

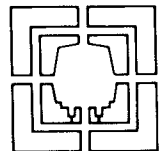
METRO RAIL PROJECT CONTRACT UNIT DESCRIPTIONS

JANUARY 1986

Metro Rail Transit Consultants

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DMJM/PBQD/KE/HWA



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SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
425 SOUTH MAIN STREET
LOS ANGELES, CALIFORNIA 90013

METRO RAIL PROJECT

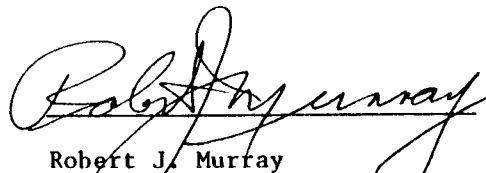
CONTRACT UNIT DESCRIPTIONS

This document contains a complete listing of Metro Rail Project contracts; it includes general descriptions of the scope of the contracts and geographic reference where applicable.

The information in this document is dynamic in nature and subject to change. The document will be kept current by supplements or by a complete revision.

Information concerning this document can be secured by contacting Jeffrey C. Christiansen, Director of Program Control for Transit Systems Development, at (213) 972-6796.

Approved:


Date 1-29-86
Robert J. Murray
Assistant General Manager
Transit Systems Development

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*Minimum Operable Segment (M.O.S.-1) - That portion of the project identified as the initial segment to be constructed as a stand-alone revenue line. Phases A2, A3, and A4 represent extensions to M.O.S.-1 in future years.

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DEFINITIONS FOR FACILITIES CONSTRUCTION

Station Stage I construction generally includes all civil and structural construction plus embedded items for installation of architectural finishes, embedded mechanical items, and electrical conduits, unless specifically included elsewhere. Other items of work include but are not limited to the following:

Demolition, site clearing, underpinning, dewatering, excavation support systems, decking, instrumentation, excavation, backfill, pavement, sidewalks, curbs, pavement markings, traffic stripes, signs, traffic signals, maintenance of traffic, fencing, maintenance of utilities, utility relocation, storm drainage, sanitary lines, embedded electric and telephone lines, structural concrete, structural steel, reinforcing steel, waterproofing, emergency access exterior doors, ventilation shaft gratings at street level, interior walls, and sleeves through walls for future conduit work.

Station Stage II construction includes all architectural work, civil site work, landscaping, and mechanical and electrical work except those items embedded in Stage I construction, unless specifically included elsewhere. Other items of work include but are not limited to the following:

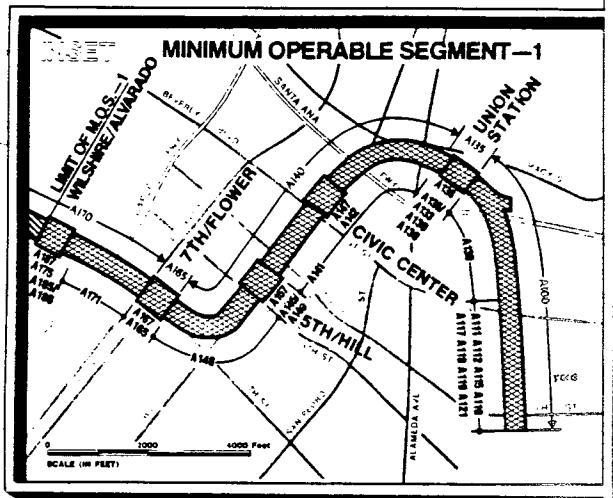
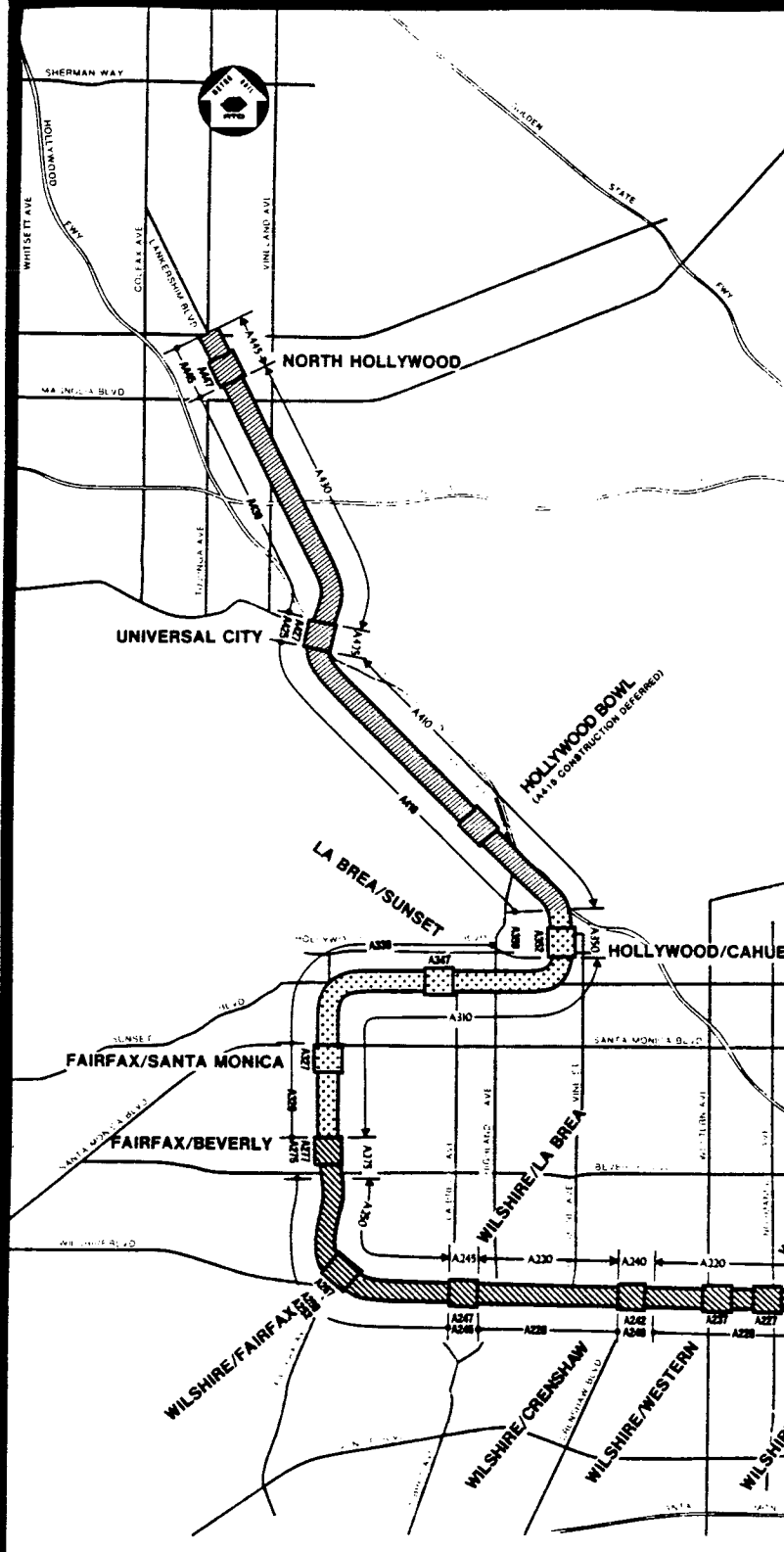
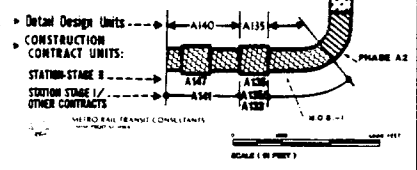
Irrigation systems, tree wells, landscape benches, topsoil, seedings, trees, shrubs, exterior slab on grade concrete, granite, unit masonry, stainless steel and aluminum assemblies, metal fabrication, steel stairs, ladders, railing, interior gratings and floor plates, custom sheet metal, carpentry, sprayed-on fire proofing, fillers, gaskets, sealants, doors and frames, overhead cooling grilles, finish hardware, glazing, furring and lathing, floor and wall tiles, acoustical panels, coatings, painting, identifying devices, telephone enclosures, toilet accessories, and ash and waste receptacles. Also included is all plumbing and mechanical work and all electrical work, including portions of the systems installation work which are identified in the facilities contract scopes of work.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

