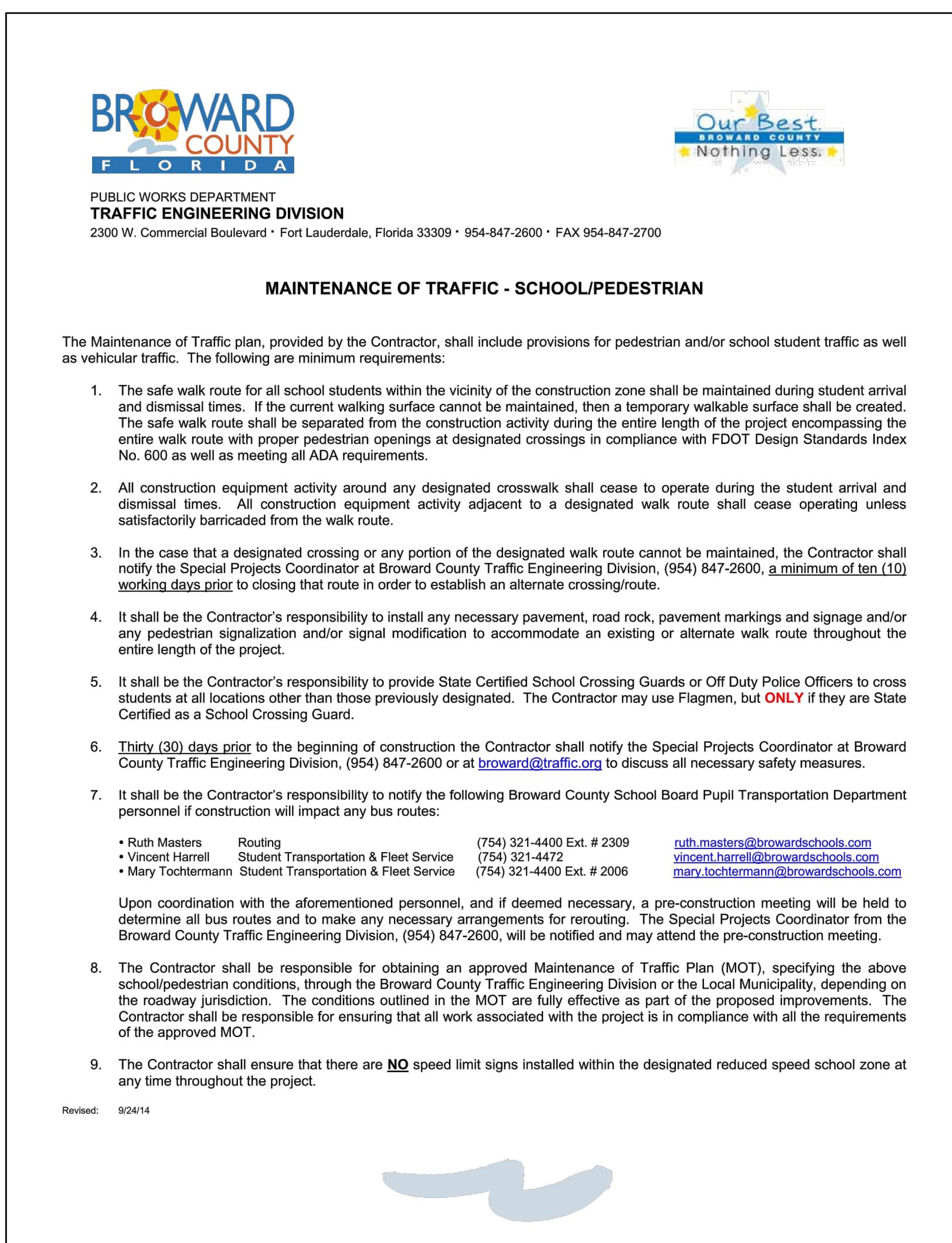
### PREVENTION PLAN

DATE: JUNE 6, 2018





## PAVEMENT MARKING KEY MAP



- NOTES:**

  1. ALL EXISTING SIGNAGE TO REMAIN.
  2. ALL PAVEMENT MARKINGS AND SIGNAGE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED ACCORDING TO BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS.
  3. IN LOCATIONS WHERE A STOP SIGN EXISTS WITHOUT A STOP BAR, ADD A STOP BAR PER APPLICABLE STANDARD DETAILS.
  4. ALL PROPOSED MARKINGS SHALL MATCH EXISTING MARKINGS, WHERE APPLICABLE.
  5. EDGE LINE MARKINGS SHALL NOT BE INSTALLED IN CROSSWALK AREAS OR IN FRONT OF CURB RAMPS. EXISTING MARKINGS IN THESE AREAS SHALL BE COMPLETELY REMOVED.
  6. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE MUTCD AND BCTED COMPLIANT.
  7. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

## LEGEND

## PROJECT AREA WITHIN ROADWAY

THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
  2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT REVIEW AND APPROVE, OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, BLINKER SIGNS(TYPICAL), RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.
  3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, BLINKERS SIGNS (TYPICAL), RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGN AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK AND ASPHALT WORK.



