

Construction Documents

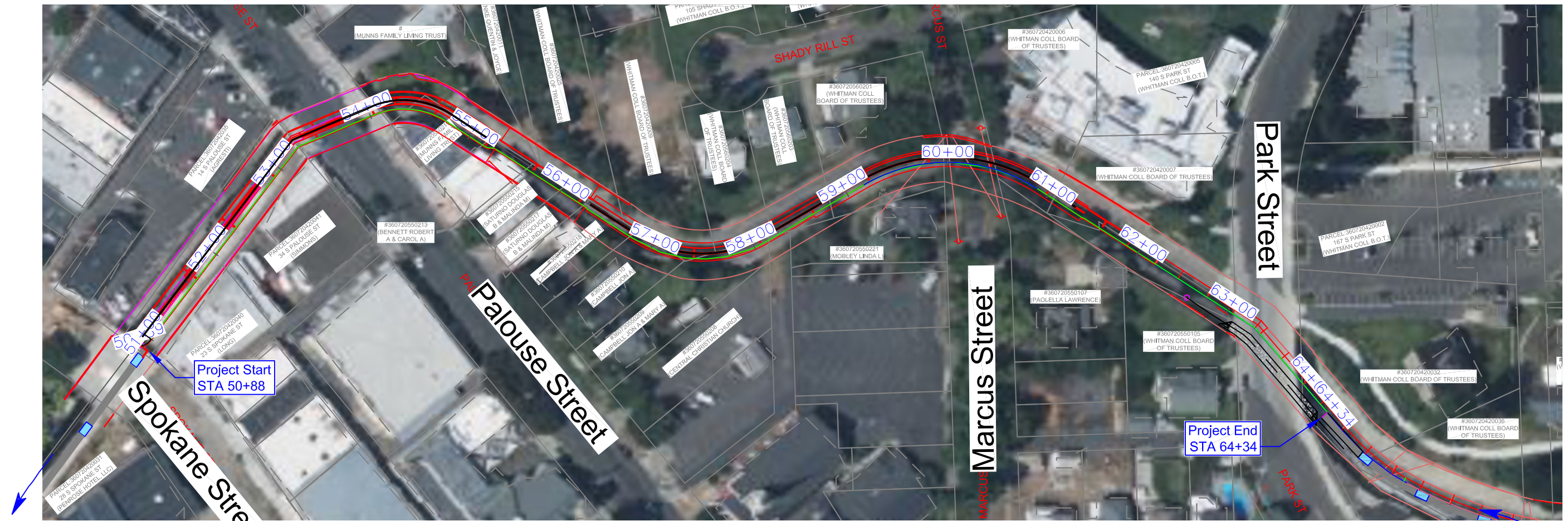
# Mill Creek Fish Passage Spokane to Park St

PROJECT NUMBER 19-1614

STA 51+00 to 64+44 (1344 Feet)

## DRAWING INDEX:

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### OVERALL MAP

1" = 50'



## Mill Creek Flood Control Channel



Mill Creek Fish Passage  
Spokane to Park St



REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION	
BAR IS ONE INCH ON ORIGINAL DRAWING.	IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
0	1"

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Cover Sheet

1 SHEET OF 24



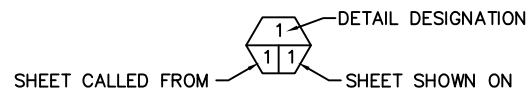
# ABBREVIATIONS

- " - INCHES
- ' - FEET
- APPROX. - APPROXIMATELY
- B&B - BALLED AND BURLAPPED
- BM - BENCH MARK
- ⊙ - CENTERLINE
- CAL. - CALIPER
- CFS - CUBIC FEET PER SECOND
- CLR. - CLEARANCE
- CMP - CORRUGATED METAL PIPE
- CONC. - CONCRETE
- DIA. - DIAMETER
- ELEV. - ELEVATION
- EQ. - EQUAL
- FTG. - FOOTING
- HDPE - HIGH DENSITY POLYETHYLENE
- HT. - HEIGHT
- GAL. - GALLON
- I.D. - INSIDE DIAMETER
- I.E. - INVERT ELEVATION
- LBS. - POUNDS
- LWD - LARGE WOODY DEBRIS
- MAX. - MAXIMUM
- MFG. - MANUFACTURER'S
- MHW - MEAN HIGH WATER
- MHHW - MEAN HIGHER HIGH WATER
- MIN. - MINIMUM
- MISC. - MISCELLANEOUS
- MPH - MILES PER HOUR
- O.C. - ON CENTER
- O.D. - OUTSIDE DIAMETER
- OHW - ORDINARY HIGH WATER
- PK - PARKER-KALON
- R.O.W. - RIGHT OF WAY
- REQ'D - REQUIRED
- SEC. - SECTION
- S.F. - SQUARE FEET
- SHT. - SHEET
- SPEC'S. - PROJECT SPECIFICATIONS
- STA. - STATION
- SS - STAINLESS STEEL
- TEMP. - TEMPORARY
- TYP. - TYPICAL
- W.S. - WATER SURFACE
- WSDOT - WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
- WSEL - WATER SURFACE ELEVATION

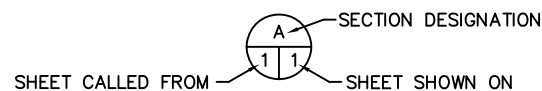
# LEGEND

- SURVEY POINT
- PROJECT CONTROL POINT
- EXISTING TREES TO REMAIN
- PROJECT BENCH MARK
- BORING LOCATIONS
- Existing Concrete
- Proposed Concrete
- ELEVATION MARKER
- PARCEL BOUNDARY
- BUILDING BOUNDARY
- CHANNEL BULKHEAD (SINGLE OR DOUBLE LINE)
- CHANNEL CENTERLINE
- OVERHEAD POWER
- OVERHEAD SERVICE LINE
- INDEX CONTOUR LINE
- TREE TO BE REMOVED
- TREE TO REMAIN
- EXISTING CALLOUT
- NEW CALLOUT
- NOTE CALLOUT
- STATION CALLOUT
- PHOTO CALLOUT
- SANDBAGS

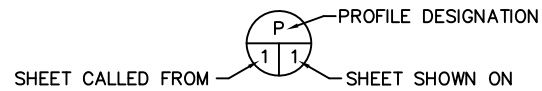
# SHEET SYMBOLS



DETAIL CALLOUT

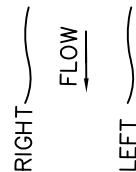


SECTION CALLOUT



PROFILE CALLOUT

References to Right and Left as viewed downstream



### Survey Notes:

#### BASIS OF BEARINGS AND ELEVATIONS:

A BEARING OF N 01°12'06" W BETWEEN FOUND MONUMENTS ON ROOSEVELT STREET AT THE INTERSECTIONS WITH HOBSON STREET & FRANCIS AVENUE WAS ESTABLISHED BASED ON THE CITY OF WALLA WALLA G.I.S. AS ESTABLISHED BY SURVEY RECORDED IN BOOK 6 OF SURVEYS AT PAGE 263 UNDER AUDITORS FILE NUMBER 9604535, WHICH IS IN TURN BASED ON THE WASHINGTON STATE SOUTH ZONE GRID COORDINATE SYSTEM, NAD 83-91, AND UPON THE NAVD 1988 VERTICAL DATUM.

#### \*BUILDING & PARCEL BOUNDARY NOTE

BUILDING & PARCEL BOUNDARIES SHOWN ON THIS MAP ARE APPROXIMATE PER CITY OF WALLA WALLA GIS LAYERS AND SHOULD NOT BE USED AS A BOUNDARY SURVEY. DATA LAYERS WERE PROVIDED BY CITY STAFF ON MARCH 10, 2016 WITH THE FOLLOWING DISCLAIMER:

"THE CITY OF WALLA WALLA DOES NOT WARRANT, GUARANTEE OR ACCEPT ANY LIABILITY FOR THE ACCURACY, PRECISION OR COMPLETENESS OF ANY INFORMATION SHOWN HEREON OR ANY INFERENCES MADE THEREFROM. THIS REPRESENTATION OF THE CITY UTILITY DATA IS THE BEST AVAILABLE INFORMATION TO DATE. THE CITY RECOGNIZES THAT FURTHER FIELD VERIFICATION MAY REVEAL INFORMATION THAT IS CONTRARY TO THIS MAP."

Control Points				
Pt. No.	North	East	Elev.	Description
59	275594.19	2189745.32	969.26	Nail
120	275772.03	2189885.16	958.99	Nail
122	275791.33	2189862.90	958.88	Nail
121	275849.13	2189981.96	960.04	Nail
117	275747.10	2190108.13	962.90	Nail
90	275767.75	2190139.92	963.45	Nail
89	275708.22	2190241.99	965.77	Nail
116	275665.40	2190243.60	966.42	Nail
88	275704.60	2190282.35	966.11	Nail
115	275742.25	2190439.06	967.85	Nail
114	275754.70	2190488.99	968.58	Nail
87	275793.38	2190494.97	967.95	Nail
113	275732.89	2190568.71	969.98	Nail
86	275717.51	2190670.54	970.20	Nail
84	275489.52	2190944.08	973.87	Nail
85	275522.24	2190896.84	973.10	Nail



## Mill Creek Fish Passage Spokane to Park St



3/30/22



3/30/22

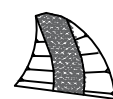
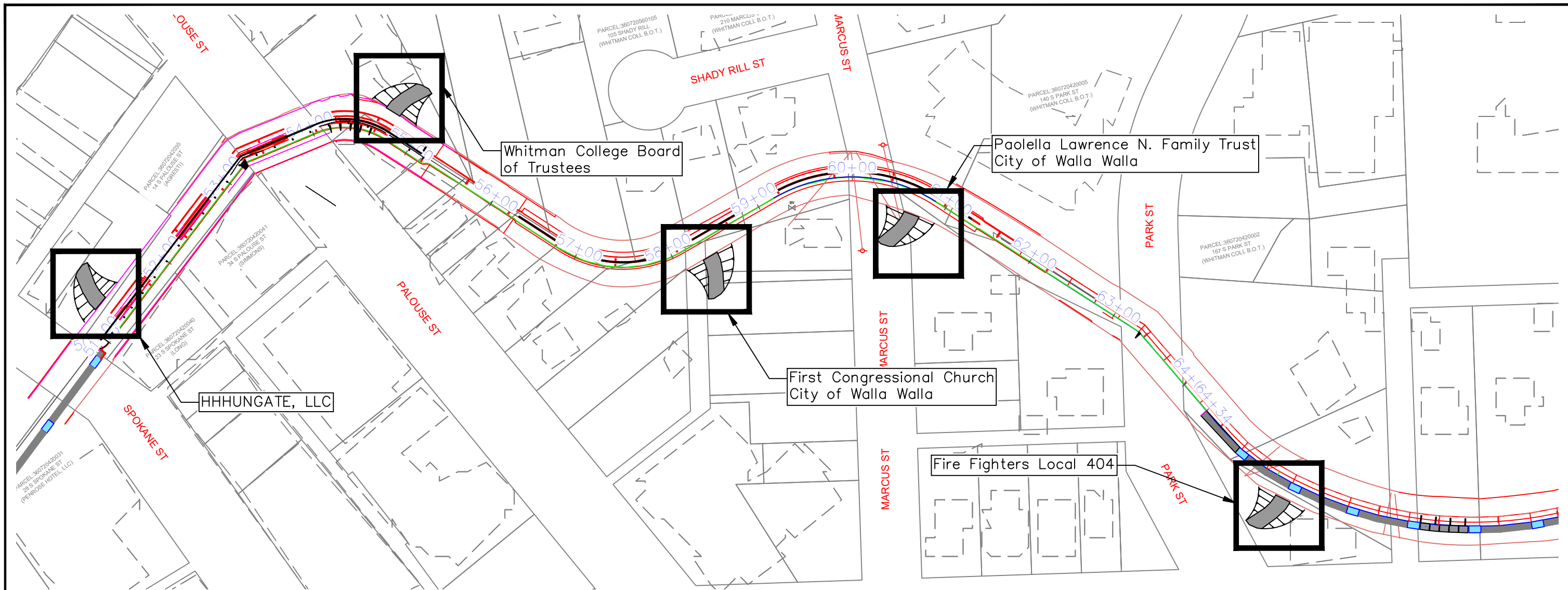
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SCALE VERIFICATION: BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

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## Legend and Notes



Denotes Construction Access by Cutting Concrete Wall (see Sheet 24).



Potential Construction Access and Staging Locations. Needs Coordination and Agreement with Landowners.

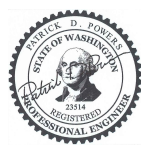
**Traffic, Access and Staging Plan**

1" = 100'

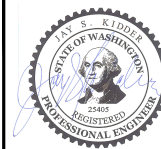
Flow Direction ←



**Mill Creek Fish Passage  
Spokane to Park St**



3/30/22



3/30/22

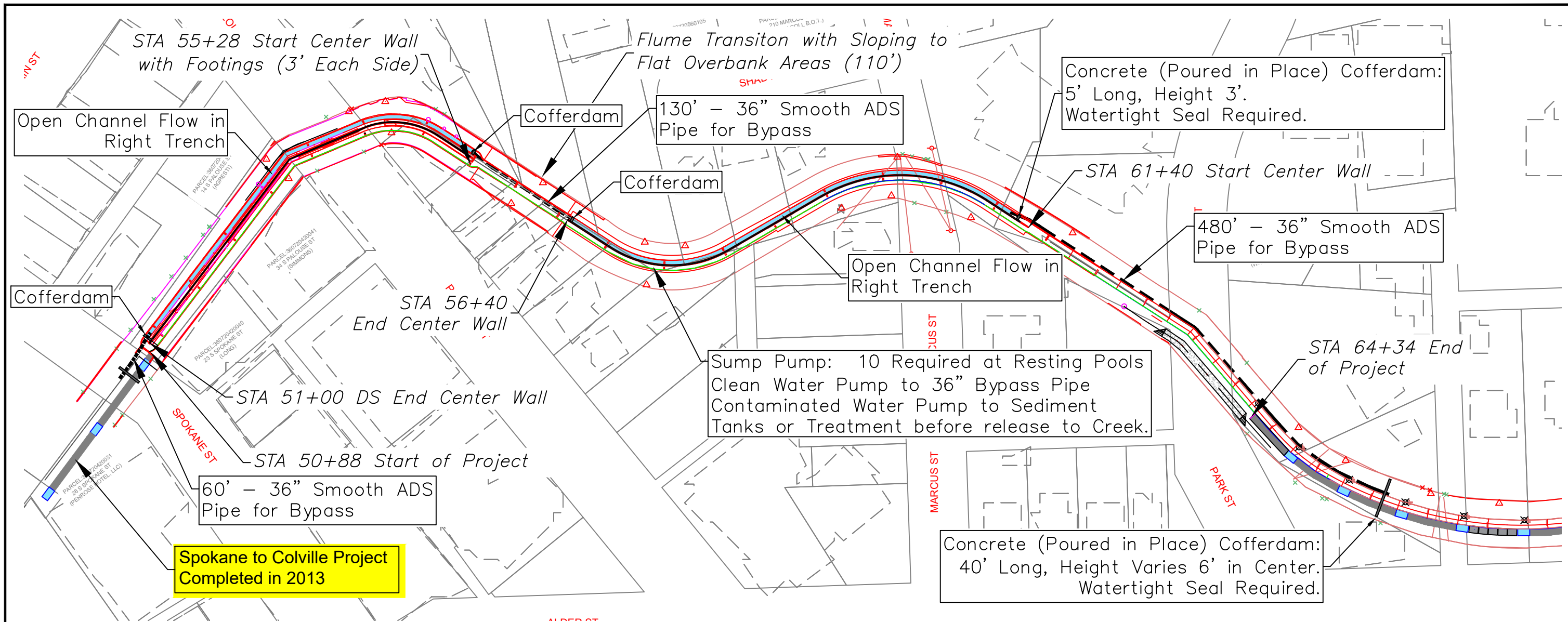
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**Site Plan - Construction Access**



Spokane to Colville Project Completed in 2013

**Dewatering Plan**

SCALE 1" = 100'

Flow Direction ←

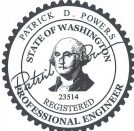


**Construction Notes:**

- Dewatering plan shown is approved. Other Options may be proposed by contractor if reviewed and approve by Engineers.  
Minimum Requirements 1) Work Area Isolated from flowing water, 2) Sump Pump water discharged into bypass pipe, 3) water contaminated with concrete pumped into Water Quality Tanks.
- If baffles are not removed, bypass pipe shown will require supports one foot high between existing baffles. Spacing to be Approved by Engineer.
- Two Water Treatment Tanks Required.



