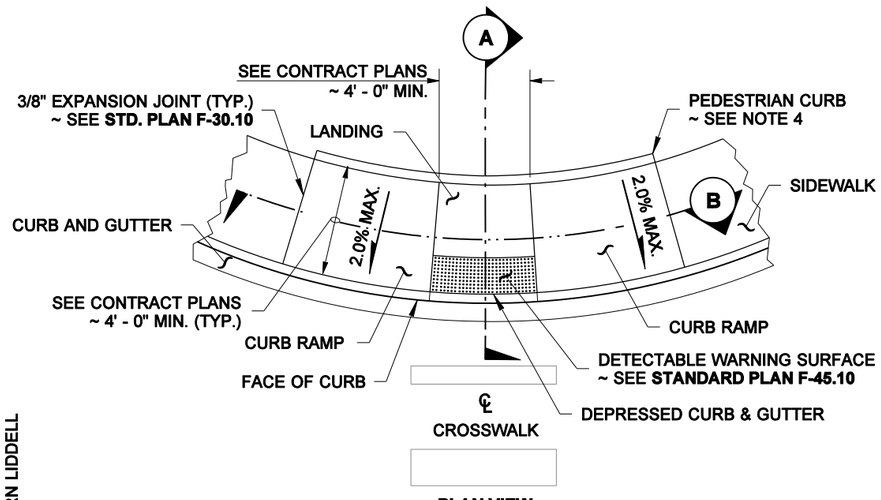
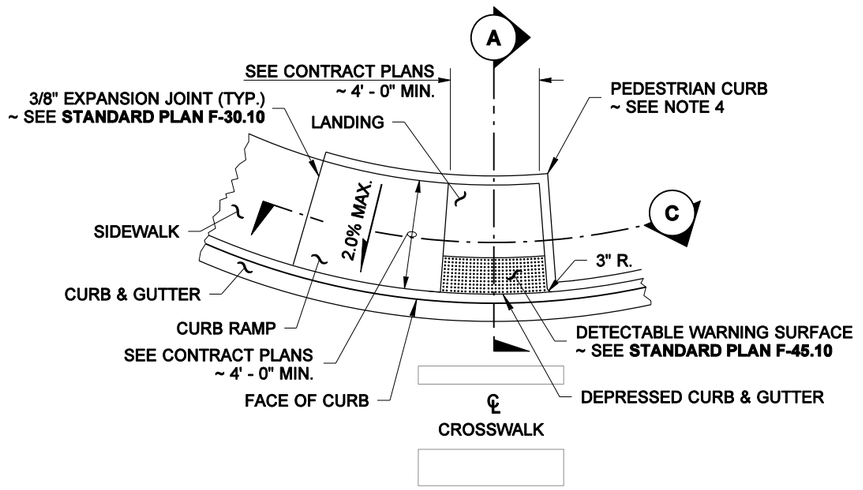
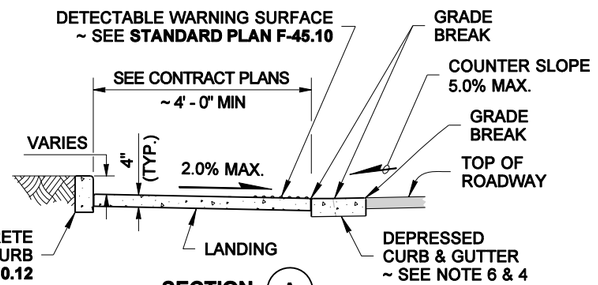


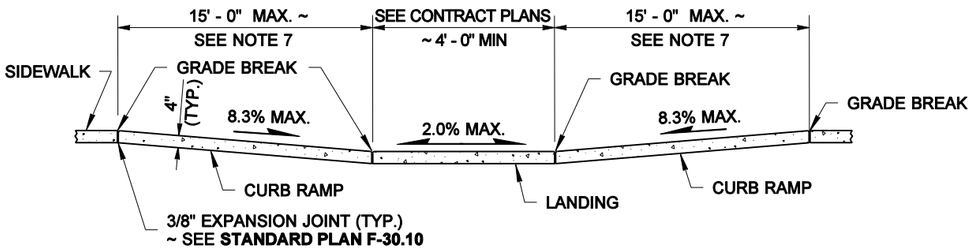
PLAN VIEW
TYPE PARALLEL A



PLAN VIEW
TYPE PARALLEL B



SECTION (A)



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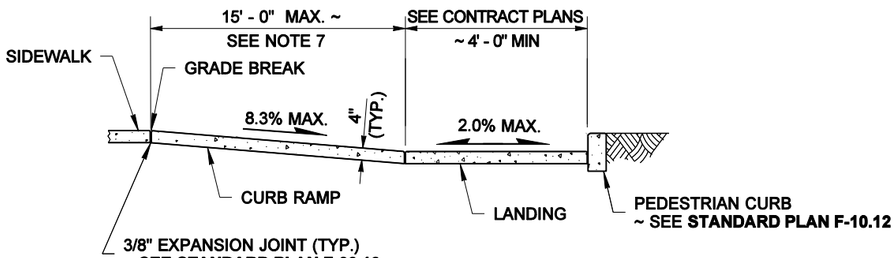

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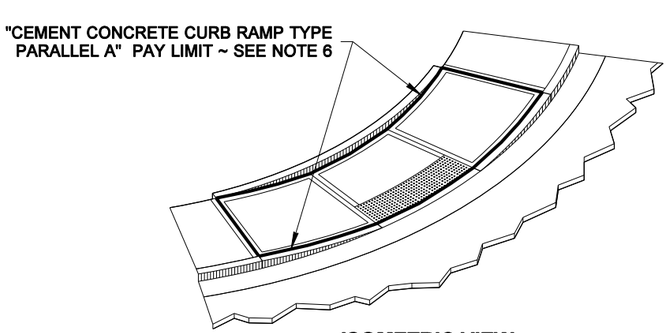
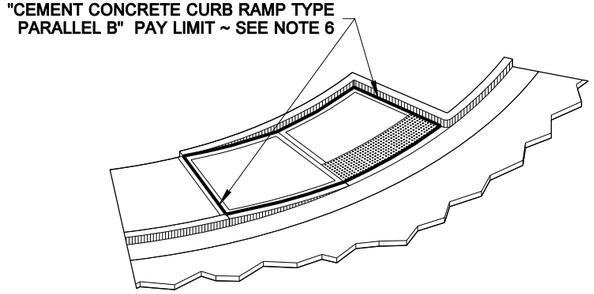


ISOMETRIC VIEW
TYPE PARALLEL A PAY LIMIT



ISOMETRIC VIEW
TYPE PARALLEL B PAY LIMIT

NOTES

1. Provide a separate curb ramp for each marked or unmarked crosswalk. Curb ramp location shall be placed within the width of the associated crosswalk, or as shown in the Contract Plans.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place gratings, junction boxes, access covers, or other appurtenances in front of thre curb ramp or on any part of the curb ramp or landing.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, and Pedestrian Curb Details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adacent Curb, Curb and Gutter, Pedestrian Curb or Sidewalks.
7. The curb ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15 foot max. length, the running slope of the curb ramp shall be as flat as feasable.
8. Curb ramp, landing, & flares shall receive broom finish. See **Standard Specifications 8-14.**

LEGEND

SLOPE IN EITHER DIRECTION

DRAWN BY: FERN LIDDELL

NANCY FENNO BOYD
STATE OF WASHINGTON
38298
REGISTERED
PROFESSIONAL ENGINEER

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PARALLEL CURB RAMP

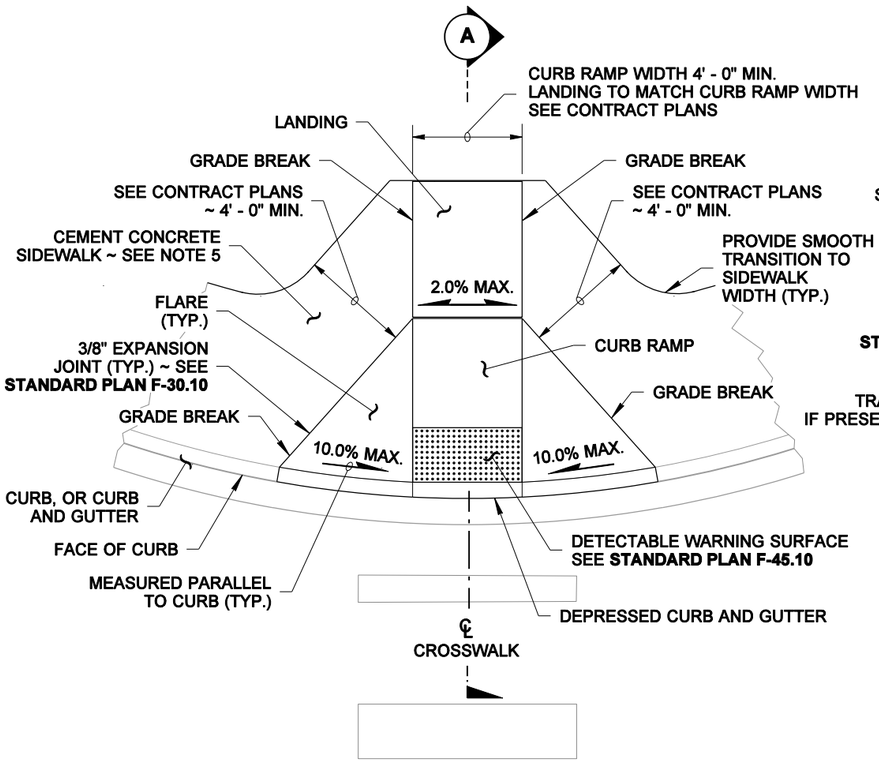
STANDARD PLAN F-40.12-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

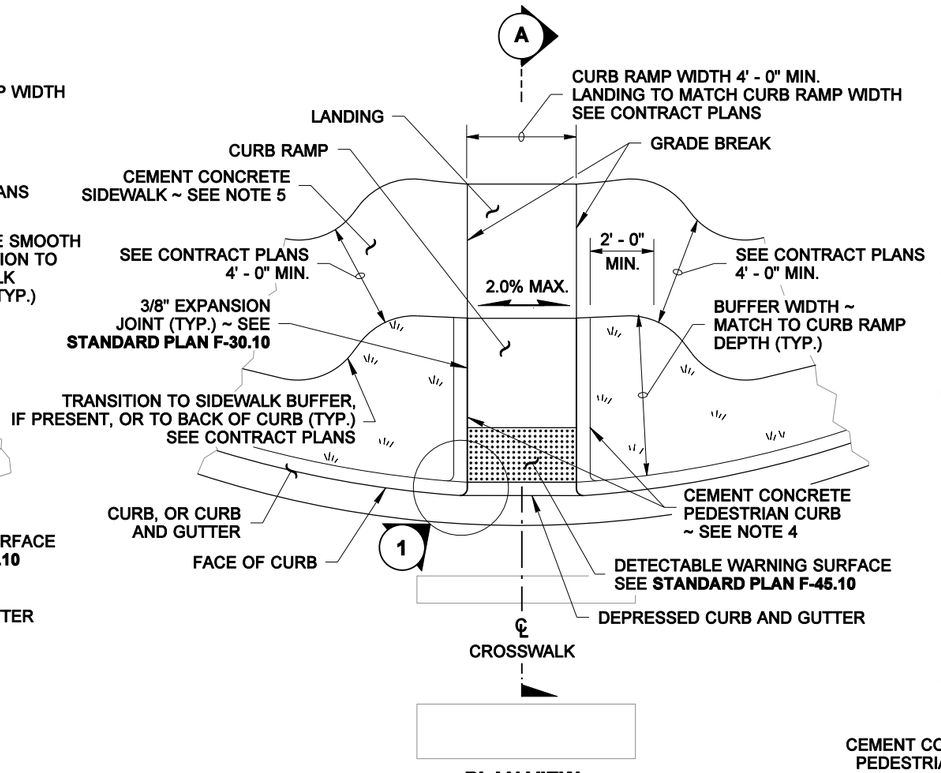
Pasco Bakotich III — STATE DESIGN ENGINEER
06-03-10 — DATE

Washington State Department of Transportation



PLAN VIEW

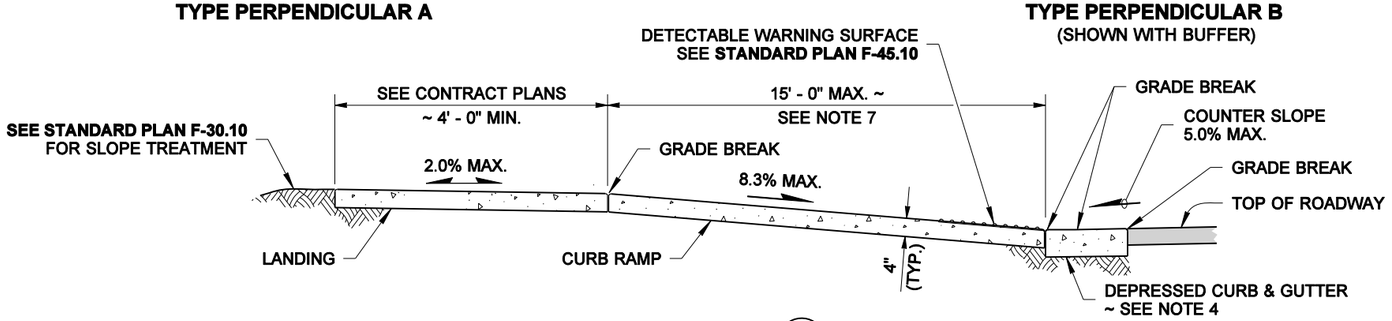
TYPE PERPENDICULAR A



PLAN VIEW

TYPE PERPENDICULAR B

(SHOWN WITH BUFFER)



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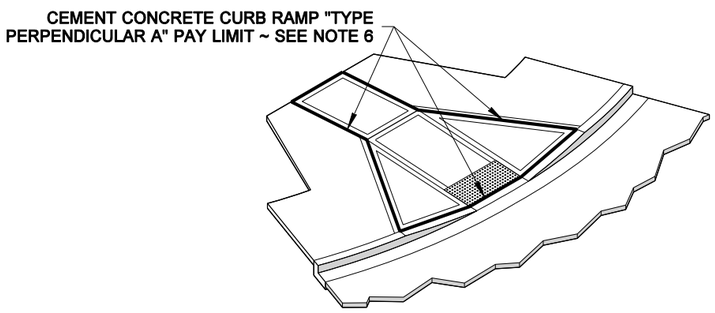
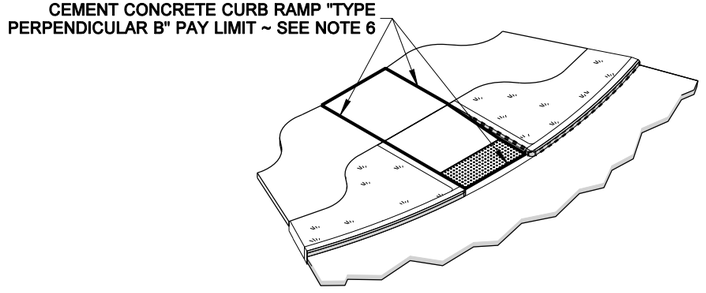


ISOMETRIC VIEW

TYPE PERPENDICULAR A PAY LIMIT



ISOMETRIC VIEW

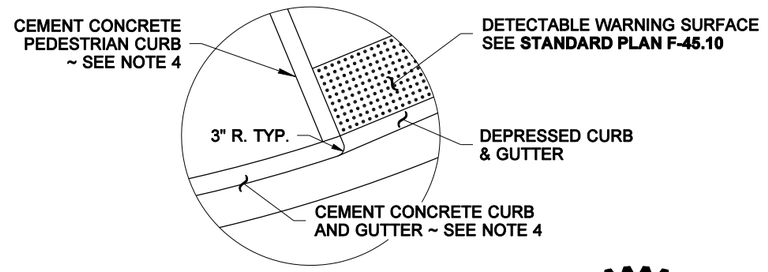
TYPE PERPENDICULAR B PAY LIMIT

NOTES

1. Provide a separate curb ramp for each marked or unmarked crosswalk. Curb ramp location shall be placed within the width of the associated crosswalk, or as shown in the Contract Plans.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place gratings, junction boxes, access covers, or other appurtenances In front of the curb ramp or on any part of the curb ramp or landing.
4. See the Contract plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk details. See Contract plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb, Curb and Gutter, Pedestrian Curb or Sidewalk.
7. The curb ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15 foot maximum length, the running slope of the curb ramp shall as flat as feasible.
8. Curb ramp, landing, & flares shall receive broom finish. **See Standard Specifications 8-14.**

LEGEND

SLOPE IN EITHER DIRECTION



CURB RADIUS DETAIL (1)

NANCY FENNO BOYD
STATE OF WASHINGTON
38298
REGISTERED
PROFESSIONAL ENGINEER

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PERPENDICULAR CURB RAMP

STANDARD PLAN F-40.15-01

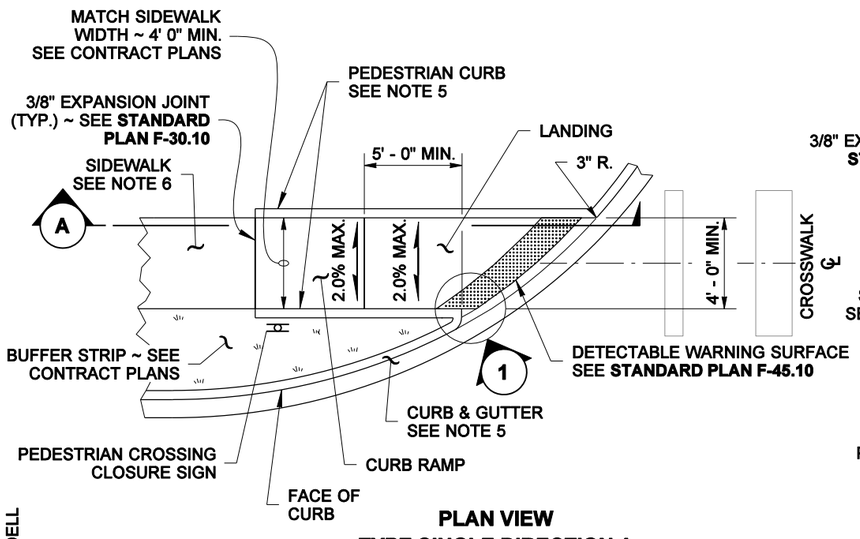
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

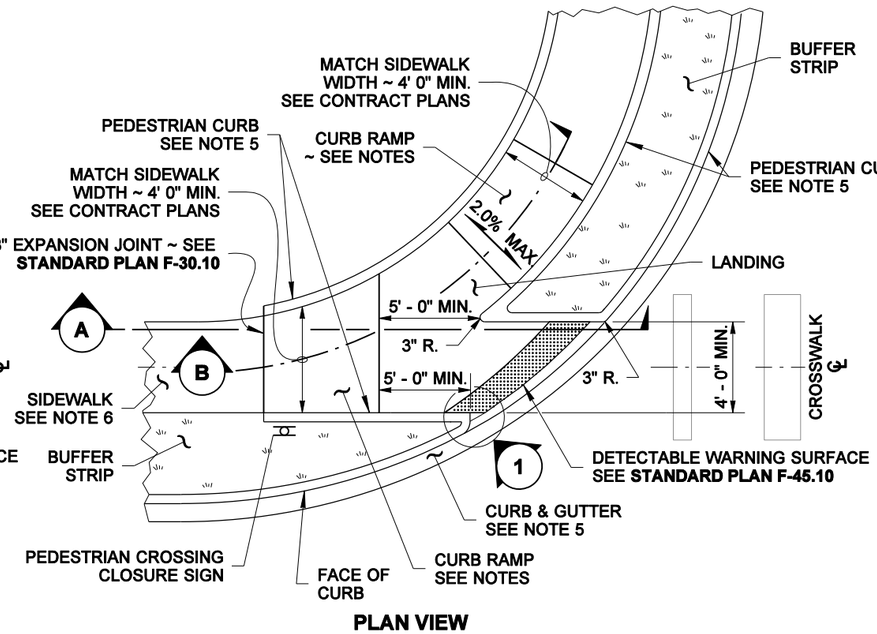
Pasco Bakotich III — STATE DESIGN ENGINEER

06-03-10 — DATE

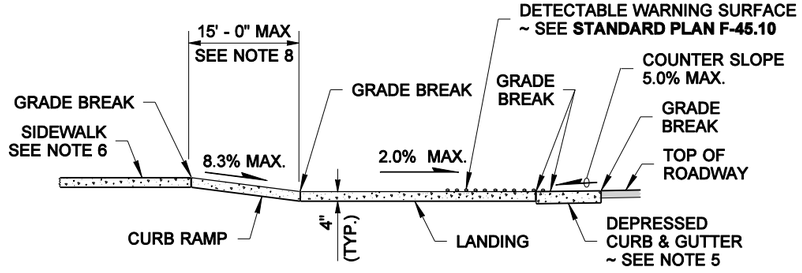
Washington State Department of Transportation



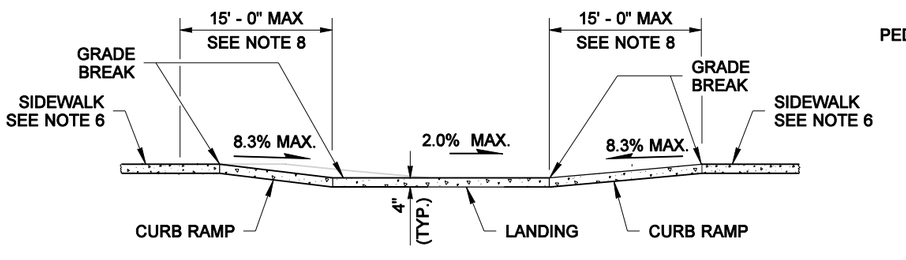
PLAN VIEW
TYPE SINGLE DIRECTION A



PLAN VIEW
TYPE SINGLE DIRECTION B



SECTION (A)



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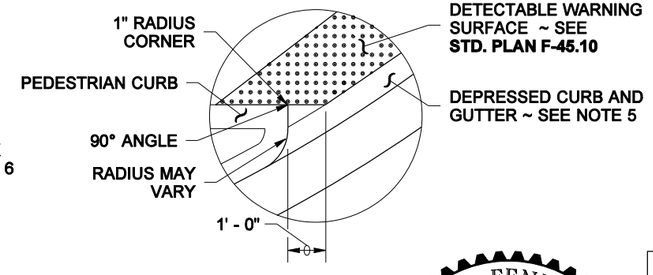
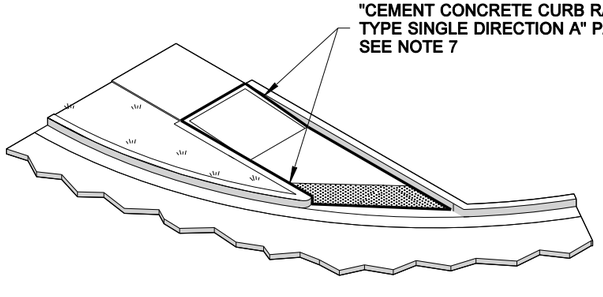
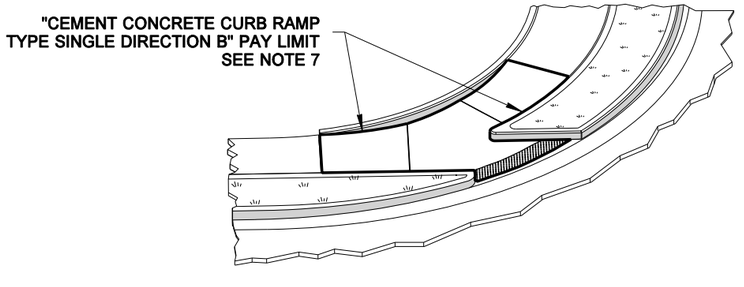


DETAIL (1)



ISOMETRIC VIEW
TYPE SINGLE DIRECTION A
PAY LIMIT



ISOMETRIC VIEW
TYPE SINGLE DIRECTION B
PAY LIMIT

LEGEND

SLOPE IN EITHER DIRECTION

NOTES

1. This plan is to be used where pedestrian crossing in one direction is not permitted.
2. Curb ramp location shall be placed within the width of the associated crosswalk, or as shown in the Contract Plans.
3. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
4. Do not place gratings, junction boxes, access covers or other appurtenances in front of the curb ramp or on any part of the curb ramp or landing.
5. See the Contract Documents for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, and Pedestrian Curb details.
6. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See contract plans for width and placement of sidewalk.
7. The bid item "Cement Concrete Curb Ramp Type __" does not include the adjacent Curb or (Curb and Gutter), Pedestrian Curb or Sidewalk, or the pedestrian crossing closure sign.
8. The curb ramp maximum running slope shall not require the ramp length to exceed 15 feet to avoid chasing the slope indefinitely when connecting to steep grades. When applying the 15 foot maximum length, the running slope of the curb ramp shall be as flat as feasible.
9. Curb ramps and landings shall receive broom finish. See **Standard Specifications 8-14.**

DRAWN BY: FERN LIDDELL

NANCY FENNO BOYD
STATE OF WASHINGTON
38298
REGISTERED
PROFESSIONAL ENGINEER

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SINGLE DIRECTION CURB RAMP

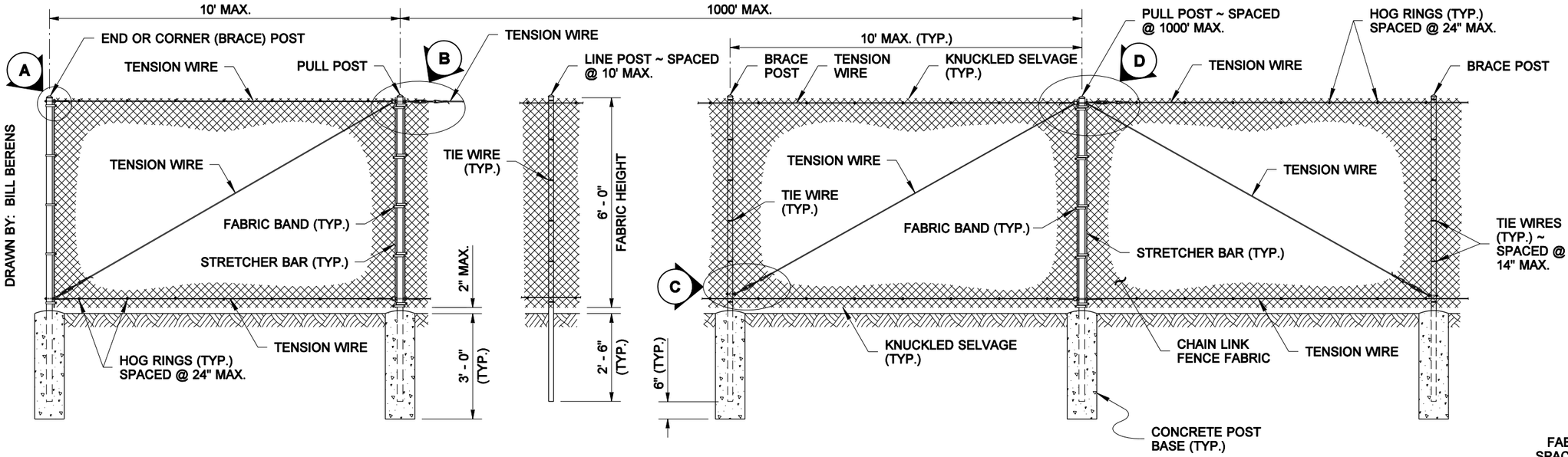
STANDARD PLAN F-40.16-01

SHEET 1 OF 1 SHEET

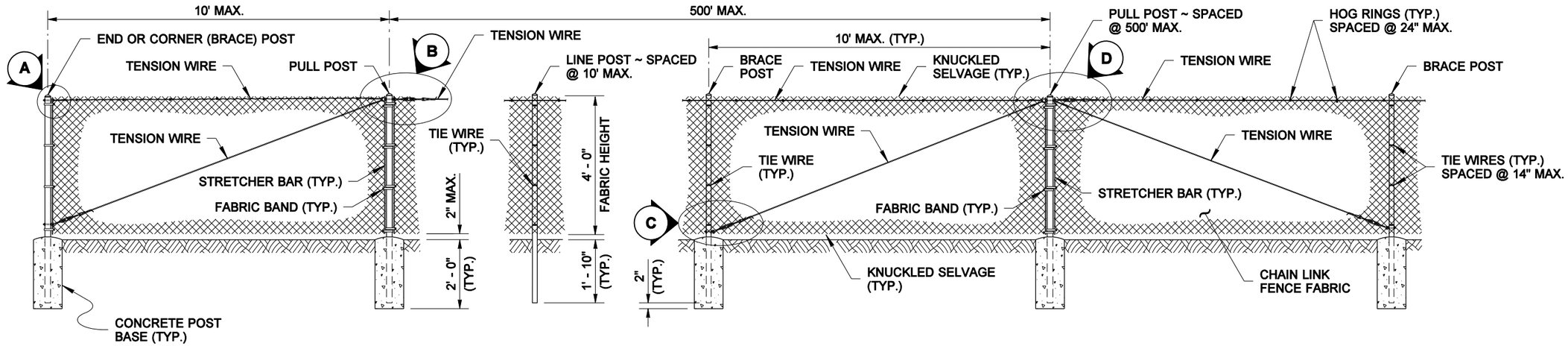
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER — *06-03-10* — DATE

Washington State Department of Transportation



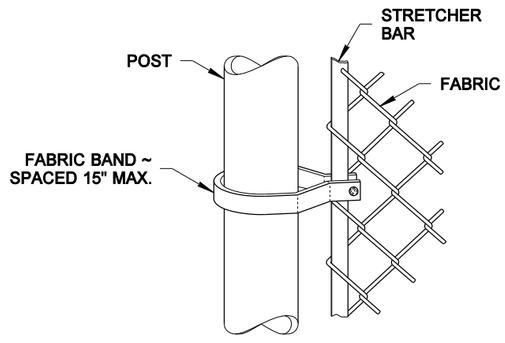
TYPE 3



TYPE 4

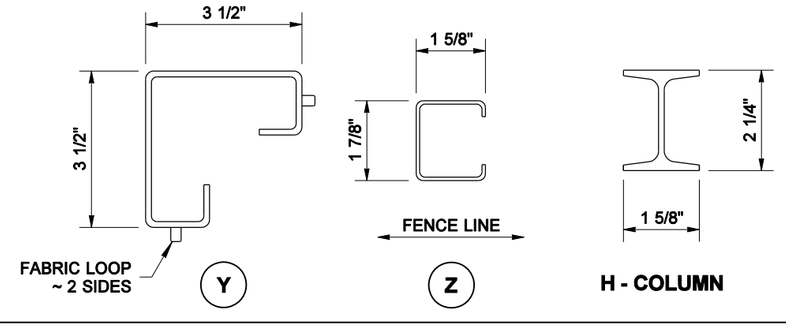
NOTES

1. All concrete post bases shall be 10" minimum diameter.
2. Along the top and bottom, using Hog Rings, fasten the Chain Link Fence Fabric to the Tension Wire within the limits of the first full fabric weave.
3. Details are illustrative and shall not limit hardware design or post selection of any particular fence type.