## FOR BIDDING PURPOSES ONLY

NOLAS W. KANELIDIS, P.E.  
TE OF FLORIDA PROFESSIONAL ENGINEER  
NSE No. 78536

SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

PMS 1

MATCHLINE (SEE SHEET PMS3 FOR CONTINUATION)

GRAPHIC SCALE  
( IN FEET )  
0 30 60 120  
1'=60'

MATCHLINE (SEE SHEET PMS4 FOR CONTINUATION)

## NOTES:

1. ALL EXISTING SIGNAGE TO REMAIN.
2. ALL PAVEMENT MARKINGS AND SIGNAGE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED ACCORDING TO BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS.
3. IN LOCATIONS WHERE A STOP SIGN EXISTS WITHOUT A STOP BAR, ADD A STOP BAR PER APPLICABLE STANDARD DETAILS.
4. ALL PROPOSED MARKINGS SHALL MATCH EXISTING MARKINGS, WHERE APPLICABLE.
5. EDGE LINE MARKINGS SHALL NOT BE INSTALLED IN CROSSWALK AREAS OR IN FRONT OF CURB RAMPS. EXISTING MARKINGS IN THESE AREAS SHALL BE COMPLETELY REMOVED.
6. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE MUTCD AND BCTED COMPLIANT.
7. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

## LEGEND

PROJECT AREA WITHIN ROADWAY



It's fast. It's free. It's the law.