**Mill Creek Fish Passage  
Spokane to Park St**



3/30/22



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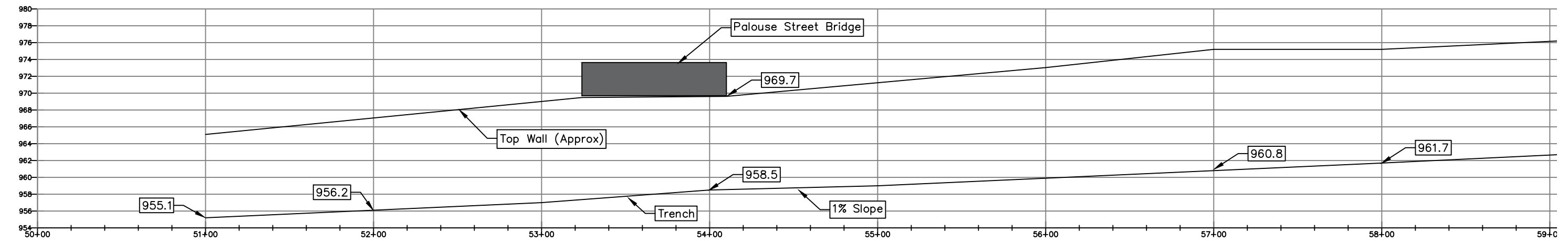
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**Dewatering Plan**





**Channel Profile**  
 Scale Horizontal 1" = 30', Vertical 1" = 6'



Mill Creek Fish Passage  
 Spokane to Park St

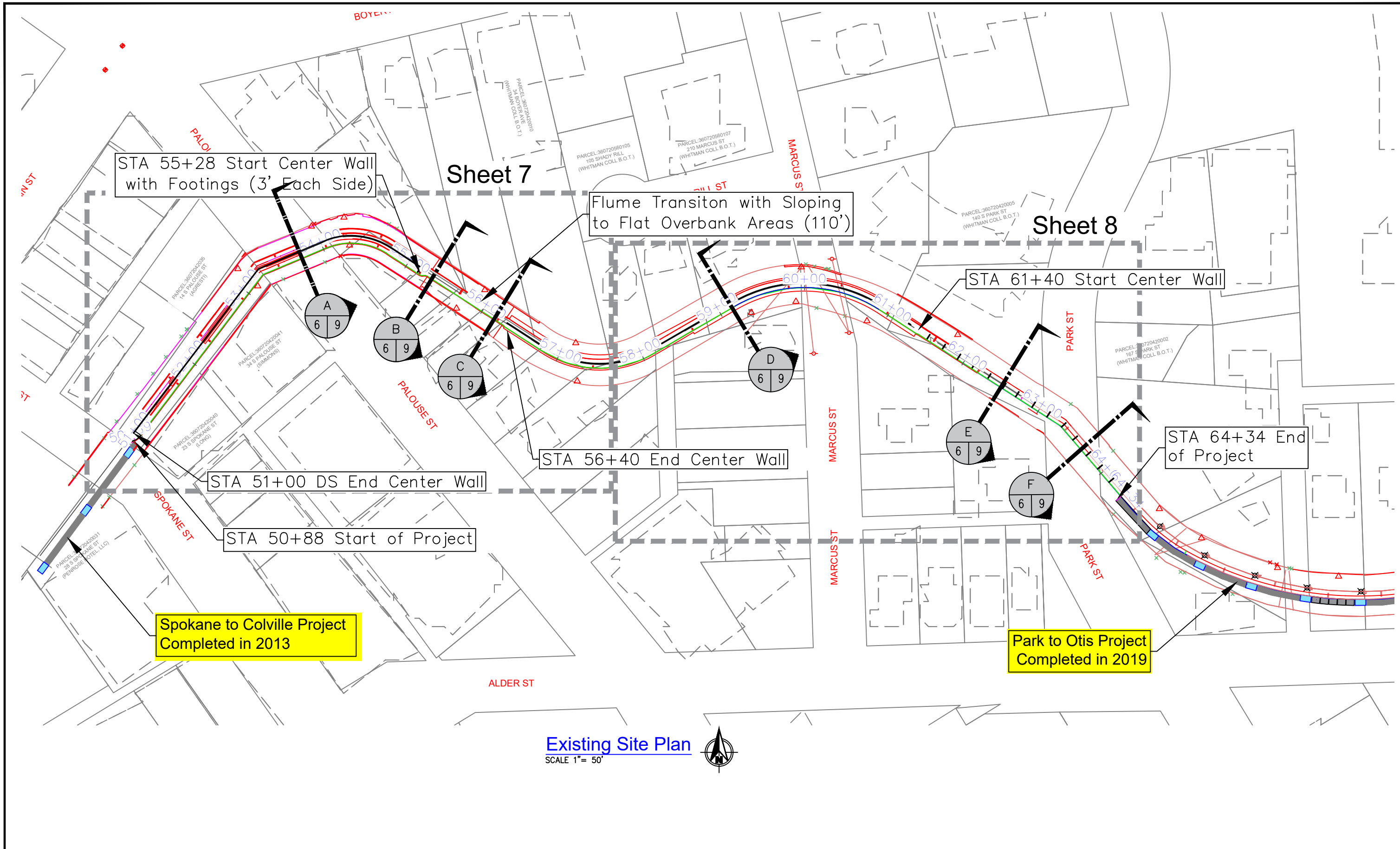


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SCALE VERIFICATION  
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**Channel and Wall Profile**



STA 55+28 Start Center Wall with Footings (3' Each Side)

Sheet 7

Flume Transition with Sloping to Flat Overbank Areas (110')

Sheet 8

STA 61+40 Start Center Wall

STA 51+00 DS End Center Wall

STA 56+40 End Center Wall

STA 64+34 End of Project

STA 50+88 Start of Project

Spokane to Colville Project Completed in 2013

Park to Otis Project Completed in 2019

Existing Site Plan  
SCALE 1" = 50'



# Mill Creek Fish Passage Spokane to Park St



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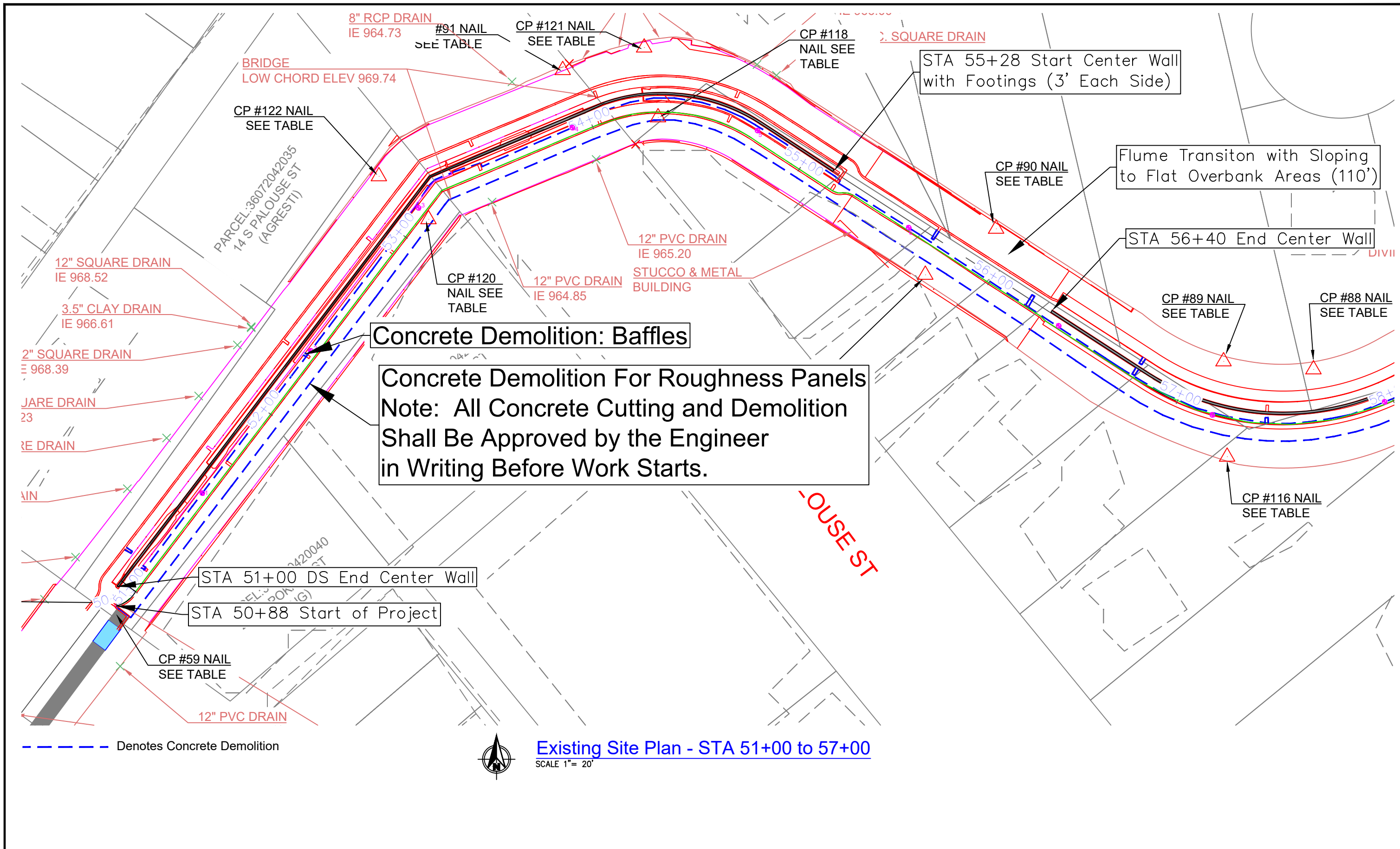
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## Existing Site Plan





**Concrete Demolition: Baffles**

**Concrete Demolition For Roughness Panels**  
 Note: All Concrete Cutting and Demolition Shall Be Approved by the Engineer in Writing Before Work Starts.

--- Denotes Concrete Demolition

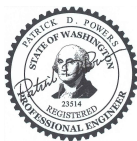


**Existing Site Plan - STA 51+00 to 57+00**

SCALE 1" = 20'



**Mill Creek Fish Passage  
 Spokane to Park St**



3/30/22



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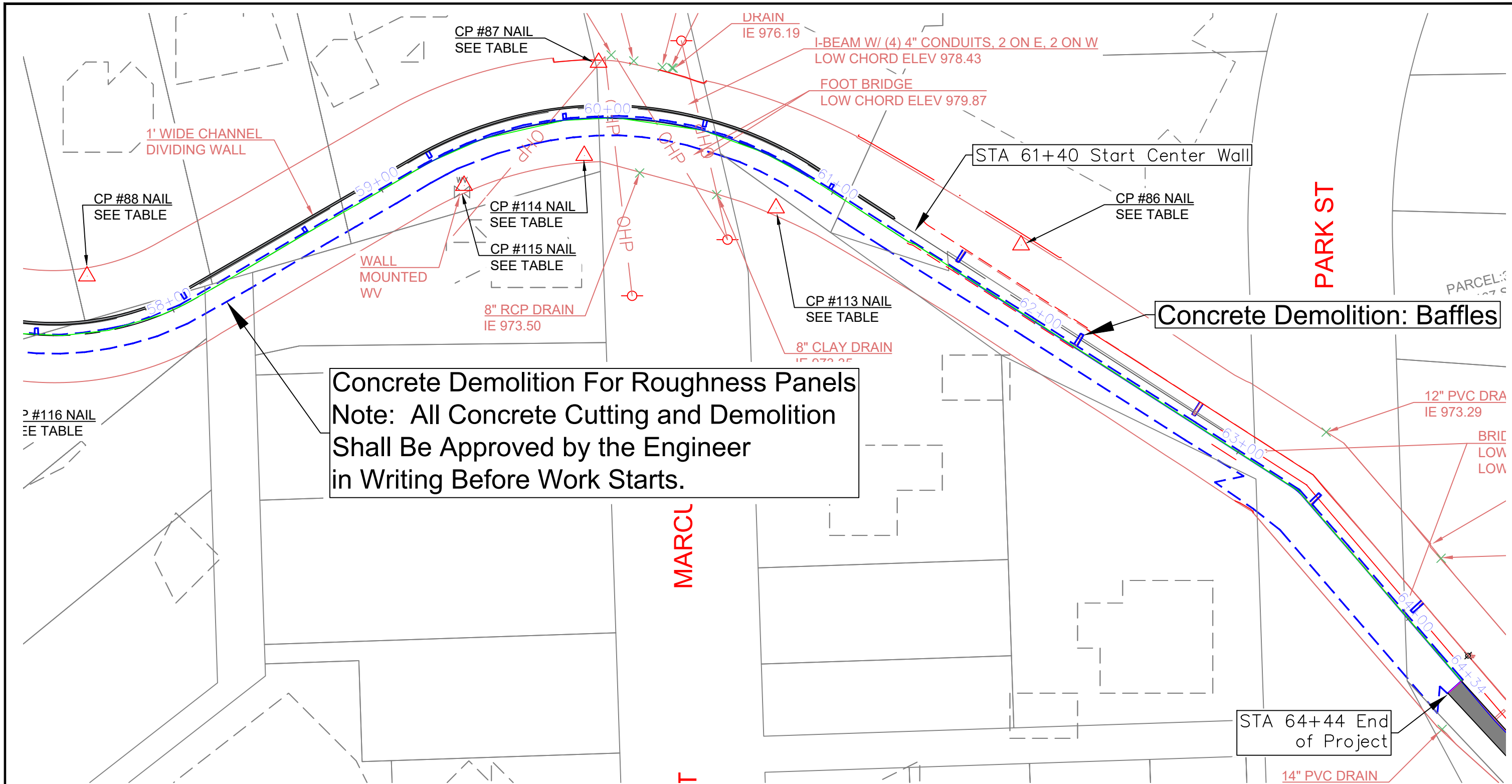
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REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION: 0 1"

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**Existing Site Plan  
 STA 51+00 to 57+00**



**Concrete Demolition For Roughness Panels**  
 Note: All Concrete Cutting and Demolition  
 Shall Be Approved by the Engineer  
 in Writing Before Work Starts.

--- Denotes Concrete Demolition



**Existing Site Plan - STA 57+00 to 64+00**  
 SCALE 1" = 20'



**Mill Creek Fish Passage  
 Spokane to Park St**



3/30/22



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REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

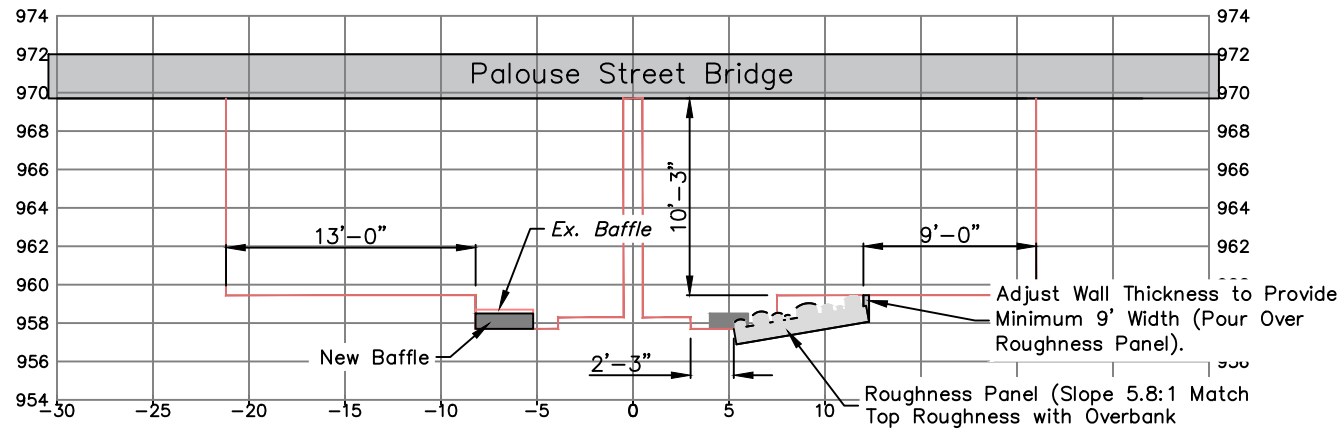
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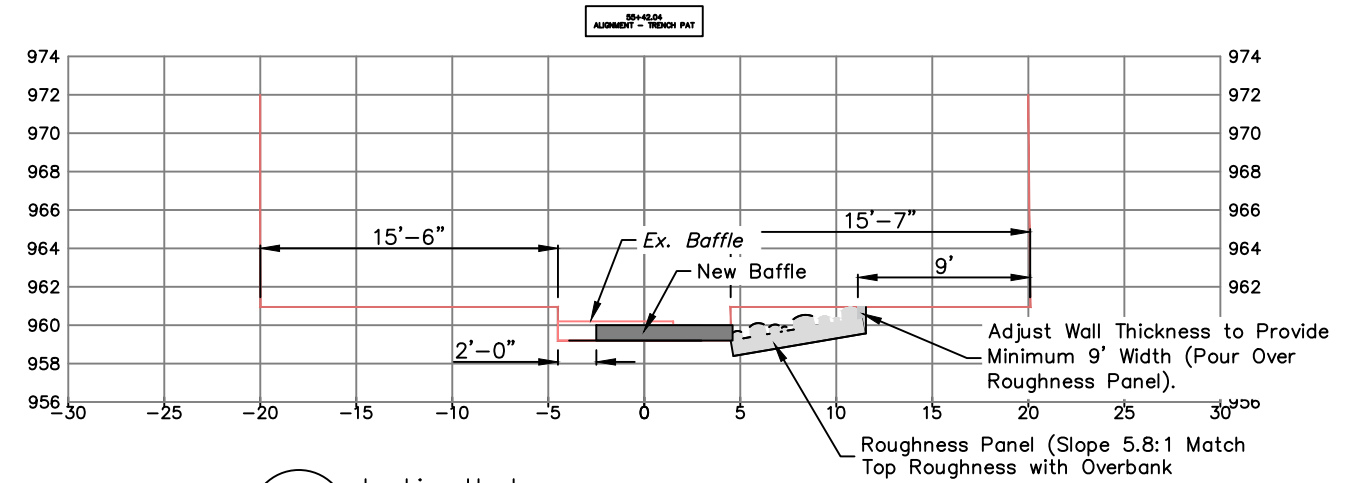
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**Existing Site Plan  
 STA 57+00 to 64+00**

