



Leak Test Approval from State Engineer for Slurry Wall at West Farm Pit

JC York <jcyork@j-tconsulting.com>

Mon, Jun 25, 2018 at 1:10 PM

To: Amy Eschberger - DNR <amy.eschberger@state.co.us>

Cc: todd@cacompanies.com, Karl@cacompanies.com, Ron@powersag.com

Amy –

Attached are the slurry wall drawings. Let me know if you need anything else.

Regards,

J.C.

J.C. York, P.E.

J&T Consulting, Inc.

305 Denver Avenue, Suite D

Fort Lupton, CO 80621

Office: (303) 857-6222

Mobile: (970) 222-9530

FAX: (303) 857-6224

From: Amy Eschberger - DNR [mailto:amy.eschberger@state.co.us]

Sent: Friday, June 22, 2018 3:45 PM

To: JC York

Cc: todd@cacompanies.com; Karl@cacompanies.com; Ron@powersag.com

Subject: Re: Leak Test Approval from State Engineer for Slurry Wall at West Farm Pit

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JT-West Farm PH 2 Slurry Wall CDs IFC 4.13.16.pdf
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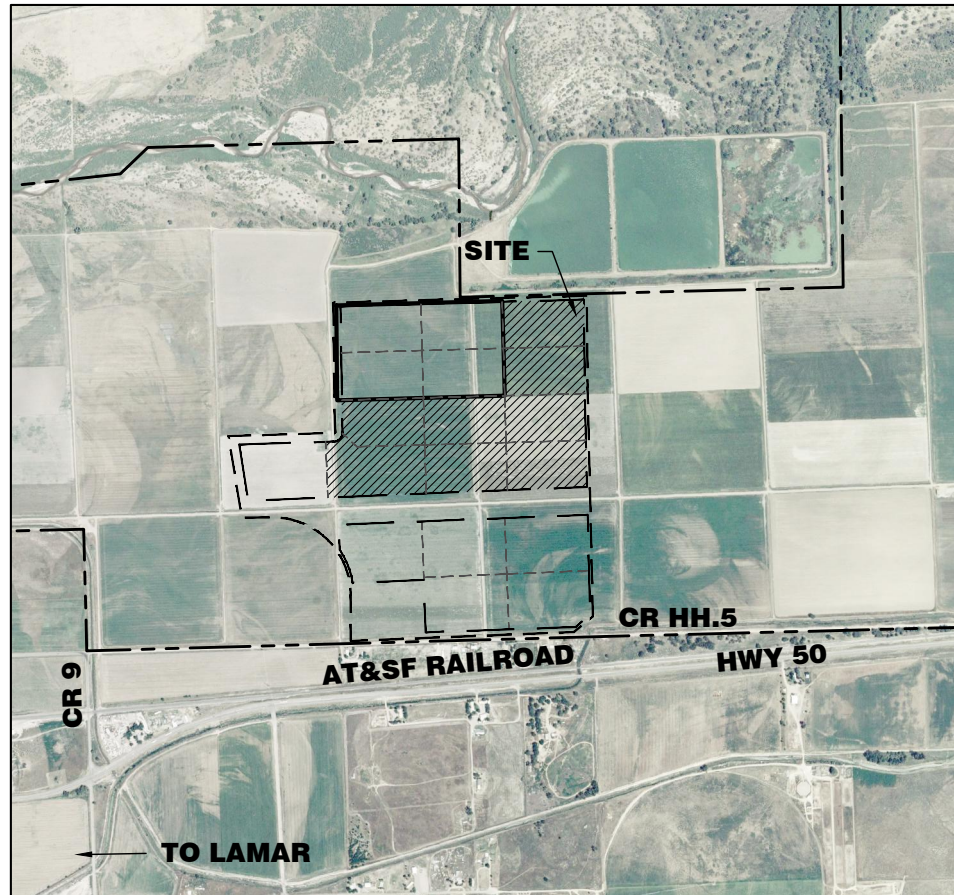
ISSUED FOR CONSTRUCTION

GENERAL NOTES:

1. THESE CONSTRUCTION PLANS ARE TO BE USED IN CONJUNCTION WITH THE TECHNICAL SPECIFICATIONS PREPARED BY J&T CONSULTING, INC., AND GEOTECHNICAL INVESTIGATION AND ENGINEERING DESIGN RECOMMENDATIONS PREPARED BY CESARE, INC.
2. COMPLY WITH ALL REQUIREMENTS OF OWNER OBTAINED PROJECT PERMITS: INCLUDING, BUT NOT LIMITED TO, PERMITS FROM THE U.S. ARMY CORPS OF ENGINEERS AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT. CONTRACTOR SHALL OBTAIN ALL OTHER PERMITS NECESSARY FOR CONSTRUCTION OF THE WORK.
3. PROTECT ALL EXISTING WETLANDS.
4. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES DURING CONSTRUCTION.
5. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE STATE OF COLORADO PERMITTING PROCESS FOR "STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY." FOR INFORMATION, PLEASE CONTACT THE COLORADO DEPARTMENT OF HEALTH, WATER QUALITY CONTROL DIVISION, 4300 CHERRY DRIVE SOUTH, DENVER, COLORADO 80246-1530. ATTENTION: PERMITS SECTION. PHONE 303-692-3500.
6. IF DEWATERING IS REQUIRED, A STATE CONSTRUCTION DEWATERING DISCHARGE PERMIT IS REQUIRED FOR DISCHARGES TO A STORM SEWER, CHANNEL, IRRIGATION DITCH, ANY STREET THAT IS TRIBUTARY TO THE AFOREMENTIONED FACILITIES, OR ANY WATER OF THE UNITED STATES.
7. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ALL UTILITIES TO COORDINATE SCHEDULES.
8. THE CONTRACTOR SHALL REGULARLY PATROL THE PUBLIC LANDS ADJACENT TO THE PROJECT, REMOVE CONSTRUCTION DEBRIS AND KEEP AREAS CLEAN AND SAFE.
9. THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND IMPLEMENTING A SEQUENCE AND SCHEDULE FOR COMPLETION OF THE WORK IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE CONTRACT DOCUMENTS.
10. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS RELATED WORK PRIOR TO CONSTRUCTION.
11. VERIFY SITE ELEVATIONS PRIOR TO CONSTRUCTION.
12. THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES AND FEES INCLUDING, BUT NOT LIMITED TO, ALL INSPECTION CHARGES OF AGENCIES HAVING APPROPRIATE JURISDICTION.
13. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ENTIRE PROJECT, AS SPECIFIED, UPON FINAL COMPLETION OF PROJECT.

