



MAPS 3 Transit/Modern Streetcar Storage & Maintenance Facility

June 2015

- Program requirements
- Maintenance facility space requirements
- Oklahoma City program
- Site plan
- Building plans
- 3D massing
- Materials
- Cost Estimate

S&MF Program Requirements



- Site accessibility – Passenger cars and streetcar vehicles
- Design for short term and long term facility program
- Urban adaptability
 - Compatible with the neighborhood
 - Comply with Future Neighborhood Plans
 - Cultural / Historic Compatibility
- Covered parking for streetcar vehicles

S&MF Building Requirements

- Maintenance Track Positions
 - Heavy Maintenance
 - Service and Inspection with Inspection Pit
 - Cleaning
- Repair-Service Shop Area
 - Wheel Truck Repair / Replacement & Brakes
 - HVAC, Pantograph
- Storage – (parts, lubricants, electrical and electronics)

S&MF Building Requirements

- Office / Administration / Operations Areas
- Training / Conference / Break Room Areas
- Mezzanine/Upper Level Work Platform for Roof Equipment
- Future Expansion

S&MF Site Requirements



- MOW (Maintenance of Way) Storage, Vehicles
- OCS (Overhead Conductor/Contact System) Parts Storage
- Yard Tracks
- Employee / Service Vehicle (MOW) Parking
- Misc. Outdoor Materials Storage
- Waste Handling and Recycling
- Fire Truck Access

S&MF Outsource Requirements



- Wheel Truing
 - Ship to BNSF or DART
- Paint and Body Shop
 - Paint Booth
 - Fiberglass Body fabrication and repair
- Fare Collection / Cash Vault Storage
 - TVM (Ticket Vending Machine) Storage
- Non-Revenue Repair Shop – MOW Trucks