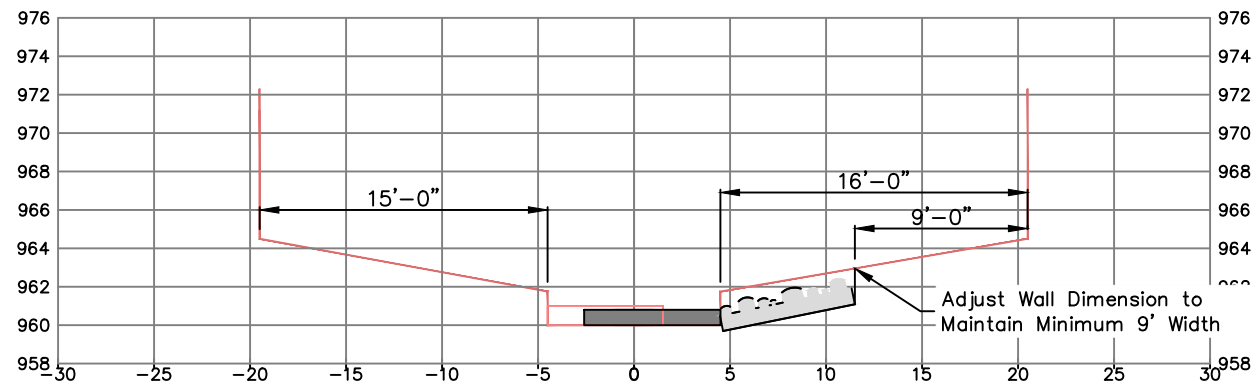




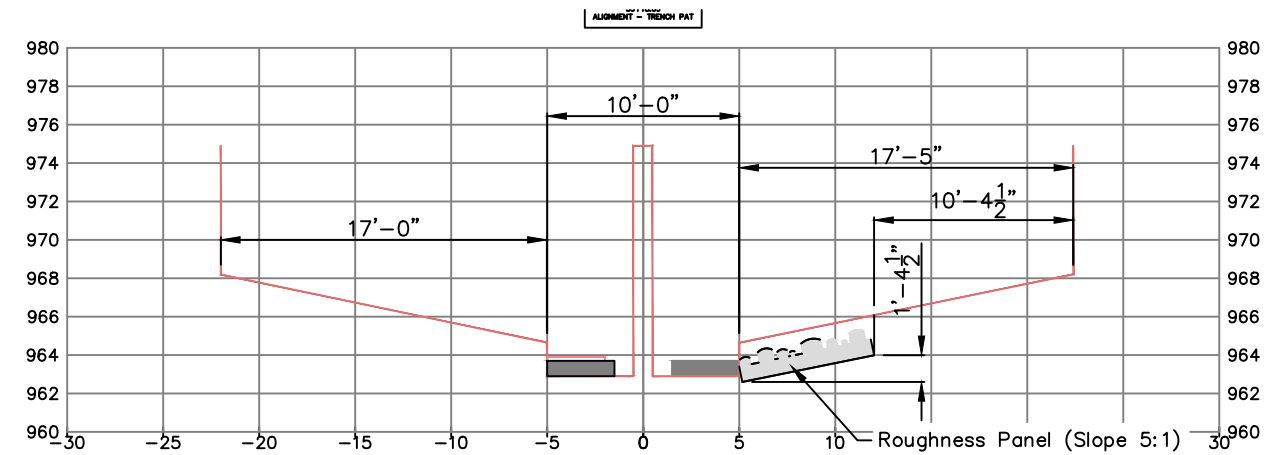
**A** Looking Upstream  
**Typical Channel Section - Reach Type 7 Flat Overbank - Sta 53+77**  
 Scale: 1" = 5'



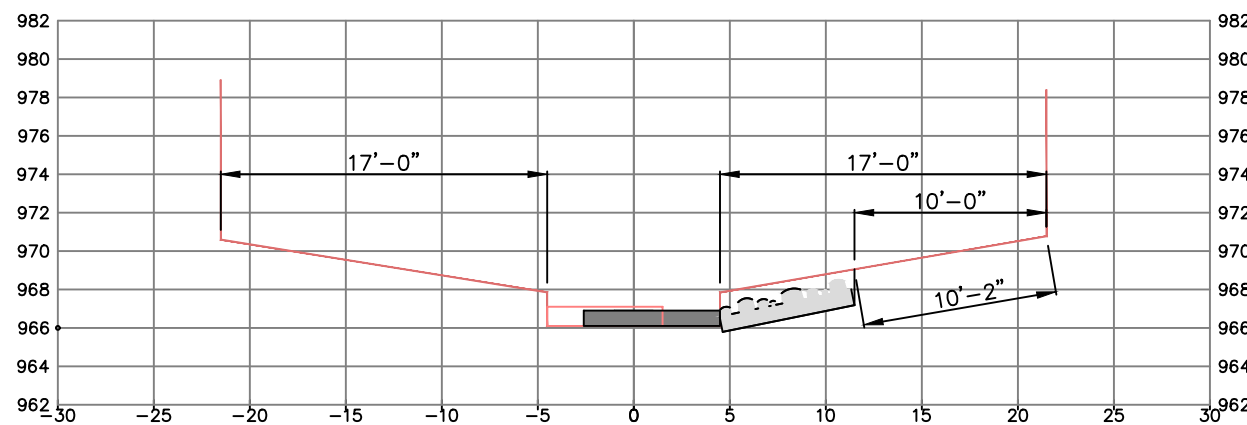
**B** Looking Upstream  
**Channel Section - Reach Type 9 - Sta 55+42**  
 Scale: 1" = 5'



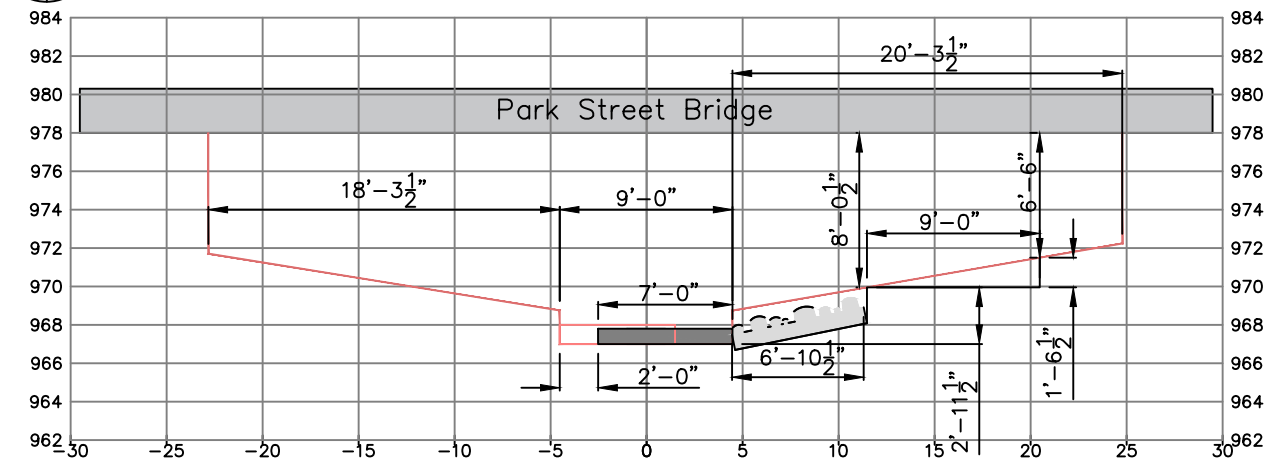
**C** Looking Upstream  
**Channel Section Reach Type 9 - Sta 56+25**  
 Scale: 1" = 5'



**D** Looking Upstream  
**Typical Channel Section Reach Type 7 - Sloping Overbank - Sta 59+18**  
 Scale: 1" = 5'



**E** Looking Upstream  
**Typical Channel Section Sta 62+58**  
 Scale: 1" = 5'



**F** Looking Upstream  
**Channel Section - Park Street - Sta 63+36**  
 Scale: 1" = 5'



**Mill Creek Fish Passage  
 Spokane to Park St**



3/30/22



3/30/22

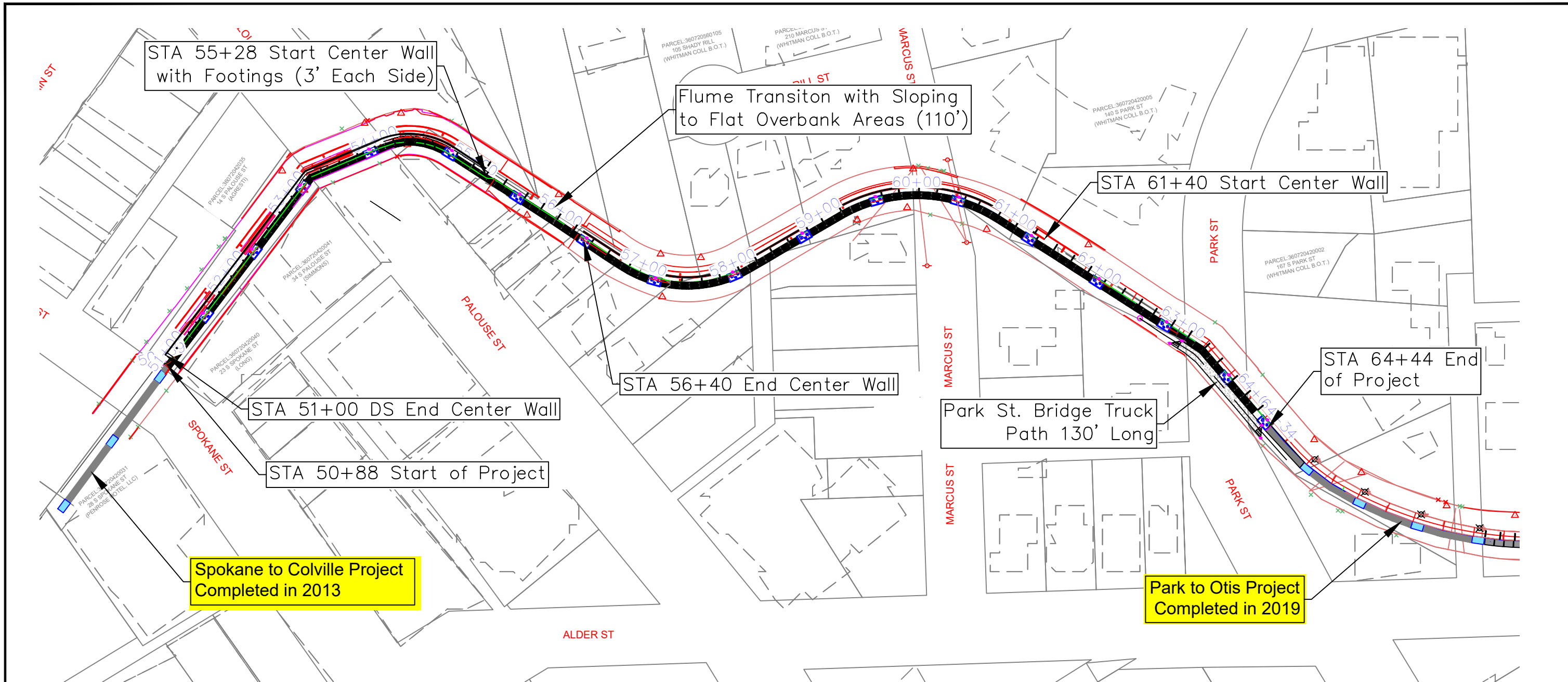
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**Design Sections**



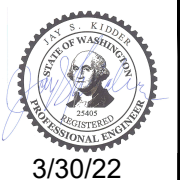
**Proposed Site Plan**  
SCALE 1" = 50'

Project Layout Information: Total All Schedules

- Length: 1356'
- Resting Pools: 17 (Spacing 80.37')
- Roughness Panels: 114 (Plus 2 Cut Short)
- Baffles: 68 Total
- Roughness Panel Spacing: Typical 5" (0.42') but may vary 3 to 7".



## Mill Creek Fish Passage Spokane to Park St



REVISIONS					
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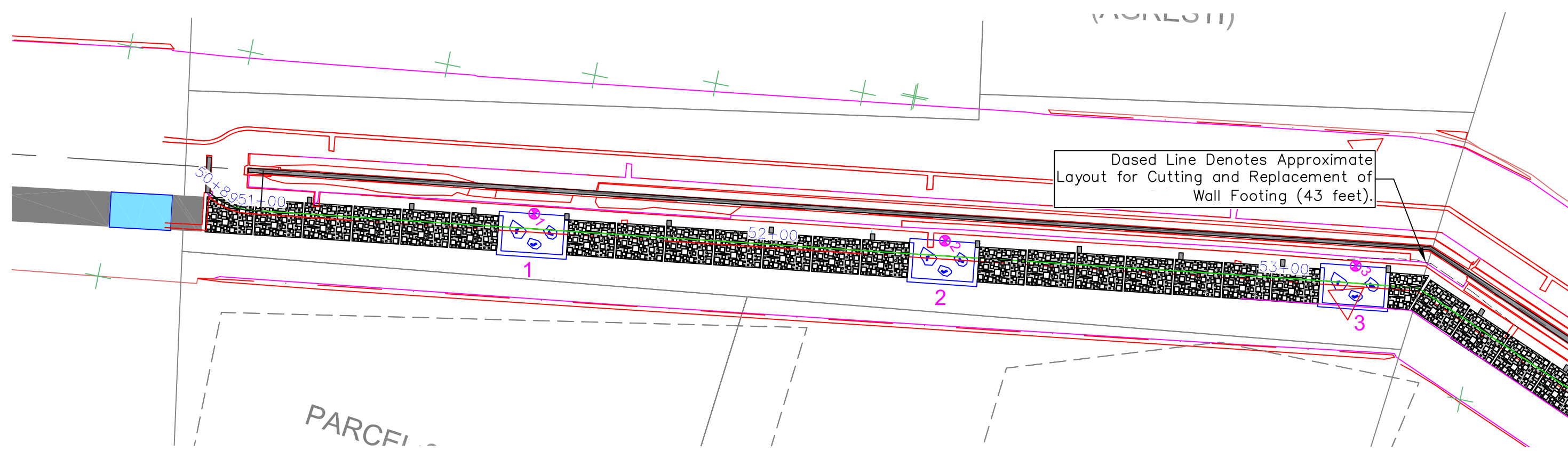
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## Proposed Site Plan




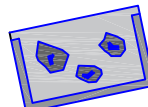




Dashed Line Denotes Approximate Layout for Cutting and Replacement of Wall Footing (43 feet).