METHOD OF FASTENING STRETCHER BAR TO POST
(SHOWN FOR ROUND POST)

POST AND RAIL SPECIFICATIONS				
POST	PIPE	ROLL FORMED		H - COLUMN
	NOM. SIZE (SCH. 40) I.D.	SECTION	WEIGHT (lb/ft)	WEIGHT (lb/ft)
END, CORNER, OR PULL POST	2 1/2" DIAM.	(Y)	5.10	
LINE OR BRACE POST	2" DIAM.	(Z)	1.85	3.26



TERRY L. BERENDS
STATE OF WASHINGTON
32350
REGISTERED
PROFESSIONAL ENGINEER

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CHAIN LINK FENCE TYPES 3 AND 4

STANDARD PLAN L-20.10-01

SHEET 1 OF 2 SHEETS

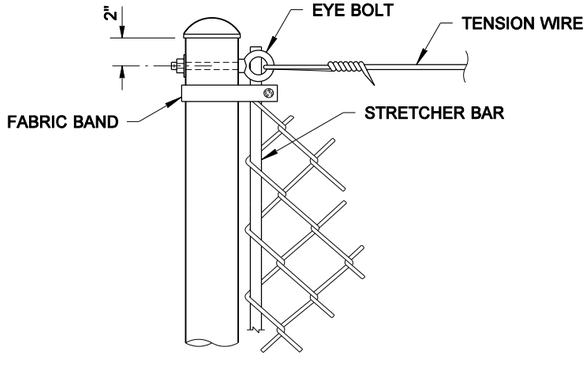
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

06-16-11 — DATE

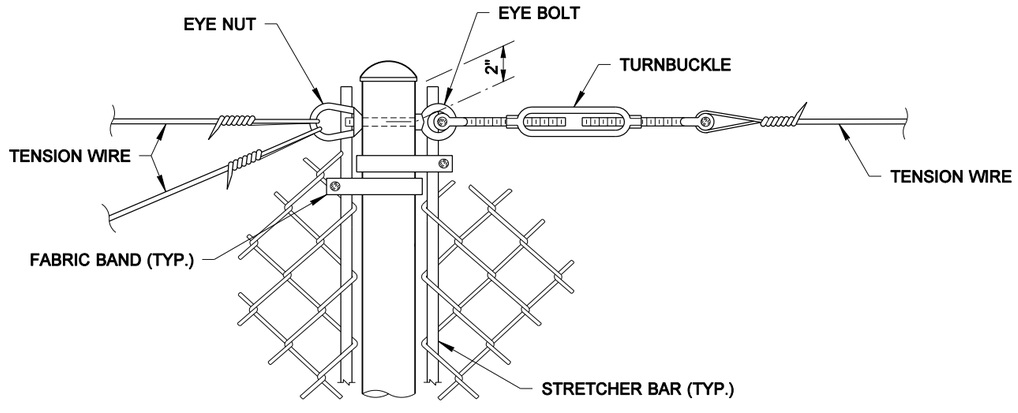
Washington State Department of Transportation

DRAWN BY: BILL BERENS



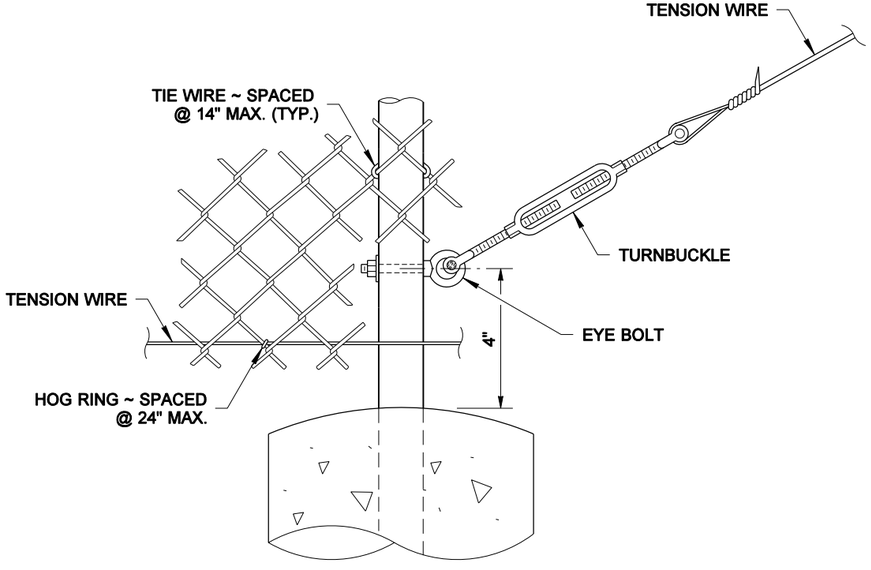
END OR CORNER (BRACE) POST

DETAIL A



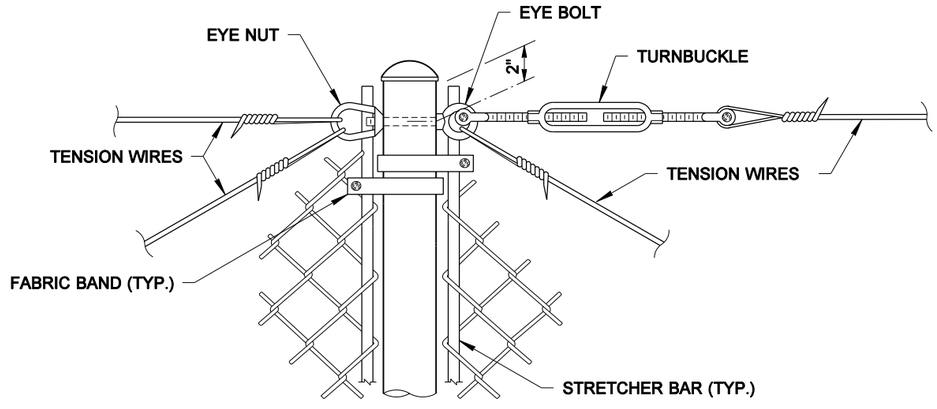
PULL POST (AT END OR CORNER)

DETAIL B



BRACE POST

DETAIL C



PULL POST (WITHIN RUN)

DETAIL D

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CHAIN LINK FENCE TYPES 3 AND 4

STANDARD PLAN L-20.10-01

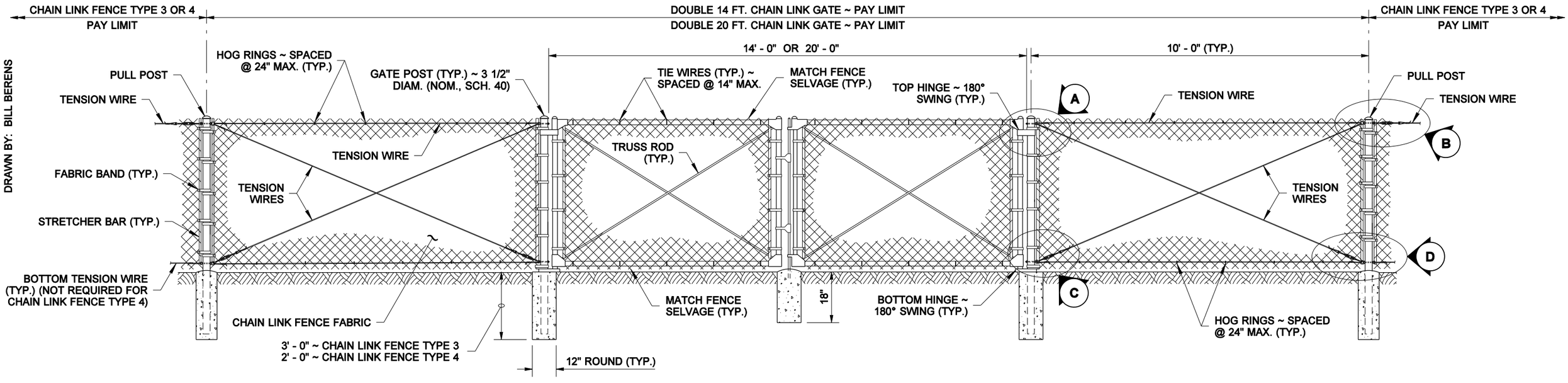
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

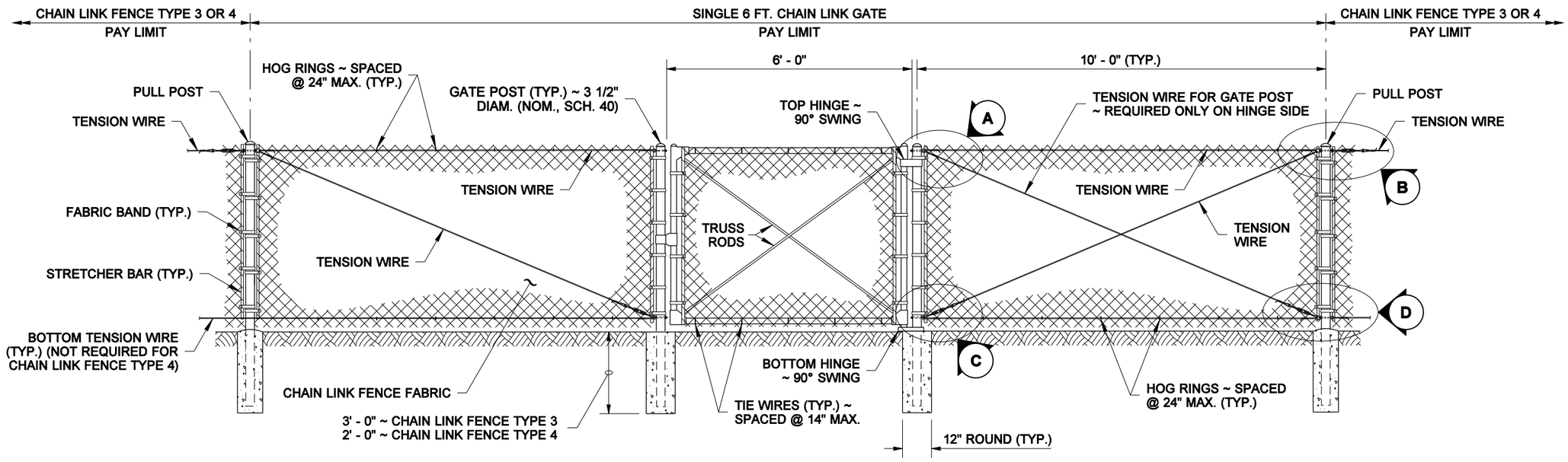
Pasco Bakotich III — STATE DESIGN ENGINEER

06-16-11 — DATE

Washington State Department of Transportation



DOUBLE GATE



SINGLE GATE

CHAIN LINK GATE

STANDARD PLAN L-30.10-01

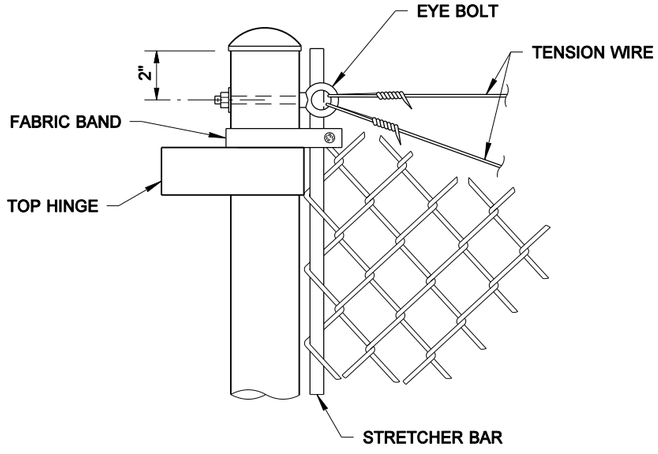
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER — *06-16-11* — DATE

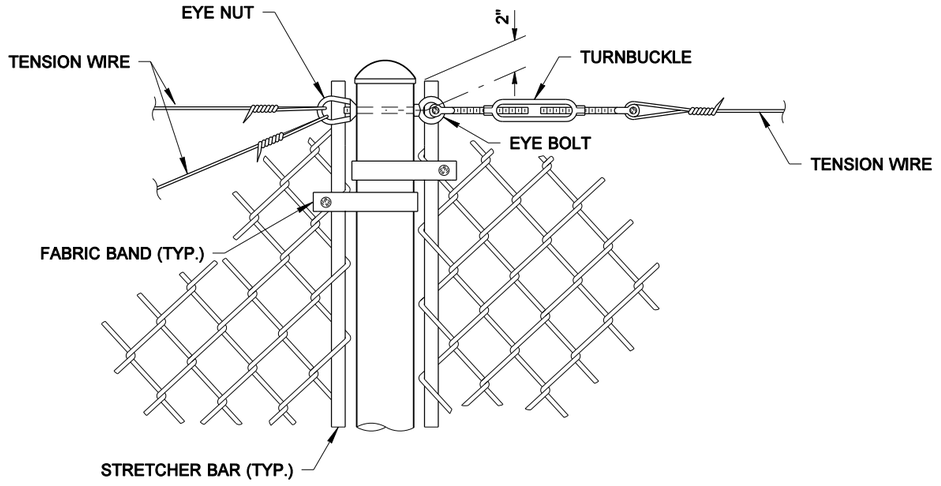
Washington State Department of Transportation

DRAWN BY: BILL BERENS



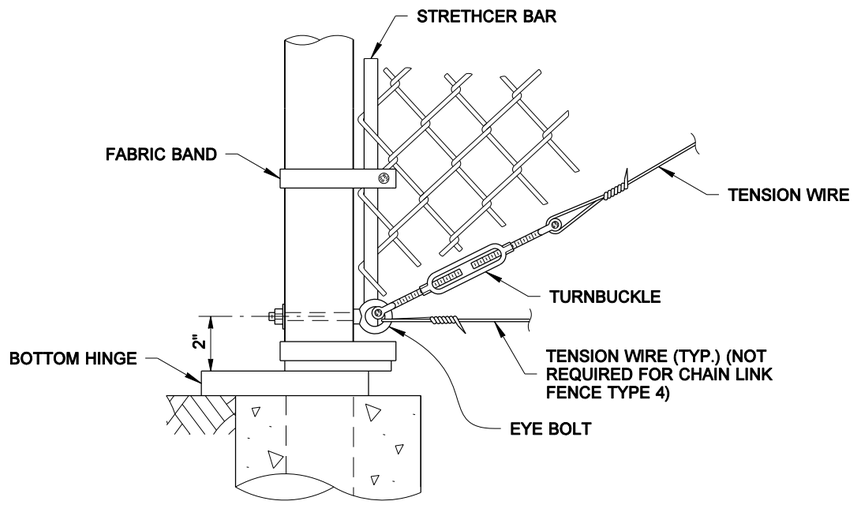
GATE POST

DETAIL A



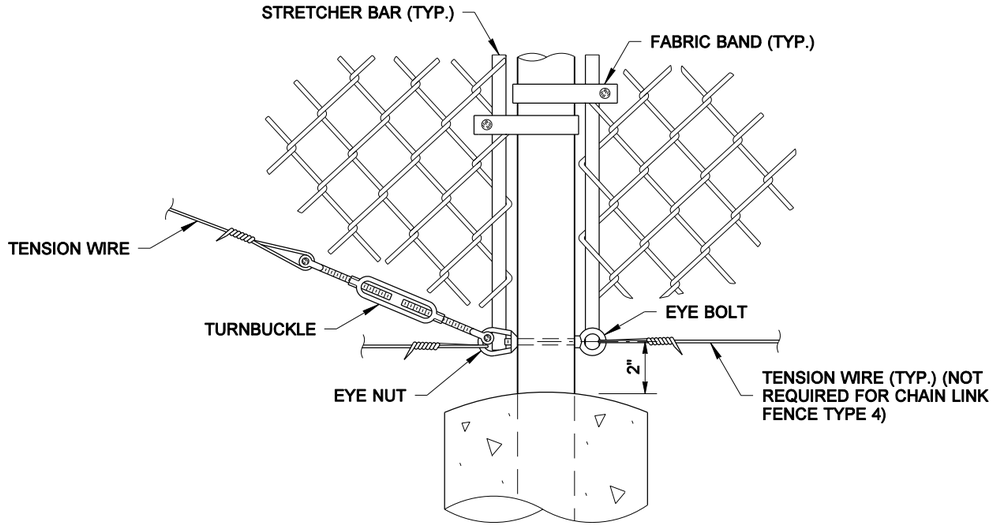
PULL POST

DETAIL B



GATE POST

DETAIL C



PULL POST

DETAIL D

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CHAIN LINK GATE

STANDARD PLAN L-30.10-01

SHEET 2 OF 2 SHEETS

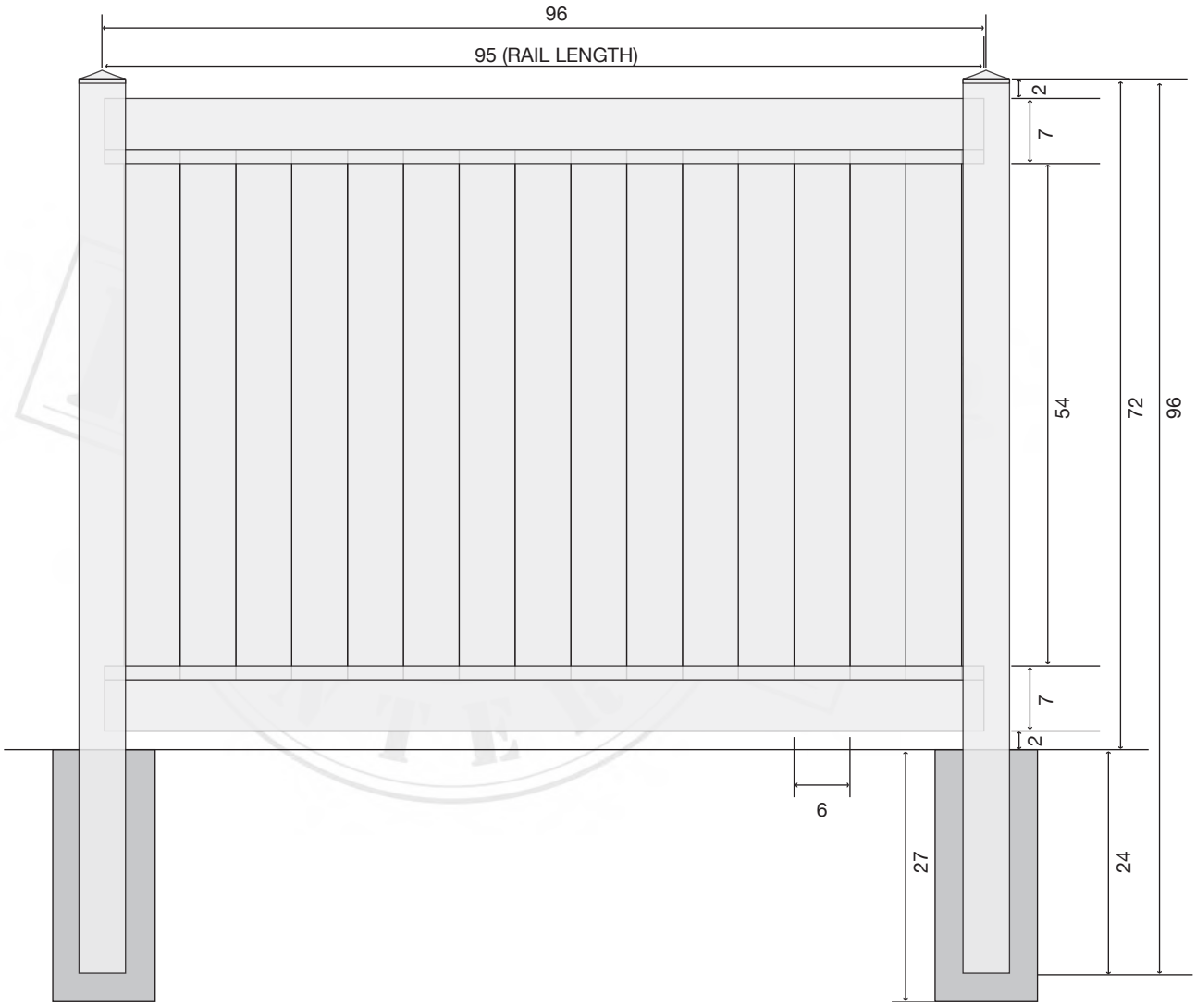
APPROVED FOR PUBLICATION

Pasco Bakotich III — STATE DESIGN ENGINEER

06-16-11 — DATE

Washington State Department of Transportation

Property Fence



		CUSTOM OPTIONS:
POST SIZE	5” X 5” X 96” (.150 HEAVY WALL)	
RAIL SIZE – TOP	2” X 7” X 95”	
RAIL SIZE – MID	–	
RAIL SIZE – BOTTOM	2” X 7” X 95”	
BOARD SIZE	7/8” X 6” X 56 5/8”	
SPACE	0”	
HEIGHT	72”	
POST CAP	5” X 5” PYRAMID CAP	☐ BALL CAP ☐ GOTHIC ☐ NEW ENGLAND
COLOR		☒ KHAKI W/MULTI-GRAIN BOARDS ☐ TAN ☐ TAN W/MULTI-GRAIN BOARDS

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APPENDIX D

ENVIRONMENTAL PERMITS

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DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

Regulatory Branch

SEP 1 8 2012

Mr. Eric Scott
City of Arlington
238 North Olympic Avenue
Arlington, Washington 98223

Reference: NWS-2009-1202
Arlington, City of

Dear Mr. Scott:

We have reviewed your application to widen 67th Avenue NE and construct a segment of the Centennial Trail at the City of Arlington, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 23, Categorical Exclusions (Federal Register February 21, 2012, Vol. 77, No. 34), authorizes your proposal as depicted on the enclosed drawings dated August 15, 2011.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 23, Terms and Conditions* and the following special conditions:

a. You must implement and abide by the Endangered Species Act (ESA) requirements and/or agreements set forth in the document entitled *Biological Assessment 67th Avenue NE Phase III Improvement Project* dated January 2011. The U.S. Fish and Wildlife Service (USFWS) concurred with a finding of "may affect, not likely to adversely affect" based on this document dated March 1, 2011 (USFWS Reference Number 13410-2011-I-0140). The National Marine Fisheries Service (NMFS) concurred with a finding of "may affect, not likely to adversely affect" based on this document on March 10, 2011 (NFMS Reference Number 2011/00325). We will inform both agencies of this permit issuance. Failure to comply with the commitments made in this document constitutes non-compliance with ESA and your U.S. Army Corps of Engineers permit. The USFWS and NMFS are the appropriate authorities to determine compliance with ESA.

b. In order to protect the listed threatened and endangered species in the project area, you may conduct the authorized activities in the work window as agreed to and documented in writing through consultation by the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service (Services) in any year this permit is valid. If changes to the originally authorized work window are proposed, you must re-coordinate these changes with the Services and receive written concurrence on the changes. Copies of the concurrence(s) must be sent to the U.S. Army Corps of Engineers, Regulatory Branch, within 10 days of the date of the revised concurrence.

For this project, the Federal Highway Administration is the Federal lead agency responsible for compliance with the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the National Historic Preservation Act. For the purpose of this Department of the Army authorization, we have determined this project will comply with the requirements of these laws provided you comply with all of the permit general and special conditions.

Please note that Seattle District NWP Regional General Condition 6, Cultural Resources and Human Burials, found in the *Nationwide Permit Terms and Conditions* enclosure, details procedures should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification and the Coastal Zone Management Act requirements for this NWP. No further coordination with Ecology is required.

Our verification of this NWP authorization is valid for two years from the date of this letter unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date, please contact us to discuss the status of your authorization. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act. You must also obtain all State and local permits that apply to this project.

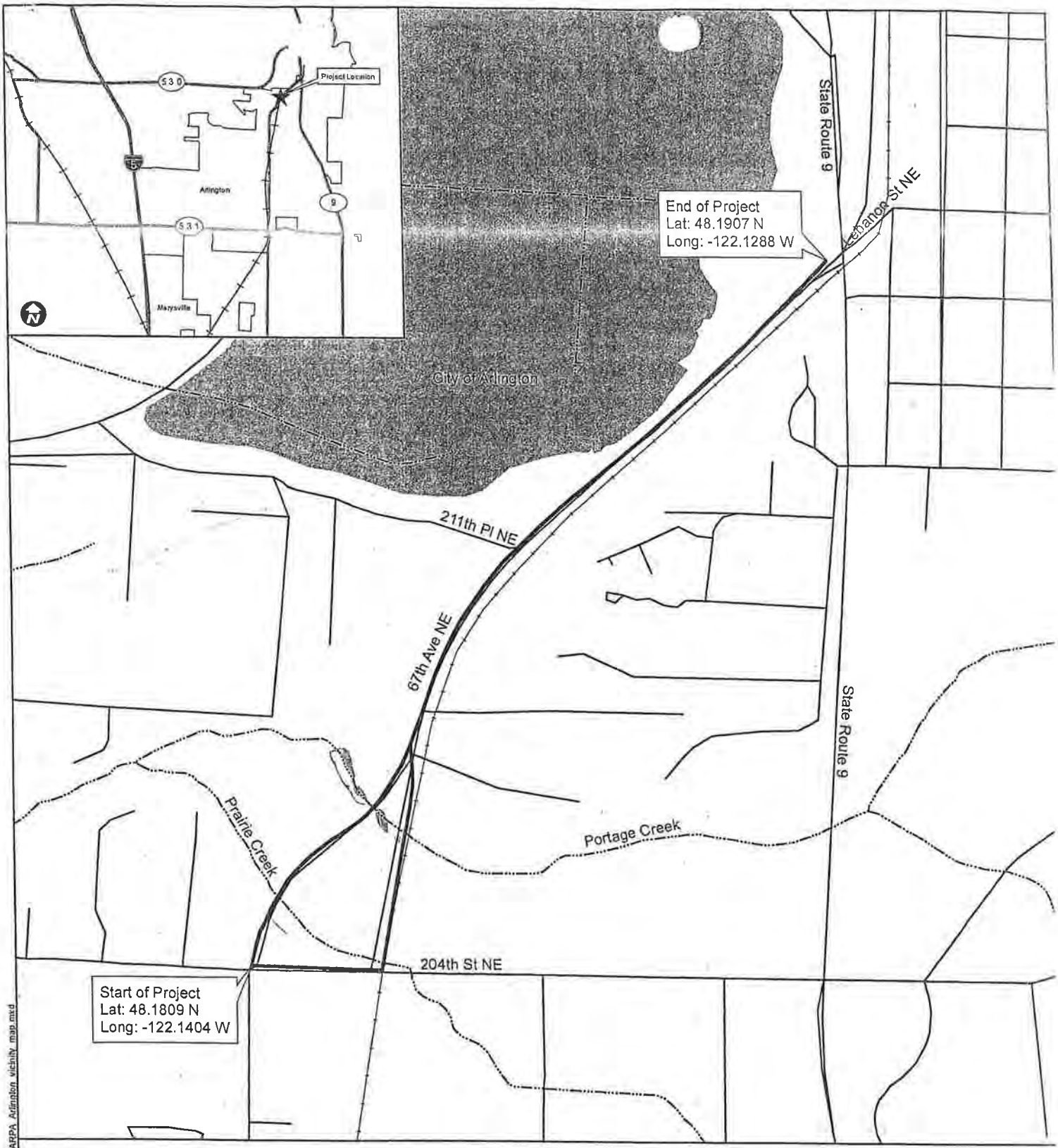
You are cautioned that any change in project location or plans will require that you submit a copy of the revised plans to this office and obtain our approval before you begin work. Deviating from the approved plans could result in the assessment of criminal or civil penalties.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit* form. Thank you for your cooperation during the permitting process. If you have any questions, please contact me via email at rebecca.e.mcandrew@usace.army.mil or at (206) 764-6912.

Sincerely,

for Alisa A. Ralph, Chief
Special Programs Section

Enclosures



VICINITY MAP

1:8,000

0 500 1,000 2,000 Feet

Legend

Project Centerline — Railroad — Wetland

Road — Stream

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PURPOSE:
Roadway improvements to increase safety and mobility

DATUM: North American Datum 1983

ADJACENT PROPERTY OWNERS:

1.

2.

City of Arlington - 67th Avenue NE Phase III Improvement Pr[illegible]

REFERENCE #: NWS-2009-1202

SITE LOCATION ADDRESS:

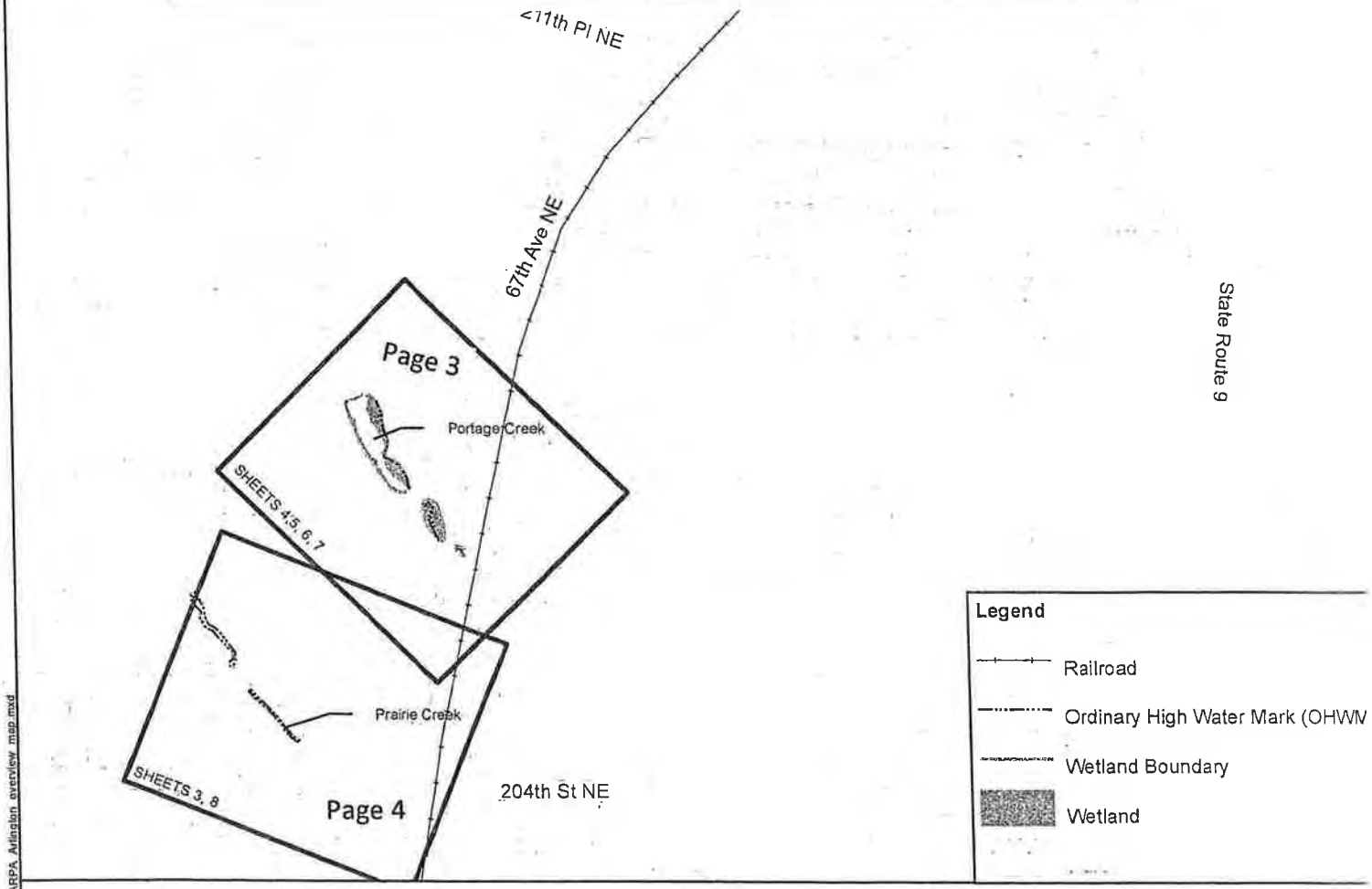
AUGUST 15, 2011

PROPOSED/RETAIN: Culvert Replacements, Wetland and Stream Enhancement

IN: T31N/R5E/Sec11
NEAR/AT: Portage Creek, Prairie Creek
COUNTY: Snohomish STATE: WA

AUTHORIZED FILL VOLUMES AND AREAS, BY SITE

	Stream CY	Wetland CY	Stream SF	Wetland SF	Drawing Page
A 67th West Portage Creek creek bed fill	32		445		3
B 67th West Portage Creek wetland fill		44		352	3
C 67th East Portage Creek creek bed fill	5		215		3
D 67th East Portage Creek Wetland fill		2		86	3
E Trail East Portage Creek creek bed fill	5		37		3
F Trail East Portage Creek Wetland fill		13		46	3
G 67th West Prairie Creek creek bed fill	62		920		4
H 67th West Prairie Creek Wetland fill		1		15	4
	104	60	1.617	499	



OVERVIEW MAF

1:6,000

0 500 1,000 2,000 Feet

PURPOSE:
Roadway improvements to increase safety and mobility

DATUM: North American Datum 1983

ADJACENT PROPERTY OWNERS:

1.