Building Program



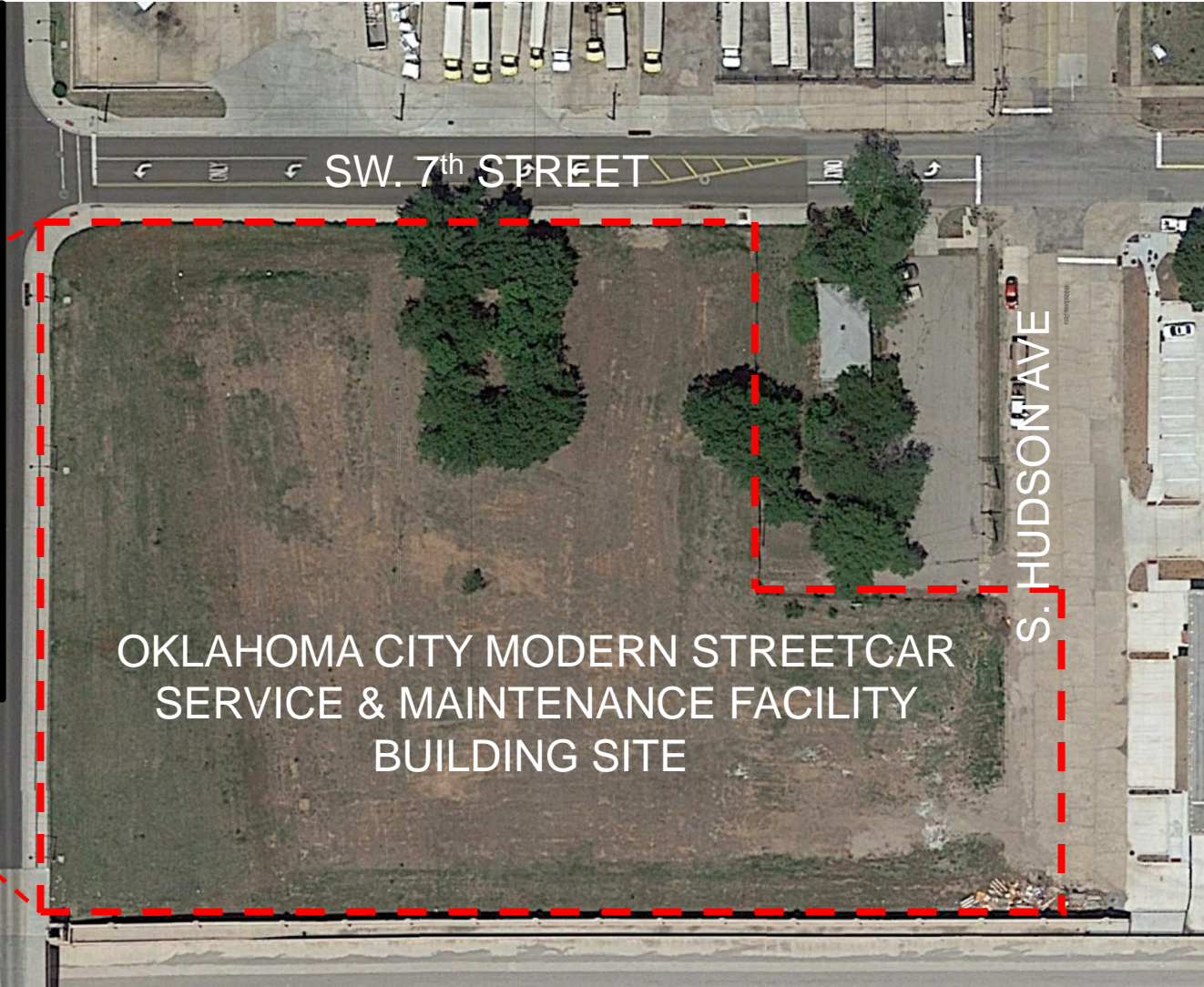
Space Name	Space Standard	5 Streetcar Fleet Program			12 Streetcar Fleet Program			Remarks
		Quantity		Area	Quantity		Area	
		Staff	Space	(square feet)	Staff	Space	(square feet)	
STREETCAR OPERATIONS ADMINISTRATION (OFFICE / SUPPORT)								
SUBTOTAL - ADMINISTRATION		15		5,904	18		6,689	
SERVICE AND INSPECTION REPAIR								
SUBTOTAL - SERVICE AND INSPECTION		2		1,960	6		1,960	
HEAVY MAINTENANCE REPAIR								
SUBTOTAL - HEAVY MAINTENANCE		2		1,960	3		3,920	
STREETCAR MAINTENANCE SHOPS AND STORAGE								
SUBTOTAL - HEAVY MAINTENANCE SHOPS & STORAGE		2		4,660	3		4,660	
MEZZANINE SHOPS AND STORAGE								
SUBTOTAL - MEZZANINE SHOPS AND STORAGE		2		3,914	3		3,914	
TOTAL - ENCLOSED STORAGE AND MAINTENANCE SPACE		23		18,298	33		21,143	
STREETCAR SERVICE AREAS - COVERED								
TOTAL - SERVICE AREAS		2		3,337	3		3,913	
TOTAL - MSF BUILDING AREAS		25		21,635	36		25,056	