**Proposed Site Plan - STA 51+00 to 53+00**

Scale 1" = 10'



	Roughness Panel
	Resting Pool
	New Baffle (All Not Shown)
	Existing Baffle

Resting Pool BMs				
Pt. No.	North	East	Elev.	Description
1	275649.04	2189783.62	955.70	CL Pool
2	275712.98	2189832.31	956.41	CL Pool
3	275777.17	2189880.65	957.30	CL Pool



**Mill Creek Fish Passage  
Spokane to Park St**



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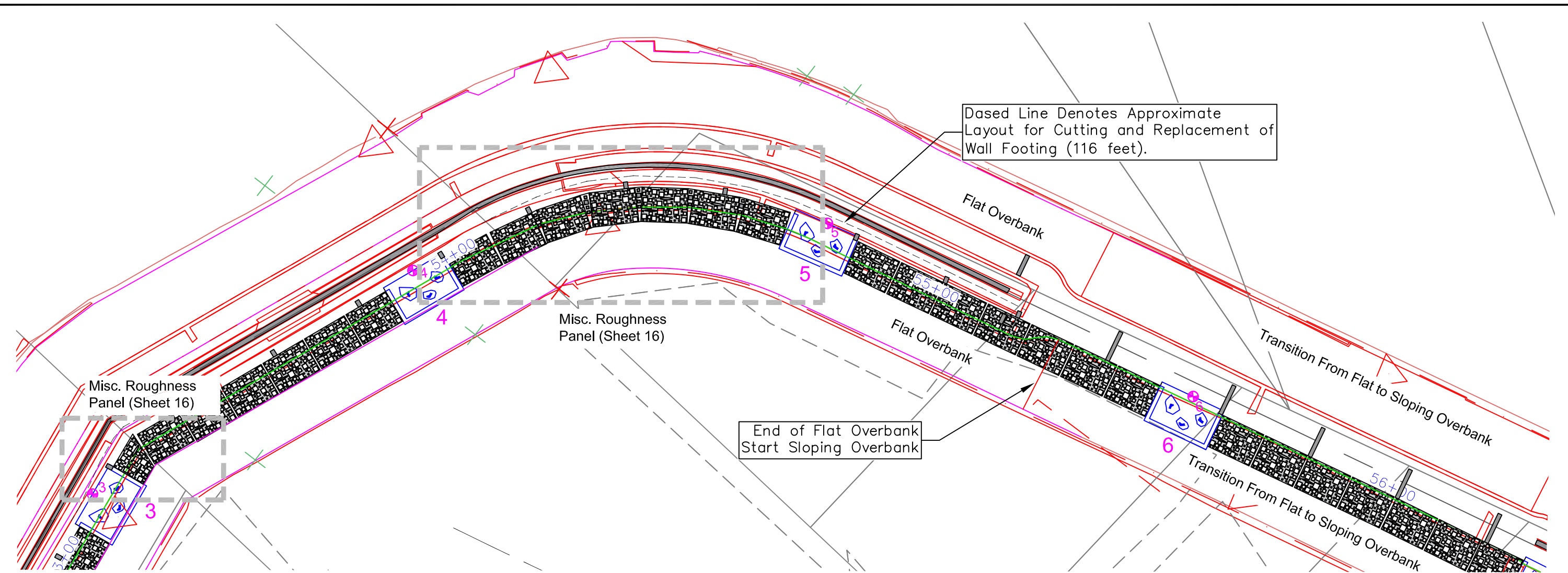
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**Proposed Site Plan  
STA 50+89 to 53+00**



Dashed Line Denotes Approximate Layout for Cutting and Replacement of Wall Footing (116 feet).

Misc. Roughness Panel (Sheet 16)

Misc. Roughness Panel (Sheet 16)

End of Flat Overbank Start Sloping Overbank

**Proposed Site Plan - STA 53+00 to 56+00**  
Scale 1" = 10'



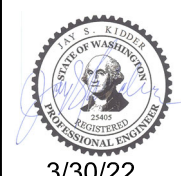
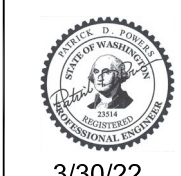
	Roughness Panel
	Resting Pool
	New Baffle (All Not Shown)
	Existing Baffle

Resting Pool BMs				
Pt. No.	North	East	Elev.	Description
4	275813.18	2189949.73	958.00	CL Pool
5	275811.87	2190032.84	958.80	CL Pool
6	275768.26	2190100.68	959.60	CL Pool

Resting Pool BM Location is 10" Out from Left Trench Wall



**Mill Creek Fish Passage  
Spokane to Park St**



REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

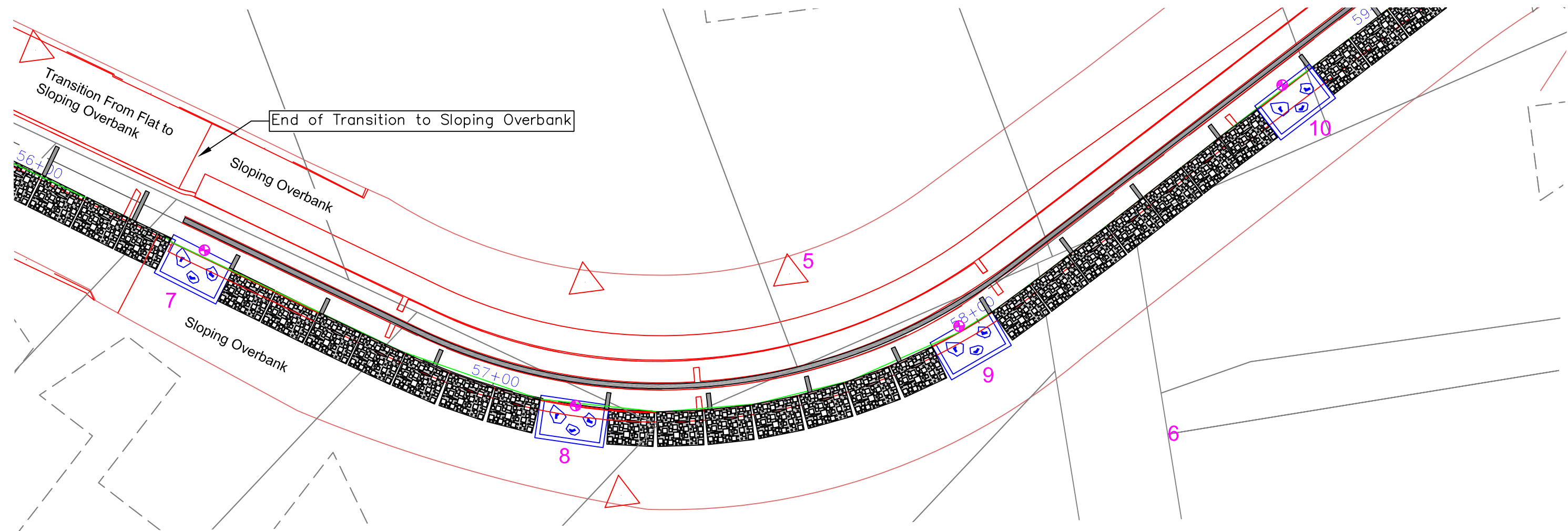
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
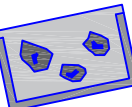


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**Proposed Site Plan  
STA 53+00 to 56+00**





Proposed Site Plan - STA 56+00 to 59+00  
Scale 1" = 10'

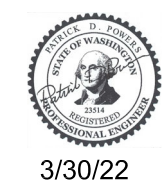
	Roughness Panel
	Resting Pool
	New Baffle (All Not Shown)
	Existing Baffle

Resting Pool BMs				
Pt. No.	North	East	Elev.	Description
7	275724.17	2190167.99	960.20	CL Pool
8	275684.20	2190236.94	961.00	CL Pool
9	275690.03	2190314.31	961.70	CL Pool
10	275729.16	2190383.92	962.40	CL Pool

Resting Pool BM Location is 10" Out from Left Trench Wall



Mill Creek Fish Passage  
Spokane to Park St



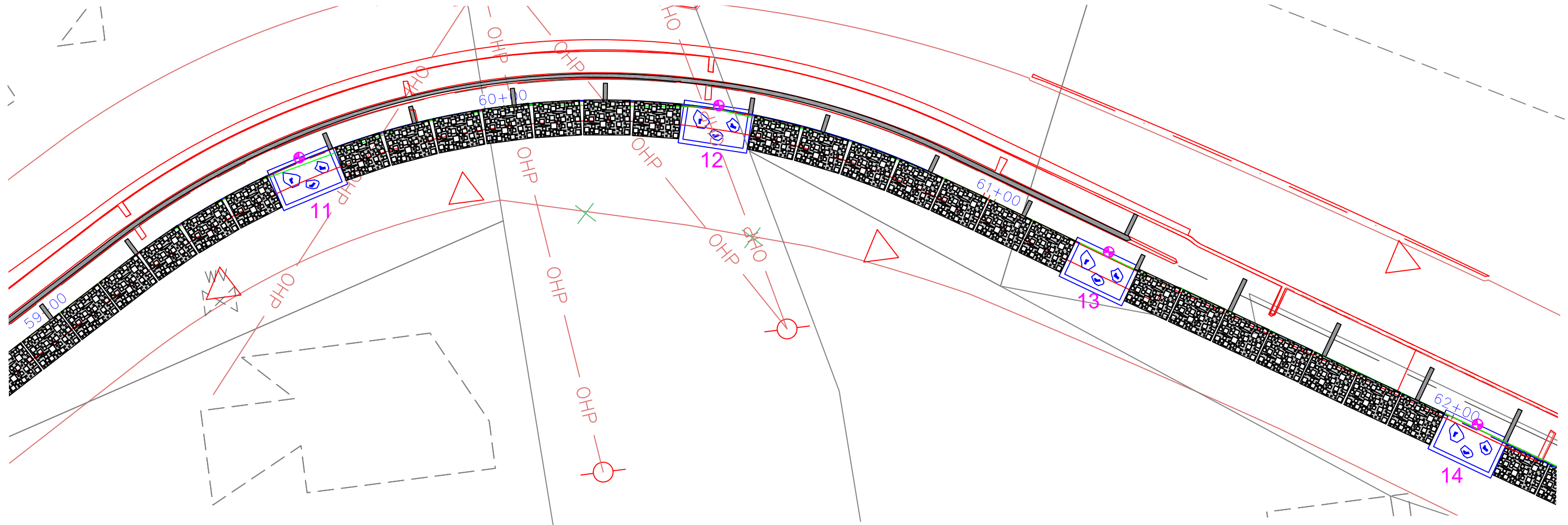
REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

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WATERFALL ENGINEERING  
CHINOOK ENGINEERING  
DRAWN BY:  
DATE:  
3/30/22

Proposed Site Plan  
STA 56+00 to 59+00



**Proposed Site Plan - STA 59+00 to 62+00**  
Scale 1" = 10'



	Roughness Panel
	Resting Pool
	New Baffle (All Not Shown)
	Existing Baffle

Resting Pool BMs				
Pt. No.	North	East	Elev.	Description
11	275765.66	2190457.38	963.20	CL Pool
12	275765.19	2190540.83	964.00	CL Pool
13	275726.64	2190613.43	964.90	CL Pool
14	275683.57	2190681.25	965.70	CL Pool

Resting Pool BM Location is 10" Out from Left Trench Wall



**Mill Creek Fish Passage  
Spokane to Park St**



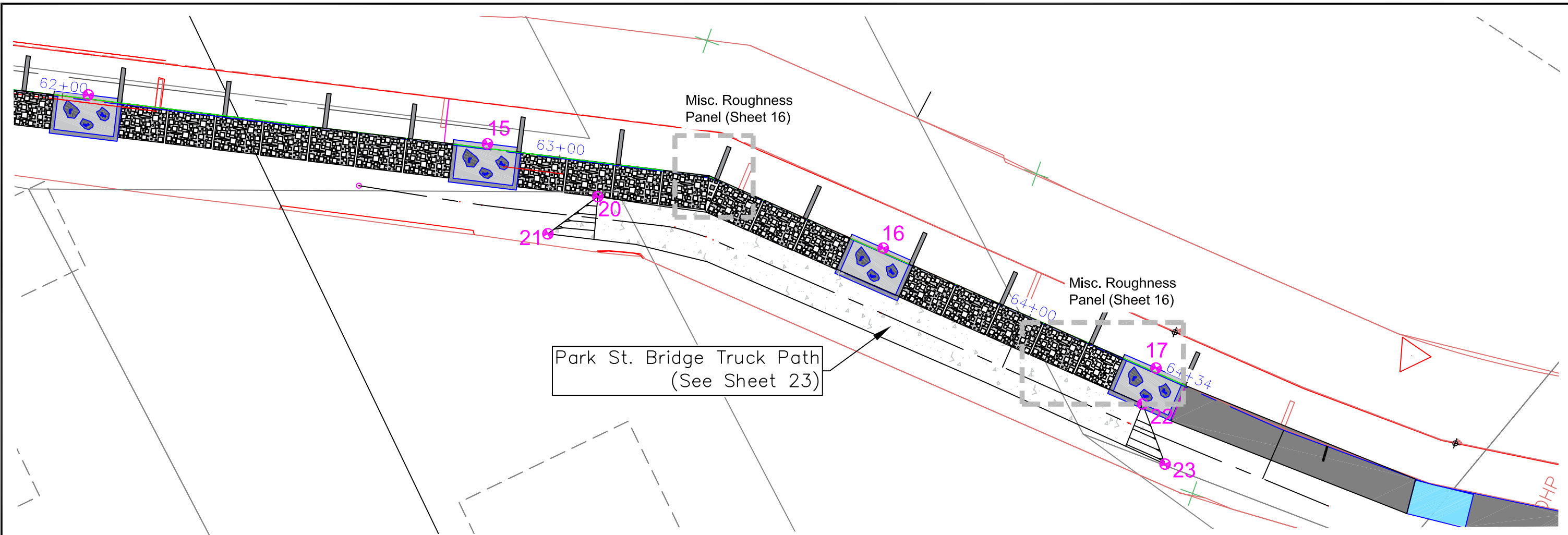
REVISIONS				
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CHINOOK ENGINEERING  
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**Proposed Site Plan  
STA 59+00 to 62+00**



**Proposed Site Plan - STA 62+00 to 63+34**  
 Scale 1" = 10'



	Roughness Panel
	Resting Pool
	New Baffle (All Not Shown)
	Existing Baffle

Resting Pool BMs				
Pt. No.	North	East	Elev.	Description
15	275640.25	2190748.87	966.50	CL Pool
16	275587.22	2190811.08	967.30	CL Pool
17	275542.04	2190849.79	967.90	CL Pool

Resting Pool BM Location is 10" Out from Left Trench Wall



**Mill Creek Fish Passage  
 Spokane to Park St**



3/30/22



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**Proposed Site Plan  
 STA 62+00 to 64+34**

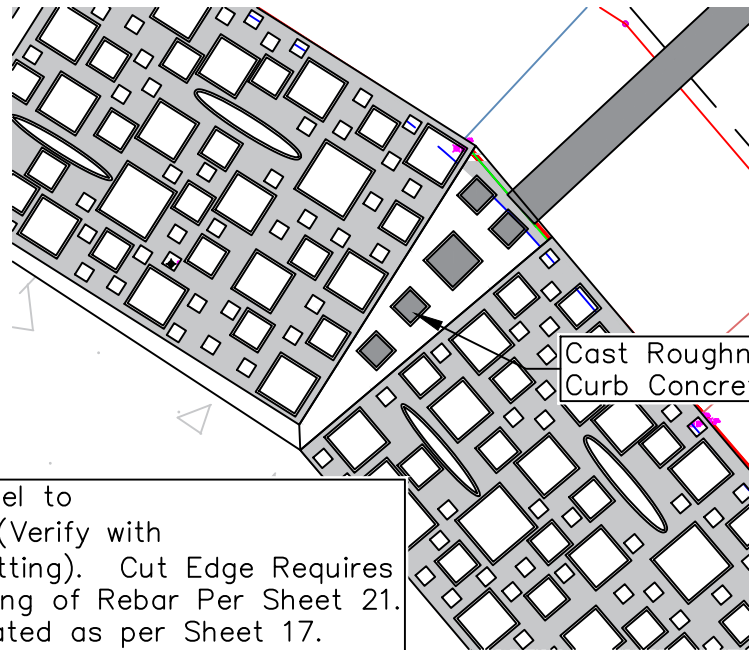




Misc. Panel Shape - STA 53+24

Scale 1" = 2'

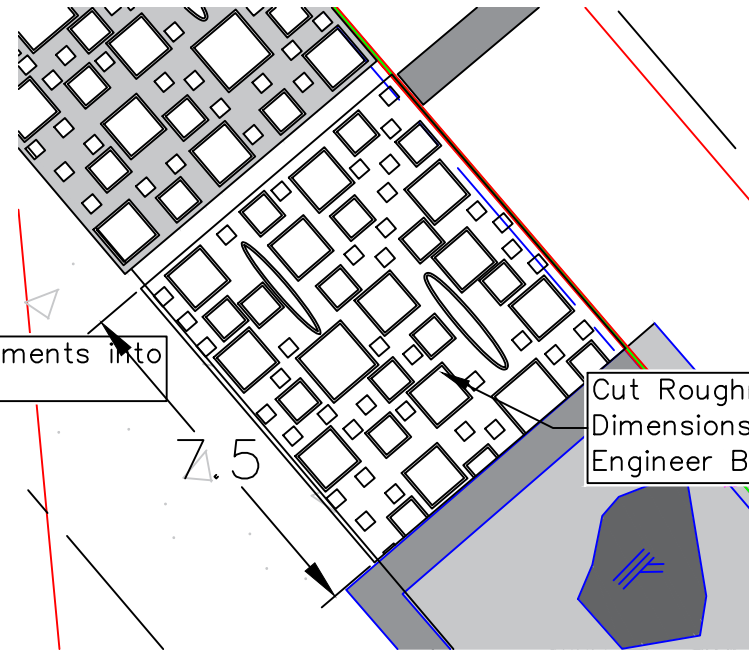
Cut Roughness Panel to Dimensions Shown (Verify with Engineer Before Cutting). Cut Edge Requires Drilling and Anchoring of Rebar Per Sheet 21. Exposed Rebar Treated as per Sheet 17.