2.

City of Arlington - 67th Avenue NE Phase III Improvement Project

REFERENCE #: NWS-2009-1202

AUGUST 15, 2011

PROPOSED/RETAIN: Culvert Replacements, Wetland and Stream Enhancement

IN: T31N/R5E/Sec11
NEAR/AT: Portage Creek, Prairie Creek
COUNTY: Snohomish STATE: WA

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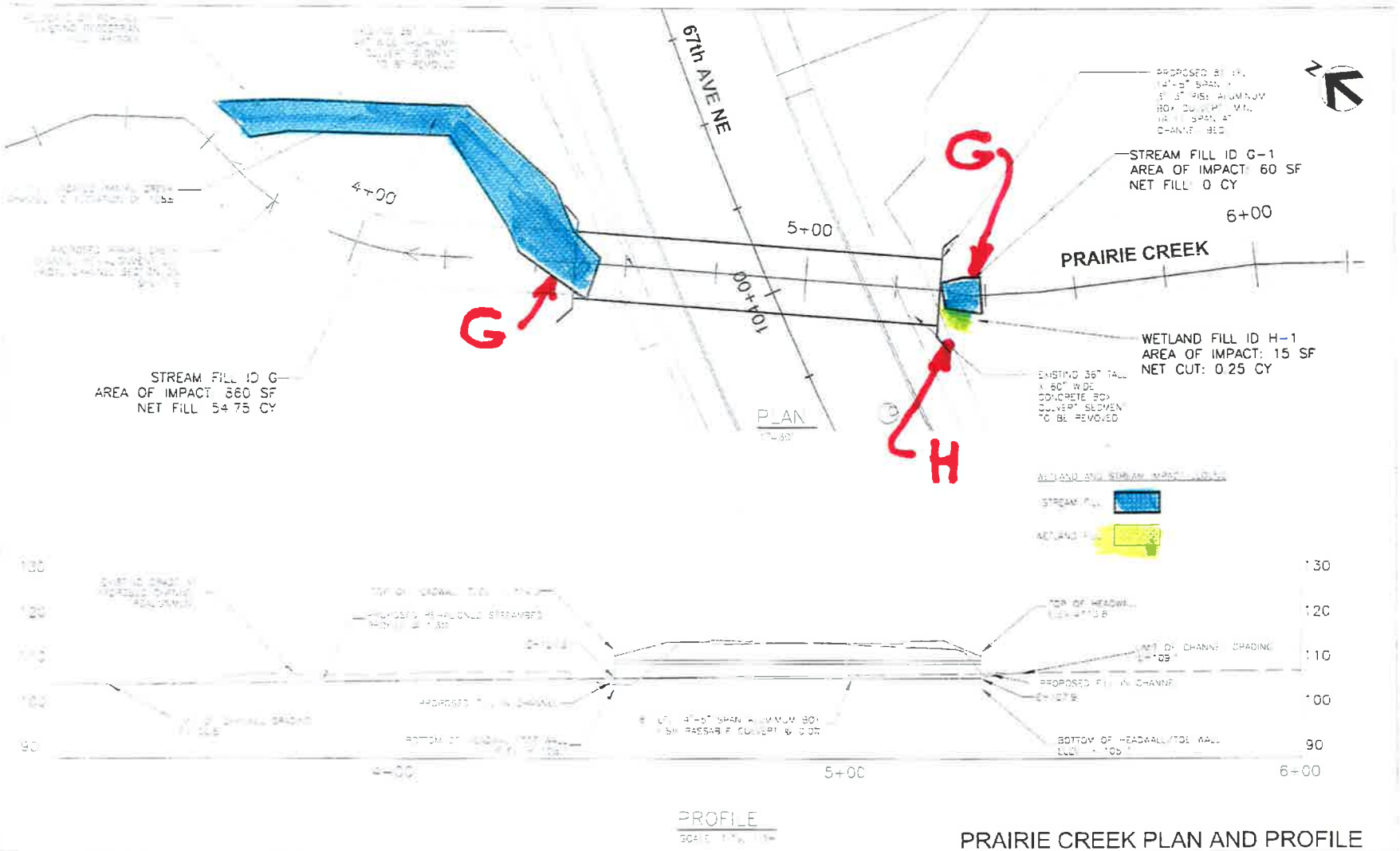
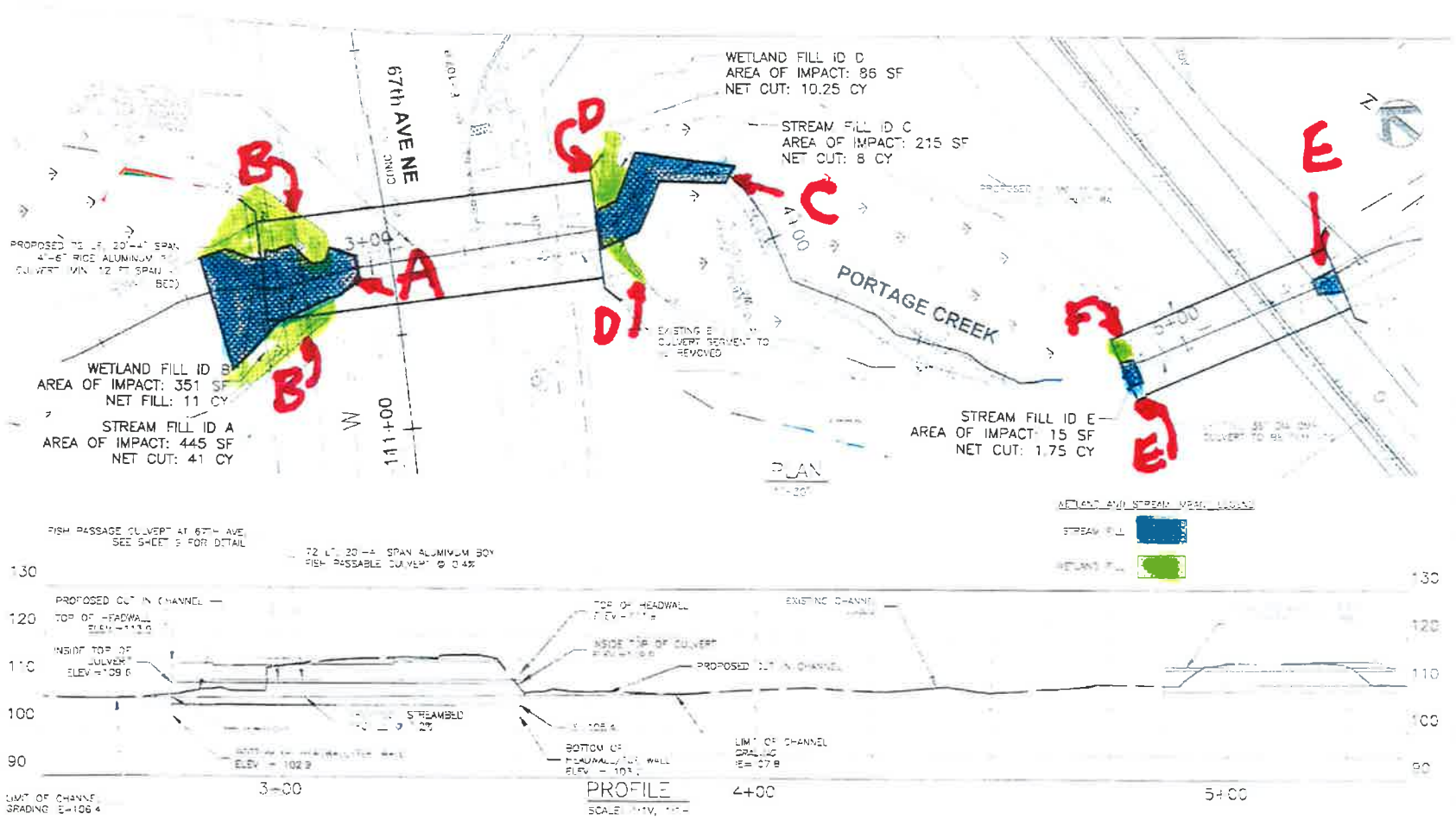


PRAIRIE CREEK PLAN AND PROFILE

PURPOSE: Roadway improvements to increase safety and mobility DATUM: North American Datum 1983 ADJACENT PROPERTY OWNERS: 1. 2.	NAME: 67th Avenue NE Phase III Improvement Project REFERENCE #: NWS-2009-1202 SITE LOCATION ADDRESS:	PROPOSED/RETAIN: Culvert Replacements, Wetland and Stream Enhancements IN: T31N/R5E/Sec11 NEAR/AT: Portage Creek, Prairie Creek COUNTY: Snohomish STATE: WA Page 4 of 4 DATE: AUGUST 15, 2011



PORTAGE CREEK (67TH AVE) PLAN AND PROFILE

PURPOSE: Roadway improvements to increase safety and mobility **DATUM:** **North American Datum 1983** **ADJACENT PROPERTY OWNERS:** **1.** **2.**	**NAME: 67th Avenue NE Phase Iii Improvement Project** **REFERENCE #:** NWS-2009-1202 **SITE LOCATION ADDRESS:**	**PROPOSED/RETAIN: Culvert Replacements, Wetland and Stream Enhancements** IN: T31N/R5E/Sec11 NEAR/AT: Portage Creek, Prairie Creek COUNTY: Snohomish STATE: WA Page 3 of 4 DATE: AUGUST 15, 2011

Washington Department of FISH and WILDLIFE

HYDRAULIC PROJECT APPROVAL

RCW 77.55.021 - See appeal process at end of HPA

North Puget Sound
16018 Mill Creek Boulevard
Mill Creek, WA 98012-1296
(425) 775-1311

Issue Date: July 09, 2012
Project Expiration Date: December 31, 2014

Control Number: 123904-2
FPA/Public Notice #: N/A

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
City of Arlington Project Manager	HDR Engineering Inc
ATTENTION: Eric Scott	ATTENTION: Karissa Kawamoto
238 N Olympic Ave	500 108th Avenue NE Suite 1200
Arlington, WA 98223	Bellevue, WA 98004
360-403-3512	425-450-6249
	Fax: 425-453-7107

Project Name: 67th Ave NE Phase III Improvement Project

Project Description: Improve approximately 5,000' of 67th Ave NE between 204th Street NE and Lebanon Street NE as well as connect the Centennial Trail through the City.

Project includes upgrade of 3 undersized culverts to 3 fish passable bottomless culverts.

PROVISIONS

1. TIMING: The project may begin IMMEDIATELY and shall be completed by December 31, 2014, provided all in water work is completed July 1 to October 1 in any given year.

2. NOTIFICATION REQUIREMENT: The Area Habitat Biologist (AHB) listed below shall receive written notification (FAX or mail) from the person to whom this Hydraulic Project Approval (HPA) is issued (permittee) or the agent/contractor no less than three working days prior to the start of construction activities. The notification shall include the permittee's name, project location, starting date for work, and the control number for this HPA.

3. APPROVED PLANS: Work shall be accomplished per plans and specifications approved by the Washington Department of Fish and Wildlife entitled "67th Ave NE Phase 3 Improvement Project" and dated May 27, 2011, except as modified by this Hydraulic Project Approval. A copy of these plans shall be available on site during construction.

4. The culverts shall be installed and maintained to ensure unimpeded fish passage.

5. The culverts shall be installed to maintain structural integrity to the 100-year peak flow with consideration of the debris likely to be encountered.

6. Fill associated with the culvert installation shall be protected from erosion to the 100-year peak flow.

7. The culverts shall be installed and maintained to avoid inlet scouring and to prevent erosion of stream banks downstream of the project.

8. The culvert facility shall be maintained by the owner(s) per RCW 77.57.030 to ensure continued, unimpeded fish passage. If the structure becomes a hindrance to fish passage, the owner(s) shall be responsible for obtaining an Hydraulic Project Approval and providing prompt repair. Financial responsibility for maintenance and repairs shall be that of the owner(s).

9. The bottomless culverts shall not exceed dimensions listed below:
A. Prairie Creek: 81 linear feet, 14 foot 5 inch alumimum box
B. Portage Creek, 67th Ave: 72 linear feet, 20 foot by 4 inch alumimum box culvert
C. Portage Creek 69th Ave: 49 linear feet, 13 foot by 7 inch alumimum box culvert

10. Approach material shall be structurally stable and be composed of material that, if eroded into the stream, shall not be detrimental to fish life.

11. BYPASS INSTALLATION: A temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter.

12. The permittee shall capture and safely move food fish, game fish, and other fish life from the job site. The permittee shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the project site. The permittee may request the Washington Department of Fish and Wildlife assist in capturing and safely moving fish life from the job site to free-flowing water, and assistance may be granted if personnel are available.

13. Any device used for diverting water from a fish-bearing stream shall be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 77.57.010 and 77.57.070. The pump intake shall be screened by one of the following:
a. Perforated plate: 0.094 inch (maximum opening diameter).
b. Profile bar: 0.069 inch (maximum width opening).
c. Woven wire: 0.087 inch (maximum opening in the narrow direction).
The minimum open area for all types of fish guards is 27%. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment of juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.

14. WATER QUALITY: Every effort shall be taken during all phases of this project to ensure that sediment-laden water is not allowed to enter the stream. This may be accomplished by placing a series of low gravel bag dams downstream of the project. The gravel bag dams shall consist of burlap bags filled with pea gravel. The streambed and dams shall be overlain with filter fabric on the upstream side of the dams. Accumulated silt shall be removed with the filter fabric upon completion of the project and the burlap bags shall be slit to allow the pea gravel to disperse downstream. Where necessary, hand tools may be used to ensure stream flow and fish passage are not impeded by the gravel.

Issue Date: July 09, 2012 | Control Number: 123904-2

Project Expiration Date: December 31, 2014 | FPA/Public Notice #: N/A

15. Wastewater from project activities and water removed from within the work area shall be routed to an area landward of the ordinary high water line to allow removal of fine sediment and other contaminants prior to being discharged to the stream.

16. All waste material such as construction debris, silt, excess dirt or overburden resulting from this project shall be deposited above the limits of flood water in an approved upland disposal site.

17. If high flow conditions that may cause siltation are encountered during this project, work shall stop until the flow subsides.

18. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.

19. Alteration or disturbance of the bank and bank vegetation shall be limited to that necessary to construct the project. Within seven calendar days of project completion, all disturbed areas shall be protected from erosion using vegetation or other means.

20. If at any time, as a result of project activities, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), immediate notification shall be made to the Washington Military Department's Emergency Management Division at 1-800-258-5990, and to the Area Habitat Biologist listed below.

PROJECT LOCATIONS

Location #1 67th Ave NE

WORK START: July 09, 2012				WORK END: October 01, 2012		
WRIA:	Waterbody:			Tributary to:		
05.0036	Portage Creek			South Slough		
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
All	11	31 N	05 E	N 48.1809	W 122.1404	Snohomish
Location #1 Driving Directions						

Issue Date: July 09, 2012
Project Expiration Date: December 31, 2014

Control Number: 123904-2
FPA/Public Notice #: N/A

Location #2 67th Ave NE, Prairie Creek

WORK START: July 09, 2012					WORK END: October 01, 2014	
WRIA:	Waterbody:				Tributary to:	
05.0058	Prairie Creek				Portage Creek	
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
All	11	31 N	05 E	N		Snohomish
Location #2 Driving Directions						

Location #3 Centennial trail crossing

WORK START: July 09, 2012					WORK END: October 01, 2014	
WRIA:	Waterbody:				Tributary to:	
05.0036	Portage Creek				South Slough	
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:
All	11	31 N	05 E	N		Snohomish
Location #3 Driving Directions						

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW (formerly RCW 77.20). Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day and/or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for

appeals are listed below.

NOTE: You may request changes to this HPA. If you paid an application fee for your original HPA you must include payment of $150 with your written request or request billing to an account previously established with Washington Department of Fish and Wildlife. If you did not pay an application fee for the original HPA, no fee is required for a change to it. Requests for changes must include the HPA number, check number or billing account number, and a description of the requested change. Send your written requests and payment, if applicable, by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. If you are charging the fee to a billing account number or you are not subject to the fee, you may email your request to HPAapplications@dfw.wa.gov.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-110-340 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee will conduct an informal hearing and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-110-350 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the Washington Department of Fish and Wildlife HPA Appeals Coordinator, 600 Capitol Way North, Olympia, Washington 98501-1091; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

Issue Date: July 09, 2012
Project Expiration Date: December 31, 2014

Control Number: 123904-2
FPA/Public Notice #: N/A

ENFORCEMENT: Sergeant Lambert (41) P2

Habitat Biologist Jamie Bails	bailsjlb@dfw.wa.gov 425-379-2309		for Director WDFW

CC:

APPENDIX E

WSDOT FISH EXCLUSIONS PROTOCOLS AND STANDARDS

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WSDOT Fish Exclusion Protocols and Standards

Work below the Ordinary High-Water Mark (or Mean Higher High-Water Mark) shall, in general, be conducted in isolation from flowing waters. Exceptions to this general rule or performance measure include: 1) implementation of the work area isolation and fish capture and removal protocols described in this document; 2) placement or removal of small quantities of material (e.g., wood or rock), or installation of structural best management practices (e.g., turbidity curtain), under site conditions where potential exposures and effects to fish life are minimized without isolation from flowing waters[1]; 3) work conducted under a declared emergency or under emergency conditions; or, 4) work conducted where flow conditions prevent safe implementation of work area isolation and fish capture and removal protocols.

Implementation of the work area isolation and fish capture and removal protocols shall be planned and directed by a WSDOT biologist, or qualified biologist under contract to WSDOT, possessing all necessary knowledge, training, and experience (the directing biologist). If electrofishing will or may be used as a means of fish capture, the directing biologist shall have a minimum of 100 hours electrofishing experience in the field using similar equipment, and any individuals operating electrofishing equipment shall have a minimum of 40 hours electrofishing experience under direct supervision. All individuals participating in fish capture and removal operations shall have the training, knowledge, skills, and ability to ensure safe handling of fish, and to ensure the safety of staff conducting the operations.

The directing biologist shall work with Maintenance, Construction, and/or Environmental staff (as appropriate) to plan the staging and sequence for work area isolation, fish capture and removal, and dewatering. This plan should consider the size and channel characteristics of the area to be isolated, the method(s) of dewatering (e.g., diversion with bypass flume or culvert; diversion with sandbag, sheet pile or similar cofferdam; etc.), and what sequence of activities will provide the best conditions for safe capture and removal of fish. Where the area to be isolated is small, depths are shallow, and conditions are conducive to fish capture, it may be possible to isolate the work area and remove all fish life prior to dewatering or flow diversion. Where the area to be isolated is large, depths are not shallow, where flow volumes or velocities are high, and/or conditions are not conducive to easy fish capture, it may be necessary to commence with dewatering or flow diversion staged in conjunction with fish capture and removal. The directing biologist shall use his/her best professional judgment in deciding what sequence of activities is likely to minimize exposure of fish to conditions causing stress or injury

[1] WSDOT shall make this determination with consultation or input from the regulatory agencies with jurisdiction, including the Washington State Department of Fish and Wildlife (WDFW), U.S. Fish and Wildlife Service (FWS), and NOAA-National Marine Fisheries Service (NMFS) as appropriate; also, this exception shall not permit work that requires in-water excavation or that presents a risk of increased turbidity beyond the immediate work area or for a duration of more than 15 minutes.

(including stranding, exposure to extremes of temperature or reduced dissolved oxygen, risk of injury resulting from electrofishing, etc.).

The directing biologist shall plan work area isolation, fish capture and removal, and dewatering with consideration for the following: habitat connectivity and fish habitat requirements; the duration and extent of planned in-water work; anticipated flow and temperature conditions over the duration of planned in-water work; and, the risk of exposure to turbidity or other unfavorable conditions during construction. If the area to be isolated includes only a portion of the wetted channel width (e.g., large or deep rivers where diversion from the entirety of the wetted channel is difficult or impossible), or if the bypass flume or culvert will effectively maintain connectivity and fish passage for the duration of construction activities, it may be less important whether fish are herded (and/or captured and released) upstream or downstream of the isolated work area. However, if the area to be isolated includes the entire wetted channel width, and especially if conditions make it unlikely that connectivity (i.e., upstream/ downstream fish passage) can be effectively maintained for the duration of construction activities, then the directing biologist should carefully consider whether to herd fish (and/or capture and release fish) upstream or downstream of the isolated work area.

If conditions upstream of the isolated work area will or may become unfavorable during construction, then fish should not be herded or released to an upstream location; this situation is probably most common where the waterbody in question is small, where seasonal flows are substantially diminished, and conditions of elevated temperature and/or reduced dissolved oxygen are foreseeable. However, the directing biologist shall also consider whether planned in-water work presents a significant risk of downstream turbidity and sedimentation; fish herded or released to a downstream location may be exposed to these conditions.

If large numbers of fish are to be herded (and/or captured and released), and in order to avoid overcrowding or concentrating fish in areas where their habitat needs cannot be met, it may be appropriate to relocate fish both upstream and downstream of the isolated work area. At locations where habitat connectivity or quality is poor, including along reaches upstream and/or downstream of the isolated work area, the directing biologist should carefully consider whether relocated fish can meet their minimum habitat requirements for the duration of planned in-water work. On rare occasions it may be appropriate to relocate fish at a greater distance upstream and/or downstream (e.g., thousands of feet or miles), so as to ensure fish are not concentrated in areas where their habitat needs cannot be met, or where they may be exposed to unfavorable conditions during construction. On those rare occasions where relocation to a greater distance is deemed necessary, the WSDOT shall provide notice to the agencies with jurisdiction in advance of the operations.

Plans for staging work area isolation, fish capture and removal, and dewatering must comply with WSDOT safety requirements. Safe implementation is a high priority. The directing biologist shall design and adjust the plan as necessary to ensure the safety of all individuals implementing the plan. Under some conditions it may be appropriate to

conduct work without isolation from flowing waters, without placement of block nets, fish capture or removal; for a fuller discussion of this topic see page 1.

In order to comply with WSDOT safety requirements, work in or around water outside of daylight hours is not generally permissible. If, under unusual circumstances, the directing biologist identifies work that will or may be necessary outside of daylight hours, he/she shall coordinate and gain approval for this work with appropriate managers (including the WSDOT safety officer and/or supervisors with authority).

Work Area Isolation

The directing biologist shall determine appropriate locations for the placement of block nets, based on site characteristics and a consideration of the type and extent of planned in-water work. Sites that exhibit reduced flow volume or velocity, uniformity of depth, and good accessibility are preferred; sites with heavy vegetation, large cobble or boulders, undercut banks, deep pools, etc. should be avoided due to the difficulty of securing and/or maintaining nets. Sites with a narrow channel cross-section ("constriction") should be avoided if foreseeable flow conditions might overwhelm or dislodge the block nets, posts, or anchors.

Except when planning and intending to herd fish upstream, an upstream block net shall be placed first. With a block net secured to prevent movement of fish into the work area from upstream, a second block net should be used as a seine to herd fish in a downstream direction. Where the area to be isolated includes a culvert(s), deep pools, undercut banks, or other cover attractive to fish (e.g., thick overhanging vegetation, rootwads, logjams, etc.) it may be appropriate to isolate a portion or portions of the work area, rather than attempting to herd fish from the entirety of the work area in a single downstream pass. Fish capture and removal will be most successful if an effort is made to strategically focus and concentrate fish in areas where they can be easily seined and netted. Care shall be taken not to concentrate fish where they are exposed to sources of stress, or to leave them concentrated in such areas for a long duration (e.g., more than 30 minutes).

Depending upon site characteristics, and the planned staging and sequence for work area isolation and dewatering, it may or may not be necessary to place a downstream block net. Typically, however, site characteristics and/or the duration of planned in-water work will necessitate placement of a net(s) to prevent movement of fish into the work area from downstream. If groundwater seepage or site drainage has a tendency to re-wet the area, if the area to be isolated is low-gradient or subject to a backwatering influence, or if the area to be isolated is large and considerable effort will be expended in capturing and removing fish life, a downstream block net should be placed. If foreseeable flow conditions over the duration of planned in-water work might enable fish to re-enter the work area from downstream, a downstream block net should be placed.

In most instances where gradual dewatering or flow diversion is staged in conjunction with fish capture and removal, it is appropriate to delay installation of the downstream block net(s) until after fish have been given sufficient time to move downstream by their

own choosing. If flows are reduced gradually over the course of several hours, or the length of an entire workday, some (perhaps many) fish will make volitional movements downstream beyond the area to be isolated. Gradual dewatering can be an effective means by which to reduce the risk of fish stress or injury. Gradual dewatering and the encouragement of volitional movement are particularly important where the area to be isolated is large and may hold many fish. However, where the area to be isolated includes a culvert(s), deep pools, undercut banks, or other cover attractive to fish, some (perhaps many) fish will not choose to move downstream regardless of how gradually flows are reduced. The directing biologist should use his/her best professional judgment in deciding what sequence of activities is likely to minimize fish stress or injury (including stranding).

Where the area to be isolated is small, depths are shallow, and conditions are conducive to fish capture, it may be possible to remove all fish life prior to dewatering, or to implement plans for dewatering staged with fish capture over a relatively short timeframe (e.g., 1-2 hours). Where the area to be isolated is large, depths are not shallow, where flow volumes or velocities are high, and/or conditions are not conducive to easy fish capture, dewatering or flow diversion should be staged in conjunction with fish capture and removal over a longer timeframe (e.g., 3-6 hours). The largest areas and/or most difficult site conditions may warrant or require that plans for dewatering and fish capture proceed over the length of an entire workday, or multiple workdays. Where this is the case, fish shall be given sufficient time and a means to move downstream by their own choosing so as to reduce the total number of fish exposed to sources of stress and injury (including fish handling).

The directing biologist shall select suitable block nets. Type of material, length, and depth may vary based on site conditions. It may be necessary and appropriate to contact other WSDOT Regions or offices with access to nets (or other materials) suitable for placement under unique or unusual circumstances. Typically block nets will be composed of 9.5 millimeter stretched nylon mesh and should be installed at an angle to the direction of flow (i.e., not directly perpendicular to flow) so as to reduce the risk of impinging fish. Anchor bags filled (or half-filled) with clean, washed gravel are preferred over sandbags, especially for nets and anchors that will or may remain in-place for a long duration (i.e., more than two weeks). Any use or movement of native substrates or other materials found on-site should be incidental and shall not appreciably affect channel bed or bank conditions.

Block nets shall remain in-place until work is complete and conditions are suitable for the reintroduction of fish[2]. Block nets require frequent inspection and debris removal. A

[2] If plans for work area isolation and fish capture and removal include the installation of temporary cofferdams, and once the directing biologist has confirmed fish life have been successfully excluded from the entire area enclosed by the cofferdam(s), it may be appropriate to remove block nets and allow fish to re-enter the previously isolated work area; this approach is particularly relevant and appropriate where many weeks or months of construction are planned for completion within temporary cofferdams (i.e., isolated from flowing waters).

qualified biologist, or other field staff trained in safe fish handling, shall be assigned the responsibility of inspecting the nets and safely capturing and relocating any impinged fish. The frequency of these inspections shall be determined on a case-by-case basis. However, block nets shall, at a minimum, be inspected for impinged fish (especially juvenile fish) at least three times daily for the first 48 hours after installation (approximate), and for the first 24 hours after significant rainfall (or change in flow volume or velocity). In the event fish are found impinged on the net(s), or if weather or flow conditions change significantly, the directing biologist shall re-consider and adjust the frequency of net inspections so as to minimize the risk of impinging and injuring fish.

Field staff shall be assigned the responsibility of frequently checking and maintaining the nets for accumulated debris, general stability, and proper function. The frequency of these inspections shall be determined on a case-by-case basis, dependent upon the site, seasonal, and weather conditions. Block nets must be secured along both banks and the channel bottom to prevent failure as a result of debris accumulation, high flows, and/or flanking. Some locations may require additional block net support (e.g., galvanized hardware cloth, affixed metal fence posts, etc.).

Fish Capture and Removal

If dewatering and/or flow diversion are deemed necessary[1], this work (including related fish capture and removal operations) shall comply with any provisions contained in the Hydraulic Project Approval (HPA), or applicable General HPA, issued by the WDFW. If the FWS and/or NMFS have provided relevant Terms and Conditions from a Biological Opinion addressing the work (or action), this work shall also comply with those Terms and Conditions.

If pumps are used to temporarily bypass water or to dewater residual pools or cofferdams, pump intakes shall be screened to prevent aquatic life from entering the intake. Fish screens or guards shall comply with Washington State law (RCW 77.57.010 and 77.57.070), with guidelines prescribed by the NMFS[3], and any more stringent requirements contained in the HPA or General HPA issued by the WDFW. If pumps are to be used on a more permanent basis, as the primary or secondary method for diverting flow around the isolated work area, plans for dewatering shall address contingencies (i.e., extremes of flow or weather). These plans shall include ready access to a larger or additional "back-up" pump with screened intake. If the directing biologist has confirmed that all fish life has been successfully excluded from the area, if there is no risk of entraining fish, and adequate plans are in-place to address contingencies (including a routine schedule for inspection), then pumps may be operated without a screened intake.

