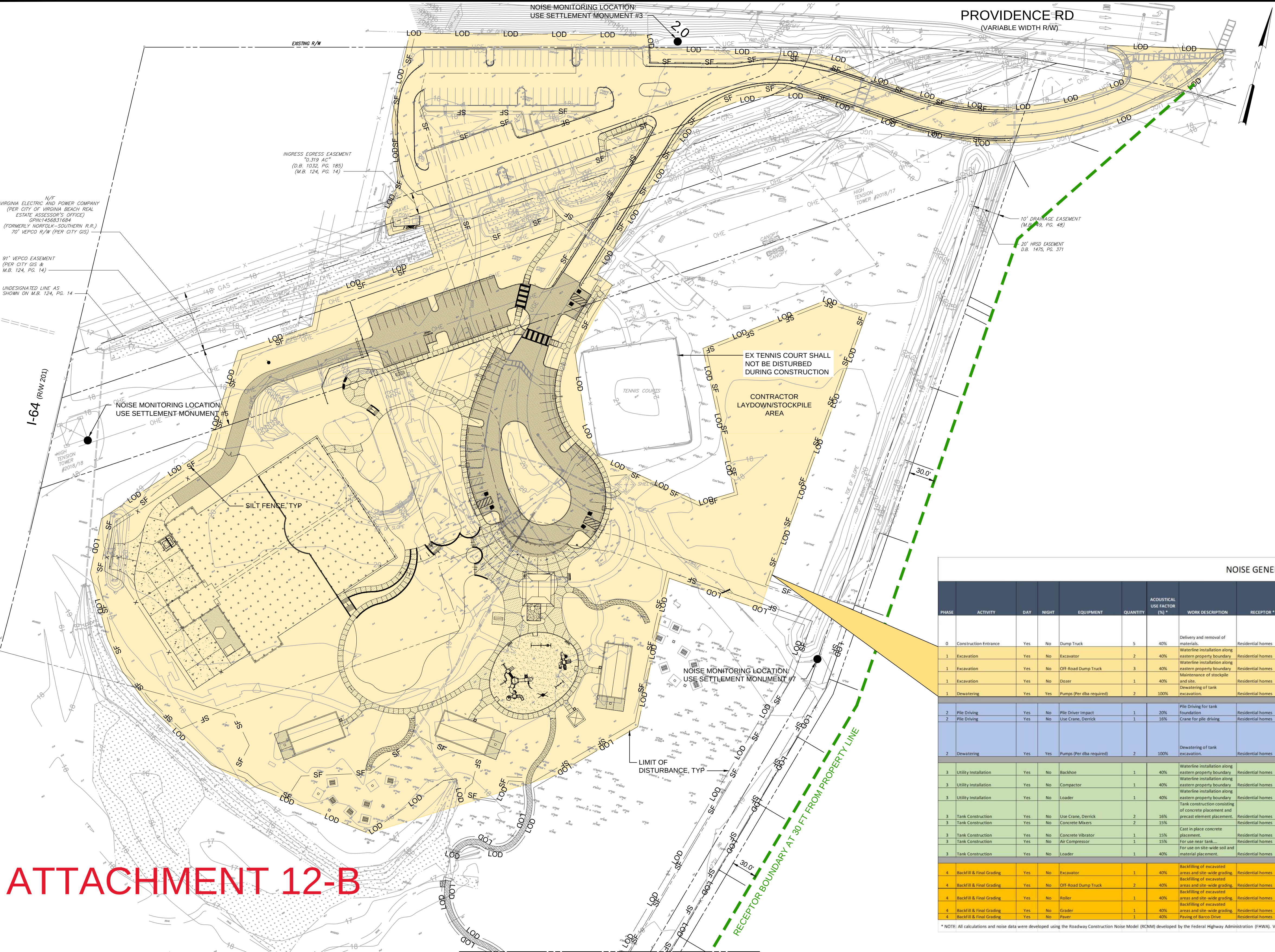


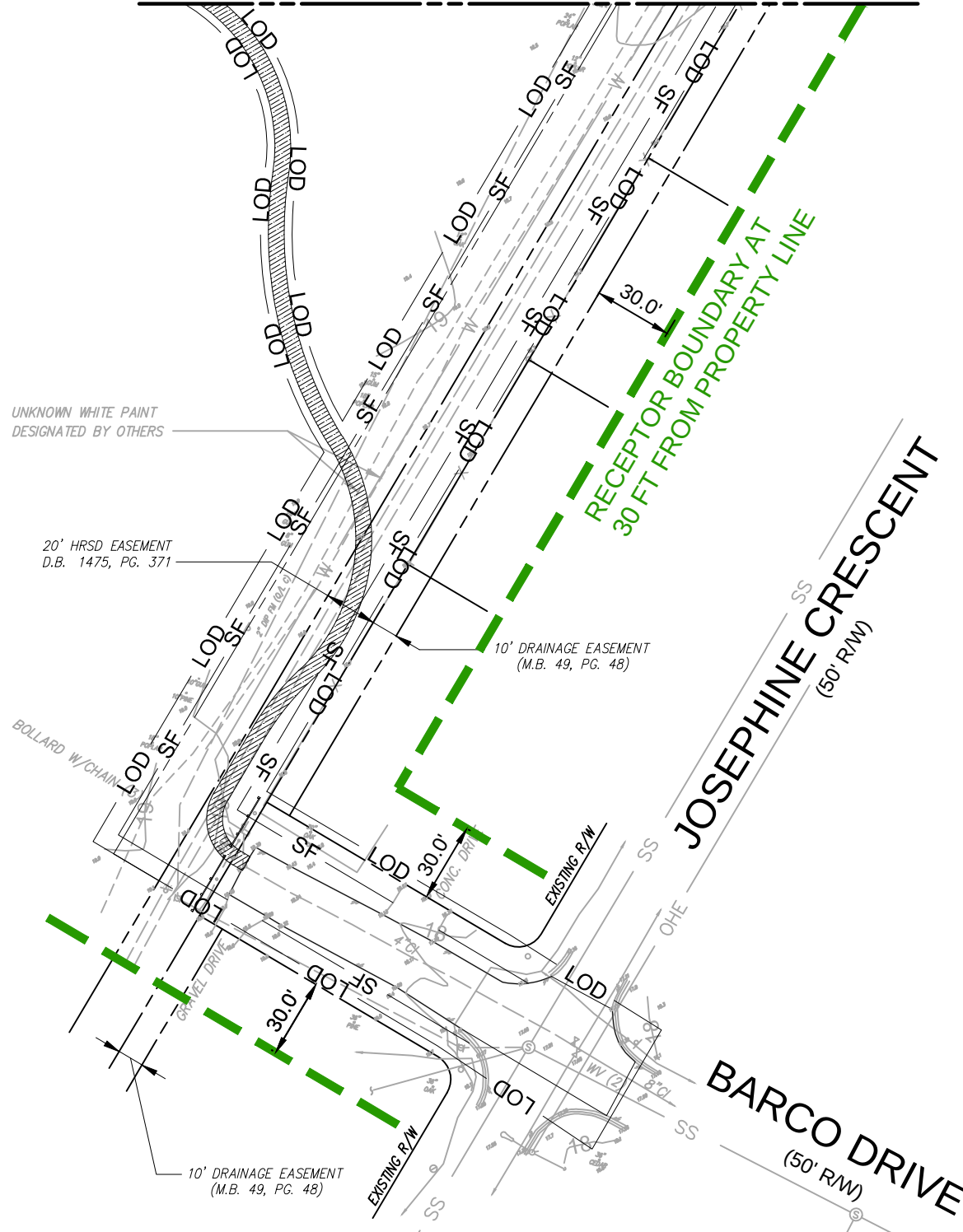
ATTACHMENT 12-B



NOISE MONITORING NOTES:

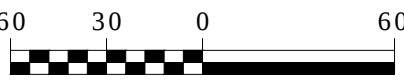
- 1. CONTRACTOR SHALL MONITOR AND DOCUMENT BASELINE NOISE LEVELS AT THREE (3) OR MORE LOCATIONS NEAR THE IDENTIFIED RECEPTOR LOCATIONS DURING NON-WORKING PERIODS.
- 2. CONTRACTOR SHALL MONITOR AND DOCUMENT NOISE LEVELS AT THE SAME RECEPTOR LOCATIONS DURING THE PEAK ACTIVITY PERIOD.
- 3. CONTRACTOR SHALL USE A TYPE 2 / CLASS 2 SOUND LEVEL METER THAT MEETS OR EXCEEDS IEC 61672.

MATCH LINE - SEE THIS SHEET



NOISE GENERATION AND IMPACTS																					
PHASE	ACTIVITY	DAY	NIGHT	EQUIPMENT	QUANTITY	ACOUSTICAL USE FACTOR (%) *	WORK DESCRIPTION	RECEPTOR *	DISTANCE TO RECEPTOR (ft)	COMBINED CALCULATED (dBA) *		LIMITS (dBA) (Day) *		LIMITS (dBA) (Night) *		SHIELDING (Dba) *	COMBINED CALCULATED EXCEEDANCE (dBA) *		NOTES / ACTIONS		
										Lmax	L10	Lmax	L10	Lmax	L10		Day	Night			
0	Construction Entrance	Yes	No	Dump Truck	5	40%	Delivery and removal of materials.	Residential homes	30	77.9	76.9	85	75	80	35	3	1.9	N/A	Exceedance is minimal. Receptor is the residential property that fronts Providence Road, therefore anticipated Daytime Baseline is likely to be at or exceeding the calculated noise level.		
1	Excavation	Yes	No	Excavator	2	40%	Waterline installation along eastern property boundary	Residential homes	300	77.9	78.6	85	75	80	35	3.0	3.6	N/A	No actions required		
1	Excavation	Yes	No	Off-Road Dump Truck	3	40%	Waterline installation along eastern property boundary	Residential homes	135												
1	Excavation	Yes	No	Dozer	1	40%	Maintenance of stockpile and site.	Residential homes	135												
1	Dewatering	Yes	Yes	Pumps (Per dba required)	2	100%	Dewatering of tank excavation.	Residential homes	500												
2	Pile Driving	Yes	No	Pile Driver Impact	1	20%	Pile Driving for tank foundation	Residential homes	530	77.8	73.8	85	75	80	35	3	No Exceedance	N/A	No actions required		
2	Pile Driving	Yes	No	Use Crane, Derrick	1	16%	Crane for pile driving	Residential homes	480											N/A	No actions required
2	Dewatering	Yes	Yes	Pumps (Per dba required)	2	100%	Dewatering of tank excavation.	Residential homes	500	57.9	57.9	85	75	80	35	3.0	No Exceedance	22.9	Exceedance is minimal. Consider application of an Acoustic Shadow/Barrier such as straw bails or other. Combine with receptor perimeter monitoring.		
3	Utility Installation	Yes	No	Backhoe	1	40%	Waterline installation along eastern property boundary	Residential homes	30	79.0	78.0	85	75	80	35	3.0	3.0	N/A	Exceedance is minimal. Possible additional shielding will occur via existing vegetation and stockpile storage area. Install receptor perimeter monitoring and potential remediation of proximity related equipment.		
3	Utility Installation	Yes	No	Compactor	1	40%	Waterline installation along eastern property boundary	Residential homes	30	84.7	80.7	85	75	80	35	3.0	5.7	N/A			
3	Utility Installation	Yes	No	Loader	1	40%	Waterline installation along eastern property boundary	Residential homes	30	80.5	79.6	85	75	80	35	3.0	4.6	N/A			
3	Tank Construction	Yes	No	Use Crane, Derrick	2	16%	Tank construction consisting of concrete placement and precast element placement.	Residential homes	480	60.4	61.4	85	75	80	35	3.0	No Exceedance	N/A			
3	Tank Construction	Yes	No	Concrete Mixers	2	15%	Cast in place concrete placement.	Residential homes	480												
3	Tank Construction	Yes	No	Concrete Vibrator	1	15%	For use near tank.	Residential homes	480												
3	Tank Construction	Yes	No	Air Compressor	1	15%	For use on site-wide soil and material placement.	Residential homes	480												
3	Tank Construction	Yes	No	Loader	1	40%		Residential homes	480												
4	Backfill & Final Grading	Yes	No	Excavator	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135	69.1	71.7	85	75	80	35	3.0	No Exceedance	N/A	No actions required		
4	Backfill & Final Grading	Yes	No	Off-Road Dump Truck	2	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135												
4	Backfill & Final Grading	Yes	No	Roller	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250												
4	Backfill & Final Grading	Yes	No	Grader	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250												
4	Backfill & Final Grading	Yes	No	Paver	1	40%	Paving of Barco Drive	Residential homes	40	76.2	76.1	85	75	80	35	3.0	1.1	N/A	Exceedance is minimal. No actions required.		
* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA). Version 1.12/08/2008																					

SCALE: 1" = 60'



PROJECT ENGINEER:	T. McPHERSON
DESIGNED BY:	T. McPHERSON / C. LINK
DRAWN BY:	M. BRANDT
CHECKED BY:	T. McPHERSON
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
DATE	BY