SEDIMENT AND EROSION CONTROL:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT AND EROSION CONTROL AT THE SITE THROUGHOUT CONSTRUCTION.
2. BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE USED AS NECESSARY TO ADDRESS SEDIMENT AND DUST FROM SITE DISTURBANCE. ADDITIONAL MEASURES MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
3. BMP'S MAY INCLUDE, BUT ARE NOT LIMITED TO:
 - MINIMAL DISTURBANCE FOR MINIMAL TIME PERIODS
 - GRAVEL CONSTRUCTION ENTRIES
 - SILT FENCE, STRAW BALE OR SAND BAG BARRIERS, ROCK CHECK DAMS
 - STORM SEWER INLET PROTECTION
 - SEDIMENT CAPTURE PONDS
 - SITE WATERING FOR DUST SUPPRESSION
4. BMP'S SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL INSPECT BMP'S WEEKLY AND AFTER SIGNIFICANT (GREATER THAN 0.1" PRECIPITATION) STORM EVENTS. THE MAINTENANCE AND REPAIR SHALL BE COMPLETED IN A TIMELY MANNER. SEDIMENT AND DEBRIS SHALL BE REMOVED WHEN THEY REACH HALF THE BMP HEIGHT OR IMPACT THE FUNCTION OF THE BMP.
5. SOIL STOCKPILES SHALL BE PROTECTED FROM SEDIMENT TRANSPORT BY SURFACE ROUGHENING, WATERING AND PERIMETER SILT FENCING. SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE MULCHED AND SEEDED WITH A GRASS COVER WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION.
6. THE CONTRACTOR SHALL INSURE THAT ALL LOADS OF CUT AND FILL SOILS IMPORTED TO OR EXPORTED FROM THE SITE ARE PROPERLY LOADED AND COVERED TO PREVENT LOSS DURING TRANSPORT.
7. THE CONTRACTOR SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS RESULTING FROM THIS PROJECT FROM FLOWLINES AND PAVEMENT OF PUBLIC STREETS IN A TIMELY MANNER.
8. SOILS EXPOSED DURING LAND DISTURBING ACTIVITY SHALL BE KEPT IN A ROUGHENED CONDITION BY RIPPING OR DISCING ALONG LAND CONTOURS UNTIL MULCH, VEGETATION OR OTHER PERMANENT EROSION CONTROL IS IN PLACE. NO SOILS SHALL REMAIN EXPOSED BY LAND DISTURBING ACTIVITY FOR MORE THAN THIRTY (30) DAYS BEFORE REQUIRED TEMPORARY OR PERMANENT EROSION CONTROL IS INSTALLED UNLESS OTHERWISE APPROVED.
9. ALL TEMPORARY SEDIMENT CONTROLS WILL BE REMOVED WITHIN 30 DAYS AFTER THE FINAL STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, WHICHEVER OCCURS FIRST.
10. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHENEVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.



1000 500 0 1000

SCALE IN FEET

VICINITY MAP

SCALE 1" = 1000

**OWNER**

GP Aggregates, LLC
Karl Nyquist
7991 Shaffer Parkway, Ste. 200
Littleton, CO 80127
303-369-5100

ENGINEER

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Fax: 303-857-6224

SURVEYOR

American West Land Surveying Co.
331 South 4th Avenue
P.O. Box 129
Brighton, CO 80601
303-659-1532

GEOTECHNICAL/SOIL INVESTIGATIONS

Cesare, Inc.
7108 S Alton Way, Bldg. B
Centennial, CO 80112
303-220-0300

SHEET INDEX

- | | |
|------------|--|
| 1 | Cover Sheet |
| 2 | Geotechnical Information |
| 3 | Site, Reservoir Grading, & Boring Location Plan |
| 4 | Slurry Wall Horizontal & Vertical Control |
| 5-9 | Slurry Wall Plan and Profiles |

LEGEND:

	PROPERTY LINE
	SECTION LINE
	FENCE LINE
	OVERHEAD ELECTRIC LINES
	UNDERGROUND TELECOM LINE
	UNDERGROUND GAS LINE
	EXISTING SANITARY FORCE MAIN
	MINING LIMIT
	DIRT ROAD
	EXISTING WATER/DITCH
	EXISTING CONTOURS
	PROPOSED CONTOURS
	FUTURE HIGHWAY REALIGNMENT PARCEL
	PERMIT BOUNDARY
	ELECTRIC RISER BOX
	GUY WIRE
	POWER POLE
	WATER PUMP
	PHASE LIMITS
	BORING LOCATION

Engineer's Certification

I hereby certify that these plans for the construction of the West Farm Pit Phase 2 Slurry Wall were prepared by me or under my direct supervision for GP Aggregates, LLC.

James C. York, P.E.
Colorado Registration No. 36846



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Phase 2 Slurry Wall

Cover Sheet

GP Aggregates, LLC

West Farm Pit

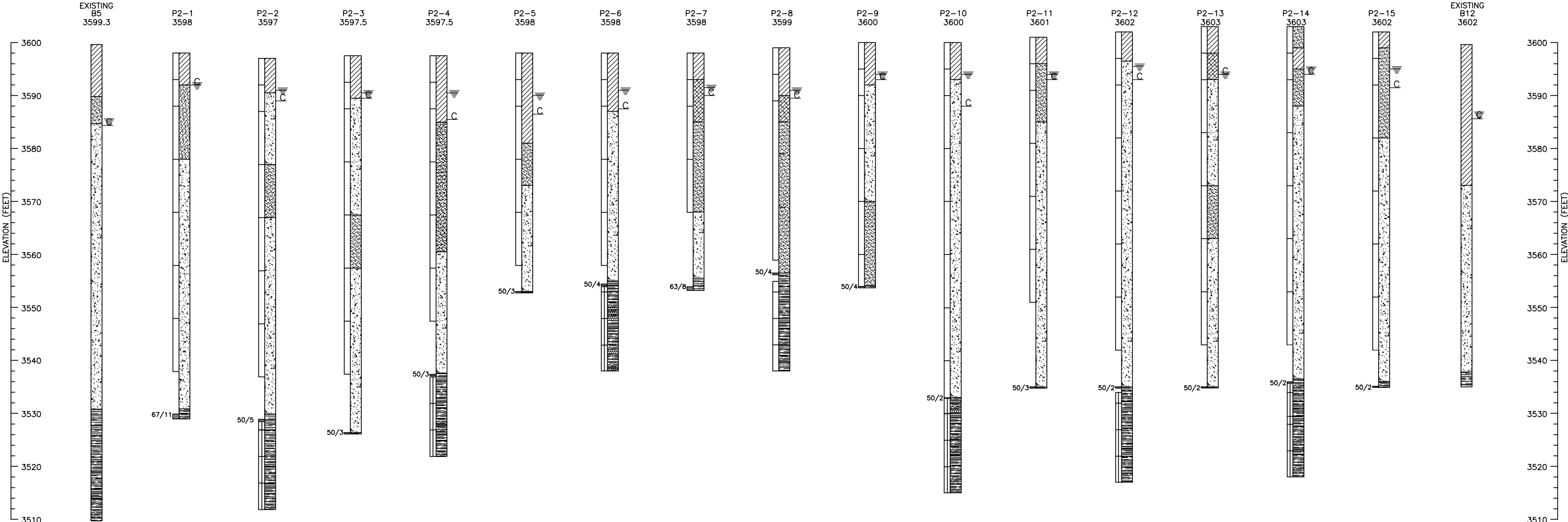
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Job #	15120
Date	2/19/16
Drawn By	WSS
Designed By	TPY
Checked By	JCY
File	JT-Cover sheet
Scale	As Shown

