

JUNE 1993

METRO RED LINE
SEGMENT - 2
CONTRACT UNIT DESCRIPTIONS
REVISION NO. 5



**Rail
Construction
Corporation**



a Subsidiary of
the Los Angeles County
Transportation Commission




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RAIL CONSTRUCTION CORPORATION
818 WEST SEVENTH STREET
LOS ANGELES, CALIFORNIA 90017


METRO RED LINE PROJECT
SEGMENT-2
CONTRACT UNIT DESCRIPTIONS

This document contains the listing of Metro Red Line Project Segment-2 (Seg-2) design, construction, procurement, and professional services contracts. It includes descriptions of the scope of the contracts, and geographic references where applicable.

The Metro Red Line Project SEG-2 alignment extends from the Westlake/MacArthur Park Station northwest to Wilshire/Vermont, and west along Wilshire Boulevard to Western Avenue with a western terminus at the Wilshire/Western Station. The line continues north from Wilshire/Vermont along Vermont Avenue, turning west along Hollywood Boulevard to the Hollywood/Vine Station, terminating at station 558+81.

Information concerning this document can be secured by contacting Jeffrey C. Christiansen, Vice-President of Program Management and Control for Rail Construction Corporation at (213) 244-6587.

Approved:



7/16/93
Date

Joel Sandberg, Vice President
SEG-2 Project Manager
Rail Construction Corporation
A Subsidiary of the Los Angeles County
Metropolitan Transportation Authority

METRO RED LINE SEGMENT - 2 CONTRACT UNIT DESCRIPTIONS

CONTRACT UNIT DESCRIPTIONS SEGMENT - 2
REVISION RECORD

REV. #	DCN. #	DATE APPROVED	AFFECTED	
5.	93-0	07/15/93	Revision Record Page: Definitions of contract types: Summary lists of contracts: The following new contracts have been added: The following contracts have had their Design Scope, Approx. Quantities, or Contract Scape revised:	Corrected contract number (B288). Revised Page iv, CONSTRUCTION. Revised pages vi, vii, xi. B213, B217, B219, and B229. B201/F104, B215/F104, B221, B221/F104, B231/F104, B241/F104, B251, B252/F104, B261/F104, B271/F104, B281, B281/F104, B610, B620, B740, B761, and B795.

METRO RED LINE PROJECT
SEGMENT-2

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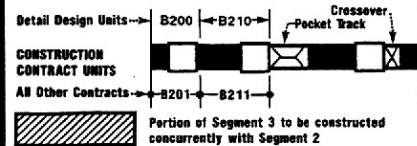


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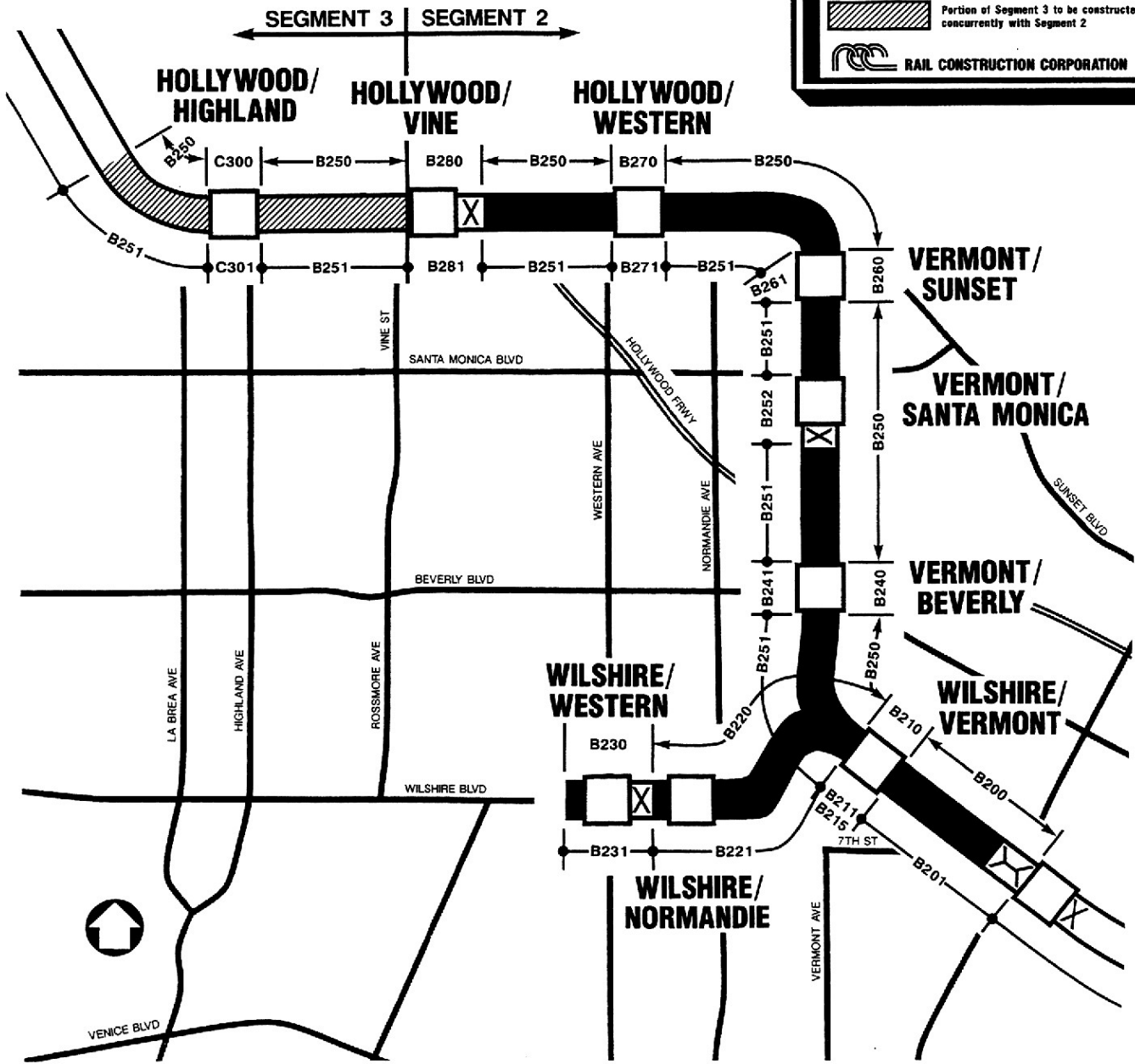
METRO RED LINE PROJECT



SEGMENT 2 PROJECT UNIT INDEX



RAIL CONSTRUCTION CORPORATION



DEFINITIONS OF CONTRACT TYPES

FACILITIES

CONSTRUCTION:

Station shell (Stage I) and/or line construction generally includes all civil and structural construction plus embedded items for installations 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, compaction grouting, dewatering, excavation support systems, decking, instrumentation, excavation, access shafts, tunneling, crosspassages, tunnel lining, backfill, pavement, sidewalks, trees, tree wells, curbs and gutters, pavement markings, traffic stripes, signs, traffic signals, maintenance of traffic, fencing, maintenance of utilities, utility relocation, storm drainage, sanitary sewer lines, embedded electric and telephone ductbanks and lines, lighting, installation of HDPE membrane, structural concrete, structural steel, reinforcing steel, waterproofing, emergency access exterior doors, ventilation shaft gratings at street level, interior walls, sleeves through walls for conduit work, and magnetometer surveys.

Station finish (Stage II) construction includes all architectural work, site work, landscaping, and mechanical and electrical work, 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 fireproofing, fillers, gaskets, sealants, doors and frames, overhead grilles, finish hardware, glazing, furring and lathing, floor and wall tiles, acoustical panels, coatings, painting, identifying devices, telephone enclosures, toilet accessories, trash and waste receptacles, plumbing, and mechanical and electrical work, including installation of some equipment such as ventilation fans, elevators and escalators, provided by systemwide procurements. Also included are Safety, Fire/Life Safety and Security items involving sprinklers, standpipes, undercar deluge systems, fire suppression systems, fire detection and alarm systems, emergency management and communications systems; ventilation, seismic and gas detection systems; CCTV, intrusion alarms and other security systems; handicapped access systems; warning and safety graphics and lighting systems and electrical safety and trip systems.