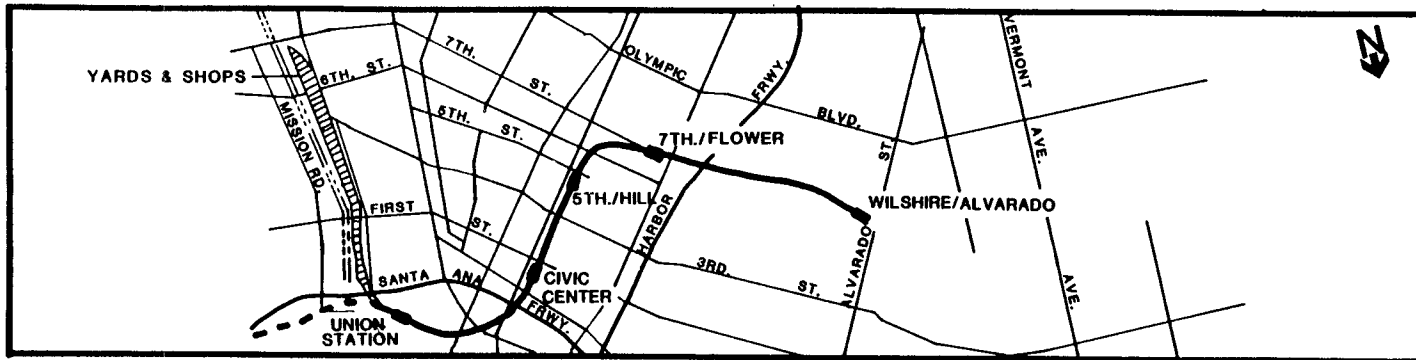
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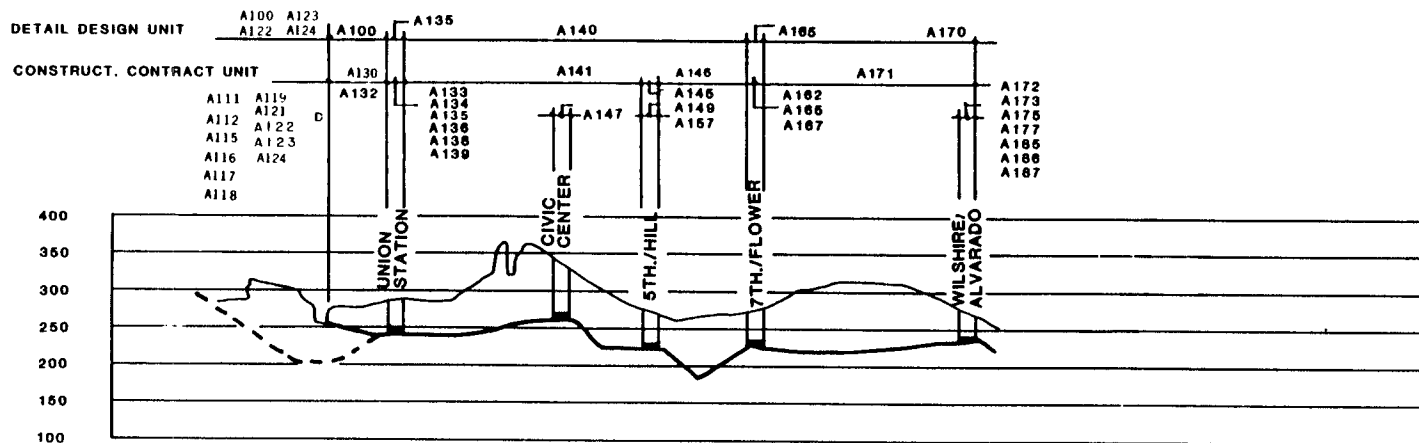
METRO RAIL PROJECT PROJECT UNIT INDEX



SEE INSET



PLAN VIEW



PROFILE

MINIMUM OPERABLE SEGMENT (MOS-1)

YARD & UNION STATION - WILSHIRE/ALVARADO

FACILITIES DESIGN & CONSTRUCTION PACKAGES

METRO RAIL PROJECT

MINIMUM OPERABLE SEGMENT (M.O.S.-1)

YARD AND UNION STATION THROUGH WILSHIRE/ALVARADO STATION

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A100	Detailed Design of the following packages:					
	Santa Fe Avenue Restoration	A-111		Sitework	Reconstruct curbs, gutters, and limited resurfacing along Santa Fe Ave.	
	Main Shop Building	A-112	186,000 Sq Ft of building floor area	Shop Building	Construction of Main Shop Building and Yard Control Tower. Construction includes architectural, mechanical, electrical, trackwork within the building area, and associated utilities.	
	Yard Storage Area	A-115	35 Acres	Civil Site-work	At-grade construction of the train storage yard and traction power substation. Construction includes demolition of existing facilities, rough grading, drainage work, relocation of utilities, rail connection to Santa Fe Railroad and installation of conduits/duct banks for all future systems contracts.	
	Yard Site Security Fencing	A-116		Fencing	Install security fencing and gates around the yard complex.	
	Yard Site Lighting	A-117		Lighting	Install lighting at the yard.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Yard Site Landscaping	A-118		Landscaping	Install sprinkler system and landscaping around Main Shop, Maintenance-of-Way Building and Central Control Facility and other designated areas.	
	Track Relocation, First Street and Hobart Yard (Force Account)	A-119	40,000 Ft	Railroad Force Account	Demolition of existing trackage, installation of new alignment trackage, and realignment of existing trackage, Santa Fe and Amtrak.	
	Maintenance-of-Way Shop Building	A-121	50,800 Sq Ft	Building Modification	Alterations and improvements to existing Santa Fe Freight Building for Maintenance-of-Way Shop function, including associated utilities.	
A122	Central Control Facility (CCF)	A-122	30,000 Sq Ft	Building	Construction of the CCF building for the Metro Rail, Bus, and possible space provision for the Light Rail control functions, including architectural, mechanical, electrical, and building utilities.	
A123	Demolition of structure on parcel A1-009, 330 Santa Fe Avenue.	A-123	50,000 Sq Ft (Building) 27,800 Sq Ft (Canopy)	Building Demolition	Demolition of building and canopy, site clearing including rough grading the area.	
A124	Ducommun and Jackson Streets Restoration	A-124	14,000 Sq Ft	Street restoration,	Reconstruct curbs, gutters, street paving per City standards and street lighting at the vacated por-	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
				curb and gutter, drainage, and street lighting.	tion of Ducommun and Jackson Streets. Also, construction of any necessary drainage facilities within dedicated easement, if required.	
A100	Yard leads and transfer zone	A-130	4.0 Acres 1,696 Ft 978 Ft	Yard Leads Main Line Car Wash	Main line, yard leads, and yard portion north of First St. and east of Union Station, and provisions for east extension (Norwalk). Cut-and-cover construction of yard leads including demolition, grading, retaining walls, traction power substation (Union Station), major modification of underground storm drain, underpinning of existing freeway, installation and rerouting of utilities, and restoration. Construction of passenger vehicle car wash.	91 + 59 101 + 37 84 + 41 101 + 37
	Yard/Shops and Yard Leads Telephone Relocation	MA-007		Utilities	Relocate interfering telephone lines.	
	Yard/Shops and Yard Leads Gas Relocation	MA-093		Utilities	Relocate interfering gas lines.	
	Yard/Shops and Yard Leads Western Union Replacement	MA-008		Utilities	Provide inspection service for Western Union lines.	
	Yard/Shops and Yard Leads Water Relocation	MA-A09		Utilities	Relocate interfering water lines.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Yard/Shops and Yard Leads Power Relocation	MA-009		Utilities	Relocate interfering power lines.	
	Yard/Shops and Yard Leads Chevron Relocation	MA-545		Utilities	Relocate interfering oil lines.	
	Yard/Shops and Yard Leads City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	Yard/Shops and Yard Leads Caltrans	MA-056		Agency	Provide construction inspection for Caltrans facilities and other related services required for Project implementation.	
	Yard/Shops and Yard Leads County of L.A.	MA-094		Agency	Provide construction inspection for County facilities and other related services required for Project implementation.	
	Demolition of structure on parcel A1-024, 530 Ramirez St.	A-132	7,000 Sq Ft	Building Demolition	Demolition of building, site clearing including rough grading the area.	
A133	Union Station replacement baggage handling facilities	A-133		Building Modification	Construct replacement baggage handling facility for Amtrak patrons of Union Station.	Existing Union Station
A135	Detailed Design of the following packages:					
	Demolition of structure on parcel A1-032, 719 Vignes St.	A-134	14,000 Sq Ft	Building Demolition	Demolition of building, site clearing including rough grading the area.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
X	Union Station, Stage I design for station and double crossover just west of station	A-135	982 Ft	Station and Cross-over Stage I	Stage I construction of Union Station and a portion of the double crossover structure west of station, except for the last 107 feet, including all civil and structural construction (shell), plus embedded items for installation of architectural finishes, embedded mechanical items, and electrical conduits.	101 + 41 111 + 23
	Union Station, Stage II design for station and double crossover just west of station	A-136	1,089 Ft	Station and Cross-over Stage II	Union Station and west cross-over Stage II construction, and restoration of historic service ramp and portion of Utility Building, including all architectural, mechanical, and electrical work except those items embedded in Stage I construction.	101 + 41 112 + 30
	Union Station Sitework	A-138		Sitework	Curbs, gutters, sidewalks, and paving at east and west ends of Union Station.	
	Union Station Site Landscaping	A-139		Landscaping	Sprinklers and landscaping at Union Station.	
	Union Station Telephone Relocation	MA-007		Utilities	Relocate interfering telephone lines.	
	Union Station Power Relocation	MA-009		Utilities	Relocate interfering power lines.	
	Union Station Water Relocation	MA-A09		Utilities	Relocate interfering water lines.	


Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Union Station Western Union Replacement	MA-008		Utilities	Provide inspection service for Western Union lines.	
	Union Station City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	Union Station Caltrans	MA-056		Agency	Provide construction inspection for State facilities and other related services required for Project implementation.	
A140	Detailed Design of the following packages:					
	Line Section, Union Station to 5th/Hill Civic Center Station - Stage I	A-141	5,868 Ft	Line Section and Station Stage I	Construction of that portion of the line beginning in the last 107 feet of the crossover west of Union Station, proceeding beneath Macy St. and Sunset Blvd., deviating at Spring St., crossing under Broadway and continuing under Hill St. just north of Santa Ana Freeway. Line continues through Civic Center Station to the 5th/Hill Station.	111 + 23 169 + 91
			570 Ft		Stage I construction of Civic Center Station with a traction power substation; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the required architectural and	146 + 47 152 + 17

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					mechanical items and electrical conduits.	
	Civic Center Power Relocation	MA-009		Utilities	Relocate interfering power lines and manholes at Civic Center Station.	
	Civic Center Telephone Relocation	MA-007		Utilities	Relocate interfering telephone line at Civic Center Station.	
	Civic Center Gas Relocation	MA-093		Utilities	Relocate interfering gas lines at Civic Center Station.	
	Civic Center Western Union Replacement	MA-008		Utilities	Replace interfering Western Union lines.	
	Civic Center Water Relocation	MA-A09		Utilities	Relocate interfering water lines at Civic Center Station.	
	Civic Center Cable TV Replacement	MA-533		Utilities	Provide inspection service for cable TV lines at Civic Center Station.	
	Civic Center City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	Civic Center County of L.A.	MA-094		Agency	Provide construction inspection for County facilities and other related services required for Project implementation.	
	Civic Center Caltrans	MA-056		Agency	Provide construction inspection for State facilities and other related services required for Project implementation.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
5th/Hill Station, Stage I		A-145	831 Ft	Station Stage I	Stage I construction of 5th/Hill Station with an auxiliary power substation; including all civil and structural construction (shell). This contract also includes the embedment of all required architectural and mechanical items, as well as electrical conduits.	169 + 91 178 + 22
5th/Hill Power Relocation		MA-009		Utilities	Modification of building electrical service, pulling and splicing of cables for interfering power lines at 5th/Hill Station.	
5th/Hill Telephone Relocation		MA-007		Utilities	Construction of conduits, pulling and splicing of cables for telephone lines at 5th/Hill Station.	
5th/Hill Gas Relocation		MA-093		Utilities	Provide inspection service for gas lines at 5th/Hill Station.	
5th/Hill Water Relocation		MA-A09		Utilities	Provide connection and inspection service for water lines at 5th/Hill Station.	
5th/Hill Cable TV Replacement		MA-533		Utilities	Provide inspection service for cable TV lines at 5th/Hill Station.	
5th/Hill Western Union Replacement		MA-008		Utilities	Provide inspection service for Western Union lines.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	5th/Hill City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	Line Section, 5th/Hill Station to 7th/Flower Station	A-146	2,100 Ft	Line Section	Construction of that portion of the line beginning just south of 5th/Hill station, turning west under 7th St. to 7th/Flower Station.	178 + 22 199 + 22
	Civic Center Station Stage II	A-147	570 Ft	Station Stage II	Stage II construction of Civic Center Station; includes all architectural, landscaping, mechanical, electrical, and restoration work except for those items embedded in Stage I construction.	146 + 47 152 + 17
	5th/Hill Station, Stage II	A-157	831 Ft	Station Stage II	Stage II construction of 5th/Hill Station; includes all architectural, landscaping, mechanical, electrical, and restoration work except for those items embedded in Stage I construction.	169 + 91 178 + 22
A149	5th/Hill Station Utility Relocation and Vault Modification	A-149			Construct conduit, manholes, pipes, and other related facilities for gas, water, power, telephones, and cable TV in accordance with utility company plans and specifications. Coordinate connection and remove and modify existing vaults and basements, and relocate building utility services at 5th/Hill Station.	

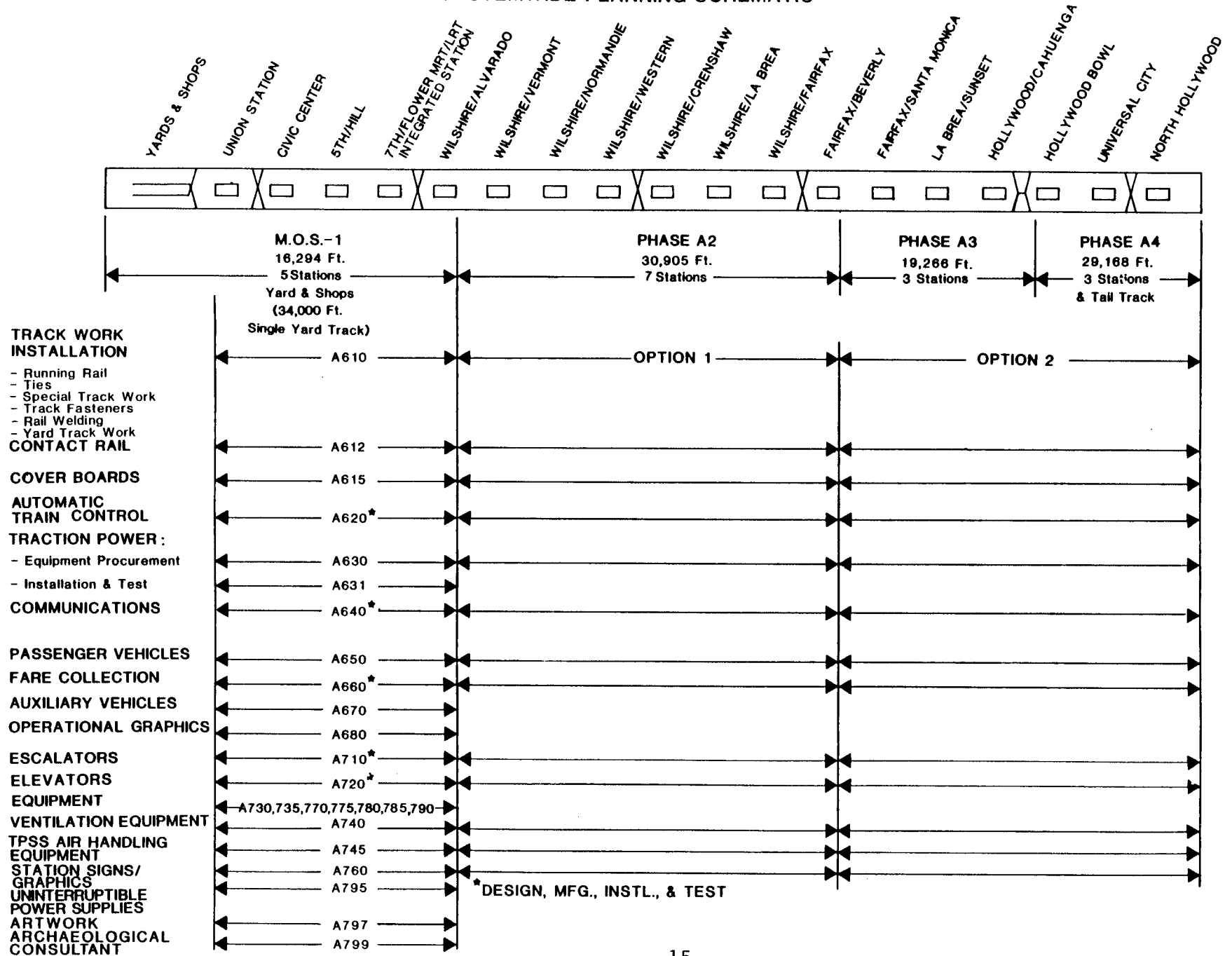
Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A165	Detailed Design of the following packages:					
	Demolition of structure on parcel A1-176, 654 S. Figueroa St.	A-162	5,200 Sq Ft	Building Demolition	Demolition of building, site clearing including rough grading the area.	
X	7th/Flower Station, Stage I	A-165	MRT 662 Ft LRT 996 Ft±	Station Stage I	Stage I construction of integrated 7th/Flower Station for both Metro Rail Project and Long Beach - Los Angeles Rail Transit Project, including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items, as well as electrical conduits. Contract does not include the west entrance and traction power substation shell, provided by others.	MRT 199 + 22 205 + 84 LRT 4 + 25± 14 + 21±
	7th/Flower Power Relocation	MA-009		Utilities	Relocate interfering power lines at 7th/Flower Station.	
	7th/Flower Telephone Relocation	MA-007		Utilities	Relocate interfering telephone lines at 7th/Flower Station.	
	7th/Flower Gas Relocation	MA-093		Utilities	Relocate interfering gas lines at 7th/Flower Station.	
	7th/Flower Water Relocation	MA-A09		Utilities	Relocate interfering water lines at 7th/Flower Station.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	7th/Flower Cable TV Relocation	MA-533		Utilities	Relocate interfering cable TV lines at 7th/Flower Station.	
	7th/Flower Western Union Replacement	MA-008		Utilities	Provide inspection service for Western Union lines.	
	7th/Flower City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	7th/Flower Station, Stage II	A-167	MRT 662 Ft LRT 996 Ft±	Station, Stage II	Stage II construction of integrated 7th/Flower Station; including all architectural, civil site-work, landscaping, mechanical, electrical, and restoration work except for those items embedded in Stage I construction. Contract includes finish for the west entrance and traction power substation.	MRT 199 + 22 205 + 84 LRT 41 + 25± 14 + 21±
A170	Detailed Design of the following packages:					
	Line Section, 7th/Flower to Wilshire/Vermont	A-171	4,960 Ft	Line Section	Excavation of a 100-foot portion of the double crossover structure east of the Wilshire/Alvarado Station and the line continuing in a southeasterly direction to the 7th/Flower Station.	205 + 84 228 + 55 (equation) 228 + 54 255 + 43
	Demolition of structure on parcel A1-208, W. 7th St.	A-172	14,000 Sq Ft	Building Demolition	Demolition of building, site clearing including rough grading the area.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Demolition of structures on parcels A1-221, A1-222, A1-224 and A1-225, 676-862, 670-674, 660-668, 684-686 Alvarado St.	A-173	42,000 Sq Ft	Building Demolition	Demolition of buildings, site clearing including rough grading the area.	
	Wilshire/Alvarado Station, Stage I	A-175	876 Ft	Station Stage I	Stage I construction of Wilshire/Alvarado Station and a surface traction power substation, including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items, as well as electrical conduits. (Excavation of the easterly 100 feet of the double crossover is not included.)	255 + 43 264 + 19
	Demolition of structure on parcel A1-209, 1908 Wilshire Blvd.	A-177	48,050 Sq Ft	Building Demolition	Demolition of building, site clearing including rough grading the area.	
	Wilshire/Alvarado Power Relocation	MA-009		Utilities	Relocate interfering power lines.	
	Wilshire/Alvarado Telephone Relocation	MA-007		Utilities	Relocate interfering telephone lines.	
	Wilshire/Alvarado Gas Relocation	MA-093		Utilities	Relocate interfering gas lines.	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Wilshire/Alvarado Water Relocation	MA-A09		Utilities	Relocate interfering water lines.	
	Wilshire/Alvarado City of L.A.	MA-002		Agency	Provide construction inspection for City facilities and other related services required for Project implementation.	
	Wilshire/Alvarado Caltrans	MA-056		Agency	Provide construction inspection for State facilities and other related services required for Project implementation.	
	Wilshire/Alvarado Station, Stage II	A-187	965 Ft	Station Stage II	Stage II construction of Wilshire/Alvarado Station with a traction power substation and double crossover just east of station; including all architectural, mechanical, and electrical work except for those items embedded in Stage I construction.	254 + 54 264 + 19
	Wilshire/Alvarado Restoration	A-185		Sitework	Sitework, including kiss-and-ride facility, bus drop-off facility, entry plaza, curbs, gutters, and sidewalks.	254 + 54 264 + 19
	Wilshire/Alvarado Site Landscaping	A-186		Landscaping	Installation of sprinklers and landscaping at station site.	