Program Comparison

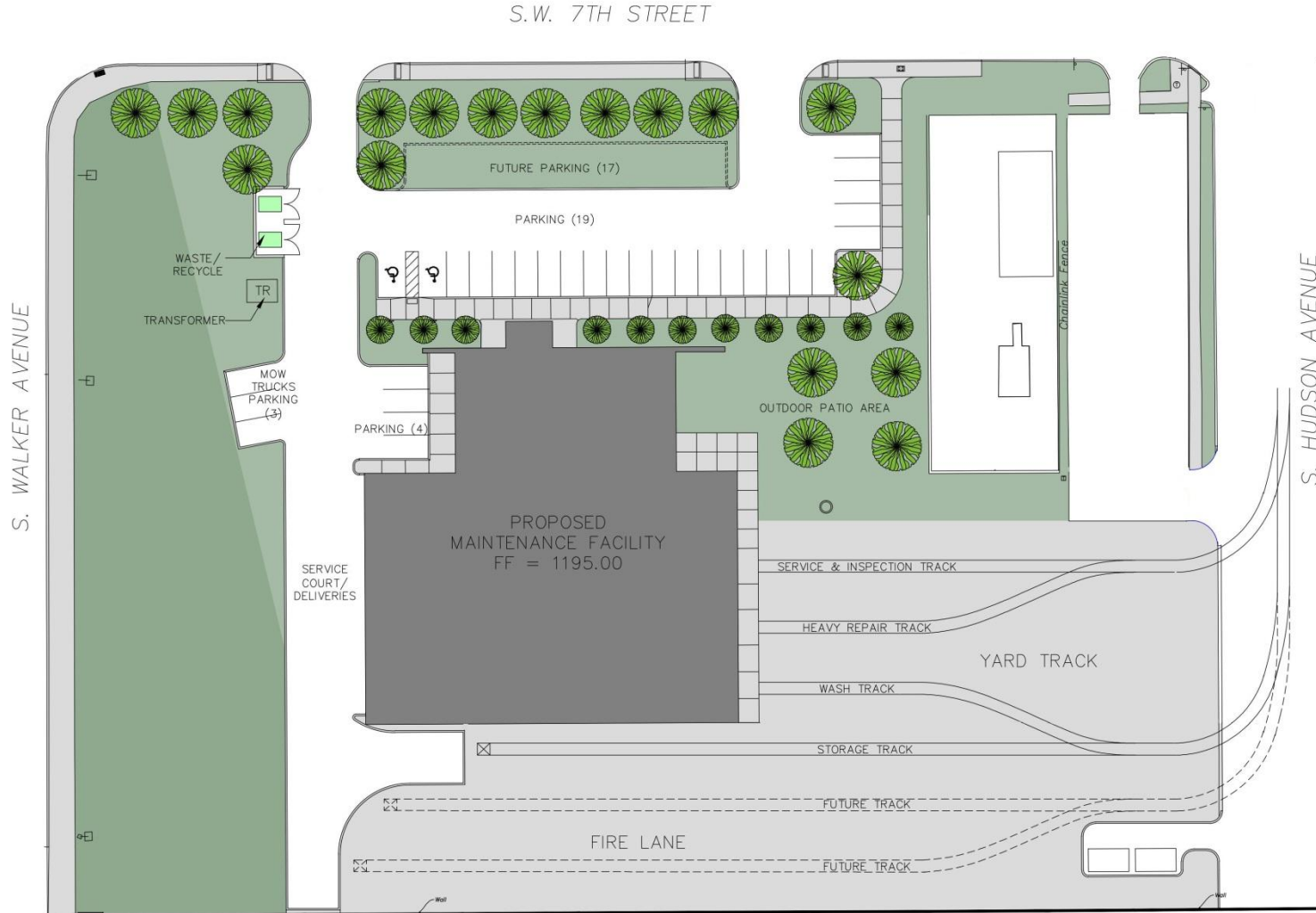


Space Name	Kansas City Streetcar Program			Detroit Streetcar Program			Tucson Streetcar Program			Oklahoma City Streetcar Program		
	Quantity		Area	Quantity		Area	Quantity		Area	Quantity		Area
	Spaces	Size	(square feet)	Spaces	Size	(square feet)	Spaces	Size	(square feet)	Spaces	Size	(square feet)
STREETCAR S&MF	4 Vehicles			6 Vehicles			9 Vehicles			5 Vehicles		
Number of Vehicles Maintained & Stored (Currently)	6 Vehicles			6 Vehicles			9 Vehicles			12 Vehicles		
Long Term Number of Vehicles Anticipated	6 Vehicles			6 Vehicles			9 Vehicles			12 Vehicles		
Office Areas												
Private Offices	3		561	4		678	6		1,110	2		540
Open Office Space			464			N/A			593			786
Office Support (Copy, Conference, Restrooms)			2,580			1,822			1,751			mezz
Subtotal			3,605			2,500			3,454			1,326
Shop Support Areas												
Parts Storage			2,000			631			1,471			1,800
Support Shop Space (CWA, Truck Shop, Wheel Truing)			1,613			875			1,951			1,175
Other (Tool Crib, Lube/Compressor, Battery)			1,762			740			1,143			778
Subtotal			5,375			2,246			4,565			3,753
Service & Inspection Position												1,960
Service & Inspection Position	1	21 x 100	2,100	1	25 x 130	3,250	1	23 x 90	2,070	1	24 x 86	2,064
Upper & Lower Level Work Areas (ULWA & LLWA)			2,400			incl.			3,268			2,865
Subtotal			4,500			3,250			5,338			4,929
Heavy Maintenance Position												1,960
Heavy Maintenance Position	1	22 x 100	2,200	1	27 x 130	3,510	1	18 x 82	1,476	1	24 x 84	1,960
Floor Bay/ Future Position			N/A			incl.			1,522			3,067
Subtotal			2,200			3,510			2,998			5,027
Cleaning & Storage Areas												
Wash Bay	1	24 x 110	2,640	1	28 x 130	3,640	2	20 x 75	3,000	1	24 x 87	2,088
Cleaning & Sand Storage			132			incl.			200			1,175
Subtotal			2,772			3,640			3,200			3,263
TOTAL BUILDING AREA			18,452			15,146			19,555			18,298