In Segment-2, all station contracts except one will consist of shell and finish construction consolidated within a single contract. Only the Wilshire/Vermont Station will have separate contracts for shell (Contract B211) without entrance and stage I and II entrance and station finish construction (Contract B215), and site restoration and landscaping (contract B216).

AGENCY AGREEMENT:

Services related to the rearrangement of city, county, or state agency facilities so that Metro Red Line construction may be accomplished. Work is to be performed by agency personnel under a master agreement with the Rail Construction Corporation.

DEMOLITION:

Demolition and removal of existing structures and material from the Metro Red Line construction sites.

UTILITY AGREEMENT:

Services related to the rearrangement of privately-owned utility facilities or equipment so that Metro Red Line construction may be accomplished. Work is to be performed by each contractor and/or by agency personnel under a master agreement with the Rail Construction Corporation.

SYSTEMS/SYSTEMWIDE CONTRACTS

Systems/Systemwide contracts consist of contracts for procurement and/or installation of equipment. These contracts are defined below:

PROCUREMENT (Supply Only):

Procurement of equipment that does not require installation, such as passenger vehicles and auxiliary vehicles, or procurement of equipment for installation by another contractor, such as track running rail, special trackwork, rail fasteners, traction power equipment, ventilation fans, public address, closed circuit television, cable transmission, fire and emergency management, and gas monitoring.

PROCUREMENT AND INSTALLATION:

Procurement and installation of equipment under a single contract. These contracts include automatic train control, radio, telephone system, SCADA, escalators and elevators and fare collection system, ventilation equipment and air handling equipment.

INSTALLATION

Installation of equipment procured by others under one or more supply only or design and supply contract, including all installation materials, such as trackwork (running rail, contact rail coverboard, insulators, special track and rail fasteners), traction power, and communications installation (public address, closed circuit television, cable transmission, fire and emergency management, gas monitoring, and seismic detection including equipment).

PURCHASE ORDER:

Direct procurement under a Purchase Order following evaluation of proposals or prices only from a minimum of three qualified suppliers based upon set specifications or data sheets.

SPECIALTY:

Provide specialty services such as hazardous material handling and disposal at various construction sites as required based on previously established unit prices.

PROFESSIONAL SERVICES

Services related to the preparation of design packages for the various facilities construction, procurement and installation contracts; the publication and distribution of bid documents; and construction management of those contracts.

METRO RED LINE PROJECT
Segment-2
REPORT DATE: JUNE 1993

SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SEE SHEET</u>
<u>FACILITIES</u>		
B201	Line section, Westlake/MacArthur Park Station to Wilshire/Vermont Station with pocket track	1
MA-Work	Utility work	1 & 2
B211	Wilshire/Vermont Station, Stage I, w/o the Entrance	2
B213	B. of A. Building Demolition required for entrance in B215	3
B215	Wilshire/Vermont Station, Stage II and Entrance Stage I and II	3
B216	Wilshire/Vermont Site Restoration and Landscaping	3
B217	Building Demolition in parcel B2-120 for sitework in B216	3
B218	Building Demolition needed for B221	3
B219	Building Demolition in parcel B2-119 for sitework in B216	3
MA-Work	Utility work, Wilshire/Vermont Station	3 & 4
B221	Line Section, Wilshire/Vermont to Wilshire/Western, including Wilshire/Normandie Station, complete	5
B229	Construct and Operate a Temporary Ventilation System (Wilshire Corridor)	5
MA-Work	Utility work, Wilshire/Normandie Station	6 & 7
B231	Wilshire/Western Station, with Crossover	7
MA-Work	Utility work, Wilshire/Western Station	7 & 8

METRO RED LINE PROJECT
Segment-2
REPORT DATE: JUNE 1993

SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SEE SHEET</u>
B241	Vermont/Beverly Station, complete, including demolition	8 & 9
MA-Work	Utility work, Vermont/Beverly Station	9 & 10
B251	Line Section Wilshire/Vermont to Hollywood/Vine (Segment-2) and from Hollywood/Vine to Station 630 + 00 (Segment-3)	10 & 11
B252	Vermont/Santa Monica Station with Crossover, complete, including demolition	11
MA-Work	Utility work, Vermont Ave. & Hollywood Blvd. Line Sections and Vermont/ Santa Monica Station.	12
B261	Vermont/Sunset Station, complete, including CHLA Building demolition	13
MA-Work	Utility work, Vermont/Sunset Station	13 & 14
B268	Building Demolition required for B261, other than CHLA Building	14
B271	Hollywood/Western Station, complete	14
MA-Work	Utility work, Hollywood/Western Station	15
B281	Hollywood/Vine Station, with Crossover, complete	16
MA-Work	Utility work, Hollywood/Vine Station	16 & 17
B288	Building Demolition required for B281	17

METRO RED LINE PROJECT
Segment-2
REPORT DATE: JUNE 1993

SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SHEET</u>
<u>SYSTEMS</u>		
B610	Trackwork Installation	18
B611	Running Rail, procure	19
B612	Contact Rail & Coverboard, procure	19
B614	Special Trackwork, procure	20
B616	Special Direct Fixation Fasteners, procure	20
B620	Automatic Train Control (ATC)	21 & 22
B630	Traction Power, procure	23
B631	Traction Power, Installation	24
B641	Radio	25
B642	Public Address (PA)	26

METRO RED LINE PROJECT
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SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SEE SHEET</u>
<u>SYSTEMS</u>		
B643	Closed Circuit Television (CCTV)	27
B644	Fiber Optics and Cable Transmission	28
B645	Transit Automatic Controls and SCADA	29
B646	Fire and Emergency Management (F&EM)	30
B647	Gas Monitoring and Seismic Detection	31
B648-A	Communications Installation for Segment-2A	32
B648-B	Communications Installation for Segment-2B and Segment-3	32 & 33
B4239	Telephone Systems	34
B650	Passenger Vehicles	34
B670	Auxiliary Vehicles, procure	34
B680	Operational Graphics - Purchase Order	34

METRO RED LINE PROJECT
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SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SEE SHEET</u>
<u>SYSTEMS</u>		
B710	Escalators and Elevators	35
B715	Art in Transit	35
B730	Fixed Shop Equipment - Purchase Order	35
B731	Major Shop Equipment - Deferred from A112	36
B735	Portable Shop Equipment - Purchase Order	36
B740	Ventilation, procure and install	37
B745	Air Handling Equipment, procure and install	37
B750	Hazardous Material Removal	37 & 38
B760	Signs and Graphics, procure	38
B761	Illuminated Signs and Edgelights	38
B770	Rubber Tired Vehicles - Purchase Order	38 & 39

METRO RED LINE PROJECT
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SUMMARY LIST OF CONTRACTS

<u>CONTRACT</u>	<u>DESCRIPTION</u>	<u>SEE SHEET</u>
<u>SYSTEMS</u>		
B775	Mobile Emergency and Maintenance Equipment, Purchase Order	39
B780	Furniture, procure	39
B785	Fire Suppression Equipment, Purchase Order	39
B790	Stores and Consumables, procure	40
B795	Un-interruptible Power Supplies, procure	40
H840	Fare Collection Equipment, procure and install	41
<u>PROFESSIONAL SERVICES</u>		
E0070	EMC Contract	42
3369	Parsons-Dillingham Construction Management (CM)	42 & 43
3136	Booz-Allen and Hamilton Services Contract	43
MY005	LKG Services Contract	44