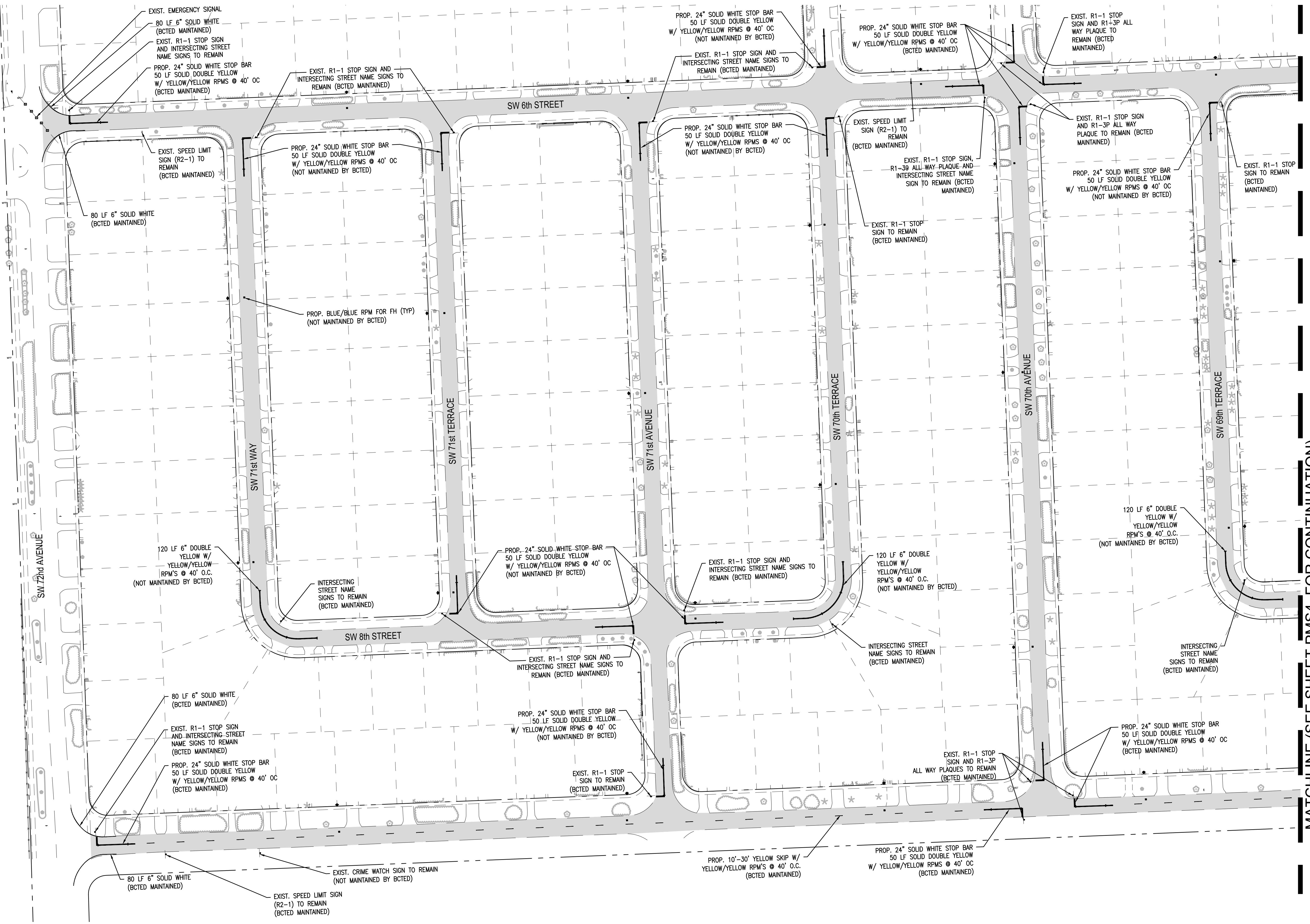
www.callsunshine.com

FOR BIDDING PURPOSES ONLY

NICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

SHEET

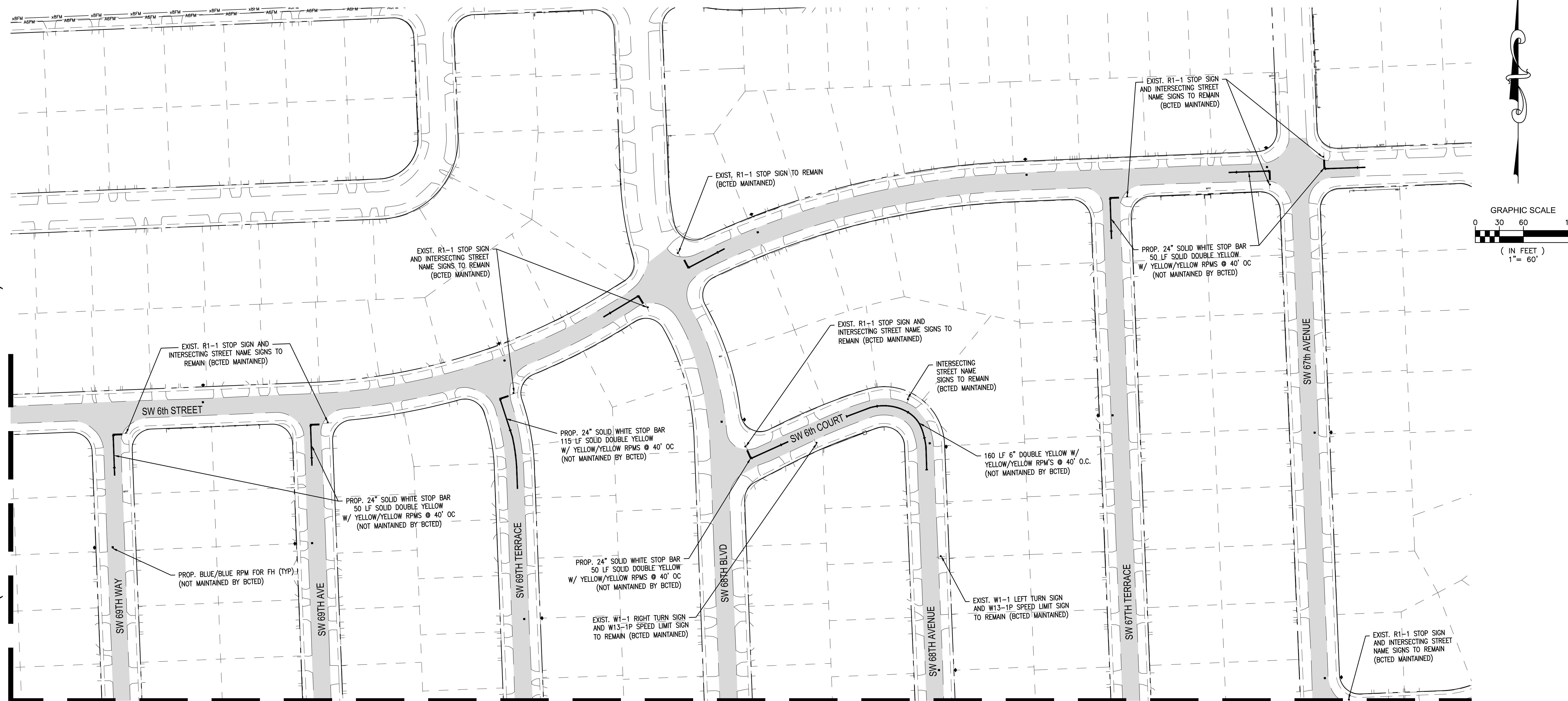
PMS2

Calvin, Giordano & Associates, Inc.  
EXCEPTIONAL SOLUTIONS™  
1800 Eller Drive, Suite 600, Fort Lauderdale, Florida 33316  
Phone: 954.921.7781 • Fax: 954.921.8807  
Certificate of Authorization 514PINES VILLAGE WATER MAIN REPLACEMENT  
PHASE 1  
PEMBROKE PINES, FLORIDAPAVEMENT MARKING AND SIGNAGE  
PLANNICHOLAS W. KANELIDIS, P.E.  
STATE OF FLORIDA PROFESSIONAL ENGINEER  
LICENSE No. 78536  
DATE: JUNE 6, 2018SCALE  
AS SHOWN  
PROJECT No  
91-0134.1