Existing Building Site

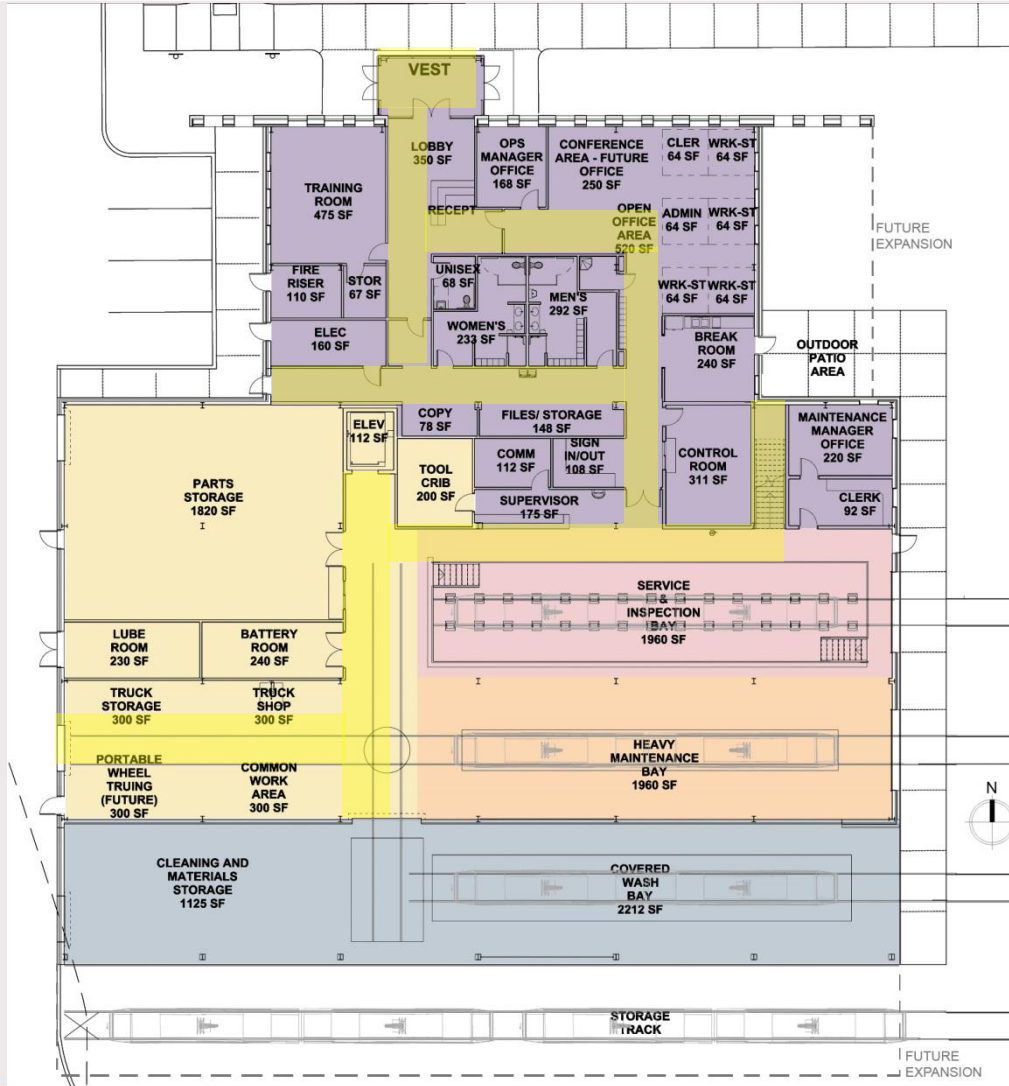


Site Plan



