

Estimated Quantities

Calculated By: BIM	Date: 11/28/2023	Sheet: 1 of 1
Checked By: RTF	Date: 12/12/2023	Job No.: 105210
Updated By: BIM	Date: 12/13/2023	
Backchecked By: RTF	Date: 12/13/2023	
Project: MAH-14/165-0.00/1.65		
Subject: Estimated Quantities		

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ESTIMATED QUANTITIES					
ITEM	EXT.	QUANTITY	UNIT	DESCRIPTION	SHT. REF.
202	11000	LS		STRUCTURE REMOVED	
503	11100	LS		COFFERDAMS AND EXCAVATION BRACING	
503	21100	61	CY	UNCLASSIFIED EXCAVATION	
509	10000	4171	LB	EPOXY COATED REINFORCING STEEL	
511	46010	14	CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING	
511	46510	38	CY	CLASS QC1 CONCRETE, FOOTING	
512	10100	53	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	33000	69	SY	TYPE 2 WATERPROOFING	
512	33010	75	SY	TYPE 3 WATERPROOFING	
516	13600	30	SF	1" PREFORMED EXPANSION JOINT FILLER	
518	21200	8	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
601	11000	54	SY	RIPRAP, TYPE D	
601	32200	46	CY	ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER	
611	95701	42	FT	12' X 5' CONDUIT, TYPE A, 706.05 DESIGN COVER < 2FT, AS PER PLAN	

		INLET	OUTLET		
202	11000	LS		LS	STRUCTURE REMOVED
			1.00	1.00	cf total
					cy total

		INLET	OUTLET		
503	11100	LS		\$	COFFERDAMS AND EXCAVATION BRACING
					total

		INLET	OUTLET		
503	21100	61		CY	UNCLASSIFIED EXCAVATION
HW + Both WWs			7.00	7.00	ft Average Height behind wall
			31.50	31.50	sf Area excavated behind wall 1 FT + (1:1 slope)
			24.00	24.00	ft Length of both walls
			756	756	CF Volume behind walls
HW + Both WWs			1.00	1.00	ft Assumed Height in front of wall
			1.50	1.50	sf Area excavated in front of wall 1FT + (1:1 slope)
			38.00	38.00	ft Length
			57	57	CF Volume in front of walls
		1626.00	813.00	813.00	cf total
		61			cy total

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			<u>INLET</u>	<u>OUTLET</u>		
509	10000	4171			LB	EPOXY COATED REINFORCING STEEL
			2088	2083	lbs	culvert, from resteel list
		4171	2088	2083	LB	Total
<hr/>						
			<u>INLET</u>	<u>OUTLET</u>		
511	46010	14			CY	CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING
			6.67	6.67	CY	OVERALL TOTAL
		13.34 14				
<hr/>						
			<u>INLET</u>	<u>OUTLET</u>		
511	46510	38			CY	CLASS QC1 CONCRETE, FOOTING
			297	297	CF	WW footing volume
			14.85	14.85	CF/FT	Culvert Footing density
			207.9	207.9	CF	Culvert Footing volume
						per HWDD
		1009.80 38	504.90	504.90	CF	OVERALL TOTAL
			CY	OVERALL TOTAL		
<hr/>						
			<u>INLET</u>	<u>OUTLET</u>		
512	10100 WW LT	53 front	7.50	7.50	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
			7.50	7.50	ft	Max Height, LT WW
			7.50	7.50	ft	Min Height, LT WW
			7.50	7.50	ft	average height, WW
			7.50	7.50	ft	Max Height, LT proposed ground
			1.00	1.00	ft	Min Height, LT proposed ground
			4.25	4.25	ft	average height, proposed ground
			3.25	3.25	ft	Difference in height, wall & T/Ground
			12.00	12.00	ft	Length, LT WW
		39.00	39.00	SF	AREA, LT WW front	
		top	1.00	1.00	ft	Wingwall Thickness
			12.00	12.00	ft	Length, LT WW
			12.00	12.00	SF	Area, Top of WW
		behind	0.50	0.50	ft	Height behind wall
			12.00	12.00	ft	Length, LT WW
			6.00	6.00	SF	Area, Behind WW