SHEET

PMS2

## MATCHLINE (SEE SHEET PMS2 FOR CONTINUATION)



## MATCHLINE (SEE SHEET PMS4 FOR CONTINUATION)

## NOTES:

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PROJECT AREA WITHIN ROADWAY



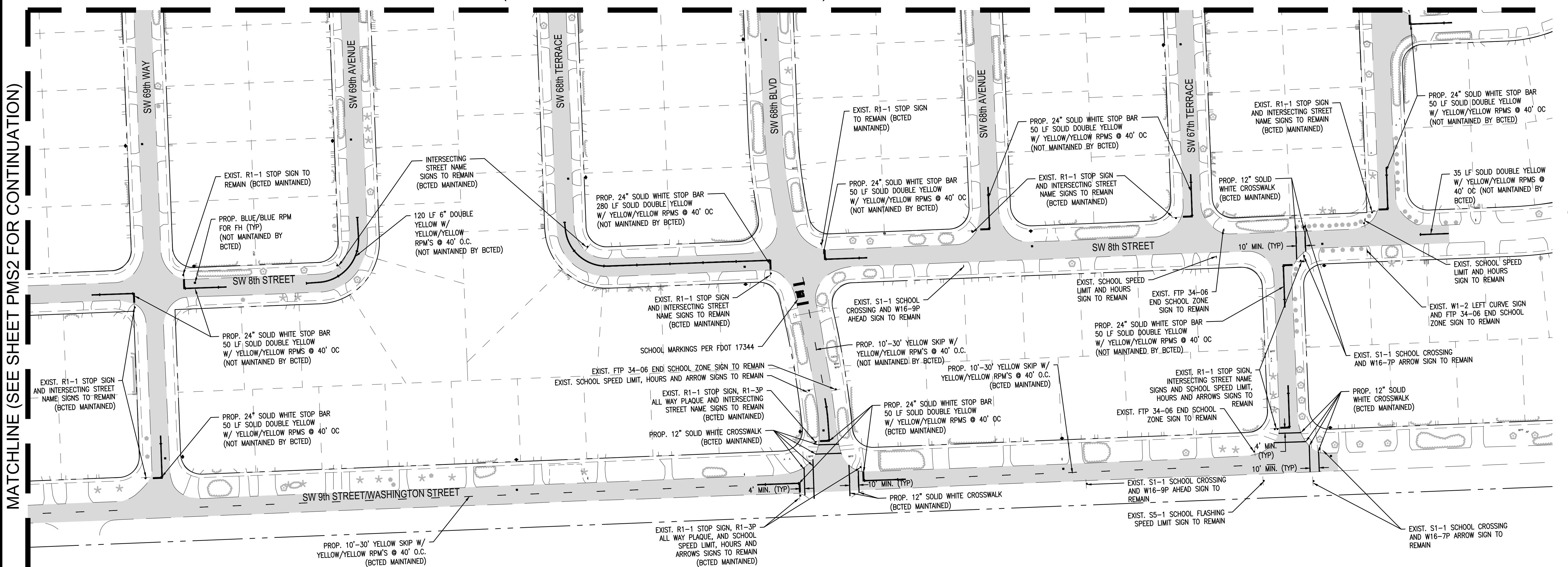
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 STATE OF FLORIDA PROFESSIONAL ENGINEER  
 LICENSE No. 78536  
 DATE: JUNE 6, 2018

 SCALE  
 AS SHOWN  
 PROJECT No  
 91-0134.1
SHEET  
PMS3
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 PINES VILLAGE WATER MAIN REPLACEMENT  
 PHASE 1  
 PEMBROKE PINES, FLORIDA