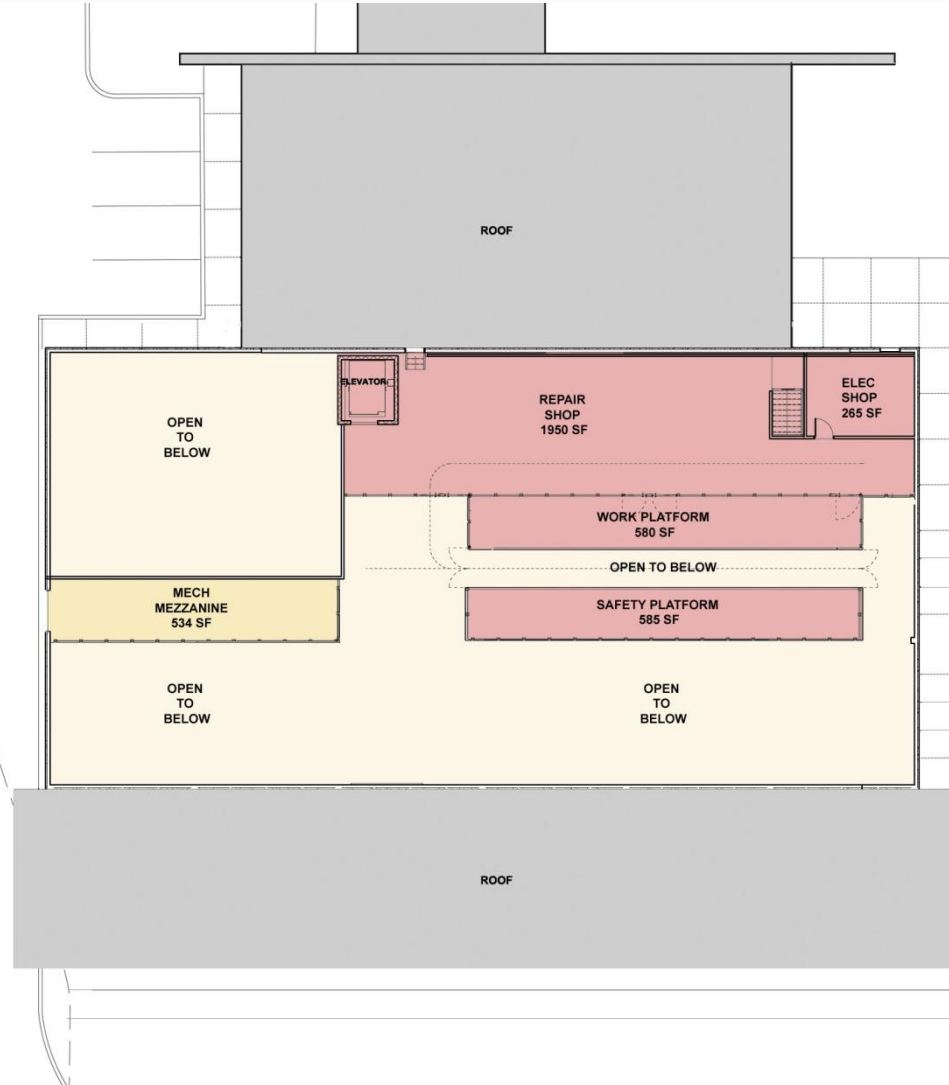
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1st Floor Plan