HAZEN AND SAWYER
4500 MAIN STREET, SUITE 500
VIRGINIA BEACH, VIRGINIA 23462
PHONE: 757-497-0490



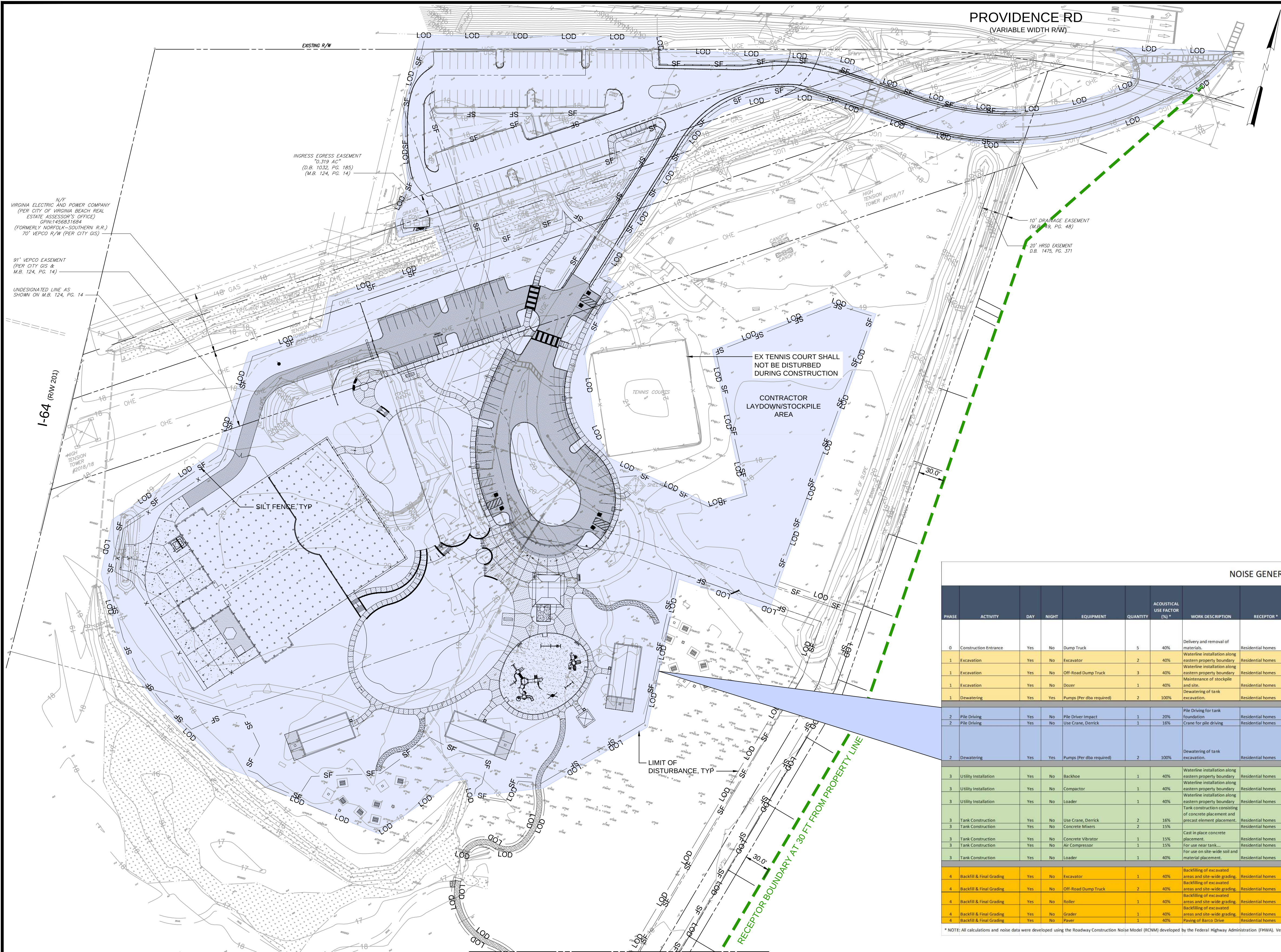
CROWDER CONSTRUCTION COMPANY
1111 BURMA DRIVE
APEX, NORTH CAROLINA 27539
PHONE: 800-849-5449



PRECONSTRUCTION ASSESSMENT
AND DAMAGE MITIGATION PLAN
NOISE GENERATION AND IMPACTS
PHASE 1
EXCAVATION AND DEWATERING

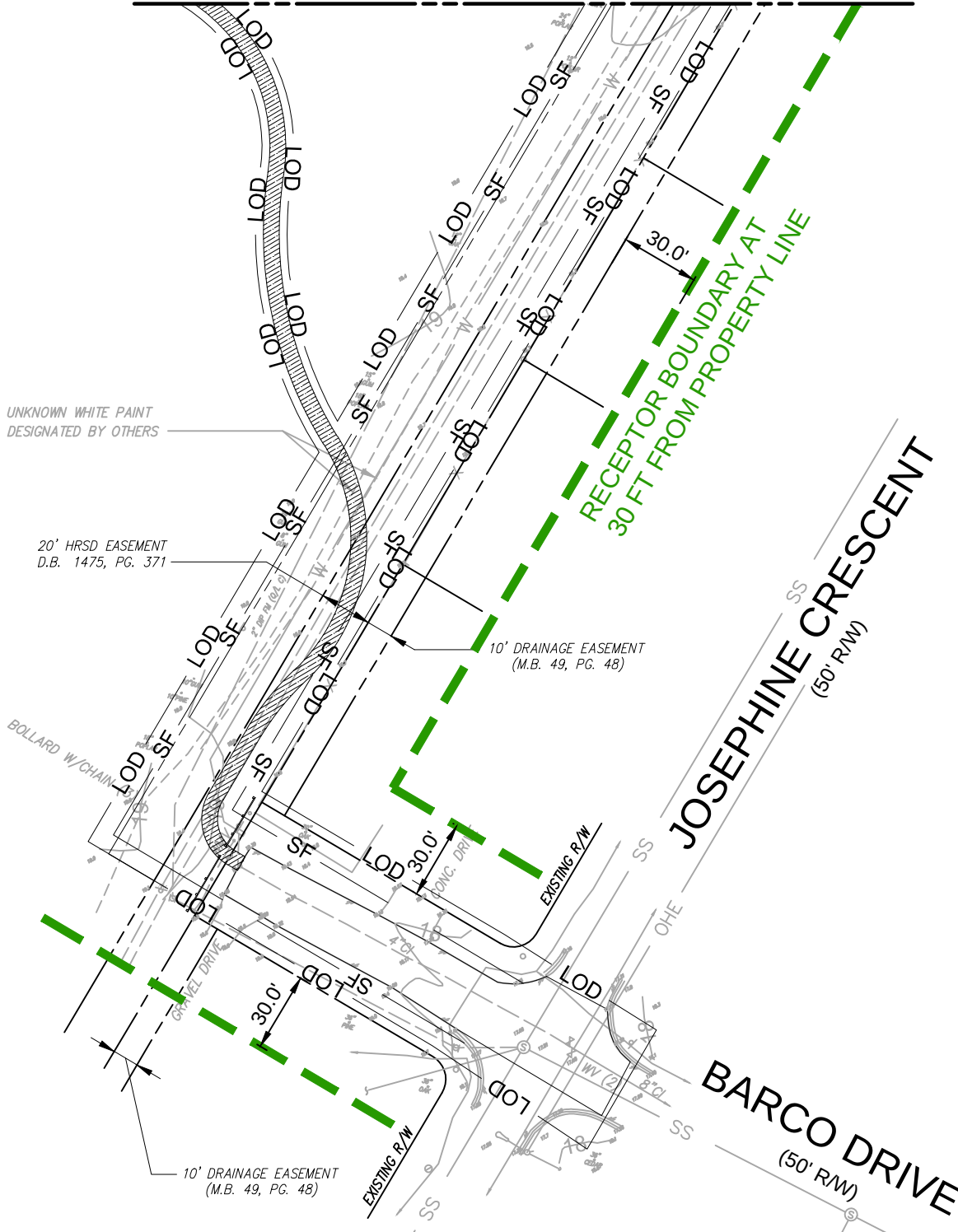
DATE: FEBRUARY 2020
HAZEN NO.: 31419-000
FIGURE NO.