METRO RAIL PROJECT SYSTEMWIDE PLANNING SCHEMATIC



METRO RAIL PROJECT

SYSTEMWIDE CONTRACT UNIT DESCRIPTIONS

ASSIGNMENT OF SYSTEMWIDE ELEMENTS IN FACILITIES CONTRACT SCOPES OF WORK

GENERAL: In addition to the separate systemwide contracts provided for in the succeeding pages, the following systemwide elements are contractor furnished or installed for all Facilities Contracts in the Metro Rail Project:

NOTE 1: Facilities Contract for a complete station or a Station Stage II (Finish Contract) includes:

- o Emergency & Underplatform Fans -- Installation only
(District-furnished item)
- o TPSS Air Handling Equipment -- Installation only
(District-furnished item)
- o Signage and Graphics -- Install
within station areas only
(District-furnished item)
- o Locks, etc. -- Furnish and install
within station areas only
- o Auxiliary Electrical System -- Uninterruptible Power Supplies --
Installation only
(District-furnished item)

NOTE 2: Facilities Contract for a tunnel section includes:

- o Midline Vent Shaft Fans -- Installation
only (District-furnished item)

METRO RAIL PROJECT

SYSTEMWIDE CONTRACT UNIT DESCRIPTIONS

DESIGN, INSTALLATION, PROCUREMENT, FURNISH AND INSTALL, AND SERVICE

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A610	Trackwork Installation - Detailed Design and Bid Document Preparation for procurement and installation of trackwork; including running rail, timber ties, special trackwork, direct-fixation rail fasteners, rail welding and yard trackwork for M.O.S.-1 with options for Phases A2, A3, and A4	A-610		Procure, Furnish, and Install	Trackwork procurement and installation including running rail, special trackwork and timber ties, and direct-fixation rail fasteners and ballast. Also included is welding rail into 1,440-foot lengths by the electric flush-butt method. Installation of District-furnished contact rail insulators and coverboards, contact rail, contact rail anchors, and contact rail power cables.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A612	Contact Rail - Design and preparation of Bid Documents for Procurement of contact rail and appurtenances. Documents are for M.O.S.-1 with options for Phases A2, A3, and A4	A-612		Procure	Manufacture, test, and deliver contact rail, support insulators, and associated hardware including side approach sections, end approach sections, anchor assemblies, expansion joint assemblies, and splice joint assemblies. The work includes furnishing installation support services. This contract excludes handling and storage after delivery. Installation is covered under Contract A610, and procurement of the protective coverboard is covered under Contract A615.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A615	Protective Coverboard - Design and preparation of Bid Documents for procurement of contact rail protective coverboard and appurtenances. Documents are for M.O.S.-1 with options for Phases A2, A3, and A4	A-615		Procure	Manufacture, test, and deliver contact rail protective coverboard, support brackets, and associated hardware including fastener assemblies and expansion joint hardware. The work does not include handling and storage after delivery and installation, both are covered under Contract A610. Procurement of contact rail system is covered under A612.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A620	Automatic Train Control - Establish design criteria, specifications, and test parameters; prepare Bid Documents for the designing, furnishing, and installing of an Automatic Train Control System for M.O.S.-1 with options for Phases A2, A3, and A4	A-620		Design, Furnish, and Install	Design, furnish, and install an Automatic Train Control (ATC) System. The work includes start-up of the ATC system, which includes testing, training, and making ready for full passenger-carrying operation. Installation includes all train control cables and impedance bonds along the trackway and in the storage yard. It also includes installation of the communications cables in the tunnels and laying of the 34.5 kV tunnel feeder cable in the circular tunnel sections. All radio antennae and Yard communications cables installation and local wiring to Communications apparatus located in tunnels and crosspassages are done under A640. Completion	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
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of the 34.5 kV tunnel feeder installation is done under A631. A620 also includes installation of wayside ATO equipment furnished under A650. The ATC system includes equipment along the trackway (including track switch machines), in equipment rooms, in passenger stations and certain midline locations, in the storage and maintenance yard, and on passenger vehicles. Not included are: furnishing and installation of ATS equipment for Rail Control Center; furnishing of ATO equipment to be installed by the vehicle contractor under Contract A650, insulated rail joints to be installed under Contract A610, and the data communications equipment to transmit information between the Rail Control Center and train control/communications equipment rooms.