FACILITIES CONTRACT UNIT DESCRIPTIONS

WESTLAKE/MACARTHUR PARK TO HOLLYWOOD/VINE

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B200	Detailed design of the following packages: Line Section, Westlake/MacArthur Park Station to Wilshire/Vermont Station with pocket track	B201	1121 LF (cut/cover pocket track and transitions) 3415 RF (twin tunnel)	Construction	Construct that portion of the line beginning at the easterly end of the Westlake/MacArthur Park proceeding under MacArthur Lake in cut/cover and continuing in tunnel in Wilshire Boulevard and private property, terminating at the Wilshire/Vermont Station. Work includes construction of pocket track under MacArthur Lake, emergency exit stairways, line tunnels, vertical crosspassages, restoration of the park and Alvarado Street, and all mechanical, electrical, and finish work in the tunnels and pocket track. (Axial flow fans supplied in B740 contract and installed in B215 contract.) Also construct all utility work not performed by City Agencies.
MA-WORK	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide inspection services for impacted City facilities to accommodate Contract B201 of SEG-2. Provide design of street lights. Provide suitable detour plans for phases of construction and provide design of temporary and permanent traffic signals.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	County of Los Angeles	F208	Storm drains, Highways and Fire/Life Safety.	Agency Agreement	Provide design, construction and/or inspection services for Contract B201.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide inspection services, cable installation and service connections to accommodate Contract B201 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials and inspection services to accommodate Contract B201 of SEG-2.
	Telephone Relocation	F808	Ductbanks, manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to accommodate Contract B201 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to accommodate Contract B201 of SEG-2.
B210	Detailed design of the following packages: Wilshire/Vermont Station, Stage I w/o the Entrance	B211	720 LF (cut/cover station plus line transition)	Demolition and Construction	Demolish and remove structures and clear site for construction. Construct Stage I of the Wilshire/Vermont Station, not including the Entrance, with turnouts to the north and west, including all civil and structural construction (temporary and permanent). This contract also includes the embedment of all required architectural, mechanical, and electrical items. Also construct all utility work not performed by City agencies.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Demolition	B213	Station Site	Demolition	Demolish and remove B. of A. building in parcel B2-117 for construction of station entrance in B215.
	Wilshire/Vermont Station, Stage II, and Entrance Stage I and II	B215	602 LF Station Finish	Construction	Construct Entrance Stage I and II, and Stage II finish of the Wilshire/Vermont Station, including all architectural, mechanical, and electrical work except for those items embedded in Stage I construction. Also furnish and install auxiliary power transformers.
	Wilshire/Vermont Site Restoration and Landscaping	B216	Station Site	Construction	Restore all surface features, including sitework, landscaping, and replacement of curbs, gutters, sidewalks, and streets, including kiss and ride parking lot, bus loading/unloading drive thru and some utility work due to street widening. Redesign S.E. corner of Vermont and 6th Street.
	Demolition	B217	Station Site	Demolition	Demolish and remove structure in parcel B2-120 for construction of site restoration in B216.
	Demolition	B218	Station Site	Demolition	Demolish and remove structures and clear site for construction of B221.
	Demolition	B219	Station Site	Demolition	Demolish and remove structure in parcel B2-119 for construction of site restoration in B216.
MA-WORK	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety.	Agency Agreement	Provide inspection services for impacted City facilities to accommodate Contract B211 of the SEG-2 segment of the Metro Red Line Project. Provide design of street lights.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
			Worksite Traffic Control Plan		Provide suitable detour plans for phases of construction and provide design of temporary and permanent traffic signals.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety.	Agency Agreement	Provide design, construction and/or inspection services for Contract B215.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide inspection services, cable installation, and service connections to accommodate Contract B211 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials and inspection services to accommodate Contract B211 of SEG-2.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections	Utility Agreement	Provide design, cable installation, service connections and inspection services to accommodate Contract B211 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to accommodate Contract B211 of SEG-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B220	Detailed design of the following packages: Line Section, Wilshire/Vermont to Wilshire/Western, including Wilshire/Normandie Station, complete.	B221	120 RF (cut/cover line transition) 2,827 RF (twin tunnel) 604 RF (twin tunnel, primary support station area only) 1,342 RF (twin tunnel)	Construction	Construct that portion of the line beginning at the northwesterly end of the Wilshire/Vermont turnout, proceeding in tunnel southwesterly to Wilshire Boulevard, continuing westerly through the Wilshire/Normandie Station, and to the east bulkhead of the crossover at Wilshire/Western Station. This contract includes the cut and cover construction of the Wilshire/Normandie Station, complete, including dewatering. Work includes surface restoration, entrance site improvements and all mechanical, electrical, architectural, and finish work in both the tunnels and station. Also construct all utility work not performed by city agencies. Floating slab in the AL tunnel. Furnish and install the Auxiliary Power transformers.
B229	Bid document with performance type specifications for a temporary ventilation system in the Wilshire Corridor	B229	Exhaust fans/electrical power, lights, sump pumps, maintenance/operations personnel	Construction, Operation	Procure, install, operate and maintain a temporary ventilation system in the wilshire corridor, from West McArthur Park/A187 to end of Wilshire/Western station (B231). Period of performance is to be from departure of the station/tunnel facilities contractor through the acceptance of the B631 Contract for the Wilshire Corridor portion of Segment-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
MA-WORK	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and traffic signals, streets, curbs, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide inspection services for impacted City facilities to accommodate Contract B221 of the SEG-2 segment of the Metro Red Line Project. Provide design of street lights. Provide suitable detour plans for phases of construction and provide design of temporary and permanent traffic signals.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety	Agency Agreement	Provide design, construction and/or inspection services for Contract B221.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide inspection services, cable and ductbank installation, and service connections to accommodate Contract B221 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials, construction and inspection services to accommodate Contract B221 of SEG-2.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, Cable installation, service connections and inspection services to accommodate Contract B221 of SEG-2.
	Telegraph Relocation	F814	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design and inspection services to accommodate Contract B221 of SEG-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Cable T.V. Relocation	F406	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to accommodate Contract B221 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to accommodate Contract B221 of SEG-2.
B230	Detailed design of the following packages: Wilshire/Western Station, with crossover, complete	B231	914 LF (cut/cover)	Construction	Demolish and remove structures, clear site for construction. Construct the Wilshire/Western Station with crossover and hand-mined "stub", including all architectural, mechanical, electrical, and finish work in both the station and crossover, including floating slabs. Work includes surface restoration, entrance landscaping, bus layover and turnaround parking lot, complete with paving, fencing and sidewalk restoration. Also construct all utility work not performed by City Agencies, and furnish and install Auxiliary Power transformers.
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and traffic signals, streets, curbs, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide inspection services for impacted City facilities to accommodate Contract B231 of the SEG-2 segment of the Metro Red Line Project. Provide design of street lights. Provide suitable detour plans for phases of construction and provide design of temporary and permanent traffic signals.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety.	Agency Agreement	Provide design, construction and/or inspection services for Contract B231.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide inspection services, cable installation, and service connections to accommodate Contract B231 of the SEG-2 segment of the Metro Red Line Project.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections	Agency Agreement	Provide materials, construction and inspection services to accommodate Contract B231 of the SEG-2 segment of the Metro Red Line Project.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to accommodate Contract B231 of SEG-2.
	Gas Relocation	F854	Main, valves, and service connections	Utility Agreement	Provide design, construction and inspection services to accommodate Contract B231 of SEG-2.
	Telegraph Relocation	F814	Ductbanks and manholes, cables, vaults, and service connections	Utility Agreement	Provide design and inspection services to accommodate Contract B231 of SEG-2.
B240	Detailed design of the following packages:				

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Vermont/Beverly Station, complete, and demolition of existing facilities.	B241	608 LF (cut/cover station). Demolition of station entrance site.	Construction	Demolish and remove structures, clear site for construction. Construct the Vermont/Beverly Station, complete. Includes all mechanical, electrical, architectural, and finish work in the station. Work also includes surface restoration, all utility work and landscaping. (Tunnel through station by others prior to completion of lower station excavation). Also furnish and install Auxiliary Power transformers.
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide design, and inspection services for impacted City facilities to accommodate Contract B241 SEG-2. Provide design of street lights. Provide suitable detour plans for phases of construction and provide design of temporary and permanent traffic signals and detours.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety	Agency Agreement	Provide design, construction and/or inspection services for Contract B241 of SEG-2.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide design, cable and ductbank installation, service connections and inspection services to accommodate Contract B241 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Utility Agreement	Provide materials, construction and inspection services to accommodate Contract B241 of SEG-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable and ductbank installation, service connections and inspection services to accommodate Contract B241 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to accommodate Contract B241 of SEG-2. Provide design of street lights.
	Caltrans	F816	Highways, storm drains, street lights, and bridges.	Utility Agreement	Provide design, construction and/or inspection services to accommodate Contract B241 of SEG-2.
B250	Detailed design of the following packages:				