Sheet: Of:

19

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SYMBOL	DESCRIPTION
<u>Strata symbols</u>	

	CLAY, sandy to silty, lean to fat, soft to very stiff, moist to very moist, light to dark brown (CL, CH, A-7-6)
	SAND clean to with silt, no to some gravel, poorly to well graded, medium to dense, moist to wet (SP, SW, SP-SM, SW-SM, A-1-a, A-1-b)
	SAND, with gravel to gravelly, clean to with silt, some clay, occasional cobbles, well to poorly graded, medium dense to dense, wet, light brown (SP-SM, SW, SP, A-1-a)
	SAND, clayey to silty/clayey, medium dense, slightly moist to wet, poorly graded, light to dark brown (SC, SC-SM, A-2-4)
	SHALE, sandy in lenses, soft to hard, moderate weathered at contact to fresh depth, slightly moist, thinly to thickly bedded, slightly to moderate fractured, sub blocky to sub platy to fissile, abundant fossil fragments, whole shell laminations, occasional bentonite seams and limestone stringers, dark to light gray to gray brown where weathered.
	Water table during drilling
	Depth to caving

Soil Samples

-  Bulk Sample
-  Modified California Sample
-  Rock Core

NOTES:

1. 67/11 INDICATES 67 BLOWS WITH A 140-POUND HAMMER FALLING 30 INCHES WERE REQUIRED TO DRIVE A MODIFIED CALIFORNIA BARREL SAMPLER 11 INCHES.
2. EXPLORATORY BORING 1 THROUGH 15 WERE DRILLED NOVEMBER 16-24, AND NOVEMBER 30-DECEMBER 2, 2015, USING A CME 550 X DRILL RIG EQUIPPED WITH 3-INCH DIAMETER CONTINUOUS-FLOUGH SOLID-STEM AUGER, 4-1/2 INCH ID HOLLOW-STEM AUGER AND NQ WIRELINE CORING EQUIPMENT.
3. RELATIVE ELEVATIONS OF ALL BORINGS WERE DETERMINED BY INTERPOLING FROM TOPOGRAPHIC CONTOURS ON THE BORING LOCATION PLAN PROVIDED BY J&T, CONSULTING, INC.
4. GROUNDWATER WAS ENCOUNTERED AT DEPTHS OF 6 TO 9 FEET BELOW GROUND SURFACE I ALL BORINGS DURING DRILLING. FOR SAFETY PURPOSES, BORINGS WERE BACKFILLED AT THE COMPLETION OF DRILLING EACH BORING SO NO FURTHER WATER LEVEL MEASUREMENTS WERE MADE.
5. CONTACTS BETWEEN SOIL UNITS ARE APPROXIMATE AND MAY BE GRADATIONAL.
6. BENTONITE SEAMS AND LIMESTONE STRINGERS WERE ENCOUNTERED IN ALL ROCK CORES. BENTONITE SEAMS AND LIMESTONE STRINGERS GREATER THAN 3.5 INCHES ARE DIFFERENTIATED IN THE GRAPHIC LOGS. ALL OTHERS ARE UNDIFFERENTIATED.
7. THESE LOGS ARE SUBJECT TO THE LIMITATIONS, CONCLUSIONS, AND RECOMMENDATIONS IN THIS REPORT. PROJECT NO. 15.210.

NOTES:

1. EXPLORATORY BORINGS WERE DRILLED IN NOVEMBER AND DECEMBER, 2015.
2. BORING LOCATIONS WERE SURVEYED BY OTHERS PRIOR TO DRILLING.
3. THESE LOGS ARE SUBJECT TO LIMITATIONS, CONCLUSIONS, AND RECOMMENDATIONS IN THE GEOTECHNICAL REPORT BY CESARE, INC. DATED FEBRUARY 2, 2016.

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Job #	15120
Date	2/19/16
Drawn By	WSS
Designed By	TPY
Checked By	JCY
File	JT-Slurry Geo
Scale	N.T.S.