A630 Traction Power Equipment - Establish design criteria, specifications, and test parameters; prepare Bid Documents for a design and furnish contract for a systemwide System for M.O.S.-1 including the

A-630

Procure

Manufacture, test, deliver, and supervise installation of traction power substation equipment and auxiliary power electrical substation equipment. The traction power substation equipment includes: high-voltage ac switchgear assemblies, ac-to-dc conversion assemblies, and metal clad dc

M.O.S.-1
Option 1:
Phase A2
Option 2:
Phases
A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
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Yard and Shops. Make provision in specifications for option quantities for Phases A2, A3, and A4.

switchgear assemblies, batteries, and accessories. Auxiliary power electrical substation equipment includes power transformers and some 480 v switchgear. The contract covers M.O.S.-1 and options for Phases A2, A3, and A4, and for certain equipment deferred from the M.O.S.-1 procurement. The contract does not include installation of the procured equipment, structures in which the equipment is to be installed, and central supervisory control equipment. Participation and technical assistance is required during testing.

A631 Traction Power Installation - Design and prepare Bid Documents for installing the equipment procured under Contract A630 and furnishing and installing associated substation material and equipment for M.O.S.-1

A-631

Install

Install traction power equipment procured under Contract A630 and furnish and install associated miscellaneous substation equipment and material. Procure the 34.5 kV tunnel feeder cable, splice and fireproof the cable after it is laid by the A620 contractor. Install the 34.5 kV tunnel feeder cable in the rectangular tunnel areas and yard. The installation work includes furnishing labor for installing and field testing all material furnished under this contract and Contract A630, and the handling and storage of all the

M.O.S.-1

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A640	Communications - Establish design criteria, specifications, and test parameters; prepare Bid Documents for a design; furnish and install contract for a systemwide	A-640		Design, Furnish, and Install	<p>materials. The associated miscellaneous materials and equipment to be furnished include, but are not limited to: distribution panelboards, annunciator panels, emergency trip stations, wire and cable to contact rail locations, raceway systems, supports and accessories, negative bus boxes, dc disconnect switches, and substation negative return cables to wayside location.</p> <p>The work does not include procurement of the traction power equipment which is covered in Contract A630, impedance bonds or laying of the 34.5 kV tunnel feeder in circular tunnel sections which are included in Contract A620; nor does the work include electrical substation building structures, embedded raceways, and lighting and mechanical systems within the buildings.</p> <p>Design, furnish, and install the systemwide Communications System and subsystems for passenger stations, trackway, wayside equipment and facilities, Yard and Shops, and Rail Control Center. The design includes establishing interfaces with automatic train control, traction</p>	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Communications System for M.O.S.-1 including the Yard and Shops, and Rail Control Center and vehicles. Make provision in specifications for option quantities for Phases A2, A3, and A4				power, vehicles, ventilation, Rail Control Center, Yard, shop, fire and intrusion alarms, fare collection, and miscellaneous electromechanical facilities. Installation includes installing, testing, training, and making operational all communication equipment. The cables in the tunnel areas, except the lossy line, will be furnished under this contract but installed under A620. The lossy line is furnished and installed by A640. The major communications subsystems include: radio, including train-to-wayside radio and vehicle-borne train identification control unit, fire detection, gas monitoring, Halon systems, seismic detectors, telephone, public address, CCTV, cable transmission, communications power, supervisory control and data acquisition, central data processing, display, alarms, central printout, and central recording. Communications cables in the tunnel sections will be laid by ATC contractor A620. Participation and technical assistance is required during testing.	
A650	Passenger Vehicles - Establish design criteria, specifications, and test parameters; prepare Bid Documents for a passenger vehicle	A-650		Procure	Design, manufacture, test, and deliver 30 vehicles (15 dependent pairs) along with spare parts, maintenance manuals, special tools, and vehicle testing services. An option	M.O.S.-1 Option 1: Phase A2 Option A2: Phases A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	Contract for M.O.S.-1. Make provision in specifications for option quantities for Phases A2, A3, and A4				for the District to purchase additional vehicles will be a part of the contract. The total quantity for M.O.S.-1 and Phases A2, A3, and A4 will be 130 vehicles (65 dependent pairs). The contract will require the installation of District-furnished train control equipment (i.e., automatic train protection, interfaced train-to-wayside radio, and antennae) and to furnish and install speed maintaining and station stopping control equipment. Participation and technical assistance is required during testing.	
A660	Fare Collection - Establish design criteria, specifications, and test parameters; prepare Bid Documents for a Fare Collection Equipment contract for M.O.S.-1. Make provisions in specifications for option quantities for Phases A2, A3, and A4	A-660		Design, Furnish, and Install	Design, furnish, install, test, and place into operation the fare collection gates, ticket vending machines, bill changing machines, addfare machines, station control panels, revenue collection carts, and ticket encoding equipment. Participation and technical assistance is required during testing.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A670	Auxiliary Vehicles - Complete design, specification, and test					

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	parameters for Auxiliary Vehicles					
	<u>Procurements:</u>					
	Locomotive (M.O.S.-1)	A-671		Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and vehicle testing services.	M.O.S.-1
	Flat Cars	A-672	3 ea	Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and vehicle testing services.	M.O.S.-1
	Crane for flat car (M.O.S.-1)	A-675		Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and vehicle testing services.	M.O.S.-1
A680	Operational Graphics - Establish design criteria and specifications; prepare Bid Documents for track wayside fixed signs and all tunnel and cross-over graphics, operational graphics; furnish construction details, fabrication assembly, and installation methods.	A-680		Procure	Design, manufacture, and deliver operational graphics.	M.O.S.-1

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
Contract is for M.O.S.-1						
A710	Escalators - Establish design criteria, specifications, and test parameters; prepare Bid Documents for an Escalator contract for M.O.S.-1 with options for Phases A2, A3, and A4	A-710		Furnish and Install	Furnish, install, test, and place into operation the station escalators for all M.O.S.-1 stations.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A720	Elevators - Establish design criteria, specifications, and test parameters; prepare Bid Documents for an Elevator contract for M.O.S.-1 with options for Phases A2, A3, and A4	A-720		Furnish and Install	Furnish, install, test, and place into operation the station elevators for all M.O.S.-1 stations.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A730	Shop Equipment - Design and prepare Bid Documents for procurement of fixed shop equipment for M.O.S.-1	A-730		Furnish and Install	Multiple contracts for fixed shop equipment.	M.O.S.-1
A735	Shop Equipment - Design and prepare Bid Documents for procurement of free-standing/portable shop equipment for M.O.S.-1	A-735		Procure	Multiple contracts for free-standing/portable shop equipment.	M.O.S.-1

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A740	Ventilation Equipment - Establish design criteria specifications, test parameters, and Bid Documents for procurement and delivery of midtunnel ventilation, emergency, and underplatform exhaust fans, dampers, and controls. Bid documents are for M.O.S.-1 with options for Phases A2, A3, and A4	A-740		Procure	Furnish midtunnel ventilation and emergency fans and underplatform fans, dampers, and controls. Provide technical assistance during on-site testing.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A745	TPSS - Air Handling Equipment - Establish design criteria, design, and preparation of Bid Documents for manufacturing and delivery of traction power room air handling equipment for M.O.S.-1 with options for Phases A2, A3, and A4	A-745		Procure	Furnish traction power room air handling equipment.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4
A760	Signs & Graphics - Preparation of complete set of contract documents defining separate station sign schedules, prototype messages, edge lighting fixtures, and other pertinent information. Furnish construction details	A-760		Procure	Design, manufacture, and deliver signage and graphics.	M.O.S.-1 Option 1: Phase A2 Option 2: Phases A3 and A4

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	necessary to describe fabrication, assembly, and installation methods. Bid Documents are for M.O.S.-1 with options for Phases A2, A3, and A4					
A770	Rubber-Tired Vehicles - Design and prepare Bid Documents for procurement of rubber-tired vehicles	A-770		Procure	Multiple contracts for rubber-tired vehicles.	M.O.S.-1
A775	Mobile Emergency and Maintenance Equipment - Design and prepare Bid Documents for procurement of mobile emergency and maintenance equipment	A-775		Procure	Multiple contracts for mobile emergency and maintenance equipment.	M.O.S.-1
A780	Furniture - Preparation of Bid Documents for procurement of Shops and Stations furniture	A-780		Procure	Multiple contracts for shops and stations furniture.	M.O.S.-1
A785	Fire Suppression Equipment - Prepare specification and bid documents for the procurement of fire extinguishers, fire hose, fire hose nozzles, and 90° ball valves for	A-785		Procure	Manufacture, test, and deliver fire extinguishers, fire hose, fire hose nozzles, and 90° ball valves. The contract does not include installation of the procured equipment or facilities for the installation of the equipment. The handling and storage after	M.O.S.-1