1.1



- NOISE MONITORING NOTES:**
1. CONTRACTOR SHALL MONITOR AND DOCUMENT BASELINE NOISE LEVELS AT THREE (3) OR MORE LOCATIONS NEAR THE IDENTIFIED RECEPTOR LOCATIONS DURING NON-WORKING PERIODS.
 2. CONTRACTOR SHALL MONITOR AND DOCUMENT NOISE LEVELS AT THE SAME RECEPTOR LOCATIONS DURING THE PEAK ACTIVITY PERIOD.
 3. CONTRACTOR SHALL USE A TYPE 2 / CLASS 2 SOUND LEVEL METER THAT MEETS OR EXCEEDS IEC 61672.

MATCH LINE - SEE THIS SHEET

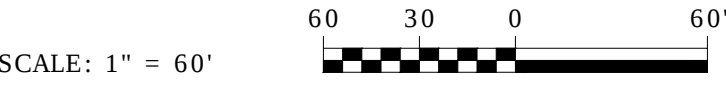


NOISE GENERATION AND IMPACTS

PHASE	ACTIVITY	DAY	NIGHT	EQUIPMENT	QUANTITY	ACCOUSTICAL USE FACTOR (%) *	WORK DESCRIPTION	RECEPTOR *	DISTANCE TO RECEPTOR (ft)	COMBINED CALCULATED (dBA) *		LIMITS (dBA) (Day) *		LIMITS (dBA) (Night) *		SHIELDING (Dba) *	COMBINED CALCULATED EXCEEDANCE (dBA) *		NOTES / ACTIONS	
										Lmax	L10	Lmax	L10	Lmax	L10		Day	Night		
0	Construction Entrance	Yes	No	Dump Truck	5	40%	Delivery and removal of materials.	Residential homes	30	77.9	76.9	85	75	80	35	3	1.9	N/A	Exceedance is minimal. Receptor is the residential property that fronts Providence Road, therefore anticipated Daytime Baseline is likely to be at or exceeding the calculated noise level.	
1	Excavation	Yes	No	Excavator	2	40%	Waterline installation along eastern property boundary	Residential homes	300	77.9	78.6	85	75	80	35	3.0	3.6	N/A	No actions required	
1	Excavation	Yes	No	Off-Road Dump Truck	3	40%	Waterline installation along eastern property boundary	Residential homes	135											
1	Excavation	Yes	No	Dozer	1	40%	Maintenance of stockpile and site.	Residential homes	135											
1	Dewatering	Yes	Yes	Pumps (Per dBA required)	2	100%	Dewatering of tank excavation.	Residential homes	500											
2	Pile Driving	Yes	No	Pile Driver Impact	1	20%	Pile Driving for tank foundation	Residential homes	530	77.8	73.8	85	75	80	35	3	No Exceedance	N/A	No actions required	
2	Pile Driving	Yes	No	Use Crane, Derrick	1	16%	Crane for pile driving	Residential homes	480											
2	Dewatering	Yes	Yes	Pumps (Per dBA required)	2	100%	Dewatering of tank excavation.	Residential homes	500	57.9	57.9	85	75	80	35	3.0	No Exceedance	22.9	Exceedance is minimal. Consider application of an Acoustic Shadow/Barrier such as straw bails or other. Combine with receptor perimeter monitoring.	
3	Utility Installation	Yes	No	Backhoe	1	40%	Waterline installation along eastern property boundary	Residential homes	30	79.0	78.0	85	75	80	35	3.0	3.0	N/A	Exceedance is minimal. Possible additional shielding will occur via existing vegetation and stockpile storage area. Install receptor perimeter monitoring and potential remediation of proximity related equipment.	
3	Utility Installation	Yes	No	Compactor	1	40%	Waterline installation along eastern property boundary	Residential homes	30	84.7	80.7	85	75	80	35	3.0	5.7	N/A		
3	Utility Installation	Yes	No	Loader	1	40%	Waterline installation along eastern property boundary	Residential homes	30	80.5	79.6	85	75	80	35	3.0	4.6	N/A		
3	Tank Construction	Yes	No	Use Crane, Derrick	2	16%	Tank construction consisting of concrete placement and precast element placement.	Residential homes	480	60.4	61.4	85	75	80	35	3.0	No Exceedance	N/A		
3	Tank Construction	Yes	No	Concrete Mixers	2	15%		Residential homes	480											
3	Tank Construction	Yes	No	Concrete Vibrator	1	15%	Cast in place concrete placement.	Residential homes	480											
3	Tank Construction	Yes	No	Air Compressor	1	15%	For use near tank...	Residential homes	480											
3	Tank Construction	Yes	No	Loader	1	40%	For use on site-wide soil and material placement.	Residential homes	480											
4	Backfill & Final Grading	Yes	No	Excavator	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135	69.1	71.7	85	75	80	35	3.0	No Exceedance	N/A	No actions required	
4	Backfill & Final Grading	Yes	No	Off-Road Dump Truck	2	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135											
4	Backfill & Final Grading	Yes	No	Roller	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250											
4	Backfill & Final Grading	Yes	No	Grader	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250	76.2	76.1	85	75	80	35	3.0	1.1	N/A	Exceedance is minimal. No actions required.	
4	Backfill & Final Grading	Yes	No	Paver	1	40%	Paving of Barro Drive	Residential homes	40											

* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA). Version 1.12/08/2008

* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA), Version 1.1, 12/08/2008



				PROJECT ENGINEER:	T. McPHERSON
				DESIGNED BY:	T. McPHERSON / C. LINK
				DRAWN BY:	M. BRANDT
				CHECKED BY:	T. McPHERSON
				IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	
REV	ISSUED FOR	DATE	BY		

Hazen
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4500 MAIN STREET, SUITE 500
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PHONE: 757-497-0490