Misc. Panel Shape - STA 63+31

Scale 1" = 2'

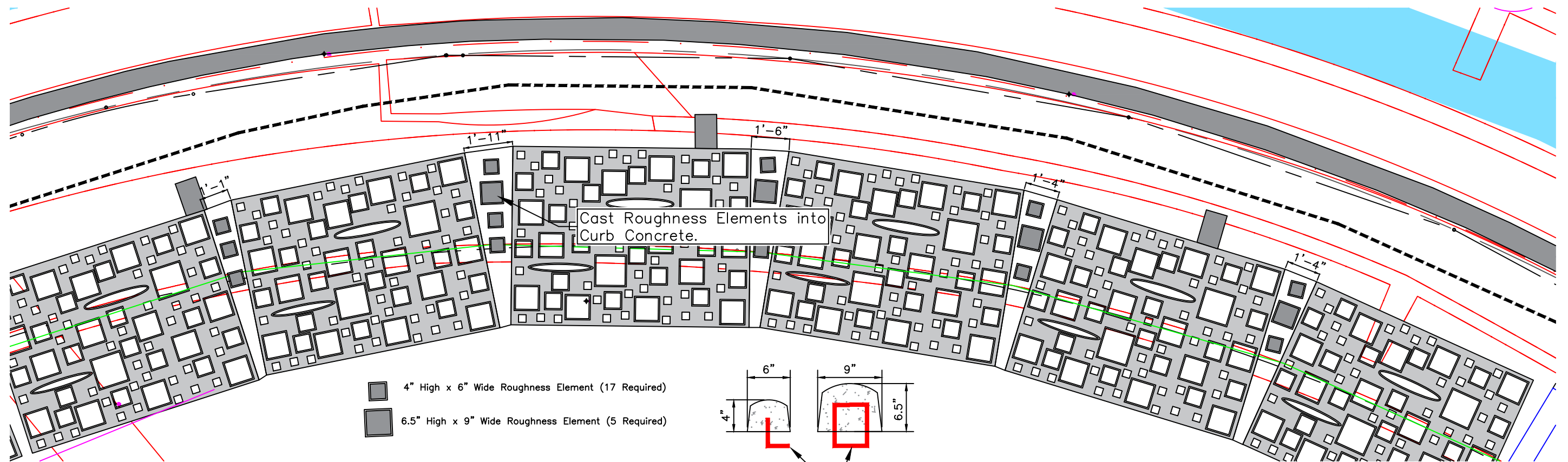
Cast Roughness Elements into Curb Concrete.





Misc. Panel Shape - STA 64+16

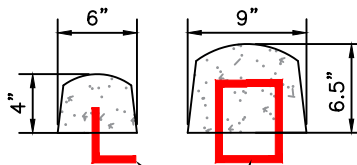
Scale 1" = 2'

Cut Roughness Panel to Dimensions Show (Verify with Engineer Before Cutting).



Cast Roughness Elements into Curb Concrete.

-  4" High x 6" Wide Roughness Element (17 Required)
-  6.5" High x 9" Wide Roughness Element (5 Required)



5/8" Rebar Bents and Hoops Min 3" Cover



# Mill Creek Fish Passage Spokane to Park St



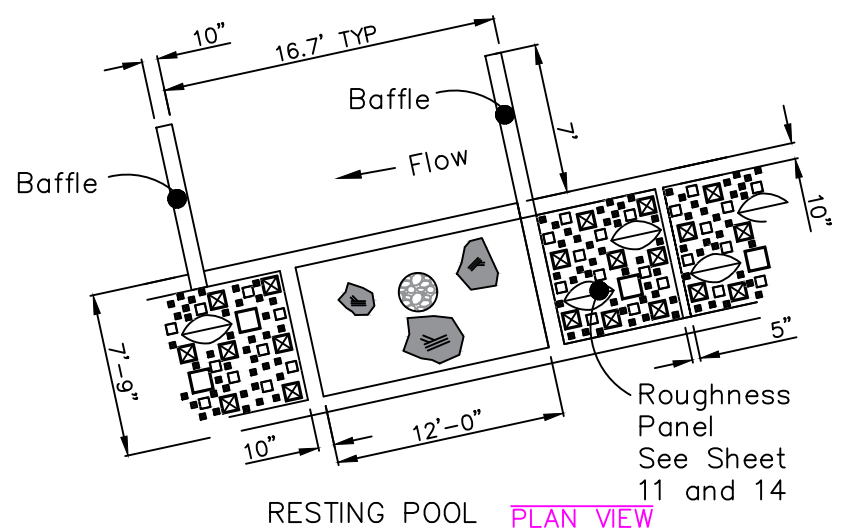
REVISIONS					
REV	DATE	BY	APP'D	DESCRIPTION	

SCALE VERIFICATION: 0 1"

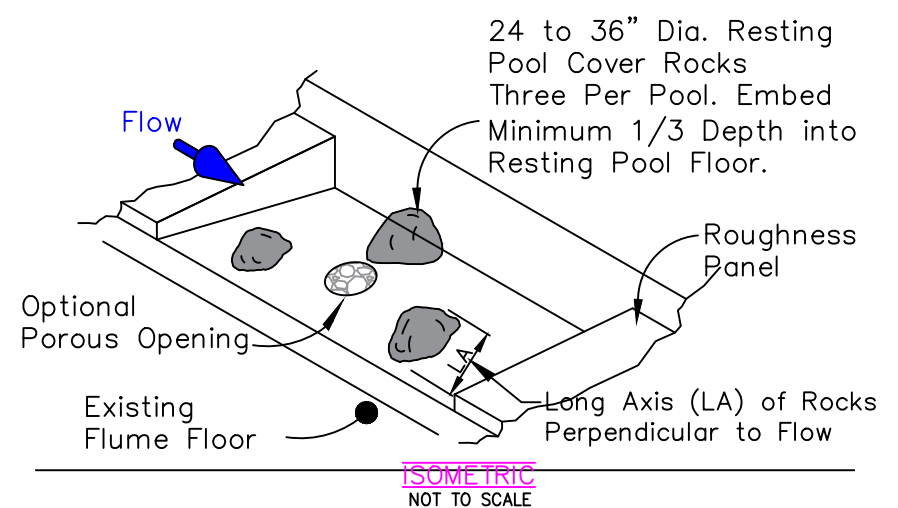
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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CHINOOK ENGINEERING  
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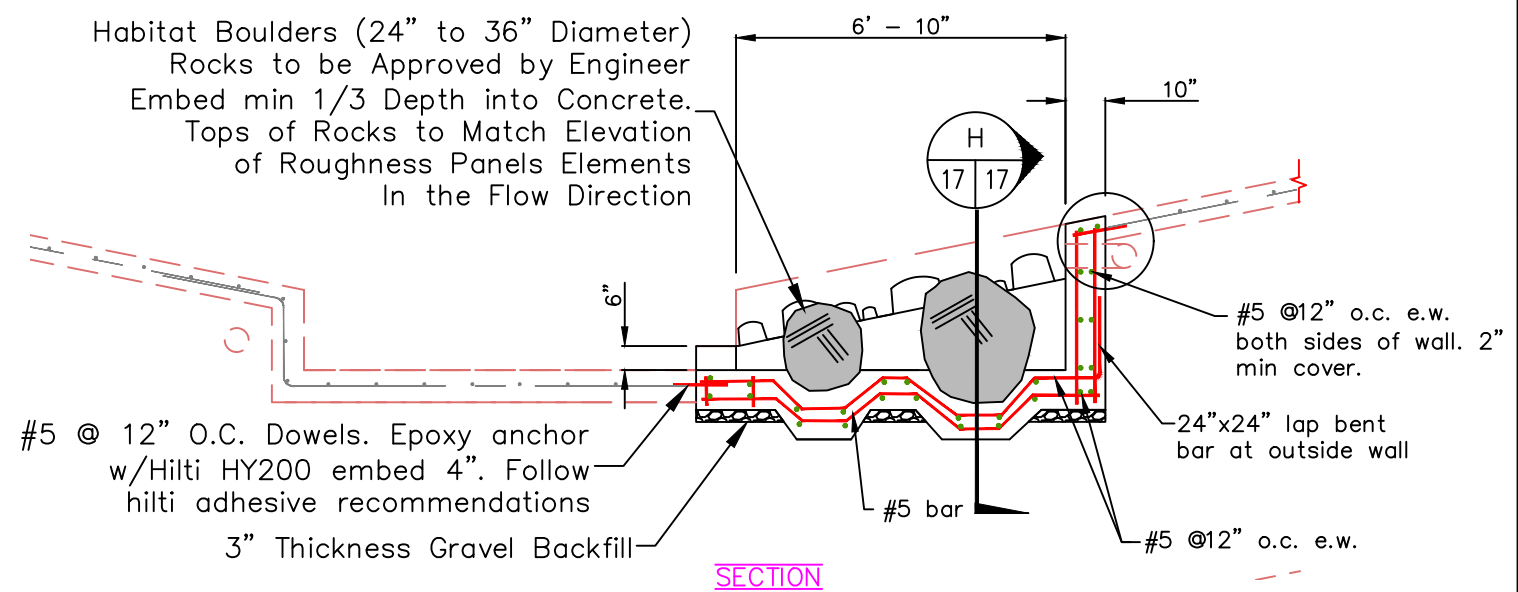
## Misc. Roughnes Panels



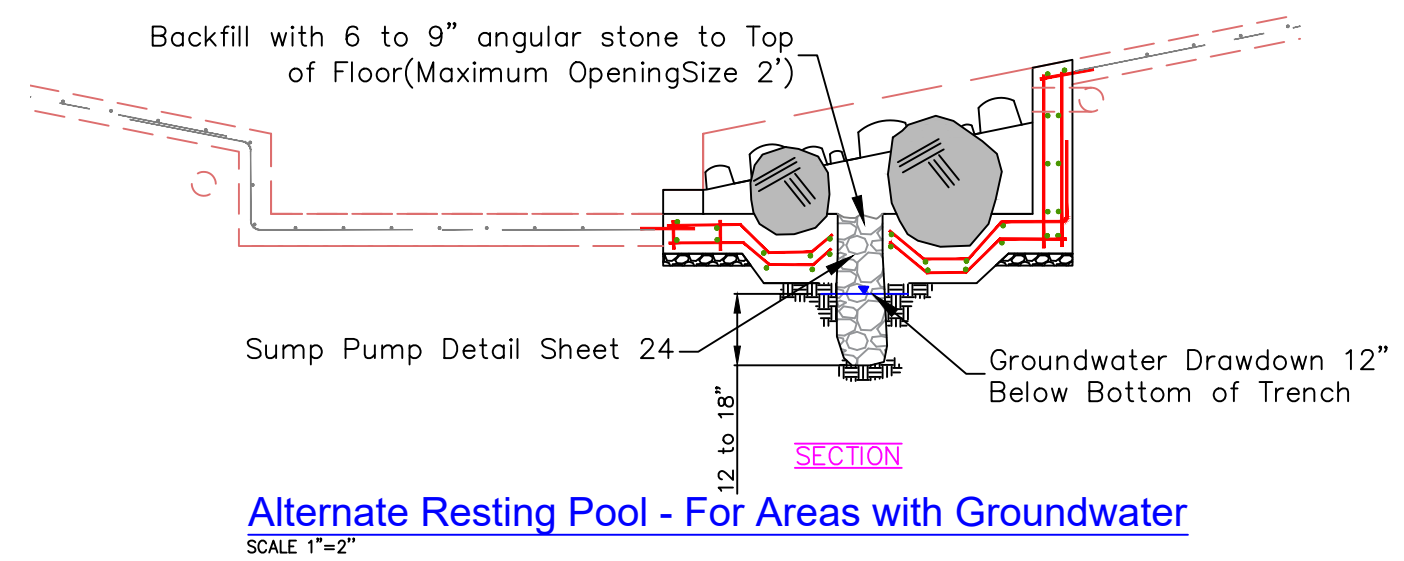
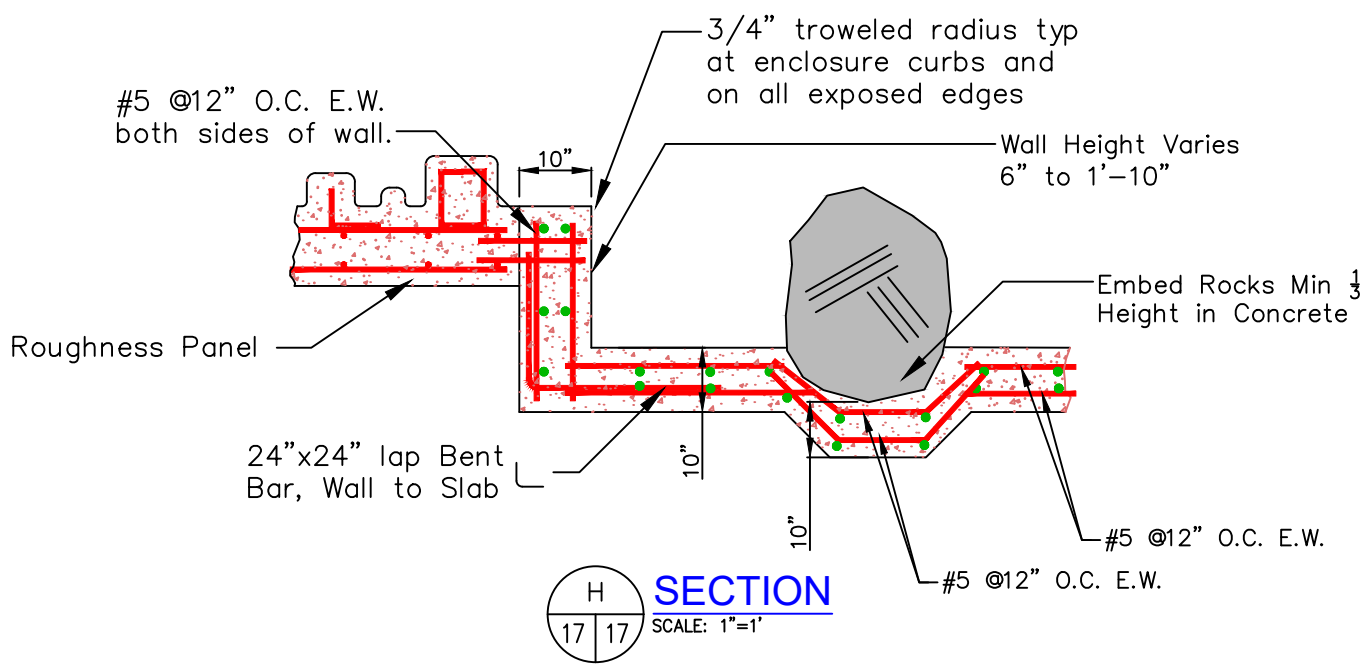
Top of Resting Pool Rocks to Match Average Height of Roughness Elements on Panels. Actual Rock Shape and Placement Shall be Approved by Engineer Prior to Delivery and Placement.