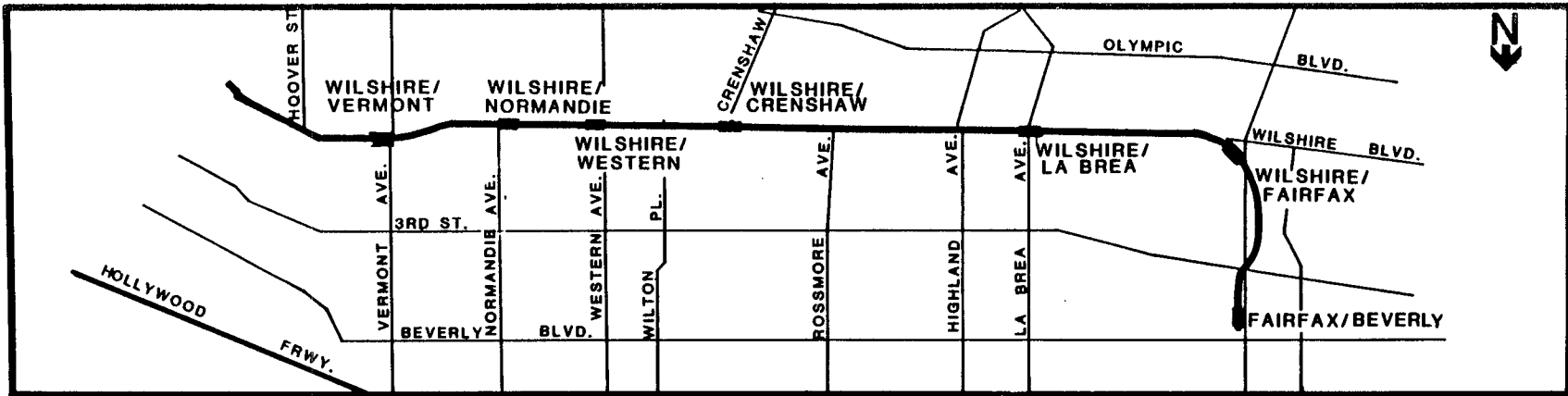
Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	MOS-1 with options for Phases A2, A3, and A4.				delivery is also excluded from this contract.	
A790	First Stores and Consumables - Preparation of Bid Documents for procurement of first stores and consumables	A-790		Procure	Multiple contracts for first stores and consumables.	M.O.S.-1
A795	Uninterruptible Power Supplies - Establish design criteria, specifications, test parameters, and Bid Documents for procurement and delivery of uninterruptible power supplies.	A-795		Procure	Procure uninterruptible power supplies equipment.	M.O.S.-1
A797	Artwork - Design individual artwork projects at each station; incorporate into finished contract documents.	A-797		Furnish or Install/Furnish and Install	Fabricate, furnish, install artwork for designated Stations	M.O.S.-1
A799	Archaeological Consultant	A-799		Professional Services	Monitor excavation and provide treatment of archaeological resources.	M.O.S.-1

METRO RAIL PROJECT

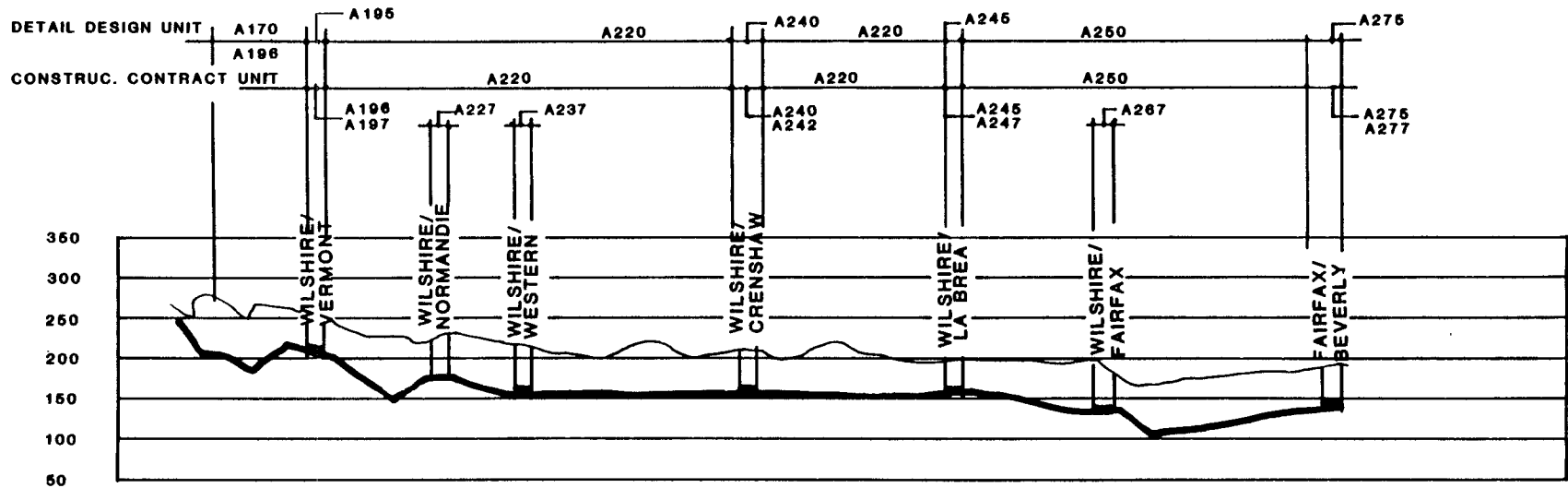
FACILITIES CONTRACT UNIT DESCRIPTIONS (PHASES A2, A3, AND A4)

INTRODUCTION

The following Contract Unit Descriptions represent extensions to the Minimum Operable Segment (M.O.S.-1) planned in future years to extend the Metro Rail System from the Wilshire/Alvarado Station through and including the North Hollywood Station and Tail Track.



PLAN VIEW



PROFILE

PHASE A2 WILSHIRE/ALVARADO - FAIRFAX/BEVERLY

FACILITIES DESIGN & CONSTRUCTION PACKAGES

METRO RAIL PROJECT

FACILITIES CONTRACT UNIT DESCRIPTIONS (PHASE A2)

FROM WILSHIRE/ALVARADO STATION THROUGH FAIRFAX/BEVERLY STATION

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A195	Detailed Design of the following packages:					
	Wilshire/Vermont Station, Stage I	A-196	5,497 Ft	Line Section and Station	Construction of that portion of line continuing northwesterly from Wilshire/Alvarado Station under Wilshire Blvd. and terminating at a point just north of Wilshire Blvd., and east of Vermont. Stage I construction of Wilshire/Vermont Station with a traction power substation and a bus/kiss-and-ride facility; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	264 + 19 319 + 16
	Wilshire/Vermont Station, Stage II	A-197	558 Ft	Station Stage II	Stage II construction of Wilshire/Vermont Station with a traction power substation and bus/kiss-and-ride facility	313 + 58 319 + 16

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
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including all architectural landscaping and electrical work except for those items embedded in Stage I construction.

A220 Detailed Design of the following packages:

Wilshire/Normandie Station, Stage I.	A-220	14,567 Ft	Line & 2 Stations	Construction of that portion of the line which begins just west of Vermont Station and proceeds west under Wilshire terminating at the double crossover east of the Wilshire/Crenshaw Station. The line resumes at the west end of the station and proceeds west to the Wilshire/La Brea Station.	319 + 16
Wilshire/Western Station, Stage I.			Stage I		395 + 64
Line Section, Wilshire/Vermont Station to Wilshire/La Brea Station					405 + 28
					474 + 47
		558 Ft		Stage I construction of Wilshire/Normandie Station; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits and midline communication room.	
		558 Ft		Stage I construction of Wilshire/Western Station with a traction power substation; including all	

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	
	Wilshire/Normandie Station, Stage II	A-227	558 Ft	Station Stage II	Stage II construction of Wilshire/Normandie Station; including all architectural, landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	345 + 16 350 + 74
	Wilshire/Western Station, Stage II	A-237	558 Ft	Station Stage II	Stage II construction of Wilshire/Western Station with a traction power substation; including all architectural, landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	367 + 57 373 + 15
A240	Detailed Design of the following packages:					
	Wilshire/Crenshaw Station, Stage I	A-240	964 Ft	Station Stage I	Stage I construction of Wilshire/Crenshaw Station with a traction power substation, double crossover just east of the station; including all civil and structural construction (shell), the relocation of all sewer and storm water lines,	395 + 64 405 + 28

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	
	Wilshire/Crenshaw Station, Stage II	A-242	964 Ft	Station Stage II	Stage II construction of Wilshire/Crenshaw Station with a traction power substation, double crossover just east of the station; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	395 + 64 405 + 28
A245	Detailed Design of the following packages:					
	Wilshire/La Brea Station, Stage I	A-245	559 Ft	Station Stage I	Stage I construction of Wilshire/La Brea Station with a traction power substation; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	474 + 47 480 + 06
	Wilshire/La Brea Station, Stage II	A-247	559 Ft	Station Stage II	Stage II construction of Wilshire/La Brea Station with a traction	474 + 47 480 + 06