[3] National Marine Fisheries Service. 1997. Fish screening criteria for anadromous salmonids. NMFS Southwest Region, January 1997, 12p. << http://swr.nmfs.noaa.gov/hcd/fishscrn.pdf >>.

Fish Capture and Removal Methods:

Methods for safe capture and removal of fish from the isolated work area are described below. These methods are given in order of preference. At most locations, a combination of methods will be necessary. In order to avoid and minimize the risk of injury to fish, attempts to seine and/or net fish shall always precede the use of electrofishing equipment. Visual observation techniques (e.g. snorkeling, surveying with polarized glasses or Plexiglas bottomed buckets, etc.) may be used to assess the effectiveness of these methods, to identify locations where fish are concentrating, or otherwise adjust methods for greater effectiveness.

If the planned fish capture and removal operations have not been addressed through consultation (or programmatic consultation), if seining and netting are impracticable (i.e., electrofishing is deemed the only viable means of fish capture), and fish listed under the ESA will or may be present, the directing biologist shall provide notice to the FWS and/or NMFS (as appropriate). This notice shall be provided in advance of the operations, and shall include an explanation of the unique site conditions or circumstances. Work conducted under a declared emergency (or emergency conditions) shall follow established ESA notification protocols.

Where fish listed under the ESA will or may be present, the directing biologist shall ensure that fish capture and removal operations adhere to the following minimum performance measures or expectations:

1) Only dip nets and seines composed of soft (non-abrasive) nylon material shall be used.

2) The operations shall not resort to the use of electrofishing equipment unless and until other, less injurious methods have been effective in removing most or all of the adult and sub-adult fish (i.e., fish in excess of 300 millimeters); the operations shall conduct a minimum of three complete passes without capture using seines and/or nets.

3) The operations shall confirm success of fish capture and removal before completely dewatering or commencing with other work within the isolated work area; the operations shall conduct a minimum of two complete passes without capture using electrofishing equipment.

4) Fish listed under the ESA shall not be held in containers for more than 10 minutes, unless those containers are dark-colored, lidded, and fitted with a portable aerator.

• **Seining** shall be the preferred method for fish capture. Other methods shall be used when seining is not possible, or when/after attempts at seining have proven ineffective. Seines, once pursed, shall remain partially in the water while fish are removed with dip nets. Seines with a "bag" minimize handling stress and are preferred. Seines with a bag

are also preferred where obstructions make access to the water (or deployment/ retrieval of the seine) difficult.

In general, seining will be more effective if fish, especially juvenile fish, are moved (or "flushed") out from under cover. Methods which may increase effectiveness and/or efficiency include conducting seining operations at dawn or dusk (i.e., during low-light conditions), in conjunction with snorkeling, and/or flushing of the cover. In flowing waters, and especially where flow volume or velocity is high or moderately-high, seines that employ a heavy lead line and variable mesh size are preferred. Small mesh sizes are more effective across the full range of fish size (and age class), but also increase resistance and can make deployment/ retrieval more difficult in flowing waters. Seines which use a small mesh size in the bag (or body), and a larger, less resistant mesh size in the wings may under some conditions be most effective and efficient.

• **Baited Minnow Traps** are typically used before and in conjunction with seining. Traps may be left in the isolated work area overnight. Traps shall be inspected at least four times daily to remove captured fish and thereby minimize predation within the trap. Traps should be checked more frequently if temperatures are in excess of 15 degrees C. Predation within the trap may be an unacceptable risk when/ where minnow traps are left in-place over night; large sculpin and other predators that feed on juvenile fish are typically much more active at night. The directing biologist shall consider the need and plan for work outside daylight hours (i.e., inspection and removal) before leaving minnow traps in-place over night.

• **Dip Nets** shall be used in conjunction with seining. This method is particularly effective when employed during gradual dewatering or flow diversion. To be most effective, and to minimize stress and risk of injury to fish (including stranding), the directing biologist shall coordinate fish capture operations with plans for dewatering or flow diversion. Plans for dewatering and/or flow diversion shall proceed at a measured pace (within constraints), to encourage the volitional downstream movement of fish, and reduce the risk of stranding. Plans for dewatering and/or flow diversion shall not proceed unless there are sufficient staff and materials on-site to capture and safely remove fish in a timely manner. Generally this will require a minimum of two persons (three if electrofishing), but the directing biologist may find that some sites (especially large or complicated sites) warrant or require a more intensive effort (i.e., additional staffing).

Once netted, fish shall remain partially in water until transferred to a bucket, cooler, or holding tank. Dip nets which retain a volume of water ("sanctuary nets") are preferred. However, sanctuary nets may be ineffective where flow volume or velocity is high or moderately-high (i.e., increased resistance lessens ability to net and capture fish). In addition, where water depths are very shallow and/or fish are concentrated in very small receding pools or coarse substrate, "aquarium" nets may be a better, more effective choice. Use of dip nets in conjunction with snorkeling, flushing of the cover, or around the hours of dawn or dusk (i.e., during low-light conditions), can be effective for capturing fish sheltered below cover.

• **Connecting Rod Snakes** may be used to flush fish out of stream crossing structures (i.e., culverts). Connecting rod snakes are composed of wood sections approximately three feet in length. Like other cover attractive to fish, culverts (especially long culverts), can present a challenge to fish capture and removal operations. The directing biologist should plan a strategy for focusing and concentrating fish in areas where they can be easily seined and netted, and should take active steps to prevent fish from evading capture. When first implementing plans for work area isolation, fish capture and removal, and dewatering, it may be appropriate to place block nets immediately upstream and/or downstream of culverts so as to minimize the number of fish that might seek cover within the culvert(s). Once most or all of the fish have been removed from other parts of the work area, the block net placed downstream of the culvert(s) should be removed to encourage volitional downstream movement of fish.

• **Electrofishing** shall be performed only when other methods of fish capture and removal have proven impracticable or ineffective at removing all fish. The directing biologist shall ensure that attempts to seine and/or net fish always precede the use of electrofishing equipment. Larger fish (i.e., adult and sub-adult fish with comparatively longer spine lengths) are more susceptible to electrofishing injury than smaller fish. To minimize the risk of injury (and the number of fish potentially injured), the directing biologist shall confirm that other methods have been effective in removing most or all of the adult and sub-adult fish before resorting to the use of electrofishing equipment; see the related performance measure appearing on page 6. As a general rule or performance measure, electrofishing should not be conducted under conditions that offer poor visibility (i.e., visibility of less than 0.5 meter).

The following performance measures shall apply to the use of electrofishing equipment as a means of fish capture and removal:

1. If the planned fish capture and removal operations have not been addressed through consultation (or programmatic consultation), and fish listed under the ESA will or may be present, WSDOT shall provide notice to the FWS and/or NMFS prior to the initiation of electrofishing attempts. Upon request, the WSDOT shall permit the FWS, NMFS, and/or their designated representative to observe fish capture and removal operations. Work conducted under a declared emergency (or emergency conditions) shall follow established ESA notification protocols.

2. Electrofishing shall only be conducted when a biologist with at least 100 hours of electrofishing experience is on-site to conduct or direct all related activities. The directing biologist shall be familiar with the principles of electrofishing, including the effects of voltage, pulse width and pulse rate on fish, and associated risk of injury or mortality. The directing biologist shall have knowledge regarding galvanotaxis, narcosis and tetany, their relationships to injury/mortality rates, and shall have the ability to recognize these responses when exhibited by fish.

3. The directing biologist shall ensure that electrofishing attempts use the minimum voltage, pulse width, and rate settings necessary to achieve the desired response

(galvanotaxis). Water conductivity shall be measured in the field prior to each electrofishing attempt to determine appropriate settings. Electrofishing methods and equipment shall comply with guidelines outlined by the NMFS[4].

4. The initial and maximum settings identified below shall serve as guidelines when electrofishing in waters that may support ESA-listed fish. Only DC or pulsed DC current shall be used. [Note: some newer, late-model electrofishing equipment includes a "set-up" or initialization function; the directing biologist shall have the discretion to use this function as a means to identify proper initial settings.]

Guidelines for initial and maximum settings for backpack electrofishing.[5]

	Initial Settings	Conductivity (µS/cm)	Maximum Settings
Voltage	100 V	≤ 300 > 300	800 V 400 V
Pulse Width	500 µs		5 ms
Pulse Rate	15 Hz		60 Hz [*In general*, exceeding 40 Hz will injure more fish.]

Each attempt shall begin with low settings for pulse width and pulse rate. If fish present in the area being electrofished do not exhibit a response, the settings shall be gradually increased until the appropriate response is achieved (galvanotaxis). The lowest effective settings for pulse width, pulse rate and voltage shall be used to minimize risks to both personnel and fish. Safe implementation is a high priority. The directing biologist shall ensure the safety of all individuals assisting with electrofishing attempts; this includes planning for and providing all necessary safety equipment and materials (e.g., insulated waders and gloves, first aid/cpr kit, a current safety plan with emergency contacts and phone numbers, etc.). Only individuals that are trained and familiar with the use of electrofishing equipment shall provide direct assistance during electrofishing attempts.

5. Electrofishing shall not be conducted where spawning adults or redds with incubating eggs may be exposed to the electrical current. As a general rule or performance measure, waters that support anadromous salmon should not be electrofished from October 15 through May 15, and resident waters from November 1 through May 15. If located within waters that support bull trout, especially waters located within a local bull trout population (i.e., that support spawning and rearing), seasonal limitations on the use of electrofishing equipment may be more restrictive; if you have questions, contact the

[4] National Marine Fisheries Service. 2000. Guidelines for electrofishing waters containing salmonids listed under the Endangered Species Act. NMFS Northwest Region, June 2000, 5p. << http://www.nwr.noaa.gov/ESA-Salmon-Regulations-Permits/4d-Rules/upload/electro2000.pdf >>.

[5] Adapted from NMFS (June 2000) and WDFW Electrofishing Guidelines for Stream Typing (May 2001).

FWS. If any, more restrictive work windows have been identified through consultation, those windows shall apply. The directing biologist shall ensure that electrofishing attempts are made only during appropriate times of year, and not where spawning adults or redds with incubating eggs may be exposed to the electrical current.

6. An individual shall be stationed at the downstream block net(s) during electrofishing attempts to recover stunned fish in the event they are flushed downstream and/or impinged against the block net(s).

7. The operator shall use caution so as to prevent fish from coming into direct contact with the anode. Under most conditions, the zone of potential fish injury extends approximately 0.5 meter from the anode. Netting shall not be attached to the anode, as this practice presents an increased risk of direct contact and injury. Extra care shall be taken near in-water structures or undercut banks, in shallow waters, or where fish densities are high. Under these conditions fish are more likely to come into close or direct contact with the anode and/or voltage gradients may be intensified. Voltage and other settings shall be readjusted to accommodate changing conditions in the field, including channel depth. When electrofishing near undercut banks, overhanging vegetation, large cobble or boulders, or where structures provide cover, fish that avoid capture may be exposed to the electrical current repeatedly. Repeated or prolonged exposures to the electrical current present a higher risk of injury, and therefore galvanotaxis should be used to draw fish out of cover.

8. Electrofishing shall be conducted in a manner that minimizes harm to fish. Once an appropriate fish response (galvanotaxis) is achieved, the isolated work area shall be worked systematically. The number of passes shall be kept to a minimum, but is dependent upon the numbers of fish and site characteristics and shall be at the discretion of the directing biologist. Electrofishing shall not be conducted unless there are sufficient staff and materials on-site, to both minimize the number of passes required and to locate, net, recover, and release fish in a timely manner. Generally this will require a minimum of three persons, but the directing biologist may find that some sites (especially large or complicated sites) warrant or require a more intensive effort (i.e., additional staffing). Care shall be taken to remove fish from the electrical field immediately and to avoid exposing the same fish repeatedly. Fish shall not be held in dip nets while electrofishing is in progress (i.e., while continuing to capture additional fish). [Note: where flow velocity or turbulence is high or moderately-high (e.g., within riffles) it may be difficult to see and net fish; these fish may evade capture (resulting in repeated exposure), or may become impinged on the downstream block net(s); a "frame" net, or small and portable block net approximately 3 feet in width, can be effective under these conditions when held downstream in close proximity to the anode.]

9. The condition of captured fish shall be carefully observed and documented. Dark bands on the body and/or extended recovery times are signs of stress or injury. When such signs are noted, settings for the electrofishing unit may require readjustment. The directing biologist shall also review and consider changes to the manner in which the electrofishing attempt is proceeding. If adjustments to the electrofishing attempt do not

lessen the frequency (or severity) of observed stress, the directing biologist shall have the authority to postpone fish capture and removal operations[6]. Each fish shall be capable of remaining upright and actively swimming prior to release (see Fish Handling, Holding and Release).

10. Electrofishing shall not be conducted when turbidity reduces visibility to less than 0.5 meter, when water conductivity exceeds 350 μS/cm, or when water temperature is above 18°C or below 4°C.

Fish Handling, Holding and Release:

• Fish handling shall be kept to the minimum necessary to remove fish from the isolated work area. Fish capture and removal operations shall be planned and conducted so as to minimize the amount and duration of handling. The operations shall maintain captured fish in water to the maximum extent possible during seining/netting, handling, and transfer for release.

• The directing biologist shall document and maintain accurate records of the operations, including: fish species, number, age/size class estimate, condition at release, and release location. Fish shall not be sampled or anesthetized, unless for valid purposes consistent with the WSDOT's Section 10 scientific collection permits.

• Individuals handling fish shall ensure that their hands are free of harmful and/or deleterious products, including but not limited to sunscreen, lotion, and insect repellent.

• The operations shall ensure that water quality conditions are adequate in the buckets, coolers, or holding tanks used to hold and transfer captured fish. The operations shall use aerators to provide for clean, cold, well-oxygenated water, and/or shall stage capture, temporary holding, and release to minimize the risks associated with prolonged holding. The directing biologist shall ensure that conditions in the holding containers are monitored frequently and operations adjusted appropriately to minimize fish stress. If fish listed under the ESA will or may be held for more than a few minutes prior to release, the directing biologist should consider using dark-colored, lidded containers only. Fish listed under the ESA shall not be held in containers for more than 10 minutes, unless those containers are dark-colored, lidded, and fitted with a portable aerator; small coolers meeting this description are preferred over buckets.

• The operations shall provide a healthy environment for captured fish, including low densities in holding containers to avoid effects of overcrowding. Large fish shall be kept

[6] If the FWS and/or NMFS have provided an Incidental Take Statement from a Biological Opinion addressing the work (or action), the directing biologist shall ensure limits on take have not been exceeded; if the limits on take are exceeded, or if take is approaching these limits, the directing biologist shall postpone fish capture and removal operations and immediately notify the federal agency (or agencies) with jurisdiction.

separate from smaller fish to avoid predation. The operations shall use water-to-water transfers whenever possible.

• The release site(s) shall be determined by the directing biologist. The directing biologist should consider both site characteristics (e.g., flow, temperature, available refuge and cover, etc.) and the types of fish captured (e.g., out-migrating smolt, kelt, prespawn migrating adult, etc.) when selecting a release site(s). More than one site may be designated to provide for varying needs, and to separate prey-sized fish from larger fish. The directing biologist shall consider habitat connectivity and fish habitat requirements, seasonal flow and temperature conditions, and the duration and extent of planned in-water work when selecting a fish release site(s). If conditions upstream of the isolated work area will or may become unfavorable during construction, then fish should not be released to an upstream location. However, the directing biologist should also consider whether planned in-water work presents a significant risk of downstream turbidity and sedimentation; fish released to a downstream location may be exposed to these conditions. Site conditions may warrant releasing fish both upstream and downstream, or relocating fish at a greater distance (e.g., thousands of feet or miles), so as to ensure fish are not concentrated in areas where their habitat needs cannot be met. For a fuller discussion of this topic see page 2.

• The directing biologist shall ensure that each fish is capable of remaining upright and has the ability to actively swim upon release.

• Any ESA-listed fish incidentally killed as a result of fish capture and removal operations shall be preserved and delivered to the appropriate authority upon request (see Documentation).

• If the limits on take of ESA-listed species are exceeded (harm or harassment), or if incidental take is approaching and may exceed specified limits, the directing biologist shall postpone fish capture and removal operations and immediately notify the federal agency (or agencies) with jurisdiction. If dewatering or flow diversion is incomplete and still in-progress, WSDOT shall take remedial actions directed at maintaining sufficient quantity and quality of flow and lessening sources of fish stress and/or injury. If conditions contributing to fish stress and/or injury may worsen before the federal agency with jurisdiction can be contacted, WSDOT should attempt to move fish to a suitable location near the capture site while keeping fish in water and reducing stress as much as possible.

Reintroduction of Flow and Fish to the Isolated Work Area

If conducting work in isolation from flowing waters has required placement of a block net(s), fish capture and removal, and temporary dewatering, the directing biologist shall ensure that the block net(s) remain in-place until work is complete and conditions are suitable for the reintroduction of fish[2]. Flows shall be gradually reintroduced to the isolated work area, so as to prevent channel bed or bank instability, excessive scour, or turbidity and sedimentation. The directing biologist shall inspect the work area and

downstream reach to ensure no fish are stranded or in distress during reintroduction of flows. If conditions causing or contributing to fish stress and/or injury are observed, WSDOT shall take remedial actions directed at lessening these sources of stress. This may include a more gradual reintroduction of flow, so as to reduce resulting turbidity and sedimentation.

All temporary structures and materials (e.g., block nets, posts, and anchors; bypass flume or culvert; sandbag, sheet pile or similar cofferdam; etc) shall be removed at the completion of work. The directing biologist shall document in qualitative terms the final condition of the isolated work area (including temporary bypass). The directing biologist shall identify and document any obvious signs of channel bed or bank instability resulting from the work, and shall report these conditions to the appropriate Maintenance, Construction, and/or Environmental staff for remedy. WSDOT shall document any additional actions taken to correct channel instability, and the final condition of the isolated work area (including temporary bypass).

To avoid and minimize the risk of introducing or spreading nuisance or invasive species, aquatic parasites, or disease, the directing biologist shall ensure that all equipment and materials are cleaned and dried before transporting them for use at another site or waterbody.

Documentation

• All work area isolation, and fish capture and handling shall be documented in a log book with the following information: project location, date, methods, personnel, water temperature, conductivity, visibility, electrofishing equipment settings, and other comments.

• All fish captured or handled shall be documented: species, number of each species, age/ size class estimate, condition at release, and location of release.

• If at any time, fish are observed in distress, a fish kill occurs, or water quality problems develop (including equipment leaks or spills), WSDOT shall provide immediate notification to the WDFW consistent with any provisions contained in the HPA (or applicable General HPA). Notification shall consist of a phone call or voice mail message directed to the Area Habitat Biologist identified on the HPA and/or the Washington Military Department Emergency Management Division at (800) 258-5990, as appropriate.

• Any ESA-listed fish incidentally killed as a result of fish capture and removal operations shall be documented with notification provided to the appropriate authority (FWS and/or NMFS) within two working days. Initial notifications may consist of a phone call or voice mail message. Initial notifications shall be directed to the following: (FWS) the nearest FWS Law Enforcement Office, and the Washington Fish and Wildlife Office at (360) 753-9440; (NMFS) the NMFS Office of Law Enforcement at (800) 853-1964, and the Washington State Habitat Office at (360) 753-9530. Any dead specimens

shall be kept whole and preserved on-ice or frozen until WSDOT receives a response and further directions from the appropriate authority; if WSDOT receives no response within 5 working days, the directing biologist shall have the discretion to dispose of specimens. Initial notifications shall be followed by a second notification in writing. All notifications shall provide at a minimum the following: date, time, WSDOT point-of-contact (the directing biologist and/or supervisor), project name (and FWS and/or NMFS tracking number if available), precise location of any incidentally killed or injured and unrecovered fish, number of specimens and species, and cause of death or unrecoverable injury. If the limits on incidental take are exceeded (harm or harassment), the written notification shall also include an explanation of the circumstances causing or contributing to observed levels of take.

- The final condition of the isolated work area (including temporary bypass) shall be documented in qualitative terms, including any obvious signs of channel bed or bank instability resulting from the work. WSDOT shall document any additional actions taken to correct channel instability, and the final condition of the isolated work area (including temporary bypass).

APPENDIX F

POTHOLE DATA

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APS DATA

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DATE: 7/27/2011

FRONTIER# 2030-3P0A0KQ

JOB # 2637 VAC

CLIENT: FRONTIER

POC: WAYNE WENDELL

SEE FIELD NOTES

Applied Professional Services Inc.

PROJECT: 67TH AVE NE, LEBENON TO 204TH ST (ARLINGTON,WA)

Pothole Date	Pothole # Core #	Target Utility	Depth to top of util. In inches	Depth to Bot of util. In inches	Pipe/Conduit size inches	Pipe Material	Asphalt Thickness	Concrete Thickness	Subsurface Composition/Comments
7/26/2011	# 1	FRONTIER	42"	62"	22" WIDE	CONCRETE DUCT	9"	~	NATIVE/SAND
7/26/2011	# 2	FRONTIER	42"	64"	30" WIDE	CONCRETE DUCT	6"	~	NATIVE/SAND
7/26/2011	# 3	FRONTIER	43"	68"	32" WIDE	CONCRETE DUCT	7"	~	NATIVE/SAND
7/26/2011	# 4	FRONTIER	63"	82"	39" WIDE	CONCRETE DUCT	8"	~	NATIVE/SAND
7/26/2011	# 5	FRONTIER	47"	69"	36" WIDE	CONCRETE DUCT	7"	~	NATIVE/SAND
7/26/2011	# 6	FRONTIER	45"	61"	38" WIDE	CONCRETE DUCT	7"	~	NATIVE/SAND
7/26/2011	# 7	FRONTIER	41"	61"	34" WIDE	CONCRETE DUCT	7"	~	NATIVE/SAND
7/22/2011	# 8	FRONTIER	66"	108"	36" WIDE	CONCRETE DUCT	7"	~	NATIVE/SAND
7/22/2011	# 8A	COM	55"	56"	(1) 1"	PVC	7"	~	NATIVE/SAND
7/26/2011	# 9	FRONTIER	46"	70"	30" WIDE	CONCRETE DUCT	6"	~	NATIVE/SAND
7/22/2011	# 10	FRONTIER	41"	62"	32" WIDE	CLAY DUCT	6"	~	NATIVE/SAND
7/22/2011	# 11	FRONTIER	41"	63"	33" WIDE	CLAY DUCT	7"	~	NATIVE/SAND
7/22/2011	# 12	FRONTIER	82"	103"	19" WIDE	CLAY DUCT	8"	~	NATIVE/SAND

DATE: 7-22/7-26-11

Applied Professional Services Inc.

JOB # 2030-3P0A0KQ
CLIENT: FRONTIER
POC: WAYNE WENDELL

PROJECT: 67th AVE NE, Lebenon to 204th ST NE

Pothole Date	Pothole # Core #	Target Utility	Additional Utility	Depth to top of util. In inches	Depth to Bot of util. In inches	Pipe/Cndult size inches	Pipe Material	Asphalt Thickness	Concrete Thickness	Subsurface Composition/Comments
	1	FRONTIER	/	42"	62"	20"	Conc DUCT	9"	-	22" wide / NATIVE SOFT
	2	FRONTIER	/	42"	64"	22"	Conc DUCT	6"	/	30" wide
	3	FRONTIER	/	43"	68"	25"	Conc DUCT	7"	/	32" wide
	4	FRONTIER	/	63"	82"	19"	Conc DUCT	8"	/	39" wide
	5	FRONTIER	/	47"	69"	22"	Conc DUCT	7"	/	36" wide
	6	FRONTIER	/	45"	61"	16"	Conc DUCT	7"	/	38" wide
	7	FRONTIER	/	41"	61"	20"	Con DUCT	7"	/	34" wide
	8	FRONTIER	/	66"	108"	42"	Conc DUCT	7"	/	36" wide
	9	FRONTIER	/	46"	70"	24"	Conc DUCT	6"	/	30" wide
	10	FRONTIER	/	41"	62"	21" / 2 clay DUCTS		6"	/	32" wide
	11	FRONTIER	/	41"	63"	22" / 2 clay DUCTS		7"	/	33" wide
	12	FRONTIER	/	82"	103"	21" / 2 clay DUCTS		8"	/	19" wide.
	8A	COM	//	55"	56"	1"	PVC	7"	/	

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 1 Asphalt Thickness 9" inches. Utility type: Com (gas, water, etc.)

Utility Size: 20" inches Utility Material: Conc DUCT Soil Cond. Native SOFT

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 42" inches.

Bottom of utility from grade: 62" inches.

Width of Structure if necessary: 22" inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

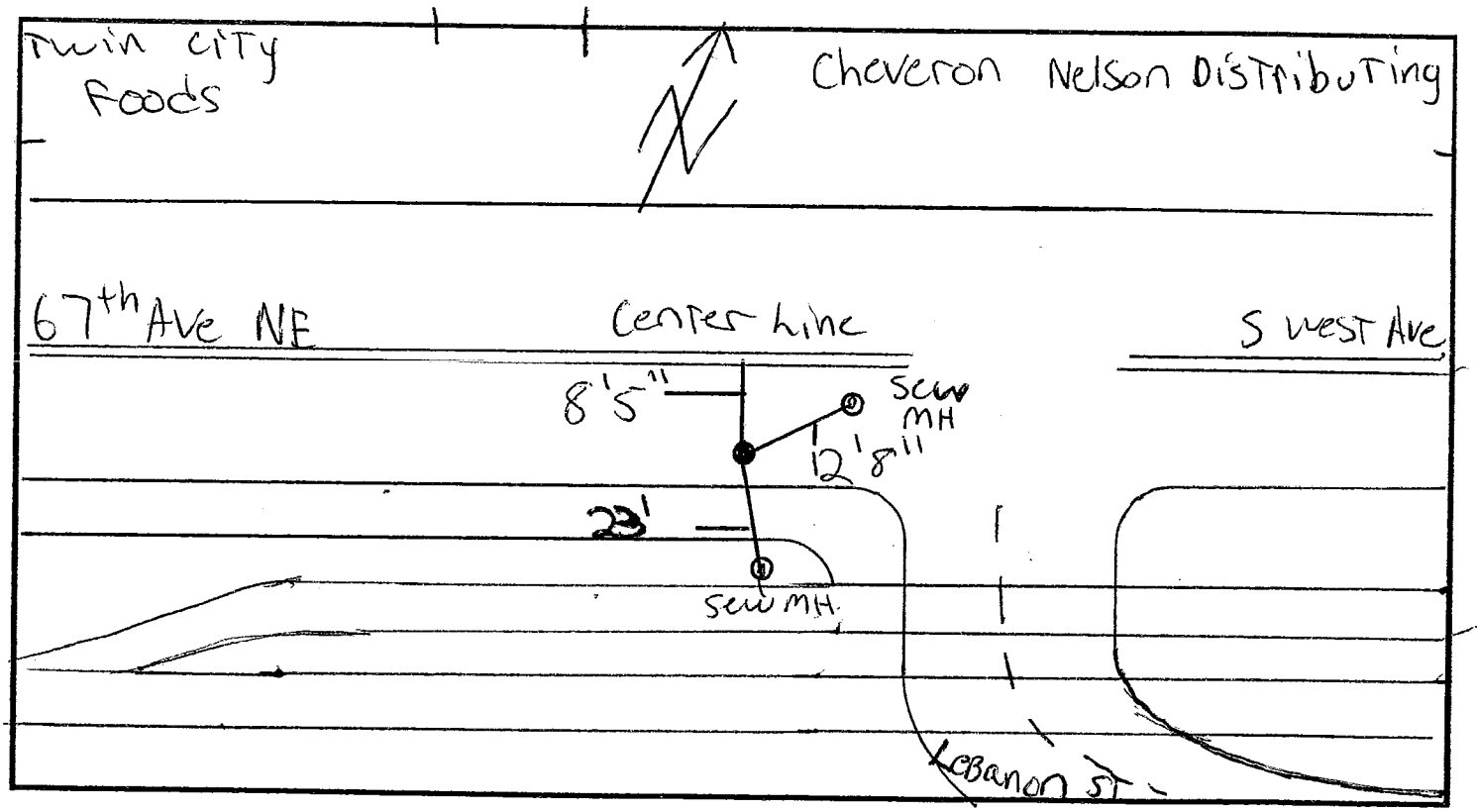
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 2 Asphalt Thickness 6" inches. Utility type: Com (gas, water, etc.)

Utility Size: 22" inches Utility Material: Conduit Soil Cond. Rock Soft

Pipe Direction (circle one)

E & W

N & S

(SW & NE)

SE & NW

Top of utility from grade: 2 1/2" inches.

Bottom of utility from grade: 64" inches.

Width of Structure if necessary: 30" inches.

Additional utilities found in same location:

Test hole# _____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

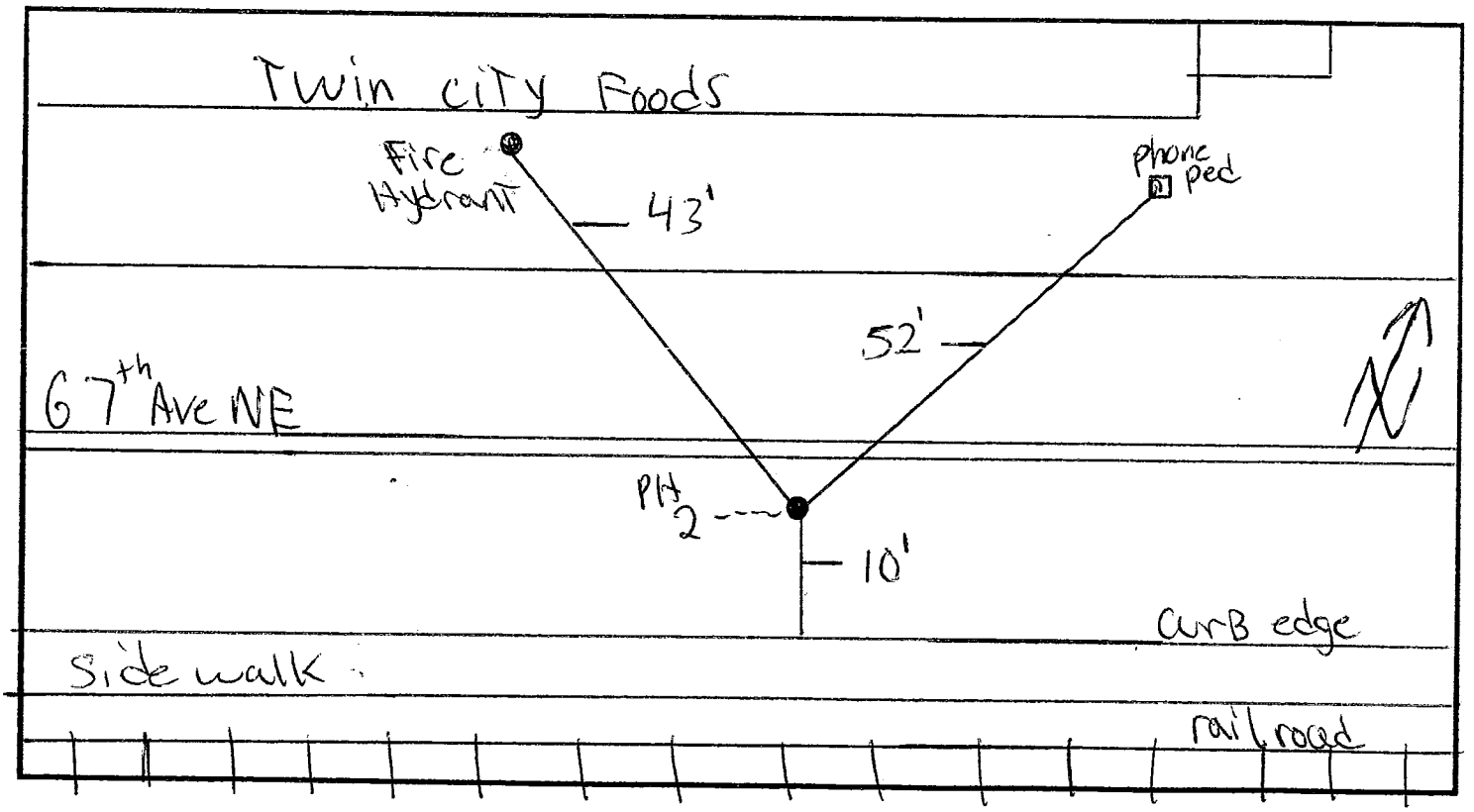
Test hole# _____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 3 Asphalt Thickness 7" inches. Utility type: COM (gas, water, etc.)