Sheet: **2** Of: **9**



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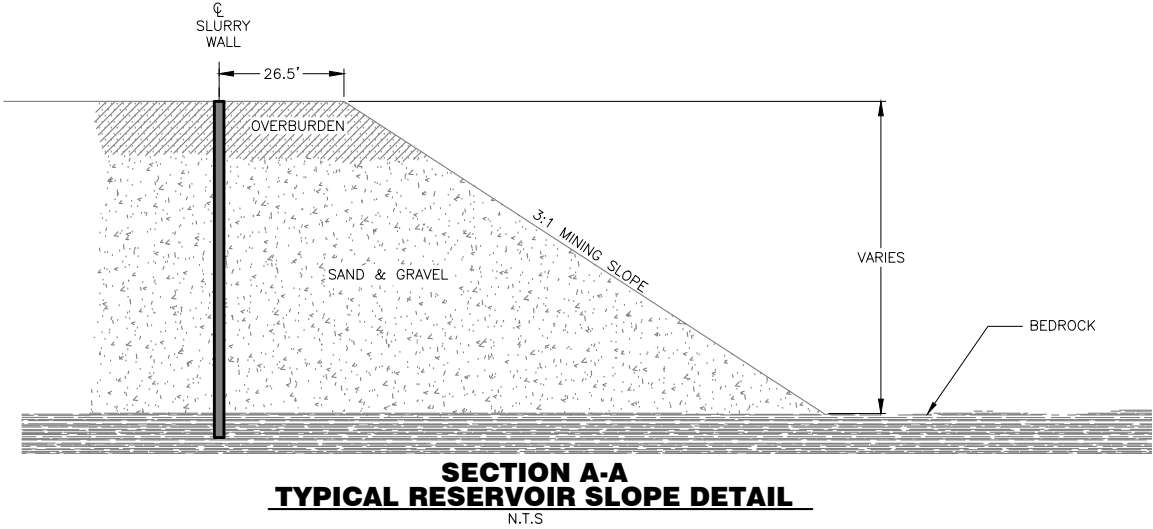
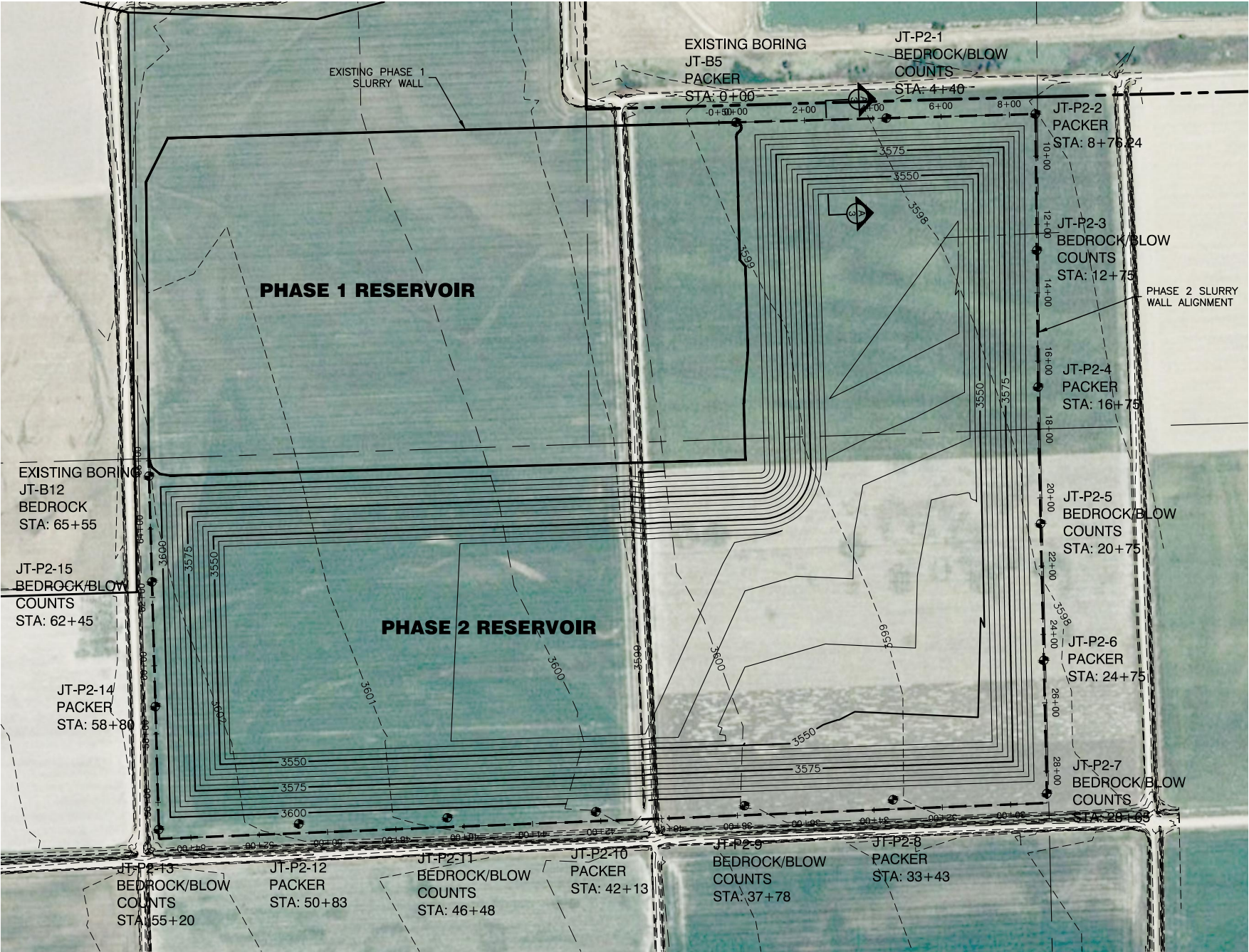
Phase 2 Slurry Wall

Geotechnical Information

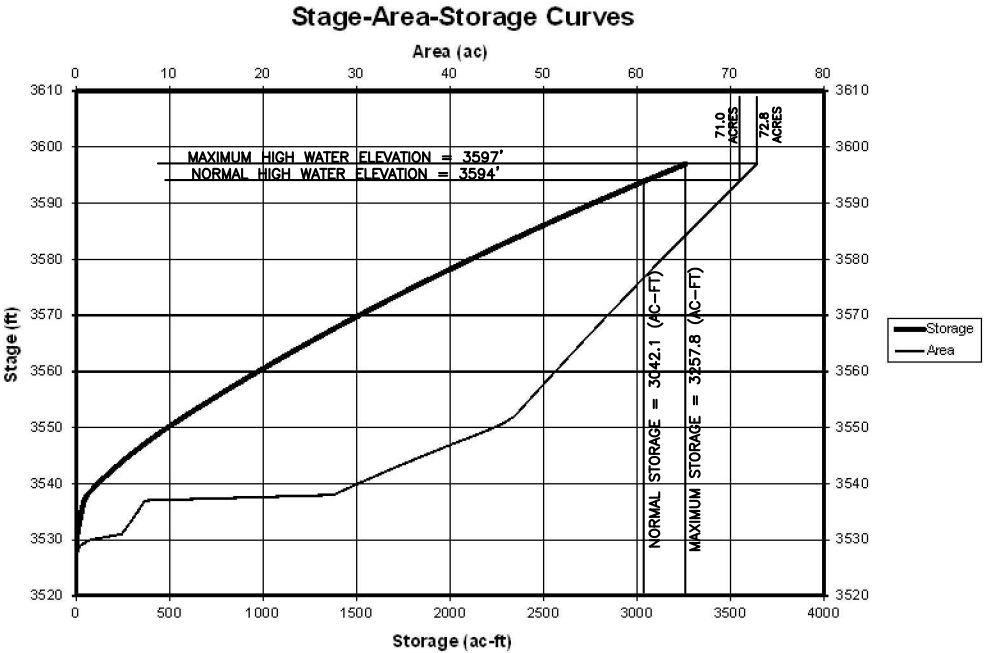
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West Farm Pit

P:\15120 GP Aggregates Phase 2 Slurry Wall\Drawings\Plan Sheets\03-JT-Phase 2 Boring and Grading.dwg, Layout1, 4/13/2016 1:22:48 PM



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Phase 2 Slurry Wall

Site Reservoir Grading &
Boring Location Plan

GP Aggregates, LLC

West Farm Pit

REVISIONS		Description
No.	Date	By
1	4.13.16	WSS
2		JCY
3		JCY
4		JCY
5		JCY
6		JCY
7		JCY
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9		JCY
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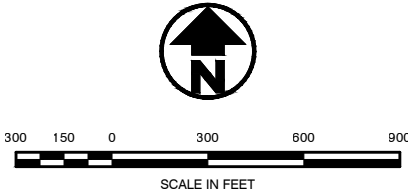
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Date 2.19.16
Drawn By WSS
Designed By TPY
Checked By JCY
File JT-GP Boring 2015
Scale 1" = 200'

Sheet: 3 of 9



HORIZONTAL & VERTICAL CONTROL

POINT	NORTH	EAST	ELEVATION	DESCRIPTION
20	1533183.32	3840648.67	3603.43	AWCP1
21	1535976.59	3839698.00	3600.10	15ALPROPCOR
22	1533775.50	3838388.29	3603.78	PITCON100
28898	1533491.51	3835801.07	3607.34	PINREDMELT
28901	1532536.60	3841355.74	3603.15	SPIN
28902	1531012.15	3836181.62	3608.64	NGSBMW439
28903	1532189.75	3842408.74	3598.59	NGSBMW439
28904	1535991.32	3840169.18	3598.68	AMCP2



