RMC
MICROFILM
MULTIPLE DOCUMENT COVER SHEET

393012 MAY 2

AUTHOR: DIANNE CURZON

AUTHOR COMPANY: PROGRAM CONTROL #8610

RECIPIENT COMPANY: RECORDS MANAGEMENT CENTER

DATE: 05/22/01

DOCUMENT TYPE: DWG-08

REFERENCE # : IRON MOUNTAIN #398122801

PROJECT # : R92

SUBJECT: RESIDENT ENGINEER MANUAL CM111

R92 Systemwide

POLICY & PROCEDURE APPROVAL SIGN-OFF
AND DATA SHEET

PCN# : CM111-PCN-1.00
RFI/C:

Page 1

POLICY/PROCEDURE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

RECOMMENDATION AND APPROVAL SIGNATURES: (R = Recommend A = Approve)

R SUBMITTED BY:	Mary Hestmeyer		DATE: 4-22-97
R COORDINATOR:	H. Priluck, Director Construction		DATE: 4/23/97
R LEGAL (if required)	J. Lyon, MTA Legal	N/R	DATE:
R CONTRACTS (if required)	J. Kinsel, Director Contracts	N/R	DATE:
R CHANGE CONTROL:	L. Simpson, Director Configuration Sys.	M. Hestmeyer for LAS	DATE: 4/22/97
A OWNER:	J. Sandberg, DEO Engineering/Construction		DATE: 4/29/97
A EXECUTIVE OFFICER:	C. Stark, EO Construction (Interim)		DATE: 4/29/97

HOW MUCH?:	COST	TIME	OTHER IMPACTS:		
ROM COST:	($347,480.00)	0	SCHEDULE ISSUES?:	Y	COST RECOVERY POTENTIAL:
			DESIGN ISSUES?:	N	DOCUMENT REVISIONS REQUIRED?: Y
			SAFETY ISSUES?:	Y	OTHER PROJECTS/CONTRACTS?: Y
			THIRD PARTY?:	N	All future contracts and projects are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

FINDING OF FACT

WHO?: (Initiated) J. J. Adams, DEO Project Management

WHAT? This change adds the MTA Standard Resident Engineer's Manual to the controlled baseline for MTA Rail Construction projects.

Approval of this change will authorize release of the MTA RE Manual to CM's for future contracts and projects. Approval of this change will transfer responsibility for revision control, maintenance, and distribution of the RE manual from the CM's to the MTA Construction Division. The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed and approved within the Project.

The MTA RE Manual will supersede the separate RE Manuals developed by CM consultants on future contracts and projects. The MTA RE manual is based on the Parsons-Dillingham RE Manual, modified to include change recommended by JMA (North Hollywood CM) and MTA reviewers.

Revision 0 does not contain revision markings as it is an original release. However, it contains a number of revisions based on MTA preliminary review comments.

Drawings: No baseline standard/directive drawings are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

Specifications: No baseline standard specifications are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

Other Documents: No baseline documents are affected by the baseline issuance of the MTA Construction Resident

DISTRIBUTION LIST

MTA Construction Unit: Resident Engineer's (RE) Manual

R92-CM111. - 04/01/97 REV 0.00

CONTROL #	NAME	MAIL STOP	TYPE/NUMBER
CM			
JMA: 8			
2550	BIGGART, ALASTAIR, Project Manager		N
2552	CHRISTER, ALLAN, Dep. PM Cont. Adm		N
2512	HAMM, ED, Document Control Mgr.		N
2595	ALWARD, ROD, Change Control		1
2744	GREGORY, BILL, Resident Engineer (RE)		1
2555	JMA DOCUMENT CONTROL,		1
2742	MASON, ALLEN, Resident Engineer (RE)		1
2743	TOWNSEND, JOHN, Resident Engineer (RE)		1
KCS: 1			
2614	KABLER, GEORGENE,		1
LTK (LA): 2			
2110	FRANDSEN, BILL, Project Manager		N
2526	ALLEN, KATHY, Change Control		1
MTC: 6			
2447	JORGENSEN, BILL, Project Manager, Pasadena		N
2497	MANZELMANN, JIM, Dep. Proj Mgr., Controls		N
2613	MTC Change Control,		1
2448	MTC DOC CONTROL, BRIAN FORBES,		1
2746	SKOURY, JOHN, Resident Engineer (RE)		1
2745	WALLER, TOM, Resident Engineer (RE)		1
PD: 2			
2267	DIXON, CHRIS, Project Manager		N
2220	BASS, SHARON, Document Control		1
CONSULTANT			
LKG-CMC, Inc.: 2			
2096	ELLIOTT, CLAUDIA, Dep. Project Mgr.		N
2090	GARSIDE, LOUISE K., Confign Mgmt Organization		1
EMC			
PB/DMJM: 5			
2154	MURTHY, K.N., Deputy Director, EMC	29-11	N
2141	EMC LIBRARY/J. ALVAREZ,	28-31	1
2361	KADLEC, MILAN, Proj Mgr - Seg. 2/Seg. 3	29-12	1
2204	MAYMAN, SAM, Proj. Mgr. SEG 3 - Eastsi	29-33	1
2082	RUMMEL, KIRK, Project Manager, Pasadena	29-15	1
MTA			
METRO Construction: 47			
2277	CHAMPION, DAVE, Lead Cost Estimator	99-17-1-86	N
2249	CHRISTIANSEN, JEFF, DEO, Program Mgmt	99-17-1-62	N
2144	GASKILL, WILLIAM, EPM, Programwide	99-18-11	N
2047	HEITMEYER, MARY, Config Mgmt Analyst	99-17-1-77	N
2010	HUBAUD, LOU, Dir. System Safety	99-18-2-86	N

DISTRIBUTION LIST

MTA Construction Unit: Resident Engineer's (RE) Manual

R92-CM111. - 04/01/97 REV 0.00

CONTROL #	NAME	MAIL STOP	TYPE/NUMBER
2215	JACKSON, DAN, Dir. Construction Safety	99-17-4	N
2633	JOHNSTON, MICHELLE, Asst. Dir. Contracts	99-17-2-35	N
2288	KINSEL, JEANNE, Dir of Contract Admin.	99-17-3-48	N
2393	LEWIS, TED, Director, Engineering	99-18-11	N
2592	PARTRIDGE, DENNIS, Sr. Config Mgmt Spclst	99-17-1-61	N
2290	PEREZ, MARK, DIR Program Control	99-17-1	N
2301	POLECHRONIS, STEPHEN J., DEO - Seg 2	99-16-1	N
2011	RICHARDSON, ED, Manager, 3rd Party Coord	99-18-1-58	N
2600	RODRIGUEZ, ALFONSO, DEO Eastside Ext.	99-16-4-20	N
2626	RUBIO, TERESA, Change Analyst	99-17-1-75	N
2078	SANDBERG, JOEL, Dep. Ex. Dir, Engineerin	99-18-1	N
2036	SIEVERS, DAVID, DEO Pasadena Line	99-18-5	N
2232	SIMPSON, LOUISA, Director, Config. Systems	99-17-1-68	N
2346	SMITH, CAROL, Technical Editor, Contrac	99-17-2-33	N
2295	STARK, CHARLES, Interim Executive Officer	99-16-2-50	N
2014	ADAMS, JOHN, DEO - Project Management	99-16-2-48	1
2311	AGRAWAL, SUDHIR, Engineering Project	99-18-11	1
2707	BABBITT, ROBERT, Third Party Coord.	99-16-1-75	1
2317	BACA, MICHAEL, Contracts Admin. Mgr.	99-17-2-57	1
2607	BEATTY, TERESA, Sr. Contract Admin.	99-17-2-44	1
2574	BROWN, NICK, Dir. Rail Activ. & Start-	99-18-9-52	1
2030	COHEN, JIM, Dep. Project Mgr, Con.	99-18-3-21	1
2284	COMPTON, DAVID, Const Mgr Seg 2	99-16-5-34	1
2672	CURZON, DIANNE, Mgr. Document Control	99-17-1-72	1
2145	DAMES, ROGER, Acting Deputy Project Mgr	99-16-5-30	1
2712	DOSCHER, FRANK, Const. Manager	99-16-5-32	1
2017	FORD McCAFFREY, LINDA, Contract Admin. Mgr.	99-16-10	1
2396	FUKS, HENRY, Dep. PM Construction	99-16-2-47	1
2310	JUDITH BUTLER/RMC REFERENCE, Records Mgmt. Supv.	99-P5-20L	1
2287	KELSEY, LARRY, Contract Admin. Mgr.	99-16-6-64	1
2268	LEE, TOM, Const. Mgr. Seg 2	99-16-5-43	1
2601	LINKOUS, JIM, Contract Administrator	99-17-2-46	1
2297	LOTTERMAN, STAN, Contract Admin. Mgr.	99-17-2-40	1
2026	MOORE, BILL, Dir., Quality Assurance	99-24-3-74	1
2471	PLAN ROOM, 15th FLR.,	99-15	1
2541	PRILUCK, HERB, DEO Const. Prgms	99-16-5-25	1
2303	STOREY, HAL,	99-18-9-55	1
2302	VARDANIAN, AL,	99-18-7-48	1
2022	VRANESH, SCOTT, Mgr.Contracts, Pasadena	99-18-5-31	1
2325	WARRENSFORD, BRUCE, Contract Mgr. Seg 3 East	99-16-3-83	1
2748	WATTSON, AL, MTA CM	99-16-2	1
2515	WELCH, DENISE, CM SEG 3 N Hwd	99-16-3	1
MTA Administration: 1			
2548	BOHLINGER, LINDA, Interim Chief Executive O	99-25-3	N
MTA Operations: 3			
2747	BEUERMANN, RUDOLPH, Project Engineer	99-11-9	1
2015	MTA LIBRARY/ DOROTHY GRAY,	99-15-1-55	1
2253	NIJLAND, AL, Rail Operations Support	99-11-9	1

DISTRIBUTION LIST

MTA Construction Unit: Resident Engineer's (RE) Manual

R92-CM111. - 04/01/97 REV 0.00

CONTROL #	NAME	MAIL STOP	TYPE/NUMBER
PMAC			
FLUOR-DANIEL: 2			
2545	JOHNS, KEN,		1
2741	SPIKELL, STEPHANIE,		1
PMOC			
GANNETT FLEMMING, INC.: 1			
2637	LEVERENZ, DAVE, PMO MANAGER, PBL		1
HILL INTERNATIONAL, INC.: 1			
2388	WHITE, GERALD, Project Director		1
SECT DSGNR			
ANIL VERMA ASSOC.: 1			
2264	VERMA, ANIL,	R81	1

TOTAL RECIPIENTS: 82 HARD COPIES: 52
NOTICE ONLY: 30

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

SCCN# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
- FYI J. J. Adams, DEO Project Management
- FYA C. Stark, 99-16
- FYA J. Cohen, DPMC Pasadena Line
- FYA D. Sievers, 99-18
- FYA J. Adams, 99-17
- FYA J. Sandberg, 99-18
- FYA S. Polechronis, 99-16
- FYI L. Simpson, MTA Configuration
- FYI L. Graw, 99-17-2
- FYA D. Champion, 99-17-1
- FYA H. Priluck, DPMC Redline S2/East Side
- FYA H. Fuks, DPMC, No. Hollywood
- FYA J. Christiansen, DEO Program Mgmt
- FYA M. Perez, 99-17

PROJECT / CONTRACT MANAGERS:
- R05 S. Vranesn
- R84 L. McCaffrey
- R81 L. Kelsey

CM
- FYI C. Dixon/D. Curzon, PD
- FYI A. Biggart/G. Lamb, JMA
- FYA
- FYA R. Falls, MTC

EMC
- FYA B. Weiss, EMC
- FYI S. Masserat, EMC
- FYI K. N. Murthy, Project Director
- FYI A. Hadnett, EMC Project Control
- FYI
- FYI

OTHER
- FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

- R82 J. Kinsel
- T01 T. Lewis

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
Is the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
Is the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
Is the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS:

EVALUATOR: TITLE/ORG: DATE:

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
318 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
08/14/96 10:03
rev 4.01 08/06/96 adf

POLICY & PROCEDURE APPROVAL SIGN-OFF
AND DATA SHEET

PCN# : CM111-PCN-1.00
RFI/C:

POLICY/PROCEDURE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CONTINUED

Engineer's Manual other than those listed below.

WHERE?: The MTA Resident Engineer's Manual will be used on all future MTA rail project construction contracts and projects.

WHEN?: Revision 0, baseline issuance of the MTA Construction Resident Engineer's Manual is effective upon executive approval sign-off.

WHY?:

WHAT:

Release a standardized MTA Resident Engineer Manual. Transfer control and responsiblity for standard RE Manuals sections from CM's to MTA.

The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed.

JUSTIFICATION:

The MTA Construction Resident Engineer's Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management on all future Metropolitan Transportation Authority (MTA) rail construction contracts and projects.

The majority of the RE manual contains standard procedural direction based on MTA policy and procedure requirements. The MTA RE Manual will eliminate the need for seperate and independent development and maintenance of RE Manuals by the various MTA Construction Management Consultants. In addition to providing significant CM cost savings, consolidation into a single manual under MTA control will help bring consistency to field office practices, and clarify MTA requirements and expectations regarding RE activities.

COST IMPACT:

Eliminating the costs related to seperate development and maintainance of the RE manual by multiple CM organizations will result in significant cost savings. The credit shown is based on the estimated hours reported by Parsons-Dillingham to 1) Develop the RE Manual (approx. 880 hrs), and 2) Annual maintenance (approx. 200 hrs).

Cost savings are based on anticipated project activity for the next four to six years. Additional savings will accrue for each year the MTA RE manual is used on MTA rail project contracts.

Do not put comments on post it notes. Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.

DOCUMENTS AFFECTED (Listing):

Procedure #	Revision	Title
CM111	0	MTA RESIDENT ENGINEER'S MANUAL

POLICY & PROCEDURE APPROVAL SIGN-OFF
AND DATA SHEET

PCN# : CM111-PCN-1.00
RFI/C:

POLICY/PROCEDURE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CHRONOLOGY OF EVENTS:

Date	Reference	Events (Actions, Notifications, Meetings, Correspondence, etc.)
03/28/96	MTA MEMO	ADAMS TO DISTRIBUTION: J. Adams distributes draft of MTA consolidated RE Manual for review by: H. Fuks, H. Priluck, J. Cohen, J. Christiansen, L. Simpson, L. Graw, D. Jackson, W. Moore, and A. Zuniga.
07/06/96		Letter from D. Curzon, PD to L. Simpson, MTA.
07/23/96	LETTER	FDI TO ADAMS Letter from Fluor Daniel, Inc. to J. Adams, MTA DEO Program Management submitting the Draft Generic Resident Engineer Manual including reformatting and incorporation of comments as appropriate from MTA staff.
08/07/96		MTA Configuration Management logs SBCN and forwards same to the Director of Configuration Systems for review prior to CTE issuance.
08/14/96	CTE	MTA Configuration Management submits MTA Construction Resident Engineer's Manual for technical evaluation.
09/05/96		MTA Configuration Management E-mails reviewers who have not returned their CTE forms. MTA Configuration Management will hold received CTE comments pending receipt of late CTE forms. Upon receipt of all CTE forms, MTA Configuration Management will compile all comments and forward to Fluor-Daniel for review and response.
09/19/96	E-MAIL	MTA Configuration Management receives E-mail from L. Simpson, Director Configuration Systems stating that her comments will be forwarded on September 20, 1996.
10/04/96	E-MAIL	MTA Configuration Systems contacts M. Escalle, MTA Contracts and asks if there are hours available in the Fluor-Daniel Inc. Work Order. MTA Configuration Systems would like to retain FDI's services to incorporate the CTE comments.
10/14/96	E-MAIL	MTA Configuration Systems sends 2nd E-mail to M. Escalle requesting status of the request to retain FDI to incorporate the CTE comments.
10/28/96	E-MAIL	M. Escalle, MTA Contracts informs MTA Configuration Systems that he is meeting with E. Nadeau, FDI to scope out the task.
11/20/96		M. Heitmeyer, MTA Configuration Sys. reviews FDI proposal.
11/21/96		M. Heitmeyer prepares analysis of FDI's proposal and submits to L. Simpson, Director Configuration Systems.
11/22/96		L. Simpson, MTA Director Configuration Sys. informs M. Escalle, MTA Contracts that the hours propsed will be reduced. MTA Contracts to prepare a limited Notice to Proceed pending negotiations with FDI.
12/10/96	MEETING	L. Simpson, Director Configuration Systems, M. Heitmeyer, Sr. Config. Analsyt, and FDI representatives meet to discuss the scope of work and hours necessary to complete the task. FDI does not believe that the task can be completed within the MTA's proposed hours. MTA Configuration Systems agrees to the following:

POLICY & PROCEDURE APPROVAL SIGN-OFF
AND DATA SHEET

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CHRONOLOGY OF EVENTS:

Date	Reference	Events (Actions, Notifications, Meetings, Correspondence, etc.)
		1) L. Simpson will review the CTE comments and electronically incorporate appropriately. 2) MTA Configuration Sys. will facilitate resolving conflicts between commentors. 3) Upon completion FDI will prepare the final draft for final review and acceptance.
12/11/96		L. Simpson, MTA Director Config. Sys. contacts A. Nijland regarding the following: 1) The draft O&M section of the RE manual states that MTA Construction and ROS would review O&M submittals. 2) CTE received suggesting revising the review from ROS to Rail Activation and Integration. 3) Should the RE Manual change the review to RA&I or should both RA&I and ROS perform the O&M submittal review.
12/16/96		A. Nijland responds to L. Simpson (see chron dated 12/11/96) stating that the ROS department is the appropriate reviewing department for "O&M Submittals". Al stated that he will meet with the commentor and ask why he suggested revising the "O&M Submittal" reviewing department from ROS to RA&I.
12/17/96	MEETING	MTA Configuration Systems meets with FDI representatives regarding the RE Manual as follows: 1) L. Simpson will incorporate changes on eight sections of the RE Manual. 2) The Work Order will be revised to add 40hrs; total hours including additional 40 equals 100hrs. 3) FDI to incorporate remaining comments (comments other than editorial that required decision may be made by FDI as long as the reasoning is documented). 4) Comments that FDI cannot resolve need to be forwarded to MTA Config. Systems for resolution and/or direction to FDI on how to proceed.
12/17/96	E-MAIL	MTA Configuration Systems E-mails M. Escalle, MTA Contracts requesting that the FDI Work Order be revised from 60 hours to 100 hours.
01/28/97	MEETING	MTA Configuration Systems meets with FDI. FDI submits final draft RE Manual to MTA Configuration Systems with an Attachment "A" detailing the following: 1) Incorporated CTE comments needing concurrence from MTA staff. 2) CTE comments needing clarification before they can be incorporated into the RE Manual.
01/29/97	DISKS	FDI submits electronic copy of the RE Manual to MTA Configuration Systems.
02/06/97	FINAL DRFG	L. Simpson completes updates and CTE incorporation on eight sections of the RE Manual. L. Simpson to prepare cover letter to be included in final review distribution.
02/06/97	COPY CENTR	MTA Configuration Systems delivers the final draft RE Manual to the copy center for two sided copying.
02/10/97	LETTER	L. Simpson provides final RE Manual review cover letter.

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CHRONOLOGY OF EVENTS:

Date	Reference	Events (Actions, Notifications, Meetings, Correspondence, etc.)
02/12/97	FNL REVIEW	MTA Configuration Systems forwards the final review draft RE Manual, including the cover letter, CTE form, each commentors' CTE comments, and a hard copy of E-mail detailing the due date for acceptance, rejection, and/or submittal of additional comments to the appropriate reviewers. E-mail also lists the date, time, and place for the final CTE resolution meeting.
02/12/97	E-MAIL	MTA Configuration Systems transmits E-mail requesting that each recipient of the final review draft RE Manual sign acceptance, reject resolution, and/or submit additional comments to MTA Configuration Systems no late than end of day February 17, 1997. In addition, the E-Mail lists the date, time, and location of the final RE Manual CTE resolution meeting.
02/12/97	E-MAIL	MTA Configuration Systems E-mail's A. Nijland informing him of the following: 1) A copy of the final review draft RE Manual has been forwarded along with his CTE comments for review and acceptance, rejection, and/or additional comments. 2) The date, time, and location of the final CTE resolution meeting. MTA Configuration Systems mails copy of final review draft RE Manual and CTE comments to A. Nijland.
02/13/97	RVW DRAFT	MTA Configuration Systems provides copies of the claims, claims avoidance, and back charges sections of the final review draft RE Manual to M. Baca and D. Dwyer for review, acceptance, and/or comment.
02/18/97	MEETING	MTA Configuration Systems convenes a comment resolution meeting. See E-mail in the SBCN package for details.
02/24/97	ADDTL COPY	MTA Configuration Systems delivers copy of the RE Manual to M. Perez, Director Project Control for review and comment.
03/17/97		MTA Configuration Systems contacts M. Perez requesting status of his final review and comment. M. Perez will submit comments by 3/18/97 or said comments will be considered for the next scheduled revision.
03/17/97	E-MAIL	D. Curzon, MTA Manager Document Control E-mails status of RE Manual to H. Priluck.
03/18/97	LATE CTE	M. Perez, Director Project Control submits CTE comments to MTA Configuration Systems.
03/24/97	LATE CTE	MTA Configuration Systems forwards late CTE for S. LeDuff to D. Curzon for review and response.
04/09/97		Configuration Systems incorporated final comments from resolution meeting and late CTEs received. Finalized formatting, removed duplicate forms and updated list of exhibits and table of contents. Note: Some forms were not available, they will be issued in a subsequent revision.
04/10/97	PRINTER	MTA Configuration Systems forwards RE Manual to Universal copy service for distribution copies.
04/18/97		MTA Configuration Systems receives distribution copies from Universal.

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AND DATA SHEET

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RESPONSIBLITY:	MTA DEO CONSTRUCTION
CHANGE TITLE:	(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CHRONOLOGY OF EVENTS:

Date	Reference	Events (Actions, Notifications, Meetings, Correspondence, etc.)
04/22/97	DIST LIST	MTA Configuration Systems inputs electronic distribution list. In addition, MTA Configuration Systems creates RE Manual notebook cover and spine inserts.
04/22/97		MTA Configuration Systems creates consolidated data sheet/approval form.
04/23/97	4 SIGNATUR	MTA Configuration Systems forwards the SBCN approval signature folder to H. Priluck for signature processing.

###END### PCN: R92-CM111-1.00

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA A. NOJAND

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
Is the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
Is the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
Is the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS:

EVALUATOR: TITLE/ORG: DATE:

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MARY HEITMEYER
08/14/96 10:03
rev 4.01 08/06/96 edf

ADDITIONAL REVIEWERS

MTA DEPUTY PROJECT MANAGERS, CONSTRUCTION

J. Cohen, 99-18
H. Fuks, 99-16
H. Priluck, 99-16

R92 Systemwide

DCN# : CM111-CN-1.00
RFI/C: NONE
NPC :

POLICY/PROCEDURE CHANGE NOTICE APPROVAL SIGN-OFF

ROUTINE

DATE: 08/08/96

POLICY ID #/TITLE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

POLICY OWNER: J. J. Adams, DEO Project Management

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

CHANGE IMPACT ASSESSMENT SUMMARY: (Attach Impact Assessment Sheet or other written explanation of impacts identified)

CN TYPE: DCN RFP

ROM (RANGE): **CREDIT $200K-$500K**

TIME IMPACT: 0 CAL DAYS

SCHEDULE ISSUES?: Y
DESIGN ISSUES?: N
SAFETY ISSUES?: Y
THIRD PARTY?: N

Section 4 - Construction Operations - 4.4 Master Agreement Work Verification

DOCUMENT REVISIONS REQUIRED?: Y
COST RECOVERY POTENTIAL: NO *$0.00*
OTHER CONTRACTS/PROJECTS?: Y
All future contracts and projects are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

Related Request(s)-For-Change: **NONE**

REASON FOR CHANGE: 430 EDITORIAL CLARIFICATIONS/DOCUMENT MAINTENANCE /

WHAT:

Release a standardized MTA Resident Engineer Manual. Transfer control and responsiblity for standard RE Manuals sections from CM's to MTA.

The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed.

JUSTIFICATION:

The MTA Construction Resident Engineer's Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management on all future Metropolitan Transportation Authority (MTA) rail construction contracts and projects.

The majority of the RE manual contains standard procedural direction based on MTA policy and procedure requirements. The MTA RE Manual will eliminate the need for seperate and independent development and maintenance of RE Manuals by the various MTA Construction Management Consultants. In addition to providing significant CM cost savings, consolidation into a single manual under MTA control will help bring consistency to field office practices, and clarify MTA requirements and expectations regarding RE activities.

COST IMPACT:

Eliminating the costs related to seperate development and maintainance of the RE manual by multiple CM organizations will result in significant cost savings. The credit shown is based on the estimated hours reported by Parsons-Dillingham to 1) Develop the RE Manual (approx. 880 hrs), and 2) Annual maintenance (approx. 200 hrs).

CHANGE NOTICE PACKAGE INDEX: (Identify all attachments)

[ ] CHANGE NOTICE FORM	[ ] CHANGE IMPACT DATA SHEET	[ ] EVALUATION SHEETS (REQUIRED >50K)
[ ] POLICY REVISION	[ ] ROM COST BREAKDOWN	[ ] CONTRACTOR'S RFI/RFC/NPC
[ ] ATTACHMENT REVISIONS	[ ] TIME IMPACT ANALYSIS	[ ] OTHER: (LIST BELOW)

RECOMMENDATION AND APPROVAL SIGNATURES: (R = RECOMMEND, A = APPROVE)

RTG	APPROVAL	NAME/TITLE (Recommend signatures required prior to CTE issuance)	SIGNATURE	DATE
R				
R				
R				
R	DISCIPLINE:	J. Sandberg, DEO, Engineering & Construction		
R	MTA CHANGE CONTROL	L. Simpson, MTA Configuration	Mary Hentmeyer for L. Simpson 8-14-96	
A	MTA POLICY OWNER:	J. J. Adams, DEO Project Management		
A	MTA EXECUTIVE OFFICER:	Stanley G. Phernambucq		

L. SIM
08/08/96 14:16 rrev 8.2 08/17/95 meh

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012
Tel 213 922-6000

R92 Systemwide

POLICY/PROCEDURE CHANGE NOTICE APPROVAL SIGN-OFF

Page 2

DCN# : CM111-CN-1.00

NPC :

ROUTINE

DATE: 08/08/96

POLICY ID #/TITLE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

POLICY OWNER: J. J. Adams, DEO Project Management

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

REASON FOR CHANGE: 430 EDITORIAL CLARIFICATIONS/DOCUMENT MAINTENANCE /

Cost savings are based on anticipated project activity for the next four to six years. Additional savings will accrue for each year the MTA RE manual is used on MTA rail project contracts.

PROJECTS/CONTRACTS AFFECTED:

PROJ	CONTRACT CN #	ACTION STATUS	ROM ESTIMATE
	ALL	MTA/FUTURE REDUCTIONS	($117,740.00)
R05	MC013	MTA/PROCESS CREDIT CHANGE	($56,000.00)
R84	MC036	MTA/INCORPORATE REDUCTION IN NEGOTIATION	($117,740.00)
R82	MC047	MTA/PROCESS CREDIT	($56,000.00)
TOTAL ESTIMATED CHANGE COST: (DIRECT)			($347,480.00)
TOTAL ESTIMATED CHANGE COST: (INDIRECT: POTENTIAL COST RECOVERY)			*$0.00*
TOTAL ESTIMATED CHANGE COST: (INDIRECT + DIRECT)			($347,480.00)

A MTA EXECUTIVE OFFICER: Stanley G. Phernambucq

L. SIM

08/08/96 14:16 rrev 8.2 08/17/95 meh

R92 Systemwide

S...# :CM111 - 1.00

MTA SYSTEMWIDE BASELINE

INITIAL RELEASE NOTICE

PAGE 1

CN PREPARED: 08/08/96

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

THE CHANGES DESCRIBED BELOW ARE TO BE INCORPORATED INTO ALL CURRENT AND FUTURE CONTRACT AND PROJECT BASELINE DOCUMENTS AS APPROPRIATE. PROJECTS AND CONTRACTS CURRENTLY KNOWN TO BE AFFECTED ARE LISTED BELOW:

PROJECT	CONTRACT	CN#	ACTION REQUIRED (WHO/WHAT)
	ALL	0.00	MTA/FUTURE REDUCTIONS
R05	MC013	0.00	MTA/PROCESS CREDIT CHANGE
R84	MC036	0.00	MTA/INCORPORATE REDUCTION IN NEGOTIATION
R82	MC047	0.00	MTA/PROCESS CREDIT

CHANGE DESCRIPTION (NARRATIVE):

WORK DESCRIPTION

This change adds the MTA Standard Resident Engineer's Manual to the controlled baseline for MTA Rail Construction projects.

Approval of this change will authorize release of the MTA RE Manual to CM's for future contracts and projects. Approval of this change will transfer responsibility for revision control, maintenance, and distribution of the RE manual from the CM's to the MTA Construction Division. The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed and approved within the Project.

The MTA RE Manual will supersede the separate RE Manuals developed by CM consultants on future contracts and projects. The MTA RE manual is based on the Parsons-Dillingham RE Manual, modified to include change recommended by JMA (North Hollywood CM) and MTA reviewers.

Revision 0 does not contain revision markings as it is an original release. However, it contains a number of revisions based on MTA preliminary review comments.

CONTRACT DRAWINGS

No baseline standard/directive drawings are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

CONTRACT SPECIFICATIONS

No baseline standard specifications are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual.

OTHER CONTRACT DOCUMENTS

No baseline documents are affected by the baseline issuance of the MTA Construction Resident Engineer's Manual other than those listed below.

TERMS

LOS ANGELES COUNTY METROPOLITIAN TRANSPORTATION AUTHORITY	RESPONSIBLITY: MTA DEO CONSTRUCTION
Signature:	Signature:
Name/Title: J. J. Adams, DEO Project Management	Name/Title: J. Sandberg, DEO, Engineering & Construction
Date Approved:	Date Approved:

Los Angeles County Metropolitan Transportation Authority

818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623 1194

Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MTA SYSTEMWIDE BASELINE
INITIAL RELEASE NOTICE

CN PREPARED: 08/08/96

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

Continued....

BASELINE DOCUMENT/SECTIONS AFFECTED

DOC ID #	SHEET/PARA #	REV. #/DATE	DOCUMENT TITLE
CM111	ALL	0	MTA RESIDENT ENGINEER'S MANUAL

END CHANGE NOTICE R92-CM111-1.00

R92 Systemwide

SYSTEM BASELINE CHANGE
FINDING-OF-FACT STATEMENT

SBCN# : CM111-SBCN-1.00

RFI/C:

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

HOW MUCH?:	COST	TIME	**OTHER IMPACTS:**		
ROM COST:	($347,480.00)	0	SCHEDULE ISSUES?:	Y	OTHER CONTRACTS/PROJECTS?: Y
			DESIGN ISSUES?:	N	DOCUMENT REVISIONS REQUIRED?:Y
			SAFETY ISSUES?:	Y	
			THIRD PARTY?:	N	Section 4 - Construction Operations - 4.4 Master Agreement Work Verification

COST RECOVERY POTENTIAL?: No

WHO?: (Initiated) J. J. Adams, DEO Project Management

WHAT? This change adds the MTA Standard Resident Engineer's Manual to the controlled baseline for MTA Rail Construction projects.

Approval of this change will authorize release of the MTA RE Manual to CM's for future contracts and projects. Approval of this change will transfer responsibility for revision control, maintenance, and distribution of the RE manual from the CM's to the MTA Construction Division. The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed and approved within the Project.

The MTA RE Manual will supersede the separate RE Manuals developed by CM consultants on future contracts and projects. The MTA RE manual is based on the Parsons-Dillingham RE Manual, modified to include change recommended by JMA (North Hollywood CM) and MTA reviewers.

Revision 0 does not contain revision markings as it is an original release. However, it contains a number of revisions based on MTA preliminary review comments.

WHERE?: The MTA Resident Engineer's Manual will be used on all future MTA rail project construction contracts and projects.

WHEN?: Revision 0, baseline issuance of the MTA Construction Resident Engineer's Manual is effective upon executive approval sign-off.

WHY?:

WHAT:

Release a standardized MTA Resident Engineer Manual. Transfer control and responsiblity for standard RE Manuals sections from CM's to MTA.

The CM's and Project Teams will be able to add project specific detail as appendices to sections as needed.

JUSTIFICATION:

The MTA Construction Resident Engineer's Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management on all future Metropolitan Transportation Authority (MTA) rail construction contracts and projects.

The majority of the RE manual contains standard procedural direction based on MTA policy and

SUBMITTED BY: Mary Heitmeyer TITLE/ORG: Configuration Mgmt DATE: 8-14-96

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194
Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MARY HEITMEYER
08/14/96 09:55
REV 1.2 01/25/96 dbp

SYSTEM BASELINE CHANGE FINDING-OF-FACT STATEMENT

SBCN# : CM111-SBCN-1.00

RFI/C:

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

RESPONSIBLITY: MTA DEO CONSTRUCTION

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

procedure requirements. The MTA RE Manual will eliminate the need for seperate and independent development and maintenance of RE Manuals by the various MTA Construction Management Consultants. In addition to providing significant CM cost savings, consolidation into a single manual under MTA control will help bring consistency to field office practices, and clarify MTA requirements and expectations regarding RE activities.

COST IMPACT:

Eliminating the costs related to seperate development and maintainance of the RE manual by multiple CM organizations will result in significant cost savings. The credit shown is based on the estimated hours reported by Parsons-Dillingham to 1) Develop the RE Manual (approx. 880 hrs), and 2) Annual maintenance (approx. 200 hrs).

Cost savings are based on anticipated project activity for the next four to six years. Additional savings will accrue for each year the MTA RE manual is used on MTA rail project contracts.

Do not put comments on post it notes. Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.

CHRONOLOGY OF EVENTS:

Date	Reference	Events (Actions, Notifications, Meetings, Correspondence, etc.)
03/28/96	MTA MEMO	ADAMS TO DISTRIBUTION: J. Adams distributes draft of MTA consolidated RE Manual for review by: H. Fuks, H. Priluck, J. Cohen, J. Christiansen, L. Simpson, L. Graw, D. Jackson, W. Moore, and A. Zuniga.
07/23/96	LETTER	FDI TO ADAMS Letter from Fluor Daniel, Inc. to J. Adams, MTA DEO Program Management submitting the Draft Generic Resident Engineer Manual including reformatting and incorporation of comments as appropriate from MTA staff.
08/07/96		MTA Configuration Management logs SBCN and forwards same to the Director of Configuration Systems for review prior to CTE issuance.
08/14/96	CTE	MTA Configuration Management submits MTA Construction Resident Engineer's Manual for technical evaluation.

MARY HEITMEYER
08/14/96 09:55
PREV 1.2 01/25/96 dbp

R92 Systemwide

DESIGN CHANGE NOTICE
TECHNICAL EVALUATION
SUMMARY / RESPONSES

DCN# : CM111-CN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96

APPROVAL STATUS:

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

SENT TO √	EVALUATOR NAME	DATE CTE RETURNED	AGREE √	DISAGREE √	COMMENT √	RESOLVED
FYI	J. J. Adams, DEO Project Management					
FYI	D. Champion, 99-17-1 •	9-3-96			✓	
FYA	C. Stark, 99-16 FuKS •	9-5-96			✓	
FYA	J. Cohen, DPMC Pasadena Line •	8/21/96			✓	
FYA	D. Sievers, 99-18	8/23/96			✓ responded 8/5/96	
FYA	J. Adams, 99-17					
FYA	J. Sandberg, 99-18	9/10/96	NONE			
FYI	S. Polechronis, 99-16	9/10/96	✓			
FYI	L. Simpson, MTA Configuration					
FYI	L. Graw, 99-17-2 •	8-22-96			✓	
FYI	J Vinc •	8-19-96			✓	
	H. Storey •	9-12-96			✓	
FYI	E Foreman •	9-26-96			✓	
FYI	H Priluck •	8/26/96			✓	
FYI	C Dixon •	9/11/96			✓	
FYI	C. Dixon/D. Curzon, PD	7-6-96			✓	
FYI	R. Falls, MTC					
FYI	A. Biggart/G. Lamb, JMA					
FYI	M Baca					
	D Dwyer					
FYA	A. Hadnett, EMC Project Control					
FYI	K. N. Murthy, Project Director					
FYA	B. Weiss, EMC	8-20-96	✓			
FYI						

EVALUATION STATUS COMMENTS:

Do not put comments on post it notes. Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.

2 copies

COMMENTS BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012
Tel 213 922-6000

DCN # : DE306-24.00

R92 Systemwide

DESIGN CHANGE NOTICE
TECHNICAL EVALUATION
SUMMARY / RESPONSES

DATE CTE ISSUED: 10/25/96

DATE RESPONSE DUE: 11/04/96

APPROVAL STATUS:

CHANGE TITLE: REVISE STRUCTURAL STANDARD DRAWINGS

SENT TO √	EVALUATOR NAME	DATE CTE RETURNED	AGREE √	DISAGREE √	COMMENT √	RESOLVED
FYI	J. SANDBERG, DEPUTY EXECUTIVE DIRECTOR ENGIN					
FYI	D. MORI, USG 99-16-2					
FYA	D. CHAMPION, USG 99-17-1					
FYA	B. MOORE, USG 99-24-3					
FYA	R. THAKARAR, USG 99-16-4	11-11-96			✓	2-10-97
FYA	J. GIVENS, USG 99-16					
FYA	S. LOTTERMAN, USG 99-17-2	10-29-96			✓	2-11-97
FYI	L. STRUTHERS, USG 99-18-6					
FYI	L. SIMPSON, USG 99-17-1					
FYI	L. MEADOW, USG 99-20-3					
FYI	E Roy	11-6-96			✓	2/12/97
FYI	C Elliott	11-4-96			✓	12-30-97
FYI						
FYI						
FYI	E. KENDRICK, USG 99-18-11					
FYI	B. GASKILL, USG 99-18 CTE ONLY					
FYI	L. HUBAUD, USG 99-18-2					
FYI						
FYA	G. COFER, EMC					
FYI	A. AMADOR, EMC					
FYA	B. WEISS, EMC					
FYI	S. MASSERAT, EMC					

EVALUATION STATUS COMMENTS:

COMMENTS BY: TITLE/ORG: DATE:

Heitmeyer, Mary

From: Simpson, Louisa
Sent: Wednesday, February 19, 1997 5:19 PM
To: Heitmeyer, Mary; Curzon, Dianne
Cc: Cohen, James; Priluck, Herbert; Dwyer, Donald C.
Subject: RE: RE Manual comment resolution meeting

Dianne:

Here are my notes / recollections re RE Manual Comment Resolution Meeting. Tuesday, February 18, 1997.

H. Priluck
J. Cohen
D. Dwyer
L. Simpson
D. Curzon

1. Reviewed FDI listing of revisions requiring MTA Concurrence. Believe we basically agreed with FDI revisions. Possible minor wording clarifications. Agreed that some parts of Rep 1.1 should be eliminated as not pertinent to RE, but will do at future revision. Do need to rewrite Constructibility Review REP, since this is essentially a duplication of MTA procedure document. Rewrite to focus on RE involvement as required only. Also, some changes (deletions) in the Pre-Construction Survey REP.

2. Reviewed FDI listing of un-incorporated comments and reasons. Basically agreed with FDI reasons, with the exception of form numbering. Agreed to review and 1) delete any forms that would be consultant specific (petty cash reimbursement for example) 2) Mark some forms as samples for minimum data content only (list as exhibits without form numbers), 3) Assign remaining required forms with form numbers based on REP number as previously agreed.

3. Discussed REP 1.2 (RE Manual Maintenance and Modification), in light of concerns raised by FDI and J. Cohen re the need to allow project or consultant specific deviations or additions. Agreed that REP 1.2 provided sufficient flexibility.

4. D. Dwyer provided comments / questions regarding REPs for Claims and Backcharges. Electronic file subsequently provided to Mr. Dwyer for re-write as needed. Due this Friday.

5. Reviewed H. Priluck comment list. Mr. Priluck signed acceptance of comment resolution on CTE form.

6. Following review, determined that the final drafting of the "for signature document" could be accomplished in house. Due for submission to H. Priluck for approval by Tuesday, March 4, 1997.

7. Discussed use by existing consultants on any new/future and/or existing contracts. Noted that consultant RE manuals would need revision anyway to reflect current policies. Agreed that this needed to be addressed on a consultant by consultant basis. We need to schedule some follow-up meetings with key consultant representatives on this issue. Perhaps a seperate letter to each consultant as part of distribution??

I'll give you my mark-up.

From: Heitmeyer, Mary
Sent: Wednesday, 19 February, 1997 4:07 PM
To: Curzon, Dianne
Cc: Simpson, Louisa
Subject: RE Manual comment resolution meeting

Dianne

Would you mind E-mailing me with status of what happened at the RE Manual meeting yesterday. I would like to update the Chron of Events. I received some comments from D. Partridge (mostly editorial) - who should I give them to?

Mary

May 7, 1997 PM420, PA300

INTEROFFICE MEMO

Los Angeles County Metropolitan Transportation Authority

TO: Bill Moore

FROM: Dianne Curzon
Document Control Manager, Construction

CC: L. Simpson
M. Heitmeyer
N. Racine/S. Bass PD

SUBJECT: RE Manual Procedure REP 4.02 Field Quality Control Surveillance

The MTA Baseline RE Manual was issued in April and distributed to all Construction Managers. Parsons-Dillingham has brought to my attention that the MTA Baseline RE Manual Procedure 4.02 (attached) conflicts with the PD RE Manual Procedure REP-4.02 (attached).

In August 25, 1993 Ron Trepp (PD QA Manager at the time) directed that the PD RE Manual Procedure REP-4.2 be deleted. The deletion of this procedure was the result of an audit wherein it was determined that because of the contractor's increased participation in surveillance, this procedure was no longer required. The MTA Baseline RE Manual Procedure 4.02 has a somewhat different focus and defines the RE responsibilities for inspection.

I believe that the Quality Control Inspection Instructions, which as you know provides very detailed instructions for how inspections are performed, contain procedures for completing daily inspection reports and non conformance reports. PD is concerned with some of the RE responsibilities listed in the MTA RE Manual Procedure REP 4.02, specifically where reference is made to the RE being responsible for Inspectors and the quality surveillance. The RE looks to the Manager of Quality Control for providing direction on inspection issues.

The question is, should PD incorporate the MTA Baseline RE Manual Procedure 4.02 or should MTA issue PD a waiver allowing them to exclude the MTA procedure from their RE manual?

I am requesting direction from you on how to resolve this conflict between procedures. Please notify me when we can meet to resolve these issues and concerns.

I can be reached at (213) 922-3831. My mail location is 99-17-1.

FLUOR DANIEL **TRANSMITTAL**

Fluor Daniel,Inc.
818 West Seventh Street, 4th Floor
Los Angeles, California 90017
telephone - (213) 922-9170
facsimile - (213) 922-9177

RECEIVED
JAN 31 1997
MTA
CONFIGURATION MANAGEMENT

99-17-1 USG

TO: Louisa Simpson

CO.: MTA/Config. Mgmt.

FROM: Pat Evans, FDI PMA Team pat.

DATE: January 30, 1997

RE: RE Manual

COMMENTS: Per our conversation on Tuesday, I am forwarding to you the original comment sheets. Also, I am including the FDI marked-up copy which consolidated the comments.

File 7.96.110

METRO

INTEROFFICE MEMO

Los Angeles County Metropolitan Transportation Authority

DATE: FEBRUARY 10, 1997

TO: DISTRIBUTION - CTE EVALUATORS

FROM: LOUISA A. SIMPSON

SUBJECT: MTA RESIDENT ENGINEERS MANUAL, REVISION O (BASELINE)- FINAL REVIEW COPY

CC: D. CURZON

The final review draft of the MTA Resident Engineer's Manual is attached for your information and concurrence. This revision incorporates comments from the previous CTE distribution. Your original comments and those of your staff are available from Mary Heitmeyer. This is a final review for acceptance of changes made in response to CTE comments received.

Changes made in response to comments are identified by a margin revision mark and underline. Deleted or moved text is identified by strike out.

Comments were reviewed and incorporated by Fluor-Daniel (exceptions noted below). Flour-Daniel's summary of the changes incorporated since the last review and those that need further MTA consideration is included in the review package. Comments to REP Sections 1-02, 3-04, 3-05, 4-09, 4-16, 6-01, 6-05 and 6-08 were reviewed and incorporated by Configuration Staff.

A final coordination meeting to resolve any open issues has been scheduled for Tuesday, April 18, 1997 from 10:30 - 12:00. Herb Priluck will be responsible for final decision on any disputed issued, and approval of the RE Manual for release.

Please attend this meeting or send a representative if you feel that there are still significant issues with RE Manual Sections related to your area of responsibility. Notify Mary Heitmeyer (x27350) if you plan to attend.

Distribution: CTE Evaluators (attached)

cc: (w/o attachment)

J. Christiansen
J. Sandberg
J. Adams
H. Priluck
J. Kinsel
B. Moore
D. Jackson
D. Sievers
S. Polechronis
A. Rodriguez
R. Dames
J. Cohen
H. Fuks

A. Nyland. 99-11

REVISIONS TO MTA GENERIC RESIDENT ENGINEER MANUAL
ATTACHMENT A

A. Comments made that resulted in revisions to the RE Manual draft that should have concurrence of MTA staff.

1. REP 1.1 - Section 3.6.1 Pg 5

   Comment by Priluck - Add Director of Quality Management and Director of Construction Safety.

   Revision made - FDI revised Section 3.6.1 using extracts from the MTA standard Consolidated Project Management Plan.