 PAVEMENT MARKING AND SIGNAGE  
 PLAN



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FOR BIDDING PURPOSES ONLY

 NICHOLAS W. KANELIDIS, P.E.  
 STATE OF FLORIDA PROFESSIONAL ENGINEER  
 LICENSE No. 78536

 SCALE AS SHOWN  
 PROJECT No 91-0134.1

SHEET

PMS4

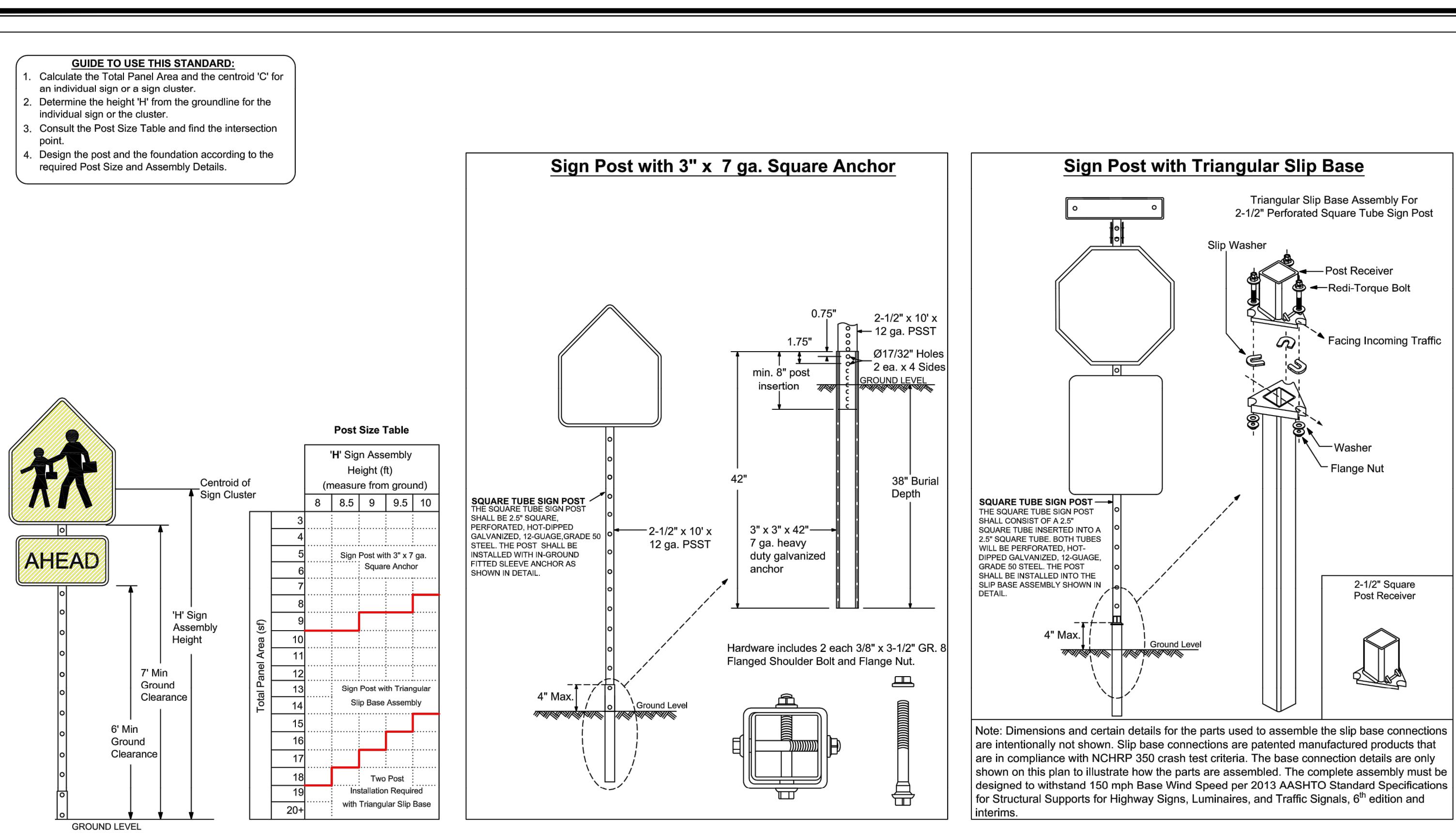

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 PINES VILLAGE WATER MAIN REPLACEMENT  
 PHASE 1  
 PEMBROKE PINES, FLORIDA