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Phase 2 Slurry Wall

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REVISIONS				Description
No	Date	By	Chk	Issued for Construction
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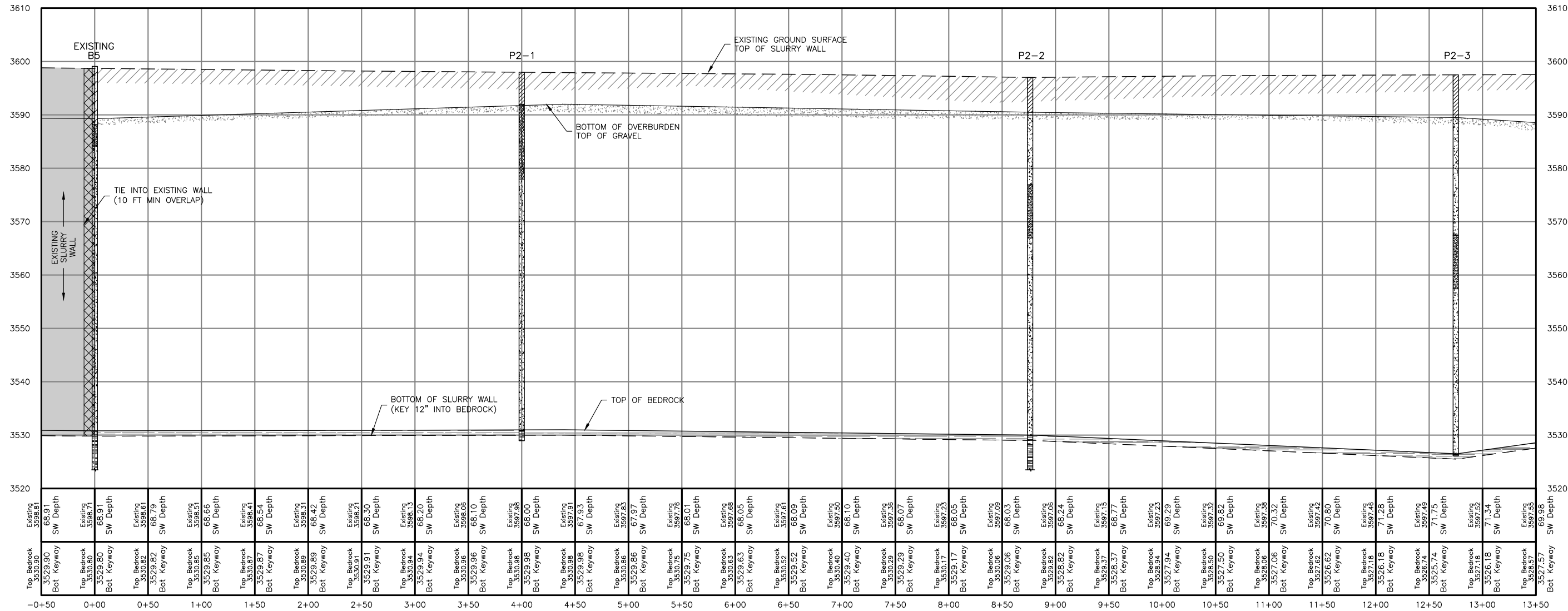
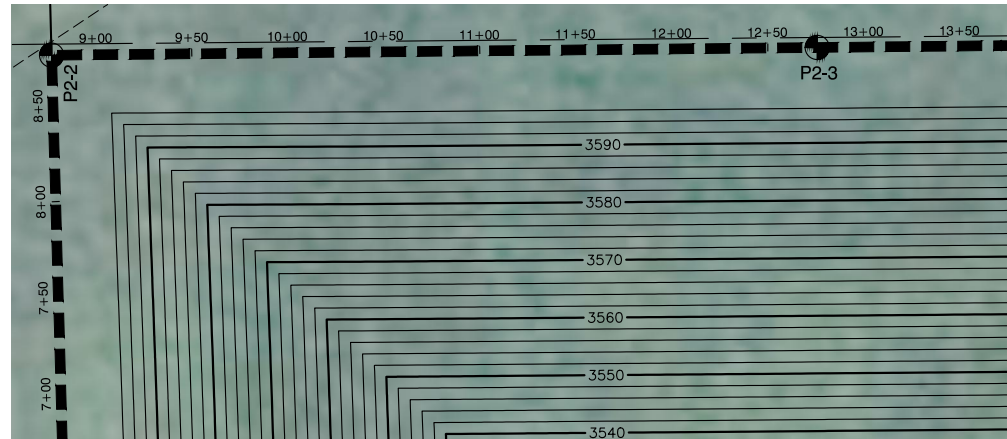
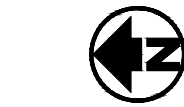
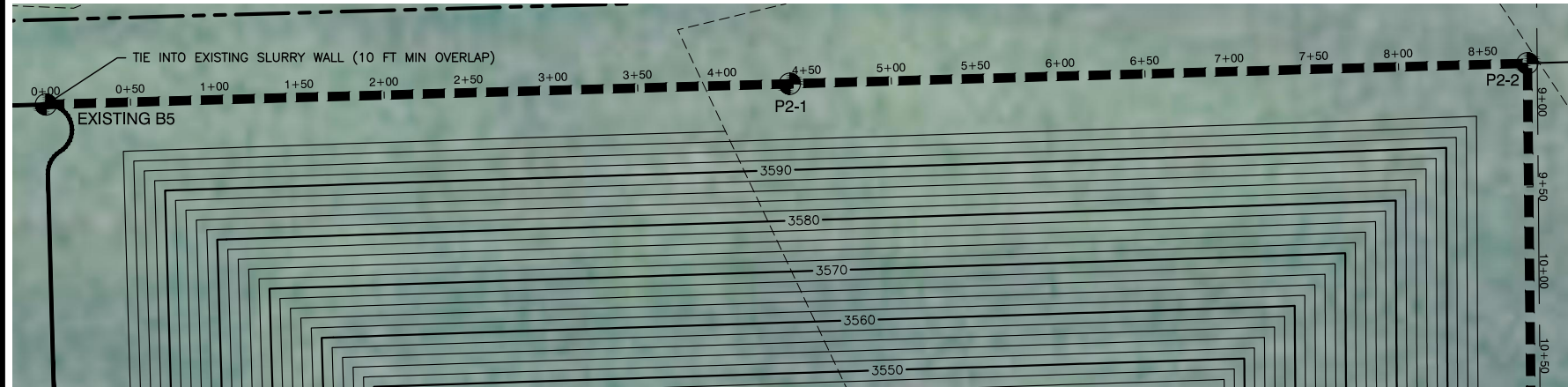


Job # 15120
Date 2/19/16
Drawn By WSS
Designed By TPY
Checked By JCY
File JT-Slurry Horiz
Scale 1" = 300'