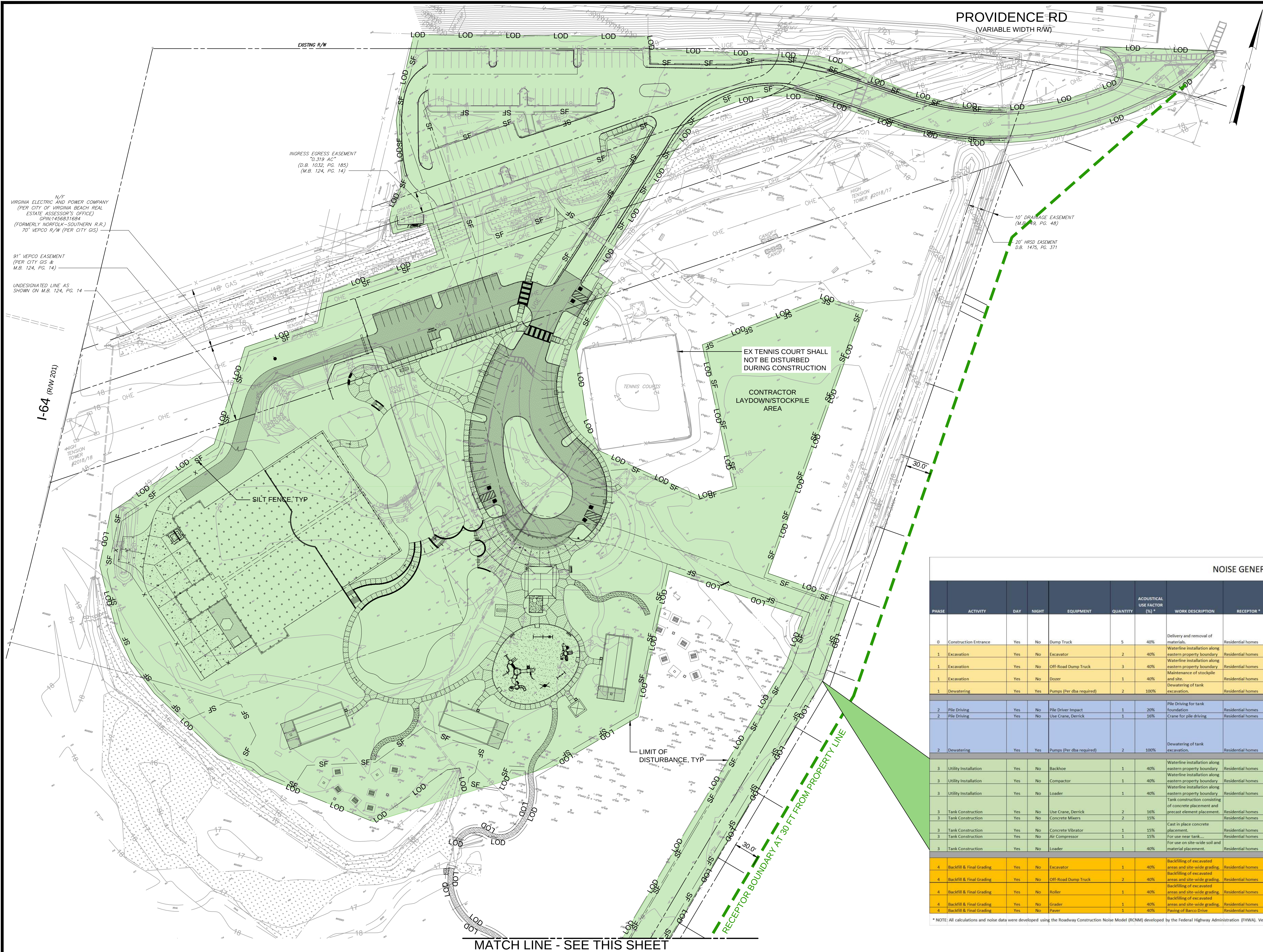
CROWDER CONSTRUCTION COMPANY
1111 BURMA DRIVE
APEX, NORTH CAROLINA 27539
PHONE: 800-849-5449

VB
City of
Virginia Beach

HRSD
PROVIDENCE ROAD OFF-LINE
STORAGE FACILITY AND WOODSTOCK
PARK IMPROVEMENTS

PRECONSTRUCTION ASSESSMENT
AND DAMAGE MITIGATION PLAN
NOISE GENERATION AND IMPACTS
PHASE 2
PILE DRIVING

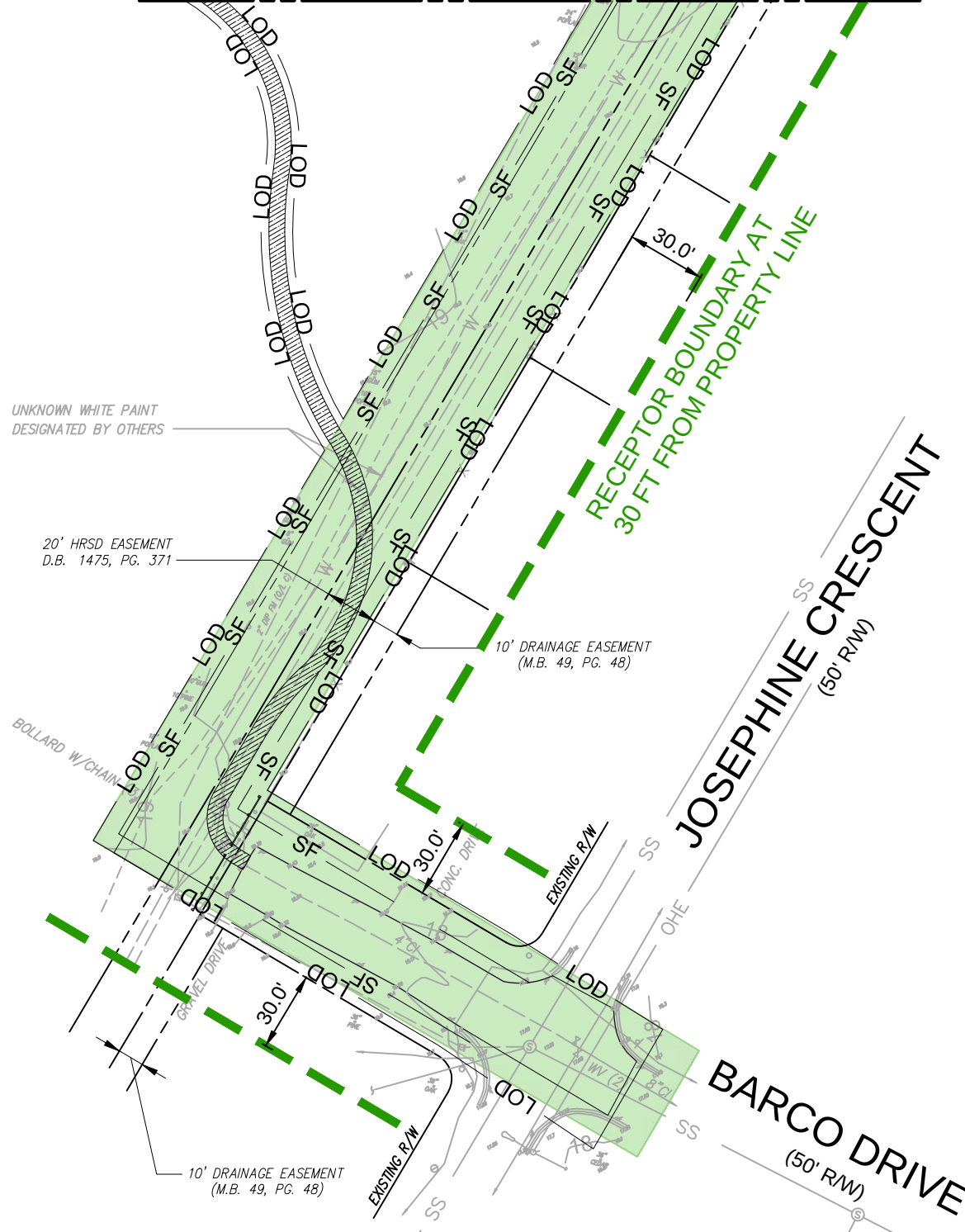
DATE: FEBRUARY 2020
HAZEN NO.: 31419-000
FIGURE NO.
1.2



NOISE MONITORING NOTES:

1. CONTRACTOR SHALL MONITOR AND DOCUMENT BASELINE NOISE LEVELS AT THREE (3) OR MORE LOCATIONS NEAR THE IDENTIFIED RECEPTOR LOCATIONS DURING NON-WORKING PERIODS.
2. CONTRACTOR SHALL MONITOR AND DOCUMENT NOISE LEVELS AT THE SAME RECEPTOR LOCATIONS DURING THE PEAK ACTIVITY PERIOD.
3. CONTRACTOR SHALL USE A TYPE 2 / CLASS 2 SOUND LEVEL METER THAT MEETS OR EXCEEDS IEC 61672.