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Line Section Wilshire/Vermont to Hollywood/Vine (Segment-2) and from Hollywood/Vine to station 630+00 (Segment-3)	B251	24,550 RF (twin tunnel) 6,596 RF (twin tunnel, primary support with optional)	Construction	Construct that portion of the line, for SEG-2, southward from the Barnsdall Park access shaft to the Wilshire/Vermont Station, including tunneling through Vermont/Sunset Station, Vermont/Santa Monica Station and Vermont/Beverly Station. Construct that portion of the line westward from Barnsdall Park access shaft to assumed rock interface in the Santa Monica mountains, at Station 630+00, including tunneling through Hollywood/Western and Hollywood/Vine Stations in Segment-2 and Hollywood/Highland Station in Segment-3. Work includes the construction of the Barnsdall Park shaft and tunnel concrete lining complete in Segment-2 only and to Station 570+70 in segment 3. Work includes all mechanical, electrical and finish work in SEG-2 tunnels tunnels (both segment 2 and 3) surface restoration and utility work at the vertical shaft exits. Work includes underpinning of parking structures prior to tunnel drive down Vermont.
	Vermont/Santa Monica Station and Crossover complete, and demolition of existing facilities.	B252	889 LF (cut/cover station and crossover) Demolition of site for station entrance.	Construction	Demolish and remove structures, clear site for construction. Construct the Vermont/Santa Monica Station and crossover, complete. Includes all mechanical, architectural, electrical, and finish work in the station, and crossover. Work also includes surface restoration, landscaping, all utility work, and furnish/install Auxiliary Power transformers. (Tunnel through station by others prior to completion of lower excavation).

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide design, construction and/or inspection services for Contracts B251 and B252 of SEG-2. Provide design of street lights. Provide suitable detour plans for the phases of construction and provide design of temporary and permanent Provide design for street lights, traffic signals and detours.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety	Agency Agreement	Provide design, construction and/or inspection services for Contracts B251 and B252 of SEG-2.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide design, cable installation, service connections and inspection services to accommodate Contracts B251 and B252 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials, construction and inspection services to accommodate Contracts B251 and B252 of SEG-2.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable and ductbank installation, service connections and inspection services to Contracts B251 and B252 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and/or inspection services to Contracts B251 and B252 of SEG-2.
	Caltrans	F816	Highways, storm drains, street lights, and bridges.	Agency Agreement	Provide design, construction and/or inspection services to Contracts B251 of SEG-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B260	Detailed design of the following packages: Vermont/Sunset Station, complete	B261	608 LF (cut/cover station)	Construction	Demolish CHLA building and remove, clear site for construction. Construct the Vermont/Sunset Station, complete. Includes all electrical, architectural, mechanical, and finish work in the station, as well as surface restoration, landscaping, and all utility work. (Tunnel through station by others prior to completion of lower station excavation). Also furnish and install Auxiliary Power transformers.
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide design, construction and/or inspection services for Contract B261 of SEG-2. Provide design of street lights. Provide suitable detour plans for the phases of construction and provide design of temporary and permanent Provide design for street lights, traffic signals and detours.
	County of Los Angeles	F208	Storm drains, highways. Fire/Life Safety	Agency Agreement	Provide design, construction, and/or inspection services for Contract B261 of SEG-2.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide design, cable and ductbank installation, service connections and inspection services to Contract B261 of SEG-2 and design/construct the DWP dedicated feeder.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials and inspection services to Contract B261 of SEG-2.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to Contract B261 of SEG-2.
	Gas Relocation	F854	Main, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to Contract B261 of SEG-2.
	A T & T Relocation	F812	Ductbanks and cables.	Utility Agreement	Provide design, construction and inspection services for Contract B261 of SEG-2.
	Southern California Edison Relocation	F802	Overhead Power Line.	Utility Agreement	Provide design, construction and inspection services for Contract B261 of SEG-2.
	Demolition	B268	Station Entrance Site	Demolition	Demolish and remove structures, clear site for construction, other than the CHLA building demolished in Contract B261.
B270	Detailed design of the following package: Hollywood/Western Station, complete.	B271	604 LF (cut/cover station)	Construction	Construct the Hollywood/Western Station, including all mechanical, electrical, architectural, finish work, and all utility work. (Tunnel through station by others prior to completion of lower station excavation). Also furnish and install Auxiliary Power transformers.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide design, construction and/or inspection services for impacted City facilities to accommodate Contract B271 of SEG-2. Provide design of street lights. Provide suitable detour plans for the phases of construction and provide design of temporary and permanent traffic signals and detours.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety	Agency Agreement	Provide design, construction and/or inspection services for Contract B271 of SEG-2.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide design, cable and ductbank installation, service connections and inspection services to Contract B271 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials and inspection services to Contract B271 of SEG-2.
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to Contract B271 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to Contract B271 of SEG-2.
	Cable TV Relocation	F406	Conduits and Cables	Utility Agreement	Provide design, cable installation and inspection services to Contract B271 of SEG-2.

B280 Detailed design of the following packages:

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Hollywood/Vine Station and crossover, complete and demolition of existing facilities.	B281	889 LF (cut/cover station and crossover)	Construction	Construct the Hollywood/Vine Station and crossover, including all mechanical, architectural, electrical, and finish work in the station and crossover. Work also includes all surface restoration, landscaping, all utility work, bus turnaround, layover, and Kiss/Ride parking (Tunnel through station by others prior to completion of lower station excavation). Also furnish and install Auxiliary Power transformers.
MA-Work	City of Los Angeles	F104	Storm drains, sanitary sewers, street lights and signals, streets, sidewalks and Fire/Life Safety. Worksite Traffic Control Plan	Agency Agreement	Provide design, construction, and/or inspection services for Contract B281 of SEG-2. Provide design of street lights. Provide suitable detour plans for the phases of construction and provide design of temporary and permanent traffic signals and detours.
	County of Los Angeles	F208	Storm drains, highways and Fire/Life Safety	Agency Agreement	Provide design, construction, and/or inspection services for Contract B281 of SEG-2.
	Power Relocation	F102	Ductbanks and manholes, cables, service connections, vaults.	Agency Agreement	Provide design, cable and ductbank installation, service connections and inspection services to Contract B281 of SEG-2.
	Water Relocation	F103	Mains, hydrants, vaults, and service connections.	Agency Agreement	Provide materials and inspection services to Contract B281 of SEG-2.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Telephone Relocation	F808	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation, service connections and inspection services to Contract B281 of SEG-2.
	Gas Relocation	F854	Mains, valves, and service connections.	Utility Agreement	Provide design, construction and inspection services to Contract B281 of SEG-2.
	Telegraph Relocation	F814	Ductbanks and manholes, cables, vaults, and service connections.	Utility Agreement	Provide design, cable installation and inspection services to Contract B281 of SEG-2.
	Demolition	B288	Demolition of site for station entrance and bus intercept	Demolition	Demolish and remove structures, clear sites for construction.