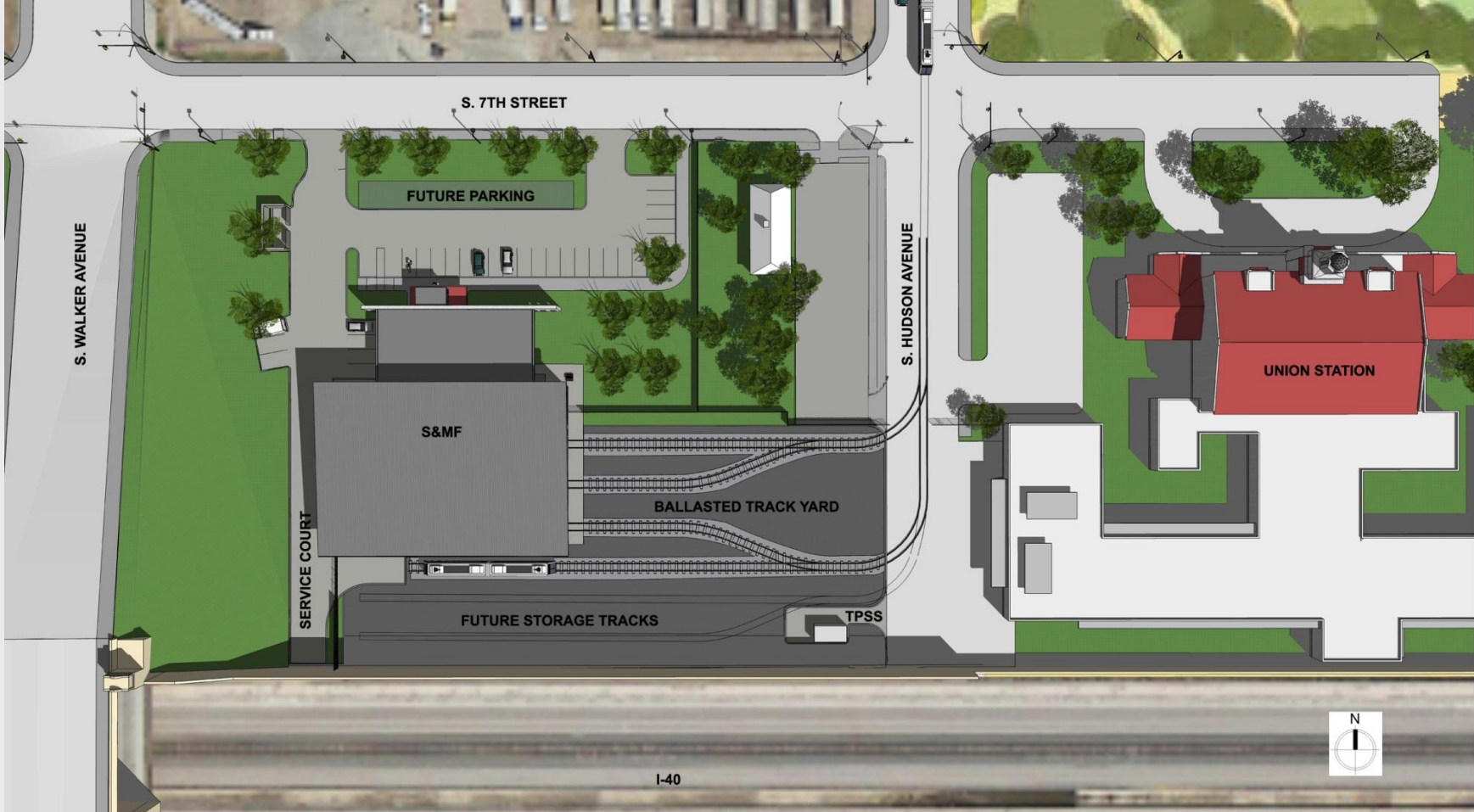
LEGEND	
FIRST FLOOR	
OFFICE / SUPPORT	
SERVICE / INSPECTION	
HEAVY MAINTENANCE	
SHOPS / SUPPORT	
CLEANING / STORAGE	
FUTURE EXPANSION	