MATCH LINE - SEE THIS SHEET

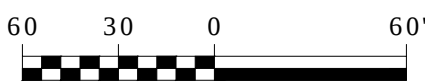


NOISE GENERATION AND IMPACTS

PHASE	ACTIVITY	DAY	NIGHT	EQUIPMENT	QUANTITY	ACOUSTICAL USE FACTOR (%)	WORK DESCRIPTION	RECEPTOR *	DISTANCE TO RECEPTOR (ft)	COMBINED CALCULATED (dBA) * ¹		LIMITS (dBA) (Day) * ¹		LIMITS (dBA) (Night) * ¹		SHIELDING (dBA) * ¹	COMBINED CALCULATED EXCEEDANCE (dBA) * ¹		NOTES / ACTIONS
										Lmax	L10	Lmax	L10	Lmax	L10		Day	Night	
0	Construction Entrance	Yes	No	Dump Truck	5	40%	Delivery and removal of materials.	Residential homes	30	77.9	76.9	85	75	80	35	3	1.9	N/A	Exceedance is minimal. Receptor is the residential property that fronts Providence Road, therefore anticipated Daytime Baseline is likely to be at or exceeding the calculated noise level.
1	Excavation	Yes	No	Excavator	2	40%	Waterline installation along eastern property boundary	Residential homes	300										
1	Excavation	Yes	No	Off Road Dump Truck	3	40%	Waterline installation along eastern property boundary	Residential homes	135	77.9	78.6	85	75	80	35	3.0	3.6	N/A	No actions required
1	Excavation	Yes	No	Dozer	1	40%	Maintenance of stockpile and site.	Residential homes	135										
1	Dewatering	Yes	Yes	Pumps (Per dBA required)	2	100%	Dewatering of tank excavation.	Residential homes	500										
2	Pile Driving	Yes	No	Pile Driver Impact	1	20%	Pile Driving for tank foundation	Residential homes	530	77.8	73.8	85	75	80	35	3	No Exceedance	N/A	No actions required
2	Pile Driving	Yes	No	Use Crane, Derrick	1	16%	Crane for pile driving	Residential homes	480										
2	Dewatering	Yes	Yes	Pumps (Per dBA required)	2	100%	Dewatering of tank excavation.	Residential homes	500	57.9	57.9	85	75	80	35	3.0	No Exceedance	22.9	Exceedance is minimal. Consider application of an Acoustic Shadow/Barrier such as straw bails or other. Combine with receptor perimeter monitoring.
3	Utility Installation	Yes	No	Backhoe	1	40%	Waterline installation along eastern property boundary	Residential homes	30	79.0	78.0	85	75	80	35	3.0	3.0	N/A	Exceedance is minimal. Possible additional shielding will occur via existing vegetation and stockpile storage area. Install receptor perimeter monitoring and potential remediation of proximity related equipment.
3	Utility Installation	Yes	No	Compactor	1	40%	Waterline installation along eastern property boundary	Residential homes	30	84.7	80.7	85	75	80	35	3.0	5.7	N/A	
3	Utility Installation	Yes	No	Loader	1	40%	Waterline installation along eastern property boundary	Residential homes	30	80.5	79.6	85	75	80	35	3.0	4.6	N/A	
3	Tank Construction	Yes	No	Use Crane, Derrick	2	16%	Tank construction consisting of concrete placement and precast element placement.	Residential homes	480										
3	Tank Construction	Yes	No	Concrete Mixers	2	15%		Residential homes	480										
3	Tank Construction	Yes	No	Concrete Vibrator	1	15%	Cast in place concrete placement.	Residential homes	480	60.4	61.4	85	75	80	35	3.0	No Exceedance	N/A	
3	Tank Construction	Yes	No	Air Compressor	1	15%	For use near tank.	Residential homes	480										
3	Tank Construction	Yes	No	Loader	1	40%	For use on site-wide soil and material placement.	Residential homes	480										
4	Backfill & Final Grading	Yes	No	Excavator	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135										
4	Backfill & Final Grading	Yes	No	Off Road Dump Truck	2	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135	69.1	71.7	85	75	80	35	3.0	No Exceedance	N/A	No actions required
4	Backfill & Final Grading	Yes	No	Roller	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250										
4	Backfill & Final Grading	Yes	No	Grader	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250										
4	Backfill & Final Grading	Yes	No	Paver	1	40%	Paving of Barco Drive	Residential homes	40	76.2	76.1	85	75	80	35	3.0	1.1	N/A	Exceedance is minimal. No actions required.

* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA). Version 1.1, 12/08/2008

SCALE: 1" = 60'



PROJECT ENGINEER:	T. McPHERSON
DESIGNED BY:	T. McPHERSON / C. LINK
DRAWN BY:	M. BRANDT
CHECKED BY:	T. McPHERSON
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
DATE	BY