Utility Size: 25" inches Utility Material: Conc Duct Soil Cond. Native

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 43" inches.

Bottom of utility from grade: 68" inches.

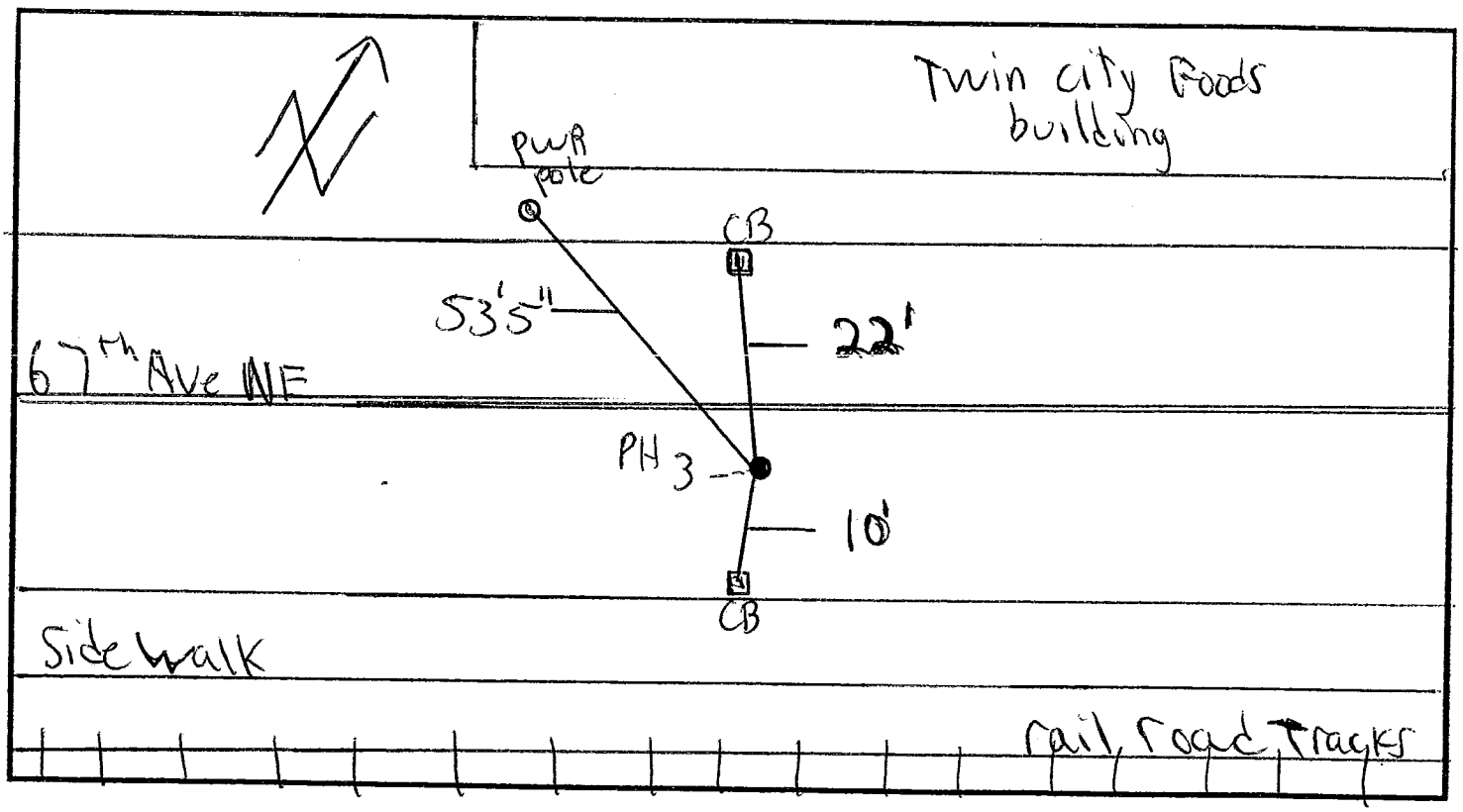
Width of Structure if necessary: 32" inches.

Additional utilities found in same location:

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew
Lead: Cody
Assistant: Devin



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Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 4 Asphalt Thickness 8" inches. Utility type: Com (gas, water, etc.)

Utility Size: 19" inches Utility Material: Conc duct Soil Cond. Native SOFT

Pipe Direction (circle one)
E & W
N & S
(SW & NE)
SE & NW

Top of utility from grade: 63" inches.

Bottom of utility from grade: 82" inches.

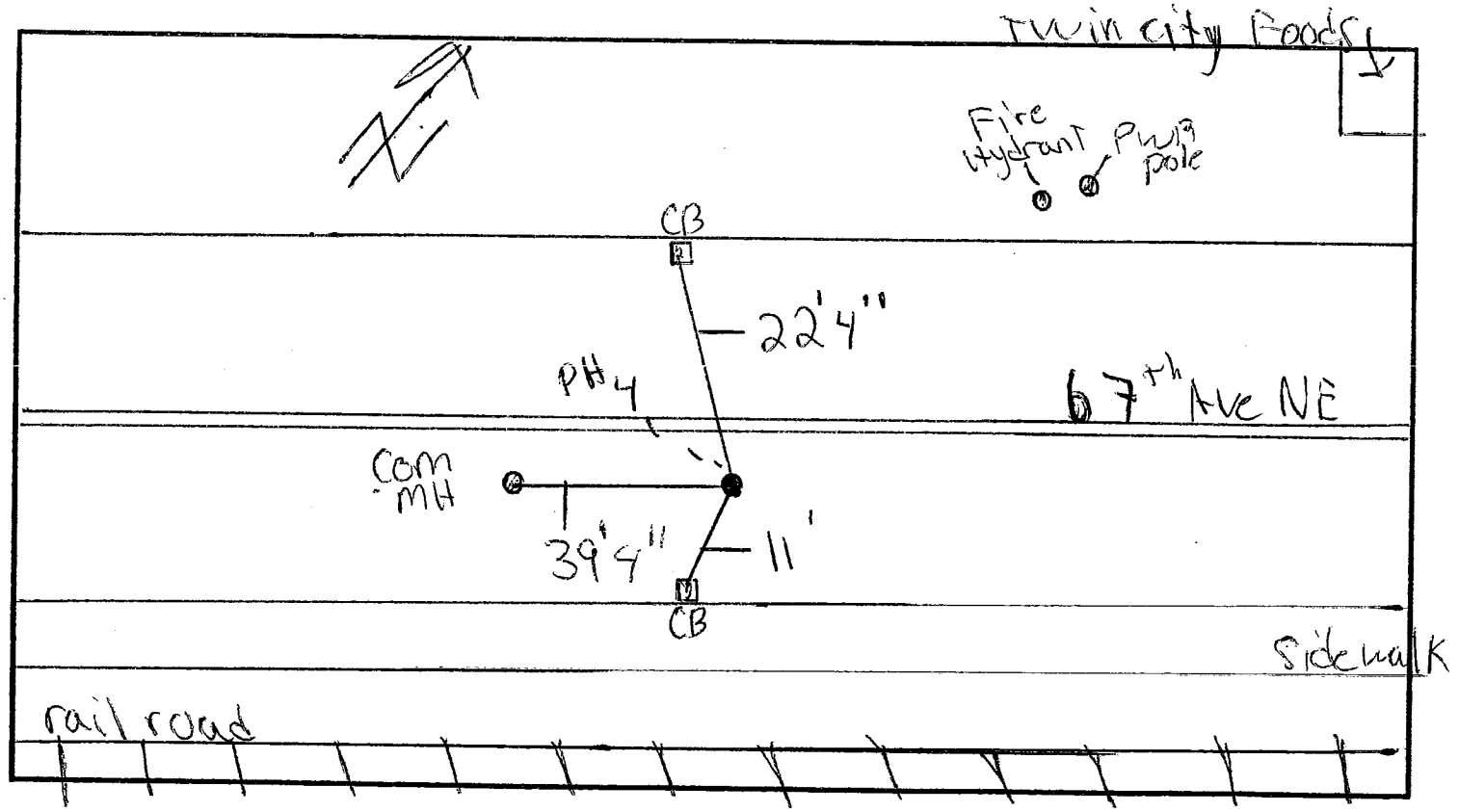
Width of Structure if necessary: 39" inches.

Additional utilities found in same location:

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew
Lead: Cody
Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 5 Asphalt Thickness 7" inches. Utility type: COM (gas, water, etc.)

Utility Size: 22" inches Utility Material: Conc Duct Soil Cond. Native SOFT

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 47" inches.

Bottom of utility from grade: 69" inches.

Width of Structure if necessary: 36" inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

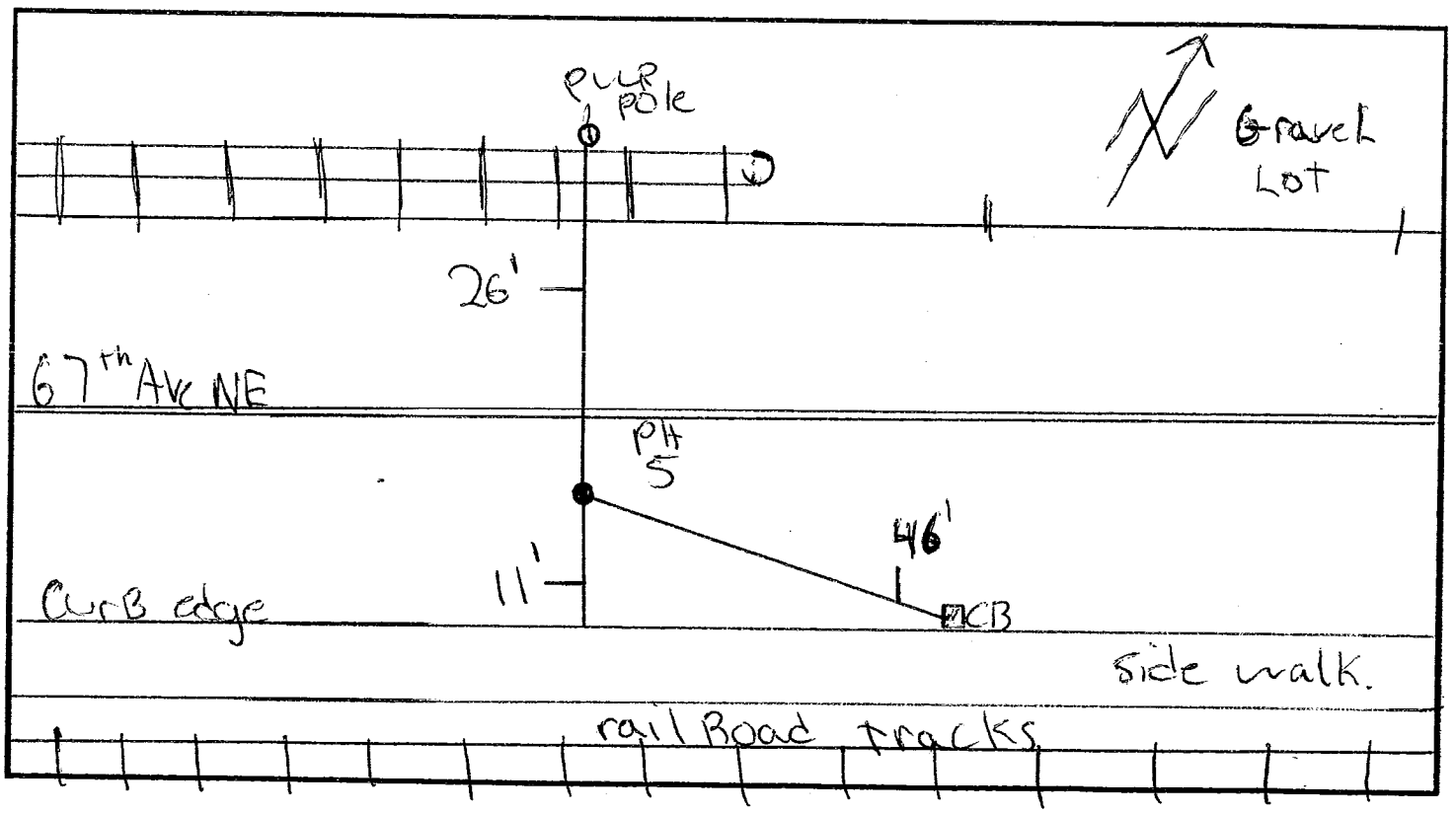
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 6 Asphalt Thickness 7" inches. Utility type: Com (gas,water, etc.)

Utility Size: 16 inches Utility Material: Conc Duct Soil Cond. Native Soft

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 45 inches.

Bottom of utility from grade: 61 inches.

Width of Structure if necessary: 38 inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

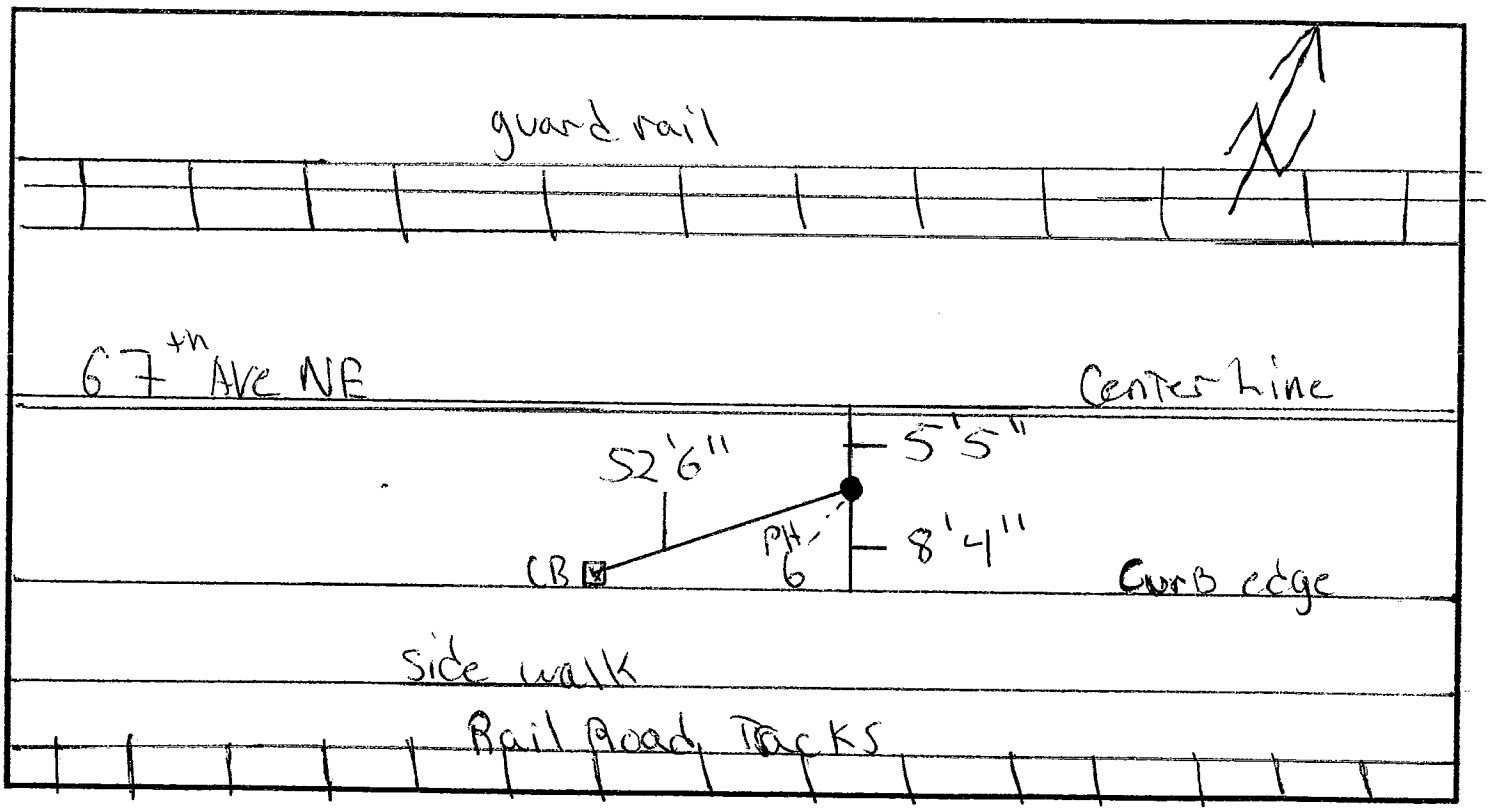
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 7 Asphalt Thickness 7" inches. Utility type: COM (gas, water, etc.)

Utility Size: 20" inches Utility Material: CONC DUCT Soil Cond. NATIVE SOFT

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 41" inches.

Bottom of utility from grade: 61" inches.

Width of Structure if necessary: 34" inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

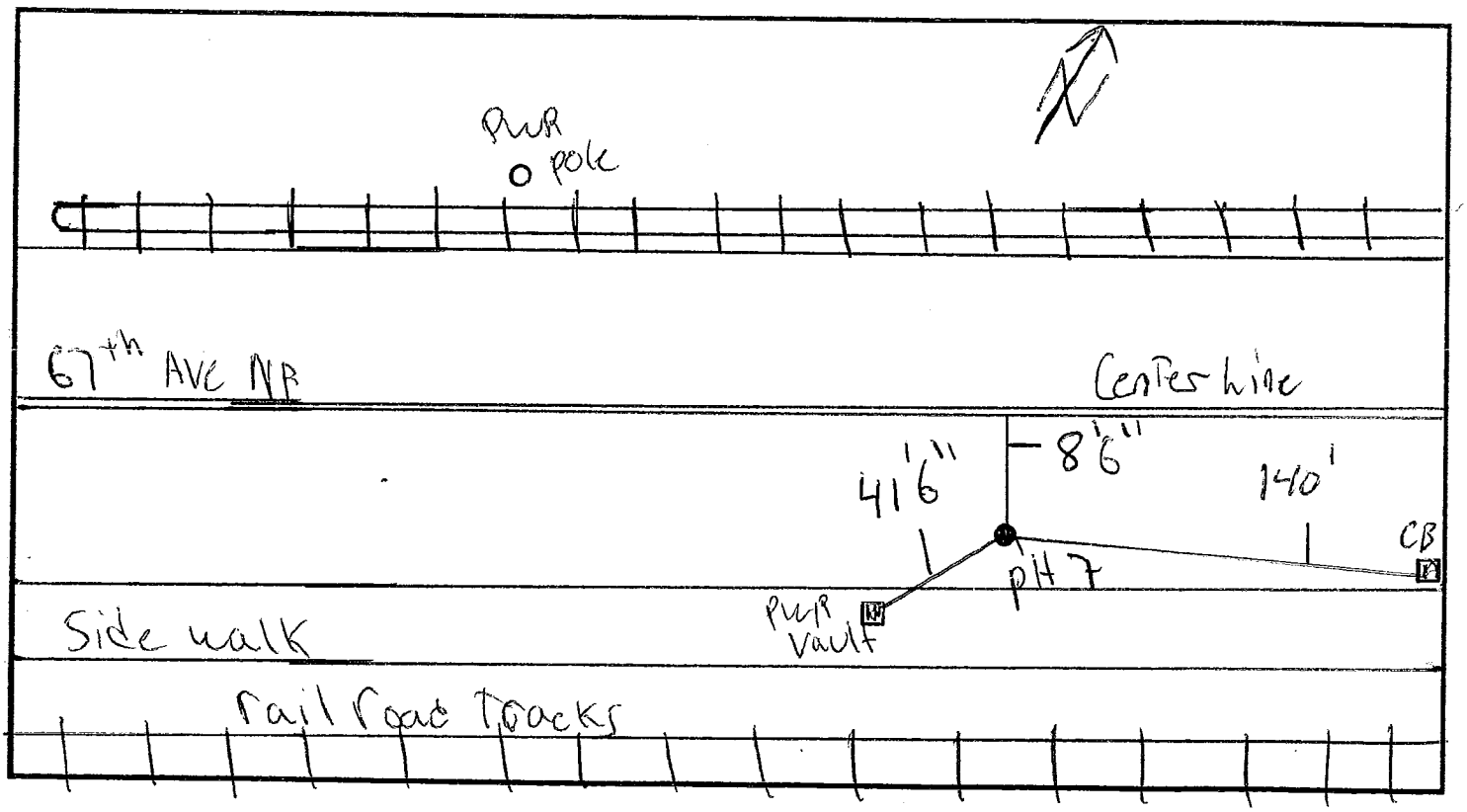
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-22-11

Pothole#: 8 Asphalt Thickness 7" inches. Utility type: Com (gas,water, etc.)

Utility Size: 42" inches Utility Material: Conc Duct Soil Cond. Native

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 66" inches.

Bottom of utility from grade: 108" inches.

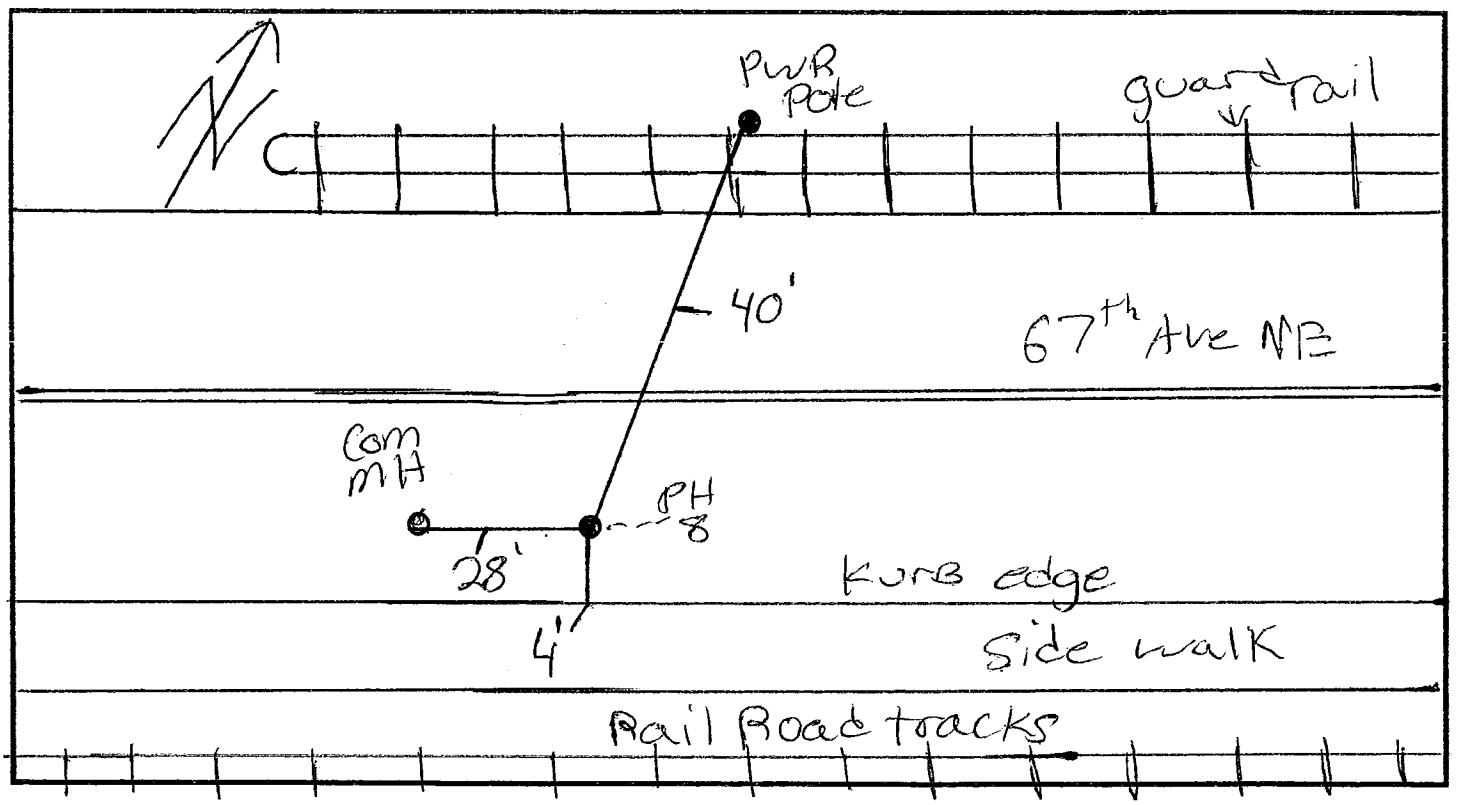
Width of Structure if necessary: 36" inches.

Additional utilities found in same location:

Test hole# 8A
Utility Type: Com Top: 55" Bot: 56" Size: 1" Ut Material: PVC

Test hole#
Utility Type: Top: Bot: Size: Ut Material:

Vac Crew
Lead: Cody
Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
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TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-26-11

Pothole#: 9 Asphalt Thickness 6" inches. Utility type: COM (gas, water, etc.)

Utility Size: _____ inches Utility Material: Conc Duct Soil Cond. Native SOFT

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 46" inches.

Bottom of utility from grade: 70" inches.

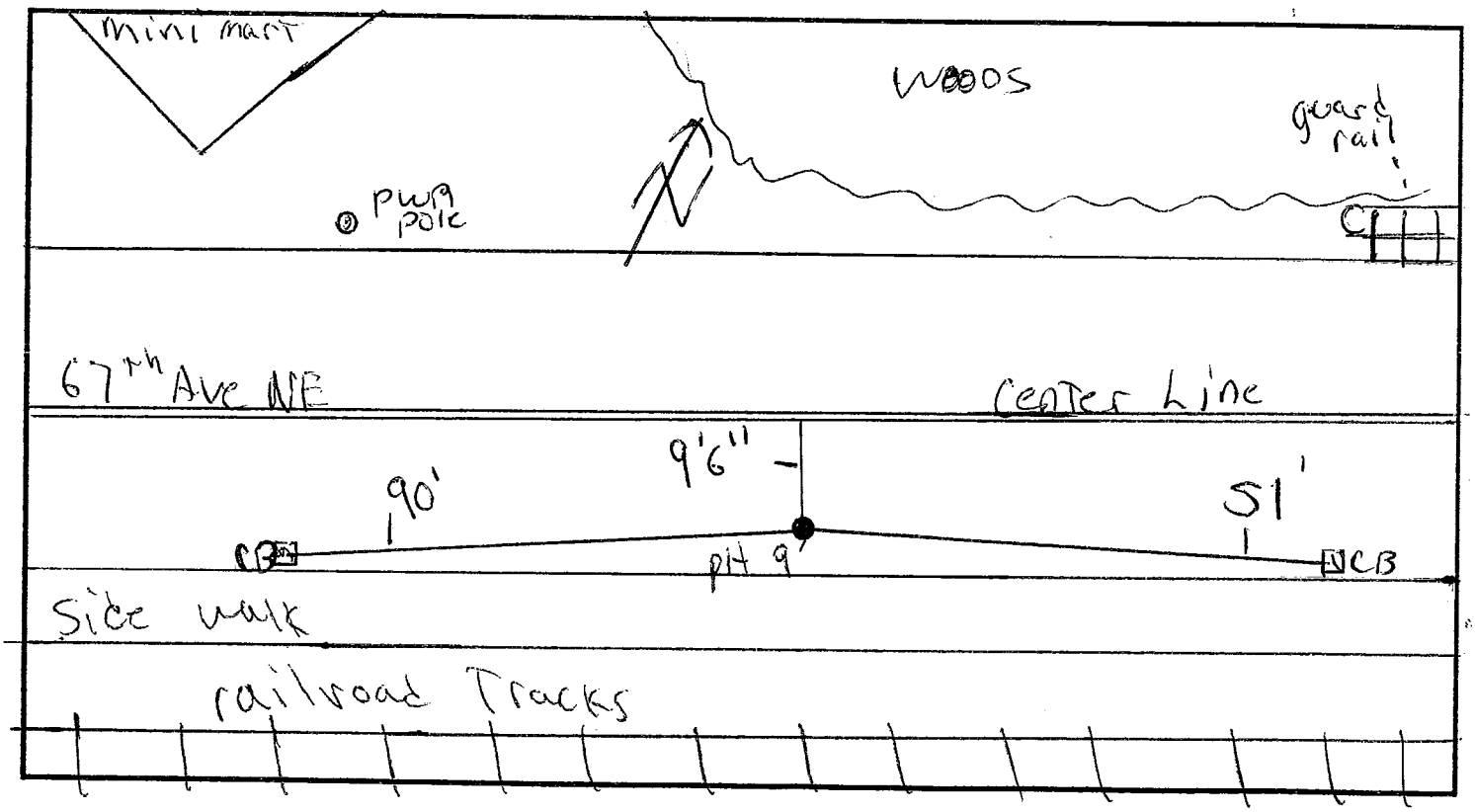
Width of Structure if necessary: 30" inches.

Additional utilities found in same location:

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew
Lead: Cody
Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
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TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-22-11

Pothole#: 10 Asphalt Thickness 6" inches. Utility type: Com (gas, water, etc.)

Utility Size: 21" inches Utility Material: 2 clay duct stacked 6" conc cap on top Soil Cond. Native SOFT

Pipe Direction (circle one)
E & W
N & S
SW & NE
SE & NW

Top of utility from grade: 41" inches.

Bottom of utility from grade: 62" inches.