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					power substation; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	
A250	Detailed Design of the following packages:					
	Wilshire/Fairfax Station, Stage I. Line Section, Wilshire/La Brea to Fairfax/Beverly Station	A-250	7,506 Ft	Line and Station Stage I	Construction of that portion of the line beginning at the western edge of Wilshire/La Brea Station and continuing west beneath Wilshire. The line curves north at Spaulding, proceeding to the east end of the Wilshire/Fairfax Station. The line resumes at the west end of the station, crossing Fairfax south of Sixth, then proceeds through an "S" curve, to the south end of Fairfax/Beverly Station crossover.	480 + 06 524 + 46 533 + 80 533 + 80 564 + 46
			934 Ft		Stage I construction of Wilshire/Fairfax Station with a traction power substation including provisions for a DWP dedicated feed; all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes	524 + 46 533 + 80

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					the embedment of all required architectural and mechanical items, as well as electrical conduits. Construction will include a cut-and-cover structure permitting future continuation to the west.	
Wilshire/Fairfax Test Pit		A-252	(in cut-and-cover area)	Pre-construction	Pre-Stage I construction of a 24 ft by 32 ft test pit approximately 100-ft deep and two 8 ft diameter tunnels, 40 ft long; including all civil, structural, mechanical, and electrical work, and instrumentation. Construction will include a monitoring phase up to the construction of A250 (Station, Stage I).	524 + 26 533 + 80
Wilshire/Fairfax Station, Stage II		A-267	934 Ft	Station Stage II	Stage II construction of Wilshire/Fairfax Station with a traction power substation; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	524 + 46 533 + 80
A275	Detailed Design of the following packages:					
Fairfax/Beverly Station, Stage I		A-275	965 Ft	Station and Crossover Stage I	Stage I construction of Fairfax/Beverly Station with a traction power substation and a double crossover just south of the	563 + 59 573 + 24

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
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station; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.

Fairfax/Beverly Station, Stage II

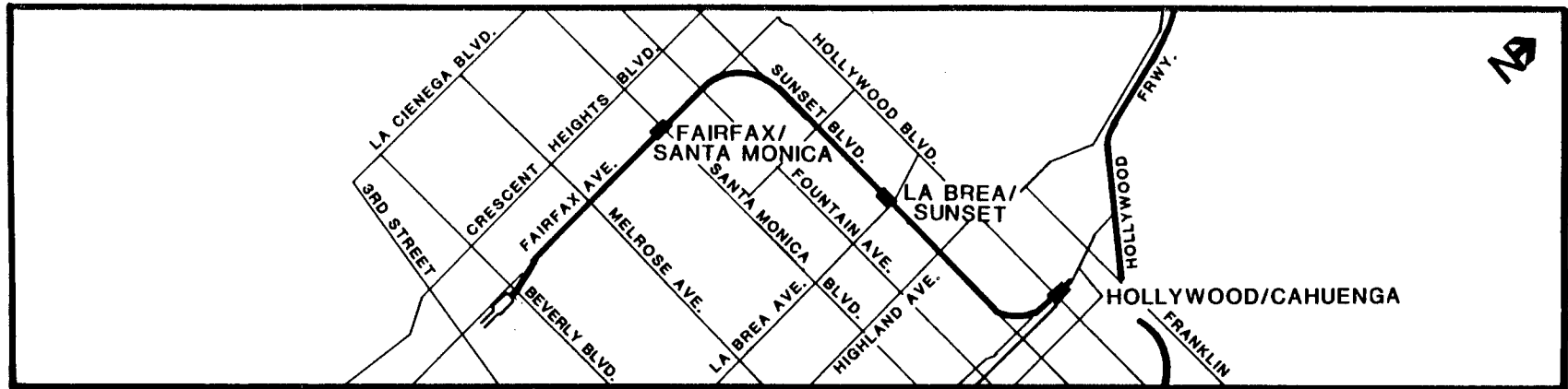
A-277

965 Ft

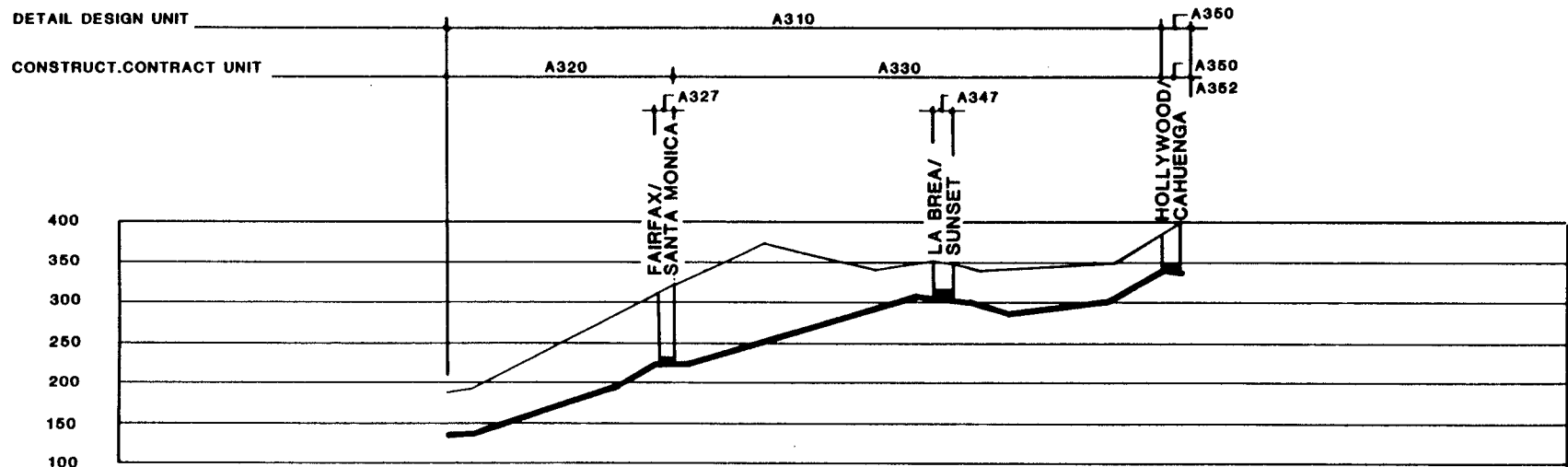
Station and Crossover Stage II

Stage II construction of Fairfax/Beverly Station with a traction power substation and a double crossover just south of the station; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.

563 + 59
573 + 24



PLAN VIEW



PROFILE

PHASE A3 FAIRFAX/BEVERLY-HOLLYWOOD/CAHUENGA

FACILITIES DESIGN & CONSTRUCTION PACKAGES

METRO RAIL PROJECT

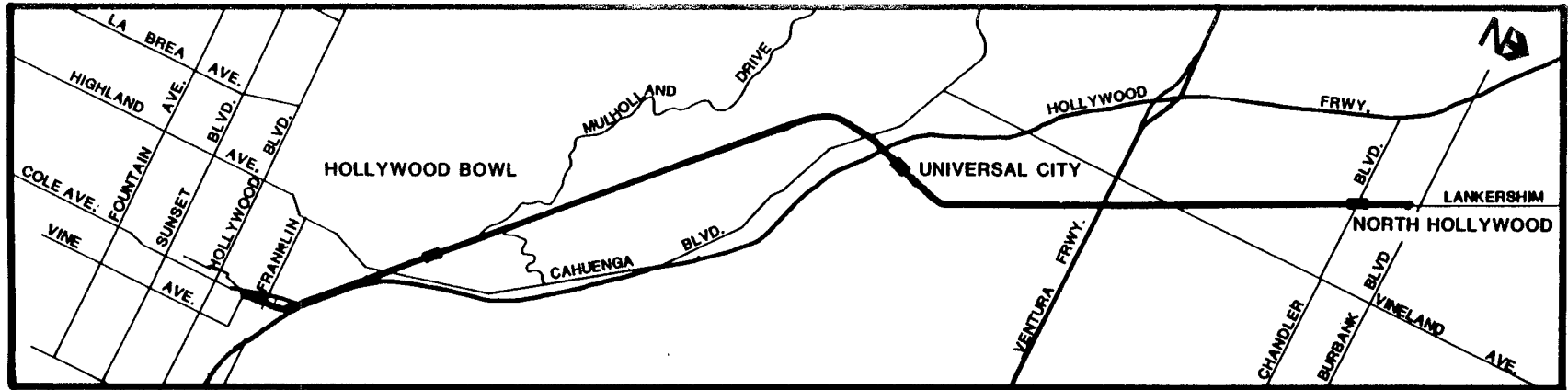
FACILITIES CONTRACT UNIT DESCRIPTIONS (PHASE A3)