2. REP 1.1 - Section 5.3 Pg 11, last para.

   Comment by Vine related to - "Identify what rules/policies".

   Revision made - FDI added a statement that refers to the CM contract General Conditions. Staff should identify the appropriate MTA Policy if one exists.

3. REP 1.1 - Section 5.4 Pg 13

   Addition suggested by Priluck - RE responsibility bullet #8 related to change control.

   Deletion suggested by Vine - RE responsibility - "Assessing contractor requests for extra payment and initiating approval actions for valid claims."

   Revision suggested by Fuks and Vine - RE responsibility bullet #12 revised relative to O&M manuals.

   Revisions made: FDI made revisions to Section 5.4 as suggested above.

4. REP 1.1 - Section 5.6 Pg 15 and REP 4.5

   Comment by Graw - REP 1.1 Section 5.6, "Contact with the Contractor" almost totally redundant to REP 4.5.

   Revision made - FDI consolidated REP 1.1 Sections 5,6.1 through 5.6.7 into REP 4.5.

5. REP 1.1 - Exhibits 7.1, 7.2, 7.3 & 7.4 (Organization charts)

Revisions suggested by Champion.

Revisions made: FDI made revisions to organization charts as suggested. Staff should review the exhibits.

6. REP 2.3 - Section 2.1, 4.4 & 5.1

Graw comment - "Subsection 2.1, needs to define what support the CM may provide for the pre-construction surveys. Subsection 4.1, states the pre-construction survey reports are available for review by the RE or its designee. This needs to be double checked with Risk Management or Legal. This implies blanket access to the reports. I understand access will be restricted on an as necessary basis with the MTA prior written approval to the PCS Contractor. Refer to Subsection 5.1. We may want the RE to give copies of such photographs to the MTA's PCS Contractor, to assist and support their work."

Revision made - FDI added paragraph 4.1 which defines the CM assistance role. Words were extracted from the CM Scope of Work for the North Hollywood, dated 2/26/96.

Revision made - FDI addition to the last sentence of paragraph 4.1 restricts availability of the report to an as needed basis as determined by MTA.

Revision made - FDI addition to subsection 5.1 provides that photographs will be made available to MTA on request.

7. REP 4.5 - Section 5.5.1 Pg 3

Suggestion by Champion for added contacts.

Revision made - Added RE/MTA contacts Chief Estimator, QA Manager and Construction Safety Superintendent.

8. REP 4.7 - Section 5.2 Pg 1, Section 5.2.2 Pg 2, Section 5.3.2 Pg 3, and Section 5.4.2.

Comment by Champion - What about RE's responsibilities?

Revision made - FDI revised to establish RE's responsibilities. Words were taken from the PBL RE Manual.

REP 4.7 - Section 5.5 Pg 4

Revision made - FDI added CM responsibilities related to other conferences/ meeting. Words were taken from the PBL RE Manual.

9. REP 4.14 - Section 4.0 Pg 2

Comment by Champion - Describe RE's responsibilities.

Revision made - FDI added paragraph.

10. REP 4.23 - Section 5.9 Pg 5

Comment by Brown - The RE Manual does not address RE responsibilities related to warrantee materials.

Revision made - New paragraph added as prepared by Brown.

11. REP 5.4 - Section 4.2 Pg 1

Comment by Champion - CM's or MTA's environmental coordinator or Environmental Controls department?

Revision made - Revised by FDI to reflect the wording contained in the CM Scope of Services for North Hollywood, dated 2/26/96, Section III.B.11 Environmental Support and IV.B.I.ll.

12. REP 5.6 - Section 5.11 Pg 4

Revision suggestion by Story - turnover to MTA Configuration Management Office for logging and distribution to MTA Operations.

Revision made - FDI revised Section 5.11 as suggested.

B. Comments that need to be clarified before revision can be considered for the RE Manual draft.

1. Comments related to total manual.

Priluck, Compton - Form numbers by REP, thus no distinct # since numbers are duplicated in each section.

FDI Comment - Suggest leave as is unless MTA wants to establish them as official MTA forms. The CM should maintain forms for their RE manual. This is a generic manual.

Priluck, Compton - Deleted on title page "The CM shall modify this manual as necessary to be project specific."

FDI Comment - The MTA should not dictate entirely how the CM will conduct its business, thus relieving the CM of any of its contractual responsibility. The manual Title Page should contain a statement to the effect that this is a MTA generic RE Manual that has been prepared to provide project experience and some consistency in MTA CM contract execution but does not relieve the CM of the responsibility of supplementing the contents of this document as is necessary to effectively fulfill their contract requirements.

2. REP 1.1 - Pages 1 through 5 (Entire)

Priluck, Compton, Lee - Comment made - "The document for building a dismissal case is not spelled out."

FDI comment: The Contract General Conditions establishes the authority for removal of contractor's personnel. The RE manual should not attempt to address this issue beyond that which is specifically addressed in REP 4.19 - Removal of Contractor Personnel for Safety Related Causes.

3. REP 1.1 - Section 6.2 Pg 19

Comment by Quesada related to "cardinal changes". "Specify that CM has not been delegated approval authority for cardinal changes, i.e. changes to the General or Special Provisions of the Contract."

FDI comment: Need not be said in the RE Manual. The CM is not authorized to make any changes to contract requirements without MTA approval. Changes to General or Special Provisions are controlled by the MTA/CM Contract staffs, not the RE. Cardinal change is a phrase that is not commonly used in contract terms.

4. REP 1.1 - Section 6.1 MTA's Authority

Comment by Vine - Verify with contracts - "Consult AB1869 and CF-11 for accuracy of statements."

FDI comment: Staff should verify the accuracy of the authority limits presented in Sections 6.1, 6.2 and 6.3.

5. REP 3.1 - Section 5.5 Working Hours and Overtime Pg 2

Champion comments: "What approval documentation is required?"

FDI comment: The type of documentation for overtime need not be addressed in the RE Manual. It is appropriate that it be address in the CM administrative procedures.

6. New REPs

Dixon suggests two new procedures be added to the manual.

4.24 Discrepancy Reports
~~6.10 Design Change Authorization~~

FDI comment: Discrepancies in construction should be handled by the quality control system which is addressed in REP 4.2 - Field Quality Control Surveillance. Control of changes is addressed in REP 6.5 - Change Process.

7. REP 4.17 - Suspension of Work Notice

Fuks comment - "Reference 4.1 Note: This was a finding by MTA outside consultants on MOS II."

FDI comment: This concern needs clarification. It may only be related to the appropriateness of a reference to REP 4.1 in Section 4.0 Responsibilities.

8. REP 4.19 - Section 5.3 Pg 3

Comment by Fuks - "What happens if contractor appeals removal/suspension? Who decides final disposition? Appeal procedure."

FDI comment: The MTA standard contract General Conditions has words to the effect that the MTA may at any time and for any reason within its sole discretion issue a written order to the Contractor suspending, delaying, or interrupting all or any part of the Work for a specified period of time. The standards also defines the compliance and disputes process. It is suggested that REP 4.17 not be revised.

9. REP 4.20 - Total document

FDI comment: This procedure should be reviewed by the Director of Construction Safety to ensure that Construction Manager responsibilities stated in the procedure do not conflict with current contract obligations.

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

UTINE

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N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

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FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM

FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

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SEP 11 1996
MTA
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he proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
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COMMENTS:

EVALUATOR: TITLE/ORG: DEO/MTA DATE: 9/10/96

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
96 AUG 14 A10:03
rrev 4.01 08/06/96 edf

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
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S N# : CM111-SBCN-1.00

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DATE RESPONSE DUE: 09/04/96 **Wednesday**

FORECAST APPROVAL:

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FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
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R84 L. McCaffrey
R81 L. Kelsey

CM

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FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C. Elliott

R82 J. Kinsel
T01 T. Lewis

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COMMENTS: As this is a document which will regulate the activities of the CM & believe any EMC comment would be inappropriate.

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AUG 15 1996
R. G. WEISS
Programwide Projects, PM &
Systems Integration Div. Mgr.

EVALUATOR: RGW TITLE/ORG: DATE: 8/29/96

RESPONSE:

NOTED

RESPONSE BY: Mary Heitmeyer TITLE/ORG: Config. Mgmt DATE: 9-5-96

CEPTED BY: TITLE/ORG: DATE:

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818 West Seventh Street
Suite 300
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213 623-1194

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FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
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R84 L. McCaffrey
R81 L. Kelsey

CM

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FYI A. Biggart/G. Lamb, JMA
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FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

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COMMENTS: None.

EVALUATOR: Jack J. Sandberg TITLE/ORG: Deputy Exec. Officer/MTA DATE: 9/10/96

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

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FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
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R84 L. McCaffrey
R81 L. Kelsey

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FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

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FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

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COMMENTS: FINAL

CONFIGURATION MANAGEMENT
FEB 13 1997

EVALUATOR: [signature] TITLE/ORG: Manager of Configuration DATE: 2/12/97

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

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CHANGE NOTICE

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ROUTINE

METRO

SBCN# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

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FYI L. Graw, 39-17-2
FYA D. Champion, 39-17-1
FYA H. Priluck, OPMC Redline S2/East Side
FYA H. Fuks, OPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA M. Perez, 99-17

PROJECT / CONTRACT MANAGERS:

R03 S. Vranesh
R84 L. McCaffrey
R81 L. Kaisey

CM

FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamo, JMA
FYA
FYA R. Fails, MTC

EMC

FYA B. Weiss, EMC
FYI S. Masserat, EMC
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OTHER

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R92 J. Kinsel
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DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[X]	[ ]	[ ]

NOTE: Do not put comments on post it notes. *Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.*

COMMENTS:

See ATTACHED comments on "Progress Payments" AND "Submittals"

EVALUATOR: Steven Ferleff TITLE/ORG: Senior Cost/Schedule Analyst DATE: 3/11/97

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority

318 West Seventh Street
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213 623-1194

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Los Angeles, CA
90053

MARY HEITMEYER 08/14/96 10:03
rev ADJ 08/06/96 ext

6.2 PROGRESS PAYMENTS

1.0 PURPOSE

This procedure establishes the process and documentation for ensuring that progress payments are made in a timely manner utilizing acceptable cost control practices. The records that the resident engineer (RE) maintains must be accurate and comprehensive in order to provide an audit trail at all times throughout the duration of the contract.

2.0 GENERAL

2.1 Most Metropolitan Transportation Authority's (MTA's) construction contracts have progress payments that are tied directly to the contractor's approved baseline schedule and monthly schedule updates. These "pay off the schedule" contracts use information maintained and generated from the automated scheduling system as a basis for monthly progress payments (refer to Exhibit 7.1).

2.2 Certain systemwide equipment procurement contracts do not have monthly progress payments that are tied directly to the schedule updates. For these contracts, the contractor is provided monthly Skeleton Forms in order to status progress payment amounts (Refer to Exhibit 7.4).

2.3 Each contractor is required to submit 120-day initial construction schedule as specified in the contract, generally within 14 calendar days after the Notice to Proceed (NTP). ~~This submittal shall include a Schedule of Values.~~ The 120-day schedule is a cost-loaded outline of the activities for the first 4 months of the contract for which compensation will be required. The 120-day schedule must be in place prior to the processing of any payments to the contractor.

2.4 Each contractor is also required to submit a detailed Schedule of Values (Exhibit 7.2) as specified in the ~~C~~contract, generally within 14 calendar days after the Notice to Proceed. ~~For the "pay-off-the-schedule" contracts, the cost-loaded, 120-day schedule generated from the scheduling system satisfies the Schedule of Values requirement in the contract; no separate submittal is required.~~ For contracts that are not "pay off the schedule," the Schedule of Values will be in sufficient form and detail to provide a reasonable assessment of how lump sum items will be statused over the life of the contract. (Some procurement contracts contain a Schedule of Payments in the actual contract documents; in these cases, no Schedule of Values is required.) Schedule of Values submittals must be in place prior to the processing of any payments to the contractor.

INSERT "A"

2.5 As a part of the monthly schedule updates, the resident engineer assures that the schedule status (for "pay-off-the-schedule" contracts) or the Skeleton Forms statusing (for contracts which are not "pay-off-the-schedule") represents work that has actually been accomplished to date. This status is incorporated into the Payment Estimate module of the Cost Management System (CMS) to create the actual progress payment document.

2.6 The contractor may submit as specified in the contract, generally within 90 days of NTP a list of materials (Schedule of Material Allowances) for which ~~he~~ it will seek to receive progress payment prior to installation. Advance payment for materials is intended to be used for major items only. Prior to inclusion of such materials into any progress payment, the RE ensures that all the requirements set forth in the Contract Documents, General Conditions, and Section on Progress Payments have been met.

INSERT "A"

For the "pay-off-the-schedule" contracts, submit partial Schedule of Values within 14 calendar days after NTP. Submittal and acceptance of Schedule of Values will be a condition precedent to making a monthly payment for the first four months of work. Identify value of Work planned for the first 120 days following NTP. After the full cost loaded schedule is approved, no further Schedule of Value submittal will be required.

contract specifications and Contract Drawings, with corresponding submittal dates that allow adequate time for review by the CM, the GEC~~EMG~~, MTA, or third parties. The Master List of Submittals is to be submitted in both electronic and hard copy format. The electronic copy is to be submitted in a format compatible with the MTA CCS Submittal Tracking system.

INSERT "B"

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with estimated/scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as delinquent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring that for ensuring that all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number (see 5.1.2 for format), Submittal Title, due date, and schedule activity code. The spreadsheet can be created using the CCS export function. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS.

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

The submittal number will consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1.00 for each separate submittal required under the paragaph ~~specification section), and revision number (beginning with 0)~~ The decimal extension of the sequence number is used to identify revisions or resubmittals. Systems contracts will assign submittal numbers by CDRL number, in place of specification section and paragraph.

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by .01~~1~~. The use of

INSERT "B"

The Master list of Submittals will have corresponding submittal dates which match the dates listed in the detailed contract schedule. which is developed per Section 1310.

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

S_ _N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7360

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
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FYA J. Sandberg, 99-18
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FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA A NIJLAND 96-11

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
Is the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
Is the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
Is the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[✓]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

FAXED

COMMENTS:

No Comments.

EVALUATOR: A Nijland TITLE/ORG: DATE: 2/18/97

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
96 AUG 14 PM 10:03

M.T.A. RAIL OPER. TEL:213-922-3882 Feb 18 97 14:30 No.004 P.01

R92 Systemwide

BCN# : CM111-SBCN-1.00

SYSTEMWIDE BASELINE

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TECHNICAL EVALUATION

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DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[ ]	[ ]

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COMMENTS:

See attached

EVALUATOR: DPC TITLE/ORG: Mgr Change Control DATE: 2/10/97

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

MARY HEITMEYER
02/18/97 09:30
rrev 4.04 02/06/97 meh

D. Partridge Comments 2/12/97

6.3 BACKCHARGES

1.0 PURPOSE

This procedure provides the Resident Engineer (RE) with a method to document and recover costs incurred in correcting deficient, defective, omitted or nonconforming work that is not covered under warranty.

2.0 GENERAL

2.1 In order to recover costs for remedial work under the backcharge procedure, the Responsible RE must be notified of the nonconformance in sufficient time to allow the Responsible Contractor to respond by correcting the nonconformance or accepting the backcharge. If the work is done by other contractors without notification and consent by the Responsible Contractor, the chances of recovering costs may be negated.

2.2 The General Terms and Conditions, or General Provisions, of the contract provide the justification necessary to effect a backcharge and recover costs for failure to perform per contract specifications. Refer to contract articles with titles such as "Inspection," Warranty," "Audit" and "Notification of Completion, Final Acceptance and Payment" for the contract in question when citing justification.

2.3 The vehicles for recovering costs for work performed under the backcharge procedure are Change Notices, Change Orders and Consultant Change Requests. These documents must be sufficiently backed up with all relevant data and a detailed breakdown of cost labor, materials, and equipment to ensure cost recovery.

2.4 In justifying backcharges in cases involving overlapping or follow-on contracts, it must first be determined that grounds for backcharging exist. The RE who identifies a nonconformance in the work must first determine if there are any pre-existing conflicts in the design drawings of the contracts involved that preclude a backcharge. For instance, in cases where facilities modifications are required to bring facilities work in line with what is shown on follow-on contract documents, the modifications are not backchargeable unless it can be clearly shown that the responsible contractor did not meet the specification requirements of the Responsible Contractor's contract.

3.0 DEFINITIONS

3.1 *Backcharge:* a reimbursable cost sustained by the Contractor completing the work and charged to another Contractor responsible for nonconforming work, as outlined in the contract documents.

3.2 *Identifying Resident Engineer*: The RE who manages the Contractor whose work is effected and requires the remedial action that may or may not be backchargeable.

3.3 *Performing Resident Engineer:* The RE who manages the Contractor who is performing the work to rectify the nonconformance.

3.4 *Reimbursable costs:* Cost incurred to correct and/or complete the backchargeable work. Reimbursable costs include all direct, indirect and administrative labor (construction management, design support and program management) required to correct the nonconforming work.

6.5 CHANGE PROCESS

1.0 PURPOSE

This procedure outlines the ~~R~~resident Engineer's (RE's) responsibilities in providing full and complete documentation for processing changes to the Metropolitan Transportation Authority's (MTA) construction and procurement contracts. Additional detail requirements are contain in MTA Procedure PM400-11: CF11,"Change Control: Construction Procurement Contracts" (included herein as Appendix A). In the case of conflict or discrepancy, MTA procedures supersede any direction provided below, with the exception of discrepancies between the contract and the MTA procedures, in which cast the contract requirements take precedence.

2.0 GENERAL

2.1 The change control process consists of five basic steps:

1. Change initiation
2. Change Notice (CN) processing
3. Negotiation/Cost verification
4. Change Order (CO) processing
5. Change cost posting and file closeout

All contract changes will be processed in accordance with California Public Utilities Code 130234 (Exhibit 7.1).

~~2.2 Exhibit 7.1 shows an overview of the change control process as developed by the MTA. The flowchart contains major process steps, responsibilities, and documentation requirements.~~

2.~~2~~3 Terms and conditions vary from contract to contract, refer to the specific contract documents in question when processing changes. Any changes to construction contracts that affect the scope of the Construction Management Services contract between the MTA and the Construction Manager (CM) should be handled according to MTA Procedure PM400-10: CF10, "Change Control: Consultant Contracts."~~CMS ___, Changes to CM Services Scope of Work.~~

~~2.4 Exhibit 7.2 shows the breakdown of change approval and execution authority under the MTA . Approval authority is established by the preliminary cost and impact assessment for the change.~~

3.0 DEFINITIONS

Refer to the MTA procedure PM400-11, CF 11: "Change Control: Construction/Procurement Contracts" (refer to Section 6.0) for definitions of change-process terms.

~~3.1 *Request for Information (RFI):* a request for design or other contract information for an item which may not be sufficiently detailed or explained in the contract documents. An RFI may be generated from the contractor, the Engineering Management Consultant (GECEMC), or from any CM staff.~~

Change documentation will be processed in accordance with MTA procedure PM400-11, CF 11, "Change Control: Construction/Procurement Contracts" (refer to section 6.0). The most recent revision of this procedure should be considered the definitive guide in the preparation of change documentation for the Project. Copies of this procedure may be obtained from the CM Manager, Document Control or from the MTA Manager, Change Control ~~Configuration Management~~. Directives issued by the MTA Manager, Change Control~~Configuration~~ Control ~~Management~~ may supersede MTA procedure CF11 pending formal incorporation and release of revised procedures.

5.4 ~~MONTHLY~~ CHANGE STATUS REPORTS

~~Monthly c~~Change status reports will be taken directly from the CCS database files. The RE~~user~~ is therefore responsible for keeping change information current by updating critical database fields throughout the change process (e.g., "next action" and "need date" [for ball-in-court and priority reports]; CN/CO issue, acceptance, approval and execution dates; change cost data, cost recovery data). The CM Project Office will take weekly Change Status Reports from CCS for forwarding to MTA, GEC, and other project participants as requested by the MTA Project Manager or DPM, Construtions. Change Status reports based on real-time CCS data may be generated by the MTA or other user's at any time, therefore it is critical that the RE maintain current data at all times.

typo

5.5 ADDITIONAL REQUIREMENTS

Additional CM internal or project requirements expanding on, or claryfiying, but not ~~included in~~ conflicting with the MTA procedure may be distributed from time to time via interoffice correspondence (IOC) from the Document Control department, or from the MTA (e.g., at the request of the Change Control Board or MTA board). Such instructions should be implemented in the change process immediately upon receipt, and inserted as an appendix to this section. ~~The following items, resulting from such correspondence, should be included in processing change documentation:~~

5.5.1 NEED DATES

When a CN is logged in the CCS, a need date shall be provided. The need date is the date the CN is must be issued ~~needed for issue~~ to the contractor to avoid any impact to the construction activity.

5.5.2 MTA CHANGE CONTROL BOARD

All changes that require MTA approval and execution must be presented to the MTA Project Change Control Board (CCB). The RE or designee shall be present at the CCB meeting to address the change, as requested. ~~The MTA Change Coordinator shall attend the CCB meeting, taking meeting minutes and distributing them per MTA requirements~~.

5.5.3 EXECUTIVE SUMMARIES/CHANGE JUSTIFICATION

Executive Summaries are required for all changes over $50,000. This form is automatically generated on the CCS by using the "WHY" paragraph from the Change Notice text screen. Change justification will provide a brief description of the change, contractual and technical justification for the changes, and discussion of cost impact on project budget, contract Authorization-for-Expenditure limit, and will identify any cost recovery potential.

~~For these documents that support the change process, but are not required to be included in the Red Book, the RE shall maintain a file of documentation supporting the construction change.~~ All documents and correspondence related to change merit and cost determination are to be included in the change file, including any documentation generated following change execution. All correspondence, reports, or records will be listed as part of the Chronology of Events listing in the CCS change record. Any support documentation (e.g., daily time and material cost records, not included in the original Change Book forwarded to the MTA for review and approval, will be identified in the book by a target sheet. The support file is part of the legal project record~~file~~ and will be forwarded complete to the MTA at contract closeout.

5.6 NEGOTIATIONS

The RE will prepare or obtain an independent Fair Cost Estimate before negotiation of change cost as required by CF11. All Fair Cost Estimates will be forwarded to MTA Estimating for review. Prior to scheduling formal negotiations, the RE may form a negotiation team to develop a negotiation position and negotiating limits on cost and schedule impact, based on the Fair Cost Estimate and Time Impact Analysis. Guidelines for change negotiations are provided in Exhibit 7.4. The RE will determine the time and place for the negotiations, schedule a meeting with the contractor, and contact negotiating team members to attend. All parties will be provided a minimum of two working days notice of negotiation meetings.

The CM has been instructed by the MTA to obtain MTA concurrence prior to negotiations taking place on COs requiring MTA execution signature~~over $50,000~~. The CM will implement the following procedures prior to starting change order negotiations.

For any CO within the criteria described in paragraphs 5.6.1 through 5.6.3, the evolution of negotiations from original position to final settlement shall be clearly documented and explained in the Record of Negotiations, shown in Exhibit 7.4.

5.6.1 CHANGES ~~LESS THAN $25,000~~ WITHIN RE AUTHORITY LEVEL

The RE establishes pre-negotiation position based on FCE and/or other supporting data and negotiates and documents the CO accordingly, including a Cost and Price Analysis form stating the method used for pricing the change.

5.6.2 CHANGES ~~FROM $25,000 TO $50,000~~ WITHIN CM AUTHORITY LEVEL

The RE establishes a written pre-negotiation position based on FCE and/or other supporting data and sends the position to the Deputy Project Manager, Construction, for review and approval. The written pre-negotiation position is also placed in the change file & is included in the final CO book.

The RE negotiates CO accordingly, and prepares the Record of Negotiation, clearly documenting the negotiations.

~~Prior to final settlement with the contractor, the Project Manager will review and approve the Record of Negotiations. Negotiations with the contractor will be reopened as required.~~

5.6.3 CHANGES REQUIRING MTA EXECUTION SIGNATURE ~~GREATER THAN $50,000~~

RE establishes written pre-negotiation position based on FCE and/or other supporting data

and sends it to the Project Manager for review and approval. After obtaining Project Manager approval, the RE sends the pre-negotiation position to the MTA Contract Administrator~~Project Manager~~. Same sentence as 5.6.2

The MTA Contract Administrator ~~Project Manager~~ reviews and approves the negotiation position based on whatever internal procedures or approvals MTA determines are necessary. The MTA Contract Administrator~~Project Manager~~ returns the negotiation position to the RE.

The RE and MTA Contract Administrator negotiates the CO accordingly. If, during the course of negotiations, it appears that the final settlement is going to exceed the upper limit of the pre-negotiation position, the RE will prepare a revised negotiation position for MTA approval.

Prior to final settlement with the contractor, the MTA Project Manager and the CM's Project Manager will review and approve the Record of Negotiations.

The enclosed Sample Negotiating Position Format, Form 6.5-02 (Exhibit 7.6~~7~~) is to be prepared by the REs for changes exceeding their ~~$25,000~~ authority limit.

5.7 MEETING MINUTES

Meeting minutes for negotiations and finding-of-fact sessions will be recorded by a designated team member, and an attendance roster will be circulated at the meeting. A finding-of-fact memorandum or Detail Record of Negotiations, if required, will be prepared after the meeting and will be included in the change documentation. ~~A Detail Record of Negotiations is optional for changes within the RE's authority.~~

5.8 UNILATERAL CHANGES

5.8.1 METROPOLITAN TRANSPORTATION AUTHORITY

The contractor's contract gives the MTA the right to issue a unilateral CO to the contractor in the event the contractor and the MTA are unable to agree on an adjustment to the contract price or contract time. The contractor is then entitled to file a claim.

5.8.2 RESIDENT ENGINEER

The RE may choose to issue a unilateral CO or Work Authorization Change Notice (WACN) with prior approval by the MTA Contract Administrator if:

- Negotiations with the contractor fail to result in agreement on cost and schedule adjustments.
- Notice and agreement of the contractor is not required.
- Contractor fails to submit a Cost/Schedule Proposal on time.
- Contractor refuses to accept the bilateral change by failing to sign the bilateral CO.

A unilateral CO is issued based on the cost and time adjustments determined by the CM, and documented by an independent Fair Cost Estimate and Time Impact Analysis. If the

following conditions:

- If it is impractical to ascertain the total cost of changes in the work
- If agreement cannot be reached on changes in the work or total contract price
- If it is necessary to proceed immediately to avoid delays

NOT A WACN ITS A UNILAT ORD CHANGE

In any of these conditions, a WACN is issued and the contractor is required by the General Conditions to submit T&M records on a daily basis for cost documentation purposes. Work performed pursuant to a To-Be-Negotiated WACN also requires submittal of T&M records until the value of the change is negotiated. TO-BE-NEGOTIATED NTE VALUES SHOULD NOT EXCEED THE AMOUNT REQUIRED TO CONDUCT FAIR NEGOTIATIONS & THE ISSUANCE OF A CHANGE ORDER.

5.9.2 TIME AND MATERIAL RECORDS

When a WACN is involved, the scope of work needs to be clearly understood by both parties. For example, the following conditions apply to T&M sheets when a WACN is involved:

- T&M sheets should reflect only that work for which the WACN is issued.
- Contract work and WACN work should not be commingled on the same time sheet.
- If there is a dispute over the amount of hours, material, or equipment on a particular time sheet, then the CM should not sign off on that timesheet.
- The contractor is required to submit time sheets on a daily basis and the CM needs to confirm and sign them on a daily basis. This must be enforced.

When a CM's inspector signs off on the daily T&M sheet, information on the sheet shall include the name and craft, quantity of manhours, equipment number, equipment description, equipment hours, and materials. It is also possible that the contractor may include items on the daily sheet that should be covered by the markups. Therefore, final resolution cannot be reached until the contractor submits completed T&M sheets that include all appropriate rates and markups.

Daily sign off by a CM's inspector (or another knowledgeable RE staff member) should resolve the majority of reimbursement issues--provided there is a clear understanding of the scope of work. This should allow for prompt payment to the contractor as the work progresses. However, there should be a sheet-by-sheet audit by the RE office--prior to finalization of the CO to verify that all the charges are in accordance with the contract. Refer to Form 6.5-03____, ~~Force Account~~ Time and Material Work Record (Exhibit 7.5).

If the T&M sheet does not contain the language contained just above the inspector's signature on Form ____, the inspector (or knowledgeable RE staff member) should add this language (via a stamp or in writing) prior to signing the T&M sheet.

5.9.3 DISPUTED WORK/CLAIM CONDITIONS

In this situation, the contractor is proceeding with work as directed, but feels that a change is merited. The contractor has been directed to perform work by the Owner/CM as part of the contract and has been denied a Request for Change. Consequently, the contractor intends to pursue reimbursement through the claim process.

6.6 CLAIMS PROCESS

1.0 PURPOSE

This procedure provides specific instructions for processing potential claims from the contractor. The Construction Manager (CM) will provide claims support as authorized by the Metropolitan Transportation Authority (MTA).

2.0 GENERAL

2.1 CLAIMS AND DISPUTES

Claims and disputes will be handled in accordance with the contract General Conditions or General Provisions articles governing:

- Disputes
- Notice of intent to claim
- Submittal of claims
- Mediation or Disputes Review Board

2.2 REQUESTS FOR TIME AND COMPENSATION

Contractor requests for additional time and compensation for work that are found by the resident engineer (RE) and the MTA to have merit are to be processed as bilateral change orders, whenever possible. If the request for change is determined to have no merit and the contractor does not agree, the contractor may submit a notice of intent to claim.

or a unilateral c
is issued

2.3 CLAIMS AND FINAL PAYMENT

No claims shall be made after final payment is made to the contractor for the work. A claim will cease to be a claim if, at any time, a change order or contract amendment resolving the issue is signed by all parties.

2.4 CLAIMS UNDER $375,000

Claims of $375,000 or less (including any claims for extensions of time) are subject to a series of procedures under Public Contract Code sections 20104 et seq., effective January 1, 1991. A summary of the Statutory Requirements for Resolution of Claims Under $375,000 is given in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Request for Change:* Any letter or correspondence from the contractor requesting modification to the contract.

4.0 RESPONSIBILITIES

4.1 The RE is responsible for initially assessing the validity of contractor requests for change, preparing a response to requests for change and appeals, and compiling a file of potential claims-related documentation and correspondence. The RE also has the primary responsibility for the negotiation of all change settlements, with the contracts representative assisting in the negotiation of claim settlements.

4.2 The CM~~field~~ contract administrator will assist the RE in coordinating the dispute-handling process between the RE office, Change Coordinator, contract closeout team, the Client, and the contractor.

4.3 The Change Coordinator will track all requests for Contracting Officer's determinations, assist the RE and contract administrator in preparing claims packages, preparing transmittal memoranda, and tracking the status of all claims and potential claims.

5.0 PROCEDURE

5.1 Exhibit 7.2 shows a flowchart of the dispute-handling process.

5.2 The process begins when the RE reviews a Contractor Request for Change (RFC) and determines that the request has no merit. (If the request has merit, the RE proceeds to issue a Change Notice in accordance with REP 6.5.) When the RE makes a "no merit" determination, the RE will issue a rejection letter to the contractor, and the issue becomes a potential dispute. All RFCs will be logged into the Change Control System (CCS) on receipt.

5.3 If, despite the rejection letter, the contractor still believes the request has merit, the contractor ~~shall~~ MTA may provide a written "Notice of Intent to Claim" to the RE. The RE will assign a control number to the NOI and enter appropriate information into the Claims Module of the MTA CCS computer tracking system. The RE shall establish a potential claim file with all pertinent information using the assigned CCS Claims Module (NOI) tracking number.

5.4 The contractor and any subcontractors involved in a dispute are responsible for furnishing the information and details necessary for the determination of the facts or contentions involved in any potential claim. Requests for time extensions must include a revised construction schedule showing the effects of the delay on the schedule and must include proposals to minimize schedule impacts. Support data for any dispute involving a time extension will be submitted per the terms and conditions of the specific contract.

5.5 If, upon reconsideration of the contractor's request, the RE determines the request now has merit, the issue will be handled via a Change Notice that summarizes the basis for negotiation of cost or schedule impacts. If the RE determines the request still has no merit, the RE will write a second rejection letter and forward it to the contractor. The RE should assume at that point that the dispute constitutes a potential claim and should begin amassing pertinent documentation in support of the RE's "no merit" determination.

5.6 The contractor may now choose to pursue the issue by submitting a Notice of Intent to Claim (NOI). Upon receipt of such a NOI from the contractor, the contract administrator will assign a sequential potential claim number for the contract affected, logging the number and pertinent information ~~either~~ in ~~a log book or~~ the CCS~~, if available~~. Any applicable contractor reference numbers should be logged, along with the stated basis for claim. The request, along with a transmittal interoffice correspondence (IOC) from the RE and supporting documentation, will then be forwarded to the contracts manager (refer to Exhibit 7.2 for a sample IOC). The contracts manager will analyze the claim and draft a position statement for the CM. The CM will approve the position summary and forward the package to the Change Coordinator for transmittal to the MTA if a "no merit" determination has been made.

.emwide

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COMMENTS:

See attached sheets. (1-3)

EVALUATOR: Priluck, Compton, Lee TITLE/ORG: MTA DATE: 8/26

RESPONSE: Dames' ~~Reed~~

See final attached

RESPONSE BY: M Heitmeyer TITLE/ORG: Config Mgr DATE: 2/10/97

ACCEPTED BY: H Priluck TITLE/ORG: Dir of Const. MTA DATE: 2/18/97

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
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213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MARY HEITMEYER
08/14/96 10:03
rev 4.01 08/06/96 edf

REVIEW OF SYSTEMWIDE (CNTE) BASELINE
Resident Engineer Manual
SBCN# : CM111-SBCN-1.00
Submitted by Department 8410
August 30, 1996

	PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
1	1	Rep. Acronyms	List of Acronyms after "CF11" insert "MTA Procedure for"
2	1	1	Last Paragraph ..."resources for the services of"... need to add clerical staff
3	1 thru 5	Rep. (Entire) ?	The documentation for building a dismissal case is not spelled out. Written documentation and warnings should be required prior to removing a contractor employee from the jobsite except for very serious and/or criminal actions. Alternately, the GCs should allow removal of contractor at the will of MTA without statement of cause or appeal.
4	2	Rep. 2.1 Paragraph 3.0	Reference to Segments 1 and 2 should be eliminated. Wording should be revised to: "result of lessons learned during the construction of previous MTA projects".
5	3	Rep. 4.9 As-builts	Responsibilities: There have been problems during close-out with respect to proper utility as-builts. It appears that the utilities are not satisfied with EMC review and are insisting that they be included. Therefore, under 4.1 the RE should be responsible for coordinating utility review of as-builts through MTA third-party coordinator. Agree
6	3	Rep. 1.1 Paragraph 3.5	Entire Paragraph is missing
7	4	Rep. 1.1 Paragraph 3.6.1	Need to add a discussion of MTA Quality Assurance and Safety Department as they are identified as a key interface on page 10, Paragraph 5.4.
8	4	Rep. 1.1 Paragraph 3.6.2	Change "startup) to "(startup)" No

PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
4	Rep. 6.2 Paragraph 5.3.5	Last sentence refers to the Contractor's ~~s Inspector~~. Wording needs to be changed. Delete "inspector"
4 & 5	Rep. 4.18 (Exhibits 7.1 and 7.2)	These forms are also found in Reference 4.1 on Pages 7 and 8 and identified as Exhibits 7.1 and 7.2
4	Rep. 1.1	There is no mention of third-party coordination manager. Add
6	Rep. 1.1 (Paragraph 3.6.6)	Reference to the Pasadena Blueline should be removed in the first sentence.
6	Exhibit 7.1 ?	This form also identified in Ref. 1.1 as Exhibit 7.7 on Page 26
7	Rep. 4.12 (Exhibit 7.1)	This form is also identified in Ref. 3.4 as Exhibit 7.3
7	Rep. 1.1	Entry for Southern California Gas Company change to read: "The Gas Company (previously called Southern California Gas Company)"
8	Rep. 4.5 (Exhibit 7.3)	Why do we need to repeat forms. This form is also included in Ref. 1.1 and identified as Exhibit 7.6 and Page 25.
8	Rep. 1.1 (Paragraph 5.2)	CM also provides clerical staff "The CM provides a staff of RE's, OE's, inspectors and clerical personnel for management, inspection and processing the work during construction".
11	Rep. 1.1	Halfway down page used term "client"... would be better to use "MTA" or use "Owner" which is defined in the construction contract. This is a generic comment intended to cover entire manual.
11	Rep. 1.1	Near bottom of page...change "Noncompliance" to "Non-Conformance"

PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
12	Rep. 1.1	Items calling in RE approval of O&M manuals should be deleted. I believe this is done by EMC with input from MTA Operations.
13	Rep. 1.1 (Paragraph 5.5)	"Monthly payment processing" generally goes through the RE's office...not from MTA directly to the Contractor.
14	Rep. 1.1 (Paragraph 5.6.3)(2)	"those arising from sections ~~portions~~ of the Contract Documents..." needs punctuation or revised working.
14	Rep. 1.1 (Paragraph 5.6.3)	Need to add a discussion of MTA Quality Assurance and Safety Department as they are identified as a key interface on Page 10, Paragraph 5.4
24	Rep. 1.1 (Exhibit 7.5)	"Contract No" to top of page...make the "Prior Name" column wider - similar to Exhibit 7.6.

[c:aapriluck\remanua.wpd]

Comments furnished by:
H. Priluck
R. Dames
D. Compton
T. Lee

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
CONSTRUCTION DIVISION

RESIDENT ENGINEER MANUAL

This manual provides guidelines to assist the Construction Manager (CM) and its Resident Engineer(s) (RE) in the execution of the work. However, if the requirements in this manual conflict with the requirements and obligations in the MTA contract with the CM or MTA policies and procedures, the contract and the MTA policies and procedures shall govern, respectively.

~~The CM shall modify this manual as necessary to be project specific.~~ Also, if the MTA contract with the construction contractor conflicts with any requirement of this manual, the contract shall govern. The CM shall notify the MTA of all errors, inconsistencies and omissions that it discovers in this manual. The MTA is entitled to make any corrections and interpretations as it may deem necessary for the fulfillment of the intent of the contract.

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
RESIDENT ENGINEER MANUAL

TABLE OF CONTENTS (continued)

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
RESIDENT ENGINEER MANUAL

TABLE OF CONTENTS

DCR	Deficiency Notice
DOT	Department of Transportation
DPM	Deputy Project Manager
EEO	Equal Employment Opportunity
EMC	Engineering Management Consultant
EPA	Environmental Protection Agency
ESM	Engineering Services Manager
FAR	Federal Acquisition Regulations
FAST	Finance and Administrative Services Team
IOC	Interoffice Correspondence
LACMTA	Los Angeles County Metropolitan Transportation Authority
LAFD	Los Angeles Fire Department
MCA	Master Cooperative Agreement
MOC	Deputy Project Manager for Construction
MSDS	Material Safety Data Sheet
NCR	Non-Conformance Report
NTP	Notice to Proceed
O & M	Operations and Maintenance
OCIP	Owner Controlled Insurance Program (Wrap-Up Insurance)
OCS	Overhead Contact System
PAD	Public Affairs Department
PIDS	Platform Intrusion Detection System
PM	Project Manager
PMO	Project Management Oversight
PUC	Public Utilities Commission
QA	Quality Assurance

LIST OF ACRONYMS

AA	Affirmative Action
AFE	Authorization for Expenditure
AGC	Associated General Contractors
AQMD	Air Quality Management District
ART	Art for Rail Transit Program
ATC	Automatic Train Control
BOD	Beneficial Occupancy Date
CA	Contract Administrator
CAL/OSHA	California Occupational Safety and Health Administration
CAR	Corrective Action Request
CBF	Construction Billing Form
CCR	Consultant Change Request
CCS	Change Control System
CDRL	Contract Deliverables Requirement List
CF11	MTA Procedure for Change Control: Construction/Procurement Contracts
CM	Construction Manager
CMC	Configuration Management Consultant
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CSEP	Construction Safety Education Program
CSI	Construction Specification Institute
DBE	Disadvantaged Business Enterprise
DCC	Document Control Center

3.0 PROJECT ORGANIZATION

3.1 MTA ORGANIZATIONAL STRUCTURE

The MTA, which is governed by a 13-member board, is responsible for the planning, integration and funding of county-wide transportation services, as well as the long range development of a rail transit and commuter rail network. The MTA prioritizes and authorizes design and construction of the various projects of the county-wide rail transit network. MTA is also responsible for the full evolution of individual rail projects from initial concept through final design, construction and operations. The MTA organization and its relationship to the MTA Construction Division are shown in Exhibit 7.1.

The MTA has seven board committees comprised of members appointed by the chairperson of the MTA Board to oversee staff efforts and to present recommendations directly to the full MTA Board. The committees are:

- Executive Management Committee
- Finance and Budget Committee
- Operations Committee
- Planning and Programming Committee
- Construction Committee
- Cost Containment, Contracts and Efficiency Committee
- Real Estate and Asset Development Committee

The members of the MTA Board appoint a Chief Executive Officer to manage a professional and administrative staff to carry out the project mission among other duties. Under policy direction, the Chief Executive Officer oversees all MTA activities and staff; directs and participates in the development of goals, objectives, policies and procedures for MTA; and oversees strategic planning for programs and future direction. The Chief Executive Officer is also responsible for providing technical, administrative, and operational direction to agency staff, and maintaining communication and coordination with MTA Board members, elected officials, governments and other agencies.

3.2 MTA CONSTRUCTION DIVISION

The Metro Construction Division is responsible for the design, construction, and start-up of all rail transit systems within Los Angeles County. The Metro Construction Division develops policies and procedures to carry out the design and construction of all approved Metro projects -- including the Red, Blue, Green and Pasadena Lines.

Metro Construction has a responsibility for the day-to-day program management and control, design and construction management, safety and security, testing and start-up of rail transit projects. Metro Construction is supported by MTA resources for certain functions, such as public affairs, right-of-way acquisition and risk management, and by other MTA divisions.

The Metro Construction Division is comprised of the Executive Officer, professional staff, and consultants. Metro Construction staff is primarily management-oriented and provides day-to-day supervision of design and construction management consultants on specific projects. The Metro Construction Division is structured as a matrix organization in order to provide designated management and technical support to the Deputy Executive Officers/Project Managers while at the same time maintaining a consistent management

1.1 INTRODUCTION

1.0 PURPOSE

The Resident Engineer Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management of Metropolitan Transportation Authority (MTA) projects.

2.0 GENERAL

This procedures manual provides guidance for the RE on matters related to administration of construction/procurement contracts, control of construction/procurement work, and control of the RE's office. Additional key source documents and manuals include the following:

Supplied by the CM:

a. Construction Management Plan
b. Quality Control Manual
c. Quality Control Inspection Instructions
d. Construction Support Policies and Procedures Manual
e. Injury and Illness Prevention Program
f. Emergency Notification Procedures Manual

Supplied by MTA:

a. Change Control System Users Manual
b. Metro Rail File Coding Systems
c. Configuration Management Policies and Procedures
d. Design Criteria Vol. IV Part 1, 2
e. Standard Specifications Vol. VII
f. Standard Drawings Vol. VI
g. Directive Drawing Vol. V
h. CADD Drafting Standards Vol. VIII
i. Fire/Life Safety Criteria Vol. IX
j. Quality Management Procedure

The management philosophy for the Construction Manager (CM), as presented in the Contract Scope of Services, delegates maximum authority for construction management decisions to the REs. This philosophy envisions that the primary role of the CM is to perform the resident engineering function as it relates to the administration and management of the construction/ procurement contracts, to ensure construction of quality facilities and to provide quality management of the construction on behalf of the MTA. The construction management will be primarily focused in the RE offices, ensuring that the RE has or knows where to find the necessary technical and administrative expertise to fully administer all provisions of the contract.

To meet the MTA requirements for project control, project reporting and quality of construction, each RE's office will have support resources for the services of safety overview, scheduling, estimating, cost engineering, contracts administration, and quality control. The Project Controls functions and the Contract Administration functions are organizationally independent from the field construction management functions.

functional managers. The Deputy Executive Officers/Project Managers implement project activities in accordance with policies and procedures established by functional managers in order to ensure systemwide uniformity. The Deputy Executive Officers/Project Managers report directly to the Executive Officer. The following core project team members report directly to the Deputy Executive Officer/Project Manager:

- Deputy Project Manager (DPM) of Construction - The DPM of Construction is responsible for directing construction-related activities of MTA staff and the construction management consultant. The DPM of Construction is also responsible for interfacing with the involved public agencies and assuring that the construction work being performed meets the schedule and quality requirements of the project. The DPM of Construction reports directly to the Deputy Executive Officer/Project Manager and supervises the activities of the construction managers assigned to the project.

- Deputy Project Manager (DPM) of Engineering - The DPM of Engineering is responsible for managing the MTA engineering project support staff and interfacing with the Engineering Management Consultant (EMC). The DPM of Engineering oversees the EMC's work activities and ensures that the project design is performed in a cost-effective manner, consistent with applicable systemwide and project-specific standards. The DPM of Engineering supervises the activities of systems and facilities engineering managers and utility and third-party coordinators.

- Project Control Manager - The Project Control Manager is responsible for overseeing and implementing MTA and project-specific cost and schedule goals, objectives and procedures. The Project Control Manager ensures that the activities of the MTA staff and project consultants are in compliance with MTA's overall program control standards and requirements. The Project Control Manager supervises the activities of cost engineers and schedule engineers assigned to the project.

- Public Affairs Manager - The MTA Public Affairs Manager is responsible for managing the outreach program developed to communicate project construction impacts to residents, business owners, and commuters in the construction areas. Typical assignments include coordinating community meetings to disseminate information and obtain input about the project and its impact on the community, manning project exhibits and displays, responding to complaints and coordinating communications with the media.