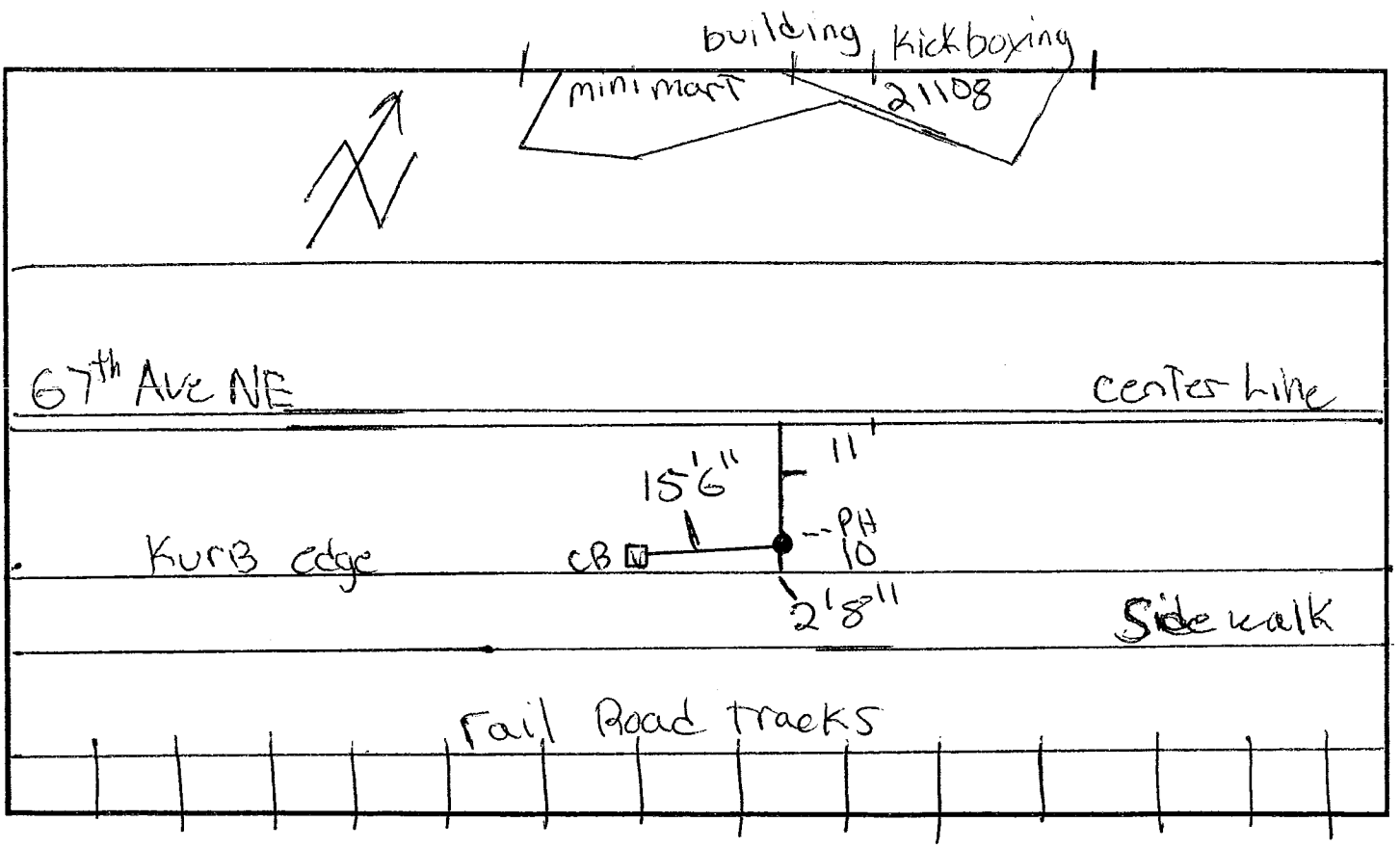
Width of Structure if necessary: 32" inches.

Additional utilities found in same location:

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Test hole# _____
Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew
Lead: Cody
Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-22-11

Pothole#: 11 Asphalt Thickness 7" inches. Utility type: Com

Utility Size: 22" inches Utility Material: 2 Clay Ducts stacked 6" conc cap on top (gas, water, etc.) Soil Cond. Native SOFT

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 41" inches.

Bottom of utility from grade: 63" inches.

Width of Structure if necessary: 33" inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

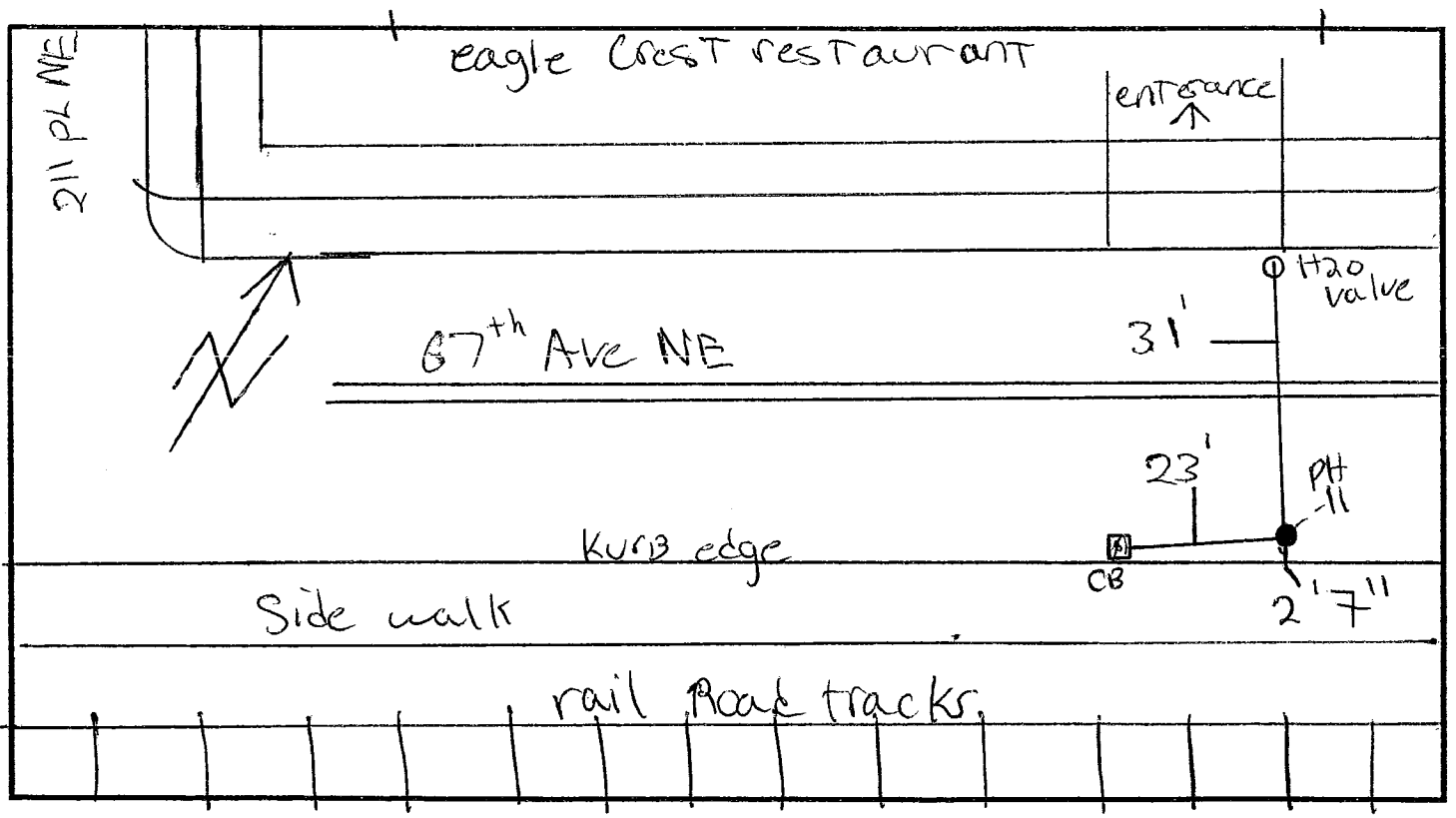
Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2637 Date: 7-22-11

Pothole#: 12 Asphalt Thickness 8" inches. Utility type: Com (gas, water, etc.)

Utility Size: 21" inches 2 clay ducts stacked Utility Material: Conc Cap Soil Cond: Native SOFT

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 82" inches.

Bottom of utility from grade: 103" inches.

Width of Structure if necessary: 19" inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

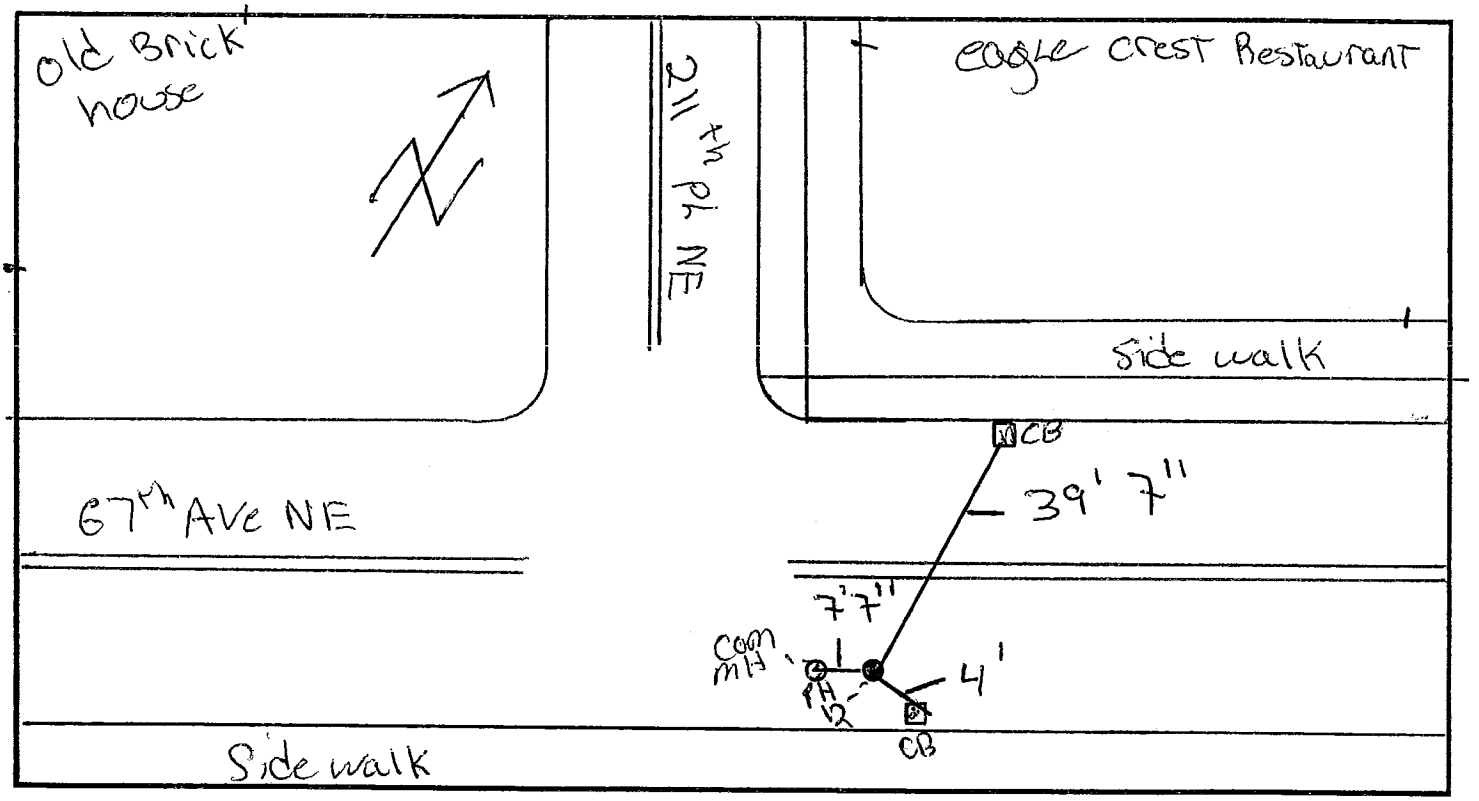
Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Cody

Assistant: Devin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

DATE:

JOB #
CLIENT:
POC:

Applied Professional Services Inc.

PROJECT:

Pothole Date	Pothole # Core #	Target Utility	Depth to top of util. in inches	Depth to Bot of util. in inches	Pipe/Conduit size inches	Pipe Material	Asphalt Thickness	Concrete Thickness	Subsurface Composition/Comments
10/11/11	8	Gas	33"	37"	4"	P.E	—	—	soft
	9	GAS	24"	28"	4"	PE	—	-	soft
	9A	Water	54"	64"	10"	D.I	—	—	soft
	12	water	45"	55"	10"	D.I	10"	—	soft
10/12/11	10	gas	67"	71"	4"	P.E	9"	4"	soft
	11	Water	34"	40"	6"	D.I	6"	-	soft/rocks
	11A	S/S force main. Dug a slot Cut 2'X 7', which incorporated							
#11 & 11A.		Did not find Force main.							
10/3/11	1	Com	23"	27"	4"	PVC	—	5"	soft
	1A	Water	55"	65"	10"	D.I	—	5"	soft
	1B	gas	27"	29"	2"	Steel	12"	—	soft
	2	gas	35"	41"	6"	Steel	7"	-	soft
	3	water	34"	44"	10"	D.I	—	-	soft
	5	water	41"	51"	10"	D.I	—	—	soft
	6	com	34"	35"	5"	Direct bury	—	—	soft
10/4/11	13	gas	33"	37"	4"	P.E	—	—	rocky
	13A	Sewer	56"	64	8"	PVC	—	—	rocky
Map indicates 6" D.I. however an utility tape indicated buried sewer.									
	7	gas	29"	33"	4"	PE	—	—	—
	4	~~water~~ com	not located	on this side of street does not locate					
Com	located by one call on west side of street								
	4	water	Found concrete obstruction @ 18" Unsure of what this is						
Fiber	on base map not located. obstruction close to valve possible thrust block								

cap or old roadway, unsure of what this is.

11A ~~water~~ sewer RE-DEG. Dug to 5'-6" Did not find this pothole

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/13/11

Pothole#: 1 Asphalt ~~Thickness~~ Concrete Thickness 5" inches Utility type: Com (gas, water, etc.)

Utility Size: 4" inches Utility Material: PVC Soil Cond. Soft

Pipe Direction (circle one)
E & W
(N & S)
SW & NE
SE & NW

Top of utility from grade: 23" inches.

Bottom of utility from grade: 27" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

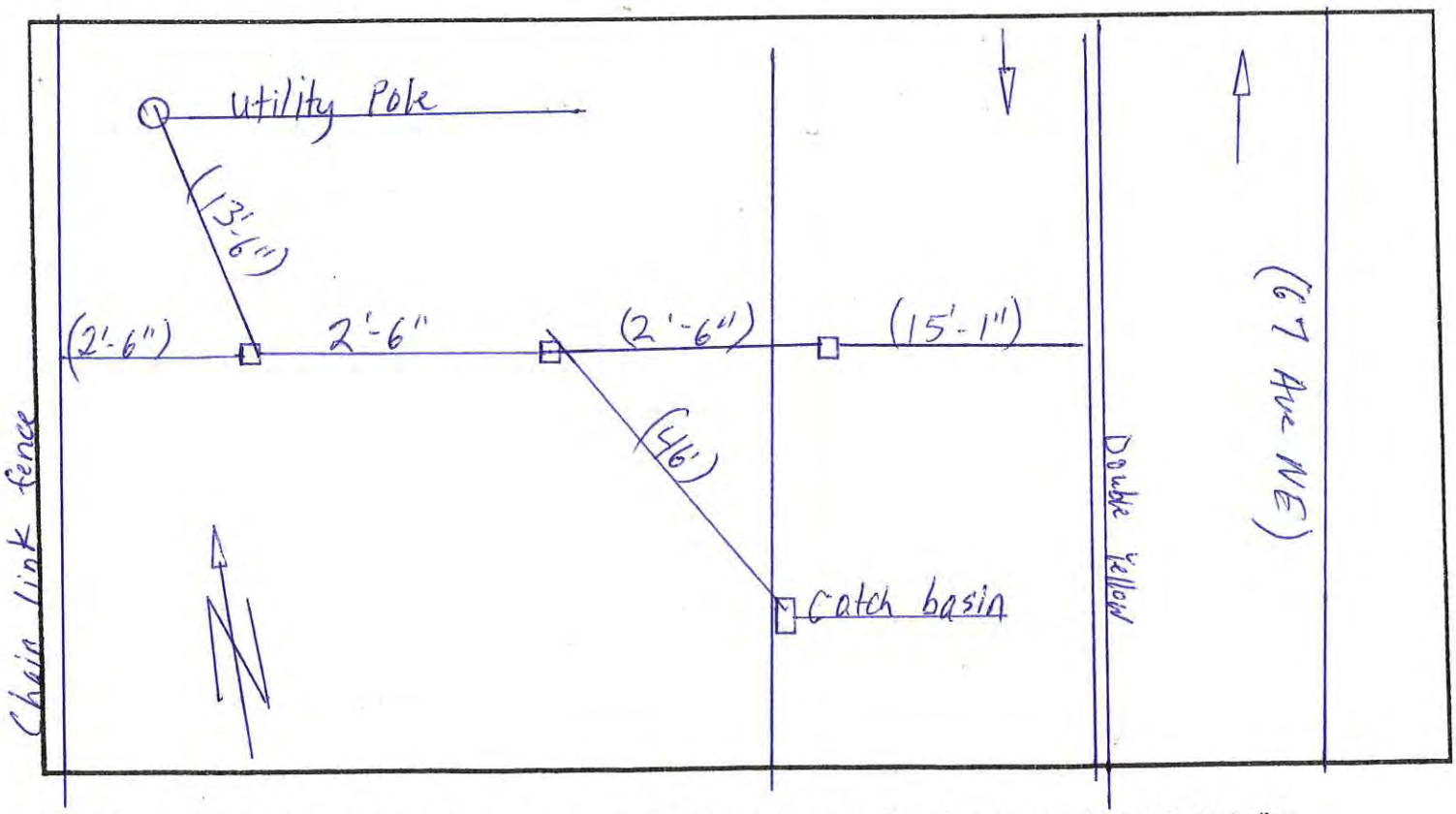
Test hole# ~~4B~~ 1A Concrete 5"
Utility Type: water Top: 55" Bot: 65" Size: 10" Ut Material D.I

Test hole# 1B Asphalt 12"
Utility Tyce: gas Top: 27" Bot: 29" Size: 2" Ut Material Steel

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/13/11

Pothole#: 2 Asphalt Thickness 7" inches Utility type: gas (gas, water, etc.)

Utility Size: 6" inches Utility Material: Steel Soil Cond. Soft

Pipe Direction (circle one)

(E & W)

N & S

SW & NE

SE & NW

Top of utility from grade: 35" inches.

Bottom of utility from grade: 41" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

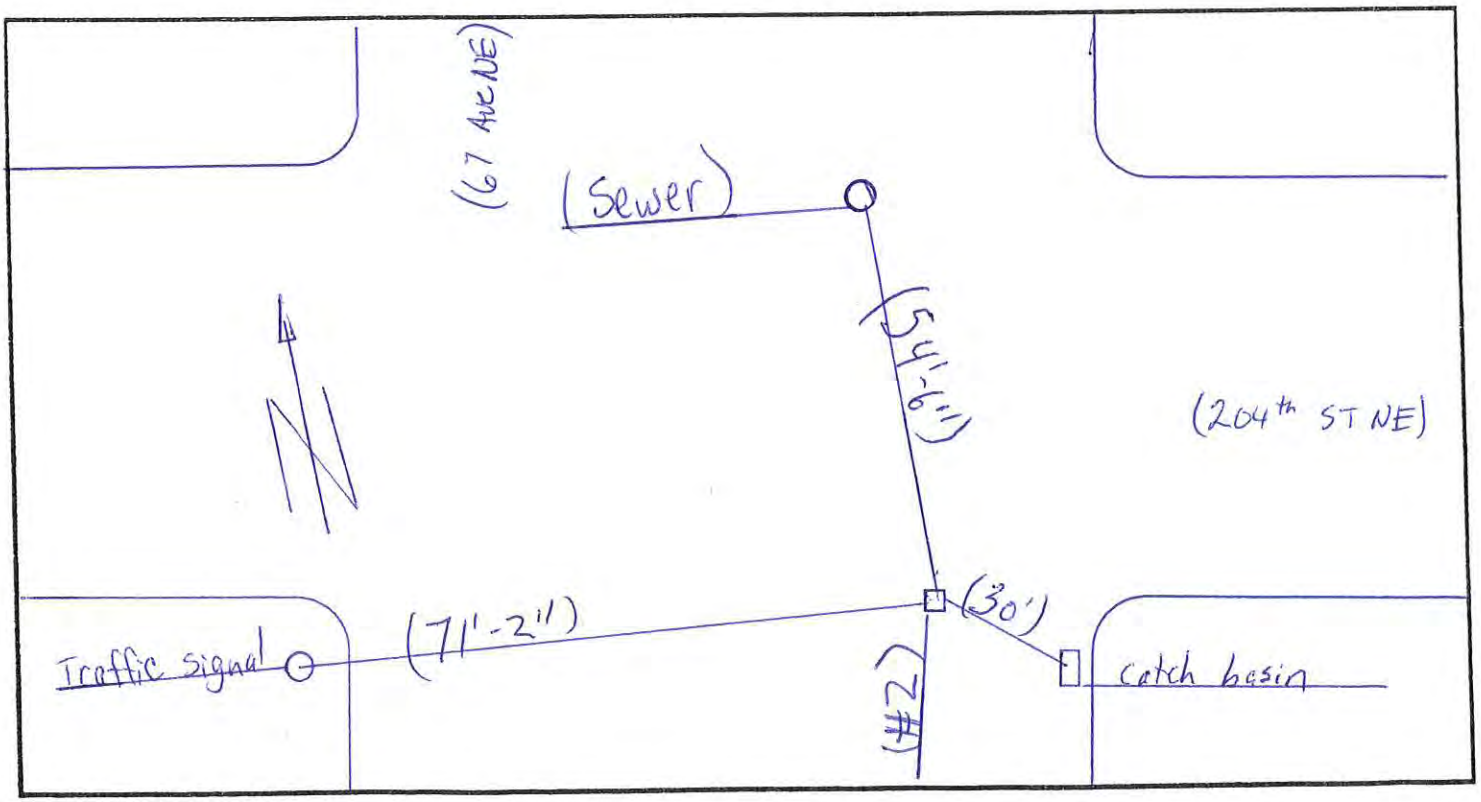
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: MaH

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # ~~Z~~ 2673 Date: 10/13/11

Pothole#: 3 Asphalt Thickness ~ inches Utility type: water (gas, water, etc.)

Utility Size: 10" inches Utility Material: D.I Soil Cond. Soft

Pipe Direction (circle one)

E & W

(N & S)

SW & NE

SE & NW

Top of utility from grade: 34" inches.

Bottom of utility from grade: 44" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

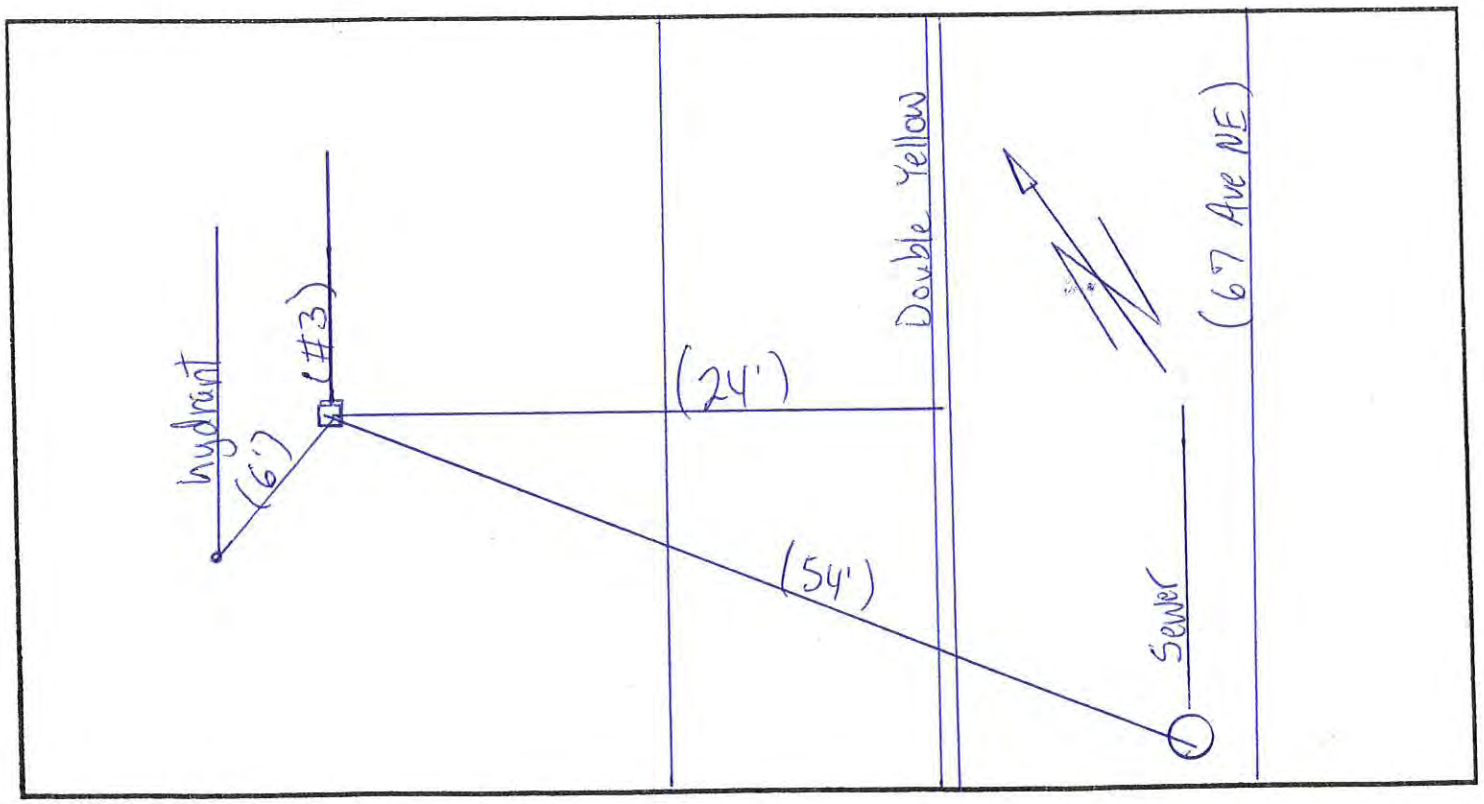
Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/14/11

Pothole#: 4 Asphalt Thickness 4" inches Utility type: water (gas, water, etc.)

Utility Size: / inches Utility Material: Concrete Soil Cond. soft

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 18" inches.

Bottom of utility from grade: / inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

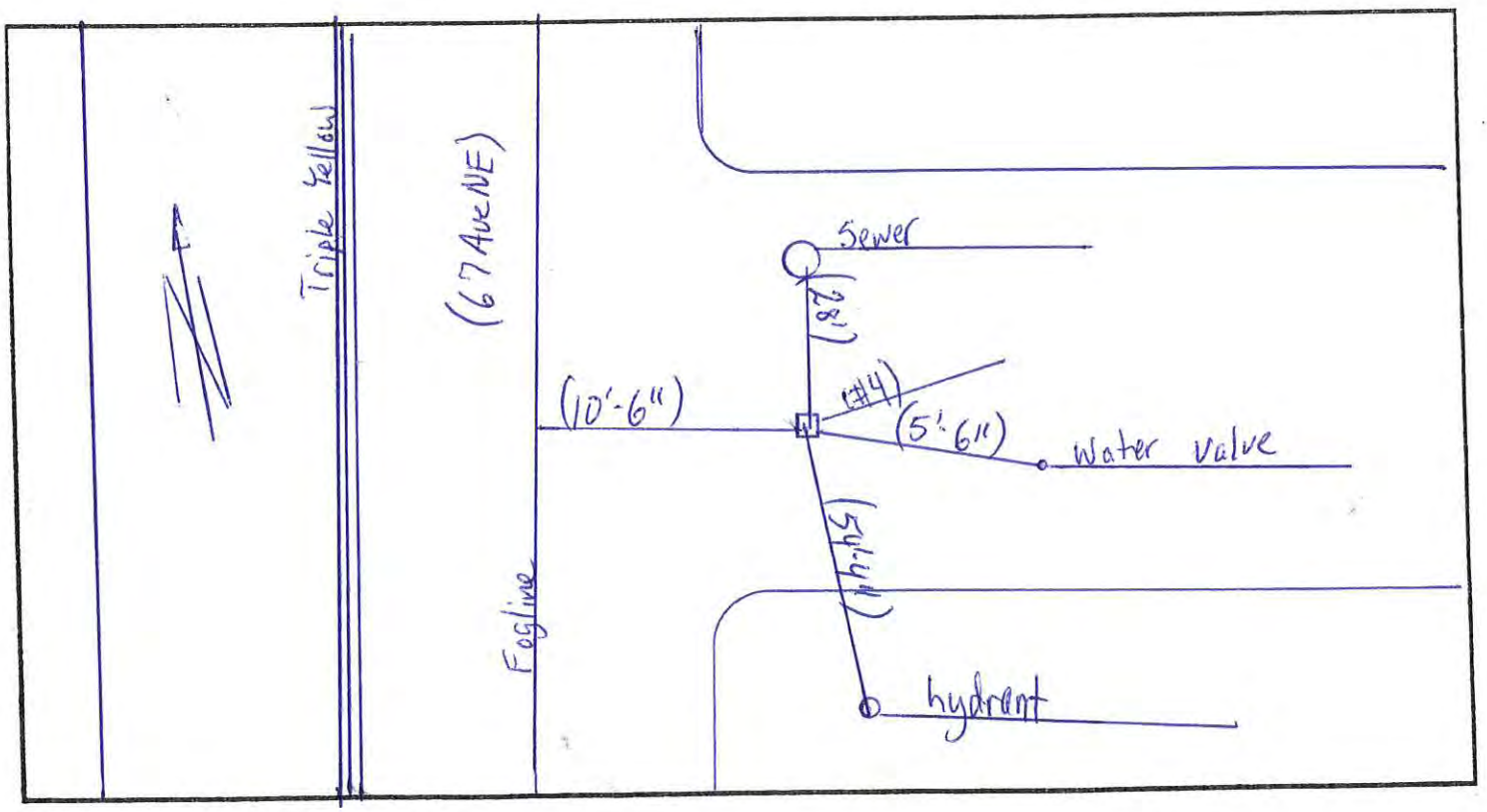
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/13/11

Pothole#: 5 Asphalt Thickness — inches Utility type: Water (gas, water, etc.)

Utility Size: 10" inches Utility Material: D.I Soil Cond. soft

Pipe Direction (circle one)
E & W
~~N & S~~
SW & NE
SE & NW

Top of utility from grade: 41" inches.

Bottom of utility from grade: 51" inches

Width of Structure if necessary: ____ inches.