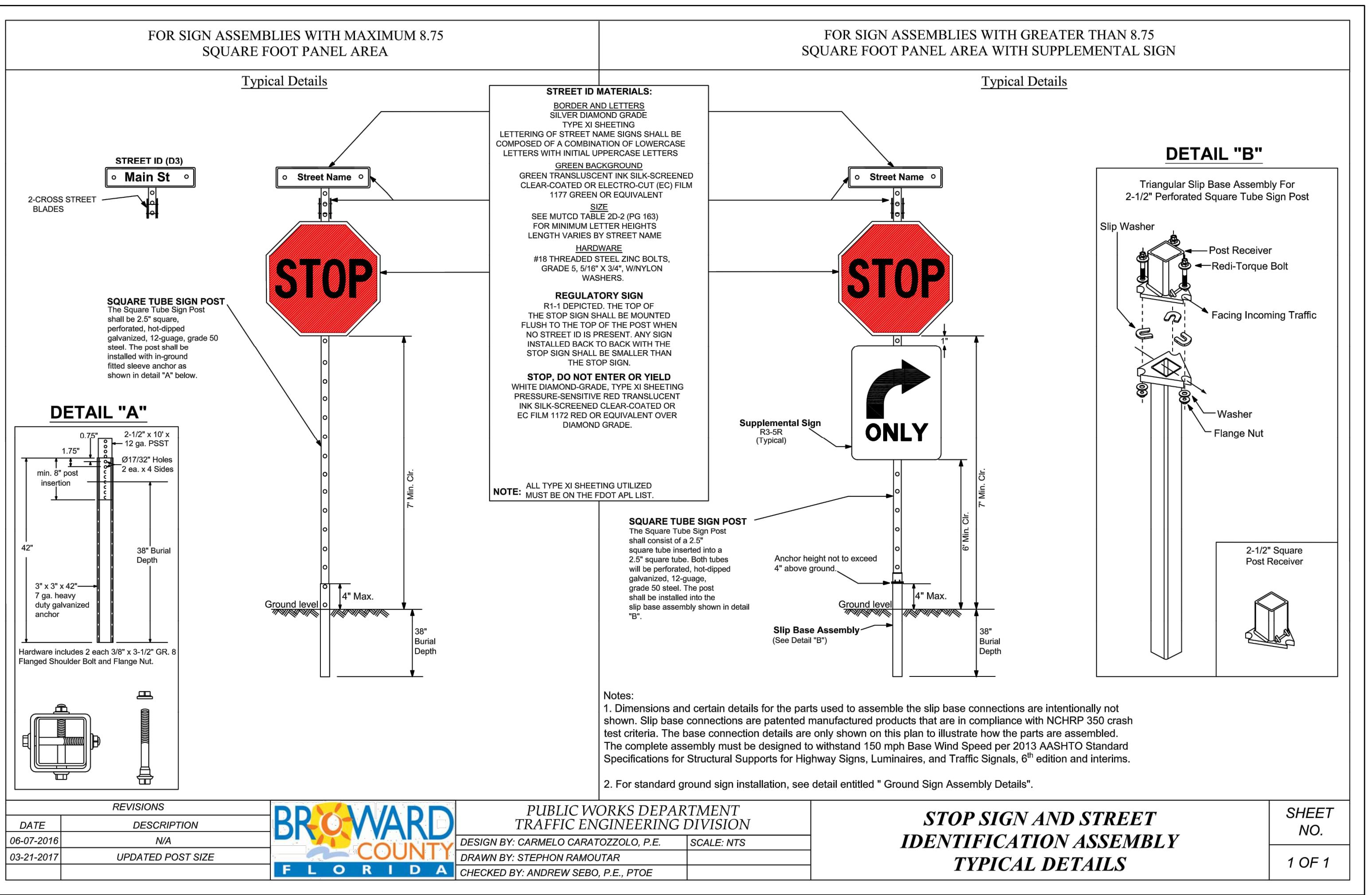
 PAVEMENT MARKING AND SIGNAGE  
 PLAN

**GUIDE TO USE THIS STANDARD:**

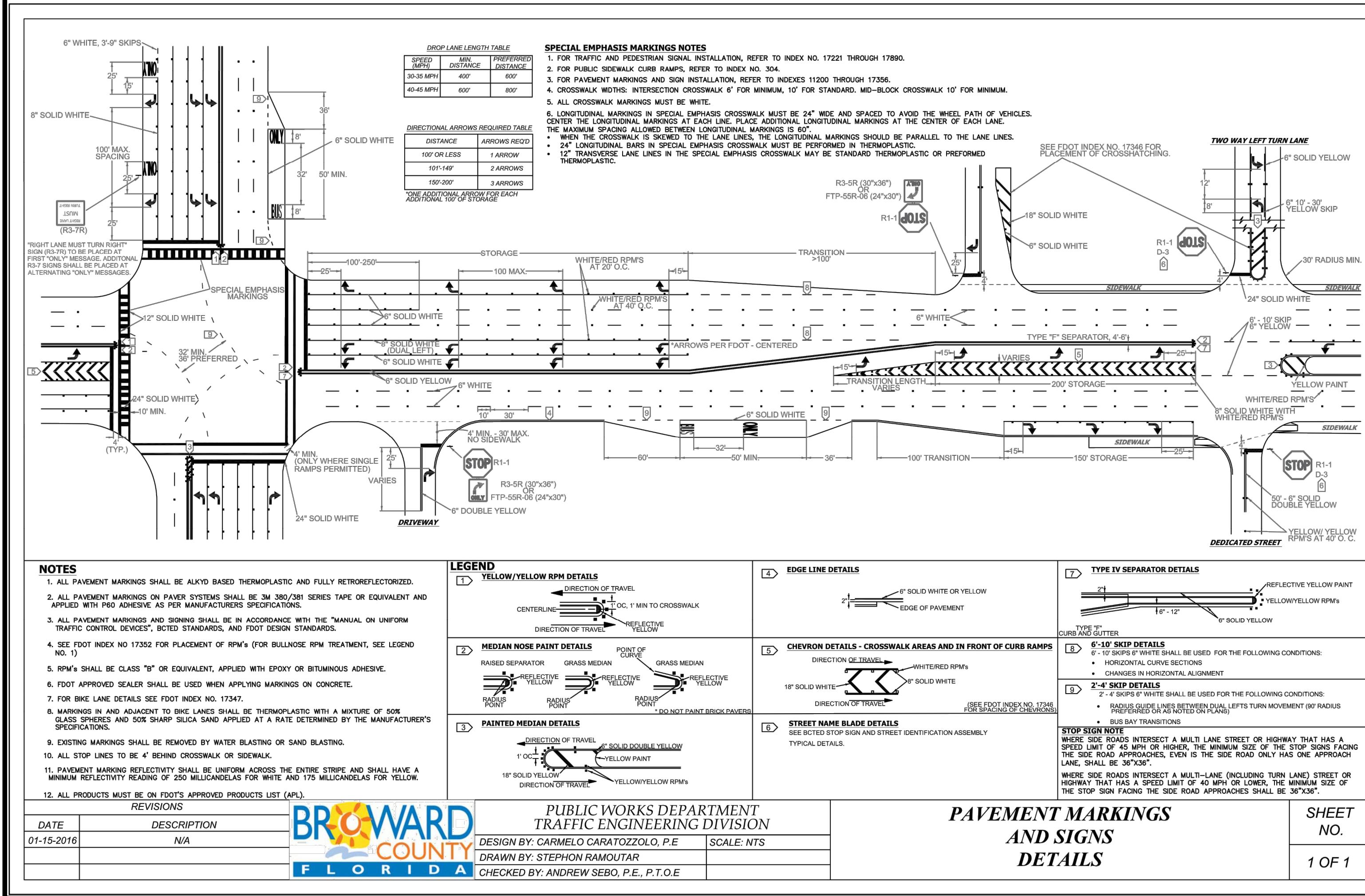
1. Calculate the Total Panel Area and the centroid 'C' for the sign assembly height.
2. Determine the height 'H' for the groundline for the individual sign or the cluster.
3. Consult the Post Size Table and find the intersection point.
4. Design the post and the foundation according to the required Post Size and Assembly Details.