- Contracts Manager - The Project Contracts Manager reports to the MTA Construction Director of Contracts and is responsible for planning, organizing, supervising and evaluating project contract staff activities. The Contracts Manager also interfaces with all levels of the project management team and develops methodology for clear and efficient communications with the Deputy Executive Officer/Project Manager, project support staff and consultants. The Contracts Manager supervises the activities of contract administrators who are assigned to work either full-time or part-time on the project.

ADD MTA QA AND SAFETY DEPT FUNCTIONS,

3.62 ENGINEERING MANAGEMENT CONSULTANT (EMC)

The EMC is responsible for all facilities design, civil and systems engineering, equipment systems design and engineering for the project. The services provided over the four phases of the project (preliminary engineering, final design, construction, and testing and operations (start-up) generally include, but are not limited to:

approach on all MTA projects. Exhibit 7.2 at the end of this section depicts the MTA Construction Division structure.

3.3 STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)

Caltrans is a state agency responsible for the planning, design, and construction of state-funded highway projects. Caltrans is responsible for the design oversight of the freeway and other segments of the project involving modifications to state facilities. The responsibilities of Caltrans for the project are described in detail in the Master Cooperative Agreement (MCA) between Caltrans and the MTA.

3.4 THIRD PARTIES

Other involved public agencies are those which are located directly along the route. Each city is responsible for design oversight, and in some cases, design of city facilities affected by the project. The responsibilities of each city are described in detail in the Master Cooperative Agreements executed between each city and the MTA. Other third party involvement is outlined in detail in the MTA Project Management Plan.

3.5 ?

3.6 ROLES AND RESPONSIBILITIES OF THE PROJECT TEAM MEMBERS

3.6.1 MTA PROJECT MANAGEMENT STAFF

A core MTA Project Management staff is dedicated to each project to ensure that project management goals and objectives are met utilizing resources assigned from the various functional MTA departments and consultants. By mandate of the MTA Board, the MTA core project staff is organized so that day-to-day design, construction and procurement activities are delegated to project consultants.

Project team members, including consultants, report directly to the MTA Deputy Executive Officer/Project Manager on specific project tasks. The directors, project managers, and deputy executive officers of the MTA are responsible for developing overall policies and performance requirements for the development and implementation of rail transit projects. For the project, these policies and performance requirements are communicated by the Deputy Executive Officer/Project Manager to the Deputy Project Managers (construction or engineering) who are ultimately responsible for their implementation and enforcement.

Overviews of the roles and responsibilities of the key MTA project team members are provided in the following paragraphs.

The Deputy Executive Officers/Project Managers are responsible for overall management of the project and for ensuring that management activities are conducted in accordance with the Project Management Plan. The Deputy Executive Officers/Project Managers are responsible for project financial accountability, contract management, schedule adherence, design quality, construction quality, operational functionality, safety, site security, and community relations (public affairs) during design, construction and integrated testing for the project. The Deputy Executive Officers/Project Managers are the primary authority for rail project design, construction, testing, close-out, and transfer to the operating division. The Deputy Executive Officers/Project Managers are responsible for identifying and defining the necessary resources and project team staffing required to manage the project throughout all design and construction phases and for coordinating assignment of the Metro Construction staff and consultants to the project team with the appropriate

- Issue Conformed Contract documents
- Document control coordination.
- Technical document maintenance and protection.
- Document storage and retrieval.
- Correspondence and technical documentation index development.
- Technical reference materials services.
- Procedures manual specification control.
- Document transfer and control procedures.
- Dissemination of project records.
- Document printing and distribution control.
- Document transfer coordination.
- Coordination and tracking of design change orders.

3.6.5 MTA OPERATIONS

The MTA Operations Division will be the system operator. In order to provide input relative to their specific requirements, the MTA has formed an operations and maintenance users group responsible for interfacing with MTA during the design, construction and start-up phases of the project.

3.6.6 OTHER THIRD PARTIES

Other third party organizations involved either directly or indirectly ~~with the Pasadena Blue Line,~~ and their general areas of concern, include, but are not limited to, the following:

- City of Los Angeles - Review of modifications and impacts to city-owned facilities.
- City of South Pasadena - Review of modifications and impacts to city-owned facilities.
- City of Pasadena - Review of modifications and impacts to city-owned facilities.
- County of Los Angeles - Review of impacts to county-owned facilities.
- Catellus Development Corporation - Union Station and Del Mar Station joint use agreements and easements.
- Ratkovich Villanueva Partnership - Review of impacts to private property.
- Southern Pacific Transportation Company - Review of impacts to rail services and facilities. Provide right-of-way at Cornfield Yard.
- Atchison Topeka & Santa Fe Railway Company - Review of impacts to rail services and facilities. Provide right-of-way.
- Southern California Regional Rail Authority - Review of impacts to rail services and facilities.
- Los Angeles City Department of Public Works - Design and inspection of relocated and new city facilities.
- Los Angeles City Department of Recreation and Parks - Provide temporary easements for rail facility construction.

- Perform systems design to a level adequate to solicit design/furnish/install bids and/or proposals from equipment manufacturers/suppliers/builders.
- Perform system/facilities integration and activities necessary to ensure safe and reliable operating rail lines.
- Produce bid documents for overhead contact system (OCS) pole foundations, duct banks, and drainage.
- Support the MTA on technical coordination with outside agencies and utility companies.
- Support the MTA in obtaining permits.
- Provide environmental support and compliance assurance.
- Prepare all construction and design/furnish/install bid documents including addenda and responses to bidders' questions in conjunction with the Contracts Manager (MTA).
- Prepare conformed contract documents.
- Provide bid evaluation support with the MTA and the CM, as requested.
- Work with the CM; provide design support services during construction, procurement and installation phases including shop drawing and submittal reviews, change order evaluations, testing evaluation, and claims evaluation.
- Provide support services during system start-up and activation.
- Support the MTA and the RE in the safety certification process.
- Provide operations and maintenance planning support.

3.6.3 CONSTRUCTION MANAGEMENT CONSULTANT (CM)

The CM is responsible for providing professional construction management services for the project in accordance with the Scope of Services. These services are provided during the final design, construction/procurement/installation and operation start-up phases of the project. The CM organization is addressed in Section 4.0 below.

3.6.4 CONFIGURATION MANAGEMENT CONSULTANT (CMC)

The CMC is responsible to the Construction Division for providing a variety of document control, records management and procedures development tasks in support of the project. During design development, the document coordination and control functions are performed internally by the EMC and are not the responsibility of the CMC.

The CMC performs support services systemwide. The MTA Manager of Records Management is the technical manager of the CMC contract. The services provided by the CMC include, but are not limited to, the following.

The management emphasis will be in the RE offices, ensuring that the necessary technical and administrative expertise to fully administer the provisions of the contract are available. To avoid and control claims, a philosophy of "partnering" will be instilled in the contractors and the entire CM organization. The RE's authority and ability to work with the contractors will be enhanced by providing a reasonable level of approval for field changes, typically $25,000.00.

Project controls, project reporting and construction services will support each RE's office and provide resources for scheduling, estimating, cost engineering, contracts administration and quality. The team will organize for an efficient, effective and professional organization. The CM team organization and the RE Office Organization are shown as Exhibits 7.3 and 7.4. It is the goal of the CM to achieve recognition for excellence from its performance on the project.

The RE is the primary point of contact with the contractor on the assigned contract after the Notice-to-Proceed has been issued. A typical RE office organization is illustrated in Exhibit 7.3. The RE is responsible for managing, administering, organizing, coordinating and inspecting all assigned projects in order to achieve completion of the contract in conformance with plans, specifications and approved schedules. As a representative of the MTA, the RE acts within his authority and in accordance with policies and procedures outlined in this manual, and any other applicable administrative instructions.

4.2 GENERAL CM PROJECT ORGANIZATION

4.2.1 The technical and administrative elements of the CM's project organization provide the necessary resources to support the REs in the performance of their duties. The support services provided by these offices, such as contracts, project control, and quality control are described in other sections of this manual.

4.2.2 Functions that support the field operations include project administration, project controls, scheduling, cost engineering, management information systems, document control, procurement, personnel management, accounting, community affairs, and safety/security.

5.0 RESIDENT ENGINEER'S FUNCTION

5.1 The Construction Manager's (CM) management philosophy places the prime responsibility for each contract with the respective RE. The RE is supported by other CM departments in performing his duties but all contact is made with the contractor through the RE.

5.2 The CM provides a staff of Resident Engineers, Office Engineers and Inspectors responsible for management and inspection during construction. This staff manages the construction contract work for conformance with the contract plans and specifications. The Resident Engineer is responsible for: prosecution of work by MTA contractors in accordance with approved schedule networks; coordination with other interfacing contractors; processing change orders and following procedures established by the MTA. The CM is responsible for implementing remedial action to maintain performance consistent with the MTA's objectives. The RE staff is trained in the areas of MTA procedures including quality and safety.

5.3 During preconstruction activities, the CM has a key responsibility for conceptual review of the design for constructability and interface between dependent contracts, as well as contractual language and specifications, construction schedule compatibility, special

- Los Angeles City and County Fire Departments - Fire and life safety and hazardous waste issues.
- Los Angeles City Police Department and Los Angeles County Sheriff's Department - Security and compliance with noise control.
- California Public Utilities Commission - Safety oversight of light rail transit system.
- Los Angeles Community Redevelopment Agency - Master planning and station design review.
- Los Angeles Department of Water and Power - Relocation of water and power facilities.
- Los Angeles City Department of Transportation - Design and review of work site traffic control plans.
- Los Angeles County Coroner/Medical Examiner - Investigation of human remains, if encountered.
- Southern California Gas Company - Relocation of gas mains and laterals.
- AT&T, MCI, Sprint, Wiltel - Relocation of communications facilities.
- Pacific Bell - Relocation of telephone facilities.
- Access Transmission Services, Inc. (formerly Western Union) - Relocation of telegraph facilities.
- Cal/OSHA - Occupational safety compliance.
- Southern California Edison - Relocation of electrical distribution facilities.
- Pasadena Water and Power - Relocation of water and power facilities.
- American Cablevision, Crown Cable, Century Cable TV - Relocation of cable television facilities.
- Army Corps of Engineers - Activities within the Los Angeles River including temporary construction easements and permits.

4.0 CM ORGANIZATION

4.1 CONSTRUCTION MANAGEMENT PHILOSOPHY

The CM Team shares with the MTA the management philosophy for the project which will delegate to the RE maximum authority for construction management decisions. This philosophy envisions that the CM's primary task is for the Resident Engineer (RE) functions to assure the construction of a quality facility on time and within budget of which the MTA, the EMC, the CM and the cities involved can be proud.

to favor one viewpoint and loyalties are divided. The result is a breakdown in communications throughout the project. The RE can do a great deal to improve this relationship by an appraisal of his/her methods in dealing with the contractor. The RE should readily acknowledge his/her errors and accept full responsibility of the actions of subordinates.

The RE should be as quick to praise competent workmanship as to criticize incompetent work. He/she should at all times be candid, but diplomatic, about the contractor's performance. The RE should always observe the rules of professional conduct, good taste, and common courtesy. These may not seem to be compatible with the atmosphere about a construction project, but such is a false notion. The RE must always act in a professional manner if his instructions are to be respected.

Progress on the work should be regularly checked against the contractor's schedule and the required completion dates. It is quite proper to ask what the plan is to get a delayed portion of work back in step. Critical path scheduling is a contract requirement. A plan to complete all parts of the work on time is essential.

Finally, the RE should accept no gratuities from the contractor. Although such gratuities may seem harmless, their propriety may be questioned at some future date. Further, there is no clear definition as to what is an acceptable gift and what is not. Follow the MTA rules and policies.

5.4 During the project construction phase, the primary functions of the RE involve:

- Construction/Procurement contract administration
- Construction/Procurement accomplishment in accordance with the contract documents, good construction, and sound safety practices
- Construction/Procurement completion on schedule and within budget
- Proper documentation, negotiation, and processing of all charges, changes, claims, and backcharges
- Processing of progress payments in a timely manner, ensuring progress payment files contain sufficient backup to support payment
- Performance of required field quality control surveillance and inspections to ensure constructed and procured items comply with plans and specifications.
- Coordination and interface with the MTA Quality Assurance and Safety Departments
- Initiation of the project Emergency Response Plan
- Coordination and processing of Requests for Information and design changes
- Coordination with third parties, California Department of Transportation, public utilities MTA consultants and others.

The RE is responsible for managing contractor submittals, for conducting review of submittals with the EMC and third parties as required and for tracking the approval

construction-related contractor requirements, claims avoidance assessments, and value engineering studies.

5.3.1 Well in advance of construction, the RE should study the plans and specifications and become thoroughly familiar with them. Any necessary clarification should be sought from those responsible for the design through the EMC or general engineering consultant. If there is any question on the limits and quantities of the project, discussions with the MTA and the EMC or general engineering consultant to establish the owner's position should be held as soon as possible.

A preliminary schedule of operations obtained from the contractor will permit the RE to schedule the number and type of personnel he/she will need. Any necessary special training of personnel can be started, and the equipment necessary to properly inspect the project can be procured.

The contractor should be asked to discuss in detail the methods of construction he intends to use in each operation. His primary interest is in reducing costs and expediting the project. The RE is interested in quality construction as well as in expediting the project. These goals are not necessarily incompatible and every attempt should be made to find the construction procedure that will attain both. This is not as difficult as it appears.

It should not be taken as an affront by the RE when experienced construction (contractor) people offer excellent alternative ideas. Many times a less expensive procedure will actually add to the quality of the project. It will increase the contractor's confidence in the RE and strengthen their relationship if suggestions are considered. Any suggested change to the design documents must be processed in accordance with change control procedures.

During construction, the RE should make every attempt to resolve problems as soon as possible. It is true that answers given too quickly usually create more problems than they solve. But it is also true that answers delayed unnecessarily are equally harmful, even if they appear to give an impression of thoughtfulness. When a contractor is losing money due to wasted time, his interest in quality diminishes, his relationship with the RE deteriorates, and he will attempt to conceal future problems. Regardless of the above, ADHERENCE TO CONTRACT DOCUMENTS is mandatory.

The rule should be that a problem will be diligently pursued until a solution is clearly indicated. This will serve the interests of all persons concerned. Also, the RE should keep abreast of the contractor's problems. Job personnel often operate on a day-to-day basis with inadequate planning of details of the next day or week of work. A simple question about the plan for some operation, asked well in advance, will alert the contractor's forces to any special needs.

If it will not affect the quality of the project, the RE should volunteer ideas that will aid the contractor. This will have the two-fold effect of expediting the contract and helping to place the RE and contractor on a partnership basis. However, the RE must be careful not to consider the contractor's problems as his own. He/she should not try to run the job or tell the workmen what to do. A good approach may be, "Have you thought about..." or "Did you read in...about..."

The relationship of the RE and the contractor is as important to the quality of the project as any other single factor. When a poor relationship exists, personnel on the project tend

- Implementing claims mitigation and claims resolution actions
- Surveillance of in-process work and final acceptance testing through witnessing and documentation review
- Assisting MTA in maintaining a highly visible safety program
- Monitoring and reporting contractor compliance with federal, state, and local government requirements
- Coordinating survey work performed by CM surveyors and surveying consultants for the project
- Coordinating utility work for the project
- Receiving and approving all operations and maintenance manuals prepared and submitted by contractors and/or suppliers
- Processing and coordinating responses for the interpretations of contract documents and requests for information from contractors
- Coordinating movement of Client-supplied equipment and material to jobsites
- Recommending construction techniques to expedite the project
- Monitoring contract compliance with environmental requirements
- Recommending "off-hour" construction, when desirable
- Managing the performance or operational and startup tests and runs of equipment, including tests to verify the compatibility of related systems
- Receiving, controlling and disposition of spare parts
- Providing support for training of operational personnel
- Providing support in the verification of reliability requirements set forth in systems specifications
- Enforcing warranty provisions set forth in system specifications during the life of the contract
- Implementing a specification conformance checklist
- Managing the contract closeout process
- Responding to community-related complaints and assisting in mitigation of impacts
- Supervising coordination and installation of Artwork for Transit
- Coordinating the application process to secure required permits

process of submittals within the time frame specified in the contract documents or earlier. The RE will maintain the submittal status tracking system.

The RE will also ensure that all contract deliverables are properly documented and promptly processed. These construction/procurement contract deliverables include, but are not limited to, submittals (i.e., shop drawings, working drawings, vendor data, calculations, etc.). As specified in the technical specifications of the contract, these deliverables include:

- Quality control plans
- Construction Work Plans
- As-builts/redline drawings and specifications
- Testing Plan
- Contractor Construction Schedule (Contract Schedule)
- Safety and Security Plan
- Value engineering change proposals
- Master list of submittals
- Claims
- Progress payment requests
- Safety certification documentation and supporting data

As the authorized representative of the Client, the RE's responsibilities include:

- Coordination of all construction/procurement activity, including interface between contracts and follow-on contractors
- Management of construction management forces
- Documenting, verifying, and reporting contractual progress
- Management of contract documentation
- Monitoring contractor progress against the approved schedule and obtaining work-around plans
- Working with contractor to develop and implement corrective actions to mitigate delays
- Reviewing specific types of contractor submittals for content and format. Processing appropriate submittals to and from contractors and the reviewing entity (normally) the Engineering Management Consultant (EMC)
- Implementing and managing the change control process, including processing valid contract Change Orders and extensions of time
- Issuing contract ~~Noncompliance~~ Nonconformance Reports (NCRs) and implementing corrective action
- Maintaining contractor deficiency lists
- Assessing contractor requests for extra payment and initiating approval actions for valid claims

and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive Officer/Project Manager as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.6.2. CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other RE's should not be contacted directly but only through the RE in charge of that contractor's work. The normal chain of command shall be respected at all times.

5.6.3. CONTACT WITH THE MTA ADD MTA QA & SAFETY ✓

The RE maintains both formal and informal communication with the MTA. Authorized representatives of the MTA, federal, state and local governments shall at all times have full access to the work being performed by or under the responsibility of the RE.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing informal line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections portions of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

5.5 THE RESIDENT ENGINEER'S JURISDICTION

The RE is the field representative of the Construction Manager to administer the contract specifically assigned. An Office Engineer, Inspectors and a secretary will assist the RE in administering the Contract on the jobsite.

Normal day-to-day contact and correspondence with the contractor shall be through the RE except for the following specific contract actions which are conducted directly between the MTA/ and the contractor:

- Notification of Award
- Notice-to-Proceed (NTP) with Contract
- ~~Monthly payment processing~~
- Rendering of Final Decision in Contract Disputes
- Final Acceptance of the Work
- Submission of DBE Reports
- Bonding and Insurance Issues
- Escrow Agreement

The RE shall maintain copies of the above items except DBE reports and the Escrow Agreement in the Field Office Contract files.

The RE will monitor the progress of the Work and all questions regarding the acceptable fulfillment of the construction contract by the contractor. The RE's approval will be contingent on inspection and approval by regulatory agencies, where applicable.

The RE will maintain a good rapport with the public and will work with the contractor and the MTA Public Affairs Department to minimize adverse impacts of construction operations on the public.

The RE will determine the value and quantity of work performed and materials which are to be paid for under the contract when approving progress payments. The project office scheduler will assist in this determination.

5.6 RESIDENT ENGINEER INTERFACES

The Resident Engineer interfaces and corresponds with many project participants on both a formal and informal basis. All correspondence generated by the RE shall be serialized in accordance with MTA identification numbers and acronyms in accordance with Document Control Section 3.4 of this manual. The following are interfaces maintained by the RE including definition of appropriate lines of communication.

5.6.1. CONTACT WITH THE CONTRACTOR

The RE shall be the primary contact with the contractor. Contact with subcontractors or vendors shall only be made through the contractor.

With the exception noted in Section 5.5 above, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies),

Exhibit 7.5

VISITOR'S REGISTER LOG

CONTRACT NO.	PRINT NAME	SIGNATURE	AFFILIATION	PERSON TO SEE	TIME IN	TIME OUT

FORM #____

Exhibit 7.4

RESIDENT ENGINEER'S ORGANIZATION (TYPICAL)

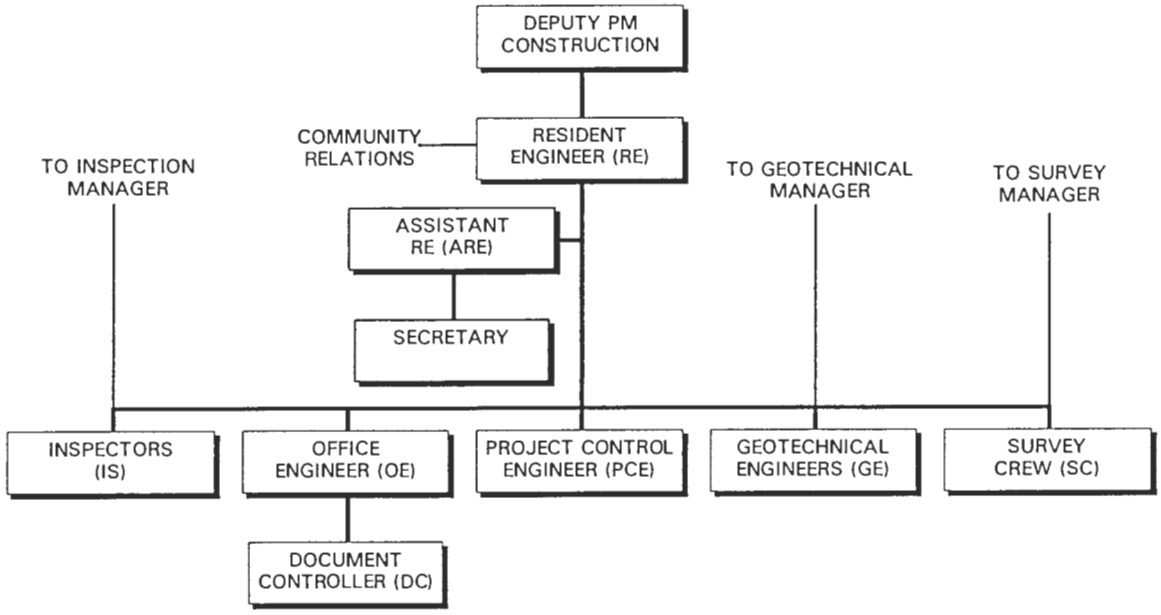

Exhibit 7.2

RECORDS STORAGE CARTON LABEL

RECORDS STORAGE CARTON LABEL					
GROUP	**FUNC. DEPT./RE.OFFICE**		DATE MONTH	DAY	YEAR
RETENTION SCHEDULE					
❑ PERMANENT	❑ RETAIN UNTIL NOTIFIED				PACKED BY
❑ INDEFINITE	❑ RETAIN UNTIL	MONTH	YEAR		
STORED BY	DATE	LOCATION CODE:			

FORM #____

Exhibit 7.1

RECORDS INDEX AND STORAGE REQUEST (SAMPLE)

Contract Number:	Group:	Dept./RE Office:	Date:	Box Number*:

Retention Schedule		Location Code
[ ] Permanent	[ ] Retain Until Notified	Hard Copy *:
[ ] Hold for transfer to	[ ] Retain Until:	

This section must be completed by typewriter/computer or it will not be accepted by Document Control

Index Code	Record Title(s)	Sequence/Date Range

Packed By:	Mgr/RE Approval:	Checked/Approved	Stored By*:	Transferred to MTA:*	Sheet:

** To be completed by records storage personnel*

FORM #___

by the contractor. Measurement of principal quantities will be performed as follows:

- Concrete measurement is made to neat line outside dimensions, as shown on lift drawings. Progress on concrete placement shall be maintained by lift number and take-off quantities. While not required for pay estimates, it is recommended that daily progress be depicted by colored areas on a schematic diagram or layout of concrete placement areas. The same visual approach would be used to show progress where numerous utility systems overlap.

- Rebar quantities are computed from cutting and bending sheets prepared by metal fabricators. The RE ensures that standees, chairs, and other rebar not specifically required by contract document are not included in chargeable quantities.

- Except as may be specifically called out on the Contract Drawings, excavation and backfill is calculated based on the external dimensions of concrete placement as indicated on lift drawings.

5.3.4 FIELD MEASUREMENTS AND VERIFICATION

Numerous items are required to be measured in place. Frequently, the measurement of such items must be made while they are being installed or while accessible. To prevent future disagreement, it is recommended that measurement of any unit price item (e.g., piping, valves, conduit, waterstop, and miscellaneous metal) be made jointly and in mutual agreement between the RE and the contractor.

5.3.5 COPY OF CONTRACTOR MEASUREMENTS

The RE or members of his staff may not always be available when the above measurement is being performed. For this reason, the RE will require the contractor's inspector to provide a copy of all measurements taken by the contractor.

5.3.6 OTHER MEASUREMENTS AND CERTIFICATIONS

Certain bid item pay quantities will be derived from certified shipping weights, bar lists, scale weights, cut sheets, meter readings, and mill test reports, as specified in the Contract Documents. This data must be checked, compiled to determine progress payments and final quantities for the respective items.

5.4 LUMP SUM PAY QUANTITIES

5.4.1 SUPPORTING DATA

Progress payments made against lump sum items require supporting data for justification of reasonable partial payment. The RE shall use the information recorded in the DIRs as a primary source in determining the percentage of completion within the pay period.

5.4.2 SCHEDULE OF VALUES

A well prepared and maintained Schedule of Values will provide an initial basis for agreement between contractor and RE. The RE will ensure that the level of detail is sufficient to readily access the cost percentage completion of each bid item.

For contracts that are not "pay-off-the-schedule," Project Controls forwards a contract skeleton form to the RE on the last day of the current work period, which is the last Friday of the calendar month. The RE and the contractor agree to the quantities and amounts indicated on the Skeleton Form for the period.

5.0 PROCEDURE

5.1 RECORDS MAINTAINED

The project control engineer maintains monthly records, which provide backup for all payments, including sub-items for each task identification code in the approved schedule baseline and/or lump sums, as contained in the approved Schedule of Values. These records include all necessary data to support the respective quantities installed that month. Pay records are subject to audit and must be maintained in a neat, orderly manner and kept up-to-date.

5.2 MEASURING AND DOCUMENTING PAY QUANTITIES

The various methods for measuring and documenting pay quantities on both a unit price and lump sum basis are described in Subsections 5.3 and 5.4.

5.3 UNIT PRICE ITEMS

5.3.1 MAINTAINING TABULATIONS

For contracts that have a Schedule of Values as a requirement, quantities shall be verified in accordance with the Schedule of Values. For contracts that do not have a Schedule of Values, the project control engineer shall maintain monthly records, including tabulation, for those unit-priced items installed that month for contracts that are not "pay-off-the-schedule." Quantities are shown, when possible, by location (e.g. between stations, columns, or elevators or, in the case of concrete and rebar, by lift number) as detailed on lift drawings. Other information to be recorded includes the pay item number, pay quantity and description, unit of measurement, unit price, and quantity installed.

5.3.2 THEORETICAL COMPUTATION

Actual pay quantities shall be mathematically computed, measured, and counted. Calculations are based on accurate dimensions determined from the Contract Drawings (e.g., Measurement and Payments Limit Drawings). The computations must be prepared in a conventional manner. Reference should be made to applicable drawings. Sketches may be attached to supplement the calculations. All final calculations must be independently checked before comparing with the contractor's calculations. Wherever possible, final quantities shall be computed before work commences on the item, or as soon thereafter as possible, thereby enabling realistic progress payments and preventing overpayment.

5.3.3 TOTAL QUANTITY TAKEOFFS

Total quantity takeoffs are to be made for major unit price items, including excavation, concrete, rebar, and backfill. In order to establish a common basis for use throughout the execution of the contract, the RE will coordinate these findings with quantities estimated

REVIEW OF SYSTEMWIDE (CNTE) BASELINE
Resident Engineer Manual
SBCN# : CM111-SBCN-1.00
Submitted by Department 8410
August 30, 1996

PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
1	Rep. Acronyms	List of Acronyms after "CF11" insert "MTA Procedure for"
1	1	Last Paragraph ..."resources for the services of"... need to add clerical staff
1 thru 5	Rep. (Entire)	The documentation for building a dismissal case is not spelled out. Written documentation and warnings should be required prior to removing a contractor employee from the jobsite except for very serious and/or criminal actions. Alternately, the GCs should allow removal of contractor at the will of MTA without statement of cause or appeal.
2	Rep. 2.1 Paragraph 3.0	Reference to Segments 1 and 2 should be eliminated. Wording should be revised to: "result of lessons learned during the construction of previous MTA projects".
3	Rep. 4.9 As-builts	Responsibilities: There have been problems during close-out with respect to proper utility as-builts. It appears that the utilities are not satisfied with EMC review and are insisting that they be included. Therefore, under 4.1 the RE should be responsible for coordinating utility review of as-builts through MTA third-party coordinator.
3	Rep. 1.1 Paragraph 3.5	Entire Paragraph is missing
4	Rep. 1.1 Paragraph 3.6.1	Need to add a discussion of MTA Quality Assurance and Safety Department as they are identified as a key interface on page 10, Paragraph 5.4.
4	Rep. 1.1 Paragraph 3.6.2	Change "startup) to "(startup)"

PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
4	Rep. 6.2 Paragraph 5.3.5	Last sentence refers to the Contractor's Inspector. Wording needs to be changed.
4 & 5	Rep. 4.18 (Exhibits 7.1 and 7.2)	These forms are also found in Reference 4.1 on Pages 7 and 8 and identified as Exhibits 7.1 and 7.2
4	Rep. 1.1	There is no mention of third-party coordination manager.
6	Rep. 1.1 (Paragraph 3.6.6)	Reference to the Pasadena Blueline should be removed in the first sentence.
6	Exhibit 7.1	This form also identified in Ref. 1.1 as Exhibit 7.7 on Page 26
7	Rep. 4.12 (Exhibit 7.1)	This form is also identified in Ref. 3.4 as Exhibit 7.3
7	Rep. 1.1	Entry for Southern California Gas Company change to read: "The Gas Company (previously called Southern California Gas Company)"
8	Rep. 4.5 (Exhibit 7.3)	Why do we need to repeat forms. This form is also included in Ref. 1.1 and identified as Exhibit 7.6 and Page 25.
8	Rep. 1.1 (Paragraph 5.2)	CM also provides clerical staff "The CM provides a staff of RE's, OE's, inspectors and clerical personnel for management, inspection and processing the work during construction".
11	Rep. 1.1	Halfway down page used term "client"... would be better to use "MTA" or use "Owner" which is defined in the construction contract. This is a generic comment intended to cover entire manual.
11	Rep. 1.1	Near bottom of page...change "Noncompliance" to "Non-Conformance"

PAGE NUMBER	PROCEDURE NUMBER	CONSTRUCTION MANAGER COMMENTS
12	Rep. 1.1	Items calling in RE approval of O&M manuals should be deleted. I believe this is done by EMC with input from MTA Operations.
13	Rep. 1.1 (Paragraph 5.5)	"Monthly payment processing" generally goes through the RE's office...not from MTA directly to the Contractor.
14	Rep. 1.1 (Paragraph 5.6.3)(2)	"those arising from sections portions of the Contract Documents..." needs punctuation or revised working.
14	Rep. 1.1 (Paragraph 5.6.3)	Need to add a discussion of MTA Quality Assurance and Safety Department as they are identified as a key interface on Page 10, Paragraph 5.4
24	Rep. 1.1 (Exhibit 7.5)	"Contract No" to top of page...make the "Prior Name" column wider - similar to Exhibit 7.6.

[c:aapriluck\remanua.wpd]

Comments furnished by:
H. Priluck
R. Dames
D. Compton
T. Lee

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

S[illegible]N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line 99-18-3
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

RECEIVED
AUG 21 1996
MTA
CONFIGURATION MANAGEMENT

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[X]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS: See attached Comments from F. Quesada

EVALUATOR: Jim Cohen TITLE/ORG: DPM-C, MTA DATE: 8/21/96

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
08/14/96 10:03
rrev 4.01 08/06/96 edf

DESIGN REVIEW COMMENTS

Reviewer	Organization	Discipline	Sheet
F.A. QUESADA	MGL	CM	1 of

Project	Contract No.	Contract Title	Submittal	Drawing Subset	Date
		MTA RE MANUAL			8/19/96

Ref. #	Page #	Dwg #/Spec Section	Comments	* Response	** Action
1	2	REP-TOC	TABLE OF CONTENTS FOR SECTION 4. SUGGEST THAT ITEMS BE LISTED IN MORE LOGIC SEQUENCE. SEE ATTACH. "A" FOR RECOMMENDATION.		
2	18	REP 1.1	SECTION 6.2 SPECIFY THAT CM HAS NOT BEEN DELEGATED APPROVAL AUTHORITY FOR CARDINAL CHANGES, i.e CHANGES TO THE GENERAL OR SPECIAL PROVISIONS OF THE CONTRACT.		
3	2	REP 2.1	MTA CONSTRUCTION, IN PANTICULAR THE MTA/CM, SHOULD BE PART OF THE CONSTRUCTABILITY EVALUATION TASK FORCE.		
4	3	REP 4.3	SECTION 4.1 RE SHOULD ALSO VERIFY THAT, IN CASE OF A UTILITY HIT, THE OCIP INSURANCE CARRIER IS NOTIFIED BY THE CONTRACTOR WITHIN THE TIME SPECIFIED IN THE INSURANCE SPECIFICATIONS.		

* Responses: 1 = Will Comply 2 = Discussion/Clarification Required 3 = Not Applicable ** D = Action Completed

CM MANUAL REVIEW
ATTACH. "A"

FAJ

SAFETY
SAFETY CERTIFICATION
CONTRACTOR SAFETY AUDIT PROGRAM
USE OF CS 50
FIELD Q.C. SURVEILLANCE
MATERIALS
UTILITIES EXCAVATION
MASTER AGREEMENT WORK VERIFICATION
CONTACTS
MEETINGS
SCHEDULING
CONSTRUCTION WORK PLANS
READINESS REVIEWS
SUSPENSION OF WORK NOTICE
REMOVAL OF CONTRACTOR PERSONNEL
CONSTRUCTION PHOTOGRAPHS
AS-BUILTS
O & M MANUAL PROCESSING
SYSTEMS START UP
VERIFICATION TESTING
PHYSICAL CLOSEOUT
DOCUMENT CLOSEOUT
FISCAL CLOSEOUT

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

UTINE

S N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

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FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

RECEIVED
SEP 13 1996
MTA
CONFIGURATION MANAGEMENT

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
he proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[X]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS: THE MANUAL IS MISSING TWO SECTIONS:
4.24 DISCREPANCY REPORTS
6.10 DESIGN CHANGE AUTHORIZATION

EVALUATOR: C. W. Dixon TITLE/ORG: PROJECT MANAGER / PD DATE: 9/11/96

RESPONSE: CHRIS W. DIXON

See final attached

6.10 = Deleted - No Longer valid per MTA.

RESPONSE BY: M Heitmeyer TITLE/ORG: Configs Dep DATE: 2/10/97

ACCEPTED BY: C. W. Dixon TITLE/ORG: PROJECT MANAGER / PD DATE: 2/13/97

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
08/14/96 A10:03
rev 4.01 08/06/96 edf

METRO

INTEROFFICE MEMO

Los Angeles County
Metropolitan
Transportation
Authority

September 5, 1996

RECEIVED
SEP - 9 1996
MTA
CONFIGURATION MANAGEMENT

TO: MARY HEITMEYER

FROM: HENRY FUKS

SUBJECTS: MTA CONSTRUCTION RESIDENT ENGINEERS MANAGER CM111

Below are my review comments with regards to the above subject matter:

Item #	Procedure #	Page #	Part	Comments/Recommendation
1	REP 1.1	9	5.3.1	Time frame (minimum) should be addressed, recommend at least 90 days, if feasible.
2	REP 1.1	12	5.4	Needs to be clarified on approved O&M manuals. Should state "after initial review of EMC." This will be in line with REP 4.16, Part 20.
3	REP 3.1	1	5.1.1	Add: The diary shall remain at the office at all times (i.e., do not take home).
4	REP 3.5 "Lessons Learned"	1	4.1	Should have a time frame for submitted to Lessons Learned Coordinator: Recommend Quarterly.
5	REP 4.1 "Safety"	2	4.0	Clarification needed, makes it sound like the R.E. will write and submit "Project Site Specific and Health Program". When in fact (R.E.) transmits contractor's submittal to MTA Safety Director.
6	REP 4.2	5	5.2.2.1.1	Does not make sense clarify "NCR to the for implementation" sentence.
7	REP 4.15 "Readiness Review"	2	2.1	Add safety representation as an attendee.

Item #	Procedure #	Page #	Part	Comments/Recommendation
8	REP 4.17 "Suspension of Work Notice" *Reference 4.1	5	Exhibits Exhibits	Add section stating "resolution" that allowed work to commence. Note: This was a finding by MTA outside consultants on MOS II
9	REP 4.19	3	5.3	What happens if contractor appeals removal/suspension. Who decides final disposition. "Appeal procedure".
10	REP 5.6 "Facilities and System Testing"	3	5.4	Who monitors (witness) factory testing.
11	REP 6.1	2	3.1	Add: Progress payments will be withheld until master submittal list is approved in accordance with contract documents.

Taylor, Felicia

From: Heitmeyer, Mary
Sent: Thursday, September 05, 1996 8:25 AM
To: Taylor, Felicia
Cc: Luk, Maria; Partridge, Dennis; Simpson, Louisa
Subject: FW: Draft Baseline RE Manual

Felicia,

Since Henry and Charles are not on E-mail I am forwarding this E-mail to you. Would you mind following up with Henry and Charles?

Thanks a lot,

Mary

From: Heitmeyer, Mary
Sent: Thursday, September 05, 1996 8:15 AM
To: Adams, John; Ford-McCaffrey, Linda; Kelsey, Larry; Kinsel, Jeanne; Lewis, Ted; Polechronis, Steve; Sandberg, Joel; Vranesh, Scott
Cc: Luk, Maria; Partridge, Dennis; Simpson, Louisa
Subject: Draft Baseline RE Manual

On 08/14/96, a draft of the proposed baseline RE Manual was submitted to you for evaluation and comment (under CTE). A three week review period was provided due to the size of the review package. Comments were due on 09/04/96. Please submit any comments on the RE Manual to M. Heitmeyer (USG 99-17-1) by Monday, September 9, 1996 latest.

"FYA" reviewers are required to sign and return their CTE forms and should do so by Monday, September 9, 1996. "FYA" reviewers are listed below:

C. Stark
J. Sandberg
S. Polechronis
H. Fuks

Any questions please contact Mary Heitmeyer at extension 27350.

Thank you

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

S N# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

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FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

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FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:

	YES	NO	NEED CLARIFICATION
Is the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
Is the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
Is the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS:

See attached

EVALUATOR: J Vine / Wilkens TITLE/ORG: PCM N H DATE: 8/19/96

RESPONSE:

See attached final draft

RESPONSE BY: Heitmeyer TITLE/ORG: Configs Sup DATE: 2/11/97

ACCEPTED BY: J.O. Wilkens TITLE/ORG: PROJ. CONTROLS MGR. DATE: 2-12-97

CONFIGURATION MANAGEMENT
FEB 18 1997

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER
96 AUG 14 A10:51
rrev 4.01 08/06/96 edf

Heitmeyer, Mary

To: Kinsel, Jeanne; Priluck, Herbert; Cohen, James; Storey, Hal; Champion, David; Foreman, Edward; Sievers, Dave
Cc: Simpson, Louisa; Curzon, Dianne
Subject: MTA Baseline Resident Engineer's Manual

To all:

The final review draft of the baseline MTA Resident Engineer's Manual has been forwarded to you (along with a copy of your CTE comments) for review and acceptance. Please review the final document against your CTE comments. If the final draft responds satisfactorily to your CTE comments, sign the "Response accepted by" line on your CTE form and return it to MTA Configuration Systems by February 18, 1997.

If you have additional comments, a **CTE resolution meeting has been scheduled for February 18, 1997, from 10:30 to Noon in the 17th floor Monterey Conference room**. If you cannot attend please brief and send an alternate. If you do not attend (or send an alternate) it will be considered as concurrence with the manual as submitted. As the manual owner, Herb Priluck will be responsible for final decision on any disputes.

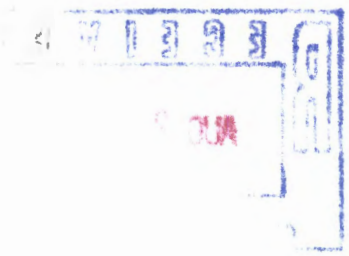
Any questions contact M. Heitmeyer at extension 27350.

August 19, 1996

CN Technical Evaluation - SBCN# CM111-SBCN-1.00
Comments

No.	Ref.	Comments	Remarks/Suggestions
1.1.1	REP1.1-3.6.6	Remove reference to Pasadena Blue Line; manual should be applicable to all projects	Agree. LAS will do.
1.1.2	REP1.1-4.1	Remove reference of RE's level of authority (stated as typically $25,000).	~~Consult AB1869 and~~ CF-11 for clarification. Ref. Agree LAS
1.1.3	REP1.1-5.3.1	See mark-up	Delete much of this 'philosophical' discussion.
1.1.4	REP1.1-5.4	Ditto	
1.1.5	REP1.1-5.5	Ditto	
1.1.6	REP1.1-5.6.5	Ditto	Add cross reference to REP4.5-5.11
1.1.7	REP1.1-6.1	Verify with contracts	Consult AB1869 and CF-11 for accuracy of statements.
1.2.1	REP1.2	Rewrite from MTA perspective, not from CM. This procedure will be revised according to MTA procedures for revising procedures, and not by CM's.	
1.2.2	REP1.2-7.0	Review form, especially approvers required.	Form does not reflect MTA approval, but instead CM.
2.1.1	REP2.1-2.3	See mark-up	
2.1.2	REP2.1-3.0	Ditto	
2.1.3	REP2.1-7.0	Remove question 12 from Constructability Review Checklist.	
3.1.1	REP3.1-7.0	See mark-up of RE Office organization chart.	
4.5.1	REP4.5-5.11	Ditto	Add cross reference to REP1.1-5.6.5
4.6.1	REP4.6-5.1	See mark-up	Avoid erroneous or out-of-date information - simply refer to Tech. Spec. 01310 and/or 01311.
6.2.1	REP6.2-4.2	Ditto	
6.5.1	REP6.5-4.1	Ditto	Consult AB1869 and CF-11 for accuracy of statements.
6.5.2	REP6.5-4.2	Ditto	Ditto

Jim Vini



The management emphasis will be in the RE offices, ensuring that the necessary technical and administrative expertise to fully administer the provisions of the contract are available. To avoid and control claims, a philosophy of "partnering" will be instilled in the contractors and the entire CM organization. The RE's authority and ability to work with the contractors will be enhanced by providing a reasonable level of approval for field changes, typically ~~$25,000.00~~.

IS THIS TRUE?

Project controls, project reporting and construction services will support each RE's office and provide resources for scheduling, estimating, cost engineering, contracts administration and quality. The team will organize for an efficient, effective and professional organization. The CM team organization and the RE Office Organization are shown as Exhibits 7.3 and 7.4. It is the goal of the CM to achieve recognition for excellence from its performance on the project.

The RE is the primary point of contact with the contractor on the assigned contract after the Notice-to-Proceed has been issued. A typical RE office organization is illustrated in Exhibit 7.3. The RE is responsible for managing, administering, organizing, coordinating and inspecting all assigned projects in order to achieve completion of the contract in conformance with plans, specifications and approved schedules. As a representative of the MTA, the RE acts within his authority and in accordance with policies and procedures outlined in this manual, and any other applicable administrative instructions.

4.2 GENERAL CM PROJECT ORGANIZATION

4.2.1 The technical and administrative elements of the CM's project organization provide the necessary resources to support the REs in the performance of their duties. The support services provided by these offices, such as contracts, project control, and quality control are described in other sections of this manual.

4.2.2 Functions that support the field operations include project administration, project controls, scheduling, cost engineering, management information systems, document control, procurement, personnel management, accounting, community affairs, and safety/security.

5.0 RESIDENT ENGINEER'S FUNCTION

5.1 The Construction Manager's (CM) management philosophy places the prime responsibility for each contract with the respective RE. The RE is supported by other CM departments in performing his duties but all contact is made with the contractor through the RE.

5.2 The CM provides a staff of Resident Engineers, Office Engineers and Inspectors responsible for management and inspection during construction. This staff manages the construction contract work for conformance with the contract plans and specifications. The Resident Engineer is responsible for: prosecution of work by MTA contractors in accordance with approved schedule networks; coordination with other interfacing contractors; processing change orders and following procedures established by the MTA. The CM is responsible for implementing remedial action to maintain performance consistent with the MTA's objectives. The RE staff is trained in the areas of MTA procedures including quality and safety.

5.3 During preconstruction activities, the CM has a key responsibility for conceptual review of the design for constructability and interface between dependent contracts, as well as contractual language and specifications, construction schedule compatibility, special

- Los Angeles City and County Fire Departments - Fire and life safety and hazardous waste issues.
- Los Angeles City Police Department and Los Angeles County Sheriff's Department - Security and compliance with noise control.
- California Public Utilities Commission - Safety oversight of light rail transit system.
- Los Angeles Community Redevelopment Agency - Master planning and station design review.
- Los Angeles Department of Water and Power - Relocation of water and power facilities.
- Los Angeles City Department of Transportation - Design and review of work site traffic control plans.
- Los Angeles County Coroner/Medical Examiner - Investigation of human remains, if encountered.
- Southern California Gas Company - Relocation of gas mains and laterals.
- AT&T, MCI, Sprint, Wiltel - Relocation of communications facilities.
- Pacific Bell - Relocation of telephone facilities.
- Access Transmission Services, Inc. (formerly Western Union) - Relocation of telegraph facilities.
- Cal/OSHA - Occupational safety compliance.
- Southern California Edison - Relocation of electrical distribution facilities.
- Pasadena Water and Power - Relocation of water and power facilities.
- American Cablevision, Crown Cable, Century Cable TV - Relocation of cable television facilities.
- Army Corps of Engineers - Activities within the Los Angeles River including temporary construction easements and permits.