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WW RT	front	7.50	7.50	ft	Max Height, RT WW
		7.50	7.50	ft	Min Height, RT WW
		7.50	7.50	ft	average height, WW
		7.50	7.50	ft	Max Height, RT proposed ground
		1.00	1.00	ft	Min Height, RT proposed ground
		4.25	4.25	ft	average height, proposed ground
	top	3.25	3.25	ft	Difference in height, wall & T/Ground
		12.00	12.00	ft	Length, RT WW
		39.00	39.00	SF	AREA, RT WW front
		1.00	1.00	ft	Wingwall Thickness
		12.00	12.00	ft	Length, RT WW
		12.00	12.00	SF	Area, Top of WW

The ground line is flush with top of wall

HW	front	14.00	14.00	ft	length of headwall
		7.50	7.50	ft	height of headwall + box
		105.00	105.00	SF	Area, front of HW
		5.00	5.00	ft	Rise
		12.00	12.00	ft	Span
		-60.00	-60.00	SF	Subtract hole (Area of culvert)
	top	45.00	45.00	sf	total headwalls, front
		1.00	1.00	ft	HW Thickness
		14.00	14.00	ft	Length, HW
		14.00	14.00	SF	Area, Top of HW

The ground line is flush with top of wall

HW	Inside	34.0	34.0	ft	Perimeter inside culvert	
		2	2	ft	Depth inside culvert	
		1	1	ea	number of ends	
		68	68	SF	total culvert	
		470	235.00	235.00	sf	TOTAL sf
		53			sy	total

512	33000	69	INLET	OUTLET	SY	TYPE 2 WATERPROOFING			
			7.00		ft	Culvert Height			
			42.00		ft	Proposed Length			
			588.00		sf	Area, culvert			
			7.50	7.50	ft	HW Height			
			2.00	2.00	ft	Length = 2 * 1 ft overlap			
			15.00	15.00	SF	Area, HWs			
	618.00		603.00	15.00	SF	Area, HWs			
	69				SY	Total Area			

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512	33010	75		SY	TYPE 3 WATERPROOFING
			14.00	ft	Culvert width
			16.00	ft	Width + 2x 1'-0" Overlaps
			42.00	ft	Proposed Length
		672.00	672.00	sf	
		75			
			INLET		OUTLET
516	13600	30		SF	1" PREFORMED EXPANSION JOINT FILLER
	LT WW		7.50	ft	Design H
			1.00	ft	width
	RT WW		7.50	ft	Design H
			1.00	ft	width
		30.00	15.00	sf	total
		30			
			INLET		OUTLET
518	21200	8		CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC
	LT WW		3.00		Average height embankment minus 1 ft
			12.00		Length of Wall
			36.00	sf	Area of Porous Backfill
			1.50	ft	thickness
			54	cf	total
	RT WW		3.00		
			12.00		
			36.00	sf	Area of Porous Backfill (CADD)
			1.50	ft	thickness
			54	cf	total
		216.00	108	cf	total
		8		cy	total
			INLET		OUTLET
601	11000	54		SY	RIPRAP, TYPE D
			484.50	sf	measured in microstation
			484.50	SF	total
			54.00	SY	total
			INLET		OUTLET
601	32200	46		CY	ROCK CHANNEL PROTECTION, TYPE C, WITH FILTER
			0.00	sf	measured in microstation
			0.00	sf	Total Area
			0.00	ft	depth
			0	cf	total
			1235.00	cf	total
			46.00	cy	total
			46.00	cy	total
			INLET		OUTLET
611	95701	42		FT	12' X 5' CONDUIT, TYPE A, 706.05 DESIGN COVER < 2FT, AS PER PLAN
			42.00	ft	Proposed Length
		42.00	42.00	ft	