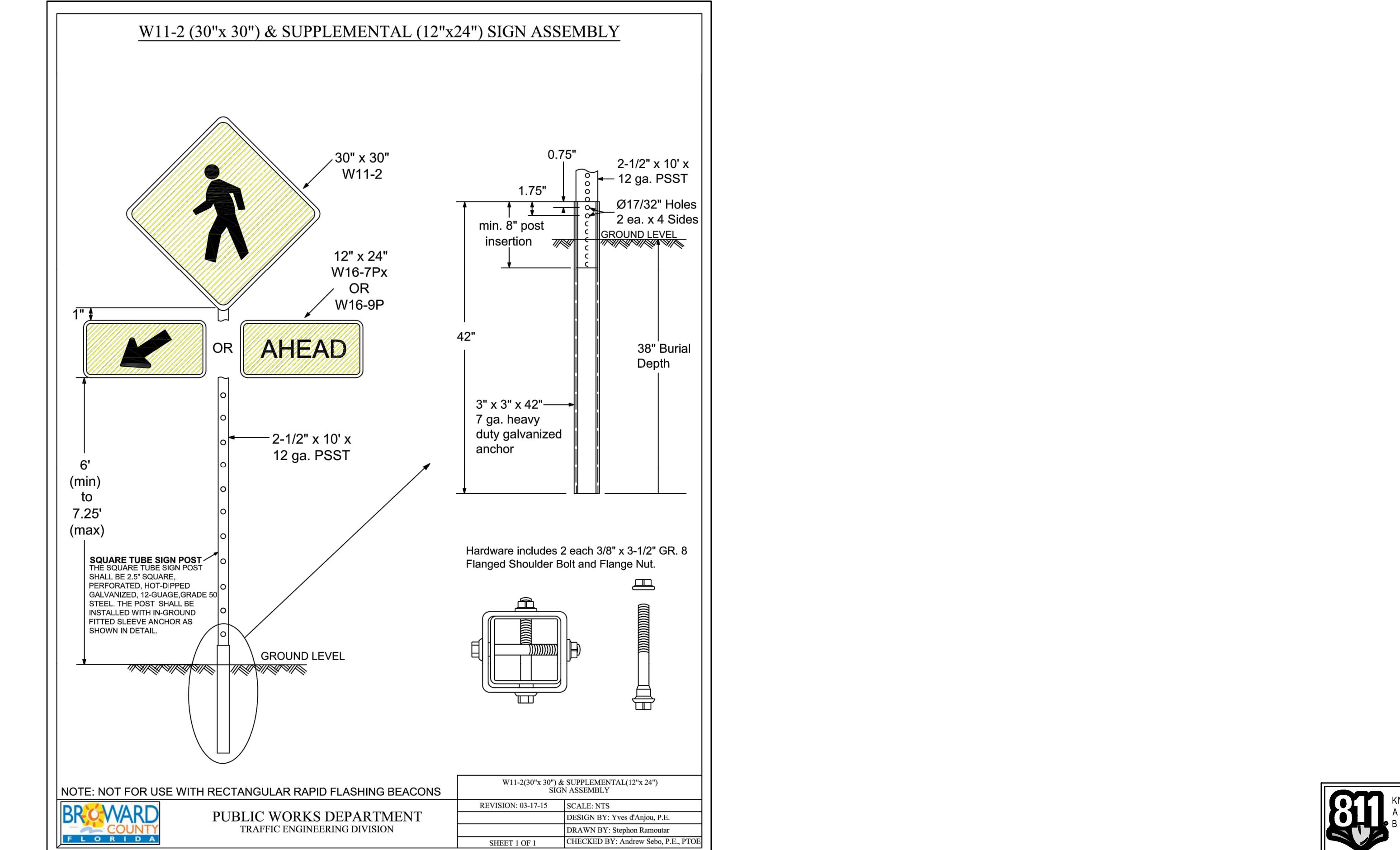
REVISIONS	DATE	DESCRIPTION	BROWARD COUNTY		PUBLIC WORKS DEPARTMENT		TRAFFIC ENGINEERING DIVISION		GROUND SIGN ASSEMBLY DETAILS		SHEET NO.
01-05-2016		N/A	FLORIDA		DESIGN BY: YVES D'ANJOU, P.E.	SCALE: NTS	DRAWN BY: STEPHON RAMOUTAR	CHECKED BY: ANDREW SEBO, P.E., PTOE			1 OF 1
03-21-2017	UPDATED POST SIZE										