Additional utilities found in same location:

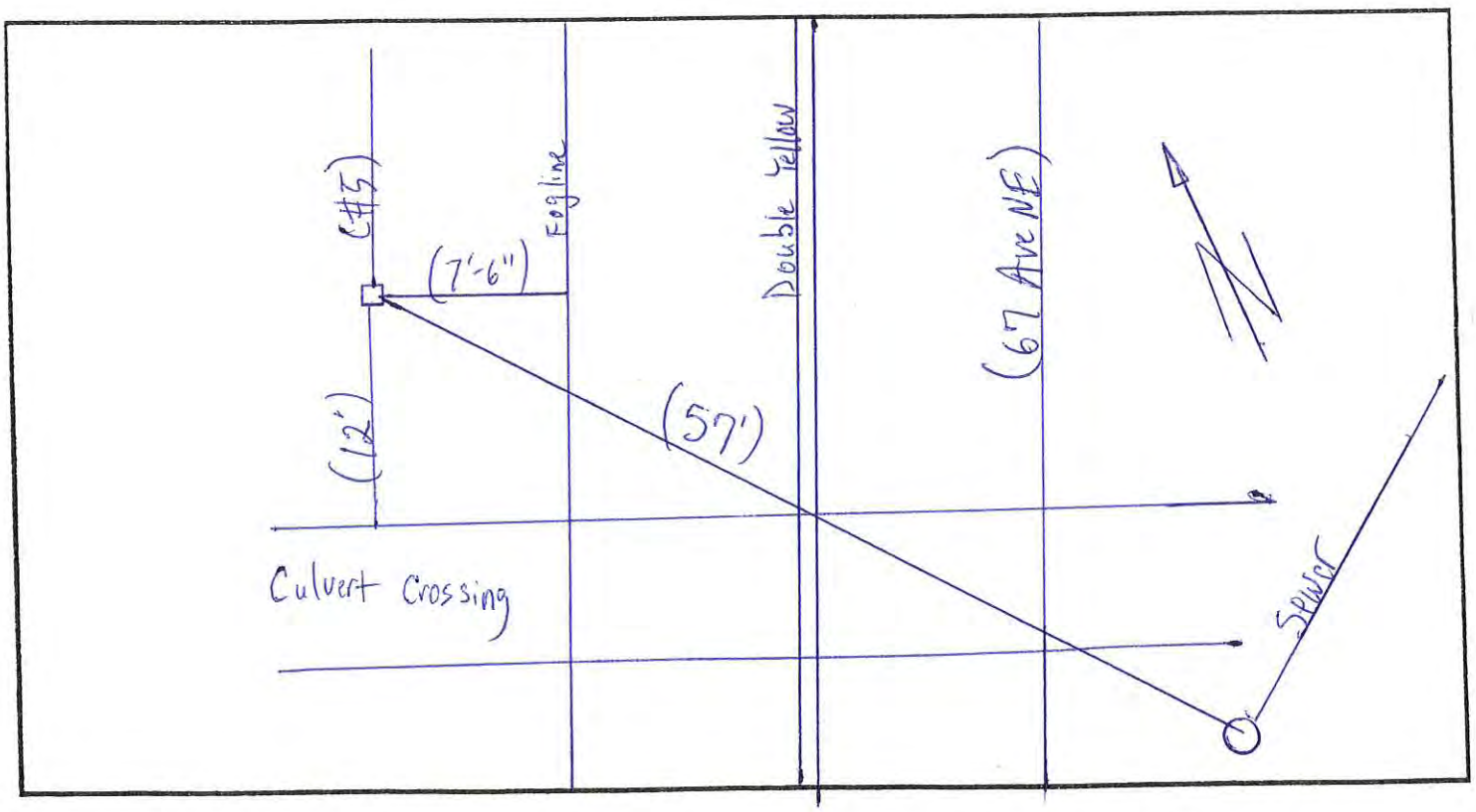
Test hole# ____
Utility Type: ____ Top: ____ Bot: ____ Size: ____ Ut Material ____

Test hole# ____
Utility Tyce: ____ Top: ____ Bot: ____ Size: ____ Ut Material ____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.
Be sure to include a description of each permanent marker
Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/13/11

Pothole#: 6 Asphalt Thickness: — inches Utility type: Com (gas, water, etc.)

Utility Size: .5" inches Utility Material: Direct bury Soil Cond: Soft

Pipe Direction (circle one)

(E & W)

N & S

SW & NE

SE & NW

Top of utility from grade: 34" inches.

Bottom of utility from grade: 35" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

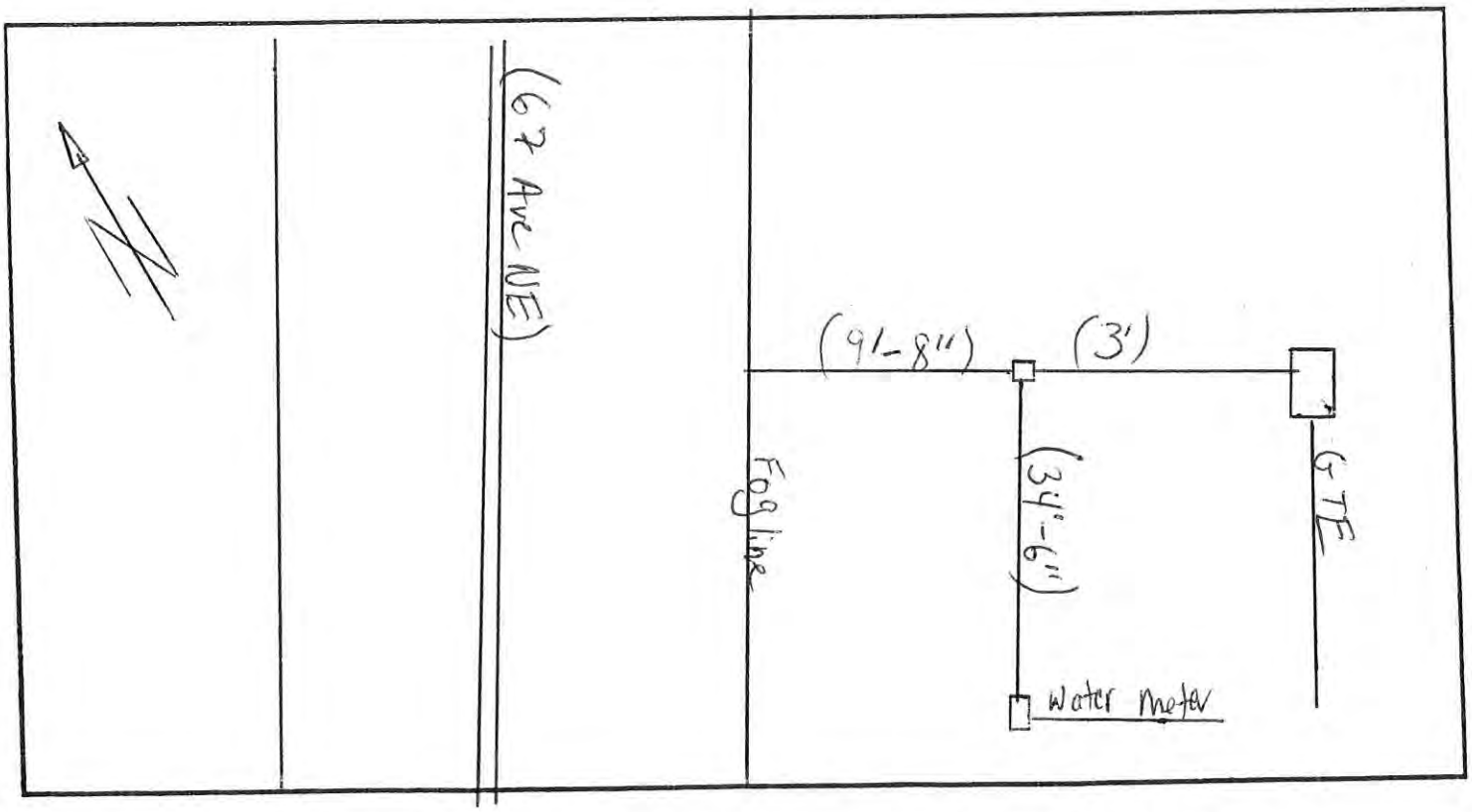
Test hole#_____

Utility Tyce:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/14/11

Pothole#: 7 Asphalt Thickness — inches Utility type: gas (gas, water, etc.)

Utility Size: 4" inches Utility Material: P.E Soil Cond: Soft

Pipe Direction (circle one)

(E & W)

N & S

SW & NE

SE & NW

Top of utility from grade: 29" inches.

Bottom of utility from grade: 33" inches

Width of Structure if necessary: / inches.

Additional utilities found in same location:

Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

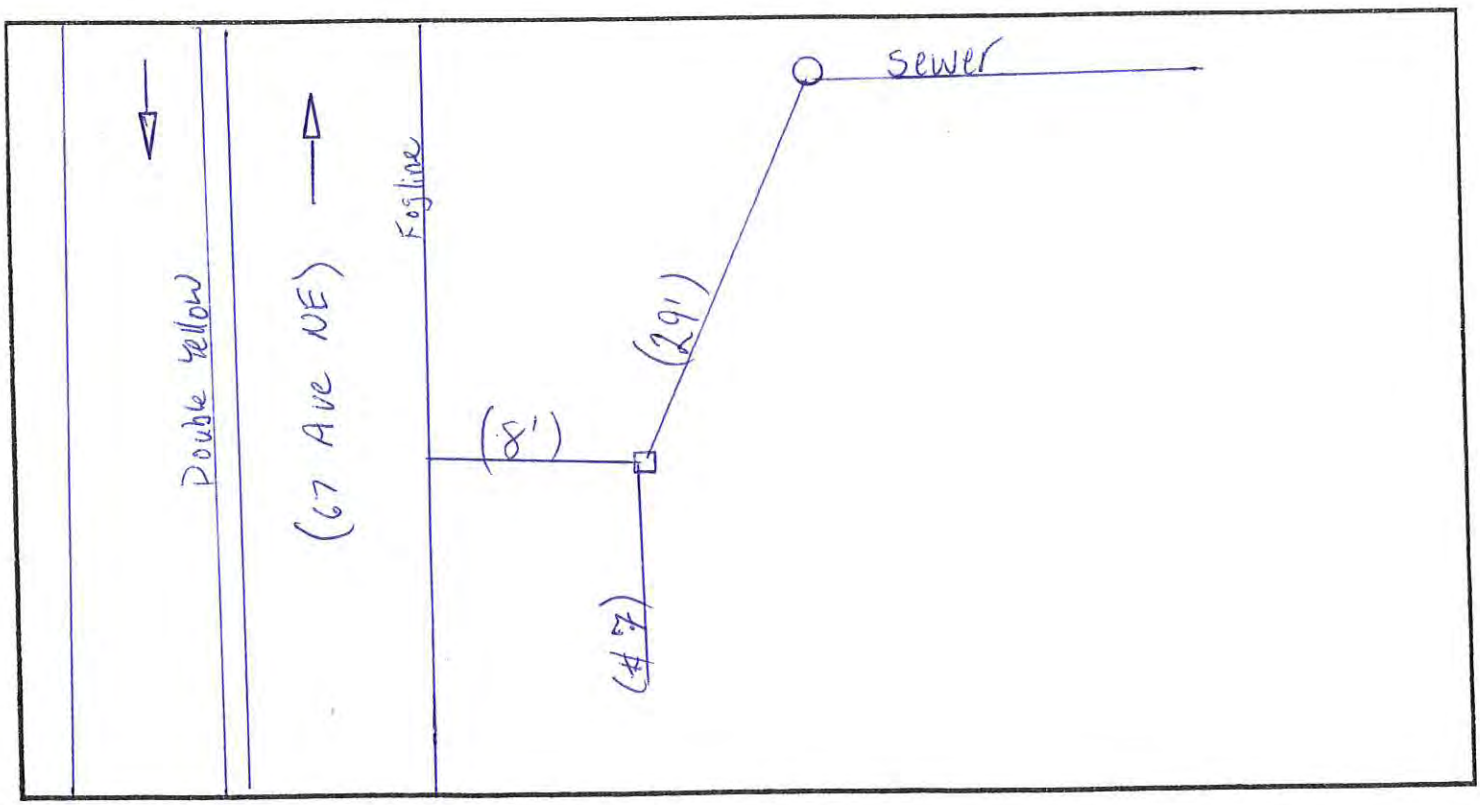
Test hole# _____

Utility Tyce: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2623 Date: 10/11/11

Pothole#: 8 Asphalt Thickness — inches Utility type: gas (gas, water, etc.)

Utility Size: 4" inches Utility Material: P.E Soil Cond.

Pipe Direction (circle one)
E & W
~~N & S~~
SW & NE
SE & NW

Top of utility from grade: 33" inches.

Bottom of utility from grade: 37" inches

Width of Structure if necessary: inches.

Additional utilities found in same location:

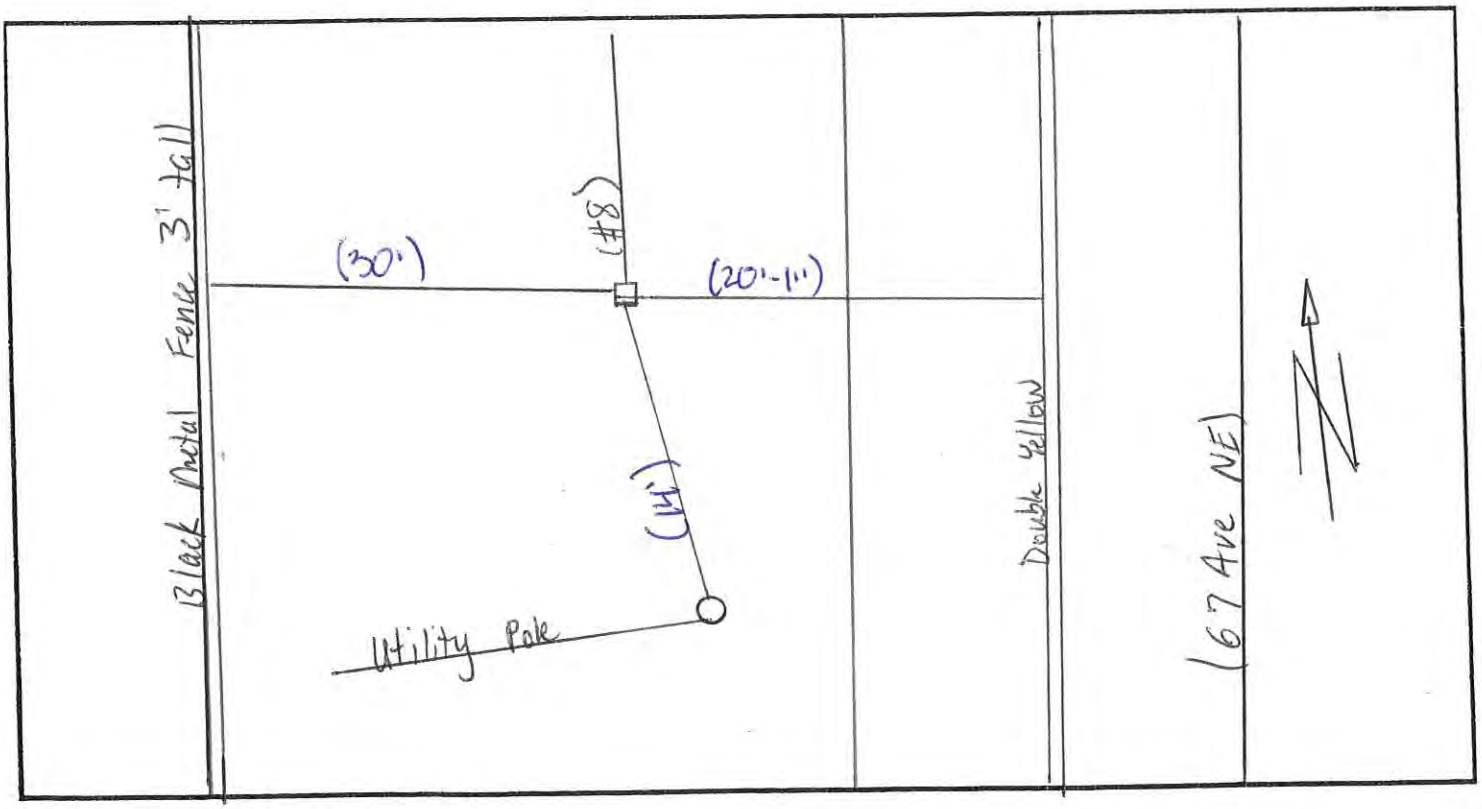
Test hole# Utility Type: Top: Bot: Size: Ut Material

Test hole# Utility Type: Top: Bot: Size: Ut Material

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2623 Date: 10/11/11

Pothole#: 9 Asphalt Thickness — inches Utility type: gas (gas, water, etc.)

Utility Size: 4" inches Utility Material: PE Soil Cond. soft

Pipe Direction (circle one)
E & W
(N & S)
SW & NE
SE & NW

Top of utility from grade: 24" inches.

Bottom of utility from grade: 28" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole# 9A

Utility Type: Water Top: 54" Bot: 64" Size: 10" Ut Material D.I

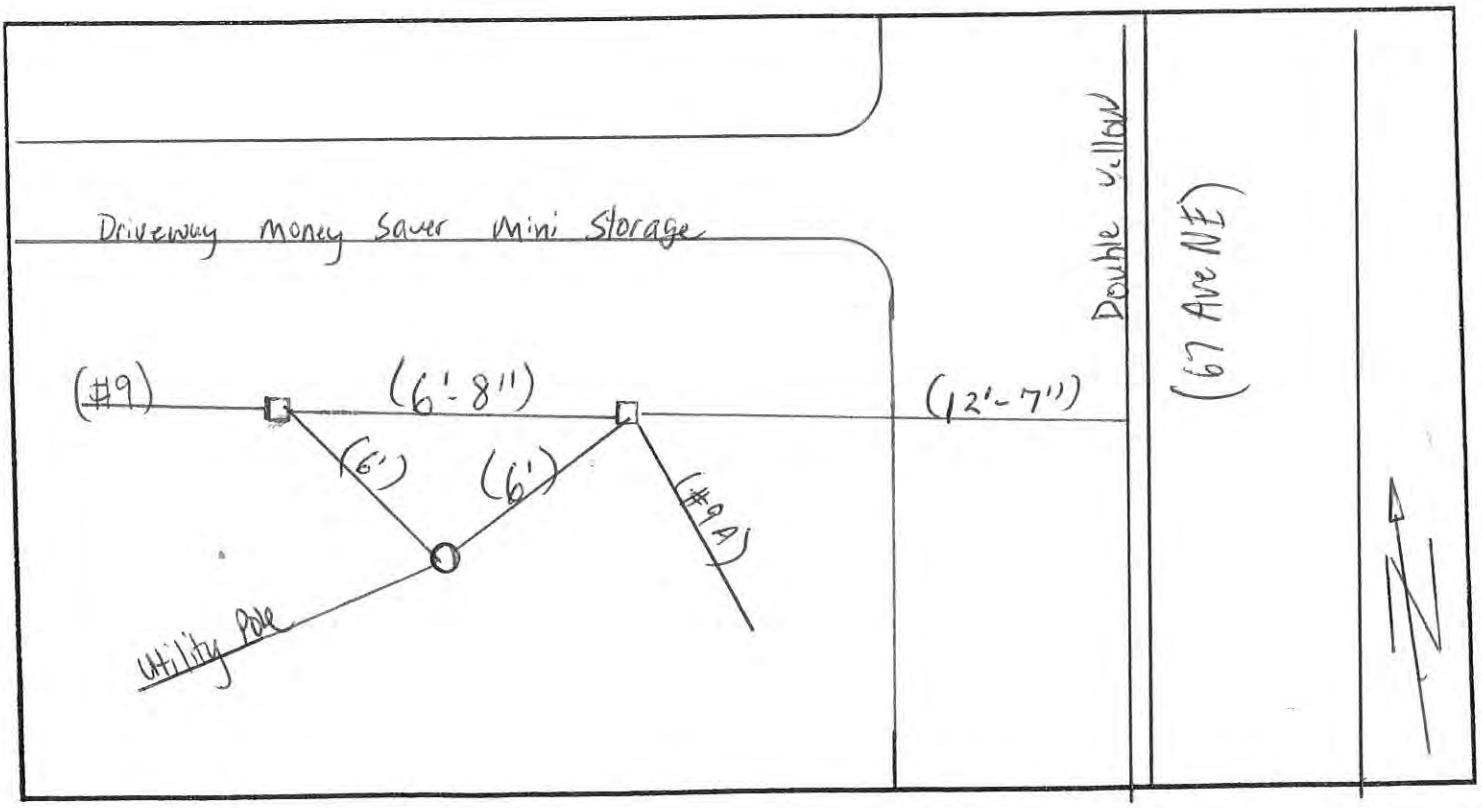
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/12/4

Pothole#: 10 Asphalt Thickness 9" inches Utility type: Gas (gas, water, etc.)

concrete 4"

Utility Size: 4" inches Utility Material: P.E Soil Cond. Soft

Pipe Direction (circle one)

E & W

N & S

SW & NE

SE & NW

Top of utility from grade: 67" inches.

Bottom of utility from grade: 71" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

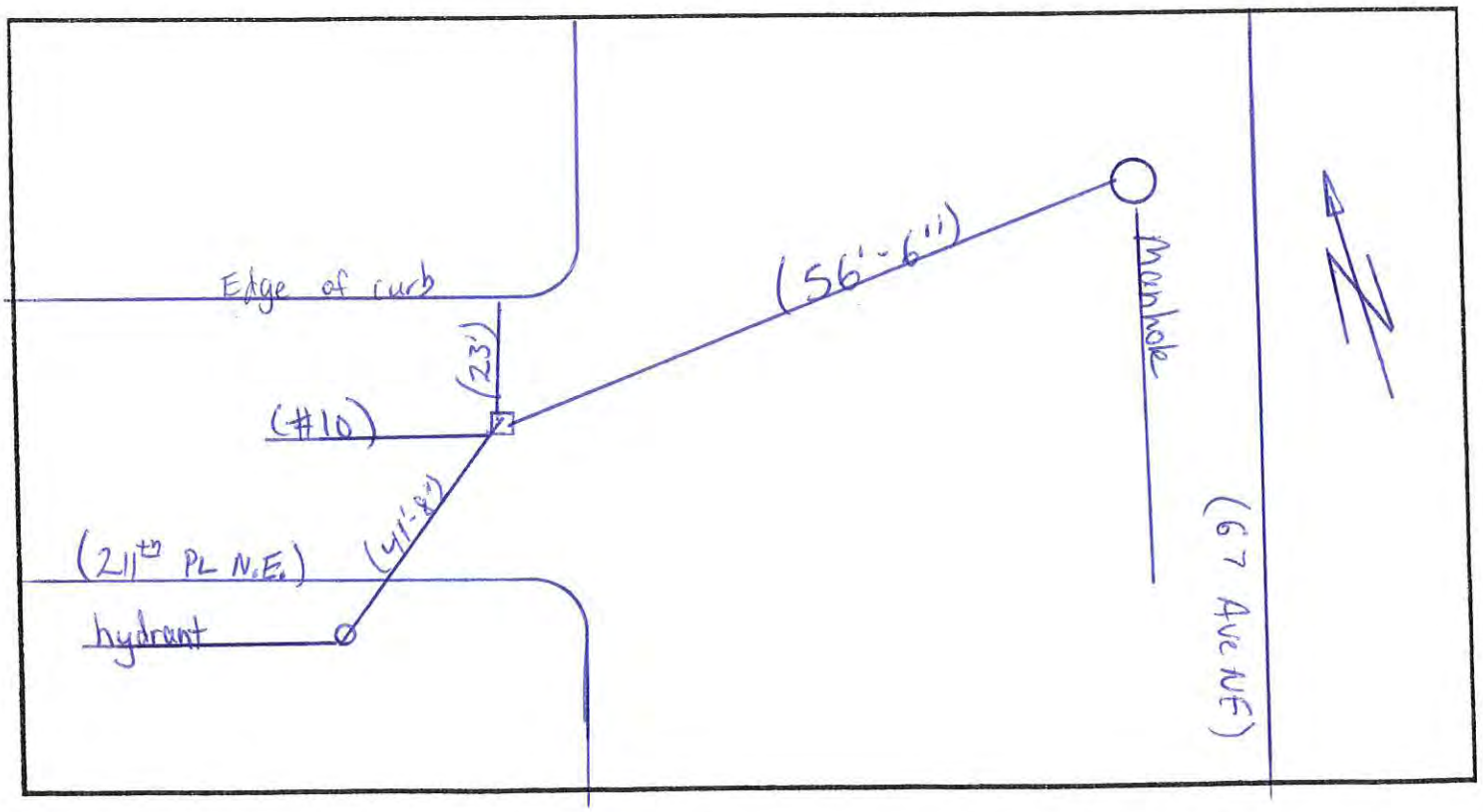
Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/12/11

Pothole#: 11 Asphalt Thickness 6" inches Utility type: water (gas, water, etc.)

Utility Size: 6" inches Utility Material: D.I Soil Cond: soft/rocks

Pipe Direction (circle one)

(E & W)

N & S

SW & NE

SE & NW

Top of utility from grade: 34" inches.

Bottom of utility from grade: 40" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole# 11A Dug 2'x7' Slot cut did not find

Utility Type: S/S Force Main Top: — Bot: — Size: — Ut Material —

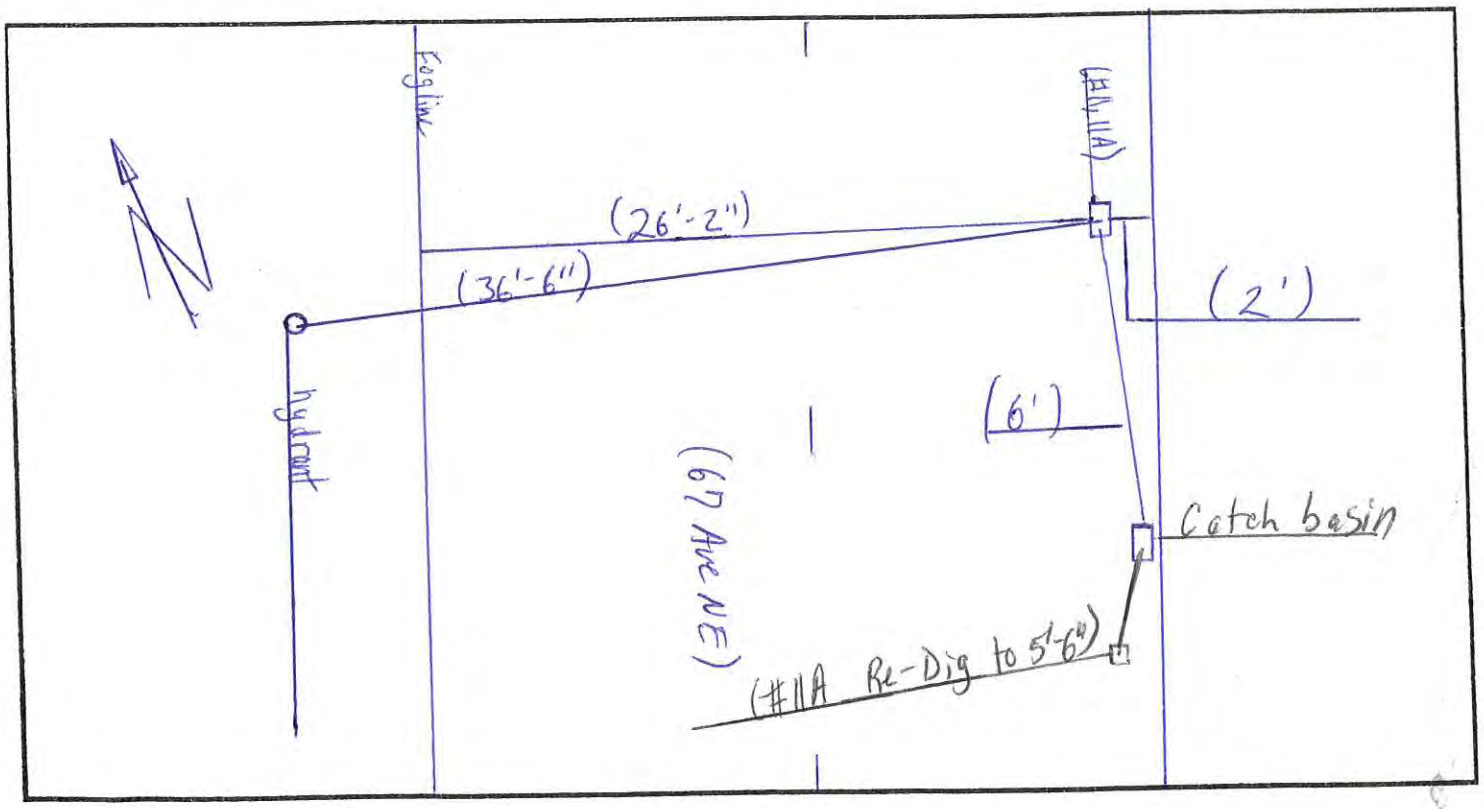
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/11/11

Pothole#: 12 Asphalt Thickness 10" inches Utility type: water (gas, water, etc.)

Utility Size: 10" inches Utility Material: D.I Soil Cond. soft

Pipe Direction (circle one)

E & W

~~N & S~~

SW & NE

SE & NW

Top of utility from grade: 45" inches.