SYSTEMWIDE CONTRACT UNIT DESCRIPTIONS

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B610	Trackwork: design and prepare bid documents for installation of trackwork and contact rail system for storage yard expansion and mainline segments. Prepare bid documents for the procurement and installation of trackwork materials that are not provided by the MTA, such as ties, ballast, grade crossing materials, reinforced concrete materials, and other miscellaneous trackwork materials.	B610	82,000 Trk. Ft. (Mainline), 14,700 Trk. Ft. (Storage Yard)	Procurement and Installation	<p>Furnish and install ties, ballast, grade crossing materials, reinforced concrete, and other trackwork materials that are not provided by the MTA, for storage yard expansion, and mainline segments for Segment-2 and a portion of Segment-3.</p> <p>Install MTA-furnished standard and special direct fixation rail fasteners, running rail and special trackwork.</p> <p>Install MTA-furnished contact rail, support insulators, and associated hardware, including side and end approach sections, anchor assemblies, expansion joint assemblies, and splice joint assemblies for storage yard expansion and mainline segments for SEG-2 and a portion of Segment-3.</p> <p>Install contact rail protective coverboard, support brackets, and associated hardware, including fastener assemblies and expansion joint assemblies for storage yard expansion and mainline segments for SEG-2 and a portion of Segment-3.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B611	Running Rail: prepare bid documents for the procurement of running rail for storage yard expansion and mainline segments for Segment-2, Segment-3, Pasadena Blue Line Project, Orange Line and option for the Green Line North Coast Extension.	B611	Segment-2: 4300 tons, Segment-3: 3300 tons, Pasadena Blue Line Project: 7100 tons, Orange Line: 6500 tons, Green Line N. Coast Exten.: 1100 tons.	Procurement	Furnish 115RE running rail required for Segment-2, Segment-3, Pasadena Blue Line Project, Orange Line and with option for Green Line North Coast Extension. Includes manufacturing, inspecting, testing, shipping, delivering, unloading and stockpiling.
B612	Contact Rail and Protective Coverboard: Design and prepare bid documents for contact rails, insulators, and protective coverboards for SEG-2, SEG-3, expansion of SEG-1 and future East Extension.	B612	SEG-2: 68,100 ft SEG-3: 88,900 ft Yard: 18,500 ft Option: 64,000 ft	Multi-year contract to design and furnish contact rails, insulators and coverboards for the remainder of the Red Line.	Design, manufacture, test and furnish contact rail, support insulators and associated hardware, including side and end approach sections, anchors, and expansion joints and splice joints, for mainline and storage yard expansion. Design, manufacture, test and furnish contact rail protective coverboard, support brackets and associated hardware for mainline and storage yard expansion.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B614	Special Trackwork: design and prepare bid documents for the procurement of special trackwork for storage yard expansion and mainline segments of Segment-2 and a portion of Segment-3.	B614	14 ea. no. 8 lat. turnouts, 2 ea. no. 8 snl. cross-overs, 2 ea no. 8 dbl. crossovers, 2 ea. no. 8 equil. turnouts, 8 ea. no. 10 lat. turnouts, 4 ea. no. 12 equil. turnouts, 6 ea. 645' R dbl. crossovers, and spare parts. 6 ea. no. 8 turnouts.	Procurement	Furnish special trackwork required for Segment-2 and a portion of Segment 3. Includes manufacturing, inspecting, testing, shipping, delivery, unloading and stockpiling.
B616	Special Direct Fixation Rail Fasteners: Design and prepare bid documents for the procurement of special (soft) d.f. rail fasteners for Red Line Segment-2, Segment-3, Orange Line with an option for Pasadena Blue Line.	B616	Segment-2: 12,000 ea. Segment-3: 5,000 ea. Orange: 13,330 ea. Pasadena: 2,000 ea.	Procurement	Furnish special (soft) direct fixation rail fasteners for Red Line Segment-2, Segment 3, and Orange Line with option for Pasadena Blue Line. Includes manufacturing, testing, shipping, delivering, unloading and stockpiling. (58,000 direct fixation rail fasteners are furnished under option to SEG-1, Contract A616).