2nd Floor Plan



LEGEND	
SECOND FLOOR	
MEZZANINE	
MECHANICAL MEZZANINE	
OPEN TO BELOW	

3D massing



Site / Area Plan

3D massing



Entrance Elevation

3D massing



East Elevation

3D massing



West Elevation

3D massing



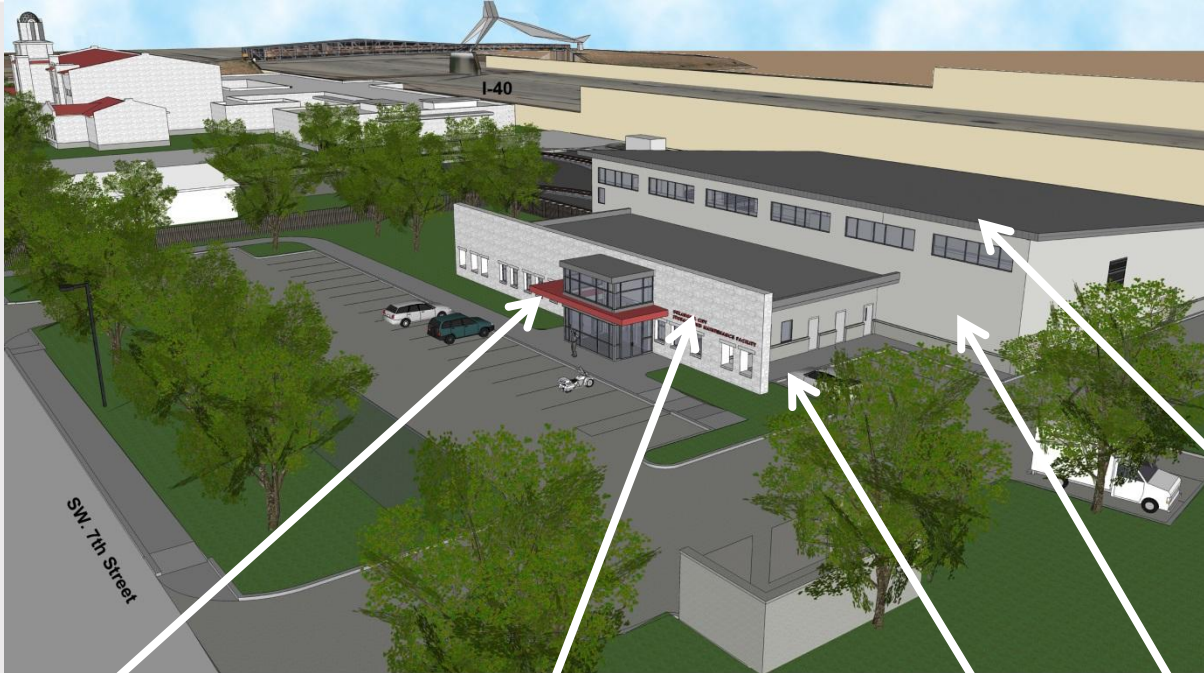
Northeast Perspective

3D massing



Northwest Perspective

Materials



Standing Seam
Metal Roofing



Architectural
Metal Panel



Limestone
Ashlar Coursing



Burnished
CMU Block



Architectural
Metal Panels

S&MF 30% Cost Estimate



<--- BASE CONTRACT ITEMS --->							<--- BID ALTERNATES --->					
SPEC REFER	SEQ NO#	PAY ITEM	ITEMS OF WORK AND MATERIALS	QTY	UNIT	UNIT PRICE	TOTAL AMOUNT	UPPER ROOF POP-UPS	ROOF OVER PARKING	MAINT. HVAC DIRECT/INDIRECT COOLG SYS	PAVED LANE SOUTH OF THE BUILDING	TOTAL AMOUNT W/ ALTS.
02000	02		EXISTING CONDITIONS	1	LSUM	138,448	\$138,448					\$138,448
03000	03		CONCRETE	1	LSUM	699,079	\$699,079					\$699,079
04000	04		MASONRY	1	LSUM	168,776	\$168,776					\$168,776
05000	05		METALS	1	LSUM	680,515	\$680,515	31,145	21,675			\$733,335
06000	06		WOOD, PLASTIC, COMPOSITES	1	LSUM	7,000	\$7,000					\$7,000
07000	07		THERMAL MOISTURE PROTECTION	1	LSUM	363,565	\$363,565	38,036	20,364			\$421,965
08000	08		OPENINGS	1	LSUM	183,184	\$183,184	13,200				\$196,384
09000	09		FINISHES	1	LSUM	175,443	\$175,443					\$175,443
10000	10		SPECIALTIES	1	LSUM	21,745	\$21,745					\$21,745
11000	11		EQUIPMENT(Contract Furnish & Install)	1	LSUM	576,676	\$576,676					\$576,676
12000	12		FURNISHINGS	1	LSUM	8,315	\$8,315					\$8,315
13000	13		SPECIAL CONSTRUCTION	1	LSUM	0	\$0					\$0
14000	14		CONVEYING EQUIPMENT	1	LSUM	120,000	\$120,000					\$120,000
21000	21		FIRE SUPPRESSION	1	LSUM	78,828	\$78,828					\$78,828
22000	22		PLUMBING	1	LSUM	191,900	\$191,900					\$191,900
23000	23		HEATING VENT. & AIR CONDITIONING	1	LSUM	354,740	\$354,740			85,000		\$439,740
26000	26		ELECTRICAL	1	LSUM	342,217	\$342,217		1,819			\$344,036
27000	27		COMMUNICATIONS	1	LSUM	20,168	\$20,168					\$20,168
28000	28		ELECTRONIC SAFETY & SECURITY	1	LSUM	20,168	\$20,168					\$20,168
31000	31		EARTHWORK	1	LSUM	69,136	\$69,136					\$69,136
32000	32		EXTERIOR IMPROVEMENTS	1	LSUM	211,988	\$211,988				39,570	\$251,558
33000	33		UTILITIES	1	LSUM	29,900	\$29,900					\$29,900
SUBTOTAL							\$4,461,791	\$82,381	\$43,858	\$85,000	\$39,570	\$4,712,600
10.00%			10% DESIGN CONTINGENCY				\$446,179	\$8,238	\$4,386	\$8,500	\$3,957	\$471,260
5.00%			5% CONSTRUCTION CONTINGENCY				\$245,399	\$4,531	\$2,412	\$4,675	\$2,176	\$259,193
SUBTOTAL							\$5,153,369	\$95,150	\$50,656	\$98,175	\$45,703	\$5,443,053
			FURNITURE ALLOWANCE	1	LSUM	75,000	\$75,000					\$75,000
			3' ENGINEERED FILL @ BLDG. PAD	1	LSUM	97,910	\$97,910					\$97,910
GRAND TOTAL							\$5,326,279					\$5,615,963