4.0 CM ORGANIZATION

4.1 CONSTRUCTION MANAGEMENT PHILOSOPHY

The CM Team shares with the MTA the management philosophy for the project which will delegate to the RE maximum authority for construction management decisions. This philosophy envisions that the CM's primary task is for the Resident Engineer (RE) functions to assure the construction of a quality facility on time and within budget of which the MTA, the EMC, the CM and the cities involved can be proud.

- Issue Conformed Contract documents
- Document control coordination.
- Technical document maintenance and protection.
- Document storage and retrieval.
- Correspondence and technical documentation index development.
- Technical reference materials services.
- Procedures manual specification control.
- Document transfer and control procedures.
- Dissemination of project records.
- Document printing and distribution control.
- Document transfer coordination.
- Coordination and tracking of design change orders.

3.6.5 MTA OPERATIONS

The MTA Operations Division will be the system operator. In order to provide input relative to their specific requirements, the MTA has formed an operations and maintenance users group responsible for interfacing with MTA during the design, construction and start-up phases of the project.

3.6.6 OTHER THIRD PARTIES

Other third party organizations involved either directly or indirectly with the Pasadena Blue Line, and their general areas of concern, include, but are not limited to, the following:

- City of Los Angeles - Review of modifications and impacts to city-owned facilities.
- City of South Pasadena - Review of modifications and impacts to city-owned facilities.
- City of Pasadena - Review of modifications and impacts to city-owned facilities.
- County of Los Angeles - Review of impacts to county-owned facilities.
- Catellus Development Corporation - Union Station and Del Mar Station joint use agreements and easements.
- Ratkovich Villanueva Partnership - Review of impacts to private property.
- Southern Pacific Transportation Company - Review of impacts to rail services and facilities. Provide right-of-way at Cornfield Yard.
- Atchison Topeka & Santa Fe Railway Company - Review of impacts to rail services and facilities. Provide right-of-way.
- Southern California Regional Rail Authority - Review of impacts to rail services and facilities.
- Los Angeles City Department of Public Works - Design and inspection of relocated and new city facilities.
- Los Angeles City Department of Recreation and Parks - Provide temporary easements for rail facility construction.

THIS MANUAL APPLICABLE TO ALL PROJECTS NOT JUST PBL

- Perform systems design to a level adequate to solicit design/furnish/install bids and/or proposals from equipment manufacturers/suppliers/builders.
- Perform system/facilities integration and activities necessary to ensure safe and reliable operating rail lines.
- Produce bid documents for overhead contact system (OCS) pole foundations, duct banks, and drainage.
- Support the MTA on technical coordination with outside agencies and utility companies.
- Support the MTA in obtaining permits.
- Provide environmental support and compliance assurance.
- Prepare all construction and design/furnish/install bid documents including addenda and responses to bidders' questions in conjunction with the Contracts Manager (MTA).
- Prepare conformed contract documents.
- Provide bid evaluation support with the MTA and the CM, as requested.
- Work with the CM; provide design support services during construction, procurement and installation phases including shop drawing and submittal reviews, change order evaluations, testing evaluation, and claims evaluation.
- Provide support services during system start-up and activation.
- Support the MTA and the RE in the safety certification process.
- Provide operations and maintenance planning support.

3.6.3 CONSTRUCTION MANAGEMENT CONSULTANT (CM)

The CM is responsible for providing professional construction management services for the project in accordance with the Scope of Services. These services are provided during the final design, construction/procurement/installation and operation start-up phases of the project. The CM organization is addressed in Section 4.0 below.

3.6.4 CONFIGURATION MANAGEMENT CONSULTANT (CMC)

The CMC is responsible to the Construction Division for providing a variety of document control, records management and procedures development tasks in support of the project. During design development, the document coordination and control functions are performed internally by the EMC and are not the responsibility of the CMC.

The CMC performs support services systemwide. The MTA Manager of Records Management is the technical manager of the CMC contract. The services provided by the CMC include, but are not limited to, the following.

to favor one viewpoint and loyalties are divided. The result is a breakdown in communications throughout the project. The RE can do a great deal to improve this relationship by an appraisal of his/her methods in dealing with the contractor. The RE should readily acknowledge his/her errors and accept full responsibility of the actions of subordinates.

The RE should be as quick to praise competent workmanship as to criticize incompetent work. He/she should at all times be candid, but diplomatic, about the contractor's performance. The RE should always observe the rules of professional conduct, good taste, and common courtesy. These may not seem to be compatible with the atmosphere about a construction project, but such is a false notion. The RE must always act in a professional manner if his instructions are to be respected.

Progress on the work should be regularly checked against the contractor's schedule and the required completion dates. It is quite proper to ask what the plan is to get a delayed portion of work back in step. Critical path scheduling is a contract requirement. A plan to complete all parts of the work on time is essential.

Finally, the RE should accept no gratuities from the contractor. Although such gratuities may seem harmless, their propriety may be questioned at some future date. Further, there is no clear definition as to what is an acceptable gift and what is not. Follow the MTA rules and policies. (IDENTIFY WHAT RULES/POLICIES)

5.4 During the project construction phase, the primary functions of the RE involve:

- Construction/Procurement contract administration
- Construction/Procurement accomplishment in accordance with the contract documents, good construction, and sound safety practices
- Construction/Procurement completion on schedule and within budget
- Proper documentation, negotiation, and processing of all charges, changes, claims, and backcharges
- Processing of progress payments in a timely manner, ensuring progress payment files contain sufficient backup to support payment
- Performance of required field quality control surveillance and inspections to ensure constructed and procured items comply with plans and specifications.
- Coordination and interface with the MTA Quality Assurance and Safety Departments
- Initiation of the project Emergency Response Plan
- Coordination and processing of Requests for Information and design changes
- Coordination with third parties, California Department of Transportation, public utilities MTA consultants and others.

The RE is responsible for managing contractor submittals, for conducting review of submittals with the EMC and third parties as required and for tracking the approval

construction-related contractor requirements, claims avoidance assessments, and value engineering studies.

5.3.1 Well in advance of construction, the RE should study the plans and specifications and become thoroughly familiar with them. Any necessary clarification should be sought from those responsible for the design through the EMC or general engineering consultant. If there is any question on the limits and quantities of the project, discussions with the MTA and the EMC or general engineering consultant to establish the owner's position should be held as soon as possible.

A preliminary schedule of operations obtained from the contractor will permit the RE to schedule the number and type of personnel he/she will need. Any necessary special training of personnel can be started, and the equipment necessary to properly inspect the project can be procured.

The contractor should be asked to discuss in detail the methods of construction he intends to use in each operation. His primary interest is in reducing costs and expediting the project. The RE is interested in quality construction as well as in expediting the project. These goals are not necessarily incompatible and every attempt should be made to find the construction procedure that will attain both. This is not as difficult as it appears.

It should not be taken as an affront by the RE when experienced construction (contractor) people offer excellent alternative ideas. Many times a less expensive procedure will actually add to the quality of the project. It will increase the contractor's confidence in the RE and strengthen their relationship if suggestions are considered. Any suggested change to the design documents must be processed in accordance with change control procedures.

During construction, the RE should make every attempt to resolve problems as soon as possible. It is true that answers given too quickly usually create more problems than they solve. But it is also true that answers delayed unnecessarily are equally harmful, even if they appear to give an impression of thoughtfulness. When a contractor is losing money due to wasted time, his interest in quality diminishes, his relationship with the RE deteriorates, and he will attempt to conceal future problems. Regardless of the above, ADHERENCE TO CONTRACT DOCUMENTS is mandatory.

The rule should be that a problem will be diligently pursued until a solution is clearly indicated. This will serve the interests of all persons concerned. Also, the RE should keep abreast of the contractor's problems. Job personnel often operate on a day-to-day basis with inadequate planning of details of the next day or week of work. A simple question about the plan for some operation, asked well in advance, will alert the contractor's forces to any special needs.

If it will not affect the quality of the project, the RE should volunteer ideas that will aid the contractor. This will have the two-fold effect of expediting the contract and helping to place the RE and contractor on a partnership basis. However, the RE must be careful not to consider the contractor's problems as his own. He/she should not try to run the job or tell the workmen what to do. A good approach may be, "Have you thought about..." or "Did you read in...about..."

The relationship of the RE and the contractor is as important to the quality of the project as any other single factor. When a poor relationship exists, personnel on the project tend

- Implementing claims mitigation and claims resolution actions
- Surveillance of in-process work and final acceptance testing through witnessing and documentation review
- Assisting MTA in maintaining a highly visible safety program
- Monitoring and reporting contractor compliance with federal, state, and local government requirements
- Coordinating survey work performed by CM surveyors and surveying consultants for the project
- Coordinating utility work for the project
- Receiving and ~~approving~~ REVIEWING ? all operations and maintenance manuals prepared and submitted by contractors and/or suppliers
- Processing and coordinating responses for the interpretations of contract documents and requests for information from contractors
- Coordinating movement of Client-supplied equipment and material to jobsites
- Recommending construction techniques to expedite the project
- Monitoring contract compliance with environmental requirements
- Recommending "off-hour" construction, when desirable
- Managing the performance or operational and startup tests and runs of equipment, including tests to verify the compatibility of related systems
- Receiving, controlling and disposition of spare parts
- Providing support for training of operational personnel
- Providing support in the verification of reliability requirements set forth in systems specifications
- Enforcing warranty provisions set forth in system specifications during the life of the contract
- Implementing a specification conformance checklist
- Managing the contract closeout process
- Responding to community-related complaints and assisting in mitigation of impacts
- Supervising coordination and installation of Artwork for Transit
- Coordinating the application process to secure required permits

process of submittals within the time frame specified in the contract documents or earlier. The RE will maintain the submittal status tracking system.

The RE will also ensure that all contract deliverables are properly documented and promptly processed. These construction/procurement contract deliverables include, but are not limited to, submittals (i.e., shop drawings, working drawings, vendor data, calculations, etc.). As specified in the technical specifications of the contract, these deliverables include:

- Quality control plans
- Construction Work Plans
- As-builts/redline drawings and specifications
- Testing Plan
- Contractor Construction Schedule (Contract Schedule)
- Safety and Security Plan
- Value engineering change proposals
- Master list of submittals
- Claims
- Progress payment requests
- Safety certification documentation and supporting data

As the authorized representative of the Client, the RE's responsibilities include:

- Coordination of all construction/procurement activity, including interface between contracts and follow-on contractors
- Management of construction management forces
- Documenting, verifying, and reporting contractual progress
- Management of contract documentation
- Monitoring contractor progress against the approved schedule and obtaining work-around plans
- Working with contractor to develop and implement corrective actions to mitigate delays
- Reviewing specific types of contractor submittals for content and format. Processing appropriate submittals to and from contractors and the reviewing entity (normally) the Engineering Management Consultant (EMC)
- Implementing and managing the change control process, including processing valid contract Change Orders and extensions of time
- Issuing contract Noncompliance Reports (NCRs) and implementing corrective action
- Maintaining contractor deficiency lists
- Assessing contractor requests for extra payment and initiating approval actions for valid claims

and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive Officer/Project Manage as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.6.2. CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other RE's should not be contacted directly but only through the RE in charge of that contractor's work. The normal chain of command shall be respected at all times.

5.6.3. CONTACT WITH THE MTA

The RE maintains both formal and informal communication with the MTA. Authorized representatives of the MTA, federal, state and local governments shall at all times have full access to the work being performed by or under the responsibility of the RE.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing informal line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections portions of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

5.5 THE RESIDENT ENGINEER'S JURISDICTION

The RE is the field representative of the Construction Manager to administer the contract specifically assigned. An Office Engineer, Inspectors and a secretary will assist the RE in administering the Contract on the jobsite.

Normal day-to-day contact and correspondence with the contractor shall be through the RE except for the following specific contract actions which are conducted directly between the MTA/ and the contractor:

- Notification of Award
- Notice-to-Proceed (NTP) with Contract
- Monthly payment processing
- Rendering of Final Decision in Contract Disputes
- Final Acceptance of the Work
- Submission of DBE Reports
- Bonding and Insurance Issues
- Escrow Agreement

The RE shall maintain copies of the above items except DBE reports and the Escrow Agreement in the Field Office Contract files.

The RE will monitor the progress of the Work and all questions regarding the acceptable fulfillment of the construction contract by the contractor. The RE's approval will be contingent on inspection and approval by regulatory agencies, where applicable.

The RE will maintain a good rapport with the public and will work with the contractor and the MTA Public Affairs Department to minimize adverse impacts of construction operations on the public.

The RE will determine the value and quantity of work performed and materials which are to be paid for under the contract when approving progress payments. The project office scheduler will assist in this determination.

5.6 RESIDENT ENGINEER INTERFACES

The Resident Engineer interfaces and corresponds with many project participants on both a formal and informal basis. All correspondence generated by the RE shall be serialized in accordance with MTA identification numbers and acronyms in accordance with Document Control Section 3.4 of this manual. The following are interfaces maintained by the RE including definition of appropriate lines of communication.

5.6.1. CONTACT WITH THE CONTRACTOR

The RE shall be the primary contact with the contractor. Contact with subcontractors or vendors shall only be made through the contractor.

With the exception noted in Section 5.5 above, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies),

(3) Labor Compliance Analyst - The Labor Compliance Consultant contracted by the MTA for labor compliance monitoring of the project may enter the construction site according to the following procedures:

- The labor compliance staff shall sign in at the RE's office and obtain clearance to go on the site.
- The RE is to ensure that the labor compliance staff are properly equipped for safety such as hard hats, boots, etc.
- The RE shall make the judgment whether they should be accompanied, depending on the nature of their visit to the site.
- The RE is to make the contact with the contractor.

5.6.5 VISITORS

The RE should prohibit unnecessary visits to the construction site due to safety and liability considerations. Official tours will be arranged and scheduled through the MTA. The RE is responsible for notifying the contractor and the Project Manager of all scheduled tours.

The RE shall extend all courtesies and cooperation to, and shall arrange for escort of, all official visitors through the jobsite. Records, charts and reports should be current and available for review.

The RE shall maintain a Visitor's Register Log (Exhibit 7.5) to be signed by visitors to the RE's office. A visitor for this purpose is defined as any party not employed by the Construction Manager or its subconsultants and not specifically assigned to the jobsite.

All visitors shall also be required to sign a Visitor's Release and Hold Harmless Agreement (Exhibit 7.6) before entering any hard hat area, with the exception of the visitors listed below:

1. Employees of the MTA , including Labor Compliance and OCIP Administrator representatives.
2. Employees of the Engineering Management Consultant and their subconsultants.
3. Employees of the Construction Manager.
4. Representatives of work forces of affected utilities, railroads, cities, county, state, federal, and other bodies performing work under MTA Master Cooperative Agreements.
5. Cal/OSHA representatives.
6. Employees of the PMO/ consultant.

(6) The RE will provide assistance to the MTA Public Affairs Manager who will coordinate person-to-person contact with local residents and merchants to alleviate potential problems associated with construction in community areas.

(7) MTA Third Party Coordinator - The RE shall work with the Third Party Coordinator to establish and maintain harmonious working relationships with all railroads, utilities, service companies and governmental agencies that are affected by or otherwise involved with the project. The CM provides an assistant to the MTA (Third Party Coordinator) whom the RE's should first contact to assist them in third party issues.

The MTA will negotiate project-related agreements with railroads, utility or service companies and governmental agencies. Copies of these agreements will be provided to the RE. The RE shall review the design documents and monitor the construction work to ensure that the terms, conditions, and covenants in these agreements are met. Conflicts with the contractual requirements will be discussed and resolved with the Project Manager.

Whenever possible Utility/Agency rearrangements to accommodate construction will be accomplished in advance. In the event the rearrangements are performed simultaneously with the contract work, the RE shall encourage the contractor to cooperate and coordinate with the forces or agents of the utilities. The RE will not be responsible for the progress and completion of construction work performed and inspection services rendered by affected agencies but should verify the utility work impacting the RE's project. However, the RE should consult with the Project Manager whenever it appears that an unreasonable amount of inspection or work force manpower is being used by the affected agencies, or their work is adversely affecting the Facilities/Systems contract.

If the RE decides that formal written correspondence to the MTA is required regarding third party issues, he/she shall discuss the matter with the Project Manager who may prepare a letter or ask the RE to prepare one for the Project Manager's signature to the MTA. .

Any request or directive by representatives of the MTA or other governmental agencies, utilities or railroads, which may adversely impact the contractor's and/or the CM's performance or may be a change in contract scope or schedule, shall be reported immediately to the Project Manager. He/she will then advise the RE as to the appropriate course of action.

5.6.4. CONTACT WITH CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Rail Transit Project. The RE shall cooperate with all consultants on the project as follows:

(1) Engineering Management Consultant (EMC) - The RE shall maintain an ongoing working relationship with the EMC Project Unit Manager (PUM) assigned to his/her contract. Any correspondence regarding design issues shall be directed to the EMC/PUM. Correspondence addressing design issues affecting more than one contract must be directed to the EMC/PUM in a letter signed by the Project Manager.

(2) Owner Controlled Insurance Program Administrator (OCIP) - The RE shall transmit all required forms or information regarding the OCIP Insurance Program and Construction Safety Survey forms to the OCIP in accordance with the MTA procedures.

6.0 AUTHORITIES

6.1 OWNER'S AUTHORITY

The MTA Board is the authority to set policies, provide funds, provide formal contact with the public and high-level agencies, and approve Change Orders over $200,000, and all time extensions. Any change order whose amount leads to the total contract amount exceeding the budget must be approved by the MTA Board in advance of the change being issued.

The MTA staff is responsible for daily project related contact with the public, utilities, third parties, and other agencies; control of design and construction of all rail projects in Los Angeles County; approval of all Change Orders over $50,000 but at or less than $200,000, and authority to extend the duration of individual contracts, or the project completion date.

6.2 CONSTRUCTION MANAGER'S AUTHORITY

The CM, as delegated by MTA's Contracting Officer, has $50,000 change approval and execution authority for Contract Change Orders, but no authority to approve time extensions.

6.3 RESIDENT ENGINEER'S AUTHORITY

The RE, as delegated by the CM, is the authorized representative of the Contracting Officer charged with the professional administration of the construction/procurement contracts. As such, the RE is the focal point for on-site construction management activities and is the primary point of contact with the construction contractor during the construction phase.

If serious or life threatening conditions exist that require immediate corrective action, the RE has the authority to shut down the work until such time as the condition is corrected.

The RE may issue a suspension of work order in any situation when on-going work is not in compliance with contract requirements.

The RE has change approval and execution authority, with restrictions established by AB1869, for contract Change Orders with a cost impact of up to $25,000. The RE has no authority to change the contract period of performance or baseline provisions. (See REP 6.5 - Change Process.)

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	MTA Organization
7.2	Construction Division Organization Structure
7.3	Construction Management Organization
7.4	Resident Engineer Organization
7.5	Visitor's Register Log

5.6.6 COMPLAINTS

The RE will give proper attention and endeavor to satisfy any complaints made by the public. As the on-site representative for the project, it is the RE's responsibility to enforce Contract requirements and thereby minimize or mitigate complaints.

Complaints will be based generally upon the following types of occurrences:

- Noise, vibrations, obstructions
- Dusty, wet, and unsafe conditions
- Disruption to pedestrian or vehicular traffic

Most complaints will be received via the MTA's 620-RAIL telephone number. However, should the RE receive a complaint from the public, he should endeavor to satisfy the party promptly and provide notification to the MTA Public Affairs Manager. The circumstances surrounding the complaint should be reported on a Complaint Form (Exhibit 7.7). Any corrective actions to be taken by the contractor should be noted on the form. The RE should then sign and date the form, retain the original and fax a copy to the PM and to the contractor and MTA Public Affairs. In the event the RE requires assistance with the complaint the assistance should be requested on the form.

In the event of emergency situations, the RE shall contact the PM by telephone in advance of initiating the Complaint Form. Consult the Emergency Notification Procedures Manual Revisions Level 3 for additional detail.

5.6.7 CONTACT WITH THE NEWS MEDIA

All news media questions shall be politely referred to MTA Public Affairs at (213) 922-2222. If direct contact cannot be avoided, such as during an emergency, the RE shall limit any required response to, "Until the facts of the matter are determined, there isn't anything I can say, the MTA will provide all media responses".

In the event that the Resident Engineer is contacted by a representative of any media/press organization in person or on the telephone, the following action should be taken:

- Request the reporter's name, telephone number, name of publication and reason for calling.

- Indicate to the caller that the MTA is the appropriate agency to respond to their questions.

- Refer the caller to the MTA Assistant Deputy Director of Public Affairs at (213) 922-2222.

- Call the PM with the information, who will in turn notify the MTA DEO/PROJECT MANAGER IF HE/SHE DEEMS IT NECESSARY.

4.2 TECHNICAL WRITER/EDITOR

The Technical Writer/Editor is responsible for ensuring that the draft meets the following standards:

- Agrees with relevant CM procedures
- Uses CM procedure format for the following:
  - Abbreviations
  - References
  - Grammar
  - Spelling
- Includes latest version of referenced forms

The Technical Writer/Editor adds queries to the draft if he or she has questions about the draft. Once the queries have been answered, the Technical Writer/Editor distributes the draft for review, setting a deadline for the return of comments.

Each procedure may have a different list of reviewers. For example, each Resident Engineer Procedure is reviewed by each RE, DPM, QCM, QAM and by the MTA. Review comments are incorporated before a procedure is distributed for final signature on the Executive Correspondence Review and Approval Form, Form #___ (Exhibit 7.1).

4.3 MANAGER, DOCUMENT CONTROL

The Manager, Document Control reviews and signs the Executive Correspondence Review and Approval Form , Form #___ (Exhibit 7.1), verifying editorial accuracy.

4.4 FUNCTIONAL MANAGER

The functional manager is responsible for ensuring that the new/revised procedure is in compliance with contract requirements. The functional manager documents his/her approval of the new/revised procedure by signing the Executive Correspondence Review and Approval Form, Form #___(Exhibit 7.1). When a procedure affects multiple functional departments, the appropriate functional managers will review and approve the procedure.

Functional managers are responsible for ensuring that their staff perform to the most current procedures and use only the latest revision of forms.

4.5 PROJECT MANAGER

After the functional manager (and any staff members the functional manager has requested) has signed the Executive Correspondence Review and Approval Form, Form #___ (Exhibit 7.1), the procedure is signed by the Project Manager. The Project Manager is the final person to sign off on a procedure--both by signing Executive Correspondence Review and Approval Form and by signing the first page of the procedure. Only procedures signed by the PM are valid CM procedures.

4.6 DOCUMENT CONTROL

After the CM has signed the procedure and returned it to the Technical Writer/Editor, Document Control distributes the new procedure to appropriate personnel and the MTA.

1.2 PREPARATION AND CONTROL OF PROCEDURES AND FORMS

1.0 PURPOSE

This procedure describes the process for preparing, reviewing, and approving new or revised CM procedures or forms. It also describes the process for deleting procedures or forms.

2.0 GENERAL

The project is a dynamic project. Consequently, its procedures change as field conditions, lessons learned, and client requirements change.

All current CM procedures and the vast majority of CM forms are available on the x drive. Because of special requirements for their use, some forms (e.g., labels, no carbon reproduction [NCR] forms, and tags) are not available on the x drive.

3.0 DEFINITIONS

Functional Manager: The functional manager, as used in this procedure, refers to the person responsible for the department indicated in the Title block of the procedure as "Issuing Department".

Procedure: An official CM document, written to describe a specific construction-management task and a method for accomplishing that task. Procedures provide a process description, a list of the individuals who contribute to the process, and the approved method of performing the task. Procedures may be supplemented with flowcharts, definitions, background material, references and sample forms and exhibits. CM procedures are written to comply with policies and procedures established by the Metropolitan Transportation Authority (MTA) for the project.

Technical Writer/Editor: The technical writer/editor, as used in this procedure, refers to the person that originated a specific manual indicated on the Title page of that manual as "Prepared by".

4.0 RESPONSIBILITIES

4.1 REQUESTER

New procedures or revisions to existing procedures may be requested by any procedure user. Similarly, any procedure user may request the revision or deletion of a form. The requester brings a draft of the proposed procedure or a revised markup of an existing procedure to the Technical Writer/Editor. This draft shall consist of the following:

- A printout of the draft
- A floppy disk containing the draft

The requester ensures that the technical information in the draft is correct and current. The requester is responsible for coordinating the procedure revision with the functional manager(s) most responsible for performing the tasks described in the procedure. The requester also answers the Technical Writer/Editor's queries and suggests reviewers for the completed draft. Frequently the functional manager is the requester for procedure or form creation, revision, or deletion.

Exhibit 7.1

Logged In: _____ Logged Out: _____

EXECUTIVE CORRESPONDENCE REVIEW AND APPROVAL

Originating Department: _____ Date: _____

Name of Originator: _____ Extension: _____

Subject of Correspondence: _____

_____

_____

In Response to: _____ CM Letter No: _____

Confidential: ☐ Yes ☐ No Response Required: ☐ Yes ☐ No

Approval Checklist

	Department	Signature	Comments	Date
☐	Originator			
☐	Functional Manager			
	Others (As Required)			
☐				
☐				
☐				
☐				
☐	Resident Engineer			
☐	Manager Administration			
☐	Construction Manager			

FORM #___

2.4 CONSTRUCTION SCHEDULE DEVELOPMENT

Schedule development by CM will be updated at the 30% stage to include the basic construction concept review to facilitate initial planning development and to ensure that the schedule encompasses the elements necessary for projectwide coordination and interfacing.

CM will maintain a proposed project construction schedule, including the evaluation of production rates, sequence of construction, compatibility between the contracts, interfaces with subsequent facility, and systemwide contracts. The milestone dates will be provided based on viability, effectiveness, and interface with systemwide applicable contract schedules.

2.5 CONSTRUCTABILITY EVALUATION AND INFLUENCE OVER PROJECT COST

Exhibit 7.3 shows the influence constructability evaluation has over project cost.

3.0 DEFINITIONS

Constructability Review: An evaluation of a project, intended to ensure the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve safety, quality, and overall project objectives. This evaluation includes, but is not limited to, economics, availability of materials, site restrictions, local conditions, and lessons learned that may affect the construction process. Effective and timely integration of construction input by this process during the planning and design phases significantly improves attainment of overall project objectives, including cost effectiveness and timely completion. The evaluation will also include an analysis of improvements incorporated as a result of lessons learned ~~during Segment 1 and 2 construction.~~

4.0 RESPONSIBILITIES

4.1 Constructability reviews will be the responsibility of a task force.

4.2. Primary task force members will include the following:

- Chairperson
- Deputy Project Manager--Engineering
- Resident engineer (rotated to current or new future resident engineers as they become available)
- Systems coordinator
- Project engineer
- Clerk/Typist

4.3 Task force support staff will include the following CM and/or MTA department representatives:

- Engineering Services
- Geotechnical
- Utilities/Traffic
- Environmental
- Safety
- Schedule/Cost

2.1 CONSTRUCTABILITY REVIEW

1.0 PURPOSE

This document establishes procedures for conducting constructability reviews for each construction contract package, as prepared for the Metropolitan Transportation Authority (MTA) by the Engineering Management Consultant (EMC).

2.0 GENERAL

2.1 CONSTRUCTION OVERVIEW

CM will provide construction overview to MTA and EMC from the earliest stages of conceptual planning through final bid document preparation. Construction document review will begin in advance of or at the 30% stage. The concept evaluations will provide a basic construction concept review for the project alignment, considering methods of construction, cost effectiveness, contractual interface, and packaging. Cost and schedule reviews will be an integral part of this process as options and alternative studies.

2.2 FOLLOW-ON REVIEWS

CM will perform follow-on reviews of all construction packages at the initial (30%), preliminary (60%), prefinal (85%), final (100%), and camera ready stages of preparation. (Not all package components, however, are available at the 30% and 60% stages). The reviews will include analysis of construction staging, contract packaging, scope of work, interface definition, specification clarity, internal consistency, and the package completeness, including review of the general conditions, special conditions, and technical specifications. The composition of a constructability task force is shown in paragraphs 4.2 and 4.3.

Reviews will evaluate the viability of required construction techniques; assess alternative designs, methods, and equipment; evaluate adequacy and appropriateness of materials and products specified; and access definition of easements and adequacy of contractor storage and staging areas. Follow-on reviews will be performed utilizing a checklist that has incorporated the lessons learned from previous projects and those from other agencies. The results of the reviews will be provided to EMC as part of EMC's design review process. Follow-on review meetings may be required where the resolution of comments will be discussed with the design consultants and incorporated, as appropriate, into the contract documents.

2.3 REVIEW OF GENERAL AND SPECIAL CONDITIONS

~~General Conditions remain the same from contract to contract within a given contract type and should be reviewed accordingly~~. CM will conduct a review of the general and special conditions for each contract to ensure that they provide specific coverage and consistency with the work scope and tasks for each contract. CM will conduct a review of the general and special conditions and provisions ~~relating to time of completion, milestone dates~~, liquidated damages, ~~administration of changes and claims, Disadvantaged Business~~ Enterprise (DBE) goals, temporary facilities ~~and utilities, permits, and specialty items relating to historical landmarks, artwork, archaeology, etc~~. CM will provide input to the development of the time of completion, milestone dates and liquidated damages cost data.

Factor	Review Response		Comments
8. "Cost Reduction Incentive" provisions have been beneficial. Are they utilized in this contract as advantageously as possible.			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
9. Are the "measurement" provisions clearly defined in the contract?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
10. Are existing conditions such as utility lines, foundations, pavements, etc., shown in sufficient detail?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
11. Are there any geological conditions such as organic layers, dewatering, hard rock, etc. which have not been defined in the documents?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
12. *Is the overall interface between Stage I and Stage II* construction clearly defined and delineated on the drawings?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
13. Are codes and specifications current and compatible with this specific contract?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
14. Are the materials and equipment specified available and/or being manufactured?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
15. Are the dimensions of the rooms and allocated spaces that are receiving equipment and systems compatible with the size of the equipment. Is there sufficient area for access and delivery for installation?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
16. Is the stationing along the trackway compatible with the stationing on the adjacent structures?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____

Exhibit 7.2

CONSTRUCTABILITY REVIEW CHECKLIST - **SYSTEMS/FACILITIES**

Contract:	Review Date:
Stage/Discipline:	Reviewer's Name:

Factor	Review Response		Comments
1. Is contractors responsibility for work at other contract interfaces especially over lapping interfaces, clearly defined?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
2. For follow-on contracts, is it clear that the contractor must survey tie to existing construction and not conduct his own survey without regard to As-Built?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
3. Has detailed layout, space planning and continuity been adequately covered for all conduits and other embeds. Can allocated conduits physically fit within the designated locations without affecting concrete strength and adjacent facilities. Can conduits be traced in their run within contract limits and to interfacing contracts. Is there a complete conduit and wire pulling schedule in the contract drawings?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
4. Are utility lines and corresponding supports clearly designated with location plans and details?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
5. For a contract with multiple contract interfaces, is the term "cooperation" clearly defined in sufficient detail to satisfy all the needs of the interfacing contract?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
6. Have specific right of ways been defined to accommodate lay-down needs, materials, stockpiling, access, circulation etc. and the availability of real estate been confirmed.			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
7. At interfaces with adjacent buildings, have house lines, foundations, vaults, etc., been clearly designated to permit the contractor to proceed without encountering "differing site conditions"?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	

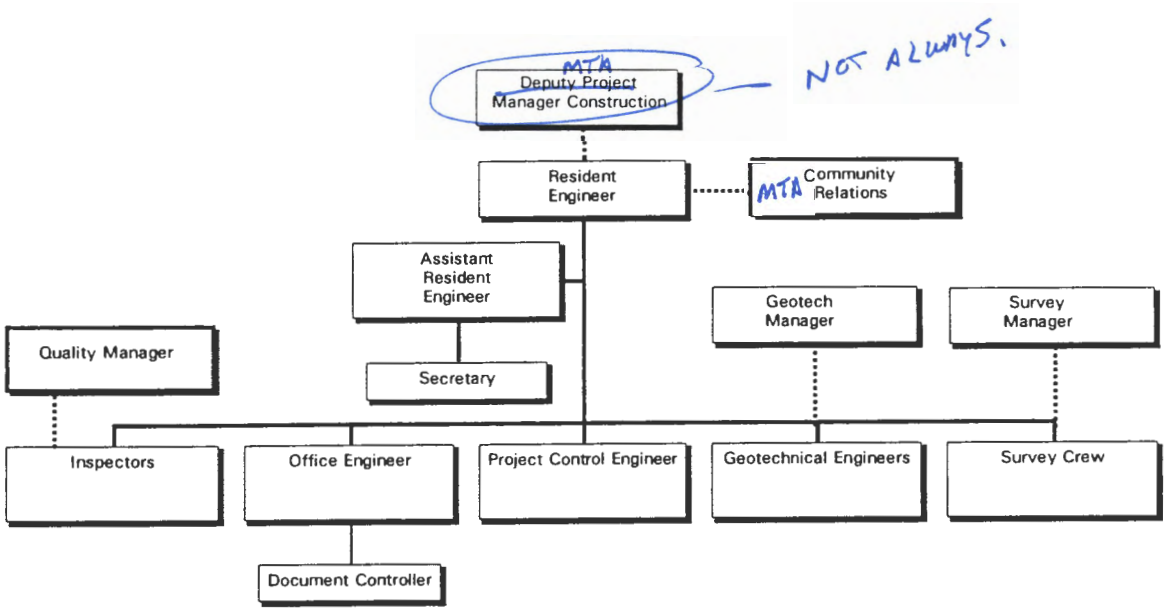
Exhibit 7.2

EQUIPMENT LIST EXAMPLE

QUANTITY	DESCRIPTION
6	Double pedestal desk, InterRoyal Model 6260BA-3F/6827GL/6808
1	Single pedestal desk, Steelcase Model 8260PA-3F 882 GL 804 2L23F
1	Secretarial posture chair, InterRoyal Model 2009-35
1	Drafting table with drawer, Hamilton Model 43J2
1	Drafting stool on casters, Royal Model 668TC
9	Reference tables, InterRoyal Model 66030-3
4	Swivel arm Chair, Inter Royal Model 6001BCS
20	Stack chair, Liting Model 1501X1
3	Bookcase, Adopto Model BC82
4	Five drawer lateral file, InterRoyal Model 51536L-AAJJJ
3	Metal utility cabinet with lock, (18" x 36" x 72")
1	Coat rack (12coats), Lyon Model 5947
6	Desk Lamp, Flex-arm Model 4444
2	Bulletin board (72" x 48"), metal edge
2	12-stick plan racks
1	Chalkboard and stand (36" x 60")
8	Waste basket
2	Tri-class dry chemical fire extinguisher, 8-1/2 pounds, classification 2-A 10 BC, including service.
1	First aid chest, OSHA approval, Zee Medical Products Company, Irvine, CA 92717, with maintenance and supplies
1	Typewriter, IBM Selectric II, with maintenance and supplies
1	Calculator with tape, Sharp Model CS 2182, with maintenance and supplies
1	Copying machine with maintenance and supplies, Savin Model 760
1	Table or stand to support copying machine
4	Fireproof file four drawer legal Victor Model 44412, 1LX
1	FAX machine with maintenance and supplies

Exhibit 7.1

RESIDENT ENGINEER OFFICE - ORGANIZATION CHART



- Under no circumstances shall information (e.g., verbal, written, copies of documents) be given directly to opposing counsel. All information requests shall be directed to the MTA-appointed counsel.

- Information shall not be released without written direction from the MTA and the CM.

- If files must be reviewed at the Project Office, the MTA-appointed counsel will contact the RE to coordinate the time and location of the review. If the opposing counsel is reviewing the files, the MTA-appointed counsel will be responsible for ensuring the safekeeping of the files. The MTA-appointed counsel will be present at all times while the opposing counsel is on-site. The MTA-appointed counsel and CM will coordinate and approve any copy requests.

- The RE shall prepare a Consultant Change Request (CCR) for approval to obtain additional staff and services, as needed, to support the litigation.

- Requests from the MTA counsel shall meet the following requirements:

  - Requests shall be in writing.

  - Responses shall be coordinated with the Deputy Project Manager, Administration (DPMA). The DPMA will obtain approval from CM's Legal Department, as appropriate, before releasing information.

  - Documents provided to the MTA shall be transmitted via cover letter. The cover letter shall list all documents being provided. A copy of the cover letter shall be given to the DPMA.

CROSS REFER TO REP 1.1, P 5.2.5

5.11 VISITORS

Due to safety and liability considerations, casual visits to the construction site are discouraged. Official tours will be arranged and scheduled through the RE by the MTA Public Affairs representative and the CRC. The RE will be consulted on all tour arrangements 24 hours in advance, whenever possible, to ensure that the visit is compatible with work in progress. The contractor will be informed of all scheduled tours by, and coordinate tour activities with, the RE.

5.11.1 All visits to Metro sites shall be approved by the MTA or its designee. In addition, the following requirements apply:

- All individuals visiting the construction site will sign in and be issued an approved identification badge that they must wear. Those individuals who cannot produce their badges will be asked to leave the site.

- Individuals visiting the sites must be accompanied by a qualified guide (a CM or contractor representative who is knowledgeable of the site and who has undergone proper safety training).

- All visitors will be required to wear hard hats and other required safety equipment, undergo safety training as required, and comply with California Occupational Health and Safety Program (Cal/OSHA), MTA, and CM's safety regulations.

5.8.1 The RE will provide information as needed to the MTA Public Affairs representative and CRC on construction activities and major events that will affect communities, individuals, or businesses (e.g., scheduling information). The MTA Public Affairs representative or CRC is responsible for follow-up clarification.

Requests from the community for construction-related data (e.g., settlement data or construction data) shall be forwarded to the MTA Public Affairs representative.

5.8.2 In response to project-related questions, media requests, press releases or presentations, the RE will refer the inquirer to the CRC, who will forward the inquiry to MTA as required.

5.8.3 If the RE requires assistance with a complaint or inquiry, the RE will contact the CRC and/or the Project Manager.

5.8.4 The RE will give proper attention to, and endeavor to satisfy, any complaints made by the public. In the event a complaint is received by the RE's office, the RE will immediately fill out a Construction Complaint, Form #___ (Exhibit 7.1), to identify the complainant, the nature of the complaint, and the recommended remedial action to be taken. A copy of this form is forwarded to the MTA Public Affairs representative, and the CRC. The MTA Public Affairs representative is responsible for further contact with the complainant.

5.8.5 If immediate action is required, the RE will telephone the MTA Public Affairs representative and the CRC or Project Manager, to initially report on the situation and then follow up with a Complaint Form showing the action taken. Additional follow up and activity documentation will be provided by the RE, MTA Public Affairs representative, or the CRC, in accordance with CMS 8.1, Community Affairs.

5.9 CONTACT WITH THE MEDIA

The RE will avoid making any statements to or providing any documentation to the media. All media questions/requests will be referred to the CRC. If direct contact cannot be avoided, for example, during an emergency, the RE will limit any required response to: "When the facts of the matter are determined, the MTA will provide all media releases."

If contacted by the media, the RE must report promptly and verbally to the CRC. This telephoned report must be followed promptly by written confirmation, using the Media Inquiry and Interview Report, Form #___ (Exhibit 7.2). A copy of the Media Inquiry and Interview Report must be sent to the CM manager supervising the activity being addressed by the inquiry. The CRC will provide follow-up coordination and/or documentation with the MTA Public Affairs department.

When a member of the media initiates contact with the contractor, the contractor shall immediately report the contact to the RE.

5.10 CONTACT WITH LEGAL COUNSEL

The RE and the RE's staff shall adhere to the following procedure when they receive requests for information as a result of litigation:

- Notify the MTA and the CM in writing, communicating details of the request for information. MTA will notify CM which law firm they have chosen to represent them.

b. Break down of contract material unit quantities. (60 CD of NTP)

c. Cost and resource loaded contract baseline schedule. (60 CD of NTP)

3. Schedule Updates

   a. Updated working schedule on a monthly basis two working days prior to data date. Approval is basis for making monthly payments.

   b. Fragnet of activities affected with TF of -10 days or more. Submit similar fragnet showing mitigation plan. Provide written narrative.

   c. As required an adjusted baseline including change orders.

4. As-Built Schedule submitted within 30 calendar days after final completion. Submitted 30 calendar days after final completion. Submitted for planner/scheduler and CM to review if it reflects manner which project was performed. This will be condition for release of retention.

5. Three-week look ahead for weekly jobsite meetings. Include one (1) week past, and two weeks look ahead.

5.2 RESIDENT ENGINEER SCHEDULING RESPONSIBILITIES

The RE is responsible for the following schedule activities:

- Reviewing all schedule submittals, with assistance from the PCE, including monthly reports and updates, ensuring that both content and format comply with contract requirements
- Ensuring that schedules are logged, tracked, and processed in accordance with the submittals procedure
- Providing contract schedule information for inclusion in project schedule reports
- Maintaining a planned progress versus actual schedule on the RE office wall
- Retaining a copy of submitted schedules in the field office
- Preparation of schedule Time Impact Analyses (TIAs) for changes affecting the number of calendar days and/or milestones
- Publishing minutes of the schedule review

5.3 SCHEDULE REVIEW MEETINGS

The RE is responsible for the following schedule review meeting activities:

- Upon initial submittal of the contractor schedule, meetings will be held, as required, to review the submittal for conformance with contract requirements.

4.6 SCHEDULING

1.0 PURPOSE

Criteria and guidelines for the management of schedules are detailed in the Construction Support Procedures Manual. This procedure highlights the specific criteria and guidelines for the resident engineer (RE) to follow in the schedule development maintenance and impact analysis during construction of their specific contract.

2.0 GENERAL

This procedure defines the responsibilities of the RE for scheduling. The progress schedules will be developed, reviewed, and accepted at the direction of the RE, and the RE will ensure that scheduling tasks and schedule review meetings are conducted in accordance with contract Terms and Conditions.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

The RE, supported by project control engineers (PCEs), is responsible for reviewing and monitoring contractor schedules and for preparing schedule analyses.

5.0 PROCEDURE

5.1 CONTRACTOR

The contractor, in accordance with scheduling requirements as defined in the contract documents, develops and delivers to the RE for his/her acceptance the following schedules, which will be subject to the RE and scheduler's review for reasonableness and compliance with contract requirements:

REFER TO TECH SPEC 01310 OR 01311

- Contractor will submit a preliminary 120-day schedule within 14 calendar days (CD) after the Notice to Proceed (NTP).
- Submittal Requirements
    1. Preliminary Schedules
        a. Preliminary Contract Schedule with procurement acts. (14CD of NTP)
        b. Barchart of submittal and equipment procurement activities. (14 CD of NTP)
        c. Schedule of Values for work within 120 calendar days of NTP. (14 CD of NTP)
    2. Baseline Schedule
        a. Break down of contract price into resource accounts. (60 CD of NTP)

3.0 DEFINITIONS

3.1 *Cost Control Account Report* (Exhibit 7.3): For "pay-off-the-schedule" contracts, this form is generated from the automated scheduling system and reflects work done for the period based on the monthly schedule update. The form lists all contract pay items and pay item numbers, indicates the budget amounts, cumulative and period actuals. The project control engineer uses this form as the source document for statusing and reviewing Payment Estimates.

3.2 *Contract Skeleton Form* (Exhibit 7.4): For contracts that are not "pay-off-the-schedule," this form is generated by the project control engineer out of the Cost Management System (CMS) and is provided to the contractor through the RE to facilitate manual statusing of progress amounts. The RE reviews and approves those amounts. The form lists all contract pay items and pay item numbers, indicates whether payment is made on a unit price or lump sum basis, shows estimated quantities for each unit price item, and shows total price for each pay item. The contractor indicates the monthly quantity changes for the unit price pay items and a stipulated amount for lump sum pay items, which are listed accordingly to the previously approved Schedule of Values.

3.3 *Contract Payment Estimate* (Exhibit 7.5): This official document, forwarded to the MTA by the project control engineer (after review and signature by the RE), provides the basis for contractor progress payments. This pay estimate is based on data provided by the Cost Control Account Report (Exhibit 7.3) or the Contract Skeleton Form (Exhibit 7.4) and shows for each pay item, on both a current and cumulative basis, quantities installed, estimated costs, and percent completed.

3.4 *Schedule of Values* (Exhibit 7.2): A breakdown of selected lump sum pay items into work categories for the purpose of facilitating the making of accurate assessments of contractor's progress.

3.5 *Paybook or Quantity Record* (Exhibit 7.4): The Pay Quantities Records ledger of individual pay items.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE has primary responsibility for implementing pay estimate procedures, verifying the accuracy of the pay estimates submitted by the contractor at the end of each monthly work period, and forwarding the approved contract payment estimate to the Project Office for documentation.

4.2 PROJECT CONTROL ENGINEER

FOR

No contracts that are "pay-off-the-schedule," the project control engineer generates the Cost Control Account Report (Exhibit 7.3) after the monthly schedule update has been processed and approved by the RE (refer to Exhibit 7.1). The Cost Control Account Report is used as the basis for updating progress payments into the Payment Estimate module of the CMS.

4.3 PROJECT CONTROLS

6.2 PROGRESS PAYMENTS

1.0 PURPOSE

This procedure establishes the process and documentation for ensuring that progress payments are made in a timely manner utilizing acceptable cost control practices. The records that the resident engineer (RE) maintains must be accurate and comprehensive in order to provide an audit trail at all times throughout the duration of the contract.