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B620	Automatic Train Control (ATC): Determine requirements and prepare bid documents for additional ATC equipment for SEG-2 and SEG-3.	B620	<p>Seg 2: Stage 1: 9 sets Train control and communication room equipment, (TC&C) additional yard equipment, and 16 sets of carborne ATP equipment.</p> <p>Seg 3: Stage 2a (Mid-Cities) Option for 2 sets of TC&C equipment.</p> <p>Seg 3: Stage 2b (North Hollywood) 4 sets TC&C equipment and 15 sets Carborne ATP Equipment.</p> <p>Seg 3: Stage 3 East Extension 4 to 6 set Train Control and Communication room equipment, and 1 to 20 sets of carborne ATP equipment.</p>	Procurement and Installation	<p>Design, furnish, and install mainline and storage yard expansion of Automatic Train Control (ATC) system for SEG-2 and SEG-3. Provide proper interfacing with the SEG-1 ATC system already in place.</p> <p>For Stage 1 and 2, Contractor will submit his baseline track and cable plan (including the block layout) prior to stage 1 NTP. For Stage 3, Contractor bid documents will be based on the block layout provided in the Contract documents.</p> <p>B620 also includes design, furnish, and installation of wayside ATO equipment.</p> <p>The work also includes startup, testing, and complete integration of the SEG-2 and SEG-3 system with the operating SEG-1 system.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B620 Cont'd					<p>The B620 contractor will perform the following for the B631 contract: Procure and install station-to-station transfer trip cable, and conduit for the 34.5 kV-tunnel feeder cable; install the 34.5 kV-tunnel feeder cable.</p> <p>The B620 contractor will perform the following for the communication contracts: procurement, installation, termination and testing, of the communications tunnel cable plant, including station-to-station copper-conductor and fiber optics cables, station-to-crosspassage cables, fire telephone cables in the tunnels, gas monitoring tubing for the tunnels, crosspassage Communications Interface Cabinets (CIC), fiber optics terminus patch panels and station Main Distribution Frames (MDF); fire telephone jacks in the tunnels. B648 to furnish station communication cables.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B630	Substation Equipment: Design, and prepare bid documents for procurement of traction power and auxiliary power electrical equipment to support SEG-2, SEG-3, expansion of SEG-1 and future East Extension.	B630	<p>SEG-2: Full complement of equipment at 8 power sub-stations (1 at each station. 2 stations will not have traction power equipment but will require auxiliary power equipment.)</p> <p>SEG-3: Full complement of equipment at 6 power sub-stations.</p> <p>SEG-1: Additional rectifiers at 4 mainline sub-stations and in the Yard.</p> <p>East Extension: Full complement of equipment at 4 to 6 power substations.</p>	Multi-year contract to design, furnish and test traction power equipment.	<p>Design and furnish traction power equipment and auxiliary power electrical equipment for SEG-2, SEG-3, expansion of SEG-1 and future East Extension.</p> <p>Traction power equipment includes high voltage ac switchgear assemblies, ac-to-dc conversion equipment assemblies, metal-enclosed dc switchgear assemblies, dc disconnect switches, negative bus boxes, control power rectifiers and annunciator panels. Auxiliary power electrical equipment provided by this contract includes the high voltage switchgear units for the auxiliary power rooms at each station. The Auxiliary Power transformers are furnished and installed by the station contractors.</p> <p>The contract includes technical assistance for installation, start-up, and testing. The contract does not include installation of the procured equipment, the structures in which the equipment is to be installed, or the central supervisory control equipment.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B631	Traction Power Installation: Design and prepare bid documents for installing the traction power and auxiliary power electrical equipment procured under Contract B630 for SEG-2.	B631	Installation of equipment and material at 8 power substations (1 at each SEG-2 station).	Installation	<p>Install MTA-furnished traction power equipment.</p> <p>Furnish and install associated miscellaneous substation and power distribution equipment and material. This material includes, but is not limited to, distribution panelboards, wire and cable to contact rail locations, raceway systems, supports and accessories, and substation negative return cables to wayside locations.</p> <p>Procure 34.5 kV feeder cable for installation by others in tunnel sections. Complete installation of the 34.5 kV feeder in station areas and make connections of the feeder to the traction power equipment. The installation work includes furnishing labor for handling, storing, installing, and field testing material furnished under this contract and Contract B630.</p> <p>This contract also includes the furnishing and installing of diesel generator sets and appurtenances to supply emergency power to the tunnel ventilation fans.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B641	<p>Radio System: Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, performance specifications, contract drawings, reference drawings and interface documentation.</p> <p>Perform analysis of configuration and equipment alternatives.</p>	B641	<p><u>Stage 1:</u> 8 passenger stations, central control equipment, and equipment for 16 married-pair vehicles.</p> <p><u>Stage 2:</u> 5 passenger stations, central control equipment, and equipment for 14 married-pair vehicles.</p> <p><u>Stage 3:</u> 4 to 6 passenger stations, central control equipment, and equipment for 11 to 20 married-pair vehicles.</p>	Multi-year Procurement to design, furnish and install the SEG-2 System only, and to design and furnish the SEG-3 System (One-step, sealed-bid process; low-bid award).	<p>Design, furnish, and install the SEG-2; and design and furnish the SEG-3 Radio System including Passenger station local equipment, antennas, amplifiers, paging equipment, Train Identification and Control Units (TICU) for the vehicles and control center equipment. Procure mobile units and portable units and battery chargers.</p> <p>Prepare and implement Test and Training Programs.</p> <p>Equipment delivery and field work will be staged on the basis of site availability, as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment only will be included.</p> <p>A SEG-3 future installation contract with some application design will be required.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B642	<p>Public Address (PA): Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, detailed specifications, contract drawings, reference drawings, and interface documentation.</p> <p>Determine required equipment quantities.</p> <p>Prepare test program.</p>	B642	<p>Stage 1: 8 passenger stations, and central control equipment.</p> <p>Stage 2: 5 passenger stations and central control equipment.</p> <p>Stage 3: 4 to 6 passenger stations and central control equipment.</p>	Multi-year Procurement (One-step, sealed-bid process; low-bid award)	<p>Furnish SEG-2 and SEG-3 public address equipment, including amplifiers, speakers, microphones, emergency panels, tape decks, and control equipment for Central Control. Provide coverage for all station areas.</p> <p>Prepare Installation Program for implementation by others.</p> <p>Delivery of equipment will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B643	<p>Closed Circuit Television (CCTV): Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, detailed specifications, contract drawings, reference drawings and interface documentation .</p> <p>Determine required equipment quantities.</p> <p>Prepare test program.</p>	B643	<p>Stage 1: 8 passenger stations and central control equipment</p> <p>Stage 2: 5 passenger stations and central control equipment.</p> <p>Stage 3: 4 to 6 passenger stations and central control equipment.</p>	Multi-year procurement (One-step, sealed-bid, process; low-bid award)	<p>Furnish SEG-2 and SEG-3 CCTV equipment, including cameras, mounts, lenses, modulators and demodulation recorders, video transmission equipment, and CCTV workstations and consoles.</p> <p>Prepare Installation Program for implementation by others.</p> <p>Delivery of equipment will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B644	<p>Fiber Optics and Cable Transmission (FOCT): Prepare bid document packages for SEG-2 and SEG-3 including contract conditions, performance specifications, contract drawings, reference drawings, and interface documentation.</p> <p>Perform analysis of configuration and equipment alternatives.</p>	B644	<p>Stage 1: 8 passenger stations and central control equipment.</p> <p>Stage 2: 5 passenger stations and central control equipment.</p> <p>Stage 3: 4 to 6 passenger stations and central control equipment.</p>	Multi-year Procurement to design and furnish (One-step, sealed-bid process; low-bid award)	<p>Design and furnish SEG-2 and SEG-3 FOCT equipment, including audio and digital patch panels, digital and optical transmission equipment, and multiplex equipment.</p> <p>Prepare and implement Management, Test and Quality Assurance Programs.</p> <p>Prepare Installation Program for implementation by others.</p> <p>Equipment delivery and tests will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B645	<p>Transit Automatic Controls and SCADA (TRACS): Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, performance specifications, contract drawings, reference drawings and interface documentation.</p> <p>Perform evaluation of SEG-1 System documentation to determine procurement process.</p>	B645	<p>Stage 1: 8 passenger stations, central control equipment, and Yard.</p> <p>Stage 2: 5 passenger station and central control equipment.</p> <p>Stage 3: 4 to 6 passenger stations and central control equipment.</p>	<p>Multi-year Procurement to design, furnish and install the SEG-2 System only, and to design and furnish the SEG-3 System (One-step, sealed-bid process; low-bid award or negotiated procurement process)</p>	<p>Design, furnish and install SEG-2, and design, and furnish SEG-3 to performance requirements and SEG-1 compatibility requirements. The System will provide consoles, displays, computer equipment, software modifications and RTU equipment for the line Extensions. Provision the system for expansion via menu-driven software for up to 30 additional stations.</p> <p>Prepare and implement Management, Test, Systems Assurance and Training Programs.</p> <p>Equipment delivery and field work will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment only will be included. A SEG-3 installation contract with some application design will be required.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B646	<p>Fire and Emergency Management (F&EM): Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, performance specifications, contract drawings, reference drawings, and interface documentation.</p> <p>Perform analysis of configuration and equipment alternatives.</p>	B646	<p>Stage 1: 8 passenger stations, central control and Yard.</p> <p>Stage 2: 5 passenger stations and central control.</p> <p>Stage 3: 4 to 6 passenger stations and central control.</p>	Multi-year Procurement to design and furnish (One-step, sealed-bid process; low-bid award)	<p>Design and furnish the SEG-2 and SEG-3 Fire and Emergency Management System, including station fire alarm subsystem, ventilation controls, intrusion detection subsystem, fire services telephone subsystem, and traction power emergency trip function. Equipment includes fire detection devices, Emergency Management Panels (EMP), Command Posts (CP), Fire Control Terminals (FCT), Blue Light Stations (BLS), card-key reader terminals and wire and cabling within the Train Control and Communications room.</p> <p>Prepare and implement Management, Systems Assurance, Test and Training Programs. Prepare Installation Program for implementation by others.</p> <p>Equipment delivery and tests will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B647	Gas Monitoring and Seismic Detection: Prepare bid document packages for SEG-2 and SEG-3, including contract conditions, performance specifications, contract drawings, reference drawings, and interface documentation.	B647	<p>Stage 1: Gas Monitoring - 8 passenger stations.</p> <p>Seismic Detection - 3 switches and 1 recorder.</p> <p>Stage 2: 5 passenger stations.</p> <p>Stage 3: 4 to 6 passenger stations.</p>	Multi-year Procurement to design and furnish (One-step, sealed-bid process; low-bid award)	<p>Design and furnish SEG-2 and SEG-3 equipment to performance specifications which will control envelope, external interface and sensitivity. Gas Monitoring equipment includes pumps, valves, tubing, probes, methane and hydrogen sulfide analyzers with cabinetry and calibration equipment. Seismic detection equipment includes seismic switches and recorders.</p> <p>Prepare and implement Test, Management, Systems Assurance and Training Programs. Prepare installation Program for implementation by others.</p> <p>Equipment delivery and tests will be staged on the basis of site availability as follows:</p> <p>Stage 1: SEG-2 Wilshire and Vermont/ Hollywood Corridors.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 equipment will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B648-A	Communications Installation: Prepare SEG-2A (Wilshire Corridor) bid document package, including contract conditions, performance specifications, contract drawings, reference drawings, and interface documentation.	B648-A	3 passenger stations, central control, and Yard.	Installation (One-step, sealed-bid process; low-bid award)	<p>Design, furnish and install the Train Control and Communications (TC&C) Room power distribution system for the SEG-2A Communications Systems and Main Distribution Frame (MDF) expansion at the OCC and Yard. Install PA, CCTV, FOCT, F&EM, seismic detection and gas monitoring equipment; furnish all required installation materials.</p> <p>Furnish and install Communication Systems station cabling: between field devices and Communications Interface Cabinets (CICs), between field devices and TC&C rooms, between CICs and TC&C rooms and between Traction Power Substations (TPSS) and TC&C rooms. Work includes crossconnect wiring at CICs and MDFs.</p> <p>Field test the Power Distribution, PA, and CCTV Systems.</p> <p>Prepare and implement Management, Quality Assurance and Test Programs.</p>
B648-B	Communications Installation: Prepare bid document packages for SEG-2B and SEG-3, including contract conditions, performance specifications, contract drawings, reference drawings, and interface documentation.	B648-B	Stage 1: 5 passenger stations and central control.	Installation (One-step, sealed-bid process; low-bid award)	Design, furnish and install the Train Control and Communications (TC&C) Room power distribution system for the SEG-2B and SEG-3 Communications Systems and MDF expansion at OCC.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
			Stage 2: 5 passenger stations and central control.		Install PA, CCTV, FOCT, F&EM, seismic detection and gas monitoring equipment; furnish all required installation materials.
			Stage 3: 4 to 6 passenger stations and central control.		<p>Furnish and install Communication Systems station cabling: between field devices and Communications Interface Cabinets(CICs), between field devices and TC&C rooms, between CICs and TC&C rooms and between Traction Power Substations (TPSS) and TC&C rooms. Work includes crossconnect wiring at CICs and Main Distribution Frames(MDFs).</p> <p>Field test the Power Distribution, PA, and CCTV Systems.</p> <p>Prepare and implement Management, Quality Assurance and Test Programs.</p> <p>Equipment installation and tests shall be staged on the basis of site availability, as follows:</p> <p>Stage 1: SEG-2B Vermont/Hollywood Corridor.</p> <p>Stage 2: SEG-3 North Hollywood Extension and West Extension to Pico/San Vicente.</p> <p>Stage 3: East Extension.</p> <p>An option for Stage 3 installation will be included.</p>