Sheet: 4 of 9



KEYMAP
N T S



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Phase 2 Slurry Wall

West Farm Pit

Plan & Profile

Sta: -0+10 to 13+50

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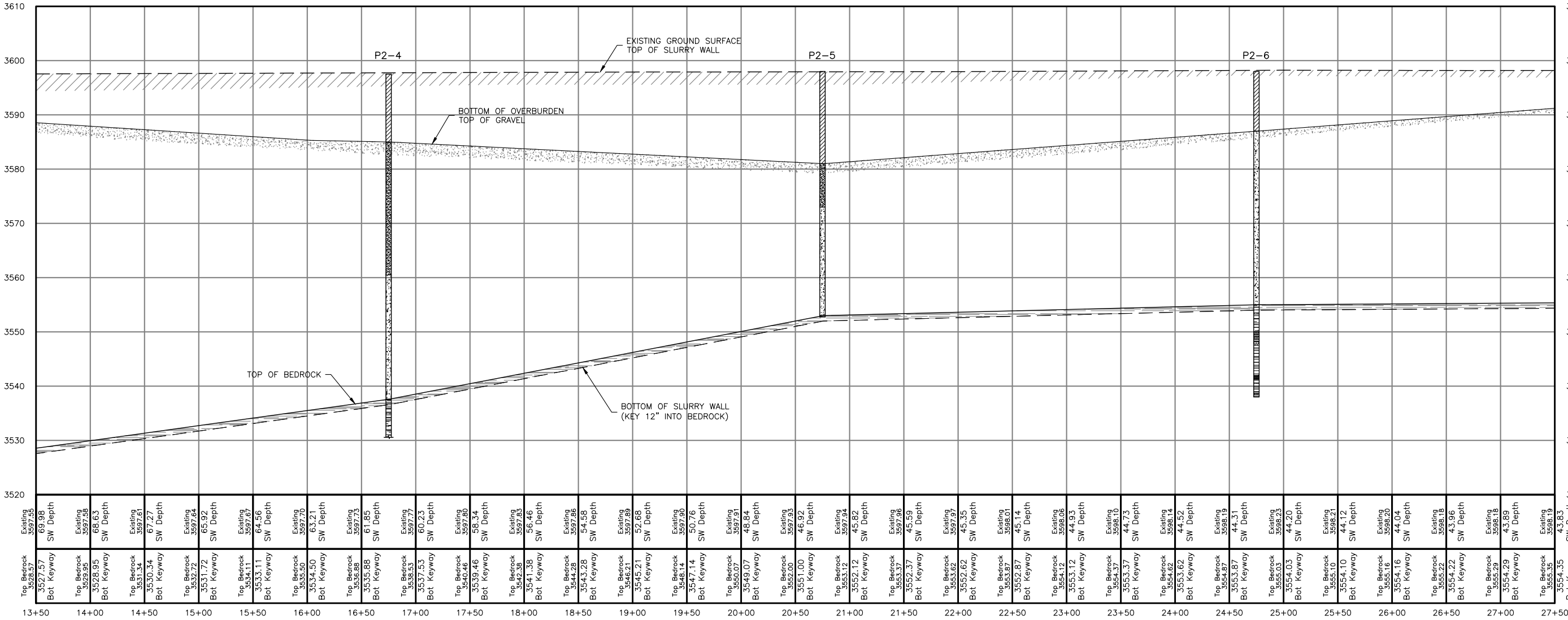
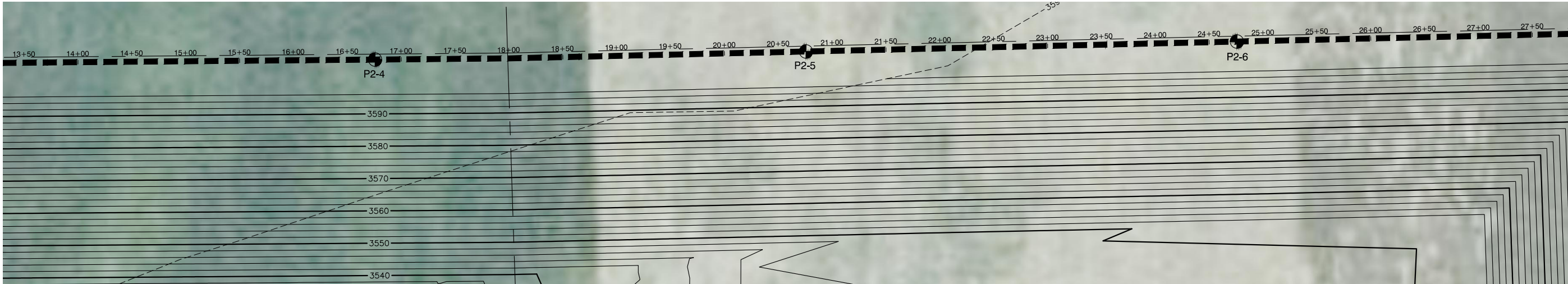
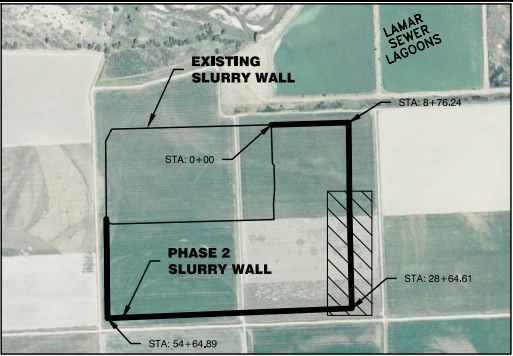
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Job #	15120
Date	2.19.16
Drawn By	WSS
Designed By	TPY
Checked By	JCY
File	JT-Phase 2 Slurry Prof
Scale	1" = 50'h/10'v

Sheet: **5** Of: **9**

P:\15120 GP Aggregates Phase 2 Slurry Wall Drawings\Plan Sheets\UT-Phase 2 Slurry Profile.dwg, Layout1 (2), 4/13/2016 2:33:10 PM