2.0 GENERAL

2.1 Most Metropolitan Transportation Authority's (MTA's) construction contracts have progress payments that are tied directly to the contractor's approved baseline schedule and monthly schedule updates. These contracts use information maintained and generated from the automated scheduling system as a basis for monthly progress payments (refer to Exhibit 7.1).

2.2 Certain systemwide equipment procurement contracts do not have monthly progress payments that are tied directly to the schedule updates. For these contracts, the contractor is provided monthly Skeleton Forms in order to status progress payment amounts.

2.3 Each contractor is required to submit 120-day initial construction schedule as specified in the contract, generally within 14 calendar days after the Notice to Proceed (NTP). This submittal shall include a Schedule of Values. The 120-day schedule is a cost-loaded outline of the activities for the first 4 months of the contract for which compensation will be required. The 120-day schedule must be in place prior to the processing of any payments to the contractor.

2.4 Each contractor is also required to submit a detailed Schedule of Values (Exhibit 7.2) as specified in the Contract, generally within 14 calendar days after the Notice to Proceed. For the "pay-off-the-schedule" contracts, the cost-loaded, 120-day schedule generated from the scheduling system satisfies the Schedule of Values requirement in the contract; no separate submittal is required. For contracts that are not "pay off the schedule," the Schedule of Values will be in sufficient form and detail to provide a reasonable assessment of how lump sum items will be statused over the life of the contract. (Some procurement contracts contain a Schedule of Payments in the actual contract documents; in these cases, no Schedule of Values is required.) Schedule of Values submittals must be in place prior to the processing of any payments to the contractor.

2.5 As a part of the monthly schedule updates, the resident engineer assures that the schedule status (for "pay-off-the-schedule" contracts) or the Skeleton Forms statusing (for contracts which are not "pay-off-the-schedule) represents work that has actually been accomplished to date. This status is incorporated into the Payment Estimate module of the Cost Management System (CMS) to create the actual progress payment document.

2.6 The contractor may submit as specified in the contract, generally within 90 days of NTP - a list of materials (Schedule of Material Allowances) for which he will seek to receive progress payment prior to installation. Advance payment for materials is intended to be used for major items only. Prior to inclusion of such materials into any progress payment, the RE ensures that all the requirements set forth in the Contract Documents, General Conditions, and Section on Progress Payments have been met.

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

REVISE 100% PER AB1869 & CF 11

VERIFY

The CM has change approval and execution authority for changes with a cost impact of up to $50,000 (based on the cumulative absolute value of the change at the time of execution), provided the change does not affect other program baselines or schedule milestones. The CM may delegate any or all authority for costs up to $50,000 to the RE or other CM staff members. The CM is responsible for notifying the MTA of any changes in the work; evaluating the impact of changes on the contract, project cost, and schedule; and identifying and processing field changes at the lowest possible level to mitigate delays or construction problems.

4.2 RESIDENT ENGINEER

The RE has change approval and execution authority for contract COs with a cost impact of up to $25,000, with an additional $25,000 still within the authority of the CM. The RE is not authorized to execute any contract change extending contract duration or milestones or otherwise affecting the contract General or Special Conditions or to unilaterally execute changes arising from contractor's claims. The RE is responsible for monitoring the progress of contract changes and ensuring that they are processed in a timely manner, ensuring that milestones and schedules within his/her jurisdiction are not affected or impacted. The CM Project Office shall provide RE with the advice, support and training required to effectively process the changes.

4.3 ENGINEERING MANAGEMENT CONSULTANT

Only the EMC has change approval authority for design documents and specifications or the substitution of materials. Agreements at meetings or through letters or memos do not constitute design changes. Design changes must be submitted through the formal change process to the EMC.

5.0 PROCEDURE

5.1 REQUEST FOR INFORMATION/CHANGE

5.1.1 RFI

The RE will log and track RFIs in the CCS. All RFI transmittals will be generated from the CCS, when required. RFIs will be reviewed by the EMC for technical response. The RE will review the EMC response before forwarding the response to the originator. If the response to an RFI indicates a change is required, the RE will generate a CN in accordance with MTA procedures. Multiple RFIs may be processed in a single CN.

5.1.2 RFC

The RE will log and track RFCs in the CCS. All RFC transmittals will be generated from the CCS. The RFC will be reviewed by the EMC and the RE, and merit will be determined. If the RFC is merited, the RE will generate a CN in accordance with MTA procedures. If the RE determines the RFC has no merit, the contractor will be notified. If the contractor does not agree, it may submit a notice of intent to claim (refer to REP 6.6).

6.5 CHANGE PROCESS

1.0 PURPOSE

This procedure outlines the resident engineer's (RE's) responsibilities in providing full and complete documentation for processing changes to the Metropolitan Transportation Authority's (MTA) construction and procurement contracts.

2.0 GENERAL

2.1 The change control process consists of five basic steps:

1. Change initiation
2. Change Notice (CN) processing
3. Negotiation/Cost verification
4. Change Order (CO) processing
5. Change cost posting and file closeout

2.2 Exhibit 7.1 shows an overview of the change control process as developed by the MTA. The flowchart contains major process steps, responsibilities, and documentation requirements.

2.3 Terms and conditions vary from contract to contract, refer to the specific contract documents in question when processing changes. Any changes to construction contracts that affect the scope of the Construction Management Services contract between the MTA and the Construction Manager (CM) should be handled according to CMS ____, Changes to CM Services Scope of Work.

2.4 Exhibit 7.2 shows the breakdown of change approval and execution authority under the MTA . Approval authority is established by the preliminary cost and impact assessment for the change.

3.0 DEFINITIONS

Refer to the MTA procedure CF 11: "Change Control: Construction/Procurement Contracts" (refer to Section 6.0) for definitions of change-process terms.

3.1 *Request for Information (RFI):* a request for design or other contract information for an item which may not be sufficiently detailed or explained in the contract documents. An RFI may be generated from the contractor, the Engineering Management Consultant (EMC), or from any CM staff.

3.2 *Request for Change (RFC):* a request from the contractor for additional time, a contract/design change, or compensation for work.

3.3 *Change Control System (CCS):* The MTA's automated tracking system that tracks, controls, and generates documentation in support of the RFI/RFC, submittals, and issues, as well as the change and claims process.

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

SBCN# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

RECEIVED
AUG 14 1996
MTA ESTIMATING

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:

	YES	NO	NEED CLARIFICATION
Is the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[X]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS: PER ATTACHED MARK UP

RECEIVED
SEP - 4 1996
MTA CONFIGURATION MANAGEMENT

EVALUATOR: [signature] TITLE/ORG: CHIEF ESTIMATOR DATE: 09-03-96

RESPONSE:

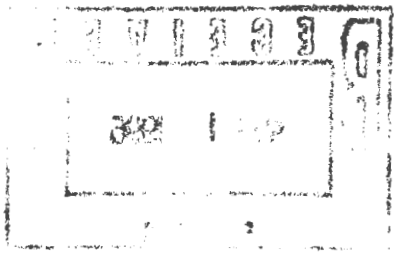
RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MARY HEITMEYER
08/14/96 10:03
rev 4.01 08/06/96 edf



LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
CONSTRUCTION DIVISION

RESIDENT ENGINEER MANUAL

This manual provides guidelines to assist the Construction Manager (CM) and its Resident Engineer(s) (RE) in the execution of the work. However, if the requirements in this manual conflict with the requirements and obligations in the MTA contract with the CM or MTA policies and procedures, the contract and the MTA policies and procedures shall govern, respectively.

~~The CM shall modify this manual as necessary to be project specific.~~ ~~Also,~~ If the MTA contract with the construction contractor conflicts with any requirement of this manual, the contract shall govern. The CM shall notify the MTA of all errors, inconsistencies and omissions that it discovers in this manual. The MTA is entitled to make any corrections and interpretations as it may deem necessary for the fulfillment of the intent of the contract.

DCR	Deficiency Notice
DOT	Department of Transportation
DPM	Deputy Project Manager
EEO	Equal Employment Opportunity
EMC	Engineering Management Consultant (should be revised to GEC)
EPA	Environmental Protection Agency
ESM	Engineering Services Manager
FAR	Federal Acquisition Regulations
FAST	Finance and Administrative Services Team
IOC	Interoffice Correspondence
GEC	General Engineering Consultant
LACMTA	Los Angeles County Metropolitan Transportation Authority
LAFD	Los Angeles Fire Department
MCA	Master Cooperative Agreement
MOC	Deputy Project Manager for Construction
MSDS	Material Safety Data Sheet
MTA	Los Angeles County Metropolitan Transit Authority
NCR	Non-Conformance Report
NTP	Notice to Proceed
O & M	Operations and Maintenance
OCIP	Owner Controlled Insurance Program (Wrap-Up Insurance)
OCS	Overhead Contact System
PAD	Public Affairs Department
PIDS	Platform Intrusion Detection System
PM	Project Manager
PMO	Project Management Oversight
PUC	Public Utilities Commission
PUM	Project Unit Manager
QA	Quality Assurance

LIST OF ACRONYMS

AA	Affirmative Action
AFE	Authorization for Expenditure
AGC	Associated General Contractors
AQMD	Air Quality Management District
ART	Art for Rail Transit Program
ATC	Automatic Train Control
BOD	Beneficial Occupancy Date
CA	Contract Administrator
CAL/OSHA	California Occupational Safety and Health Administration
CAR	Corrective Action Request
CBF	Construction Billing Form
CCR	Consultant Change Request
CCS	Change Control System
CDRL	Contract Deliverables Requirement List
CF11	Change Control: Construction/Procurement Contracts
CM	Construction Manager
CMC	Configuration Management Consultant
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CSEP	Construction Safety Education Program
CSI	Construction Specification Institute
DBE	Disadvantaged Business Enterprise
DCC	Document Control Center

3.0 PROJECT ORGANIZATION

3.1 MTA ORGANIZATIONAL STRUCTURE

The MTA, which is governed by a 13-member board, is responsible for the planning, integration and funding of county-wide transportation services, as well as the long range development of a rail transit and commuter rail network. The MTA prioritizes and authorizes design and construction of the various projects of the county-wide rail transit network. MTA is also responsible for the full evolution of individual rail projects from initial concept through final design, construction and operations. The MTA organization and its relationship to the MTA Construction Division are shown in Exhibit 7.1.

The MTA has seven board committees comprised of members appointed by the chairperson of the MTA Board to oversee staff efforts and to present recommendations directly to the full MTA Board. The committees are:

- Executive Management Committee
- Finance and Budget Committee
- Operations Committee
- Planning and Programming Committee
- Construction Committee
- Cost Containment, Contracts and Efficiency Committee
- Real Estate and Asset Development Committee

The members of the MTA Board appoint a Chief Executive Officer to manage a professional and administrative staff to carry out the project mission among other duties. Under policy direction, the Chief Executive Officer oversees all MTA activities and staff; directs and participates in the development of goals, objectives, policies and procedures for MTA; and oversees strategic planning for programs and future direction. The Chief Executive Officer is also responsible for providing technical, administrative, and operational direction to agency staff, and maintaining communication and coordination with MTA Board members, elected officials, governments and other agencies.

3.2 MTA CONSTRUCTION DIVISION Inconsistent (Typical)

The Metro Construction Division is responsible for the design, construction, and start-up of all rail transit systems within Los Angeles County. The Metro Construction Division develops policies and procedures to carry out the design and construction of all approved Metro projects -- including the Red, Blue, Green and Pasadena Lines.

Metro Construction has a responsibility for the day-to-day program management and control, design and construction management, safety and security, testing and start-up of rail transit projects. Metro Construction is supported by MTA resources for certain functions, such as public affairs, right-of-way acquisition and risk management, and by other MTA divisions.

The Metro Construction Division is comprised of the Executive Officer, professional staff, and consultants. Metro Construction staff is primarily management-oriented and provides day-to-day supervision of design and construction management consultants on specific projects. The Metro Construction Division is structured as a matrix organization in order to provide designated management and technical support to the Deputy Executive Officers/Project Managers while at the same time maintaining a consistent management

1.1 INTRODUCTION

1.0 PURPOSE

The Resident Engineer Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management of Metropolitan Transportation Authority (MTA) projects.

2.0 GENERAL

This procedures manual provides guidance for the RE on matters related to administration of construction/procurement contracts, control of construction/procurement work, and control of the RE's office. Additional key source documents and manuals include the following:

Supplied by the CM:

a. Construction Management Plan
b. Quality Control Manual
c. Quality Control Inspection Instructions
d. Construction Support Policies and Procedures Manual
e. Injury and Illness Prevention Program
f. Emergency Notification Procedures Manual

Supplied by MTA:

a. Change Control System Users Manual
b. Metro Rail File Coding Systems
c. Configuration Management Policies and Procedures
d. Design Criteria Vol. IV Part 1, 2
e. Standard Specifications Vol. VII
f. Standard Drawings Vol. VI
g. Directive Drawing Vol. V
h. CADD Drafting Standards Vol. VIII
i. Fire/Life Safety Criteria Vol. IX
j. Quality Management Procedure

The management philosophy for the Construction Manager (CM), as presented in the Contract Scope of Services, delegates maximum authority for construction management decisions to the REs. This philosophy envisions that the primary role of the CM is to perform the resident engineering function as it relates to the administration and management of the construction/ procurement contracts, to ensure construction of quality facilities and to provide quality management of the construction on behalf of the MTA. The construction management will be primarily focused in the RE offices, ensuring that the RE has or knows where to find the necessary technical and administrative expertise to fully administer all provisions of the contract.

To meet the MTA requirements for project control, project reporting and quality of construction, each RE's office will have support resources for the services of safety overview, scheduling, estimating, cost engineering, contracts administration, and quality control. The Project Controls functions and the Contract Administration functions are organizationally independent from the field construction management functions.

functional managers. The Deputy Executive Officers/Project Managers implement project activities in accordance with policies and procedures established by functional managers in order to ensure systemwide uniformity. The Deputy Executive Officers/Project Managers report directly to the Executive Officer. The following core project team members report directly to the Deputy Executive Officer/Project Manager:

- Deputy Project Manager (DPM) of Construction - The DPM of Construction is responsible for directing construction-related activities of MTA staff and the construction management consultant. The DPM of Construction is also responsible for interfacing with the involved public agencies and assuring that the construction work being performed meets the schedule and quality requirements of the project. The DPM of Construction reports directly to the Deputy Executive Officer/Project Manager and supervises the activities of the construction managers assigned to the project.

- Deputy Project Manager (DPM) of Engineering - The DPM of Engineering is responsible for managing the MTA engineering project support staff and interfacing with the Engineering Management Consultant (EMC). The DPM of Engineering oversees the EMC's work activities and ensures that the project design is performed in a cost-effective manner, consistent with applicable systemwide and project-specific standards. The DPM of Engineering supervises the activities of systems and facilities engineering managers and utility and third-party coordinators.

- Project Control Manager - The Project Control Manager is responsible for overseeing and implementing MTA and project-specific cost and schedule goals, objectives and procedures. The Project Control Manager ensures that the activities of the MTA staff and project consultants are in compliance with MTA's overall program control standards and requirements. The Project Control Manager supervises the activities of cost engineers and schedule engineers assigned to the project.

- Public Affairs Manager - The MTA Public Affairs Manager is responsible for managing the outreach program developed to communicate project construction impacts to residents, business owners, and commuters in the construction areas. Typical assignments include coordinating community meetings to disseminate information and obtain input about the project and its impact on the community, manning project exhibits and displays, responding to complaints and coordinating communications with the media.

- Contracts Manager - The Project Contracts Manager reports to the MTA Construction Director of Contracts and is responsible for planning, organizing, supervising and evaluating project contract staff activities. The Contracts Manager also interfaces with all levels of the project management team and develops methodology for clear and efficient communications with the Deputy Executive Officer/Project Manager, project support staff and consultants. The Contracts Manager supervises the activities of contract administrators who are assigned to work either full-time or part-time on the project.

3.62 ENGINEERING MANAGEMENT CONSULTANT (EMC) should this be changed to GENERAL ENGINEERING CONSULTANT (GEC)

The EMC (GEC) is responsible for all facilities design, civil and systems engineering, equipment systems design and engineering for the project. The services provided over the four phases of the project (preliminary engineering, final design, construction, and testing and operations start-up) generally include, but are not limited to:

approach on all MTA projects. Exhibit 7.2 at the end of this section depicts the MTA Construction Division structure.

3.3 STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)

Caltrans is a state agency responsible for the planning, design, and construction of state-funded highway projects. Caltrans is responsible for the design oversight of the freeway and other segments of the project involving modifications to state facilities. The responsibilities of Caltrans for the project are described in detail in the Master Cooperative Agreement (MCA) between Caltrans and the MTA.

3.4 THIRD PARTIES

Other involved public agencies are those which are located directly along the route. Each city is responsible for design oversight, and in some cases, design of city facilities affected by the project. The responsibilities of each city are described in detail in the Master Cooperative Agreements executed between each city and the MTA. Other third party involvement is outlined in detail in the MTA Project Management Plan.

3.6 ROLES AND RESPONSIBILITIES OF THE PROJECT TEAM MEMBERS

3.6.1 MTA PROJECT MANAGEMENT STAFF

A core MTA Project Management staff is dedicated to each project to ensure that project management goals and objectives are met utilizing resources assigned from the various functional MTA departments and consultants. By mandate of the MTA Board, the MTA core project staff is organized so that day-to-day design, construction and procurement activities are delegated to project consultants.

Project team members, including consultants, report directly to the MTA Deputy Executive Officer/Project Manager on specific project tasks. The directors, project managers, and deputy executive officers of the MTA are responsible for developing overall policies and performance requirements for the development and implementation of rail transit projects. For the project, these policies and performance requirements are communicated by the Deputy Executive Officer/Project Manager to the Deputy Project Managers (construction or engineering) who are ultimately responsible for their implementation and enforcement.

Overviews of the roles and responsibilities of the key MTA project team members are provided in the following paragraphs.

The Deputy Executive Officers/Project Managers are responsible for overall management of the project and for ensuring that management activities are conducted in accordance with the Project Management Plan. The Deputy Executive Officers/Project Managers are responsible for project financial accountability, contract management, schedule adherence, design quality, construction quality, operational functionality, safety, site security, and community relations (public affairs) during design, construction and integrated testing for the project. The Deputy Executive Officers/Project Managers are the primary authority for rail project design, construction, testing, close-out, and transfer to the operating division. The Deputy Executive Officers/Project Managers are responsible for identifying and defining the necessary resources and project team staffing required to manage the project throughout all design and construction phases and for coordinating assignment of the Metro Construction staff and consultants to the project team with the appropriate

- Issue Conformed Contract documents
- Document control coordination.
- Technical document maintenance and protection.
- Document storage and retrieval.
- Correspondence and technical documentation index development.
- Technical reference materials services.
- Procedures manual specification control.
- Document transfer and control procedures.
- Dissemination of project records.
- Document printing and distribution control.
- Document transfer coordination.
- Coordination and tracking of design change orders.

3.6.5 MTA OPERATIONS

The MTA Operations Division will be the system operator. In order to provide input relative to their specific requirements, the MTA has formed an operations and maintenance users group responsible for interfacing with MTA during the design, construction and start-up phases of the project.

3.6.6 OTHER THIRD PARTIES

Other third party organizations involved either directly or indirectly with the Pasadena Blue Line, and their general areas of concern, include, but are not limited to, the following:

- City of Los Angeles - Review of modifications and impacts to city-owned facilities.
- City of South Pasadena - Review of modifications and impacts to city-owned facilities.
- City of Pasadena - Review of modifications and impacts to city-owned facilities.
- County of Los Angeles - Review of impacts to county-owned facilities.
- Catellus Development Corporation - Union Station and Del Mar Station joint use agreements and easements.
- Ratkovich Villanueva Partnership - Review of impacts to private property.
- Southern Pacific Transportation Company - Review of impacts to rail services and facilities. Provide right-of-way at Cornfield Yard.
- Atchison Topeka & Santa Fe Railway Company - Review of impacts to rail services and facilities. Provide right-of-way.
- Southern California Regional Rail Authority - Review of impacts to rail services and facilities.
- Los Angeles City Department of Public Works - Design and inspection of relocated and new city facilities.
- Los Angeles City Department of Recreation and Parks - Provide temporary easements for rail facility construction.

- Perform systems design to a level adequate to solicit design/furnish/install bids and/or proposals from equipment manufacturers/suppliers/builders.
- Perform system/facilities integration and activities necessary to ensure safe and reliable operating rail lines.
- Produce bid documents for overhead contact system (OCS) pole foundations, duct banks, and drainage.
- Support the MTA on technical coordination with outside agencies and utility companies.
- Support the MTA in obtaining permits.
- Provide environmental support and compliance assurance.
- Prepare all construction and design/furnish/install bid documents including addenda and responses to bidders' questions in conjunction with the Contracts Manager (MTA).
- Prepare conformed contract documents.
- Provide bid evaluation support with the MTA and the CM, as requested.
- Work with the CM; provide design support services during construction, procurement and installation phases including shop drawing and submittal reviews, change order evaluations, testing evaluation, and claims evaluation.
- Provide support services during system start-up and activation.
- Support the MTA and the RE in the safety certification process.
- Provide operations and maintenance planning support.

3.6.3 CONSTRUCTION MANAGEMENT CONSULTANT (CM)

The CM is responsible for providing professional construction management services for the project in accordance with the Scope of Services. These services are provided during the final design, construction/procurement/installation and operation start-up phases of the project. The CM organization is addressed in Section 4.0 below.

3.6.4 CONFIGURATION MANAGEMENT CONSULTANT (CMC)

The CMC is responsible to the Construction Division for providing a variety of document control, records management and procedures development tasks in support of the project. During design development, the document coordination and control functions are performed internally by the EMC GEC and are not the responsibility of the CMC.

The CMC performs support services systemwide. The MTA Manager of Records Management is the technical manager of the CMC contract. The services provided by the CMC include, but are not limited to, the following.

The management emphasis will be in the RE offices, ensuring that the necessary technical and administrative expertise to fully administer the provisions of the contract are available. To avoid and control claims, a philosophy of "partnering" will be instilled in the contractors and the entire CM organization. The RE's authority and ability to work with the contractors will be enhanced by providing a reasonable level of approval for field changes, typically $25,000.00.

Project controls, project reporting and construction services will support each RE's office and provide resources for scheduling, estimating, cost engineering, contracts administration and quality. The team will organize for an efficient, effective and professional organization. The CM team organization and the RE Office Organization are shown as Exhibits 7.3 and 7.4. It is the goal of the CM to achieve recognition for excellence from its performance on the project.

The RE is the primary point of contact with the contractor on the assigned contract after the Notice-to-Proceed has been issued. A typical RE office organization is illustrated in Exhibit 7.3. The RE is responsible for managing, administering, organizing, coordinating and inspecting all assigned projects in order to achieve completion of the contract in conformance with plans, specifications and approved schedules. As a representative of the MTA, the RE acts within his authority and in accordance with policies and procedures outlined in this manual, and any other applicable administrative instructions.

4.2 GENERAL CM PROJECT ORGANIZATION

4.2.1 The technical and administrative elements of the CM's project organization provide the necessary resources to support the REs in the performance of their duties. The support services provided by these offices, such as contracts, project control, and quality control are described in other sections of this manual.

4.2.2 Functions that support the field operations include project administration, project controls, scheduling, cost engineering, management information systems, document control, procurement, personnel management, accounting, community affairs, and safety/security.

5.0 RESIDENT ENGINEER'S FUNCTION

5.1 The Construction Manager's (CM) management philosophy places the prime responsibility for each contract with the respective RE. The RE is supported by other CM departments in performing his duties but all contact is made with the contractor through the RE.

5.2 The CM provides a staff of Resident Engineers, Office Engineers and Inspectors responsible for management and inspection during construction. This staff manages the construction contract work for conformance with the contract plans and specifications. The Resident Engineer is responsible for: prosecution of work by MTA contractors in accordance with approved schedule networks; coordination with other interfacing contractors; processing change orders and following procedures established by the MTA. The CM is responsible for implementing remedial action to maintain performance consistent with the MTA's objectives. The RE staff is trained in the areas of MTA procedures including quality and safety.

5.3 During preconstruction activities, the CM has a key responsibility for conceptual review of the design for constructability and interface between dependent contracts, as well as contractual language and specifications, construction schedule compatibility, special

- Los Angeles City and County Fire Departments - Fire and life safety and hazardous waste issues.
- Los Angeles City Police Department and Los Angeles County Sheriff's Department - Security and compliance with noise control.
- California Public Utilities Commission - Safety oversight of light rail transit system.
- Los Angeles Community Redevelopment Agency - Master planning and station design review.
- Los Angeles Department of Water and Power - Relocation of water and power facilities.
- Los Angeles City Department of Transportation - Design and review of work site traffic control plans.
- Los Angeles County Coroner/Medical Examiner - Investigation of human remains, if encountered.
- Southern California Gas Company - Relocation of gas mains and laterals.
- AT&T, MCI, Sprint, Wiltel - Relocation of communications facilities.
- Pacific Bell - Relocation of telephone facilities.
- Access Transmission Services, Inc. (formerly Western Union) - Relocation of telegraph facilities.
- Cal/OSHA - Occupational safety compliance.
- Southern California Edison - Relocation of electrical distribution facilities.
- Pasadena Water and Power - Relocation of water and power facilities.
- American Cablevision, Crown Cable, Century Cable TV - Relocation of cable television facilities.
- Army Corps of Engineers - Activities within the Los Angeles River including temporary construction easements and permits.

4.0 CM ORGANIZATION

4.1 CONSTRUCTION MANAGEMENT PHILOSOPHY

The CM Team shares with the MTA the management philosophy for the project which will delegate to the RE maximum authority for construction management decisions. This philosophy envisions that the CM's primary task is for the Resident Engineer (RE) functions to assure the construction of a quality facility on time and within budget of which the MTA, the EMC, the CM and the cities involved can be proud.

to favor one viewpoint and loyalties are divided. The result is a breakdown in communications throughout the project. The RE can do a great deal to improve this relationship by an appraisal of his/her methods in dealing with the contractor. The RE should readily acknowledge his/her errors and accept full responsibility of the actions of subordinates.

The RE should be as quick to praise competent workmanship as to criticize incompetent work. He/she should at all times be candid, but diplomatic, about the contractor's performance. The RE should always observe the rules of professional conduct, good taste, and common courtesy. These may not seem to be compatible with the atmosphere about a construction project, but such is a false notion. The RE must always act in a professional manner if his instructions are to be respected.

Progress on the work should be regularly checked against the contractor's schedule and the required completion dates. It is quite proper to ask what the plan is to get a delayed portion of work back in step. Critical path scheduling is a contract requirement. A plan to complete all parts of the work on time is essential.

Finally, the RE should accept no gratuities from the contractor. Although such gratuities may seem harmless, their propriety may be questioned at some future date. Further, there is no clear definition as to what is an acceptable gift and what is not. Follow the MTA rules and policies.

5.4 During the project construction phase, the primary functions of the RE involve:

- Protect the MTA's legal interests
- Construction/Procurement contract administration
- Enforce the contractually imposed requirements and obligations
- Construction/Procurement accomplishment in accordance with the contract documents, good construction, and sound safety practices
- Construction/Procurement completion on schedule and within budget
- Proper documentation, negotiation, and processing of all charges, changes, claims, and backcharges. Any change notice (CN) might deteriorate to a time and materials issue. It is important to collect the data as a situation develops rather than trying to reconstruct a position.
- Processing of progress payments in a timely manner, ensuring progress payment files contain sufficient backup to support payment
- Performance of required field quality control surveillance and inspections to ensure constructed and procured items comply with plans and specifications.
- Coordination and interface with the MTA Quality Assurance and Safety Departments
- Initiation of the project Emergency Response Plan
- Coordination and processing of Requests for Information and design changes
- Coordination with third parties, California Department of Transportation, public utilities MTA consultants and others.

The RE is responsible for managing contractor submittals, for conducting review of submittals with the EMC and third parties as required and for tracking the approval

construction-related contractor requirements, claims avoidance assessments, and value engineering studies.

5.3.1 Well in advance of construction, the RE should study the plans and specifications and become thoroughly familiar with them. Any necessary clarification should be sought from those responsible for the design through the EMC or general engineering consultant. If there is any question on the limits and quantities of the project, discussions with the MTA and the EMC or general engineering consultant to establish the owner's position should be held as soon as possible.

A preliminary schedule of operations obtained from the contractor will permit the RE to schedule the number and type of personnel ~~he/she~~ will ~~need~~. Any necessary special training of personnel can be started, and the equipment necessary to properly inspect the project can be procured.

The contractor should be asked to discuss in detail the methods of construction he intends to use in each operation. His primary interest is in reducing costs and expediting the project. The RE is interested in quality construction as well as in expediting the project. These goals are not necessarily incompatible and every attempt should be made to find the construction procedure that will attain both. This is not as difficult as it appears.

It should not be taken as an affront by the RE when experienced construction (contractor) people offer excellent alternative ideas. Many times a less expensive procedure will actually add to the quality of the project. It will increase the contractor's confidence in the RE and strengthen their relationship if suggestions are considered. Any suggested change to the design documents must be processed in accordance with change control procedures.

During construction, the RE should make every attempt to resolve problems as soon as possible. It is true that answers given too quickly usually create more problems than they solve. But it is also true that answers delayed unnecessarily are equally harmful, even if they appear to give an impression of thoughtfulness. When a contractor is losing money due to wasted time, ~~his~~ interest in quality diminishes, ~~his~~ relationship with the RE deteriorates, and ~~he will~~ attempt to conceal future problems. Regardless of the above, ADHERENCE TO CONTRACT DOCUMENTS is mandatory.

The rule should be that a problem will be diligently pursued until a solution is clearly indicated. This will serve the interests of all persons concerned. Also, the RE should keep abreast of the contractor's problems. Job personnel often operate on a day-to-day basis with inadequate planning of details of the next day or week of work. A simple question about the plan for some operation, asked well in advance, will alert the contractor's forces to any special needs.

If it will not affect the quality of the project, the RE should volunteer ideas that will aid the contractor. This will have the two-fold effect of expediting the contract and helping to place the RE and contractor on a partnership basis. However, the RE must be careful not to consider the contractor's problems as his own. He/she should not try to run the job or tell the workmen what to do. A good approach may be, "Have you thought about..." or "Did you read in...about..."

The relationship of the RE and the contractor is as important to the quality of the project as any other single factor. When a poor relationship exists, personnel on the project tend

- Implementing claims mitigation and claims resolution actions
- Surveillance of in-process work and final acceptance testing through witnessing and documentation review
- Assisting MTA in maintaining a highly visible safety program
- Monitoring and reporting contractor compliance with federal, state, and local government requirements
- Coordinating survey work performed by CM surveyors and surveying consultants for the project
- Coordinating utility work for the project
- Receiving and approving all operations and maintenance manuals prepared and submitted by contractors and/or suppliers
- Processing and coordinating responses for the interpretations of contract documents and requests for information from contractors
- Coordinating movement of Client-supplied equipment and material to jobsites
- Recommending construction techniques to expedite the project
- Monitoring contract compliance with environmental requirements
- Recommending "off-hour" construction, when desirable
- Managing the performance or operational and startup tests and runs of equipment, including tests to verify the compatibility of related systems
- Receiving, controlling and disposition of spare parts
- Providing support for training of operational personnel
- Providing support in the verification of reliability requirements set forth in systems specifications
- Enforcing warranty provisions set forth in system specifications during the life of the contract
- Implementing a specification conformance checklist
- Managing the contract closeout process
- Responding to community-related complaints and assisting in mitigation of impacts
- Supervising coordination and installation of Art~~work~~ for Rail Transit (ART)
- Coordinating the application process to secure required permits

process of submittals within the time frame specified in the contract documents or earlier. The RE will maintain the submittal status tracking system.

The RE will also ensure that all contract deliverables are properly documented and promptly processed. These construction/procurement contract deliverables include, but are not limited to, submittals (i.e., shop drawings, working drawings, vendor data, calculations, etc.). As specified in the technical specifications of the contract, these deliverables include:

- Quality control plans
- Construction Work Plans
- As-builts/redline drawings and specifications
- Testing Plan
- Contractor Construction Schedule (Contract Schedule)
- Safety and Security Plan
- Value engineering change proposals
- Master list of submittals
- Claims
- Progress payment requests
- Safety certification documentation and supporting data

As the authorized representative of the Client, the RE's responsibilities include:

- Coordination of all construction/procurement activity, including interface between contracts and follow-on contractors

- Management of construction management forces

- Documenting, verifying, and reporting contractual progress

- Management of contract documentation

- Monitoring contractor progress against the approved schedule and obtaining work-around plans

- Working with contractor to develop and implement corrective actions to mitigate delays

- Reviewing specific types of contractor submittals for content and format. Processing appropriate submittals to and from contractors and the reviewing entity (normally) the ~~Engineering Management Consultant (EMC)~~ General Engineering Consultant (GEC)

- Implementing, facilitating and managing the change control process, including processing valid contract Change Orders and extensions of time. If conditions and responses are not documented in a timely manner, the clients position is severely weakened and excess costs may be incurred.

- Issuing contract Noncompliance Reports (NCRs) and implementing corrective action

- Maintaining contractor deficiency lists

- Assessing contractor requests for extra payment and initiating approval actions for valid claims

and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive Officer/Project Manager as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.6.2. CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other RE's should not be contacted directly but only through the RE in charge of that contractor's work. The normal chain of command shall be respected at all times.

5.6.3. CONTACT WITH THE MTA

The RE maintains both formal and informal communication with the MTA. Authorized representatives of the MTA, federal, state and local governments shall at all times have full access to the work being performed by or under the responsibility of the RE.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing informal line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections portions of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

5.5 THE RESIDENT ENGINEER'S JURISDICTION

The RE is the field representative of the Construction Manager to administer the contract specifically assigned. An Office Engineer, Inspectors and a secretary will assist the RE in administering the Contract on the jobsite. Other expertise can be made available as needed.

Normal day-to-day contact and correspondence with the contractor shall be through the RE except for the following specific contract actions which are conducted directly between the MTA/ and the contractor:

- Notification of Award
- Notice-to-Proceed (NTP) with Contract
- Monthly payment processing
- Rendering of Final Decision in Contract Disputes
- Final Acceptance of the Work
- Submission of DBE Reports
- Bonding and Insurance Issues
- Escrow Agreement

The RE shall maintain copies of the above items except DBE reports and the Escrow Agreement in the Field Office Contract files.

The RE will monitor the progress of the Work and all questions regarding the acceptable fulfillment of the construction contract by the contractor. The RE's approval will be contingent on inspection and approval by regulatory agencies, where applicable.

The RE will maintain a good rapport with the public and will work with the contractor and the MTA Public Affairs Department to minimize adverse impacts of construction operations on the public.

The RE will determine the value and quantity of work performed and materials which are to be paid for under the contract when approving progress payments. The project office scheduler will assist in this determination.

5.6 RESIDENT ENGINEER INTERFACES

The Resident Engineer interfaces and corresponds with many project participants on both a formal and informal basis. All correspondence generated by the RE shall be serialized in accordance with MTA identification numbers and acronyms in accordance with Document Control Section 3.4 of this manual. The following are interfaces maintained by the RE including definition of appropriate lines of communication.

5.6.1. CONTACT WITH THE CONTRACTOR

The RE shall be the primary contact with the contractor. Contact with subcontractors or vendors shall only be made through the contractor.

With the exception noted in Section 5.5 above, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies),

(3) Labor Compliance Analyst - The Labor Compliance Consultant contracted by the MTA for labor compliance monitoring of the project may enter the construction site according to the following procedures:

- The labor compliance staff shall sign in at the RE's office and obtain clearance to go on the site.
- The RE is to ensure that the labor compliance staff are properly equipped for safety such as hard hats, boots, etc.
- The RE shall make the judgment whether they should be accompanied, depending on the nature of their visit to the site.
- The RE is to make the contact with the contractor.

5.6.5 VISITORS

The RE should prohibit unnecessary visits to the construction site due to safety and liability considerations. Official tours will be arranged and scheduled through the MTA. The RE is responsible for notifying the contractor and the Project Manager of all scheduled tours.

The RE shall extend all courtesies and cooperation to, and shall arrange for escort of, all official visitors through the jobsite. Records, charts and reports should be current and available for review.

The RE shall maintain a Visitor's Register Log (Exhibit 7.5) to be signed by visitors to the RE's office. A visitor for this purpose is defined as any party not employed by the Construction Manager or its subconsultants and not specifically assigned to the jobsite.

All visitors shall also be required to sign a Visitor's Release and Hold Harmless Agreement (Exhibit 7.6) before entering any hard hat area, with the exception of the visitors listed below:

1. Employees of the MTA , including Labor Compliance and OCIP Administrator representatives.
2. Employees of the ~~Engineering Management~~ General Engineering Consultant and their subconsultants.
3. Employees of the Construction Manager.
4. Representatives of work forces of affected utilities, railroads, cities, county, state, federal, and other bodies performing work under MTA Master Cooperative Agreements.
5. Cal/OSHA representatives.
6. Employees of the PMO/ consultant.

(6) The RE will provide assistance to the MTA Public Affairs Manager who will coordinate person-to-person contact with local residents and merchants to alleviate potential problems associated with construction in community ~~areas.~~

(7) MTA Third Party Coordinator - The RE shall work with the Third Party Coordinator to establish and maintain harmonious working relationships with all railroads, utilities, service companies and governmental agencies that are affected by or otherwise involved with the project. The CM provides an assistant to the MTA (Third Party Coordinator) whom the RE's should first contact to assist them in third party issues.

The MTA will negotiate project-related agreements with railroads, utility or service companies and governmental agencies. Copies of these agreements will be provided to the RE. The RE shall review the design documents and monitor the construction work to ensure that the terms, conditions, and covenants in these agreements are met. Conflicts with the contractual requirements will be discussed and resolved with the Project Manager.

Whenever possible Utility/Agency rearrangements to accommodate construction will be accomplished in advance. In the event the rearrangements are performed simultaneously with the contract work, the RE shall encourage the contractor to cooperate and coordinate with the forces or agents of the utilities. The RE will not be responsible for the progress and completion of construction work performed and inspection services rendered by affected agencies but should verify the utility work impacting the RE's project. However, the RE should consult with the Project Manager whenever it appears that an unreasonable amount of inspection or work force manpower is being used by the affected agencies, or their work is adversely affecting the Facilities/Systems contract.

If the RE decides that formal written correspondence to the MTA is required regarding third party issues, he/she shall discuss the matter with the Project Manager who may prepare a letter or ask the RE to prepare one for the Project Manager's signature to the MTA. .

Any request or directive by representatives of the MTA or other governmental agencies, utilities or railroads, which may adversely impact the contractor's and/or the CM's performance or may be a change in contract scope or schedule, shall be reported immediately to the Project Manager. He/she will then advise the RE as to the appropriate course of action.

5.6.4. CONTACT WITH CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Rail Transit Project. The RE shall cooperate with all consultants on the project as follows:

(1) General Engineering ~~Engineering Management~~ Consultant (GEC ~~EMC~~) - The RE shall maintain an ongoing working relationship with the GEC ~~EMC~~ Project Unit Manager (PUM) assigned to his/her contract. Any correspondence regarding design issues shall be directed to the EMC/PUM. Correspondence addressing design issues affecting more than one contract must be directed to the GEC EMC/PUM in a letter signed by the Project Manager.

(2) Owner Controlled Insurance Program Administrator (OCIP) - The RE shall transmit all required forms or information regarding the OCIP Insurance Program and Construction Safety Survey forms to the OCIP in accordance with the MTA procedures.

(8) MTA Chief Estimator – The RE maintains informal contact with the MTA Chiefs Estimator on issues that effect valuation of contract changes. The RE assures that copies of all R.O.M., Fair Cost and Contractors Proposal estimates to the MTA Chiefs Estimator for analysis and comment. All overhead/Exceptional/direct costs are to be submitted for MTA Estimating's review prior to disposition.

6.0 AUTHORITIES

6.1 OWNER'S AUTHORITY

The MTA Board is the authority to set policies, provide funds, provide formal contact with the public and high-level agencies, and approve Change Orders over $200,000, and all time extensions. Any change order whose amount leads to the total contract amount exceeding the budget must be approved by the MTA Board in advance of the change being issued.

The MTA staff is responsible for daily project related contact with the public, utilities, third parties, and other agencies; control of design and construction of all rail projects in Los Angeles County; approval of all Change Orders over $50,000 but at or less than $200,000, and authority to extend the duration of individual contracts, or the project completion date.

6.2 CONSTRUCTION MANAGER'S AUTHORITY

The CM, as delegated by MTA's Contracting Officer, has $50,000 change approval and execution authority for Contract Change Orders, but no authority to approve time extensions.

6.3 RESIDENT ENGINEER'S AUTHORITY

The RE, as delegated by the CM, is the authorized representative of the Contracting Officer charged with the professional administration of the construction/procurement contracts. As such, the RE is the focal point for on-site construction management activities and is the primary point of contact with the construction contractor during the construction phase.

If serious or life threatening conditions exist that require immediate corrective action, the RE has the authority to shut down the work until such time as the condition is corrected.

The RE may issue a suspension of work order in any situation when on-going work is not in compliance with contract requirements.

The RE has change approval and execution authority, with restrictions established by AB1869, for contract Change Orders with a cost impact of up to $25,000. The RE has no authority to change the contract period of performance or baseline provisions. (See REP 6.5 - Change Process.)

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	MTA Organization
7.2	Construction Division Organization Structure
7.3	Construction Management (CM) Organization
7.4	Resident Engineer Organization
7.5	Visitor's Register Log

5.6.6 COMPLAINTS

The RE will give proper attention and endeavor to satisfy any complaints made by the public. As the on-site representative for the project, it is the RE's responsibility to enforce Contract requirements and thereby minimize or mitigate complaints.

Complaints will be based generally upon the following types of occurrences:

- Noise, vibrations, obstructions
- Dusty, wet, and unsafe conditions
- Disruption to pedestrian or vehicular traffic

Most complaints will be received via the MTA's 620-RAIL telephone number. However, should the RE receive a complaint from the public, he should endeavor to satisfy the party promptly and provide notification to the MTA Public Affairs Manager. The circumstances surrounding the complaint should be reported on a Complaint Form (Exhibit 7.7). Any corrective actions to be taken by the contractor should be noted on the form. The RE should then sign and date the form, retain the original and fax a copy to the PM and to the contractor and MTA Public Affairs. In the event the RE requires assistance with the complaint the assistance should be requested on the form.

In the event of emergency situations, the RE shall contact the PM by telephone in advance of initiating the Complaint Form. Consult the Emergency Notification Procedures Manual Revisions Level 3 for additional detail.

5.6.7 CONTACT WITH THE NEWS MEDIA

All news media questions shall be politely referred to MTA Public Affairs at (213) 922-2222. If direct contact cannot be avoided, such as during an emergency, the RE shall limit any required response to, "Until the facts of the matter are determined, there isn't anything I can say, the MTA will provide all media responses".

In the event that the Resident Engineer is contacted by a representative of any media/press organization in person or on the telephone, the following action should be taken:

- Request the reporter's name, telephone number, name of publication and reason for calling.

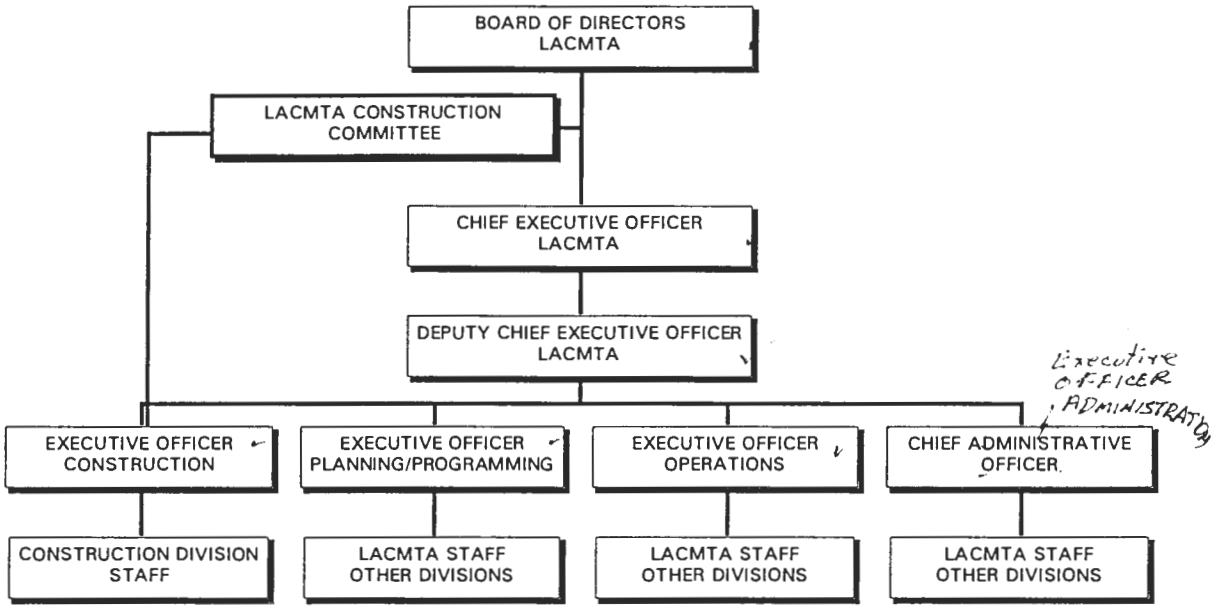
- Indicate to the caller that the MTA is the appropriate agency to respond to their questions.

- Refer the caller to the MTA Assistant Deputy Director of Public Affairs at (213) 922-2222.

- Call the PM with the information, who will in turn notify the MTA DEO/PROJECT MANAGER IF HE/SHE DEEMS IT NECESSARY.