Hazen
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CROWDER CONSTRUCTION COMPANY
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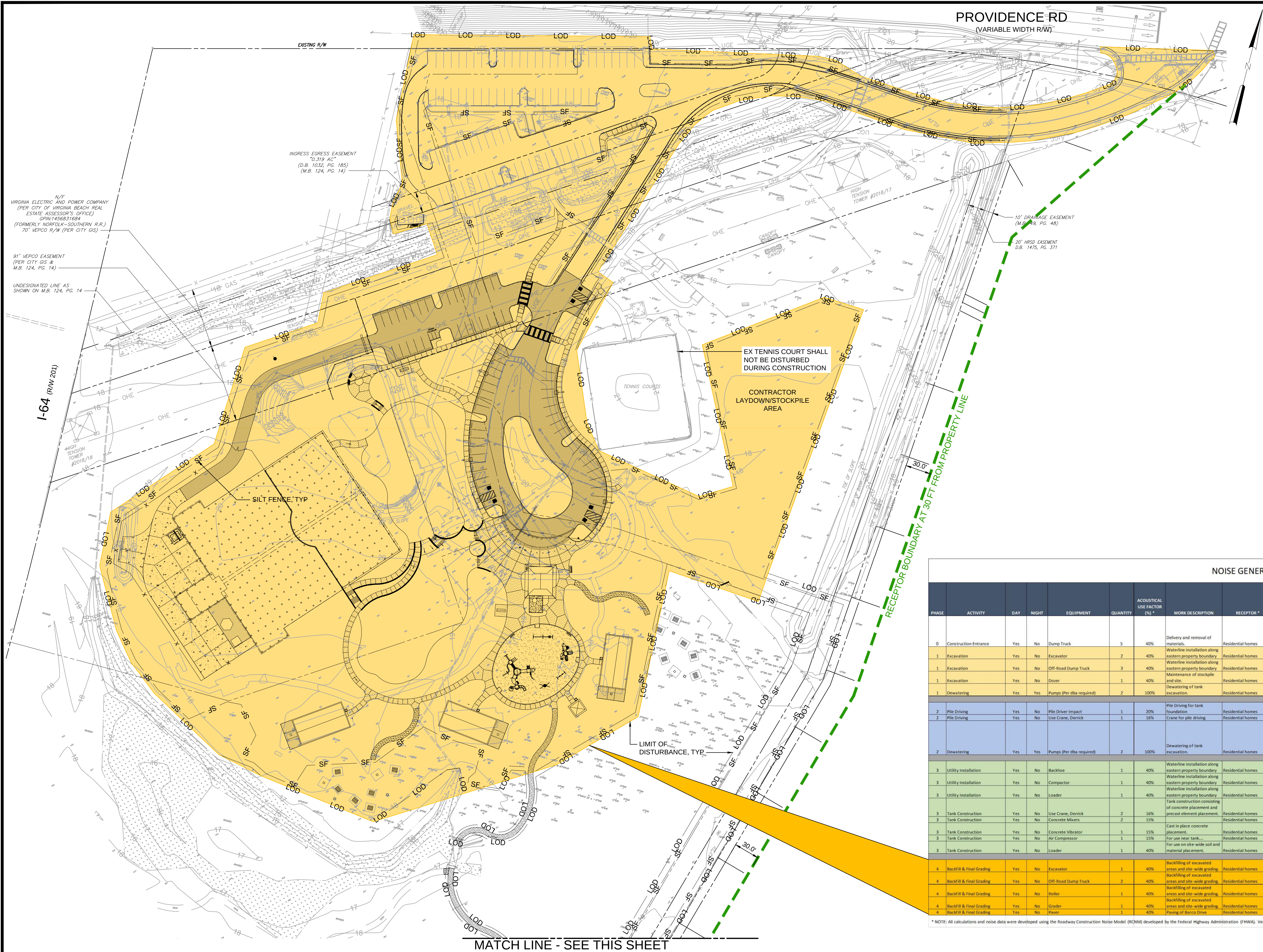
VB
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HRSD
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STORAGE FACILITY AND WOODSTOCK
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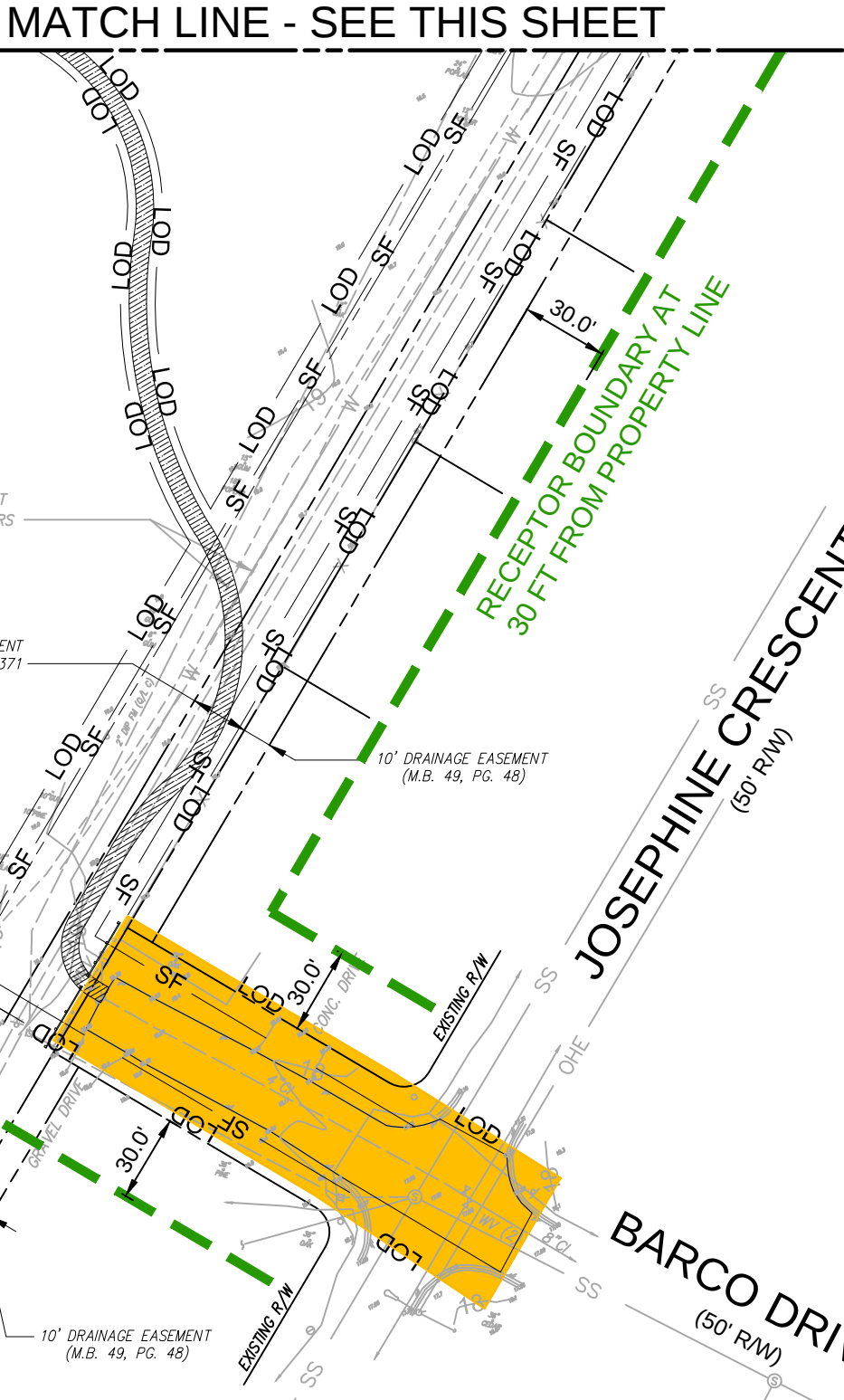
PRECONSTRUCTION ASSESSMENT
AND DAMAGE MITIGATION PLAN
NOISE GENERATION AND IMPACTS
PHASE 3
UTILITY AND TANK CONSTRUCTION

DATE: FEBRUARY 2020
HAZEN NO.: 31419-000
FIGURE NO.

1.3



- NOISE MONITORING NOTES:**
1. CONTRACTOR SHALL MONITOR AND DOCUMENT BASELINE NOISE LEVELS AT THREE (3) OR MORE LOCATIONS NEAR THE IDENTIFIED RECEPTOR LOCATIONS DURING NON-WORKING PERIODS.
 2. CONTRACTOR SHALL MONITOR AND DOCUMENT NOISE LEVELS AT THE SAME RECEPTOR LOCATIONS DURING THE PEAK ACTIVITY PERIOD.
 3. CONTRACTOR SHALL USE A TYPE 2 / CLASS 2 SOUND LEVEL METER THAT MEETS OR EXCEEDS IEC 61672.