- Note:
1. All saw cut concrete with exposed rebar shall be chipped back to expose 3" length of steel.
  2. Steel rebar shall be cut off and the concrete cone shaped hole patched with Hilti Hit HY200 epoxy. minimize hole diameter to cut steel rebar.
  3. Final epoxy cover over steel shall be 1 1/2" minimum
  4. All saw cut concrete edges to new concrete placement contacts shall be provided with concrete bonding agent prior to placement of new concrete



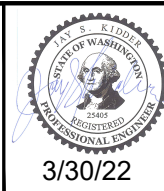
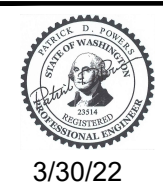
Typical Resting Pool - For Areas with No Groundwater  
SCALE 1"=2"



Alternate Resting Pool - For Areas with Groundwater  
SCALE 1"=2"



# Mill Creek Fish Passage Spokane to Park St



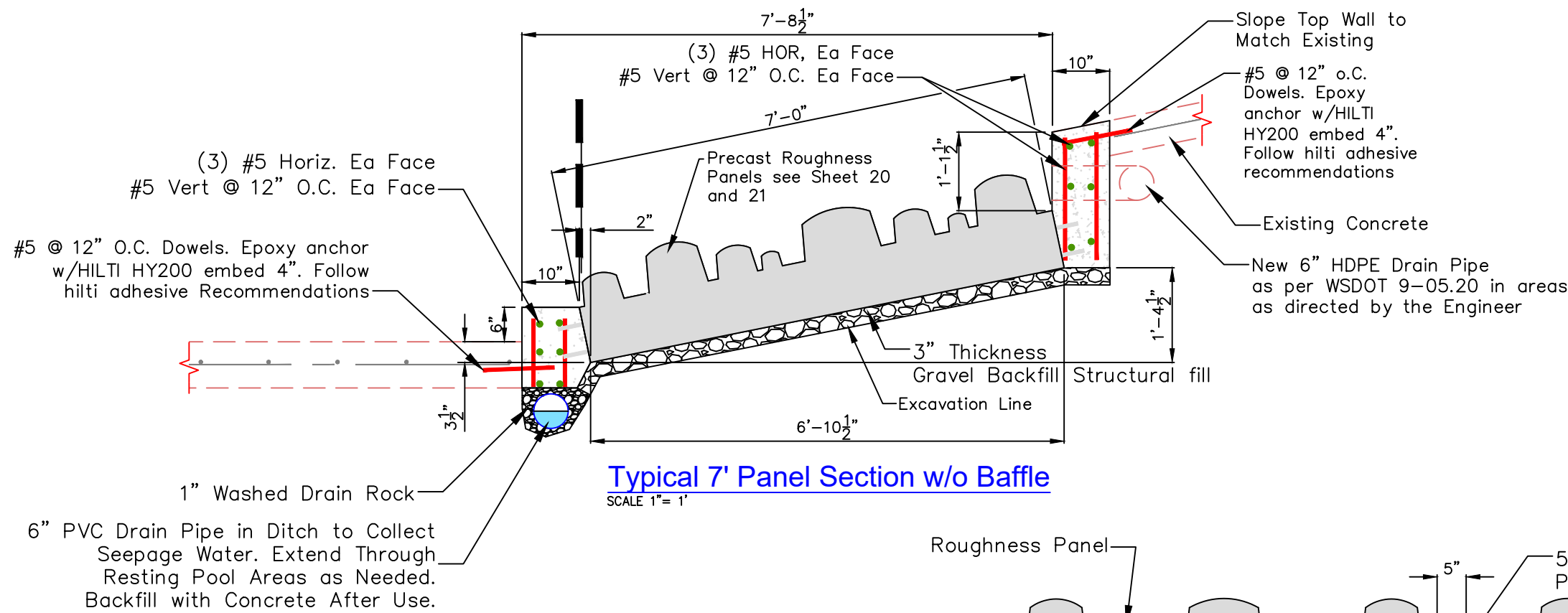
REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION: 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

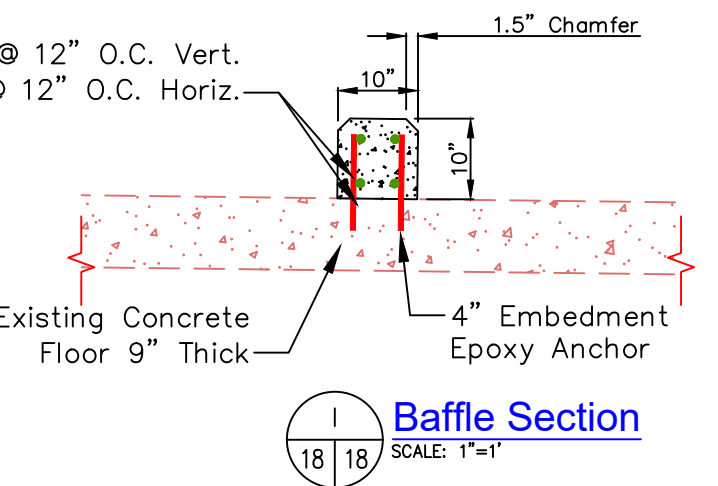
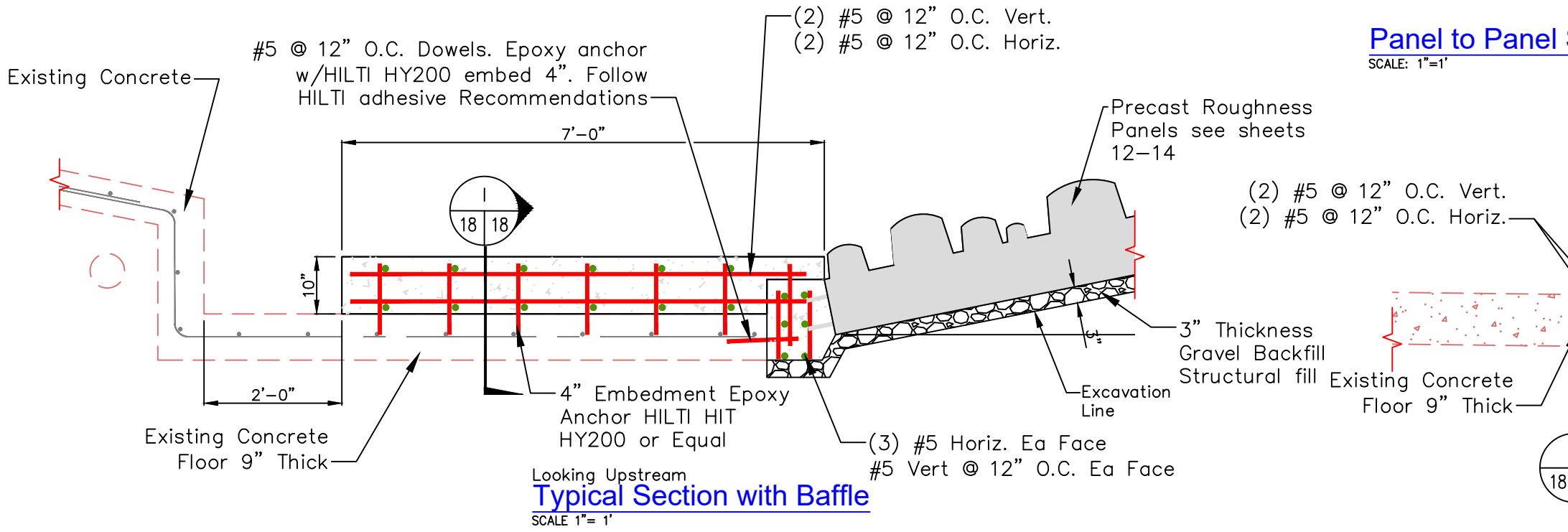
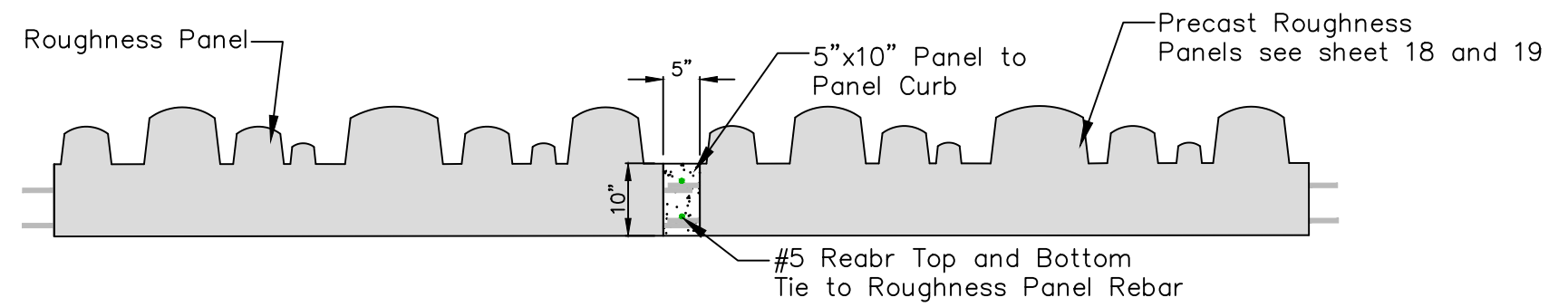
DESIGNED BY:  
WATERFALL ENGINEERING  
CHINOOK ENGINEERING  
DRAWN BY:  
DATE:  
5/30/20

## Resting Pool Details

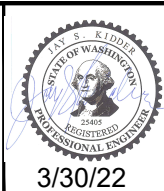




- Note: For All Concrete Work
1. All gravel backfill and new construction backfill shall be compacted as structural fill as per WSDOT 2-03.3(14)C Method C.
  2. All embankment compactions are called out as structural fill.
  3. See specifications for details of material and WSDOT M41-10
  4. Concrete Cover as Follows:  
Ground Contact 3"  
Walls and Curbs 2"
  5. All lap splices shall be Class A. Min 2'-0" for #5 Bar and Class 4000 Concrete.
  6. All Final Dimensions to be Staked in Field by Engineer.



Mill Creek Fish Passage  
Spokane to Park St



REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION

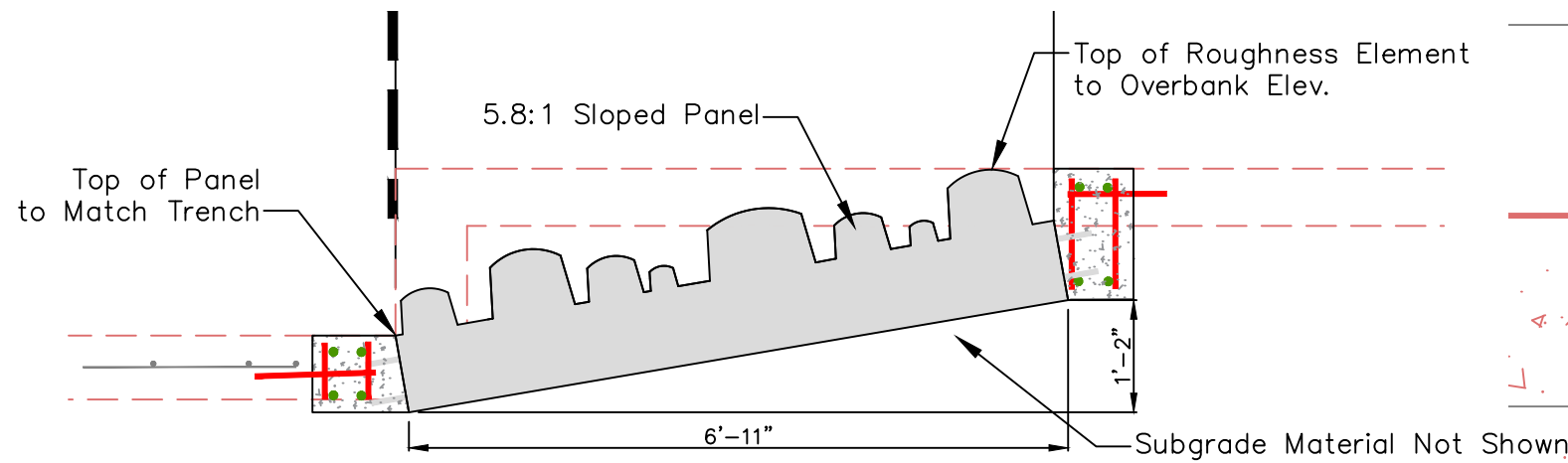
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

0 1"

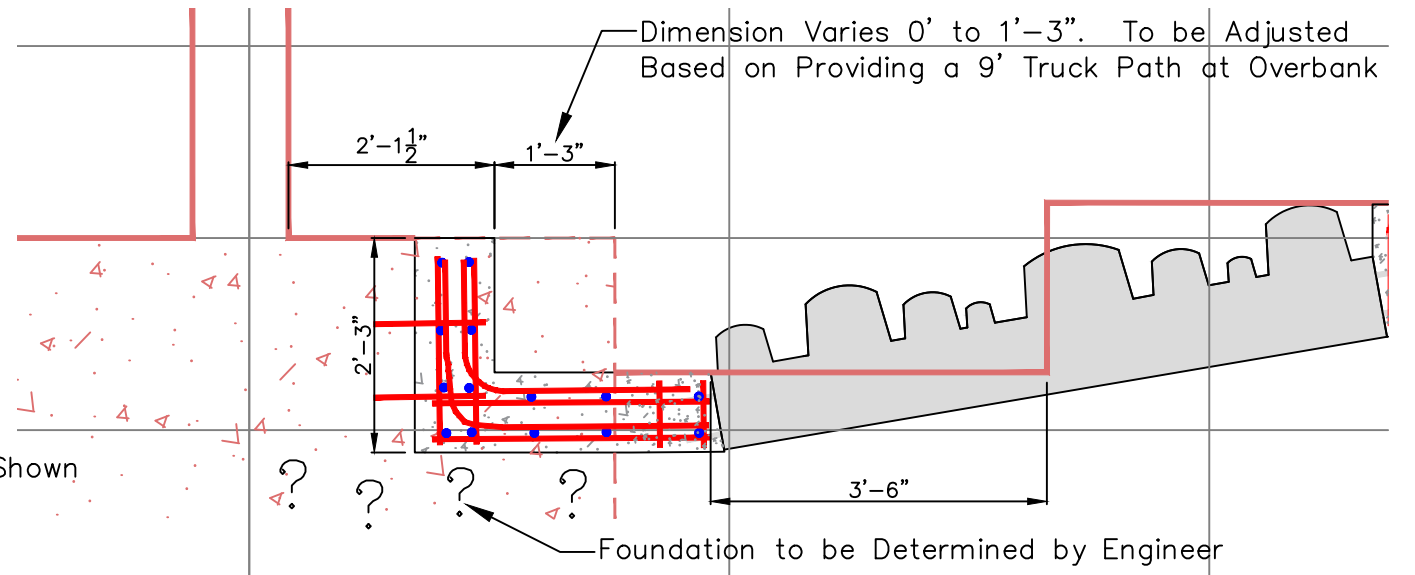
DESIGNED BY:  
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CHINOOK ENGINEERING  
DRAWN BY:  
DATE:  
3/30/22

Roughness Panel  
Baffle Details

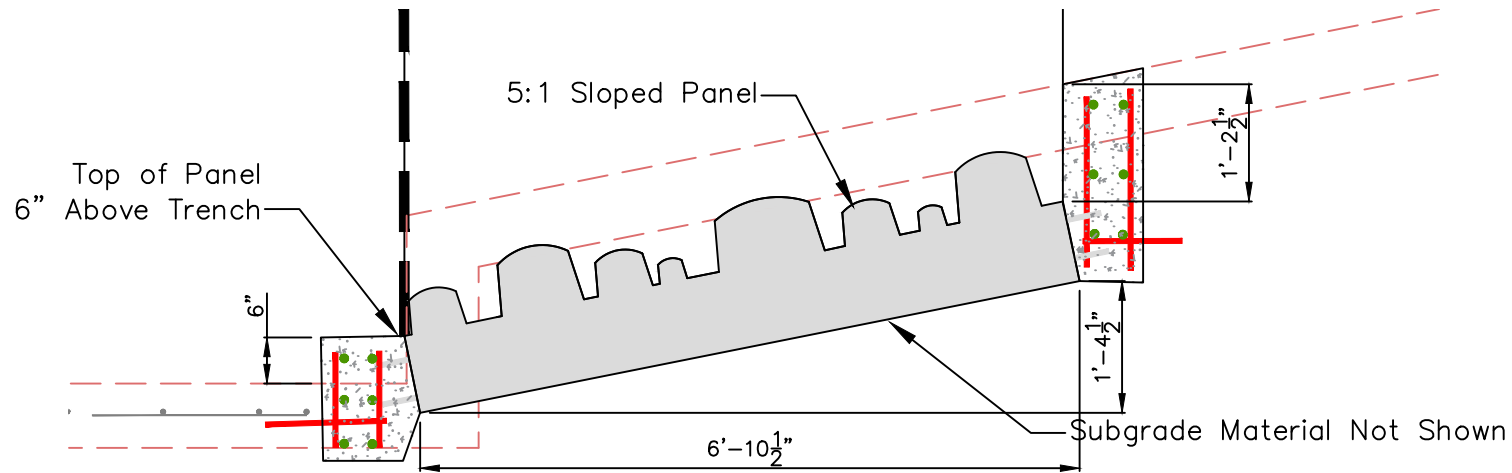




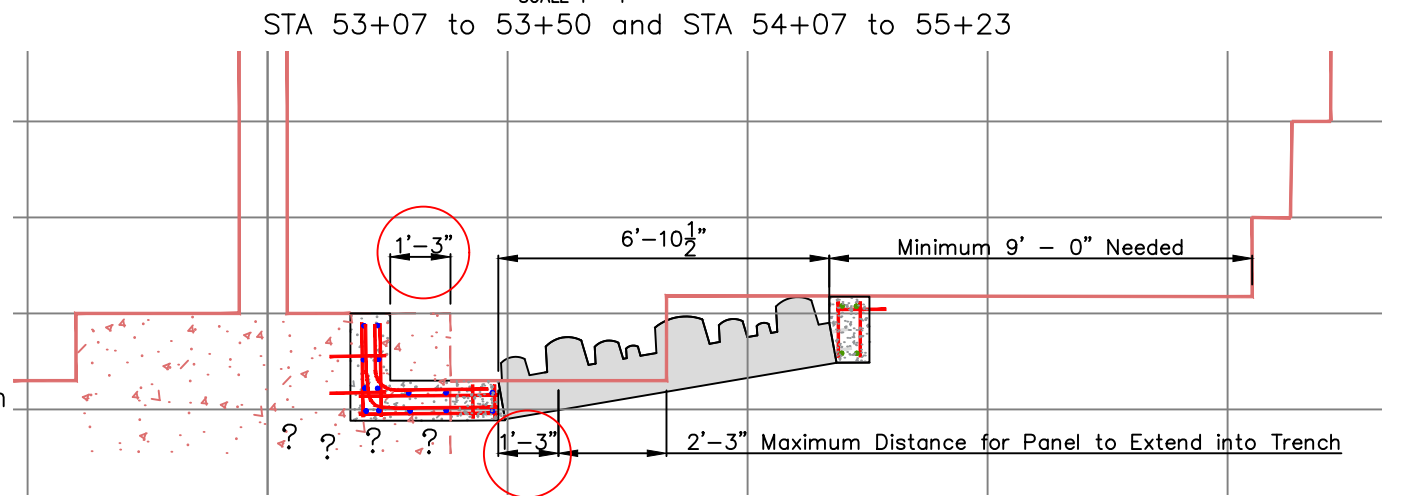
Looking Upstream  
**Typical Section with Flat Overbank**  
 SCALE 1" = 1'