Bottom of utility from grade: 55" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole#_____

Utility Type:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

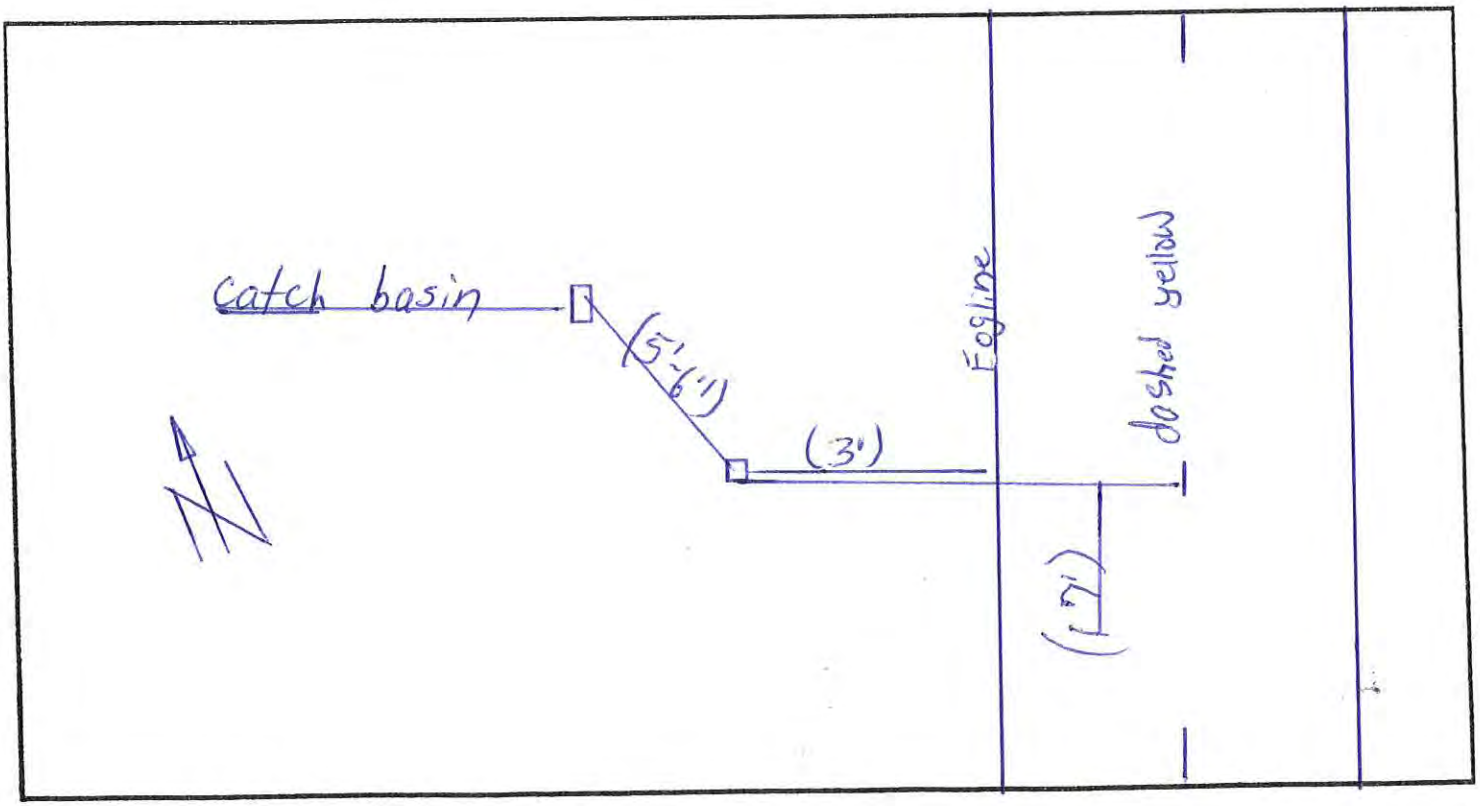
Test hole#_____

Utility Tyce:_____ Top:_____ Bot:_____ Size:_____ Ut Material_____

Vac Crew

Lead: Matt

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

TEST HOLE DATA SHEET

Applied Professional Services, Inc.

APS Job # 2673 Date: 10/14/11

Pothole#: 13 Asphalt Thickness ~ inches Utility type: gas (gas, water, etc.)

Utility Size: 4 inches Utility Material: P.E Soil Cond: rocky

Pipe Direction (circle one)
E & W
(N & S)
SW & NE
SE & NW

Top of utility from grade: 33" inches.

Bottom of utility from grade: 37" inches

Width of Structure if necessary: _____ inches.

Additional utilities found in same location:

Test hole# 13A

Utility Type: Sewer Top: 56" Bot: 64" Size: 8" Ut Material PVC

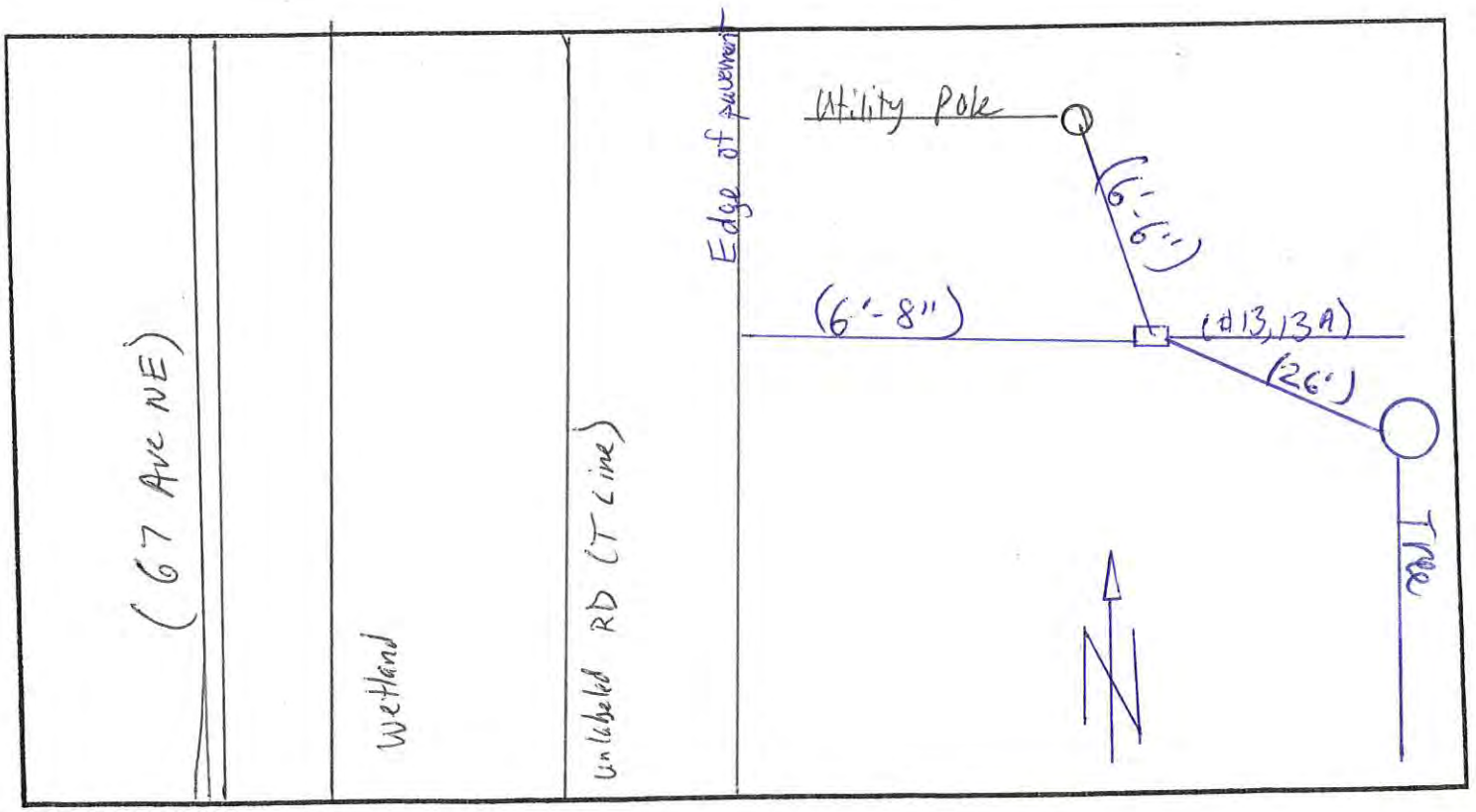
Test hole# _____

Utility Type: _____ Top: _____ Bot: _____ Size: _____ Ut Material _____

Vac Crew

Lead: MaH

Assistant: Kevin



Sketch to include street name(s), North arrow, distance to (2) permanent markers & distance to fogline or centerline.

Be sure to include a description of each permanent marker

Any known building address, or side street address in the vicinity should be included

AT&T DATA

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ARLINGTON (ONLY MAP)

CABLE PLACING

REEL NO.	857
BEGINNING STATION	4684+30
ENDING STATION	4773+74
REEL LENGTH (FT)	9,840'
CABLE LENGTH (FT)	9,231'
ACCOUNT	85C
CABLE CODE	40HX-036
XMISSION PERF.	040-XXX/025-XXX PLACED 1991

CONDUIT PLACING

	(B)	(C)	(D)
TYPE	4"GSP	6"BIP	4"PVC
BEGINNING STATION	4695+00	4704+81	4701+20
ENDING STATION	4701+20	4705+19	4706+00
LENGTH (FT)	605'	207'	452'
ACCOUNT	4C	4C	4C
NO. OF CONDUITS	1	1	1
INNERDUCT	3-1"	3-1"	3-1"

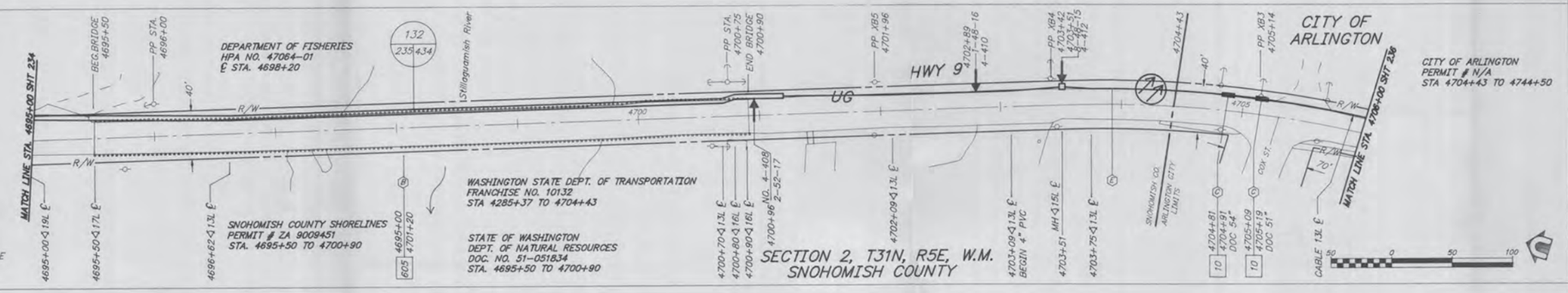
CABLE LENGTH THIS PAGE: 1,072' INCL COIL

WILLIAM R. RAUCH — REGISTERED PROFESSIONAL ENGINEER — STATE OF WASHINGTON

10/1/91

TO SV 469460 ← 895' C-W → MH 470351 → TO MH 471050

SAND FILLED 15" COILED



SECTION 2, T31N, R5E, W.M.
SNOHOMISH COUNTY

NOTE:
CABLE CROSSES UNDER UTILITIES UNLESS OTHERWISE NOTED.

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: L53ZAAZ
CABLE CLLI: BLANWAUD010

SCALE: 1"=50'

PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

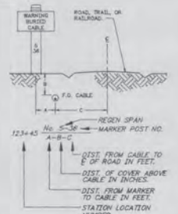
REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-91

SPEC. NO. WR-34105
ESTIMATE EJ74130
PREPARED FOR RECORD
APPROVED
FOR OUTSIDE PLANT ENGINEER DATE OCT. 91

I HEREBY STATE THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON.
SIGNED
DATE OCT 91 REG NO. 19533

DAVID EVANS & ASSOC, INC ENGINEERS-SURVEYORS

NOTES:

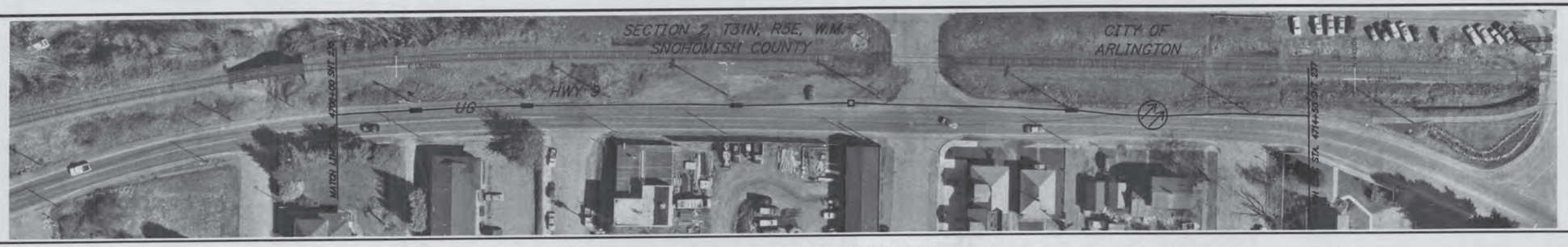


AT&T Communications Western Region

LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-235



CABLE PLACING

REEL NO.	B57
BEGINNING STATION	46844+30
ENDING STATION	47734+74
REEL LENGTH (FT)	9,840'
CABLE LENGTH (FT)	9,231'
ACCOUNT	85C
CABLE CODE	4DHX-036
XMISSION PERF.	040-XXX/025-XXX PLACED 1991

CONDUIT PLACING

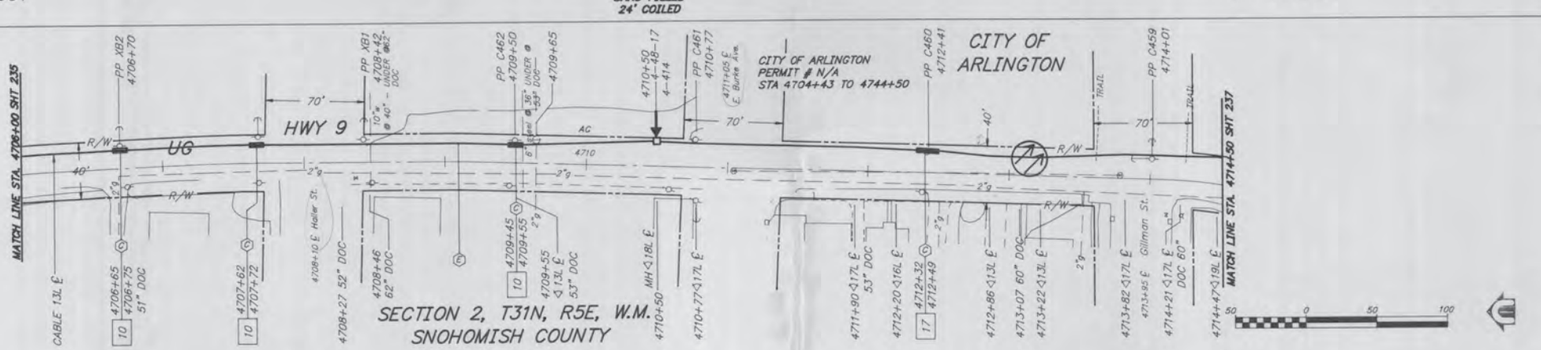
	©	ⓓ
TYPE	6" BIP	4"PVC
BEGINNING STATION	4706+65	4706+00
ENDING STATION	4712+49	4714+50
LENGTH (FT)	47'	803'
ACCOUNT	4C	4C
NO. OF CONDUITS	1	1
INNERDUCT	3-1"	3-1"

CABLE LENGTH THIS PAGE: 874' INCL. COILS

WILLIAM R. RALPH
WASHINGTON
PROFESSIONAL ENGINEER
10/9/91

TO MH 470351 ← 701' W-W — MH 471050 — 879' W-W → TO MH 471919

SAND FILLED 24" COILED



NOTE:
CABLE CROSSES UNDER UTILITIES UNLESS OTHERWISE NOTED.

SECTION 2, T31N, R5E, W.M.
SNOHOMISH COUNTY

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: L53ZAAZ
CABLE CLLI: BLANWAUG010

SCALE: 1"=50'

PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

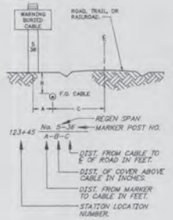
REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-31

SPEC. NO. WR-34105
ESTIMATE EJ74130
PREPARED FOR RECORD
APPROVED OCT. 91
FOR OUTSIDE PLANT ENGINEER DATE

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON.
SIGNED
DATE OCT 91 REG NO-19833

DAVID EVANS & ASSOC, INC
ENGINEERS-SURVEYORS

NOTES:

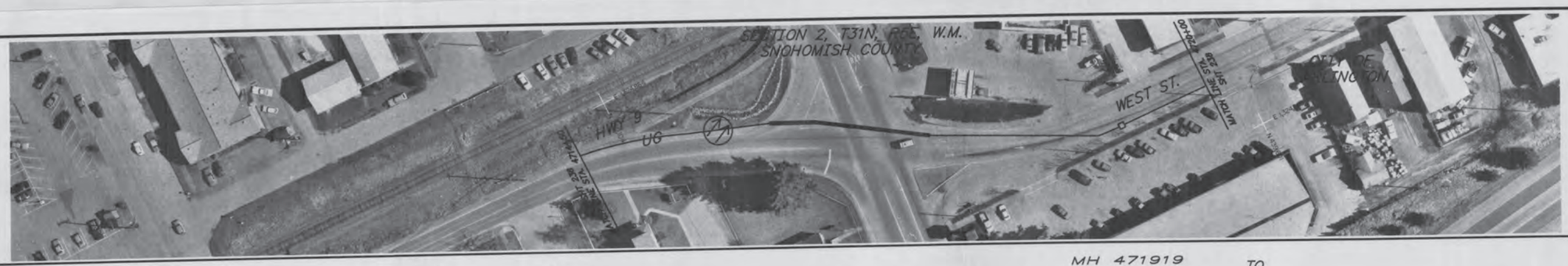


AT&T Communications Western Region

LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

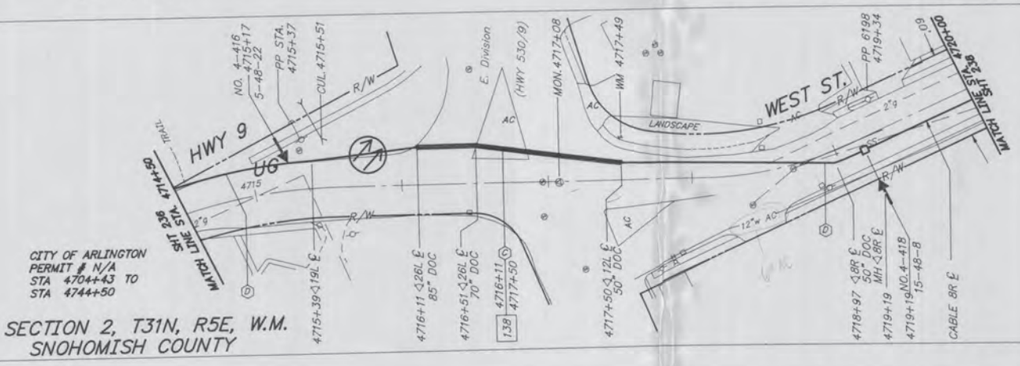
LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-236



TO MH 471050 ← MH 471919 → TO MH 473072

SAND FILLED 30' COILED



NOTE:
CABLE CROSSES UNDER UTILITIES UNLESS OTHERWISE NOTED.

CABLE PLACING		
REEL NO.	B57	
BEGINNING STATION	4684+30	
ENDING STATION	4733+74	
REEL LENGTH (FT)	9,840'	
CABLE LENGTH (FT)	9,231'	
ACCOUNT	85C	
CABLE CODE	40HX-036	
XMISSION PERF.	040-XXX/025-XXX PLACED 1991	
CONDUIT PLACING	(C)	(D)
TYPE	6" BIP	4"PVC
BEGINNING STATION	4716+11	4714+50
ENDING STATION	4717+50	4720+00
LENGTH (FT)	138'	416'
ACCOUNT	4C	4C
NO. OF CONDUITS	1	1
INNERDUCT	3-1"	3-1"

CABLE LENGTH THIS PAGE: 580' INCL. COIL

WILLIAM R. RAUCH — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: L53ZAAZ
CABLE CLLI: BLANWAU0010

SCALE: 1"=50'

PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

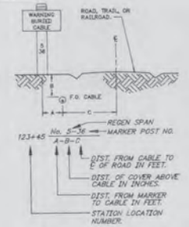
REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-91

SPEC. NO. WR-34105
ESTIMATE EJ741J0
PREPARED FOR RECORD
APPROVED
FOR OUTSIDE PLANT ENGINEER DATE OCT. 9

I HEREBY CERTIFY THAT THIS CABLE PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON.
SIGNED
DATE OCT. 91 REG NO. 19833

DAVID EVANS & ASSOC, INC ENGINEERS-SURVEYORS

NOTES:

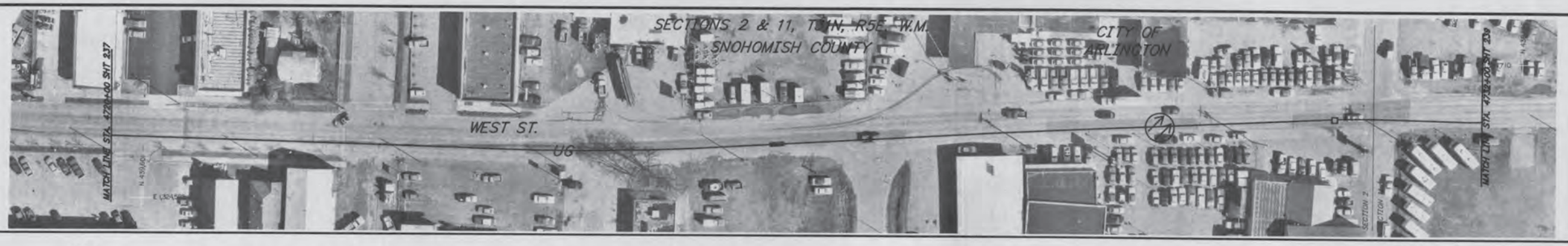


AT&T Communications Western Region

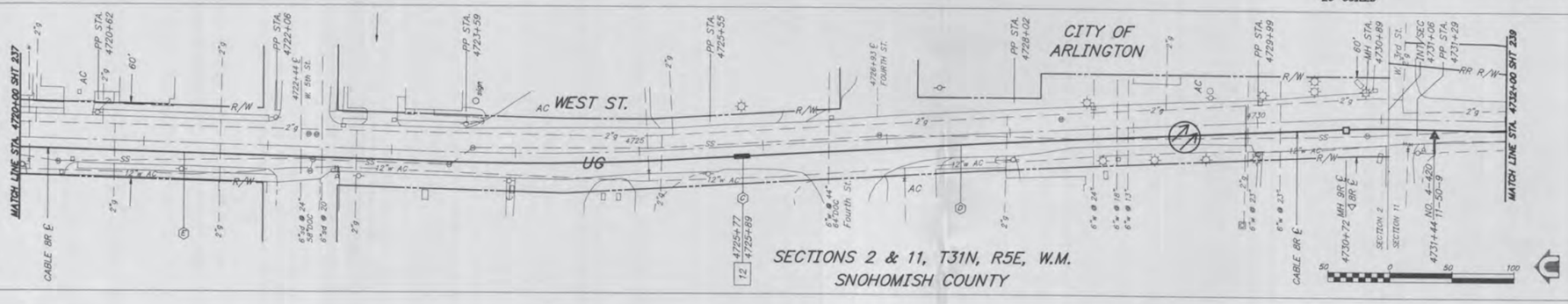
LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-237



TO MH 471919 ← 1,154' W-W → MH 473072 SAND FILLED 20' COILED → TO MH 474523



NOTE:
CABLE CROSSES UNDER UTILITIES UNLESS OTHERWISE NOTED.

CABLE PLACING

REEL NO.	857
BEGINNING STATION	4684+30
ENDING STATION	4773+74
REEL LENGTH (FT)	9,840'
CABLE LENGTH (FT)	9,231'
ACCOUNT	65C
CABLE CODE	40HX-036
XMISSION PERF.	040-XXX/025-XXX PLACED 1991

CONDUIT PLACING

	①	②
TYPE	4"PVC	6"BIP
BEGINNING STATION	4720+00	4725+77
ENDING STATION	4732+00	4725+89
LENGTH (FT)	1,206'	12'
ACCOUNT	4C	
NO. OF CONDUITS	1	
INNERDUCT	3-1"	

CABLE LENGTH THIS PAGE: 1,238' INCL. COILS

WILLIAM R. RAICH STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: LS3ZAAZ
CABLE CLLI: BLANWAU0010

SCALE: 1"=50'

PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

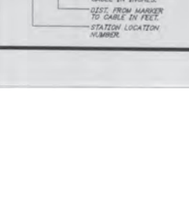
REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-91

SPEC. NO. WR-34105
ESTIMATE EJ74130
PREPARED FOR RECORD
APPROVED
FOR OUTSIDE PLANT ENGINEER DATE OCT. 91

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON.
SIGNED
DATE OCT 91 REG. NO. 18633

DAVID EVANS & ASSOC, INC ENGINEERS-SURVEYORS

NOTES:



AT&T Communications Western Region

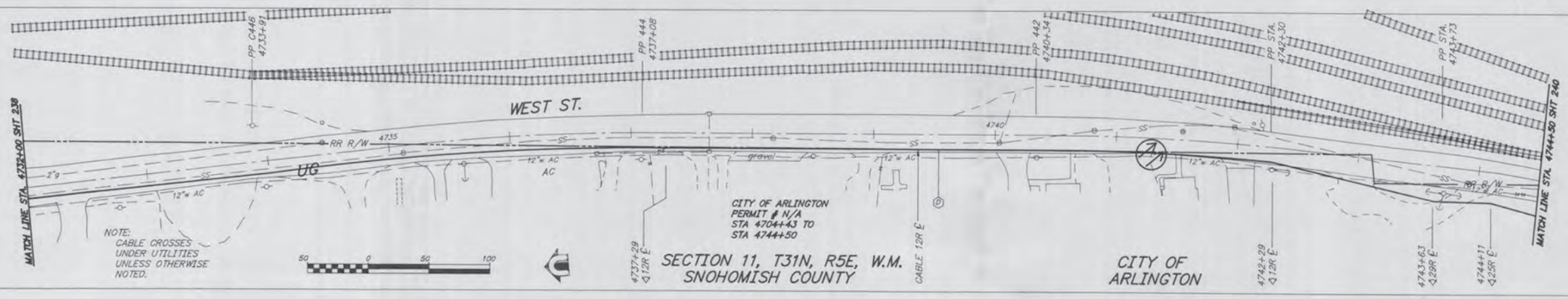
LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-238

3155

TO MH 473072 ← 1,947' W–W → TO MH 474523



CABLE PLACING

REEL NO.	857
BEGINNING STATION	4684+30
ENDING STATION	4773+74
REEL LENGTH (FT)	9,840'
CABLE LENGTH (FT)	9,231'
ACCOUNT	85C
CABLE CODE	40HX-036
XMISSION PERF.	040-XXX/025-XXX PLACED 1991

CONDUIT PLACING (2)

TYPE	4"PVC
BEGINNING STATION	4732+00
ENDING STATION	4744+50
LENGTH (FT)	1,245'
ACCOUNT	4C
NO. OF CONDUITS	1
INNERDUCT	3-1"

CABLE LENGTH THIS PAGE: 1,245' INCL. COILS

WILLIAM R. RAUCH — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: LS3ZAAZ
CABLE CLLI: BLANWAUG010

REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-91

SCALE: 1"=50'

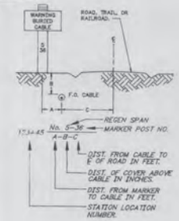
PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

SPEC. NO. WR-34105
ESTIMATE EJ74130
PREPARED FOR RECORD
APPROVED OCT. 91
FOR OUTSIDE PLANT ENGINEER DATE

I, HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON
SIGNED
DATE OCT 91 REG NO. 19603

DAVID EVANS & ASSOC, INC ENGINEERS-SURVEYORS

NOTES:

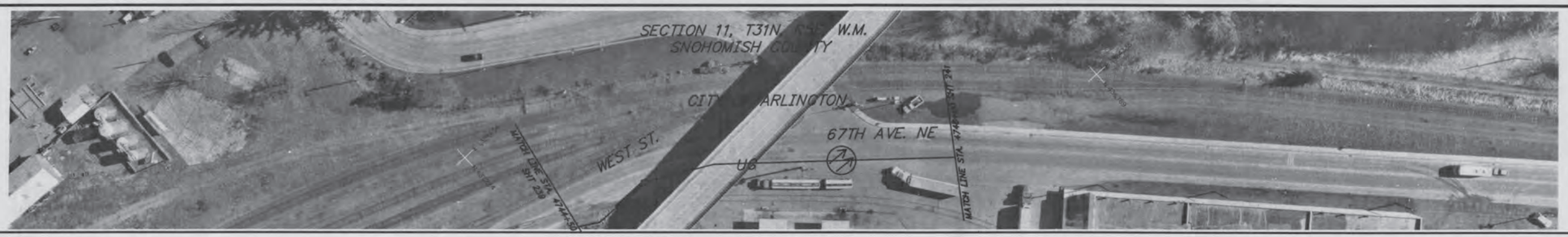


AT&T Communications Western Region

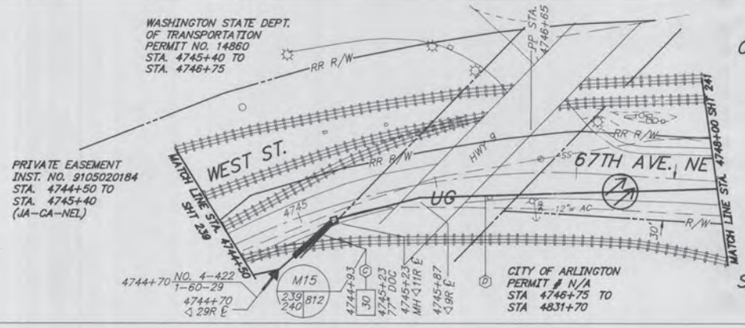
LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-239



TO MH 473072 ← MH 474523 (39' COILED) — 1511' W-W → TO MH 476046



CITY OF ARLINGTON

SECTION 11, T31N, R5E, W.M.
SNOHOMISH COUNTY

50 0 50 100

NOTE:
CABLE CROSSES UNDER UTILITIES UNLESS OTHERWISE NOTED.

CABLE PLACING

REEL NO.	B57
BEGINNING STATION	4684+30
ENDING STATION	4773+74
REEL LENGTH (FT)	9,840'
CABLE LENGTH (FT)	9,231'
ACCOUNT	85C
CABLE CODE	40HX-036
XMISSION PERF.	040-XXX/025-XXX
	PLACED 1991

CONDUIT PLACING

	ⓒ	Ⓓ
TYPE	STL.BORE	4"PVC
BEGINNING STATION	6" BIP	4744+50
ENDING STATION	4744+93	4748+00
LENGTH (FT)	4745+23	320'
ACCOUNT	30'	4C
NO. OF CONDUITS	4C	1
INNERDUCT	1	3-1"
	3-1"	

CABLE LENGTH THIS PAGE: 389' INCL. COILS

WILLIAM R. RAUCH — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

OWNERSHIP: 100% ISD
FILE NO:
CABLE GEO: L53ZAAZ
CABLE CLLI: BLANWAUO010

SCALE: 1"=50'

PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

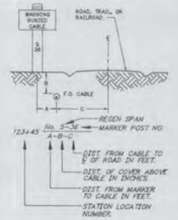
REVISIONS:
0. BID ISSUE 2-91
1. AS-BUILT 10-91

SPEC. NO. WR-34105
ESTIMATE EJ74130
PREPARED FOR RECORD
APPROVED OCT. 91
FOR OUTSIDE PLANT ENGINEER DATE

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ENGINEER UNDER THE LAWS OF THE STATE OF WASHINGTON.
SIGNED
DATE OCT 91 REG NO 19833

DAVID EVANS & ASSOC, INC ENGINEERS-SURVEYORS

NOTES:



AT&T Communications Western Region

LIGHTGUIDE SYSTEM
WHALLEY, BRITISH COLUMBIA
TO EVERETT, WASHINGTON

LINE CODE F278
BLAINE TO EVERETT
WASHINGTON

WR-34105-240

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