Exhibit 7.1

MTA ORGANIZATION



check this chart. Is it current

7.6 Visitor's Release and Hold Harmless Agreement
7.7 Complaint Form

Exhibit 7.3

CONSTRUCTION MANAGEMENT

A (CM) ORGANIZATION
(TYPICAL)

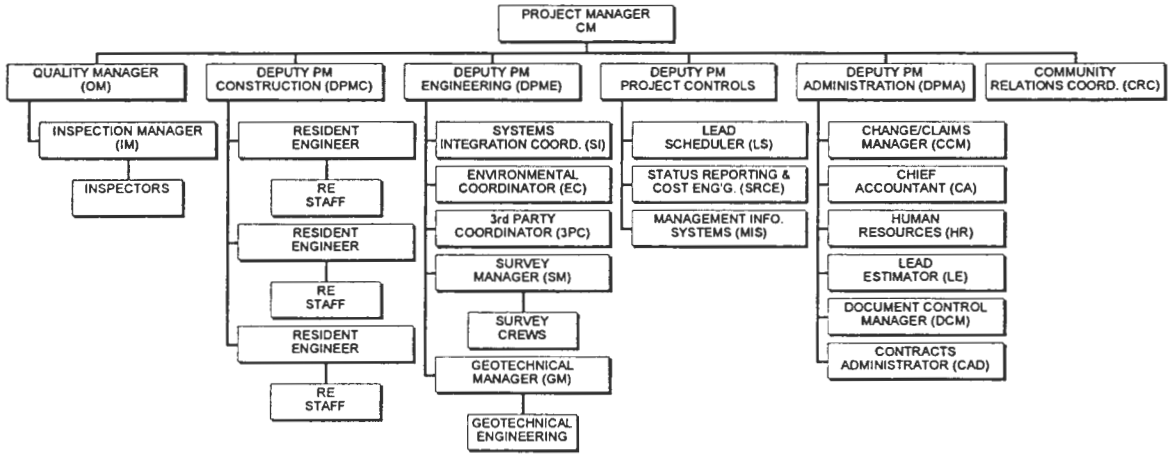
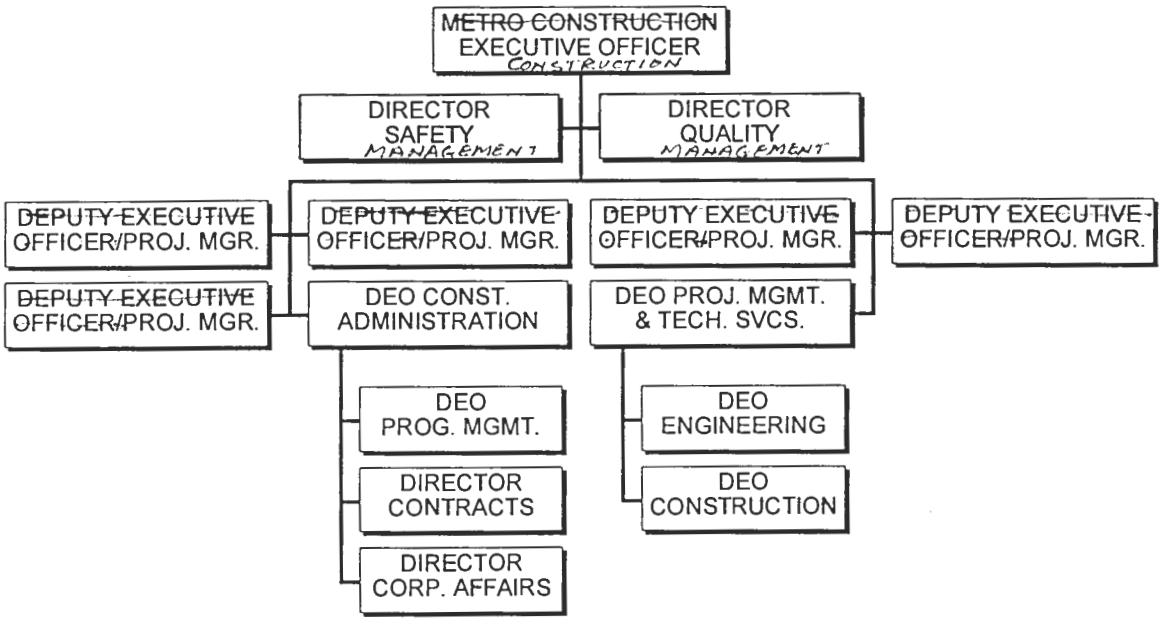


Exhibit 7.2

CONSTRUCTION DIVISION ORGANIZATION STRUCTURE



This doesn't match Org Chart published in MTA REPORT January 1996. Is this chart current

Exhibit 7.5

VISITOR'S REGISTER LOG

CONTRACT NO.	PRINT NAME	SIGNATURE	AFFILIATION	PERSON TO SEE	TIME IN	TIME OUT

FORM #____

Exhibit 7.4

RESIDENT ENGINEER'S ORGANIZATION (TYPICAL)

Should this be the Quality manager as in REP 3.1 Exhibit 7.1

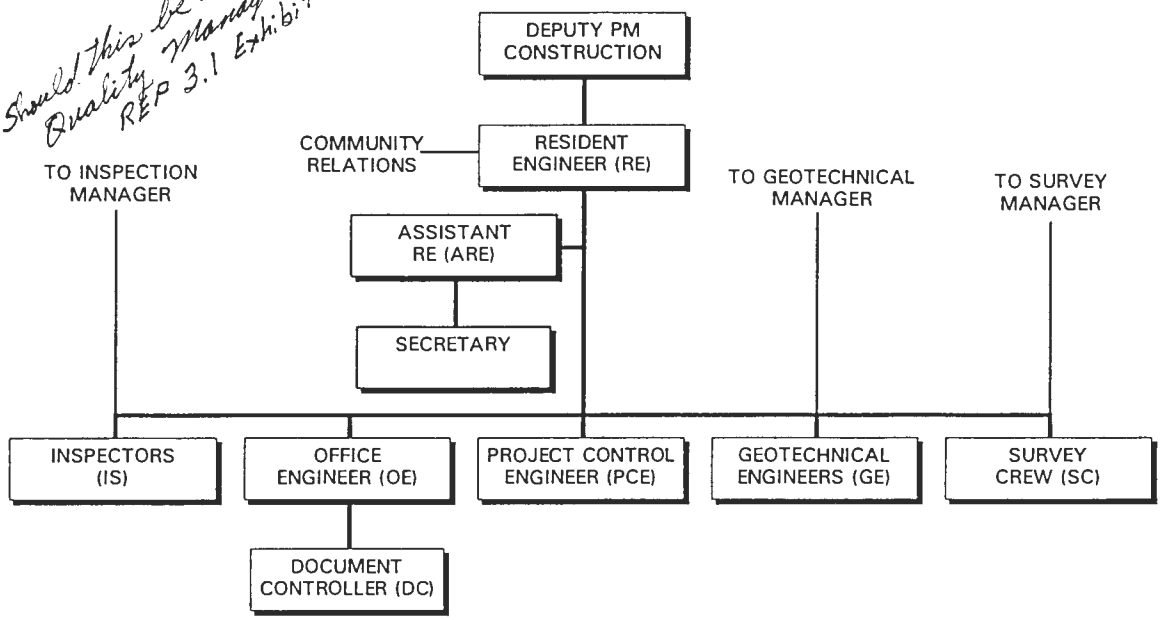


Exhibit 7.2 (Continued)

SPECIFICATIONS

Factor	Review Response		Comments
1. Are specifications written in clear, easy-to-understand language?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
2. Are the specifications clear regarding methods of measurement and payment?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
3. Are specifications clear regarding noise limitations, dust control, muck removal, work hours, etc.?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
4. Are specifications clear regarding optional items? Is a bid ~~always~~ required for all such items?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
5. Are unit prices required for unknown or variable quantities?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
6. Are specifications consistent with traffic maintenance scheme shown on plans?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
7. Do specifications clearly define what is and is not included under "miscellaneous metals"?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
8. Do specifications clearly define terms for "value engineering" proposals?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
9. Do notes on drawings repeat or conflict with specifications?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
10. Is there a separate payment item for each structure to be underpinned?			
• At facility interface	Yes	No	_____
• At system interface	Yes	No	_____
• At utility interface	Yes	No	_____
22. Are the specifications clear regarding methods of measurement and payment for changed quantities in both unit price and lumpsum items	Yes	No	_____

Factor	Review Response		Comments
11. Are shear keys shown, where required? Is the sequence of concrete pour shown for forming the key correctly?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
12. If the support system is complicated, such as a slurry wall, has it been adequately detailed by the designer?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
13. Has the finish schedule been examined for contradictions?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
14. Are contract limits clearly shown?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
15. Are there value engineering alternatives that would substantially reduce construction cost for the project?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
16. Are provisions for future station entrances addressed by the project station contract drawings, including all pertinent sub-outs and interface requirements?			
• At facility interface			
• At system interface	Yes	No	
• At utility interface	Yes	No	
	Yes	No	
17. Are masonry and concrete openings indicated and dimensioned on structural drawings and coordinated with architectural and HVAC drawings?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
18. Are all embedments, block outs dimensioned located and coordinated?			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
19. Are systemwide contractual interfaces addressed, referenced and detailed on the drawings.			
• At facility interface	Yes	No	
• At system interface	Yes	No	
• At utility interface	Yes	No	
20. Are Soils/Geotechnical conditions adequately and accurately identified *	Yes	No	

5.0 PROCEDURE

5.1 In addition to assisting the Insurance Administrator, OCIP, and MTA, the Resident Engineer shall maintain detailed photographs of the outside of structures within the limit of his contract. These photographs will be logged with film strip number and date of development. Direct date coding on negatives by cameras is recommended. Refer to the "Construction Photographs Procedure" of this manual for further instructions.

- Photographs of all improvements to be replaced, trees with size scale, fences, etc.
- Photographs showing condition of sidewalks, driveways, buildings, store windows, light posts, alleys, etc.

5.2 The use of video is a highly recommended *supplement* to the photographic records.

5.3 These photographic and video records should be available for CM use for future reference. CM shall deliver these records to MTA as part of project close out.

6.0 REFERENCES

None

7.0 EXHIBITS

None

2.3 PRECONSTRUCTION SURVEYS

1.0 PURPOSE

This procedure establishes the guidelines for monitoring and verifying preconstruction surveys, which are managed by the Insurance Administrator part of the Owner Controlled Insurance Program (OCIP). It also establishes guidelines for maintaining a Resident Engineer's office photographic record of preconstruction conditions.

2.0 GENERAL

2.1 Buildings and other major structures such as bridges, overpasses, tunnels, sewers, storm drains, utilities, and adjacent properties (e.g., commercial, industrial, and residential) located on or adjacent to the alignment of the Project are surveyed by the Insurance Administrator with support from the Construction Manager (CM), before construction begins. These surveys are documented to provide the MTA with a record of the condition(s) of buildings and other major structures on or adjacent to the alignment. Surveys are performed by subcontractors to the Insurance Administrator.

2.2 Buildings, utilities, and other related structural improvements which are located in the vicinity of or adjacent to a heavy construction project are subject to possible damage as a result of de-watering, pile driving, blasting, excavation, tunneling, and various other construction processes. Since structural improvements suffer some degree of natural deterioration and settlement, regardless of age, it is necessary to identify, record, and catalog such pre-existing conditions in the vicinity of project sites prior to the start-up of heavy construction in order to minimize CM and MTA liability for alleged damage which actually existed prior to construction operations.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 The Insurance Administrator is responsible for managing preconstruction surveys. The Insurance Administrator is responsible for compiling full and summary reports of results for all preconstruction surveys. The reports are available for review by the Resident Engineer or his designee.

4.2 The CM assists with performance and coordination of the preconstruction survey activities conducted by the Insurance Administrator consultant and MTA. Support for other surveys may be requested by MTA, such as:

- Asbestos assessment
- Underground oil or gas
- Buried fuel tanks or contaminated soils
- Geotechnical conditions
- Utilities surveys

R.E.'s responsibilities are not defined

for monthly progress meetings, etc.

5.2 Wall Displays: The Resident Engineer may display on the Field Office wall: schedules, graphs, charts, photos, and other visual aids to provide a graphic display of project progress. The wall display may include, but is not limited to:

- Current Schedule of Contract Milestones (Overall Summary Schedule)
- Actual Progress vs. Scheduled Progress Chart
- Safety Performance Chart
- (Systems Only) Systems schedule showing all contract schedules within the system and how these fit in the overall schedule

5.2.1 Modified Level II schedules: The Cost Engineer and Scheduler usually prepare this chart by extracting summary data from the Contractor schedules.

5.2.2 System Diagram, with full map, showing all contracts

5.2.3 Other displays such as isometrics of stations, site plans, etc.

5.3 Telephone Service: Telephone service should be adequate and within reasonable costs, tailored to the organizational structure. Personal phone calls will be held to a minimum and charged to the employee's account.

5.4 Security: The field offices will be locked and secured when unattended or during off duty hours. The Resident Engineer will be responsible for issuing keys to the offices. Keys will be assigned only to personnel requiring access during off-duty hours. Access to files will be limited. Contractors may not have access to any files.

5.5 Working Hours And Overtime: The working hours and schedule will be coordinated with the Contractor. The schedule will follow the Contractor's field force schedules and office hours. Overtime will normally require advance approval by the Resident Engineer unless, in the Resident Engineer's opinion, a last minute decision for overtime does not allow for advance notice.

5.6 Office Conduct: Members of the Resident Engineer's staff will conduct themselves in a professional manner and present a courteous and helpful attitude to the Contractor, MTA and outside agencies or visitors

5.7 Courier Service: Arrangements for pickup and delivery will be made with Document Control for daily service.

5.8 Property: The Resident Engineer will maintain a property accountability log to ensure control of property. Need an exhibit of this log

5.9 Technical Library: A technical library will be set up and maintained by the Document Control Department to assist the field office staff. The technical library will be located with the Document Control Department. It shall consist of reference volumes containing codes and industry standards, technical manuals, procedure manuals, and other project related support documents.

5.10 Office Equipment: A typical list of equipment to be furnished by the Contractor is attached as Exhibit 7.2. Any equipment beyond that listed is to be requisitioned through

Office Equipment, Furnishings and Supplies

3.1 OFFICE ADMINISTRATION

1.0 PURPOSE

Procedures applying to field office administration will conform to those accepted as good business practice. The items covered in this procedure are for Resident Engineer's office administration only and will not impact other specific procedures such as Document Control.

2.0 GENERAL

2.1 The Resident Engineer manages the field office staff which typically consists of an ~~office engineer, a chief inspector, an inspector and a secretary~~ the organization indicated in REP 1.1 Exhibit 7.4 RESIDENT ENGINEER'S ORGANIZATION. The Project Manager's office provides the technical expertise needed to support the Resident Engineer in scheduling, estimating, cost control, office administration, contract administration and document control. An organization chart that shows this relationship is attached as Exhibit 7.1

Why not refer to REP 1.1 and eliminate this exhibit?

2.2 This procedure relates to the following:

- Office Layout
- Wall Displays
- Telephone
- Security
- Working Hours and Overtime
- Office Conduct
- Courier Service
- Property
- Technical Library
- Action Item List
- Office Equipment, and Furnishings and Supplies
- Computer Equipment
- Transportation
- Communication Equipment
- Petty Cash Fund

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

Unless otherwise indicated, the Contract Document Specifications require the Contractor to provide field office furnishings and equipment for the use of the Resident Engineer. While this is the responsibility of the Contractor, the Resident Engineer is responsible for the administration of the office.

5.0 PROCEDURES

5.1 Office Layout: The office layout should be conducive to both a working environment and a display/visitor motif. The office should contain photographs and graphics of project achievements. The Resident Engineer should have a private office for small meetings, locked file cabinets adequate for the storage of confidential files, and a conference room

approvals, and submit the Expense Report with attachments to Project Accounting for reimbursement. The amount submitted fore reimbursement and the balance forward should equal the original beginning amount of the petty cash fund.

5.14.5 If an increase is needed for the petty cash fund, a check request will be completed and submitted to Accounting for reimbursement.

6.0 REFERENCE

None

7.0 EXHIBITS

Exhibit	Title
7.1	Resident Engineer Office - Organization Chart
7.2	Equipment List Example
7.3	Supply Request - Sample (Form #___)
7.4	Request for Check - Sample (Form #___)
7.5	Petty Cash Receipt (Form #___)
7.6	Petty Cash Expenditures (Form #___)

see notes on org chart

the Deputy Contract Manager. The furnishing of clerical supplies is the function of theContract Administration Secretary. A Requisition Form (Form #___) for clerical supplies is shown as Exhibit 7.3

5.11 Computer Equipment: The Resident Engineer and the Deputy Project Manager will determine what computer equipment is needed. The Deputy Project Manager will initiate the procurement procedures to supply the equipment. Computer equipment and software must be compatible with the MTA's equipment and software. Coordinate with MTA prior to purchase.

5.12 Transportation: At the outset of the Project, the Resident Engineer, as a minimum, will be provided one automobile for business use. Gasoline credit cards are assigned to the Resident Engineer to be used for fueling the vehicle. Maintenance and service is provided through the Contracts Department. If need is adequately demonstrated, additional vehicles may be assigned to the field office and assigned by the Resident Engineer. The Deputy Project Manager will approve all requests for additional vehicles.

5.13 Communications Equipment: The Resident Engineer will be provided an electronic pager, with the pager number listed on the Project Telephone Roster. Two way radios will be assigned the Resident Engineer for distribution to the inspectors on the Project.

5.14 Petty Cash Fund: Petty Cash is intended to be used for expenditures of $25 or less. Expenditures over $25 must have the approval of theResident Engineer. Petty Cash expenditures are reimbursed at the discretion of the Resident Engineer.The petty cash fund will not be used for the following:

- Travel advances
- Capital assets expenditures
- Contract labor expenditures
- Expense report reimbursements
- Payroll disbursements or advances
- Non-business related expenditures

5.14.1 To establish a Petty Cash fund, the Resident Engineer submits a check request to project accounting (Exhibit 7.4)

~~5.14.1 A petty cash fund is established by obtaining approval of the cognizant Resident Engineer,~~ The Project Accounting officer issues a check tothe designated petty cash custodian for a predetermined amount of the petty cash fund.

5.14.2 The petty cash custodian will maintain a Petty Cash Expenditures and Requests for Replenishment Form; recording date and beginning amount, expenditures, and running balance. (Exhibit 7.6)

Can this be combined with 5.14.4?

5.14.3 Petty cash should not be issued without a receipt. The petty cash custodian completes a Petty Cash Receipt (Exhibit 7.5) to initially disperse cash to an employee/payee. Upon completion of each transaction, the petty cash custodian should obtain the vendors receipt from the employee/payee and attach the receipt to an 8 1/2" x 11" sheet as supporting documentation to reimbursed the petty cash fund.

5.14.4 When requesting reimbursement, the petty cash custodian will complete the Petty Cash Expenditures (Exhibit 7.6) and Request for Replenishment Form and receipts, obtain

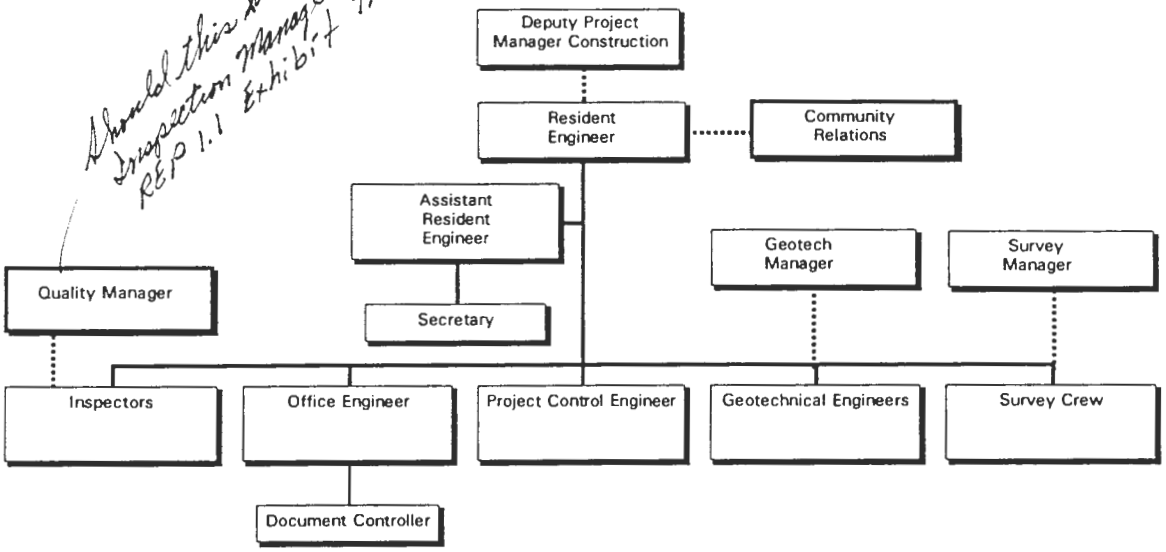
Exhibit 7.2

EQUIPMENT LIST EXAMPLE

QUANTITY	DESCRIPTION
6	Double pedestal desk, InterRoyal Model 6260BA-3F/6827GL/6808
1	Single pedestal desk, Steelcase Model 8260PA-3F 882 GL 804 2L23F
1	Secretarial posture chair, InterRoyal Model 2009-35
1	Drafting table with drawer, Hamilton Model 43J2
1	Drafting stool on casters, Royal Model 668TC
9	Reference tables, InterRoyal Model 66030-3
4	Swivel arm Chair, Inter Royal Model 6001BCS
20	Stack chair, Liting Model 1501X1
3	Bookcase, Adopto Model BC82
4	Five drawer lateral file, InterRoyal Model 51536L-AAJJJ
3	Metal utility cabinet with lock, (18" x 36" x 72")
1	Coat rack (12coats), Lyon Model 5947
6	Desk Lamp, Flex-arm Model 4444
2	Bulletin board (72" x 48"), metal edge
2	12-stick plan racks
1	Chalkboard and stand (36" x 60")
8	Waste basket
2	Tri-class dry chemical fire extinguisher, 8-1/2 pounds, classification 2-A 10 BC, including service.
1	First aid chest, OSHA approval, Zee Medical Products Company, Irvine, CA 92717, with maintenance and supplies
1	Typewriter, IBM Selectric II, with maintenance and supplies
1	Calculator with tape, Sharp Model CS 2182, with maintenance and supplies
1	Copying machine with maintenance and supplies, Savin Model 760
1	Table or stand to support copying machine
4	Fireproof file four drawer legal Victor Model 44412, 1LX
1	FAX machine with maintenance and supplies

Exhibit 7.1

RESIDENT ENGINEER OFFICE - ORGANIZATION CHART



Should this be the Inspection Manager as in REP 1.1 Exhibit 7.4

If these positions aren't all in the RE's office, a separation should be made to indicate such. Para 2.1 indicates part of this staff is not in RE's office

Do we need this? If is same as REP 1.1 Exhibit 7.4.

Exhibit 7.1

Description:	Contract No.
Contractor:	Status as of:

Progress /Work Completed:	**Areas of Concern:** **Schedule Assessment:**

Scheduling Summary:

	Original Contract	Time Extension	Current Contract	Contractor Forecast	Variance CD
Date of Award:					
Notice to Proceed:					
First Chargeable Day:					
Original Contract Duration:					
Current Contract Duration:					
Elapsed Time from FCD:					
% of Current Contract Duration:					

Cost Summary: $(,000) No.

1. Award Value:
2. Approved Change Orders:
3. Approved CPCNs:
4. Current Contract Value (1 + 2 + 3):
5. Pending Changes:
6. Potential Changes/Claims:
7. Current Forecast (4 + 5 + 6):
8. Incurred Cost:

3.2 MONTHLY STATUS REPORT

1.0 PURPOSE

This procedure describes the reports that the resident engineer (RE) is required to generate and outlines the data requirements for each report.

2.0 GENERAL

Since each contract is different, the REs will find that some of the following reports will ~~have to be customized for their particular contracts.~~ leave room

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

The REs are responsible for ensuring that the information they submit for the Project Manager's Monthly Status Report (refer to Exhibit 7.1) is accurate. For a discussion of the inspector's Daily Inspection Report, refer to CM Inspection Instructions.

5.0 PROCEDURE

The RE will submit a Monthly Report to the Reports Coordinator within 3 working days after the close of the reporting period (i.e., by noon of the last Friday of the month). The Monthly Report should consist of accurately updated information as outlined in Exhibit 7.1.

The Schedule and Cost Summary data should be verified by the project control engineer. The RE reviews all monthly report data and submits it to the Reports Coordinator for comprehensive incorporation and editing before inclusion in the Project Manager's Status Report.

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Project Manager's Status Report

5.1.4 The diary should be sufficiently detailed to be used as a reference by construction management review teams or the MTA. Specific names, dates, locations, and other variables affecting the decision-making process at the worksite should be noted.

5.2 TELEPHONE LOG

The RE shall document significant telephone calls in his/her diary. Significant telephone calls shall be logged on the Telephone Call Register, Form #__ (Exhibit 7.1). Telephone calls that include agreements or negotiations must be documented with follow-up letters.

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Telephone Call Register (Form #__)

3.3 DAILY DIARY AND TELEPHONE LOG

1.0 PURPOSE

The purpose of this procedure is to describe the minimum requirements for recording project activity and tracking telephone calls in the resident engineer (RE) office.

2.0 GENERAL

This procedure lists the requirements for the RE's Daily Diary and Telephone Log. The RE diary is not intended to duplicate information formally documented elsewhere. For example, Daily Inspection Reports contain information about weather and site conditions. The RE diary should, as appropriate, contain information in addition to that documented elsewhere, including all verbal communication.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

The RE is responsible for maintaining accurate and detailed documentation in support of all construction activities, including the Daily Diary, and for tracking all activities that impact the work. REs managing more than one contract must maintain a separate Daily Diary for each contract.

5.0 PROCEDURE

5.1 DAILY DIARY

5.1.1 The RE will record the events of the day in a bound notebook. Handwritten entries will be made every working day by the RE or his/her designee. As an alternative, the RE may maintain the Daily Diary electronically. In that case, each daily entry shall be printed out and signed and dated by the RE. The hard copy of these daily entries shall be maintained in a file separate from other RE records.

On days when no work is done, "No Entry" will be entered for that day (this includes weekends and holidays). The diary will be securely stored and is not to be made available to contractor personnel or the RE staff without RE permission.

5.1.2 The RE's Daily Diary is a contract deliverable and will be turned over to the Metropolitan Transportation Authority (MTA) at project closeout as part of the document closeout process. Legibility ~~is very important~~ and ease of understanding is required

5.1.3 The diary should contain a record of all verbal agreements and telephone conversations between the RE and the contractor or other project participants. All conditions, events, or situations that might impact the progress of the work (e.g., notification of differing site conditions, adverse weather conditions affecting work progress, spot evaluations of an individual's performance on the job, and similar observations of the RE that pertain to job conditions) should also be included.

Provide samples of inspectors diaries and daily reports

5.0 PROCEDURE

5.1 IDENTIFYING LESSONS LEARNED

When a significant change or improvement occurs in response to problems encountered during construction and at contract closeout, the RE, and to a lesser extent support staff, will complete a Lessons Learned form (Exhibit 7.1) to document the following:

- A description of the observed situation or issue
- Other contracts that are affected
- Drawings affected, if known
- A description of any immediate action that was taken to correct the situation
- The immediate cost or schedule impact, if known
- The recommended action to prevent a recurrence of a problem or to implement an improvement

5.2 LESSONS LEARNED EXIT INTERVIEW

In order to systematically capture lessons learned, a lessons learned exit interview will be conducted by the Lessons Learned Coordinator and members of each RE office staff. This interview is part of the contract closeout procedure and will be conducted prior to closing the RE office. Refer to REP 4.11.

5.3 RECORDING LESSONS LEARNED

The Lessons Learned Coordinator maintains a file of lessons learned forwarded to the ~~EMC~~ GEC

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Lessons Learned (Form #__)

3.5 LESSONS LEARNED

1.0 PURPOSE

This procedure explains the process of documenting and implementing lessons learned on the Project.

2.0 GENERAL

2.1 Project management relies on lessons learned information to identify problems and improvements on the Project. Lessons learned information enables project management to take timely action to control the budget and schedule impacts associated with problems encountered on the job and to anticipate and offset potential problems in the future.

2.2 The Lessons Learned Form (Form #___, Exhibit 7.1), is the vehicle for identifying problems and improvements affecting safety, quality, schedule, or budget. By documenting a lesson learned and its impact, management is able to prioritize problems and take remedial action in a timely manner.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Resident engineers (REs) are responsible for submitting lessons learned for every significant change and improvement initiated to solve problems encountered during construction and at contract closeout.

4.2 SUPPORT STAFF

Support staff are responsible for submitting lessons learned when they discover a problem or improvement that will impact project safety, quality, cost, or schedule.

4.3 LESSONS LEARNED COORDINATOR

The Lessons Learned Coordinator is responsible for submitting complete Lessons Learned forms to the ~~Engineering Management Consultant (EMC)~~ General Engineering Consultant (GEC). The Deputy Project Manager - Engineering will serve as lessons learned coordinator.

4.4 ENGINEERING MANAGEMENT CONSULTANT

The ~~EMC~~ GEC is responsible for reviewing, prioritizing, implementing, and tracking lessons learned on the project, as well as identifying specific alterations to past methods, approaches, design bases, and quality control mechanisms. A database tracks all lessons learned information.

printed as desired. Action items that have been resolved can be dropped from the weekly review summary report after two weeks of resolution.

5.2.1.9 A deficiency and/or quality concern can be identified by anyone associated with this project. The quality concern shall be brought to the attention of any CM field or management personnel who will direct the concern to the appropriate Action Item reviewer. The reviewer shall enter the item on the Action Item Log and follow the same sequence of events as indicated above (assign a number and person to investigate and/or resolve).

5.2.2 NONCONFORMANCE REPORT (NCR)

Refer to the Nonconformance Report Process Flowchart (Exhibit 7.3) for a description of the Nonconformance Report process.

5.2.2.1 An NCR, Form ___ (Form #___, Exhibit 7.4), and its continuation page, (Form #___, Exhibit 7.5), shall be used when deficiency or indeterminate condition is identified that is in non-compliance with contract requirements, requires repair or replacement, use-as-is disposition, or involves extensive rework that requires close review or lengthy process. The NCR form shall be completed in accordance with the Nonconformance Report Instructions, Form ___ (Exhibit 7.4). The NCR form and instructions for completing the form are available on the CM computer network.

5.2.2.2 Anyone associated with this project can initiate an NCR whenever they identify a condition that is in non-compliance with contract requirements. The condition shall be brought to the applicable RE's attention or any of the RE's field personnel.

5.2.2.3 The Lead Inspector or the RE's designated representative (i.e., Assistant RE or Office Engineer) shall maintain a Nonconformance Report Log, (Form #___, Exhibit 7.6). This log shall be kept current at all times.

5.2.2.4 The Lead Inspector/designee shall assign a unique control number to each NCR issued. The control number shall consist of the contract number and a sequence number (i.e., CO321-021). ***The sequential NCR number is continuous throughout the contract.***

5.2.2.5 The Lead Inspector/designee shall determine if a Status Tag is required. If it is required, the designee shall issue and log the appropriate tag (refer to QCII 1.4).

5.2.2.6 The Lead Inspector/designee reviews the NCR for accuracy and completeness, validating the NCR. If the NCR is determined to be invalid or incomplete, the designee shall consult with the initiator of the NCR and resolve the areas of concern prior to further processing of the NCR. The designee forwards the NCR to the RE for final review and completion of the ROD (Revenue Operating Date) Section including RE's initials.

5.2.2.7 The RE issues the NCR to the contractor and/or the responsible organization/individual and assures proper distribution. As a minimum the NCR shall be distributed to the following:

- CM Quality Control Manager
- CM Deputy Project Manager (Construction)
- EMC (if the RE anticipates a possible repair or use-as-is status)
- MTA Construction Manager

5.2 DOCUMENTATION OF NONCOMPLIANT ISSUES

Identification of conditions adverse to quality can be accomplished by anyone involved in any manner with the Project by bringing the adverse condition to the attention of any CM field or management personnel. That CM person shall initiate the appropriate documentation and corrective action sequence.

5.2.1 ACTION ITEM (AI) LOG

The RE shall designate a representative from his/her staff (Assistant RE, Office Engineer or Lead Inspector) that shall maintain the Action Item Log.

5.2.1.1 Identification of Action Items normally occurs as a result of an entry on the Daily Inspectors Report (DIR), (Form #___, Exhibit 7.1). In accordance with the Quality Control Inspection Instructions (QCII 1.2), each inspector completes a DIR to document all of the activities that the inspector was involved with for that day. Any materials, activities or work that the inspector suspects and/or confirms as deficient or requires future action is identified on the DIR as an Action Item by placing an "A" in the right hand column adjacent to the appropriate entry.

5.2.1.2 Once an action item has been identified on the DIR, the reviewer (the lead inspector/designee) shall assign an Action Item Log Number to the item and details of the item shall be entered in the Action Item Log (Form #___, Exhibit 7.2) along with the initials of the reporting inspector, the date of the report, the action to be taken and the current status of the action. This information shall be entered into a computer file which shall be updated daily.

5.2.1.3 The reviewer shall enter the assigned Action Item Log Number in the Action Item Summary box on the original DIR and verify that all action items identified in that DIR have been assigned its own AI Log number.

5.2.1.4 Every Action Item shall be assigned to a particular individual whose responsibility it will be to ensure that the assigned action is carried out to resolution.

5.2.1.5 Each week, or more often if required, a summary report of the Action Item Log shall be printed and circulated for review to the inspectors and RE for comment and updating of the action status. The summary report printout shall be reviewed at the RE's weekly staff meeting. A copy of this weekly Action Item Log shall be available for ready reference by all parties concerned.

5.2.1.6 As each item is resolved and inspected, it shall be identified on the close-out DIR (i.e. corresponding inspection report for the resolution) by referencing the Action Item Log Number and entering a crossed-out circled "A" . The DIR reviewer shall include information concerning the closed-out action item (i.e., what was done to close the item out) in the Action Item Summary box at the top of the DIR.

5.2.1.7 The resolution description shall be identified by the reviewer and entered in the Action Item Log by showing the initials of the inspector for the close-out DIR and date the resolution was reported.

5.2.1.8 The master electronic file for the Action Item Log shall maintain all action items including both open and resolved action items so that a history of the action items can be

- Quality Program Manual

7.0 EXHIBITS

Exhibit	Title
7.1	Daily Inspection Report (4 pages) (Form #___)
7.2	Action Item Log (Form #___)
7.3	Nonconformance Report Flowchart
7.4	Nonconformance Report (2 pages) (Form #___)
7.5	Nonconformance Report Continuation Page (Form #___)
7.6	Nonconformance Report Log (Form #___)

- MTA Quality Assurance Manager

5.2.2.8 The responsible organization/individual investigates and enters the root cause of the nonconformance, corrective action to correct the nonconformance and action to prevent recurrence in blocks 13 and 14 of the NCR, Form #____.

5.2.2.9 The RE is responsible for initiating and coordinating required meetings, review, etc., with the contractor, engineer, or other organizations (as required) to resolve the NCR. If the RE concurs with the root cause statement, corrective action, and the action to prevent recurrence, the RE's concurrence is indicated by signing and dating block 17. The RE also designates a disposition status (reject, rework, repair or use-as-is) in block 18 of the NCR. If the disposition status is repair or use-as-is, the RE shall get the EMC's approval of the disposition. If the RE does not concur with the proposed disposition (blocks 13 and 14), the NCR is returned to the responsible organization for reevaluation of the disposition.

5.2.2.10 EMC GEC approval is required for repair and use-as-is dispositions. Approval is indicated by the EMC GEC completing block 19 of the NCR.

5.2.2.11 The Lead Inspector/designee reviews the NCR disposition to verify that all nonconforming conditions identified in block 9 have been addressed and that the correct disposition status is indicated in block 18 . The designee signs and dates block 19, enters the status in the Nonconformance Report Log and returns a copy of the NCR to the for implementation.

5.2.2.12 Quality Control conducts appropriate inspections to verify that corrective actions are completed in accordance with the NCR instructions. The method of verification and the results of the verification/inspection are documented in block 21. When all actions are accepted, the inspector completes block 22.

5.2.2.13 The RE designee updates the Nonconformance Report Log and distributes copies of the completed (closed) NCR to the following individuals, placing the original in the RE contract documentation files:

- Contractor (responsible organization/individual)
- CM Quality Control Manager
- CM Deputy Project Manager Construction
- Originator
- MTA Construction Manager
- MTA Quality Assurance Manager

5.2.2.14 The QC Manager has the authority to review any NCR at any time during the NCR process and shall review all NCRs after they are completed/closed.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

- Quality Control Inspection Instruction (QCII) Manual
- QCII 1.2, Inspector's Duties and Responsibilities
- Resident Engineer Procedure (ERP) Manual

5.4 CONTACT WITH CONTRACTORS OR SUPPLIERS PRIOR TO AWARD

All contact with suppliers or contractors prior to award shall be conducted by the Metropolitan Transportation Authority (MTA).

5.5 CONTACT WITH MTA AND OTHER LOCAL AGENCIES

The RE will maintain an effective working relationship with client representatives. The REs will maintain functional lines of communication with MTA's construction managers.

5.5.1 MTA will provide coordination with their operations department.

5.5.2 The MTA, federal, state, local governments, through their respective authorized representatives (including the federal government's Project Management Oversight Consultant [PMOC]) will, at all times, have full access to the work being performed by or under the responsibility of the RE, subject to applicable safety regulations and advance notice. The PMOC may be accompanied by an MTA representative.

5.5.3 Any request or directive by MTA representatives that may adversely affect the contractor's and/or CM's cost or performance or in any way be construed as a change in CM project scope and/or work not included in CM's budget will be reported to the Project Manager.

5.6 CONTACT WITH UTILITIES AND AGENCIES

The RE will maintain effective working relationships with public or private utility or service companies and governmental agencies that are affected or otherwise involved with the project (refer to REP 4.3).

5.7 CONTACT WITH MTA CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Metro Project. The RE will cooperate fully with all consultants on the project. If the RE determines that advice from, or consultation with, a consultant or facility/system designer is necessary, the RE will contact the consultant through the MTA, CM or ~~Engineering Management Consultant (EMC) representative~~ General Engineering Consultant (GEC).

5.8 CONTACT WITH THE PUBLIC

The RE and staff will be courteous in dealing with the public. The RE is the first line of contact for the MTA with regard to community relations and will provide full assistance to the MTA Public Affairs representative (MTA/PA), who will coordinate person-to-person contact with local residents and merchants (and the CM's Community Relations Coordinator (CRC), as required) to alleviate potential problems associated with construction in their areas.

MTA/CM policy requires that contractor not initiate contact with the public. The RE shall inform the contractor of this requirement in writing. When a member of the public initiates contact with the contractor, the contractor is to immediately report this contact to the RE.

4.5 CONTACTS

1.0 PURPOSE

The purpose of this procedure is to provide guidance to resident engineers (REs) and staff when dealing with contractors, Client, and public contacts.

2.0 GENERAL

The RE's conduct will be professional, ethical, and business-like during any and all contact with representatives of the Metropolitan Transportation Authority (MTA), the contractor, the public and any other parties concerned with the project.

3.0 RESPONSIBILITIES

The RE is responsible for ensuring that the RE staff follows this procedure.

4.0 DEFINITIONS

None

5.0 PROCEDURE

5.1 CORRESPONDENCE WITH CONTRACTOR

Normal contact and the day-to-day flow of correspondence with the contractor will be handled by the RE, except for the following activities, which are conducted directly between the MTA and the contractor:

- Notification of Award
- Notice To Proceed for contract
- Notification of date of contract completion
- Designation of MTA authorized representatives
- Rendering of final decision in contract disputes that exceed the authority delegated to the CM.

The RE will maintain copies of the above items in the RE files.

5.2 CONTACT WITH CONTRACTOR

The RE is the primary contact with authorized representatives of the contractor. Contact with subcontractors or vendors should be made only through the contractor or in the contractor's presence.

5.3 CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other REs should not be contacted directly, unless contact is authorized by the RE in charge. The normal chain of command will be respected at all times.

- Under no circumstances shall information (e.g., verbal, written, copies of documents) be given directly to opposing counsel. All information requests shall be directed to the MTA-appointed counsel.

- Information shall not be released without written direction from the MTA and the CM.

- If files must be reviewed at the Project Office, the MTA-appointed counsel will contact the RE to coordinate the time and location of the review. If the opposing counsel is reviewing the files, the MTA-appointed counsel will be responsible for ensuring the safekeeping of the files. The MTA-appointed counsel will be present at all times while the opposing counsel is on-site. The MTA-appointed counsel and CM will coordinate and approve any copy requests.

- The RE shall prepare a Consultant Change Request (CCR) for approval to obtain additional staff and services, as needed, to support the litigation.

- Requests from the MTA counsel shall meet the following requirements:

  - Requests shall be in writing.

  - Responses shall be coordinated with the Deputy Project Manager, Administration (DPMA). The DPMA will obtain approval from CM's Legal Department, as appropriate, before releasing information.

  - Documents provided to the MTA shall be transmitted via cover letter. The cover letter shall list all documents being provided. A copy of the cover letter shall be given to the DPMA.

5.11 VISITORS

Due to safety and liability considerations, casual visits to the construction site are discouraged. Official tours will be arranged and scheduled through the RE by the MTA Public Affairs representative and the CRC. The RE will be consulted on all tour arrangements 24 hours in advance, whenever possible, to ensure that the visit is compatible with work in progress. The contractor will be informed of all scheduled tours by, and coordinate tour activities with, the RE.

5.11.1 All visits to Metro sites shall be approved by the MTA or its designee. In addition, the following requirements apply:

- All individuals visiting the construction site will sign in and be issued an approved identification badge that they must wear. Those individuals who cannot produce their badges will be asked to leave the site.

- Individuals visiting the sites must be accompanied by a qualified guide (a CM or contractor representative who is knowledgeable of the site and who has undergone proper safety training).

- All visitors will be required to wear hard hats and other required safety equipment, undergo safety training as required, and comply with California Occupational Health and Safety Program (Cal/OSHA), MTA, and CM's safety regulations.

5.8.1 The RE will provide information as needed to the MTA Public Affairs representative and CRC on construction activities and major events that will affect communities, individuals, or businesses (e.g., scheduling information). The MTA Public Affairs representative or CRC is responsible for follow-up clarification.

Requests from the community for construction-related data (e.g., settlement data or construction data) shall be forwarded to the MTA Public Affairs representative.

5.8.2 In response to project-related questions, media requests, press releases or presentations, the RE will refer the inquirer to the CRC, who will forward the inquiry to MTA as required.

5.8.3 If the RE requires assistance with a complaint or inquiry, the RE will contact the CRC and/or the Project Manager.

5.8.4 The RE will give proper attention to, and endeavor to satisfy, any complaints made by the public. In the event a complaint is received by the RE's office, the RE will immediately fill out a Construction Complaint, Form #___ (Exhibit 7.1), to identify the complainant, the nature of the complaint, and the recommended remedial action to be taken. A copy of this form is forwarded to the MTA Public Affairs representative, and the CRC. The MTA Public Affairs representative is responsible for further contact with the complainant.

5.8.5 If immediate action is required, the RE will telephone the MTA Public Affairs representative and the CRC or Project Manager, to initially report on the situation and then follow up with a Complaint Form showing the action taken. Additional follow up and activity documentation will be provided by the RE, MTA Public Affairs representative, or the CRC, in accordance with CMS 8.1, Community Affairs.

5.9 CONTACT WITH THE MEDIA

The RE will avoid making any statements to or providing any documentation to the media. All media questions/requests will be referred to the CRC. If direct contact cannot be avoided, for example, during an emergency, the RE will limit any required response to: "When the facts of the matter are determined, the MTA will provide all media releases."

If contacted by the media, the RE must report promptly and verbally to the CRC. This telephoned report must be followed promptly by written confirmation, using the Media Inquiry and Interview Report, Form #___ (Exhibit 7.2). A copy of the Media Inquiry and Interview Report must be sent to the CM manager supervising the activity being addressed by the inquiry. The CRC will provide follow-up coordination and/or documentation with the MTA Public Affairs department.

When a member of the media initiates contact with the contractor, the contractor shall immediately report the contact to the RE.

Is there a form for this report? Does the RE report it to MTA?

5.10 CONTACT WITH LEGAL COUNSEL

The RE and the RE's staff shall adhere to the following procedure when they receive requests for information as a result of litigation:

- Notify the MTA and the CM in writing, communicating details of the request for information. MTA will notify CM which law firm they have chosen to represent them.

Exhibit 7.1

COMPLAINT FORM

Property/Incident Address:		Contract No.:	Date:
Owner:	Tenant:	Staff:	Other:
CR Rep. Assigned:	Report Date:	Report Time:	Incident Time:
Callers Name and Address:		Callers Phone Number:	

URGENT

Previous Call? Yes: ☐ No: ☐ Staff: _____ Date: _____

Description of Problem/Incident/Damages:	
Action Taken:	
Contractor Responsible:	Complaint Form Completed By:

FORM #___

- Unauthorized visitors will be asked to leave the work site and directed to the appropriate RE's office.