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B4239	Telephone System: Determine requirements and provide the information to SCRTD for procurement and installation of additional telephone equipment for SEG-2 and SEG-3. This is an Extension of an existing RTD contract.	B4239	13 passenger stations, central control and Yard.	Furnish and Install	Furnish, and install EPABX systems, telephone equipment and instruments for passenger stations, tunnels, Yard expansion and expansion of the EPABX located at the Operations Control Center. Provide alarm interface to TRACS System.
B650	Passenger Vehicle: Review and comment on SEG-2 design criteria, facilities designs, and systems designs, to ensure compatibility with passenger vehicles procured for SEG-1. Prepare new specification for passenger vehicles that are compatible with B650 vehicles and other system interfaces.	B650	30 Vehicles, 15 ATO carborne packages plus option for 16 ATO carborne packages.	Procurement	Design, manufacture, test, and deliver 30 vehicles (15 dependent pairs) along with spare parts, maintenance manuals, special tools, and vehicle testing services. Provide and install carborne speed-maintaining and carborne station-stopping control equipment. The contract will require the installation of MTA-furnished carborne train control equipment (i.e., automatic train protection, mobile radio, and antennae). Participation and technical assistance is required during testing. Contract should have an option for 32 additional vehicles for SEG-3.
B670	Auxiliary vehicles: Establish requirements for additional auxiliary vehicles. Prepare procurement documents as required.	B670	2 self-propelled rail-borne maintenance vehicles.	Procurement	Design, manufacture, and deliver additional auxiliary vehicles for SEG-2.
B680	Operational Graphics: Prepare specifications and sign location drawings and calculate quantities of each type of sign requirement for SEG-2.	B680	SEG-2 requirements	Purchase Order	Fabricate and install signs.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B710	Escalators and Elevators: Determine requirements for, design, and prepare bid documents for procurement of escalators and elevators to support SEG-2, SEG-3, and option for the eastern extension corridor stations.	B710	13 passenger stations. Option for 6 Passenger Stations.	Procurement and Installation	Design, furnish, install, test, and place into operation escalators and elevators for 8 stations on SEG-2, 5 stations on SEG-3, and an option to procure elevators and escalators for the Eastern Extension Corridor. Elevators deferred from the SEG-1 Pershing Square Station will be procured and installed in this contract. Except for B221 and B231, the contractor will also include escalator claddings.
B715	Art in Transit/Design Development: Contract artists to develop design solutions and architectural enhancements in conjunction with each section designer.	B715	8 passenger stations	Specialty	Multiple contracts to manufacture, procure, and install architectural enhancements as needed, by either the prime contractor for the station, the artist or other independent contractors.
B730	Fixed Shop Equipment: Establish requirements for additional fixed shop equipment to support SEG-2 in accordance with the System Operating and Maintenance Plans. Include equipment deferred from SEG-1. Identify available standard equipment, where possible, and prepare procurement specifications when required.	B730	16 pcs., deferred from SEG-1, plus additional equipment.	Purchase Order	Furnish and deliver additional fixed shop equipment. Included are such items as welders, hydraulic presses, drill presses, band saws, power hacksaws, and equipment for parts cleaning. Equipment will be used to outfit air brake shop, welding shop, metals shop, battery shop, and for maintenance-of-way. Quantities will be based upon the System Operating and Maintenance Plans, the Yard and Shop Functional Plan, and the System Design Criteria and Standards.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B731	Major Shop Equipment: Establish requirements for procurement and installation of deferred major shop equipment. Determine as-built A112 interfaces for turntables, bridge cranes, vehicle hoists, and carbody supports and other major equipment. Prepare specification for contractor to procure, install, and test the equipment.	B731	See () under contract scope.	Procurement and Installation	Furnish, deliver, install, and test the following items: two-ton bridge crane (1), turntables (2), 10-ton bridge crane (1), vehicle hoists (12), and carbody supports (24) and other major equipment. Equipment will be used to complete the main shop building based upon Contract A112 deferred items requirements.
B735	Portable Shop Equipment: Establish requirements for additional freestanding and portable shop equipment to support SEG-2 in accordance with the System Operating and Maintenance Plans. Include equipment deferred from SEG-1. Identify available standard equipment, where possible, and prepare procurement specifications when required.	B735	300 pcs., including sets of tools, deferred from SEG-1, plus additional equipment.	Purchase Order	Manufacture and deliver additional freestanding and portable shop equipment. Included are such items as hand tools and boxes, work benches, carbody stairs, carbody stands, pneumatic and electric tools, equipment racks, and other related equipment. This equipment will be used in all areas of the Main Shop and for maintenance-of-way. Quantities will be based on the System Operating and Maintenance Plans, the Yard and Shops Functional Plan, and the System Design Criteria and Standards.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B740	Ventilation Equipment: Determine requirements for, design, and prepare bid documents for procurement and installation of additional subway tunnel ventilation equipment to support SEG-2 and SEG-3, and option for the eastern extension corridor.	B740	Equipment for 13 passenger stations, and pocket track booster fans at MacArthur Park, Hollywood corridor (SEG-2 & 3), and Wilshire corridor (SEG-2) and option for 4 passenger stations.	Procurement and Installation	Manufacture and install subway emergency mid-tunnel, underplatform, and smoke exhaust fans, dampers, and sound attenuators for six stations (B221 & B231 not included) in SEG-2 and five stations in SEG-3. Equipment for two stations in the Wilshire corridor of SEG-2, Wilshire/Normandie and Wilshire/Western, will be furnish only and installed by the station contractor. Quantities and sizes of fans will be based on the System Design Criteria and Standards, primarily the Fire/Life Safety emergency ventilation requirements. The option is for procurement and installation for four stations in the eastern extension corridor.
B745	Air Handling Equipment: Determine requirements for, design, and prepare bid documents for procurement and installation of additional station air supply equipment and traction power substation air handling equipment to support SEG-2 and SEG-3, and option for the eastern extension corridor.	B745	Equipment for 13 passenger stations. Option for 4 passenger stations.	Procurement and Installation	Manufacture and install additional station air supply, traction power substation ventilation equipment, consisting of supply fans, filters, and dampers, for six stations (B221 & B231 not included) in SEG-2 and five stations in SEG-3. Equipment for two stations in SEG-2, Wilshire/Normandie and Wilshire/Western, will be furnish only and installed by the station contractor. Quantities and sizes of fans will be based on the System Design Criteria and Standards. Option for four stations in Eastern extension corridor includes procurement and installation of air handling equipment.
B750	Soil Remediation Contract - I	B752	As required by site conditions.	Specialty	Remove and remediate contaminated soils when encountered in tunnel or station construction; if necessary, haul, dispose of, and treat in certified facilities.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Soil Remediation Contract - II	B754	As required by site conditions.	Specialty	Remove and remediate contaminated soils when encountered in tunnel or station construction; if necessary, haul, dispose of, and treat in certified facilities.
	Asbestos Abatement Contract	B756	As required by site conditions.	Specialty	Abate and remove asbestos in any building demolition contracts, taking into consideration applicable health, safety and engineering measures. If necessary, haul, dispose of, and treat in certified facilities.
B760	Signs and Graphics: Determine requirements for, design, and prepare specifications and drawings for fabrication of additional station signs and graphics to support SEG-2, and SEG-3, and option for the eastern extension corridor.	B760	13 passenger stations. Option for 4 passenger stations.	Procurement	Furnish station non-luminated signs, graphics, fixtures, and other appurtenances for 8 stations on SEG-2, 5 stations on SEG-3, and have an option to procure signs and graphics for 4 stations on the eastern extension corridor stations. Quantities and locations of signs and graphics will be based on the System Design Criteria and Standards. (Installation by station contractors.)
B761	Illuminated Signs and Edgelights: Determine requirements for design and prepare specifications and drawings for fabrication of station illuminated signs and edgelights to support SEG-2, SEG-3, and option for the eastern extension corridor.	B761	13 passenger stations. Option for 4 passenger stations.	Procurement	Furnish station platform edgelight assemblies complete with signs, overhead illuminated signs and station pylons for 8 stations on SEG-2, 5 stations on SEG-3, and option for 4 stations on the eastern extension corridor stations. Quantities and locations of edgelights illuminated signs and station pylons will be based on the System Design Criteria and Standards. (Installation by station contractors.)
B770	Rubber Tired Vehicles: Preparation of specifications and bid documents for the following procurement contracts:				