NOISE GENERATION AND IMPACTS																				
PHASE	ACTIVITY	DAY	NIGHT	EQUIPMENT	QUANTITY	ACOUSTICAL USE FACTOR (%) *	WORK DESCRIPTION	RECEPTOR *	DISTANCE TO RECEPTOR (ft)	COMBINED CALCULATED (dBA) *		LIMITS (dBA) (Day) *		LIMITS (dBA) (Night) *		SHIELDING (Obs) *	COMBINED CALCULATED EXCEEDANCE (dBA) *		NOTES / ACTIONS	
										Lmax	L10	Lmax	L10	Lmax	L10		Day	Night		
0	Construction Entrance	Yes	No	Dump Truck	5	40%	Delivery and removal of materials.	Residential homes	30	77.9	76.9	85	75	80	35	3	1.9	N/A	Exceedance is minimal. Receptor is the residential property that fronts Providence Road, therefore anticipated Daytime Baseline is likely to be at or exceeding the calculated noise level.	
1	Excavation	Yes	No	Excavator	2	40%	Waterline installation along eastern property boundary	Residential homes	300	77.9	78.6	85	75	80	35	3.0	3.6	N/A	No actions required	
1	Excavation	Yes	No	Off-Road Dump Truck	3	40%	Waterline installation along eastern property boundary	Residential homes	135											
1	Excavation	Yes	No	Dozer	1	40%	Maintenance of stockpile and site.	Residential homes	135											
1	Dewatering	Yes	Yes	Pumps (Per dba required)	2	100%	Dewatering of tank excavation.	Residential homes	500											
2	Pile Driving	Yes	No	Pile Driver Impact	1	20%	Pile Driving for tank foundation	Residential homes	530	77.8	73.8	85	75	80	35	3	No Exceedance	N/A	No actions required	
2	Pile Driving	Yes	No	Use Crane, Derrick	1	16%	Crane for pile driving	Residential homes	480											
2	Dewatering	Yes	Yes	Pumps (Per dba required)	2	100%	Dewatering of tank excavation.	Residential homes	500	57.9	57.9	85	75	80	35	3.0	No Exceedance	22.9	Exceedance is minimal. Consider application of an Acoustic Shadow/Barrier such as straw bails or other. Combine with receptor perimeter monitoring.	
	3	Utility Installation	Yes	No	Backhoe	1	40%	Waterline installation along eastern property boundary	Residential homes	30	79.0	78.0	85	75	80	35	3.0	3.0	N/A	Exceedance is minimal. Possible additional shielding will occur via existing vegetation and stockpile storage area. Install receptor perimeter monitoring and potential remediation of proximity related equipment.
	3	Utility Installation	Yes	No	Compactor	1	40%	Waterline installation along eastern property boundary	Residential homes	30	84.7	80.7	85	75	80	35	3.0	5.7	N/A	
	3	Utility Installation	Yes	No	Loader	1	40%	Waterline installation along eastern property boundary	Residential homes	30	80.5	79.6	85	75	80	35	3.0	4.6	N/A	
	3	Tank Construction	Yes	No	Use Crane, Derrick	2	16%	Tank construction consisting of concrete placement and precast element placement.	Residential homes	480	60.4	61.4	85	75	80	35	3.0	No Exceedance	N/A	
3	Tank Construction	Yes	No	Concrete Mixers	2	15%	Residential homes	480												
3	Tank Construction	Yes	No	Concrete Vibrator	1	15%	Cast in place concrete placement.	Residential homes	480											
3	Tank Construction	Yes	No	Air Compressor	1	15%	For use near tank...	Residential homes	480											
3	Tank Construction	Yes	No	Loader	1	40%	For use on site-wide soil and material placement.	Residential homes	480											
4	Backfill & Final Grading	Yes	No	Excavator	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135	69.1	71.7	85	75	80	35	3.0	No Exceedance	N/A	No actions required	
4	Backfill & Final Grading	Yes	No	Off-Road Dump Truck	2	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	135											
4	Backfill & Final Grading	Yes	No	Roller	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250											
4	Backfill & Final Grading	Yes	No	Grader	1	40%	Backfilling of excavated areas and site-wide grading.	Residential homes	250											
4	Backfill & Final Grading	Yes	No	Paver	1	40%	Paving of Barco Drive	Residential homes	40											
4	Backfill & Final Grading	Yes	No	Paver	1	40%	Paving of Barco Drive	Residential homes	40	76.2	76.1	85	75	80	35	3.0	1.1	N/A	Exceedance is minimal. No actions required.	

* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA). Version 1.12/08/2008

* NOTE: All calculations and noise data were developed using the Roadway Construction Noise Model (RCNM) developed by the Federal Highway Administration (FHWA). Version 1.1, 12/08/2008

SCALE: 1" = 60'

PROJECT ENGINEER:	T. McPHERSON
DESIGNED BY:	T. McPHERSON / C. LINK
DRAWN BY:	M. BRANDT
CHECKED BY:	T. McPHERSON
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
DATE	BY

Hazen
HAZEN AND SAWYER
4500 MAIN STREET, SUITE 500
VIRGINIA BEACH, VIRGINIA 23462
PHONE: 757-497-0490

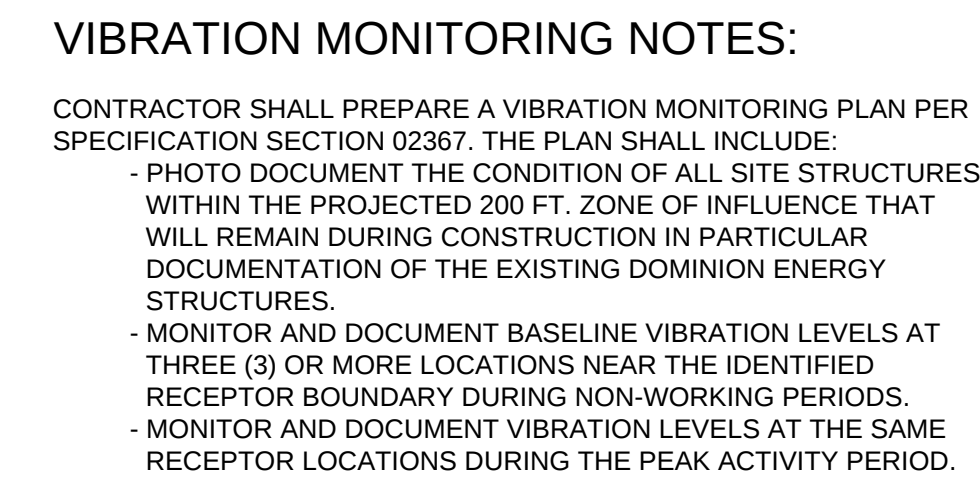
CROWDER CONSTRUCTION COMPANY
11111 BURMA DRIVE
APEX, NORTH CAROLINA 27539
PHONE: 800-849-5449

VB
City of
Virginia Beach

HRSD
PROVIDENCE ROAD OFF-LINE
STORAGE FACILITY AND WOODSTOCK
PARK IMPROVEMENTS

PRECONSTRUCTION ASSESSMENT
AND DAMAGE MITIGATION PLAN
NOISE GENERATION AND IMPACTS
PHASE 4
BACKFILL & FINAL GRADING

DATE: FEBRUARY 2020
HAZEN NO.: 31419-000
FIGURE NO.
1.4



SCALE: 1" = 60'



60 30 0 60'

PRECONSTRUCTION ASSESSMENT AND DAMAGE MITIGATION PLAN VIBRATION IMPACTS	DATE: FEBRUARY 2020
	HAZEN NO.: 31419-000
	FIGURE NO. 2