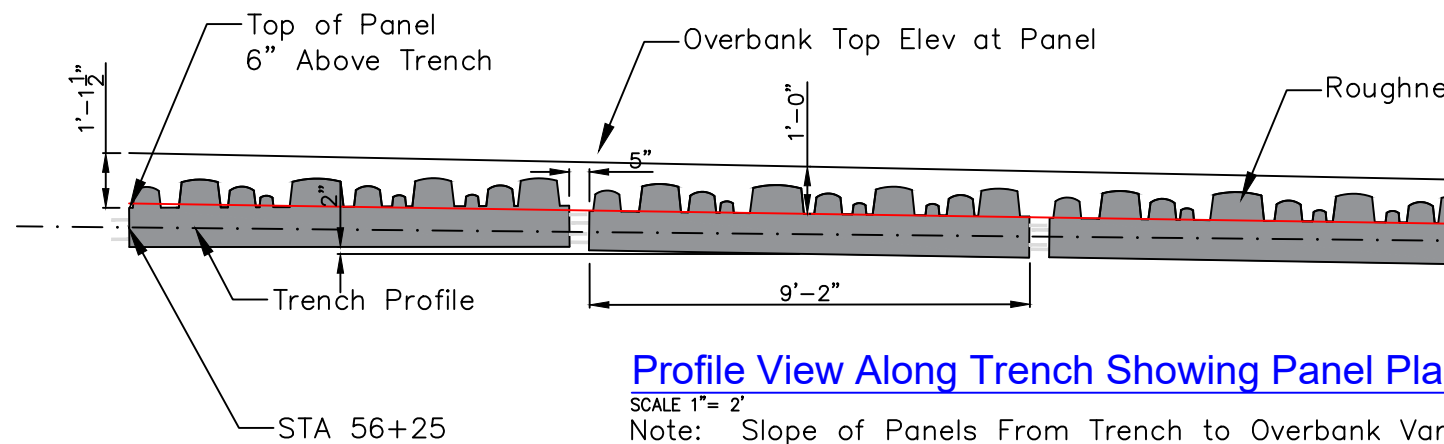
Looking Upstream  
**Footing Modification Detail**  
 SCALE 1" = 1'



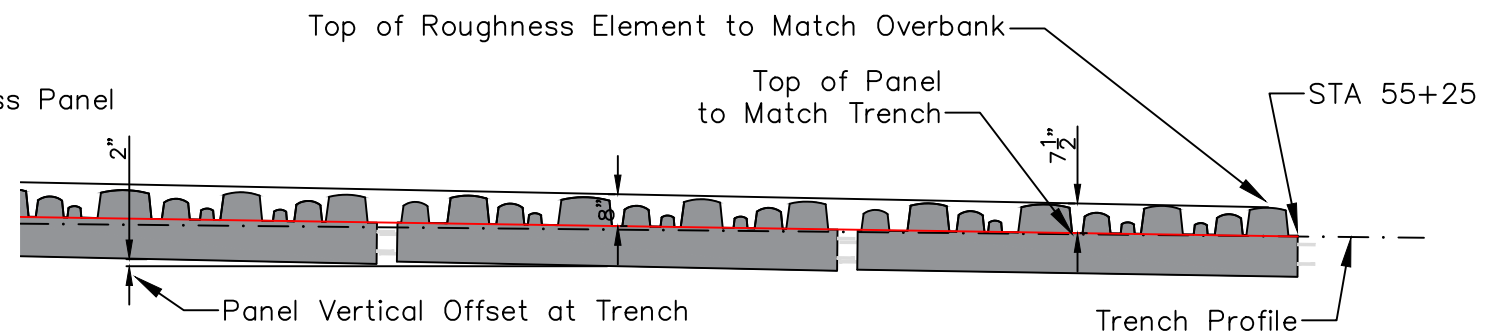
Looking Upstream  
**Typical Section with Sloping Overbank**  
 SCALE 1" = 1'



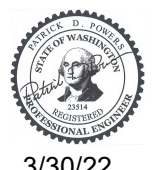
Looking Upstream  
**Footing Modification Detail**  
 SCALE 1" = 2'



**Profile View Along Trench Showing Panel Placement for Transition from Flat to Sloping Overbank**  
 SCALE 1" = 2'  
 Note: Slope of Panels From Trench to Overbank Varies 5.8 to 1 at Flat Overbank to 5 to 1 at Sloping Overbank



Mill Creek Fish Passage  
 Spokane to Park St



REVISIONS				
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SCALE VERIFICATION

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0 1"

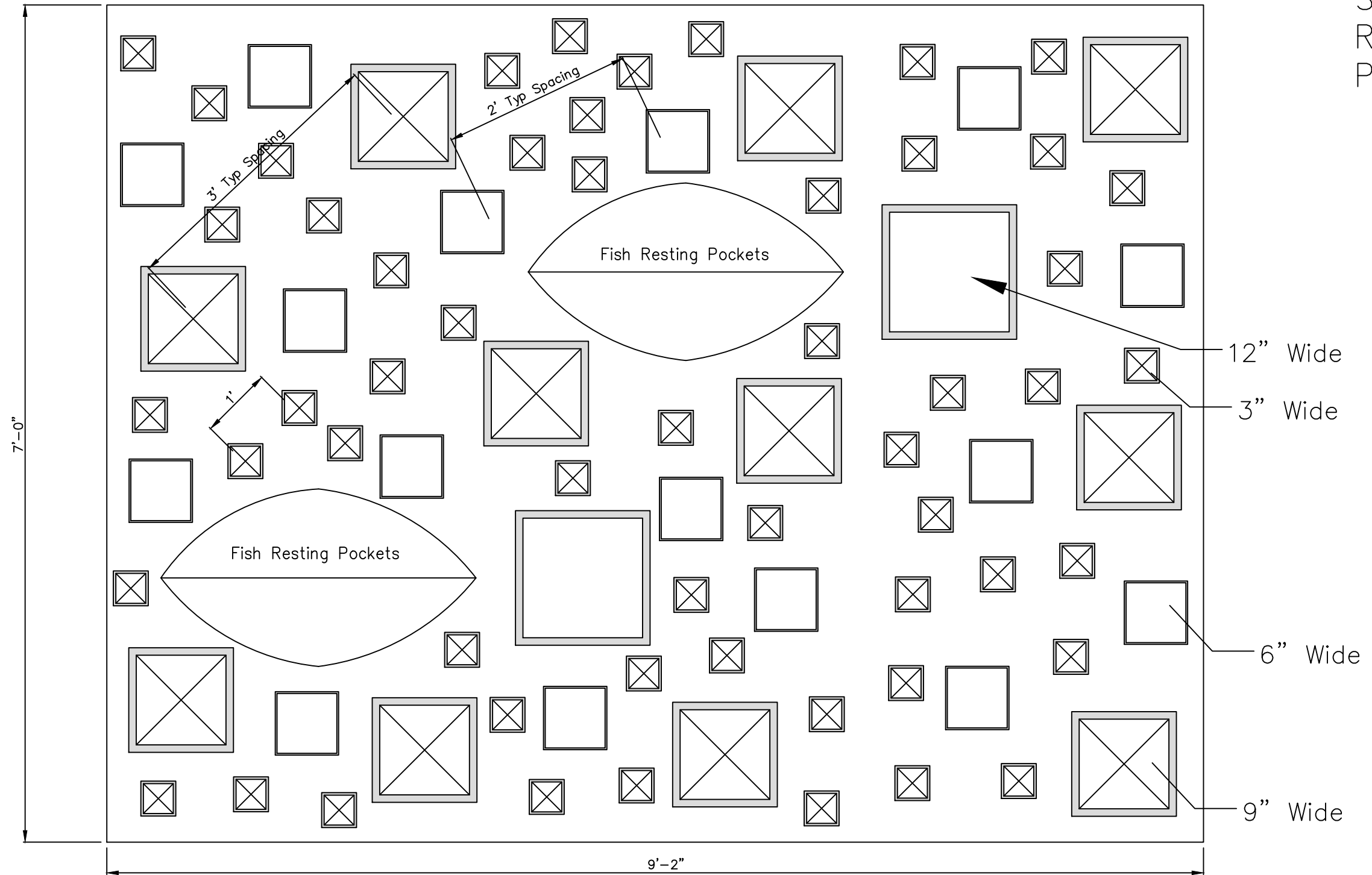
DESIGNED BY:  
 WATERFALL ENGINEERING  
 CHINOOK ENGINEERING  
 DRAWN BY:  
 DATE:  
 3/30/22

**Roughness Panel  
 Layout Details**

← Flow Direction

Trench Side

Sponsor  
Supplied  
Roughness  
Panels



**Roughness Panel Layout**  
Not to Scale



Mill Creek Fish Passage  
Spokane to Park St



3/30/22



3/30/22

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BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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3/30/22

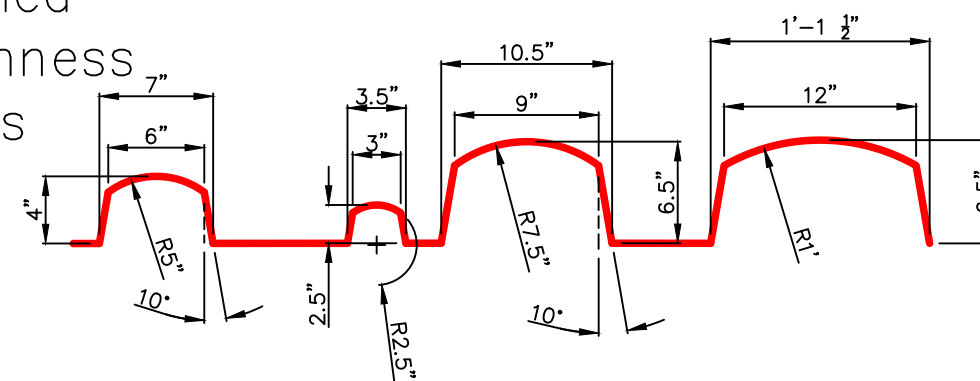
**Roughness Panel Detail**

**20** **24**  
SHEET OF

Construction Notes:

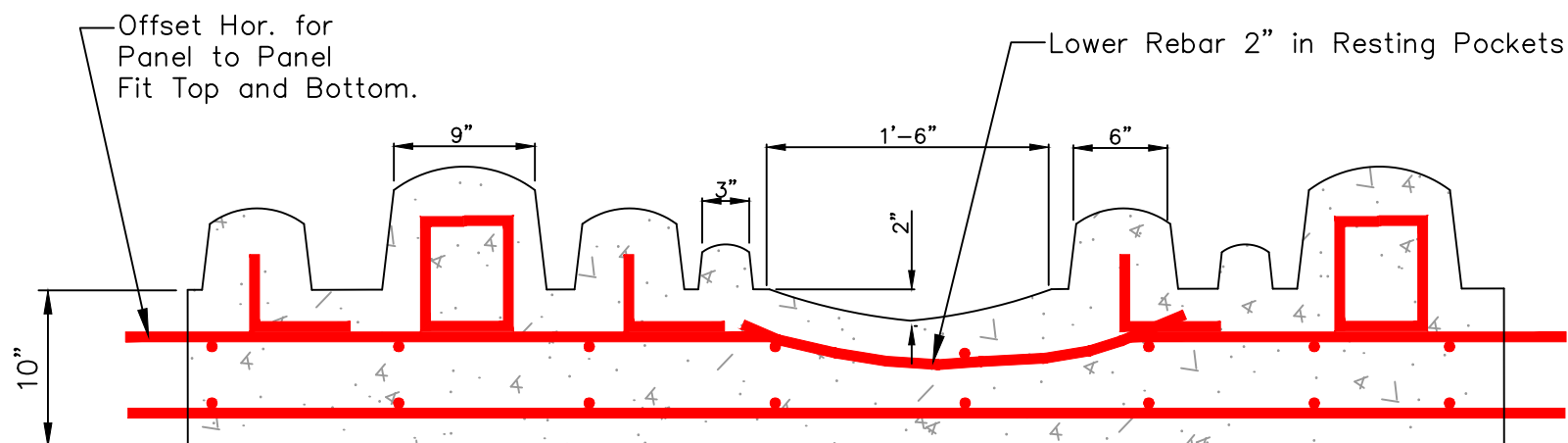
1. Layout of roughness elements shall be similar to plan view sketch. Start with location of 12" largest elements and depressions and then proceed with 9", 6" etc on down at spacing shown. Final layout to be approved by Engineer.
2. The Roughness panels shall be precast concrete panels.
3. Concrete Panels may be Removed From Forms After concrete strength has reach 4500 psi or greater.
4. Precast panels shall be drawn, and described in formal shop drawings approved in writing by the engineer prior to casting.
5. All precast panel shop drawings shall clearly show the weight and dimensions of each panel. lifting systems shall also be called out and specified by the precast plant.
6. Panel maximum length shall not exceed 10' and shorter panels are acceptable. Shop drawings shall identify a configuration in plan view and for each panel length.