REVISIONS	DATE	DESCRIPTION	BROWARD COUNTY		PUBLIC WORKS DEPARTMENT		TRAFFIC ENGINEERING DIVISION		STOP SIGN AND STREET IDENTIFICATION ASSEMBLY TYPICAL DETAILS		SHEET NO.
06-07-2016		N/A	FLORIDA		DESIGN BY: CARMELO CARATOZZOLO, P.E.	SCALE: NTS	DRAWN BY: STEPHON RAMOUTAR	CHECKED BY: ANDREW SEBO, P.E., PTOE			1 OF 1
03-21-2017	UPDATED POST SIZE										



REVISIONS	DATE	DESCRIPTION	BROWARD COUNTY		PUBLIC WORKS DEPARTMENT		TRAFFIC ENGINEERING DIVISION		PAVEMENT MARKINGS AND SIGNS DETAILS		SHEET NO.
01-15-2016		N/A	FLORIDA		DESIGN BY: CARMELO CARATOZZOLO, P.E.	SCALE: NTS	DRAWN BY: STEPHON RAMOUTAR	CHECKED BY: ANDREW SEBO, P.E., PTOE			1 OF 1



W11-2 (30"x30") & SUPPLEMENTAL (12"x24") SIGN ASSEMBLY	NOTE: NOT FOR USE WITH RECTANGULAR RAPID FLASHING BEACONS
W11-2 (30"x30") & SUPPLEMENTAL (12"x24") SIGN ASSEMBLY	
REVISION: 03-17-15	SCALE: NTS
DESIGN BY: Yves d'Anjou, P.E.	DRAWN BY: Stephon Ramoutar
SHEET 1 OF 1	CHECKED BY: Andrew Sebo, P.E., PTOE



[Vendor view of bid](#)

[Chat](#) | [Description](#) | [Attachments](#)

Bid #PSEN-18-02-04 - Design & Post Services - Pines Village Water Main Improvements Phase II    CCNA POOL 

Time Left	closed	# of offers	10
Bid Started	Feb 28, 2019 6:54:49 PM EST	Notifications	<a href="#">Report</a> ( <a href="#">Bidder Activity</a> )
Bid Ended	This bid closed on Mar 8, 2019 2:00:00 PM EST	# of suppliers viewed	13  <a href="#">View</a>
Agency Information	City of Pembroke Pines, FL ( <a href="#">view agency's bids</a> )	Q & A	<a href="#">Questions &amp; Answers</a>
Bid Classifications	<a href="#">Classification Codes</a>		
Bid Regions	<a href="#">Regions</a>		
Bid Contact	<a href="#">see contact information</a>		
Delivery Location	One or more of the following locations		
	<b>City of Pembroke Pines</b>		
	<a href="#">No Location Specified</a>		
	<b>Qty</b> 1		
	<b>Expected Expenditure</b> n/a		
View Rules	Click here to <a href="#">change</a> the rules for this bid.		
Best and Final Offer:	<a href="#">Create</a>		

#### Approval

[View Approval Flow](#) [View Approval Flow](#)

Approval Status Approved

#### Description

Bid Number	PSEN-18-02-04
Title	Please upload & submit all required documents here.
Contract Duration	One Time Purchase
Budgeted Amount	\$0.00 ( <a href="#">change</a> )
Estimated Amount	\$500,000.00
Estimated Amount	\$500,000.00 (This price is estimated - not guaranteed)
Standard Disclaimer	Bids/proposals must be submitted electronically

Please note vendors should be registered on BidSync under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation. The vendor must provide the necessary information on the BidSync website and upload all of the requested documents listed in the PROPOSAL REQUIREMENTS section of this solicitation. Unless otherwise specified, the City requests for vendors to upload their documents as one (1) PDF document in the order that is outline in the bid package.

The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the BidSync website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals. BidSync Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact their support line at 1-800-990-9339 with ample time before the bid closing date and time.

PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.

However, please note that any required Bid Bond or Cashier's Check should be in a sealed envelope, plainly marked â€œBID SECURITYâ€ (with the

Solicitation Number and Title) and sent to the City of Pembroke Pines, City Clerk's Office, 4th Floor, 601 City Center Way, Pembroke Pines, FL 33025.

**Bid Comments**

The City of Pembroke Pines is seeking firms to provide design engineering, and permitting services for the second phase of water main improvements located at Pines Village. The work includes, but is not limited to, approximately 44,000 linear feet of new PVC water main, replacement of existing water main, abandonment of old water mains, relocation of backyard water meters to the front of properties, installation of new water services, new meters, private plumbing to reconnect residential services, including new house service pressure valves, and restoration, in accordance with the terms, conditions, and specifications contained in this solicitation and in accordance with the Consultant's Competitive Negotiation Act (C.C.N.A. – Florida Statute 287.055).

**Description**

Please upload & submit all required documents here.

**Documents**

[Select All](#) | [Select None](#) | [Download Selected](#)

1.  [PSEN-18-02-04 Design Post Services – Pines Village Water Main Improvements Phase II.pdf](#) [\[download\]](#)

2.  [Attachment A - Project Map.pdf](#) [\[download\]](#)

3.  [Attachment B - Phase I Drawings Plans.pdf](#) [\[download\]](#)

 = Included in Bid Packet

 = Excluded from Bid Packet

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