FROM FAIRFAX/BEVERLY STATION THROUGH HOLLYWOOD/CAHUENGA STATION

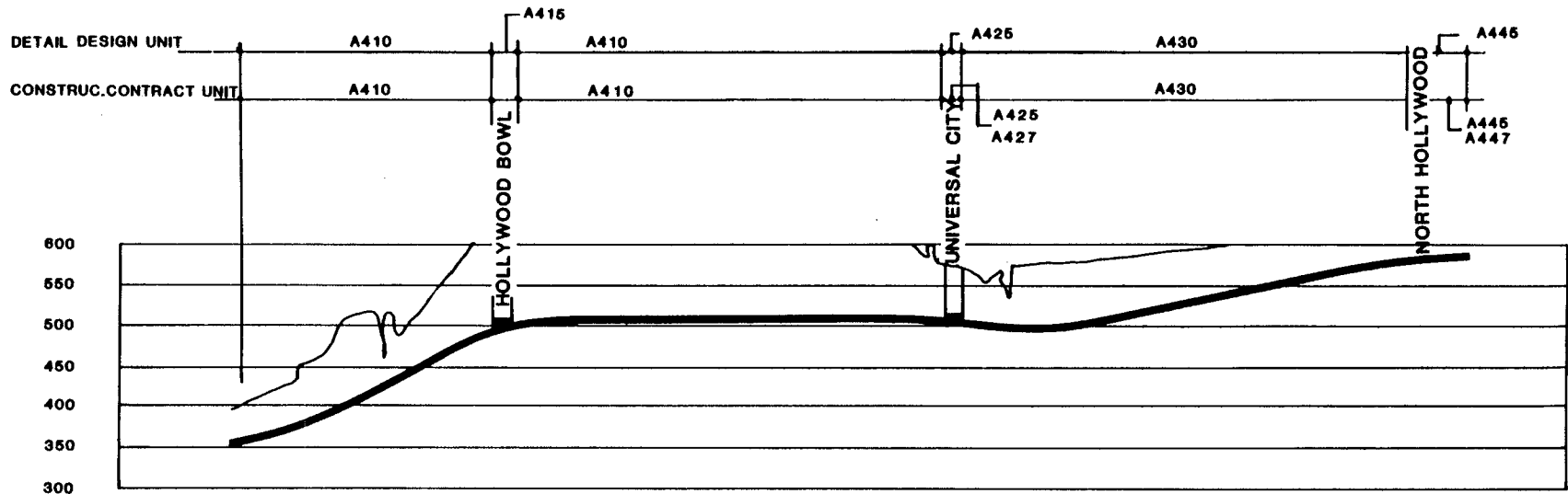
Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A310	Detailed Design of the following packages:					
	Line Section Fairfax/Beverly to Fairfax/Santa Monica, Fairfax/Santa Monica Station, Stage I	A-320	5,067 Ft	Line and Station Stage I	Construction of that portion of the line beginning just north of Fairfax/Beverly Station and continuing north to Fairfax/Santa Monica Station.	573 + 24 623 + 91
			558 Ft		Stage I construction of Fairfax/Santa Monica Station with a traction power substation; including all civil and struc- tural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	623 + 91 629 + 49
	Fairfax/Santa Monica Station, Stage II	A-327	558 Ft	Station Stage II	Stage II construction of Fairfax/Santa Monica Station with a traction power substation; including all architectural, landscaping, mechanical, and electrical work except for those	623 + 91 629 + 49

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
					items embedded in Stage I construction.	
Line Section Fairfax/Santa Monica to Hollywood/Cahuenga, La Brea/Sunset Station Stage I		A-330	11,780 Ft	Line and Station Stage I	That portion of the line beginning at the north side of Fairfax/Santa Monica Station and continuing north beneath Fairfax. Line curves mid-block between Fountain and Sunset to join Sunset at Genessee Ave. Line continues east under Sunset, curves north at Hudson Ave. crossing under Wilcox Ave. and continuing up to the Hollywood/Cahuenga Station that is north of Hollywood Blvd. and west of Cahuenga Blvd.	629 + 49 747 + 29
			558 Ft		Stage I construction of La Brea/Sunset Station with a traction power substation; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	694 + 90 700 + 48

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
	La Brea/Sunset Station Stage II	A-347	558 Ft	Station Stage II	Stage II construction of La Brea/Sunset with a traction power substation; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	694 + 90 700 + 48
A350	Detailed Design of the following packages:					
	Hollywood/Cahuenga Station, Stage I	A-350	1,657 Ft	Station and Pocket Track Stage I	Stage I construction of Hollywood/Cahuenga Station with a traction power substation, a double ended center pocket track, and a bus/kiss-and-ride facility; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	747 + 29 763 + 86
	Hollywood/Cahuenga Station, Stage II	A-352	1,657 Ft	Station and Pocket Track Stage II	Stage II construction of Hollywood/Cahuenga Station with a traction power substation, a double ended center pocket track, and bus/kiss-and-ride facility, including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction.	747 + 29 763 + 86



PLAN VIEW



PROFILE

PHASE A4 HOLLYWOOD / CAHUENGA-NORTH HOLLYWOOD

FACILITIES DESIGN & CONSTRUCTION PACKAGES

METRO RAIL PROJECT

FACILITIES CONTRACT UNIT DESCRIPTIONS (PHASE A4)

FROM HOLLYWOOD/CAHUENGA STATION THROUGH NORTH HOLLYWOOD STATION AND TAIL TRACK

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A410	Detailed Design of the following package:					
	Line Section - Hollywood/ Cahuenga to Universal City	A-410	16,549 Ft	Line Section	That portion of the line starting just north of the double-ended center pocket track and proceeding on a curve to the northwest beneath the Hollywood Freeway. Line continues northwest leaving the freeway and proceeds through the mountain before curving north under the freeway to the Universal City Station just north of the Hollywood Freeway and west of Lankershim. Construction will provide for one ventilation structure with a traction power substation and train control/communications room and one ventilation structure with a train control/communications room. Construction will also provide for a short cut-and-cover section with a sump pump station.	763 + 86 777 + 48 (equation) 779 + 04 930 + 91

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A415	Detailed Design of the following packages:					
	Hollywood Bowl Station Stage I	(Construction Deferred)				
	Hollywood Bowl Station Stage II	(Construction Deferred)				
A425	Detailed Design of the following packages:					
	Universal City Station, Stage I	A-425	559 Ft	Station Stage I	Stage I construction of Universal City Station with a traction power substation; including all civil and structural construction (shell), the relocation of all sewer and storm water lines, the support in place of all other utilities, a bridge over freeway, remote roadways, bus/kiss-and-ride/park-and-ride, and surface parking facilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	930 + 91 936 + 50
	Universal City Station, Stage II	A-427	559 Ft	Station Stage II	Stage II construction of Universal City Station with a traction power substation; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction, and bus/kiss-and-ride/park-and-ride.	930 + 91 936 + 50

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
A430	Detailed Design of the following package:					
	Line Section - Universal City to North Hollywood with midline ventilation structure	A-430	11,034 Ft	Line Section	That portion of the line beginning at the north side of the Universal City Station, curving west, and linking with Lankershim north of the Los Angeles River. Line proceeds northerly under Lankershim up to the North Hollywood Station. Construction will provide for a double cross-over track with a traction power substation just south of the North Hollywood Station, and a mid-line ventilation structure with a train control/communications room.	936 + 50 957 + 04 (equation) 958 + 08 1047 + 90
A445	Detailed Design of the following packages:					
	North Hollywood Station, Stage I	A-445	965 Ft	Station and Tail Track Stage I	Stage I construction of North Hollywood Station and tail track; including all civil and structural construction (shell), bus/kiss-and-ride/park-and-ride and surface parking facilities, the relocation of all sewer and storm water lines, and the support in place of all other utilities. This contract also includes the embedment of all required architectural and mechanical items as well as electrical conduits.	1047 + 90 1057 + 55

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location/ Stationing
North Hollywood Station, Stage II		A-447	965 Ft	Station and Tail Track Stage II	Stage II construction of North Hollywood Station and tail track; including all architectural landscaping, mechanical, and electrical work except for those items embedded in Stage I construction, and bus/kiss-and-ride/park-and-ride.	1047 + 90 1057 + 55

METRO RAIL PROJECT

DEFERRED SYSTEM CONTRACT UNIT DESCRIPTIONS

Detail Design Unit	Design Scope	Construction Contract Unit	Approx. Quantities	Contract Type	Contract Scope	Approx. Location Stationing
Procurements:						
Flat Cars (2)		A-672		Procure	Manufacture and deliver. Includes spare parts, maintenance manuals, and special tools.	
Tunnel Wash/ Vacuum System		A-673		Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and testing services.	
Hi-Rail Car Mover		A-676		Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and vehicle testing services.	
Hi-Rail 3/4 Ton Truck		A-677		Procure	Design, manufacture, and deliver. Includes spare parts, maintenance manuals, special tools, and vehicle testing services.	