Sponsor  
Supplied  
Roughness  
Panels



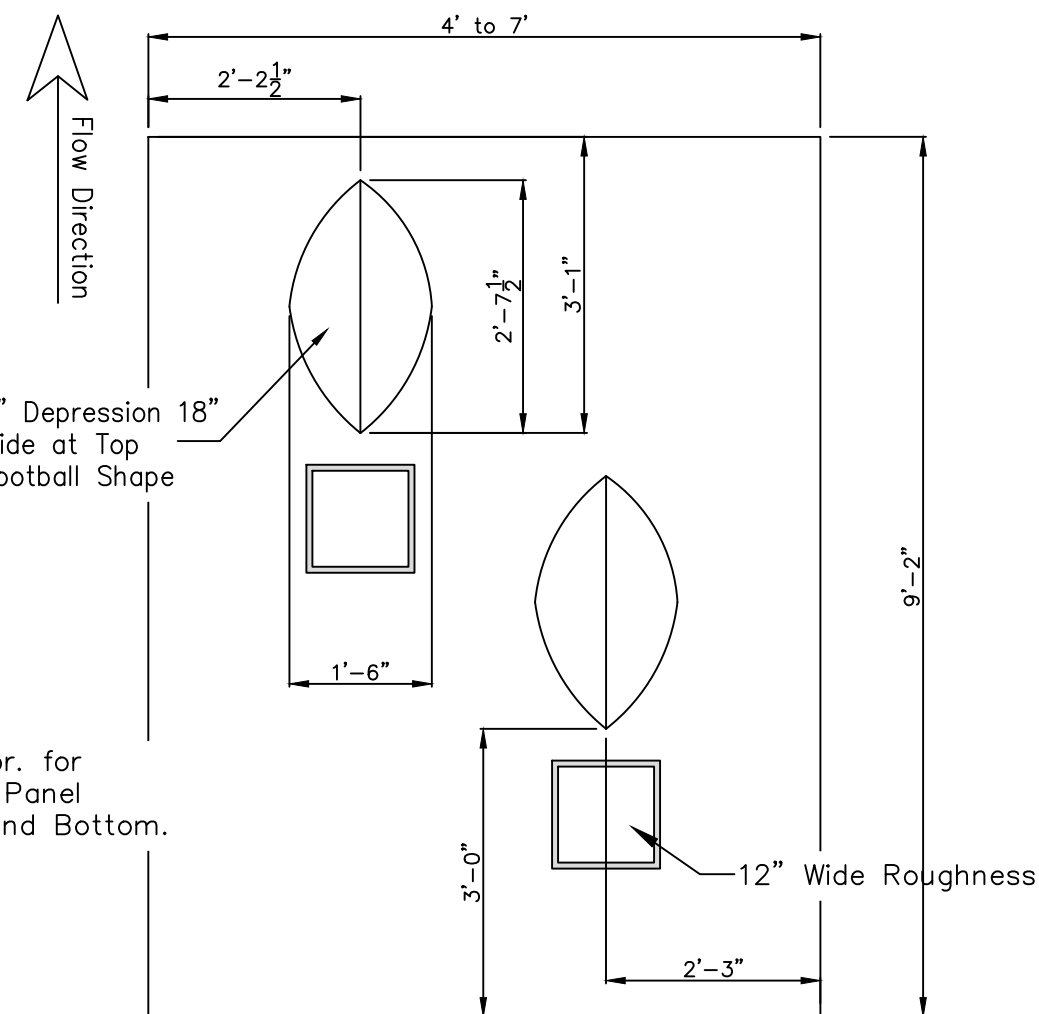
Roughness Detail

Not To Scale



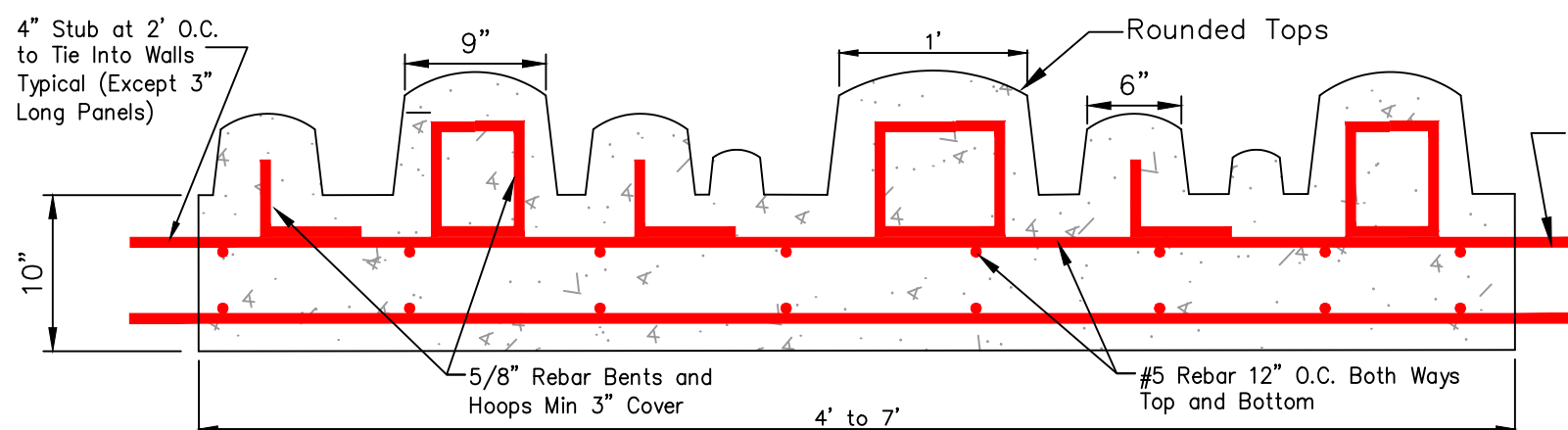
Typical Section Showing 2" Depression

Not To Scale



Roughness Panel Plan - Layout For 12" Roughness

Not to Scale



Typical Section

Not To Scale



Mill Creek Fish Passage  
Spokane to Park St



3/30/22



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**Roughness Panel Details**

**21** **24**  
SHEET OF



#5 @ 12" O.C. bent bar with 12" lap ea reinforcement face or standard hook

#5 @12" O.C. E.W. both sides of wall.

3/4" troweled radius typ

Match existing soil height  
12" Washed Drain Rock

3" clr typ at soil contact

24"x24" lap Bent Bar, Wall to footing

1" Cover From Face

Glued to exist wall PVC water stop at all exist to new wall contacts horiz and vert

Existing wall  
Epoxy dowel 4" embed. 12" lap @ 12" O.C.

Structural fill crushed gravel WSDOT Compaction Method C  
#5 @12" O.C. E.W. top and bot footing

**Section - Replacement Retaining Wall**

SCALE: 1" = 1'

#5 Dowels @ 12" O.C. Epoxy Anchor w/Hilti HY200 or Similar. Embed 4" Typical or Follow Epoxy Manufactureres Recomendation.

#5 Horiz. @ 12" OC Ea. Face  
#5 Vert @ 12" OC Ea Face

(2) #5 Bents 1.5' x 2'

Roughness Panel

Existing Footing

Engineer to Verify Depth of Concrete

Looking Upstream  
**Footing Modification Detail**

SCALE 1" = 1'

(3) #5 HOR, Ea Face  
#5 Vert @ 12" O.C. Ea Face

Slope Top Wall to Match Existing

#5 @ 12" O.C. Dowels. Epoxy anchor. Embed 4". Follow adhesive recommendations

Existing Top of Concrete

Existing Concrete

24"x24" lap Bent Bar, Wall to footing

#5 @ 12" O.C. e.w. Both Sides of Wall.

#5 @ 12" O.C. e.w.

3" Thickness Gravel Backfill Structural fill  
Excavation Line

Existing Concrete  
#5 @ 12" O.C. e.w. 3" Cover.

Ramp Slope Overlap 3"

#5 @ 12" O.C. e.w. 2" Cover.

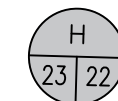
#5 Dowels @ 12" OC Epoxy Anchor

Excavation Line  
3" Cover

3" Thickness Gravel Backfill Structural fill

**Section - Concrete Ramp Detail**

SCALE: 1" = 1'



Looking Upstream  
**Section - Typical**

SCALE: 1" = 1'

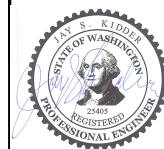
Note: Elevation of Truck Path Needs to Provide a Minimum Vertical Clearance of 7'=0" for Maintenance Vehicles. To be Verified by Engineer.



Mill Creek Fish Passage  
Spokane to Park St



3/30/22



3/30/22

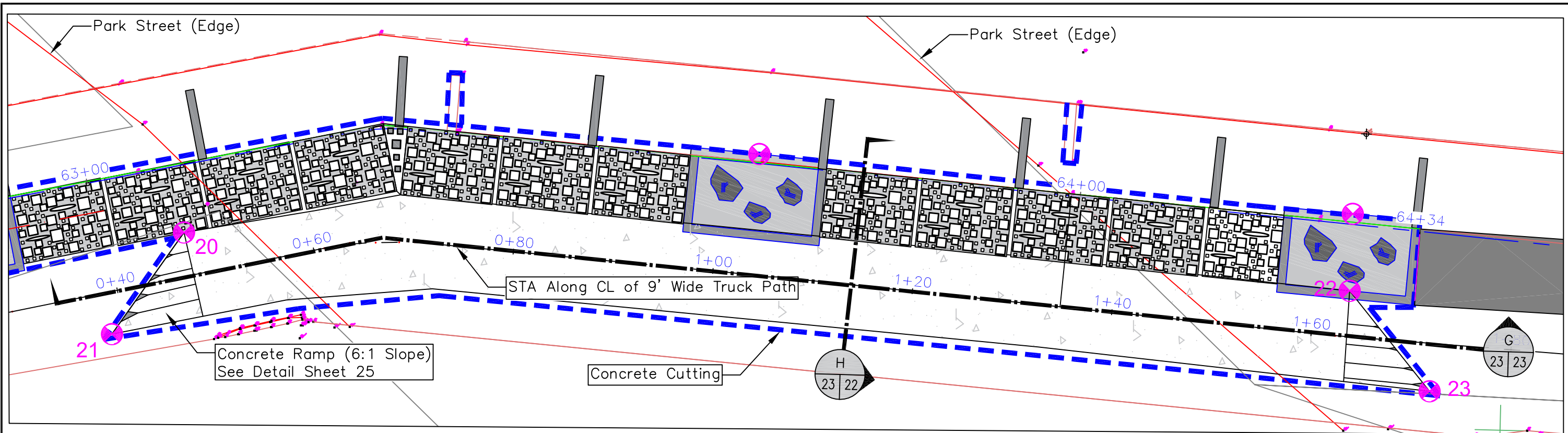
REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

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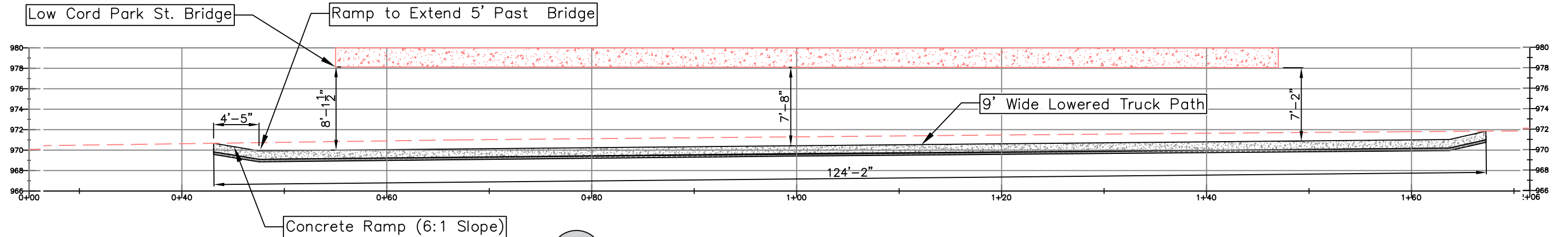
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DATE:  
3/30/22

**Concrete Details**



**Site Plan - Park Street**  
Scale 1" = 5'

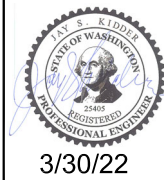
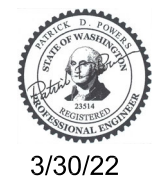


**Profile - Truck Path at Park Street**  
Scale 1" = 5'

Park St. Truck Path				
Pt. No.	North	East	Elev.	Description
20	275621.18	2190764.15	969.70	Top Conc.
21	275618.81	2190751.96	971.60	Top Conc.
22	275536.71	2190844.27	970.90	Top Conc.
23	275523.96	2190843.12	972.80	Top Conc.



**Mill Creek Fish Passage  
Spokane to Park St**



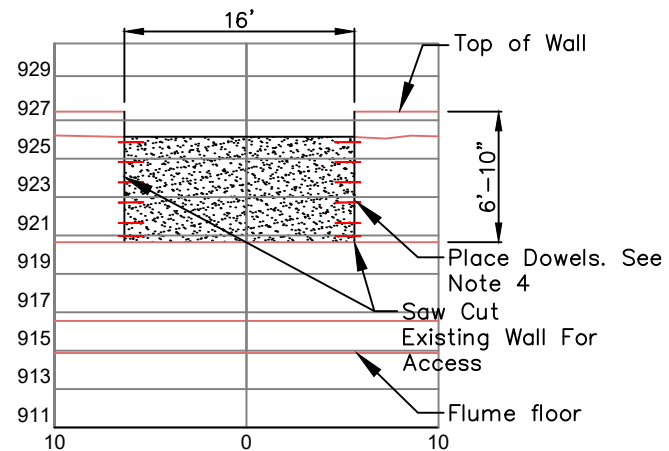
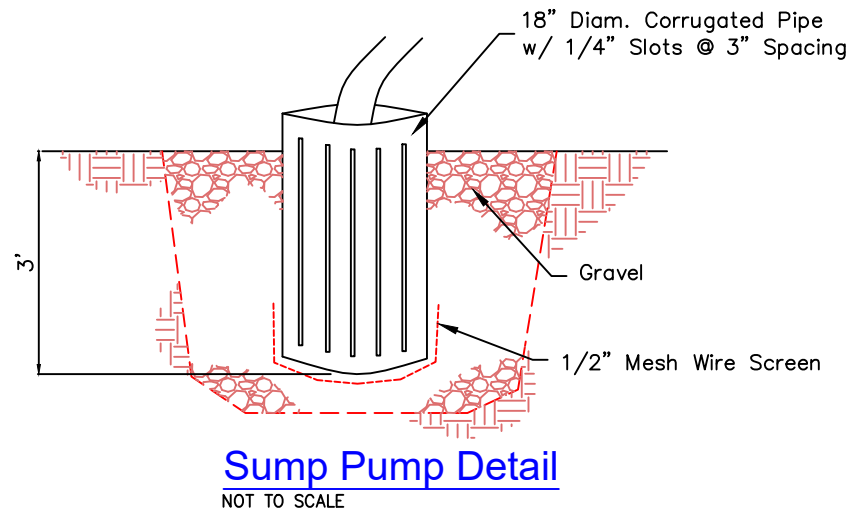
REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

SCALE VERIFICATION: 0 1"

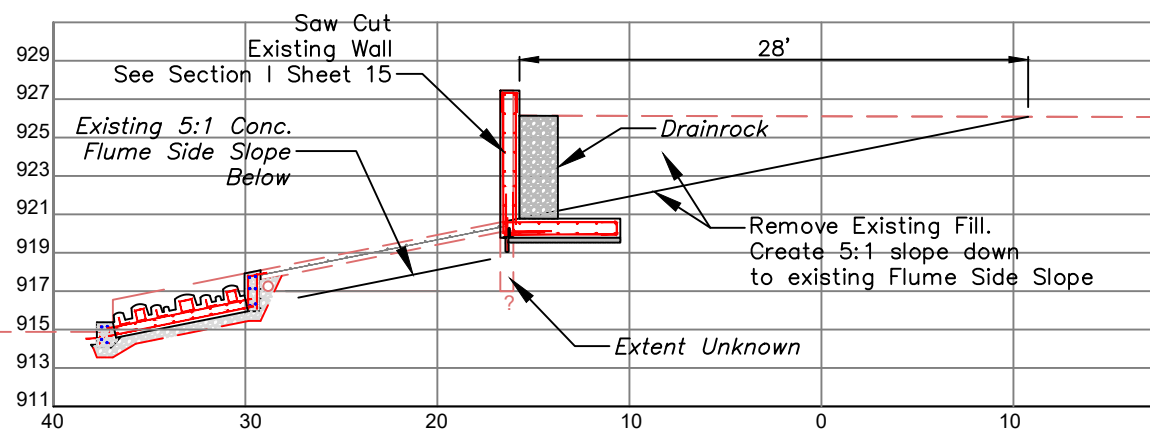
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DESIGNED BY:  
**WATERFALL ENGINEERING**  
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DATE:  
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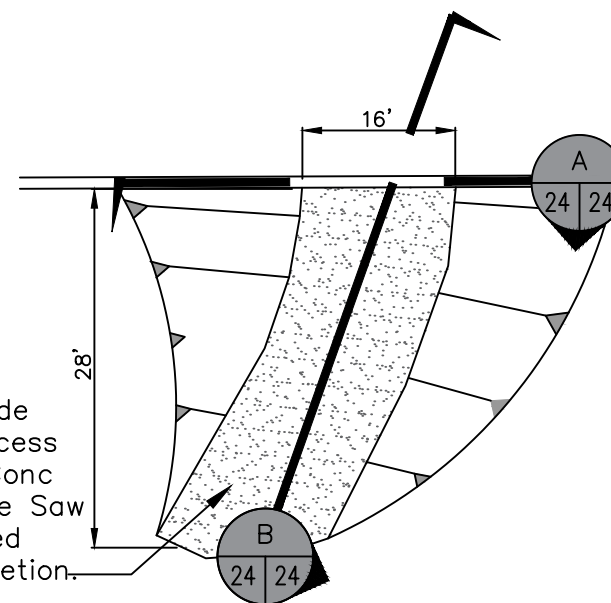
**Plan - Park Street  
Truck Path**



**Access Section**  
SCALE: 1"=5'



**Construction Access Section**  
SCALE: 1"=5'



Typical - Actual layout and location will vary.

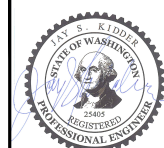
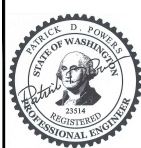
**Construction Access Plan**  
SCALE: 1"= 20'

**Concrete Wall Replacement Notes:**

1. Sawcut Existing Concrete wall. Remove fill from behind for access. When replacing if concrete is competent as determined by engineer, rotary drill and epoxy 4" min embedment #5 rebar to tie into new wall at new rebar locations.
2. No drilling shall be allowed until approved by the engineer.
3. All saw cut concrete edges to new concrete placement contacts shall be coated with concrete bonding agent prior to placement of new concrete.
4. All dowels shall be epoxy anchored rebar with a minimum embedment of 4" into existing concrete wall.
5. All rebar shall be #5 bars.
6. Epoxy Shall be Hilti HIT HY 200 or Simpson SET XP or Equal.
7. Final design of replacement retaining wall will be determined upon inspection of existing wall steel and concrete condition but should follow this detail unless field inspection determines different arrangement.
8. Provide 2' thick layer of free draining 3/4" drain rock on backfilled side full height of retaining wall.
9. All vertical edges shall receive 3/4" chamfer strip and top edges may be hand troweled 3/4" radius.
10. Provide PVC water stop at all exist to new wall contacts



**Mill Creek Fish Passage  
Spokane to Park St**



REVISIONS	
BY	APP'D

SCALE VERIFICATION: 0 1"

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**WATERFALL ENGINEERING**  
CHINOOK ENGINEERING  
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DATE:  
3/30/22

**Construction Access  
Details**