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Phase 2 Slurry Wall

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West Farm Pit

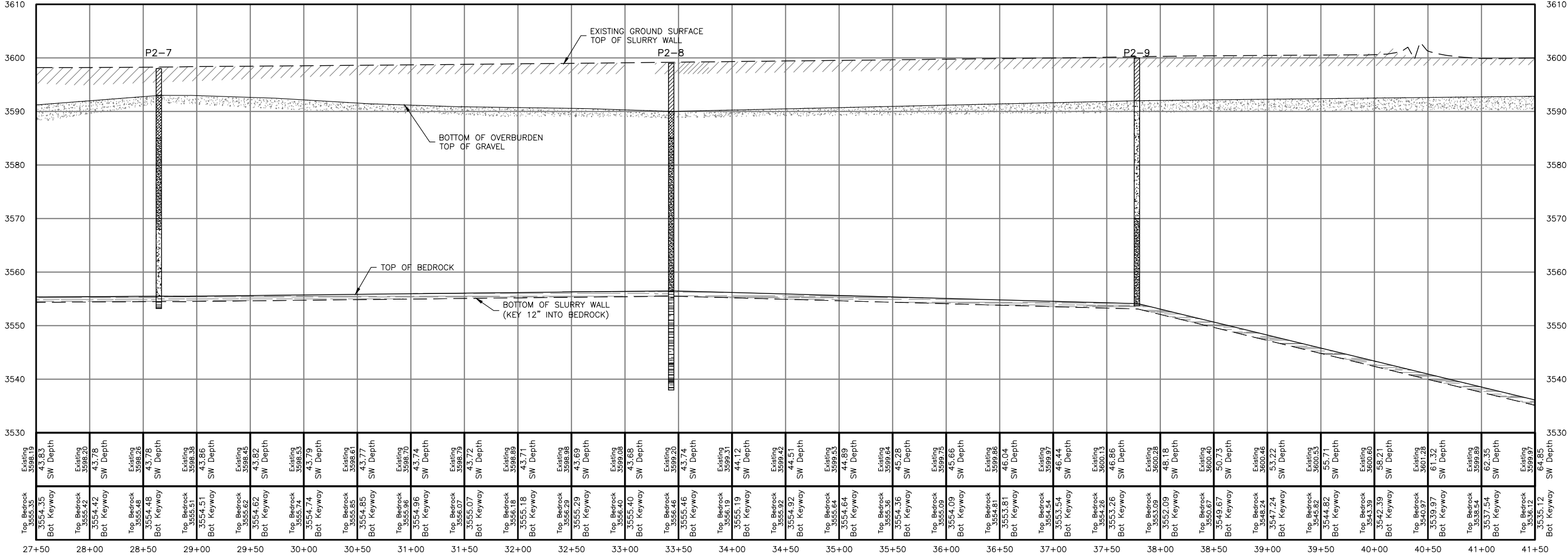
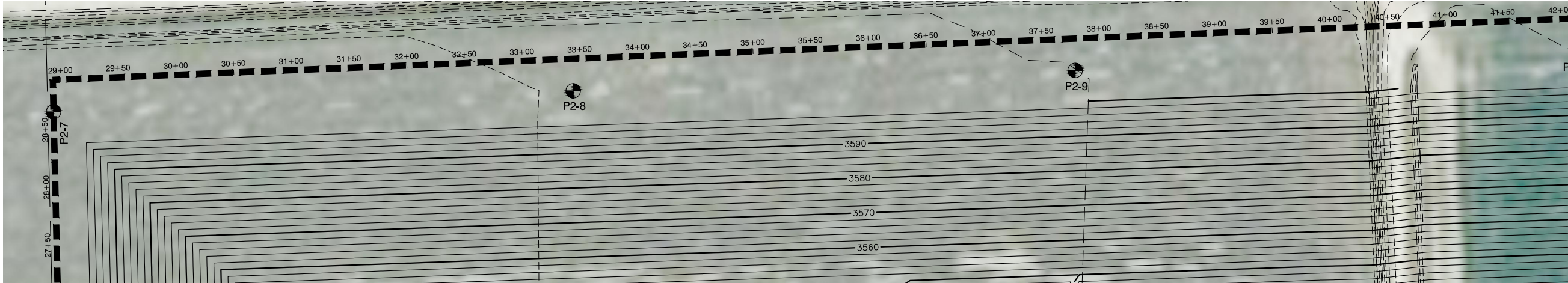
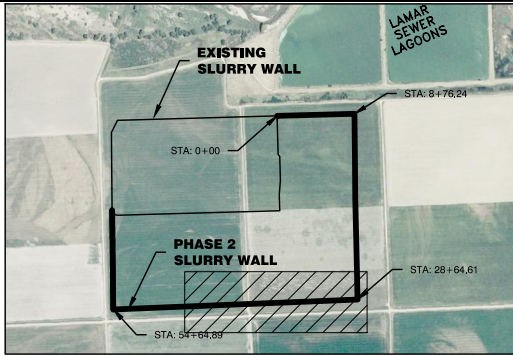
Plan & Profile

Sta: 13+50 to 27+50



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Checked By	JCY
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Scale	1" = 50'H/10'V

Sheet: 6 Of: 9



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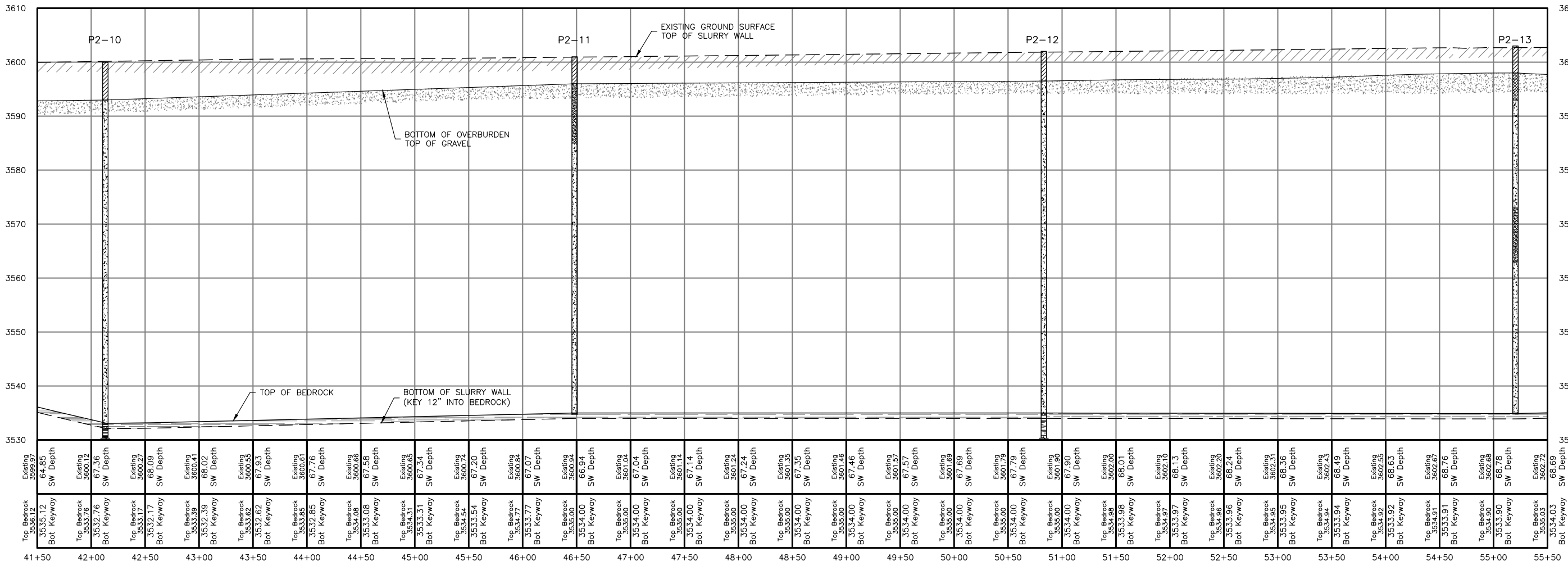
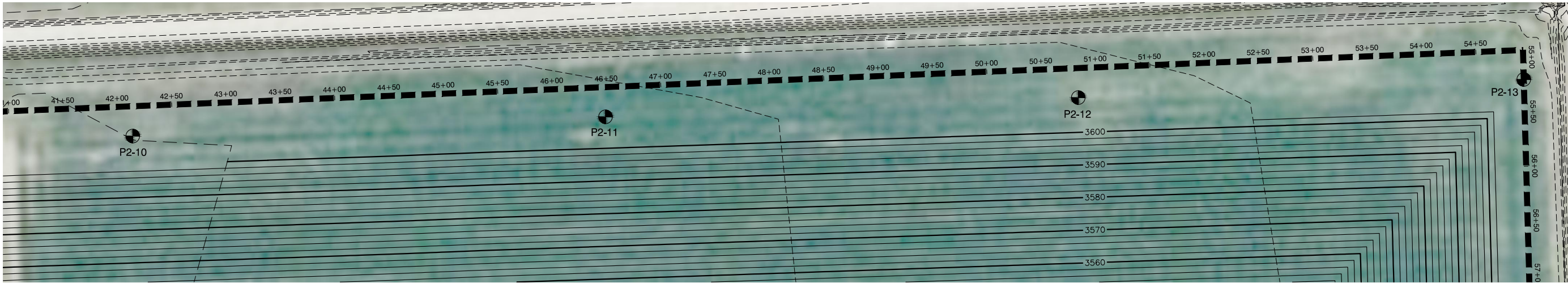
Phase 2 Slurry Wall