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
	Automobiles and light trucks	B771*	10	Purchase Order	Furnish maintenance vans, pick-up trucks, and supervisory sedans.
	Fork Lift trucks	B772*	3	Purchase Order	Furnish electric fork lift trucks with 4,000-lb capacity.
	Shop Cleaning, Maintenance, and Materials Handling Equipment.	B773	2	Purchase Order	Furnish wet dry shop vacuum cleaners, hand trucks, and materials cart.
	Yard and Shop Cleaning and Maintenance Vehicles	B774	4 pcs.	Purchase Order	Furnish electric ride-on floor scrubber and electric personnel carts.
*Standard Vehicles: Use existing procurement documents.					
B775	Mobile Maintenance Equipment: Determine requirements for, design, and prepare specifications for procurement of additional mobile maintenance equipment in accordance with the System Operating and Maintenance Plans.	B775	TBD	Purchase Order	Furnish mobile maintenance equipment for SEG-2. Quantities will be based on the System Operating and Maintenance Plans.
B780	Furniture: Determine requirements for and prepare bid documents for procurement of additional station furniture to support SEG-2.	B780	8 passenger stations	Procurement	Furnish station furniture for the SEG-2, under multiple contracts. Quantities will be based on the System Operating Plan and the System Design Criteria and Standards.
B785	Fire Suppression and Emergency Equipment: Prepare specifications for procurement of fire extinguishers, fire hose and nozzles to support SEG-2.	B785	180 Fire Extinguishers 80 Nozzles and Hoses, 16 Stretchers, 16 First-Aid Kits, 16 Track Carts, 16 100-Ft Sections of Rope	Purchase Order	Manufacture, test, and deliver fire extinguishers, hose, and nozzles and emergency equipment. Includes unloading after shipment but does not include handling and storage after delivery. Quantities will be based on the System Design Criteria and Standards, primarily the Fire/Life Safety requirements.

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
B790	Stores and Consumables: Establish requirements for additional stores and consumables to support SEG-2. Consider SEG-1 inventories when making determination of needs. Identify readily available standard supplies to be procured and recommend stocking levels. Assist, as requested, with preparation of purchasing documents.	B790		Procurement	Furnish stores and consumables under multiple contracts to augment SEG-1 and support SEG-2. Include cleaning supplies, lubricants, solvents, carwash detergents, etc.
B795	Uninterruptible Power Supplies: Determine requirements for, design, and prepare bid documents for procurement of additional uninterruptible power electrical equipment to support SEG-2, SEG-3, and eastern extension corridor.	B795	Stage 1:16 units (2 at each SEG-2 station). Stage 2: 5 stations, and 2 ventilation structures under Segment-3 and option for three to five stations at eastern extension corridor.	Procurement	Manufacture, deliver, and support installation of uninterruptible power electrical equipment for all SEG-2 and -3 stations. Each uninterruptible power supply (UPS) shall include the electronic and batteries needed to provide emergency power to stations and tunnel emergency lighting, and control power supply for the electrical substation switchgear and communications equipment as required by the System Design Criteria and Standards. (Installation by station contractors.)

Design Unit	Design Scope	Contract Unit	Approx. Quantities	Contract Type	Contract Scope
H840	Fare Collection: Calculate quantity of Ticket Vending Machines (TVMs) required by final SEG-2 alignment. Prepare plan for installation of fare collection equipment. Specify additional equipment required in SEG-1 stations by the expansion of Metro Red Line to SEG-2. Modify equipment quantities listed in Option No. 3 of H840 Contract in accordance with the updated requirements. Develop conduit and underfloor duct requirements for SEG-2 stations.	H840	65 TVMs for SEG-2 and 63 TVMs available for SEG-3.	Procurement and installation	Furnish and install equipment supplied under Option No. 3 of Contract H840 as modified in accordance with final SEG-2 design.

PROFESSIONAL SERVICES CONTRACT UNIT DESCRIPTIONS

<u>Design Unit</u>	<u>Design Scope</u>	<u>Contract Unit</u>	<u>Aprox. Quantities</u>	<u>Contract Type</u>	<u>Contract Scope</u>
E0070	The Metro Red Line is a two-track rail line in subway configuration. Construction is being accomplished in stages. The Segment-2 stage includes two branches beginning just west of the Segment-1 Westlake/MacArthur Park Station. One branch alignment terminates at Wilshire Boulevard and Western Avenue, the other at Hollywood Boulevard and Vine Street. Segment-2 contains eight stations designed for unattended operations.	E0070	1 LOT	Professional Services	The EMC contract provides professional and other services for design and construction of the Metro Red Line, including: preliminary design and management of the final design efforts, systems/facilities integration, project capital cost estimating, project cost and schedule reporting and control, technical coordination, preparation of all camera-ready construction and design/furnish/install bid documents, design services during construction, preparation of project record drawings, and implementation of a design phase QA/QC program.
03369	The Metro Red Line is a two-track rail line in subway configuration. Construction is being accomplished in stages. The Segment-2 stage includes two branches beginning just west of the Segment-1 Westlake/MacArthur Park Station. One branch alignment terminates at Wilshire Boulevard and Western Avenue, the other at Hollywood Boulevard and Vine Street. Segment-2 contains eight stations designed for unattended operations.	03369	1 LOT	Professional Services	Parsons-Dillingham provides construction management (CM) services with responsibility for preconstruction and construction management services for the construction, testing and startup of the Metro Red Line Project.

Design Unit	Design Scope	Contract Unit	Aprox. Quantities	Contract Type	Contract Scope
					<p>Services include constructibility and claims avoidance reviews; reviews of cost estimates; assistance in procurement of long lead materials and equipment; assistance in evaluating bids from construction contractors; implementation of a safety program; supervision, administration, and inspection surveillance of facilities construction and systems contracts; the scheduling and cost control of construction; configuration management; and field contract administration.</p> <p>The CM is also responsible for certain systems aspects of the project and CM support services.</p>
03136	<p>The Metro Red Line is a two-track rail line in subway configuration. Construction is being accomplished in stages. The Segment-2 stage includes two branches beginning just west of the Segment-1 Westlake/MacArthur Park Station. One branch alignment terminates at Wilshire Boulevard and Western Avenue, the other at Hollywood Boulevard and Vine Street. Segment-2 contains eight stations designed for unattended operations.</p>	03136	1 LOT	Professional Services	<p>Booz-Allen & Hamilton's scope of services for the Metro Rail segment include systems analysis of: Operations/Maintenance/Rail Activation, Safety/Security/Systems Assurance, Fare Collection Equipment Procurement Management, Administration Support, and Special Studies</p> <p>Management of the passenger vehicle procurement involves: Program Management, Design Reviews, Interface Management, Q.A. Monitoring, TTC Testing, and Vehicle Acceptance.</p>

Design Unit	Design Scope	Contract Unit	Aprox. Quantities	Contract Type	Contract Scope
MY005	The Metro Red Line is a two-track rail line in subway configuration. Construction is being accomplished in stages. The Segment-2 stage includes two branches beginning just west of the Segment-1 Westlake/MacArthur Park Station. One branch alignment terminates at Wilshire Boulevard and Western Avenue, the other at Hollywood Boulevard and Vine Street. Segment-2 contains eight stations designed for unattended operations.	MY005	1 LOT	Professional Services	For Segment-2, LKG has the responsibility to meet all contract services requirements to facilitate the sale and distribution of bid documents.