NOTES:

- 1 OWNER FURNISHED AND OWNER INSTALLED EQUIPMENT IS NOT INCLUDED IN THE ABOVE SPREADSHEET, BUT SHOWN IN SEPARATE TAB WITH A VALUE OF \$284,668
- 2 ELEVATION OF BLDG & SITE PAVING IS NOT SET, AN ALLOWANCE INCLUDED FOR A 3' DEPTH OF ENGRD FILL W/ A 4' LIMIT OUTSIDE THE BLDG PERIMETER +25% FOR SITEWORK (\$97,910)
- 3 THE SITING OF THE MAIN TRANSFORMER & THE YARD POWER PANELS ARE NOT SET, SO AN ALLOWANCE FOR THESE SERVICE CONNECTIONS WAS INCLUDED IN THE ESTIMATE (\$30,960).
- 4 AN APPROXIMATE VALUE OF 3% OF THE BASE COST WAS INCLUDED FOR MOBILIZATION & DE-MOBILIZATION ON TAB "02 EXIST COND"...
- 5 ESTIMATE IS BASED ON 2015 CONSTRUCTION, UNITS SHOWN INCLUDE OVERHEAD AND FEE IN THE VALUE. ESCALATION IS INCLUDED IN CONSTRUCTION CONTINGENCY .
- 6 INSTALLATION ONLY FOR STREETCAR TRACKS FROM 10' OUTSIDE OF BUILDING, ALL TRACK MATERIALS BY OTHERS.
- 7 AN ALLOWANCE OF \$1.00 PER SQUARE FOOT WAS INCLUDED FOR "COMMUNICATIONS" AND "SAFETY & SECURITY" AS NO DESIGN IS ADVANCED FOR THIS WORK, (\$28,450/ea included)
- 8 ALTERNATE PRICES ARE INTENDED TO BE INCLUDED BY A CONTRACTOR AT THE TIME OF THE BID TO DETERMINE IF THEY WILL BE CONSTRUCTED

S&MF 30% Overall Cost



Item	Currently Approved Budget	Current Status (30% Submittals)	Variance
	(all costs in \$ thousands)		
Transit Investigation and Standards	\$2,136	\$2,067	(\$69)
Transit Phase 1 A&E/Design/Testing/Admin	\$15,401	\$15,401	\$0
Transit Phase 1 Land Acquisition & Site Prep	\$2,500	\$2,500	\$0
Transit Rail Procurement	\$4,650	\$3,522	(\$1,128)
Transit Car Procurement	\$26,000	\$22,958	(\$3,042)
Transit Phase 1 Route Construction and FF&E	\$50,825	\$52,755	\$1,930
Storage & Maintenance Construction and FF&E	\$4,500	\$5,385	\$885
HUB Construction	\$9,810	\$9,810	\$0
Hudson Road Design/Construction	\$0	\$791	\$791
Transit Phase 1 Project Contingency	\$4,337	\$4,337	\$0
Transit Phase 2 A&E Design/Testing/Admin	\$1,160	\$1,160	\$0
Transit Phase 2 Construction	\$7,137	\$7,137	\$0
Transit Phase 2 Project Contingency	\$359	\$359	\$0
TOTAL MAPS 3 PROJECT	\$128,815	\$128,182	(\$633)

Comments/Questions