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Plan & Profile
Sta: 27+50 to 41+50

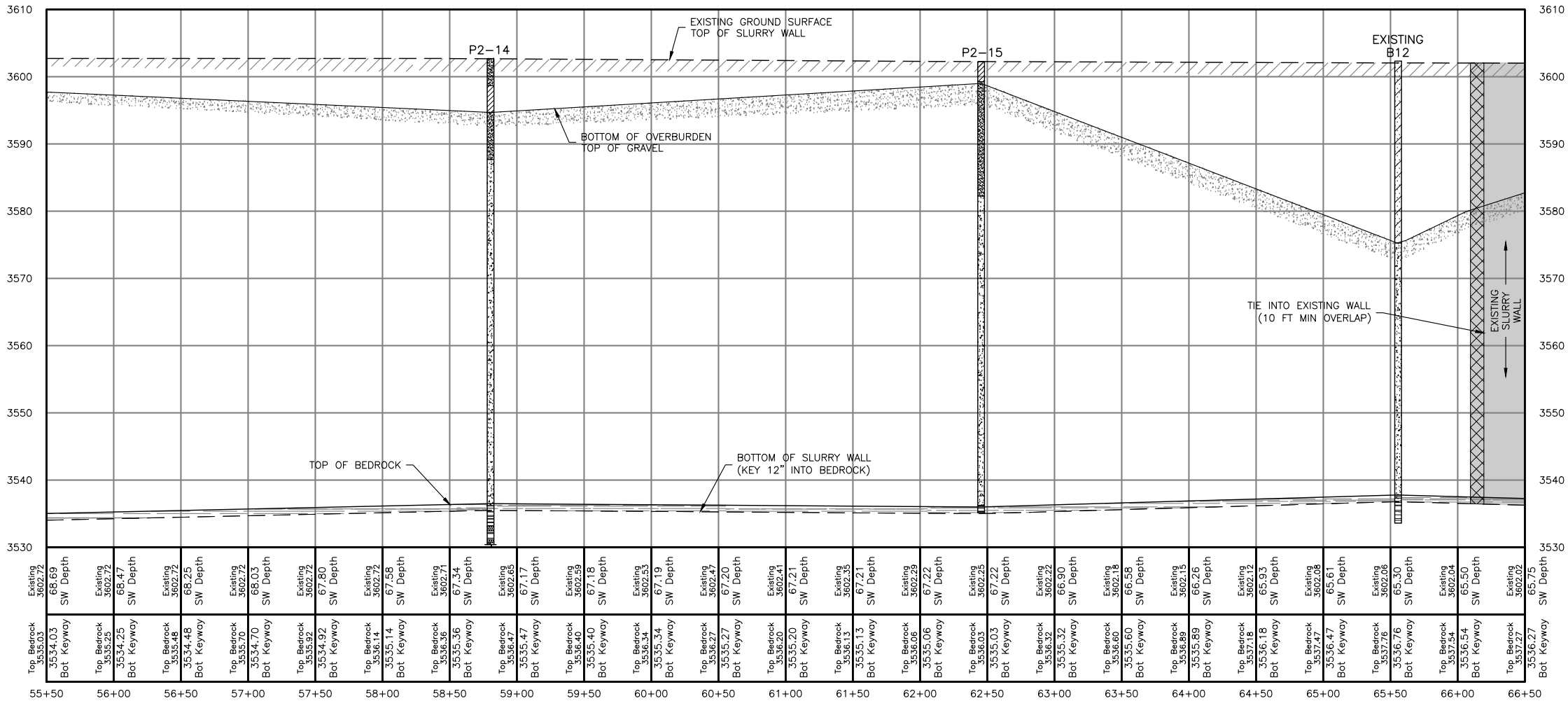
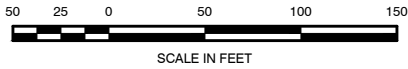
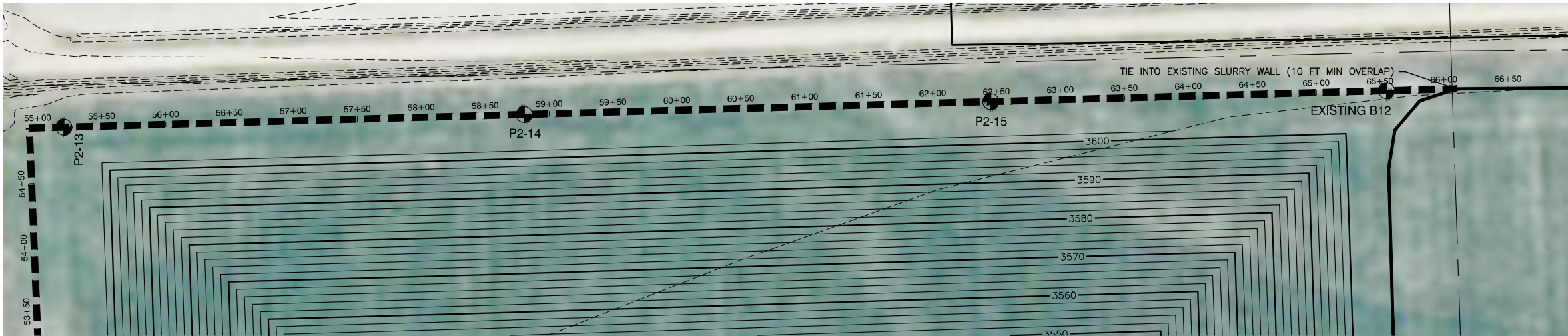
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					WSS	
					TPY	
					JCY	
					JT-Phase 2 Slurry Prof	
					1" = 50'H/10'V	
					Sheet: 7 of 9	



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Phase 2 Slurry Wall

West Farm Pit

Plan & Profile

Sta: 55+50 to 66+10

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