5.11.2 Other than those listed below, all visitors will be required to sign a Release and Hold-Harmless Agreement, Form #___ (Exhibit 7.3) before entering any hard hat area:

- CM employees assigned to the jobsite
- MTA employees assigned to the jobsite
- EMC employees assigned to the jobsite
- Employees of contractor or its subcontractors
- Employees of agency involved in onsite testing
- Federal OSHA and Cal/OSHA representatives
- PMOC representatives

5.12 SUBMISSION TO PROJECT MANAGER FOR RESOLUTION

In the event that any issue arising from the aforementioned contacts cannot be settled amicably and satisfactorily, the matter will be submitted to the Deputy Project Manager, Construction, for resolution.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
CMS 8.1	Community Affairs

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Construction Complaint - Sample
7.2	Media Inquiry and Interview Report
7.3	Release and Hold-Harmless Agreement - Sample

- Discuss requirements of labor provisions stipulated by U.S. Department of Transportation (DOT).
- Explain and discuss laws, codes, traffic regulations, permit requirements, and regulations of public agencies.
- Discuss procedures for processing Change Notices, Change Orders, shop and working drawings, product data and samples, and other required submittals and contract deliverables.
- Establish monthly estimate cutoff date.
- Discuss progress and final payments.
- Discuss community relations procedures and goals.
- Discuss contractor's responsibilities regarding historical, scientific, and archaeological discoveries.

5.2.2. CONTRACTOR RESPONSIBILITIES

The contractor will perform the following:

- Designate project manager/superintendent, safety representative, EEO officer, subcontractor representatives, and community relations representatives.
- Introduce the contractor's key representatives and briefly describe their responsibilities.
- Distribute and discuss a list of major subcontractors (including the responsibilities of each), sequence of critical work, and tentative schedule of construction.
- Discuss use and location of contractor and subcontractor offices, storage areas, construction areas, and temporary easements obtained and required.
- Define housekeeping procedures.
- Discuss principal construction methods.
- Describe construction sequencing of entire contract; general worksite layout; erosion and sedimentation control plans; haul routes; noise, air, and water pollution control; temporary street closing; and street restoration.
- Discuss coordination and notification procedures for utility work.
- Discuss deliveries and priorities of major equipment.
- Discuss cost breakdown of lump sum items.
- Discuss proposed construction progress schedule.

4.7 MEETINGS

1.0 PURPOSE

The purpose of this procedure is to describe and provide a format for conducting meetings between resident engineer (RE) and contractor and between RE and the Metropolitan Transportation Authority (MTA).

2.0 GENERAL

Meetings include: prebid conferences, Preconstruction Meeting, Initial Construction Meeting, Initial Safety and Quality Program Meeting, Initial Utilities Coordination Meeting, Construction Progress Meetings, special meetings deemed necessary by the MTA, and conference with government agencies or other parties.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

The responsibilities of the MTA, RE, and contractors for the various meetings are presented in the Procedures section of this REP.

5.0 PROCEDURE

5.1 PRECONSTRUCTION MEETING

The Preconstruction Meeting is scheduled by the MTA after receipt of the required signed contract documents and prior to issuing the Notice to Proceed. This meeting is to review the scope of work with the MTA representatives for safety, quality assurance, and construction management to their counterparts in the contractor organization.

5.2 INITIAL CONSTRUCTION MEETING

The Initial Construction Meeting will be scheduled by the MTA not more than 7 working days after the Notice to Proceed.

5.2.1 MTA RESPONSIBILITIES

Describe RE's responsibility ?

The MTA and its representatives will perform the following:

- Distribute a notice for the Initial Construction Meeting, with an agenda of the subjects to be addressed, not less than 4 working days before the meeting.
- Explain the responsibilities and authorities of the contractor, MTA, the Engineering Management Consultant, the Construction Manager, and the RE (as the Metropolitan Transportation Authority's representative).
- Discuss Equal Employment Opportunity (EEO) and affirmative action requirements together with community relations functions.

3.1.5 *Conformed Contract Documents:* The current set of contract documents conformed to include all revisions and modifications to the documents issued under cover of Change Notice, Change Order, or other written direction to the Contractor. Will also include interim modifications such as mark-up, sketches, contractor as-built submittals, or other written technical direction. Contract documents are listed in Article II of the Form of Contract.

3.2 *Submittals:* There are several items covered under this generally used term. General submittal requirements are defined on Specification Section 1300; specific submittal requirements are also contained in each section of the technical specifications. Many shop drawings are for facilities and equipment installation, showing details of how the contractor plans to execute the design as shown in the Contract Drawings.

Other Contractor Submittals include, but are not limited, to:

- Master Submittal Schedule
- Monthly Schedule updates
- Manufacturers' standard schematic and wiring drawings
- Manufacturers' calculations
- Manufacturers' standard data
- Manufacturers' printed installation, erection, application and placing instructions
- Inspection reports, test reports and product certificates of compliance, mill certificates
- Samples and mockups
- Concrete and grout mix designs
- Operations and maintenance data and manuals (refer to Specification Section 01730 for requirements)
- Warranties and Guarantees

3.3 *As-Built documents:* For the purpose of this procedure, as-built documents include three elements:

Marked Contract Drawings: A set of drawings of the facility that are a combination of the most current contract drawing revisions, plus any Request for Information (RFI) changes, Nonconformance Report changes, and Change Order drawings, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments or other purposes.

Marked Contract Specifications: A set of the most current Contract Specification revisions, plus any specifications or specification changes added by RFI changes, Nonconformance Report changes, and Change Orders, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments.

Marked Shop Drawing submittals: Permanent facility item shop drawings, as noted in paragraph 3.2, that have been marked by the contractor to show deviations from approved shop drawings where necessitated by field adjustments or other purposes.

As-Built Logs: Drawing, Contract Revision, and As-built listings maintained by the Contractor in compliance with Specification Section 1720.

4.9 AS-BUILTS

1.0 PURPOSE

This procedure defines responsibility and processes for the Resident Engineer's (RE's) monitoring of contractor preparation and submittal of as-built Contract Drawings, Contract Specifications, and contractor shop drawings; and for maintenance of current drawings and specifications used by the RE and CM Inspectors.

2.0 GENERAL

2.1 As-Built Contract Documents: Resident Engineer shall ensure that the Contractor maintains at the contractor's construction site office a complete set of conformed contract documents updated continuously as the record set of contract documents showing all as-built conditions. Any changes to the data shown on conformed contract drawings and construction specifications will be legibly noted, marked, or sketched by redlining a "record copy" of the document as defined in Contract Specification Section 1720.

2.2 As-Built Shop Drawings: Although related, the as-built shop drawings are independent of the contract documents. The contractor is required to prepare and submit one sepia of the shop drawings, showing the final installed conditions. These are supplemental to the as-built contract drawings and specifications covered in this procedure and will also be transmitted to the RE for subsequent transmittal to the Engineering Management Consultant (EMC) and to the MTA following contract close-out.

3.0 DEFINITIONS

3.1 *Construction documents:* There are several types of construction documents; this procedure deals only with the technical aspect of the contract, including the drawings and specifications of the original contract, contractor shop drawings, and any modification made by Change Notice, Change Order, or other technical direction issued to the contractor via response to a Request-for-Information, Submittal acceptance request, or other form of direction.

3.1.1 *Drawings:* Sometimes referred to as Contract Drawings or Design Drawings; the complete set of EMC-prepared full-size drawings showing all construction work required in the original contract.

3.1.2 *Specifications:* Sometimes referred to as Contract Specifications Book or construction specifications; the complete set of specifications in accordance with the Construction Specifications Institute (CSI) format, which is written for the specific construction contract scope of work.

3.1.3 *Change Orders:* Negotiated and authorized changes to the technical work required in the documents of paragraphs 3.1.1 and 3.1.2, including any revised or new drawings and specifications. These changes are to be included in the as-built drawings and specifications.

3.1.4 *Current Status Documents:* A set of full size reproducible drawings and a copy of the specifications marked and maintained by the contractor to show current as-built status of construction in progress and current design status..

and the associated shop drawing(s) as the as-built submittal.

5.2 Changes to Underground or Covered Work: Contract drawing markings shall show all changes, including elevation and dimensional location for underground or otherwise covered structures, conduits, switchboards, switchgear, utilities, boxes, duct work, piping, valves, and other mechanical and electrical equipment, etc., as noted in the Contract Specifications.

5.3 Shop Drawings: Shop drawing originals shall be revised by the contractor to show as-built conditions and submitted in accordance with Specification Section 01300. When an RFI or other document modifies and EMC accepted Contractor Shop Drawing, the contractor will redline the drawing to reflect the changes pending formal revision and resubmittal. Shop drawings will include cross-references to the contract drawing or drawings to which they are related. As-built shop drawings may be maintained in lieu of as-built contact drawings when the detail shown on the shop drawing is superior to that provided in the contract drawing.

5.4 RE Review: The RE shall review monthly with the payment request, the contractor's maintenance of as-built documents to determine that as-built data is being recorded properly and accurately and in accordance with all contract requirements. The RE or designee should conduct a review of the Contract Record Drawings prior to submittal of the contractor monthly progress payments to ensure that the contractor is meeting all of the specified obligations. If the Contract Record Drawings are not current in the judgment of the RE, the Contractor should be advised of the required corrections or additions.

5.5 Payment Witholding: The RE may recommend to the MTA Contract Administrator that approval of all or part of the monthly progress payments may be withheld until the as-built documents are made current by the contractor.

5.6 As-Built Submittal: After completion of construction/installation milestones defined in the contractor's "As-Built Documents Log", the RE will receive a full size copy of the as-built contract and shop drawings which have been marked with the as-built conditions. The RE will verify that the information included is complete, and that the Contractor Submittal Form attests that the documents are true and complete. The As-Built submittal will be entered into the CCS® submittal record. The logged submittal record will contain a complete listing of drawings and documents provided.

5.7 As-Built Submittal Log: The RE shall verify that the contractor is maintaining and submitting all logs in accordance with the specifications.

5.8 Field Office Copy of As-Built Documents: The RE shall maintain a master set of prints of contractor submitted as-built documents for use by CM Inspection. The prints shall be kept current on at least a weekly basis by writing the information relative to changes near the affected areas of the appropriate sheets. The information is to include the change notice number or the RFI number. When the RE receives revised drawings, the RE should immediately check to see if the redlined changes have been incorporated into the revised drawing. If the changes have not been incorporated, the change notice or RFI information must be transferred onto the revised drawing.

5.9 Third Party and Utility Review: The RE will coordinate Third Party and Utility review of the contractor as-built submittal prior to forwarding the as-built documents to the EMC for acceptance and incorporation into master record documents.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE ensures that an accurate set of as-built contract drawings and specifications depicting as-built conditions are prepared and maintained by the contractor and provided in accordance with established milestones and Specification Section 01720. The RE is responsible for notifying the contractor of non-compliance and for recommending withholding of payment for non-compliance as allowed under the contract.

4.2 CONTRACTOR

The contractor, including the contractor's subcontractors, prepares, maintains, and submits appropriately marked contract drawings, specifications, and shop drawings to the RE for acceptance in accordance with contract specification requirements (i.e., Section 01720). The contractor is responsible for providing a specific listing of as-built contract documents to be submitted at defined contract milestones or quarterly as specified in the contract.

4.3 General ENGINEERING ~~MANAGEMENT~~ CONSULTANT (~~EMC~~) GEC

The ~~EMC~~ GEC is responsible for ensuring that all available contractor as-built information is incorporated into specifications or drawings when making formal design revisions. The GEC ~~EMC~~ is responsible for incorporating all previously unincorporated as-built notations into the final Project Record Documents following contract close-out.

5.0 PROCEDURE

The following steps define the methods to be used in receipt, acceptance, and transmittal of contractor-prepared as-built Contract Drawings and Contract Specifications (Contract Record Documents).

5.1 As-Built Maintenance: The contractor shall keep the Contract Record Documents at the site and shall continually update them during construction. As construction work is accomplished (work that is different from or in addition to that which the contract drawing shows), the contractor will redline the as-built conditions on the Contract drawings.

5.1.1 Superseded As-Built Documents: When a new revision of a document is received, the contractor stamps the superseded document "SUPERSEDED", and keeps the document in the "Current Status Set" of contract record documents for future reference of previous mark-ups and for use of production of as-built drawings. (See paragraph 5.11 for coordination of incorporation of contractor as-built notations into interim document revisions). The contractor need not transfer the data recorded on superseded drawings onto the new revision. However, prior to submittal to the RE, the final as-built drawing will be redlined by the contractor to incorporate any and all missing information from all superseded revisions of the drawing.

5.1.2 Use of Shop Drawings in Lieu of Contract Drawings: Should as-built detail shown on a shop drawing supersede or provide better information than can be shown on a contract drawing, the as-built shop drawing may be maintained in lieu of the contract drawing. In such cases, the contractor will provide appropriate shop drawing number cross references on the "as-built" contract drawing, and will provide both the contract drawing

5.10 Transfer to EMC: Following acceptance of the contractor's as-built document submittal and acceptance by affected Third Parties or Utilities, the RE will forward the marked-up document set to the EMC under standard submittal transmittal cover. The as-built submittal record will include a specific listing of all documents and drawings transmitted.

5.11 Incorporation of Interim As-Built Notations into Document Revisions: On notice that a formal document revision is being processed by the EMC, the RE will ensure that a copy of the current contractor's as-built records are provided to the EMC for all specification sections and drawings affected by the pending change. The EMC will incorporate all contractor as-built notations into the master record document concurrent with incorporation of the new revision. Contractor as-built notations will be incorporated under a separate revision number, and separate revision line from the design change.

6.0 REFERENCES

The following documents are referred to in, or are related to this procedure and are available under separate publication:

RE MANUAL SECTION	TITLE
3.4	Document Control
6.1	Submittals
6.5	Changes

SPECIFICATION SECTION	TITLE
01720	As-Built Drawings and Current Status Documents
01300	Submittals

MTA PROCEDURES	TITLE
CF3	Document Identification and Formatting Standards
CF4	Submittals
CF8	Design Changes
CF11	Contract Changes

EMC PROCEDURES	TITLE
	Preparation of Project Record Documents

7.0 EXHIBITS

None

- Review and approval of requests for additional tests
- Direction of system integration test performance
- Submittal of test documentation to the Safety Certification Review Team for review
- Coordination with Operations and consultant staff in scheduling and arranging tests
- Distribution and filing of test reports

For pre-revenue testing, the Rail Activation Group supports MTA Operations and Maintenance groups. Duties include:

- Coordination in scheduling and arranging tests
- Observation and support of MTA directed pre-revenue test performance
- Support to Operations in preparation of test status reports

4.4 Construction Manager (CM): Responsible for management of all facilities construction and the procurement and installation of all systems and system-wide equipment, with the exception of passenger vehicles and fare collection equipment.

4.4.1 On Assigned contracts, the CM's scope of work includes:

- Enforcement of safety, security, and quality assurance requirements
- Proper integration of systems and facilities equipment
- Coordination of facilities testing, system testing and start-up
- Maintenance support during all testing phases
- Support of the system integration testing and pre-revenue testing programs

4.4.2 The CM designates a Resident Engineer to manage each assigned contract to track, coordinate and provide progress reports on on-site testing. The Start-up Organization includes Systems Integration Testing and Start-up Group which is managed by the CM. The responsibilities of the Resident Engineer and the Systems Integration Testing and Start-Up Group are discussed below.

4.5 CM Resident Engineer (RE): The RE coordinates resolution of contractor-responsible problems during Integrated Testing.

4.5.1 During the start-up phase of the project, the Resident Engineer will retain his full authority. With several Contractors working and testing on-site, site access coordination and test management responsibilities will be augmented by the CM Systems Integration, Testing, and Start-Up Group.

4.6 CM Systems Integration, Testing, and Start-Up Group (Start-Up Group) manages acceptance testing and supports the Rail Activation Group during integration testing.

4.6.1 During acceptance testing the Start-Up Group reviews test procedures and schedules and witnesses all tests, arranging for MTA support when required. It verifies test data and provides test status reports to management.

4.6.2 During systems integration testing, the Start-Up Group may coordinate, perform and/or witness tests on behalf of the Rail Activation Group.

4.7 General Engineering ~~Management~~ Consultant (~~EMC~~ GEC): Responsible for system design and preparation of contract documents for all facilities and systems elements. The Engineering Management Consultant provides engineering support during the construction of stations

- Communications
- Train control reliability tests

Note: The titles used to identify test categories may vary somewhat among the project documents.

4.0 RESPONSIBILITIES

4.1 Metropolitan Transportation Authority (MTA): Responsible for administering all design, construction, testing and start-up activities. This includes direction of engineering and construction management consultant activities and overall management and coordination of the system safety and system assurance program. Within the MTA several departments have key test related responsibilities.

4.1.1 MTA Rail Activation and Integration: Responsible for operations and maintenance planning and system activation. The department staff works to ensure that operating needs will be met and the MTA will be in a position to support system activation. The Director of Rail Activation and Integration (RA&I) oversees the rail activation effort, including on-site testing associated with the start-up phase. An RA&I Start-up Program Manager is assigned to manage the day-to-day activities of each new rail project.

4.1.2 MTA Quality Assurance: Responsible for implementing an independent Quality Assurance program encompassing construction, installation and test activity for the project. The program is supervised by the Director of Quality and carried out on a day-to-day basis by the CM's QC personnel. With respect to Integrated Tests, the quality assurance responsibilities are to review test procedures and test reports and to provide an independent audit of test performance.

4.1.3 MTA System Safety and Assurance: Responsible for overseeing the establishment of safety criteria for the design of the rail system and then verifying that the criteria are implemented and verified through each phase of the project. Safety conformance checklists are established to confirm that the criteria have been incorporated into design, and that design has been followed in construction and procurement. Selected tests are denoted as safety related if they verify the achievement of a safety requirement.

4.2 MTA Operations. Operates and maintains the rail system with the commencement of pre-revenue service. To help prepare for this role, Operations participates in design, test and start-up activities. Involvement of Operations personnel provide a familiarity with system design and augments personnel training. During acceptance testing and contract close-out activities, Operations personnel will witness tests and may provide additional support by operating and/or monitoring vehicles, systems and responsibility for the rail line and has the opportunity to conduct pre-revenue operations simulations prior to the start of revenue service.

4.3 Rail Activation Group (RAG): Responsible for coordinating and managing system activation, including systems integration testing and related commissioning activities. It is composed of engineers and operating personnel from the Construction Manager, Engineering Management Consultant, equipment procurement consultants, other identified consultants and MTA. During systems integration testing, the Rail Activation Group is responsible for managing the test program. Duties to be performed include:

- Review of system integration test requirements, test plans, and procedures

and tunnels and the procurement, installation, and testing of systems and system-wide equipment.

4.7.1 The EMC is responsible for developing detailed plans for system integration testing, identifying test requirements, and writing detailed test procedures that test the proper interface relationships among all system elements, including automatic train control, communications elements, passenger vehicles, traction power and fixed facilities equipment. The EMC performs the Integrated Tests. The EMC Integration Test Manager and his group are assigned to the CM's Rail Activation Manager. The EMC participates on the Rail Activation Group. During the System integration testing phase, EMC Engineers support the Rail Activation Group, monitoring performance of tests, evaluating test results and recommending approval and/or re-testing.

4.8 Equipment Procurement Consultants: Responsible for managing the procurement of passenger vehicles, fare collection and other equipment. The consultant designates Resident Engineers to manage these contracts, coordinate with the CM Start-Up Group for acceptance testing, and support the Rail Activation Group for system integration testing.

4.9 Safety Certification Review Team: Responsible for ensuring that design, construction, and testing of all elements of the project produces a safe operating system. The Certification Team consists of personnel from the MTA and consultants. The responsibilities are to:

- Review all safety-related contractor and start-up test procedures to verify that safety concerns are addressed
- Identify those procedures for which a Safety Certification Test Completion Report or checklist needs to be processed
- Identify any additional safety tests required and assist in the preparation of test procedures
- Verify completion of all safety related requirements for the California Public Utilities Commission to issue a certification of a safe operable system
- Complete all test related paper work in order to issue a Certificate of Compliance

5.0 PROCEDURES

Refer to Reference 6.1 for detailed procedures of testing programs.

6.0 REFERENCES

6.1 "Metro Project Test Program Plan," prepared by MTA.

7.0 EXHIBITS

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Records Index and Storage Request (Form ____)
7.2	Records Storage Carton Label (Form ____)
7.3	Sample Transmittal
7.4	Duplicate Document Destruction Request

[Note: Exhibits not included in electronic file for this REP. MTA Configuration Management to provide standard form templates]

other offices), including hard copy duplications of documents scanned into the IMAGEABLE system. The CM Document Control Manager will prepare and submit a duplicate destruction request to the MTA RMC identifying all duplicates in either RE or CM home office files, and identify the location of the record copy (.e.g, Field Office Sequence Files, IMAGEABLE system image, etc., as appropriate). A copy of the document destruction request will be sent to the MTA Construction Division Document Control Manager and the assigned MTA Contract Administrator. The RMC Record Manager will provide written approval or request that duplicate files be transferred to MTA control on a case by case basis. On receipt of approval from the MTA RMC Record Manager, CM Document Control will discard or destroy all known extant copies of such documents as directed, and will verify destruction to the MTA RMC.

NOTE: Any and all copies of project correspondence or documents retained by the CM or a CM employee either before or after transfer to the MTA are subject to legal discovery should a claim or other legal action arise in conjunction with the contract or project.

5.3.4 DOCUMENT TRANSMITTAL

Documents not captured in the IMAGEABLE system, or where hard copy is specifically requested by the MTA will be transferred to the MTA RMC, Configuration Management Consultant, or to any other location directed by the MTA RMC. Document Control will send a transmittal (refer to Exhibit 7.3) to the MTA RMC, listing the box numbers and contract number. Copies of the transmittal will be sent to the MTA Contract Administrator, EMC Document Control, the MTA's Construction Division Document Control Manager, and the MTA's Configuration Management Consultant. The transmittal will require a receipt acknowledgment. A copy of the transmittal, Records Index and Storage Requests, and indexes will be retained by Document Control.

5.3.5 PHYSICAL DELIVERY

Document Control will notify the MTA of the impending transfer and coordinate with CM couriers in transporting the boxes, indexes, and transmittals to the MTA RMC, or a storage location designated by the MTA. Operations deliverables (as-builts, approved shop drawings, approved operations and maintenance manuals, warranties and guarantees, etc.) will be delivered to the MTA Configuration Management Consultant for transfer to MTA Rail Operations. All other records will be delivered to the MTA RMC or to a storage location specified by the MTA RMC.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
REP 3.4	Document Control
MTA Policy CF5	Records Close-out
MTA Policy CF6	Transfer to Rail Operations
MTA CM420??	MTA File Coding System

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

None

5.0 PROCEDURE

None

6.0 REFERENCES

None

7.0 EXHIBITS

None

4.14 FISCAL CLOSEOUT

1.0 PURPOSE

To coordinate the contract administration, accounting, and financial functions with document close-out and physical close-out to ensure that no outstanding financial liability is present after the final payment and/or retention is ~~made~~ Paid to the Contractor.

2.0 GENERAL

2.1 Prudent contract administration executed from bid formation through contract close-out will minimize ~~most~~ confusion and allow an orderly close-out. It is paramount that the contract administrator work in concert with the Resident Engineer and other staff during the entire course of the contract. The application of this effort will yield clear comprehension of the status of the contract in the general areas of:

2.1.1 Correspondence: A "Tickler" file (or similar method) that is properly maintained will yield the final status of any outstanding correspondence that requires MTA/Construction Manager action. All correspondence relating to Owner performance must be closed-out to memorialize the Owner's position for the record, thus allowing any future research of the contract files to be done with confidence and efficiency.

2.1.2 Progress Payment Status: As above, the progress payments have been maintained with an accuracy throughout the course of the project such that a review of it at close-out will yield an instant status of monies paid and retention held, along with any liquidated damages withheld. The progress payment status necessarily will be analyzed in conjunction with the change order and claims log which is discussed below.

2.1.3 Change Order and Claims Logs: This is maintained as part of a component of the overall fiscal "system" (i.e., the correspondence log relates in part to the progress payment and change order logs with a constant information flow between these devices). The change order/claims log will yield the status of the agreed to changes as well as those in a claim status.

2.2 The CM will minimize the degree of outstanding matters. For those matters remaining incomplete, the obvious action of negotiation must be set in motion, resolving all disputes prior to retention release and/or final payment. Outstanding matters must be resolved and completed prior to document closeout.

2.3 The following items are additional components of the Fiscal Close-Out System that require simultaneous review and cross checking to ensure that the final payment to the Contractor does not leave any financial liability to the Owner.

- Submittal Log (See Submittals Procedure)
- Request for Information (RFI) Log (See Diary and Logs Procedure)
- As-Built Drawing Log (See Diary and Logs Procedure)
- Punch List (See Physical Close-Out Procedure)
- Safety Certification (See Safety Certification Procedure)

Describe RE's responsibilities

2.0 GENERAL

2.1 Minimum participants in the Readiness Review meeting shall include:

1) Resident Engineer
2) Inspectors
3) Quality Manager or Chief Inspector
4) Contractor representatives (Project Manager, Project Engineer, QC Manager, appropriate Superintendent.)
5) MTA Construction Manager (as determined by MTA)
6) MTA Quality Assurance Manager (as determined by MTA)
7) Engineering Management Consultant representatives
8) Other Support personnel as determined by the RE

2.2 The RE is responsible for scheduling the meeting, conducting the meeting, maintaining and issuing meeting minutes, and notifying the contractor to commence work. The notification to commence work may be either in the meeting notes or in a letter to the contractor.

What information is needed on the list →

2.3 The RE is responsible for reviewing contract requirements and preparing a Readiness Review checklist. The checklist shall be issued for review by the attendees prior to the meeting.

2.4 The Readiness Review meeting shall be conducted prior to the start of the work. All checklist items must be satisfactorily completed or action(s) agreed to by the RE before authorization to start work is granted by the RE. Exceptions or omissions of requirements discovered during the Readiness Review meeting will be noted in the meeting minutes. Dates will be assigned for the completion of action items. The RE will be responsible to ensure that the Contractor resolves open issues noted in the meeting minutes.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 Resident Engineer: Shall be responsible for issuing the meeting notice, preparing the agenda, chairing the meeting, preparing meeting minutes, identifying action items, close-out of action items and maintaining a project file of Readiness Reviews. The RE. shall be responsible for issuing the notice to proceed to the contractor.

4.2 Meeting Participant: Shall assist the RE in reviewing the Readiness Review checklist and making any recommendations to the meeting. Shall review the checklist in the meeting and advise and assist the RE in determining if the submitted documents meet the checklist requirements.

4.3 Contractor: Shall supply the necessary personnel with the authority to act on their behalf. Supply the latest version of the design documents for review and identify any relevant issues/topics for the meeting agenda.

4.15 READINESS REVIEW

1.0 PURPOSE

1.1 The purpose of this procedure is to provide the Resident Engineer (RE) with guidelines for conducting Readiness Reviews. Readiness Reviews will evaluate the preparedness for accomplishing designated construction operations or activities.

1.2 The Readiness Review will address all construction operations or activities as determined by the RE. Readiness Reviews are not needed for every work activity, but any work activity may be scheduled for a Readiness Review at the RE's discretion. The following construction operations or activities requiring Readiness Review meetings include, but are not limited to:

Stations/General Construction

a) Survey control
b) Utility relocation
c) Dewatering
d) Temporary utility services
e) Maintenance of traffic
f) Excavation and support
g) High Density Polyethylene (HDPE)
h) Concrete
i) Elevators/escalators
j) Masonry
k) Welding
l) Fire protection systems
m) HVAC systems
n) Lighting systems
o) Thermal and moisture protection

Tunnels/Line Segments

a) Survey control
b) Staging area
c) Temporary power
d) Dewatering
e) Shaft
f) Excavation and initial support
g) Concrete lining (invert, arch, walkway)
h) High Density Polyethylene (HDPE)
i) Welding
j) Fire protection systems
k) HVAC systems
l) Lighting systems

Systems Operations

a) Equipment installation
b) Field acceptance tests
c) Integration tests

5.6 RECOMMENDED READINESS REVIEW MEETING SUBJECTS

5.6.1 Traffic Maintenance: Haul route plans, traffic control plans, etc.

5.6.2 Permits: Review and assure appropriate permits are obtained before related work starts.

5.6.3 Design Drawing: A list of appropriate design drawings and revision identification.

5.6.4 Design Specifications: Appropriate specification(s) and revision identification.

5.6.5 Contract Submittals: Required submittals based on the latest revision of the contract.

5.6.6 Contractor Construction Work Plan (CWP): The appropriate CWPs shall be listed and verified to be ready for implementation. Each CWP will list the operations to be performed in a step-by-step manner, and inspection points (including CM witness points) with appropriate reference to installation and inspection procedures.

5.6.7 Manufacturer Quality Control (QCP): The appropriate QCPs shall be listed and in-place.

5.6.8 CM's Quality Control Inspection Instruction: Shall be reviewed and in-place.

5.6.9 Manufacturer Recommendations: Any appropriate manufacturer recommendations as they apply to the scope of work shall be listed in the Readiness Review checklist.

5.6.10 Hazard Analysis: The hazard associated with the construction operation or activity shall be identified and measures to be implemented to reduce/eliminate these hazards shall be agreed upon.

5.6.11 Health and Safety: Any appropriate health and safety procedures need to be reviewed with the contractor/manufacturer.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Quality Control Inspection Instruction (QCII) Manual

7.0 EXHIBITS

None

5.0 PROCEDURE

Change sequence ?

5.1 MEETING NOTICE

5.1.1 The RE reviews the latest issue of the contract and determine which items apply to the subject work effort. A checklist of applicable items is then prepared.

5.1.2 The RE uses the Readiness Review checklist as a guide during the meeting.

5.1.3 The RE distributes the meeting notice, with the checklist, and agenda to all attendees.

5.2 MEETING AGENDA

5.2.1 The RE prepares the meeting agenda utilizing Contractor's input.

5.3 CHECKLIST

5.3.1 The RE prepares a checklist of contract required items, i.e., shop and working drawings, QC instructions, supplier samples, catalog cuts, material certifications, and any issues to be reviewed and/or discussed at the Readiness Review Meeting.

5.3.2 The RE shall send a copy of the Readiness Review checklist to the proposed attendee for their comments prior to the issue of the Readiness Review meeting notice. The attendees would review the list and suggest any additions or deletions.

5.3.3 The Readiness Review Checklist shall be distributed with the meeting notice and the agenda.

5.4 READINESS REVIEW MEETING

5.4.1 The RE conducts the meeting according to the agenda and distributes the meeting minutes.

5.4.2 The RE assigns action items as appropriate. All action items must be resolved to the RE's satisfaction prior to start of the work.

5.4.3 The RE tracks all of the action items and verify close-out prior to start of work associated with the action items.

5.5 ACCEPTANCE CRITERIA

5.5.1 Design Documents/Specifications: The latest revision of the documents per the contract has been received by the contractor/manufacturer.

5.5.2 Contractor/Manufacturer Submittals: Required submittals have been received, reviewed and approved by the RE.

5.5.3 Contractor/Manufacturer Procedures: Required procedures have been received, reviewed and approved by the RE.

5.0 PROCEDURE

5.1 FACILITIES APPROVAL AND DISPOSITION PROCESS

The following approval and disposition process is in accordance with Specification Section 01730:

1. The Resident Engineer (RE) submits the proposed O&M manual format to the GEC EMC and MTA ROS.

2. The EMC and MTA ROS return the reviewed manual format to the RE for transmittal to the contractor, who revises the format and/or content per the review comments.

3. The contractor will then submit a complete manual to the RE for GEC EMC' and MTA ROS review and acceptance.

4. The RE will review the manual for compliance with submittal and format requirements. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into submittal and warranty tracking systems.

5. The RE will transmit the manual to GEC EMC and MTA ROS following logging.

6. The EMC and MTA ROS will review and return comments within the specified review time frame.

7. Upon receipt of the MTA ROS and GEC EMC-reviewed manual, the RE will retain a copy of the review comments and return the reviewed manual to the contractor for correction, if required.
8. The contractor then submits six copies of the corrected manual to the RE.

9. The RE reviews the manual to ensure that the GEC EMC and ROS review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

10. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, and send five copies to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC.. The sixth copy will be retained by the RE for reference until transfer occurs.

11. The RE will notify the Contractor of the change in address for forwarding any subsequent updates to the manuals received from the manufacturer or other originator.

5.2 SYSTEMS APPROVAL AND DISPOSITION PROCESS

The following process is in accordance with the appropriate technical provisions and Contract Data Requirements List (CDRL):

1. The RE will submit one copy of the contractor's complete manual to the GEC EMC and

4.16 OPERATIONS AND MAINTENANCE (O&M) MANUAL PROCESSING

1.0 PURPOSE

This procedure provides guidelines for the processing of operations and maintenance (O&M) manuals for both facilities and systems contracts. Although generally processed as a contractor submittal in accordance with REP 6.1, O&M manuals require additional special handling as a deliverable to the MTA Operations Division.

2.0 GENERAL

The O&M manual format and content for the facilities contracts are described in Specification Section 01730. The content includes Warranties and Bonds, as detailed in Section 01740; Spare Parts and Replacement Materials, as described in Section 01750; and as-built shop drawings, as detailed in Section 01340, entitled Shop Drawings, Product Data, and Samples. O&M manual requirements for the systems contracts are detailed in various technical provisions of those contracts. All are required to be submitted to the Engineering ~~Management~~ Consultant (EMC) and the MTA Rail Operations Support (ROS) department for acceptance .

3.0 DEFINITIONS

Case File: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

4.0 RESPONSIBILITIES

Contractor: The contractor is responsible for submitting all manufacturer operations and maintenance manuals in accordance with the agreed submittal schedule. The Contractor is responsible for identifying any and all warranties and guarantees contained in such manuals in submittal documentation, and for providing any updates to manuals received following initial submittal and acceptance.

Resident Engineer: The Resident Engineer (RE) is responsible for implementing this procedure and coordinating O&M Manual processing.

Engineering Management Consultant: The EMC is responsible for review and acceptance of O&M Manual submittals.

MTA Rail Operations Support (ROS): MTA ROS staff are responsible for reviewing and accepting O&M manual submittals.

Configuration Management Office (CMO): The MTA's Configuration Management consultant (LKG) referred to herein as the CMO, is responsible for storage, protection, and maintenance of O&M manuals on behalf of the MTA Rail Operations Support department.

MTA ROS for review and approval.

2. Upon receipt of the reviewed manual, the RE retains a copy of the review comments and returns the reviewed manual to the contractor for correction.

3. The contractor then submits the corrected manual to the RE (the number of submitted copies is determined by the requirements of the appropriate technical provision).

4. The RE reviews the manual for compliance with submittal and format requirements and to ensure that the EMC and GEC MTA ROS review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

5. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.

5. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, to all copies and send all but one copy to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC. One copy will be retained by the RE for reference until transfer occurs.

6. The RE will notify the Contractor of the change in address for forwarding any subsequent updates to the manuals received from the manufacturer or other originator.

7. Manuals that are required by the Rail Activation Group or MTA ROS will be obtained from the MTA CMO.

5.3 FILING

All O&M manuals will be filed in a separate case file in submittal number order. Copies of Warranties and Guarantees contained in manuals will be also maintained in a separate case file in submittal number order.

6.0 REFERENCES

RE PROCEDURE NUMBER	TITLE
6.1	Submittals
4.12	Document Close-Out

7.0 EXHIBITS

None

4.2 QUALITY ISSUES

The following personnel are authorized to issue a Suspension of Work Notice for work activities that are not being performed in accordance with the contract documents.

- CM Project Manager (PM) or Deputy PM
- CM Resident Engineer (RE)
- CM Chief Inspector
- CM Quality Manager(s)
- CM Quality Control Inspectors
- MTA Construction Project Manager or Designee
- MTA Director Quality Management or Designee
- MTA Construction Division Representatives

When a Suspension of Work Notice is issued for a quality matter, the deficient condition shall be documented on a Non-conformance Report, in accordance with the approved CM or MTA procedure for Control of Discrepant Items and corrective action.

5.0 PROCEDURE

When a Suspension of Work Notice, (Exhibit 7.1), is issued, the following procedures shall be followed.

5.1 COORDINATING SUSPENSION OF WORK NOTICE

The Suspension of Work Notice shall be issued by an authorized CM or MTA Representative and shall be coordinated with the appropriate CM Representatives, and MTA Safety, Quality, or Construction Representatives.

5.2 COMPLETING THE SUSPENSION OF WORK NOTICE

5.2.1 SUSPENSION OF WORK NOTICE FORM AVAILABILITY

A Suspension of Work Notice, (Exhibit 7.1), shall be prepared to formally document and notify the contractor or subcontractor, as applicable, of a suspension of work action. The Suspension of Work Notice and its instructions (Exhibit 7.1) are available on the CM and MTA computer network.

5.2.2 ASSIGNING CONTROL NUMBERS

The RE's office for each contract shall assign a unique control number to each Suspension of Work Notice. The control number shall consist of the contract number, last two digits of the current year, and sequence number (e.g., B251-94-01).

5.2.3 MAINTAINING SUSPENSION OF WORK NOTICE LOG

The RE's office for each contract shall maintain a Suspension of Work Notice Log, Form (Exhibit 7.2).

4.17 SUSPENSION OF WORK NOTICE

1.0 PURPOSE

This procedure describes the purpose of a Suspension of Work Notice, Form (Exhibit 7.1) and steps to be used for completion.

2.0 GENERAL

The Construction Manager (CM), or MTA through its designated representatives may order a work stoppage until the unsafe or deficient conditions are corrected. The following are some examples warranting a Suspension of Work Notice:

- Life threatening or unsafe conditions to workers
- Danger to the General Public
- Clearance from a utility company to proceed is required and has not been secured.
- Work performed is not in accordance with the contract documents.
- Failure to abate a quality or safety deficiency.

where is notice of non-Compliance form?

The CM and the MTA shall have the authority to issue a Suspension of Work Notice (Exhibit 7.1), to any contractor and/or subcontractor who fails or refuses to take prompt corrective action when given notice of noncompliance with any of the applicable requirements, or informed of a deficient condition, or unsafe practice.

This procedure does not preclude any worker from refusing to work due to unsafe conditions or practices. Each worker on the project has the responsibility to look for unsafe practices and conditions, and has the authority to stop an operation that is an imminent danger to either themselves or to others.

3.0 DEFINITIONS

Refer to Resident Engineer Procedure (REP) 4.1 for general definitions.

4.0 RESPONSIBILITIES

Refer to REP 4.1

4.1 SAFETY ISSUES

The following are authorized to issue a Suspension of Work Notice for life threatening, and repeated non-compliance with applicable laws or regulations that require immediate corrective action. Work shall be shut down until the condition is corrected.

- CM Project Manager (PM) or Deputy PM
- CM Resident Engineer (RE)
- CM Quality Manager(s)
- CM Chief Inspector
- CM Quality Control Inspectors
- MTA Construction Project Manager or Designee
- MTA Construction Safety Staff
- MTA Construction Division Representatives

The RE, within 30 days of issuance of the Notice to Proceed to the contractor or prior to the start of construction, whichever is earlier, will receive from the contractor for review and acceptance by the Manager of Safety and Security a detailed safety and security program that reflects the contractor's plan for complete compliance with the requirements of the CSSM. The contractor's project manager shall, at the same time, submit a resume of the qualifications of his or her proposed safety representative to the RE for review by the RE and the Director, Construction Safety

4.0 RESPONSIBILITIES

4.1 The following CM and/or MTA personnel may issue a CS-50 to report any unsafe working conditions, unsafe employee work practices, or poor housekeeping conditions that require immediate corrective RE action:

- Resident Engineer
- MTA Director, Construction Safety
- MTA Safety engineer
- CM Lead inspector
- CM Inspector
- CM Project Manager
- CM Deputy Project Manager, Construction
- Contractor Safety Engineer
- CM QC Manager

It is the responsibility of the person who writes the CS-50 to track that document through to completion.

4.2 The personnel mentioned above make periodic safety walkthroughs, either by themselves or jointly with other CM, Metropolitan Transportation Authority (MTA), insurance, or contractor personnel.

5.0 PROCEDURE

5.1 The RE, CM inspector, or MTA Safety Engineer will document the items of nonconformance that have not been corrected within a reasonable time by using the CS-50 form. CS-50 forms may also be issued by the contractor, MTA, the Insurance Administrator, and insurance company safety personnel. The contractor will respond on the CS-50 form within 24 hours of notification. All such correspondence will be transmitted to the contractor by the RE.

5.2 The CS-50 form and instructions for completing and distributing the form are included in Exhibits 7.1 and 7.2. When possible, photographs should accompany reports, especially if a suspension of work notice is issued.

4.18 USE OF CS-50 CONSTRUCTION SAFETY SURVEY

1.0 PURPOSE

This procedure describes the completion of a Construction Safety Survey, Form #___ (Exhibit 7.1), and the purpose of that form.

2.0 GENERAL

The RE, CM inspectors, and the MTA Construction Safety Department will monitor the safety practices of the contractor and report any unsafe working conditions, unsafe employee work practices, or consistently poor housekeeping conditions to the contractor's project manager, safety representative, or general superintendent for their immediate action. The contractor will promptly correct the unsafe condition.

The above conditions shall be noted on a CS-50 Form, Form #___ (Exhibit 7.1).

3.0 DEFINITIONS

3.1 *Insurance Administrator*: the firm responsible for administration of the MTA's Owner Controlled Insurance Program (OCIP).

3.2 *CS-50:* the Construction Safety Survey form (Exhibit 7.1), used to report and correct safety nonconformances at the construction site. This form may be initiated by the contractor safety representative, the RE, CM inspector, or CM safety representative. This form is provided by the Insurance Administrator and distributed by the Construction Manager (CM).

3.3 *Resident engineer (RE):* the focal point for construction management activities and the point of contact with the construction contractor.

3.4 *Safety engineer:* the MTA safety representative responsible for monitoring the contractor's safety program and for providing the RE's office with technical support on safety-related issues.

3.5 *Safety representative:* the contractor's representative responsible for implementing the contractor's safety program and communicating the program's status to the RE.

3.6 *Construction Safety/Security Manual (CSSM):* baseline contract document that establishes the requirements and guidelines for implementing the safety and security program.

3.7 *Director, Construction Safety:* the MTA's employee responsible for administrating the project safety and security programs.

3.8 *Inspector:* an authorized representative of the CM assigned to make inspections and/or tests of the work performed or being furnished by the contractor.

3.9 *Suspension of Work Notice:* written notice that suspends, delays, or interrupts all or any part of the contractor's work.

Exhibit 7.1

CONSTRUCTION SAFETY SURVEY
(CS-50)

"SAFETY MATTERS MOST"

Contract No.: _____ Contractor/Subcontractor: _____ Report No.: _____

Item No.	Recommendation	Supervisor's Name	Safety Regulation Reference	Action Taken and Date Completed

SURVEY MADE BY:

Print Name _____ Signature _____

Job Title _____ Date _____

REVIEWED AND SIGNED-OFF BY:

(Signature of Contractor's Project Manager) _____ Date _____

(Signature of Resident Engineer) _____ Date _____

Form 428 (1/96)

cc: Contractor; RE; MTA Safety Manager; Document Control; Other: _____

5.3 The originators will track (through to completion) the CS-50s they write. If safety nonconformances are not being corrected in a timely manner, the originator will advise the RE; MTA Director, Construction Safety; MTA segment manager; and CM so these issues may be addressed with the contractor's top management and MTA management. If the contractor does not respond and correct safety nonconformances in a timely manner, CM will enforce provisions of the contract up to and including removal of the contractor personnel from the job site (refer to REP 4.19) and/or the issuance of a Suspension of Work Notice, Form ____, as warranted by the circumstances.

6.0 REFERENCES

The following procedures are referred to in this document or directly relate to its purpose:

Procedure	Title
REP 4.1	Safety
REP 4.17	Suspension of Work Notice
REP 4.19	Removal of Contractor Employee

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Construction Safety Survey (CS-50) (Form #____)
7.2	Instructions for Completing CS-50 Form

Should pictures be taken for the record

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Example of Removal Letter

- Possession of an intoxicating beverage or illegal drug
- Failure to comply with lockout/tagout procedures
- Willful destruction of project property
- Repeated nonattendance at contractually required safety meetings
- Possession of a firearm
- Repeated noncompliance with Work Area Traffic Control Handbook (WATCH) and City of Los Angeles Department of Transportation requirements
- Fighting (determine who was the aggressor; if the aggressor cannot be determined, both parties are considered to be the aggressor)
- Verbally threatening an MTA or CM staff member
- Proceeding with work not approved after being advised that work is not in compliance with safety aspects of the contract specifications

5.3 The MTA or CM shall require that disciplinary actions including days off, or termination, be MTA and/or CM options to be taken against a contractor, or subcontractor employee for the above noted, or similar safety infractions. In this case an investigation shall be conducted by the RE, Contractor's Project Manager, and/or the MTA Safety Engineer. The alleged violation would be documented. The RE would prepare a letter (Exhibit 7.1) to direct the removal of that employee. A letter would be sent to the contractor by the CM requiring the removal of that employee. The employee removed from the project may not be rehired on Metro Rail Projects.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

6.1 CM DOCUMENTS

Document	Title
REP 4.1	Safety

6.2 OTHER DOCUMENTS

1. MTA contract
2. Construction Safety and Security Manual, contract documents
3. OSHA Safety and Health Standards 29CFR 1910 General Industry
4. OSHA Safety and Health Standards 29CFR 1926 Construction Industry
5. California Code of Regulations (CCR) Title 8 -- Tunnel Safety Orders
6. CCR Title 8 -- Construction Safety Orders
7. CCR Title 8 -- General Industry Safety Orders
8. CCR Title 8 -- Electrical Safety Orders
9. CCR Title 8 -- all applicable subchapters
10. Work Area Traffic Control Handbook

5.2.1 Permit applications are made to the Central District, Bureau of Engineering by the Engineering Support Third Party Coordinator.

5.2.2 Information required to obtain this permit includes structural and civil drawings and related calculations.

5.2.3 All information is supplied by the contractor and General Engineering ~~Management~~ Consultant ~~(EMC).~~ (GEC)

5.3 PERMANENT SEWER CONNECTION PERMITS

Application is made to Central District, Bureau of Engineering. Submittal must include facilities plan and profile and proof of MTA payment of sewer facility charge.

5.4 STORM DRAIN CONNECTION PERMIT

Application is made to Central District, Bureau of Engineering. Applications must include facilities drawings and Industrial Waste Permit from Bureau of Sanitation. Prior receipt of National Pollution Discharge Elimination System (NPDES) permit is required for Industrial Waste Permit.

5.5 DEMOLITION PERMIT

When demolishing a building not owned by MTA or that does not stand on MTA-controlled property, a demolition permit is obtained from City of Los Angeles Building and Safety.

5.6 TRUCK HAUL ROUTE PERMITS

Permit requests are made to Central District, Bureau of Engineering by the Engineering Support Third Party Coordinator.

5.7 UTILITY DISCONNECT PERMITS

Permit applications are made to Los Angeles City Hall, or related agencies, by the contractor. Information required for the permit application, including drawings and calculations, is supplied by the ~~EMC~~ GEC or the Engineering Support Third Party Coordinator.

5.8 ENVIRONMENTAL PERMITS

Environmental permits are obtained by MTA's Environmental Services department. The CM is responsible for technical and administrative assistance as requested. Table 1(Exhibit 7.1) lists a sampling of these permits.

5.9 ENGINEER APPROVAL

All information submitted with an application for permit (i.e., drawings, calculations, data sheets, profiles, etc.) shall be signed and approved by an engineer who is registered in the State of California.

5.1 PERMITTING SERVICES

1.0 PURPOSE

This procedure establishes the process and documentation necessary for providing as-required permit coordination to the Metropolitan Transportation Authority (MTA) during project construction.

2.0 GENERAL

The Construction Manager (CM) provides general permit coordination on behalf of the MTA. Responsibilities include permit processing, collecting required data and drawings, providing calculations, and preparing test reports. This procedure only covers the permits obtained by the CM. Contractors are required to secure their own permits, as stated in the contract specification.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 The resident engineer (RE) oversees the various permit coordination activities to ensure that permits are obtained in a timely manner, allowing the construction activities related to these permits to continue without delay.

4.2 The RE gives construction schedule information to the Engineering Support Third Party Coordinator so it can schedule permit coordination activities. The MTA is informed of any schedule interface difficulties.

4.3 The Engineering Support staff is responsible for supporting the RE by:

- Obtaining or generating information required for the permit application
- Submitting the application to the appropriate agency
- Responding to any questions the permitting agency may have
- Providing copies of the resulting permits to MTA Configuration Management

5.0 PROCEDURE

5.1 The Engineering Support Third Party Coordinator supports the RE by providing permit coordination on behalf of the MTA. Responsibilities include:

- Performing the permit processing
- Collecting or generating the required data, drawings, and calculations
- Preparing test reports, if required

5.2 EXCAVATION PERMITS

Excavation permits are necessary for work in areas more than 100 feet beyond station outlines, when that work is not shown on contract documents.

5.12.2 The Survey Manager or designee will perform the following for vertical surveys:

- Turn through all contractor control points when practical.
- Exercise care to balance the turns.
- Peg and adjust the level a minimum of once per month. Note the adjustment in a field book.

All unclosed horizontal and vertical control traverses shall be performed at least twice, and the results shall be compared. If significant imprecision is found, the survey will be repeated until acceptable results are obtained.

5.13 OFFICE FUNCTIONS

All traverse and level adjustments will be by method of least squares.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Specification Section	Title
1050	Grades, Lines and Levels

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Survey Request (Form #___)
7.2	CM Survey Approval of Contractor's Secondary Control (Form #___)

5.8 SURVEY REPORT

Upon completion of a requested survey, the Survey Manager(or designee) will report the results of the survey. This report will briefly describe the nature and extent of the survey work performed, as well as the findings thereof. Where appropriate, charts or other tabulations of pertinent data will accompany the report. The report and related information will become part of the official project documents for submission to the Metropolitan Transportation Authority (MTA) at project close-out.

If any discrepancy or nonconformance in contractor surveying is found, the RE will bring the matter to the contractor's attention through a non conformance report (NCR).

5.9 MAINTAINING SURVEY RECORDS

All survey records will be maintained throughout the project and identified by contract number, date, and file name (if electronic data). Completed field books will be retained in the Survey group office and copies in the respective RE's Office. Survey field books will be indexed daily and will contain the initials of survey crew members.

5.10 CONTROL POINTS SET BY CONTRACTOR

The RE will ask the contractor to submit field notes indicating the location of all new relevant control points. The Survey group will verify or reject the adequacy of the point(s) within 48 hours (see Exhibit 7.2). This procedure will make it possible for the contractor to comply with Section 1050 of the specifications that requires approval of the contractor's secondary control points. Concrete placements must not be approved by the RE until the local controlling survey points are approved by the Survey group.

5.11 COMMUNICATIONS WITH CONTRACTORS

Formal communication between the CM and the contractor's survey personnel is of paramount importance. The CM and the contractor's survey personnel will meet weekly or as deemed necessary by the Survey Manager.

either ↑ RE or

5.12 FIELD PROCEDURES FOR SURFACE AND UNDERGROUND CONTROL SURVEYS

5.12.1 The Survey Manager or designee will perform the following for horizontal surveys:

- Establish control in deep shafts with the use of a wild zenith collimator or equivalent.
- Maintain traverse legs greater than 500 feet if possible.
- Check and number tripods and tribrachs prior to control work.
- Occupy all contractor control points when practical.
- Turn a minimum of three sets (6 angles) per setup. If any set exceeds a 5-second rejection limit, the set will be redone.
- Measure each distance forward and back.
- Do not attempt angular work or operating tunnel equipment if poor visibility, excessive heat waves, or poor ventilation exists.
- Service the theodolite or Total Station annually and compare and adjust the EDM relative to a known baseline every 6 months.

3.4 *Load instrumentation zone:* an area containing strain gauges installed at indicated strut levels, load cells on tiebacks, and inclinometers placed behind the soldier piles.

3.5 *Instrumentation measurement limits*:

- Maximum allowable limits
  - Angular distortion (differential settlement) of 1/600 across adjacent building columns or footings
  - Absolute settlement of 1 inch across building columns or footings
  - One hundred percent of design loads across bracing (strain gage data)
- Data Action Levels (may require defensive remedial measures)
  - Four-inch water level rise at any reading
  - Angular distortion of 1/900 across building footings or columns
  - One-inch settlement (total) 5 feet above the tunnel crown (bottom extensometer anchor)
  - One-inch ground surface settlement at any point
  - Two consecutive readings (inclinometer and strain gages) indicate accelerated rate of change

3.6 *Affected zone:* an area of the ground surface influenced by the tunnelling operation, 100 feet ahead of the tunnel face, 100 feet behind the tunnel face and 100 feet each side of the tunnel centerline (for each heading).

3.7 QUALITY CONTROL

Measuring and testing equipment should be calibrated at specified intervals by an independent laboratory in accordance with the National Institute of Standards and Technology (NIST), in accordance with Specification Section 01453 or 01460. The contractor is responsible for ensuring that the appropriate replacement instrumentation hardware is available within 48 hours of a request.

4.0 RESPONSIBILITIES

On behalf of the Owner, the CM is responsible for mapping geological conditions, instrumentation monitoring/interpretation, report writing, and other geotechnical activities related to the construction of the project.

4.1 QUALITY CONTROL MANAGER

The Manager, Quality Control has the overall responsibility for the Geotechnical group activities.

4.2 GEOTECHNICAL SERVICES MANAGER

The Geotechnical Services Manager is responsible for the day-to-day activities and direction of the Geotechnical group.

5.3 DUTIES AND RESPONSIBILITIES OF THE GEOTECHNICAL GROUP

1.0 PURPOSE

This procedure provides instructions to the Construction Manager (CM) geotechnical staff monitoring geological conditions, geotechnical instrumentation, and other geotechnical activities in tunnels and open cut/cut-and-cover (station) excavations.

2.0 GENERAL

Geotechnical instrumentation generally consists of movement detection instruments, internal bracing and tieback load instrumentation, and groundwater monitoring devices. These instruments are required to detect loads and movements of the ground, structures, and groundwater fluctuations during tunneling and station construction. Geological mapping of tunnel headings and station excavations and instrumentation monitoring is performed in order to provide:

- An evaluation of the stability of the excavation/tunnel and the need for modifications to construction procedures to maintain stability
- An evaluation of the adequacy of the design and changes to designs for future projects
- A determination of the causes of ground movements, their distribution, and their effect on nearby structures, and the need to modify the construction procedures to minimize these movements
- Documentation of conditions during and subsequent to construction for use in differing site condition claims and legal proceedings

In addition, stringent documentation and continuous mapping of tunnel headings is strongly recommended.

3.0 DEFINITIONS

3.1 *Instrumentation monitoring:* includes the reading of the installed instruments at minimum time intervals (additional readings may be required dependent on construction activity and data fluctuations) and plotting instrument readings. Monitoring includes review and interpretation of the readings by a senior geotechnical engineer and presentation of the results to the appropriate resident engineer (RE); Manager, Quality Control; ~~Engineering Management~~ General Engineering Consultant (~~EMC~~ GEC); and Metropolitan Transportation Authority (MTA) managers, with appropriate recommendations (when warranted) to ensure safe excavation operations.

3.2 *Survey data monitoring:* includes tabulating, plotting, and contouring the settlement data presented by the CM Survey group. The Geotechnical group is responsible for the interpretation, report preparation, and submittal to the appropriate RE; Manager, Quality Control; and the ~~EMC~~ GEC and MTA managers.

3.3 *Interpretation:* screening data for correctness, identifying and confirming data trends, identifying anomalies, comparing individual instrument data with other data, relating data to construction activities, and determining if problems or instabilities are developing.

hazardous waste" is the responsibility of the contractor. Sampling, characterization, transportation, and disposal of any contractor-generated hazardous waste must be performed at the contractor's expense.

5.2 PRECONSTRUCTION

During the preconstruction phase of the project the EC will provide assistance to the MTA in developing plans for responding to environmental concerns and ensuring compliance with environmental regulations and contract specifications.

5.3 COORDINATION DURING PROJECT

During the course of the project, the RE will utilize the services of the EC to ensure that the contractor complies with environmental and hazardous waste regulations and contract specifications. During the project, the RE may request that the EC coordinate environmental matters with the MTA. Upon request, the RE will be provided copies of any environmental reports or correspondence that may be generated between the EC and the MTA. The RE may, at his or her option, deal directly with the MTA Construction Manager on environmental concerns and provide the EC copies of any correspondence that may result.

5.4 ENVIRONMENTAL COORDINATOR TECHNICAL ASSISTANCE

At the request of the RE, the EC will provide technical assistance and coordinate with the MTA and the MTA's Waste Handling Contractor for general environmental services and hazardous waste transportation, storage, and disposal. Assistance provided to the RE by the EC includes contractor's compliance with:

- Environmental/pollution controls
- Contaminated soils management
- Hazardous waste-related sections of the contractor's Contract Specifications
- Regulatory agencies

This assistance may include:

- Review of environmental submittals
- Compliance monitoring of air, water, and noise to determine contractor's compliance with acceptable levels, as dictated by the Contract Specifications and regulatory agencies
- Coordination for disposal of contaminated/hazardous soils and wastes
- Construction-related environmental emergencies
- Environmental and hazardous waste compliance

5.5 CONSTRUCTION-RELATED REQUIREMENTS

At the request of the RE, the EC will respond to construction-related environmental compliance and hazardous waste management requirements, including

5.4 ENVIRONMENTAL COMPLIANCE

1.0 PURPOSE

This procedure ensures compliance of construction activities with the applicable federal, state, city, and county laws or statutes and with contract specifications for the project that deal with environmental compliance in the management of contaminated/hazardous waste or material generated or stored during construction of the station and tunnel.

2.0 GENERAL

Field construction activities may generate hazardous wastes or materials that must be controlled, mitigated, minimized, and monitored for compliance with Contract Specifications, permits, and regulatory requirements. Environmental monitoring will aid in avoiding incidents that might cause delay of tunnel and station construction; documentation will be required of all hazardous material and environmental compliance activities.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The resident engineer (RE) will act as the first line of communications for field-related environmental issues.

4.2 ENVIRONMENTAL COORDINATOR

A trained hazardous waste environmental coordinator (EC) from the Environmental Controls department will provide coordination between the contractor, Environmental Controls staff, RE's office, and the Metropolitan Transportation Authority (MTA) representative for environmental monitoring of hazardous material and hazardous waste issues.

5.0 PROCEDURE

5.1 CONTRACTOR MONITORING

The RE will require the contractor to perform noise, vibration, and water and air quality monitoring during the project to ensure contractor compliance with contract, regulatory, and safety requirements. Records of the monitoring results are maintained in the contractor's office with a copy provided to the RE's office. The monitoring is performed as required by the RE. At the RE's request, and/or if deemed necessary by the EC, the EC will monitor for noise, vibration, and water and air quality to verify results of contractor's monitoring efforts.

Soil monitoring will be performed by the EC. In addition, groundwater will be monitored for contaminants by the EC; however, it is the contractor's responsibility to monitor the volume of groundwater to determine the flow. Any wastes deemed "contractor-generated

shall be in accordance with individual contract requirements.

4.3 GENERAL ENGINEERING ~~MANAGEMENT~~ CONSULTANT

The ~~EMC~~ GEC is responsible for reviewing and approving the contractor test procedures to ensure that the testing meets specification requirements. Should additional tests or testing (which was not specified in the contract) be required, the EMC shall be responsible for the generation of Design Change Notices (DCNs), if required. The ~~EMC~~ GEC is also responsible for correcting test problems that are specification related and for generating applicable Change Notices (CNs). The EMC will initiate CNs or DCNs for other affected contracts.

5.0 PROCEDURE

5.1 SUBMITTALS

Each test procedure is submitted to the RE, who forwards it to the TSM for review. The submittal will be processed as follows:

5.1.1 If the procedure is not acceptable, it is rejected and returned with comments to the RE for resubmittal by the contractor.

5.1.2 If the procedure review is acceptable, the procedure, with the TSM comments, is returned to the RE for transmittal to the EMC for review and approval. The TSM will coordinate the procedure review with the EMC.

5.1.3 EMC reviews and returns the procedure to the RE and TSM with its comments, if any.

5.1.4 The CM reviews EMC comments and resolves any discrepancies.

5.1.5 With the RE, the TSM coordinates resubmittal of the test procedure to the contractor to ensure that all pertinent comments are addressed.

5.1.6 The contractor revises the test procedure, if necessary, and resubmits it to the RE.

5.1.7 The submittal procedure outlined above is followed again until final approval is obtained.

5.2 SYSTEMWIDE CONTRACTOR/STATION CONTRACTOR INTERFACE

Initial acceptance testing of systemwide equipment shall be performed under those contracts to verify compliance with the specification requirements. Once accepted the equipment will be turned over for interim maintenance and additional system testing, as required.

5.3 PERSONNEL/TEST EQUIPMENT

The CM Quality Control will verify that approved test procedures and, if applicable, certified test personnel are used for testing. As specified, Quality Control will verify that required test equipment is functional and that calibration certifications are current.

5.6 FACILITIES AND SYSTEMS TESTING

1.0 PURPOSE

This document specifies the requirements that the contractor, resident engineer (RE), the Construction Manager (CM) Quality Control, and the Engineering ~~Management~~ Consultant (GEC) ~~(EMC)~~ must satisfy to furnish approved test procedures and perform testing of facilities equipment and systems.

2.0 GENERAL

The contractor shall submit an overall test plan and schedule before submittal of any test procedures. A master equipment list will be issued to the contractor by the CM's Test and Startup Manager (TSM). This list is a general guideline for the test procedures to be submitted for all equipment and systems in the contract. Test folders, containing the necessary information for turnover to the Metropolitan Transportation Authority (MTA), will be prepared for all equipment to be tested. The TSM will review all contractor test procedures, make comments, if appropriate, and, through coordination with the RE, obtain GEC EMC approval. The RE will advise the TSM, who will schedule the testing with ~~EMC~~ and MTA, when equipment is ready for testing. The TSM will also resolve testing problems and coordinate retesting (refer to Exhibit 7.1).

3.0 DEFINITIONS

Refer to QCII 1.2 for general definitions.

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

Resident Engineer (RE): Ensures that the contractor provides the required test plan, procedures, schedule, and performs required tests. Responsible for all communications with the contractor concerning technical matters. The RE receives and approves all contractually required submittals from the contractor including design documentation, schedules, progress reports, test plans, procedures, and reports. The RE manages the contract with the contractor, responds to contractor requests for information and clarification, and has limited authority to direct changes.

The Test and Startup Manager (TSM): Shall request assistance from the engineering support group as necessary. The TSM reviews test procedure(s) prior to ~~EMC~~ GEC review and approval, prepares the test folder for item(s) to be tested, witnesses testing of equipment and systems, coordinates the resolution of test problems and retesting, and turns over properly tested and maintained equipment to the MTA for Integrated Testing where applicable.

4.2 CONTRACTOR

The contractor shall submit test procedures for all installed equipment and systems. It shall be responsible for conducting required inspections and tests to ensure compliance with contract requirements, for providing personnel and test equipment to conduct the tests, for maintaining calibration records for all test equipment, and for correcting problems that are caused by faulty construction. Contractor support of Integrated Tests

- Turnover Checklist
- Jumper list
- Warranty status

5.8.4 The TSM schedules the test date(s) subject to the RE's approval. The MTA and ~~EMC~~ GEC are notified 48 hours prior to initiation of the test.

5.8.5 Test is performed in accordance with ~~EMC~~ GEC approved test procedures.

5.8.6 If the test fails:

- If it is a specification problem, the ~~EMC~~ GEC corrects the specification and issues a DCN, if required, to the RE. The RE has the problem corrected and reschedules retesting through the TSM.

- If it is a construction or system problem, the contractor corrects the problem and notifies the RE when the equipment is ready for retesting.

- Depending on the circumstances of the failed test, the test may resume using existing test documents or may be retested, the documentation revised accordingly to reflect the extent of retesting.

- Each red-lined test procedure change must be approved by the contractor, the ~~EMC~~ GEC, and the CM. This means that each red-lined change must be signed and dated by the contractor, ~~EMC~~ GEC and CM.

5.8.7 If the test passes:

- The signoff sheet is completed.

- The test folder and maintenance records are held by the TSM and turned over to MTA Operations when MTA takes custody of the equipment.

5.8.8 The TSM maintains a test log for each facility.

5.9 NONCONFORMING CONDITIONS

The CM Quality Control will verify that the documentation for any nonconforming condition associated with the testing is included in the test folder. Nonconforming conditions shall be processed as described in QAP 14, Control of Deficient Items.

5.10 TESTS AND TEST REPORTS

The CM Quality Control will verify that required test results have been obtained and that test reports have been submitted within 10 working days of test completion. Quality Control will also witness and document each test, verifying that test reports are approved prior to continuing work dependent on those tests.

5.11 RECORDS

The test folders shall be held by the TSM until turnover to MTA Operations, in accordance with REP 4.12. Interim maintenance records will be included in the test folder. One copy

5.4 FACTORY TESTING

The TSM will ensure that factory inspections/test results and documentation are included in the test folder when factory testing is specified.

5.5 SUPPLY AND EXHAUST SYSTEMS FOR HVAC EQUIPMENT

The CM's inspection staff shall visually perform an internal check of all accessible ducting and concrete shafts for any equipment to be tested. All ducting and concrete supply and exhaust shafts shall be clean and free of debris and have unobstructed air supply or exhaust source. The records for these inspections are to be included in the test folder. This shall be done prior to starting any of the heating, ventilation, and air conditioning (HVAC) equipment.

5.6 MAINTENANCE

CM quality control shall verify that electrical and mechanical equipment has been serviced and maintained per the manufacturer's recommendations. Verify that the documentation for this work is included in the test folders prior to turnover.

5.7 EQUIPMENT/SYSTEMS TO BE TESTED

All equipment installed by the facilities contractor will be tested in accordance with the approved test procedures. The RE, in coordination with the TSM, will furnish the contractor with a list of facilities equipment from the latest revised drawings for the contract; the contractor is responsible for any omissions in the list. The purpose of the equipment list is to provide guidelines for the contractor in preparation of the test procedures. All test procedures must be approved by the EMC prior to testing.

5.8 TESTING

The following requirements must be met before tests are performed. Exhibit 7.2 lists the test control requirements.

5.8.1 The contractor notifies the RE of equipment that is ready to be tested.

5.8.2 The RE notifies the TSM, who will verify that the required submittals for testing have been submitted and approved, that equipment is ready for testing.

5.8.3 The TSM shall prepare the test package for equipment to be tested and shall ensure that all mandatory pretest requirements have been completed and documented. The test package shall consist of:

- Vendor data
- Inspection records/checklist
- Verify status of the Safety Certification Specification Conformance Checklist (SCSCC) for equipment to be tested
- Maintenance records
- Contract instrument calibration/settings
- Approved test procedure
- Latest revised drawings or as builts
- Test instrumentation certifications/calibrations

of the contractor submitted operations and maintenance manuals for the equipment will be included with the test folder.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication (EMC GEC specification sections are part of each station and tunnel contract):

Specification Section	Title
15990	Testing, Adjusting and Balancing
16955	Test Support

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Facilities Test Plan
7.2	Test Control Requirements

Exhibit 7.1

FACILITIES TEST PLAN

NOT INCLUDED

Exhibit 7.2 (Continued)

TEST CONTROL REQUIREMENTS

12. Parameters of specific tests are specified in the test procedure/test data report.

13. Tests are conducted in order specified.

14. Go/No-Go results are individually accepted by the operator's signature/initials.

15. Equipment/items replaced during the test must be documented and approved by the contractor, ~~EMC~~ GEC, and the CM before the test continues.

16. Test failures shall be documented on a Nonconformance Report (Form #___).

17. Test reports shall be signed by the test technicians conducting the test, the contractor's authorized management representative, and the CM. The CM's approval should include review by the CM's Quality Control department.

18. Ensure that the test report original document, with approval signature, is controlled and secure.

19. Ensure that test reports are maintained in a logical and controlled manner for presentation to the Metropolitan Transportation Authority.

Exhibit 7.2

TEST CONTROL REQUIREMENTS

1. Review field, text plan, procedures, and schedules.

2. Test summary reports shall be approved before the next level of testing starts.

3. Final test reports for each level of test includes:

   A. Name of test and test procedure reference

   B. Identification of equipment under test, including nomenclature, part number, and serial number of each lowest level replacement unit.

   C. Test equipment calibration is identified (within current calibration) and documented

   D. Test and support equipment nomenclature, part number, and serial number are documented.

   E. Test equipment environment is described: approximate temperature, humidity, dust conditions, and other pertinent test environment factors.

   F. Location of tests

   G. Test input data and results are documented for each test parameter.

   H. Identification of points and functions measured, monitored, or checked; results at each point with pass or fail statement

   I. Description and explanation of test failures or deviations from expected results

   J. Date of test

   K. Signature of person conducting test

   L. Signature indicating contractor's approval, other than the test operator, should include contractor's quality control manager and project manager.

4. Next level test reports shall reference the previous test by name and report identification.

5. Ensure that test plan(s) and procedure(s) are approved by contractor and the CM.

6. Test procedure revision is current and referenced on the test data sheets (if used).

7. If dry-run tests are performed, participate and provide guidance for requirements. Ensure that dry-run data is not used as final data.

8. Participate in pretest meetings.

9. Each red-lined test procedure change must be approved by the contractor, the ~~EMC~~ GEC, and the CM. This means that each red-lined change must be signed and dated by the contractor, ~~EMC~~ GEC, and CM.

10. Check calibration of test equipment before the test starts.

11. Verify that test equipment, cables, connectors, and interface devices are in place and in accordance with the procedure.

underpinning, restoration of structures, and concrete reinforcement)

- Working drawings (i.e., tunneling methods and operations, support of excavations, decking, form work, support, utilities support, temporary ventilation, access roads and parking areas, and grouting)
- Utilities relocation and support
- Electrical systematic schematic diagrams and circuit diagrams
- Test schedules and testing and manufacturing procedures
- Samples and mockups
- Operations and maintenance/training manuals
- Programmatic documentation (hazard analysis)
- Test procedures and test reports
- As-Built Document Submittals

2.3 CONTRACTOR SUBMITTAL REVIEW

The process to be followed in Contractor Submittal Review is shown in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Master list of submittals:* a list of all submittals that the contractor is required, by Contract Specifications and Contract Drawings, to submit to the RE for review and approval. The list shall be submitted to ~~EMC~~ GEC for approval of technical content.

3.2 *Urgency of response:* This is an indicator on the Submittal Transmittal to the reviewers and is defined as follows:

Routine: within the terms of the contract.

3.3 As-Built Document Log: The list of as-built documents that the contractor is to submit at interim and final contract milestones per Contract Section 1720, paragraph 1.3.c.

Urgent: as defined by the contractor at time of the submittal

4.0 RESPONSIBILITIES

4.1 CONTRACTOR

The contractor is responsible for furnishing a Master List of Submittals as required by the contract specifications and Contract Drawings, with corresponding submittal dates that allow adequate time for review by the CM, the ~~EMC~~ GEC, MTA, or third parties. The Master List of Submittals is to be submitted in both electronic and hard copy format. The electronic copy is to be submitted in a format compatible with the MTA CCS Submittal Tracking system.

6.1 SUBMITTALS

1.0 PURPOSE

This procedure establishes guidelines for establishing submittal schedules and for processing contractor submittals and describes the processing of submittals from original receipt by the resident engineer (RE) until the submittal is reviewed, dispositioned, and returned to the contractor, via the RE.

2.0 GENERAL

2.1 The Construction Manager (CM) is responsible for managing contractor submittals, coordinating review of submittals with the Engineering ~~Management~~ Consultant (~~EMC~~), Metropolitan Transportation Authority (MTA), and CM staff, as required, and for tracking the approval process of submittals within the time frame specified in the contract documents. The CM will maintain submittal status tracking systems, using the MTA's Change Control System (Submittal Tracking Module), and will be responsible for maintaining submittal documents in a readily retrievable manner throughout the construction phase of the project.

Contractor submittals will be turned over to the MTA at contract closeout as part of the project record. Included in this task is tracking of all systems Contract Data Requirement List (CDRL) items and subsequent notification to the contractor of any submittal deficiencies. Design interpretation or changes to approved submittals must be reviewed and approved by the ~~EMC~~, or other designated reviewer.

2.2 This procedure outlines the process, control, coordination of review, and retention of contractor submittals. The review must be performed in a timely manner (i.e., within 30 days) in order to comply with contract documents and deliverable requirements schedules.

2.2.1 Submittal review and acceptance requirements include, but are not limited to: (Additional review responsibility guidelines are provided in Exhibit 7.3)

- Master Submittal Schedule (CM, MTA)
- Schedules (CM)
- As-Built Document Submittal Schedule (CM, ~~EMC~~, MTA)
- Contractor's QA/QC programs and procedures (CM)
- Contractor's construction work plans (CM)
- Geotechnical instrumentation and monitoring (CM)
- Safety and security programs and procedures (MTA)
- Traffic control (transmitted to City of Los Angeles Department of Transportation [LADOT] for review and approval)
- Welding procedures (~~EMC~~)
- Welder qualifications (CM)
- Permits (CM)
- Environmental, hazardous waste, and pollution control plans and procedures (MTA)

2.2.2 The technical and engineering submittals to be logged by the RE and transmitted to the ~~EMC~~ for review and approval include, but are not limited to, the following:

- Shop drawings (i.e., design implications regarding permanent installation and finish items, temporary installations required by specifications or drawings, lift drawings,

5.2 CONTRACTOR SUBMISSION

The contractor produces submittals according to the contract documents and approved schedule, reviews the submittal; and affixes, dispositions, and signs the Contractor Review Stamp. The submittals are forwarded to the RE with the contractor's letter of transmittal.

5.2 RE ACCEPTANCE

After receipt of the submittal, the RE scans the submittal to ascertain that the information required to support the submittal is provided in accordance with the appropriate Specification Section 01300. If the proper information is not included, or is not adequately identified, the RE returns the entire submittal to the contractor. When the RE is satisfied that the submittal has provided the information required, the RE determines the routing and review requirements of the submittal. Standard review requirements are listed in Exhibit 7.3. Submittal receipt is entered into the Submittals module of the Change Control System (CCS). The RE uses this module to track, generate forms, and report activities related to contractor submittals.

In order to maintain the submittal review schedule, the RE may also return submittals provided by the Contractor significantly earlier than their approved due date, and request that they be resubmitted closer to their approved due date.

5.3 SUBMITTAL REVIEW

If it is determined that the submittal is of an engineering or technical nature, it is transmitted to the EMC. Following the engineering review, the submittal is returned to the RE for subsequent transmittal to the contractor. The EMC is responsible for coordinating approval by City of Los Angeles agencies. The RE is responsible for tracking the submittal during this step and ensuring that it is returned in a timely manner to stay within the time restraints established by Contract Documents Section 01300 or as indicated in the Urgency of Response disposition.

When the RE disputes the disposition of a submittal by the EMC, the RE contacts the EMC representative to resolve the dispute within the allotted review time. This resolution process should be initiated as soon as possible. The RE documents the resolution with an explanatory letter attached to the disputed review when it is returned to the EMC for a resolution.

5.4 ACCEPTANCE DISPOSITION MARKING

When the EMC completes review of a submittal, a review stamp is affixed to the submittal. The EMC assigns a disposition code and signs the review stamp. The RE shall not stamp or approve submittals that are reviewed by the Engineer (EMC).

When a submittal (as listed in subsection 2.2.1) is reviewed within the CM/MTA organization, the RE affixes a review stamp (Exhibit 7.2), signs the stamp, marks the disposition code, logs the disposition into CCS, and returns the submittal to the contractor with comments.

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with estimated/scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as delinquent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring that for ensuring that all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number (see 5.1.2 for format), Submittal Title, due date, and schedule activity code. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS.

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

The submittal number will consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1 for each specification section), and revision number (beginning with 0). Systems contracts will assign submittal numbers by CDRL number, in place of specification section and paragraph.

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by 1.

5.1.2 AS-BUILT DOCUMENTS LOG

The as-built document log is to be developed as part of the Master Submittal schedule. Each as-built submittal record will identify the due date, the associated milestone, and the specific drawings and documents to be submitted.

5.9 EQUIPMENT AND MATERIAL LISTS

Construction contract specifications may require the contractor to complete a list of all long-lead and/or schedule-critical material and equipment items, the name of each supplier, and the required and promised delivery dates for each item. The list is received and processed by the RE as a submittal. This submittal is to be made on those contracts where it is required in the contract specifications.

5.10 SUBMITTAL RECORD FILING

The RE retains copies of all submittal documents, related documentation, comments, and revisions, filed in submittal number order (exceptions listed below). The RE is responsible for ensuring that an accurate file is available for ready retrieval during the life of the project and for turnover to the MTA at closeout. To ensure retrievability, a signout system is maintained by the RE for documents removed from files. For ease of retrieval and transfer to MTA Operations following close-out, the following submittal types will be maintained in separate case files, also organized by submittal number

- Warranties and Guarantees
- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits
- As Built Submittals

5.11 SUBMITTAL DISPOSITION CHANGES

A submittal that was assigned a disposition code of "Approved as Noted, Correct and Resubmit in 30 days" or "Rejected, Revise and Resubmit," may be resolved and upgraded to an "Approved" code, without the contractor actually resubmitting the submittal. In this case, the RE will first obtain written notification from the EMC, specifically approving the submittal issues. Then the RE will log a revision in the CCS for the submittal number and upgrade the review code. The RE will affix a new review stamp to the submittal, cross out the old stamp, and sign the new stamp, marking the "Approved" code. A transmittal, including justification for the change, will be sent to the contractor.

5.12 RESUBMITTALS

Required resubmittals will be logged in CCS as soon as identified. Where parts of a submittal were accepted and parts rejected (e.g., specific drawings), only rejected items need be resubmitted. Resubmittals will be ~~process~~ processed in the same manner as original submittals.

5.13 SUBMITTAL SCHEDULE REVIEW

The RE periodically reviews the status of submittals and advises the contractor of submittals due that may impact the schedule. Status listings of submittals required for specific contract activities will be included as part of "readiness" reviews. The submittal schedule will be reviewed and adjusted periodically on a 6-month look ahead basis.

Disposition Codes are as follows:

ACC = Accepted. (Submittal package accepted in entirety, no changes or resubmittals required.

ANR = Accepted As Noted. Correct and resubmit within 30 days for record. (Contractor may work to submittal documents as marked by the reviewer. Marked corrections are to be incorporated and resubmitted.

REJ = Rejected. Revise and Resubmit. (Submittal package is rejected in entirety or in part. Specific documents or drawings rejected are identified. The contractor is to resubmit by the due date indicated prior to work)

FRO = For Record Only. The submittal package is accepted for record purposed only.

On issuance of a "Rejected" or "Accepted as Noted" submittal response to the contractor, the RE will immediately log the required resubmittal into CCS and assign an appropriate due date. The exception is submittals that are rejected because they are no longer required.

5.6 RESPONSE TIME REQUIREMENTS

Each construction contract specification states a response time requirement for contractor submittals. The RE is responsible for responding to the contractor in the shortest time possible, but no longer than the contractual requirement, in order to limit vulnerability for potential contractor claims and to avoid operations and schedule conflicts. The due date indicated to reviewers on the transmittal and CCS should allow for processing time required by the RE after review (to transmit the submittal to the contractor.) Review and approval actions are to be complete and comprehensive within the specified period. In some instances this may not be possible, and a partial or "review status" response is issued to the contractor so that concerned parties are aware of the circumstances. This is followed as soon as possible with a complete, formal response.

If the RE projects that the review period will take longer than 30 days, the RE contacts the contractor by telephone for the purpose of explaining the possible delay. The RE sends a confirming letter immediately following the call.

5.7 ON SITE REVIEW

The ~~EMC~~ GEC will visit the jobsite as required, to observe a condition in question or to discuss the subject with the RE, the contractor, or others, as necessary.

5.8 REVIEW STATUS TRACKING

All known submittals will be logged in CCS prior to their due date. Throughout the contractor submittal review process the RE monitors and tracks the status of all submittals utilizing the CCS.

3.0 DEFINITIONS

3.1 *Cost Control Account Report* (Exhibit 7.3): For "pay-off-the-schedule" contracts, this form is generated from the automated scheduling system and reflects work done for the period based on the monthly schedule update. The form lists all contract pay items and pay item numbers, indicates the budget amounts, cumulative and period actuals. The project control engineer uses this form as the source document for statusing and reviewing Payment Estimates.

3.2 *Contract Skeleton Form* (Exhibit 7.4): For contracts that are not "pay-off-the-schedule," this form is generated by the project control engineer out of the Cost Management System (CMS) and is provided to the contractor through the RE to facilitate manual statusing of progress amounts. The RE reviews and approves those amounts. The form lists all contract pay items and pay item numbers, indicates whether payment is made on a unit price or lump sum basis, shows estimated quantities for each unit price item, and shows total price for each pay item. The contractor indicates the monthly quantity changes for the unit price pay items and a stipulated amount for lump sum pay items, which are listed accordingly to the previously approved Schedule of Values.

3.3 *Contract Payment Estimate* (Exhibit 7.5): This official document, forwarded to the MTA by the project control engineer (after review and signature by the RE), provides the basis for contractor progress payments. This pay estimate is based on data provided by the Cost Control Account Report (Exhibit 7.3) or the Contract Skeleton Form (Exhibit 7.4) and shows for each pay item, on both a current and cumulative basis, quantities installed, estimated costs, and percent completed.

3.4 *Schedule of Values* (Exhibit 7.2): A breakdown of selected lump sum pay items into work categories for the purpose of facilitating the making of accurate assessments of contractor's progress.

3.5 *Paybook or Quantity Record* (Exhibit 7.4): The Pay Quantities Records ledger of individual pay items.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE has primary responsibility for implementing pay estimate procedures, verifying the accuracy of the pay estimates submitted by the contractor at the end of each monthly work period, and forwarding the approved contract payment estimate to the Project Office for documentation.

4.2 PROJECT CONTROL ENGINEER

No contracts that are "pay-off-the-schedule," the project control engineer generates the Cost Control Account Report (Exhibit 7.3) after the monthly schedule update has been processed and approved by the RE (refer to Exhibit 7.1). The Cost Control Account Report is used as the basis for updating progress payments into the Payment Estimate module of the CMS.

4.3 PROJECT CONTROLS

6.2 PROGRESS PAYMENTS

1.0 PURPOSE

This procedure establishes the process and documentation for ensuring that progress payments are made in a timely manner utilizing acceptable cost control practices. The records that the resident engineer (RE) maintains must be accurate and comprehensive in order to provide an audit trail at all times throughout the duration of the contract.

2.0 GENERAL

2.1 Most Metropolitan Transportation Authority's (MTA's) construction contracts have progress payments that are tied directly to the contractor's approved baseline schedule and monthly schedule updates. These contracts use information maintained and generated from the automated scheduling system as a basis for monthly progress payments (refer to Exhibit 7.1).

2.2 Certain systemwide equipment procurement contracts do not have monthly progress payments that are tied directly to the schedule updates. For these contracts, the contractor is provided monthly Skeleton Forms in order to status progress payment amounts (refer to Exhibit 7.9).

2.3 Each contractor is required to submit 120-day initial construction schedule as specified in the contract, generally within 14 calendar days after the Notice to Proceed (NTP). This submittal shall include a Schedule of Values. The 120-day schedule is a cost-loaded outline of the activities for the first 4 months of the contract for which compensation will be required. The 120-day schedule must be in place prior to the processing of any payments to the contractor.

2.4 Each contractor is also required to submit a detailed Schedule of Values (Exhibit 7.2) as specified in the Contract, generally within 14 calendar days after the Notice to Proceed. For the "pay-off-the-schedule" contracts, the cost-loaded, 120-day schedule generated from the scheduling system satisfies the Schedule of Values requirement in the contract; no separate submittal is required. For contracts that are not "pay off the schedule," the Schedule of Values will be in sufficient form and detail to provide a reasonable assessment of how lump sum items will be statused over the life of the contract. (Some procurement contracts contain a Schedule of Payments in the actual contract documents; in these cases, no Schedule of Values is required.) Schedule of Values submittals must be in place prior to the processing of any payments to the contractor.

2.5 As a part of the monthly schedule updates, the resident engineer assures that the schedule status (for "pay-off-the-schedule" contracts) or the Skeleton Forms statusing (for contracts which are not "pay-off-the-schedule) represents work that has actually been accomplished to date. This status is incorporated into the Payment Estimate module of the Cost Management System (CMS) to create the actual progress payment document.

2.6 The contractor may submit as specified in the contract, generally within 90 days of NTP - a list of materials (Schedule of Material Allowances) for which he will seek to receive progress payment prior to installation. Advance payment for materials is intended to be used for major items only. Prior to inclusion of such materials into any progress payment, the RE ensures that all the requirements set forth in the Contract Documents, General Conditions, and Section on Progress Payments have been met.

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

The CM has change approval and execution authority for changes with a cost impact of up to $50,000 (based on the cumulative absolute value of the change at the time of execution), provided the change does not affect other program baselines or schedule milestones. The CM may delegate any or all authority for costs up to $50,000 to the RE or other CM staff members. The CM is responsible for notifying the MTA of any changes in the work; evaluating the impact of changes on the contract, project cost, and schedule; and identifying and processing field changes at the lowest possible level to mitigate delays or construction problems.

4.2 RESIDENT ENGINEER

The RE has change approval and execution authority for contract COs with a cost impact of up to $25,000, with an additional $25,000 still within the authority of the CM. The RE is not authorized to execute any contract change extending contract duration or milestones or otherwise affecting the contract General or Special Conditions or to unilaterally execute changes arising from contractor's claims. The RE is responsible for monitoring the progress of contract changes and ensuring that they are processed in a timely manner, ensuring that milestones and schedules within his/her jurisdiction are not affected or impacted. The CM Project Office shall provide RE with the advice, support and training required to effectively process the changes.

4.3 ENGINEERING ~~MANAGEMENT~~ CONSULTANT

Only the ~~EMC~~ has change approval authority for design documents and specifications or the substitution of materials. Agreements at meetings or through letters or memos do not constitute design changes. Design changes must be submitted through the formal change process to the ~~EMC~~.

5.0 PROCEDURE

5.1 REQUEST FOR INFORMATION/CHANGE

5.1.1 RFI

The RE will log and track RFIs in the CCS. All RFI transmittals will be generated from the CCS, when required. RFIs will be reviewed by the EMC for technical response. The RE will review the EMC response before forwarding the response to the originator. If the response to an RFI indicates a change is required, the RE will generate a CN in accordance with MTA procedures. Multiple RFIs may be processed in a single CN.

5.1.2 RFC

The RE will log and track RFCs in the CCS. All RFC transmittals will be generated from the CCS. The RFC will be reviewed by the EMC and the RE, and merit will be determined. If the RFC is merited, the RE will generate a CN in accordance with MTA procedures. If the RE determines the RFC has no merit, the contractor will be notified. If the contractor does not agree, it may submit a notice of intent to claim (refer to REP 6.6).

6.5 CHANGE PROCESS

1.0 PURPOSE

This procedure outlines the resident engineer's (RE's) responsibilities in providing full and complete documentation for processing changes to the Metropolitan Transportation Authority's (MTA) construction and procurement contracts.

2.0 GENERAL

2.1 The change control process consists of five basic steps:

1. Change initiation
2. Change Notice (CN) processing
3. Negotiation/Cost verification
4. Change Order (CO) processing
5. Change cost posting and file closeout

2.2 Exhibit 7.1 shows an overview of the change control process as developed by the MTA. The flowchart contains major process steps, responsibilities, and documentation requirements.

2.3 Terms and conditions vary from contract to contract, refer to the specific contract documents in question when processing changes. Any changes to construction contracts that affect the scope of the Construction Management Services contract between the MTA and the Construction Manager (CM) should be handled according to CMS ___, Changes to CM Services Scope of Work.

2.4 Exhibit 7.2 shows the breakdown of change approval and execution authority under the MTA . Approval authority is established by the preliminary cost and impact assessment for the change.

3.0 DEFINITIONS

Refer to the MTA procedure CF 11: "Change Control: Construction/Procurement Contracts" (refer to Section 6.0) for definitions of change-process terms.

3.1 *Request for Information (RFI):* a request for design or other contract information for an item which may not be sufficiently detailed or explained in the contract documents. An RFI may be generated from the contractor, the Engineering Management Consultant (EMC), or from any CM staff.

3.2 *Request for Change (RFC):* a request from the contractor for additional time, a contract/design change, or compensation for work.

3.3 *Change Control System (CCS):* The MTA's automated tracking system that tracks, controls, and generates documentation in support of the RFI/RFC, submittals, and issues, as well as the change and claims process.

3.4 Red Book: (provide definition)

This position does not appear on org chart in REP 1.1 and REP 3.1

4.2 The field contract administrator will assist the RE in coordinating the dispute-handling process between the RE office, Change Coordinator, contract closeout team, the Client, and the contractor.

4.3 The Change Coordinator will track all requests for Contracting Officer's determinations, assist the RE and contract administrator in preparing claims packages, preparing transmittal memoranda, and tracking the status of all claims and potential claims.

5.0 PROCEDURE

5.1 Exhibit 7.2 shows a flowchart of the dispute-handling process.

5.2 The process begins when the RE reviews a Contractor Request for Change (RFC) and determines that the request has no merit. (If the request has merit, the RE proceeds to issue a Change Notice in accordance with REP 6.5.) When the RE makes a "no merit" determination, the RE will issue a rejection letter to the contractor, and the issue becomes a potential dispute. All RFCs will be logged into the Change Control System (CCS) on receipt.

5.3 If, despite the rejection letter, the contractor still believes the request has merit, the contractor shall provide a written "Notice of Intent to Claim" to the RE. The RE will assign a control number to the NOI and enter appropriate information into the Claims Module of the MTA CCS computer tracking system. The RE shall establish a potential claim file with all pertinent information using the assigned CCS Claims Module (NOI) tracking number.

5.4 The contractor and any subcontractors involved in a dispute are responsible for furnishing the information and details necessary for the determination of the facts or contentions involved in any potential claim. Requests for time extensions must include a revised construction schedule showing the effects of the delay on the schedule and must include proposals to minimize schedule impacts. Support data for any dispute involving a time extension will be submitted per the terms and conditions of the specific contract.

5.5 If, upon reconsideration of the contractor's request, the RE determines the request ~~now~~ has merit, the issue will be handled via a Change Notice that summarizes the basis for negotiation of cost or schedule impacts. If the RE determines the request still has no merit, the RE will write a second rejection letter and forward it to the contractor. The RE should assume at that point that the dispute constitutes a potential claim and should begin amassing pertinent documentation in support of the RE's "no merit" determination.

5.6 The contractor may now choose to pursue the issue by submitting a Notice of Intent to Claim (NOI). Upon receipt of such a NOI from the contractor, the contract administrator will assign a sequential potential claim number for the contract affected, logging the number and pertinent information either in a log book or the CCS, if available. Any applicable contractor reference numbers should be logged, along with the stated basis for claim. The request, along with a transmittal interoffice correspondence (IOC) from the RE and supporting documentation, will then be forwarded to the contracts manager (refer to Exhibit 7.2 for a sample IOC). The contracts manager will analyze the claim and draft a position statement for the CM. The CM will approve the position summary and forward the package to the Change Coordinator for transmittal to the MTA if a "no merit" determination has been made.

6.6 CLAIMS PROCESS

1.0 PURPOSE

This procedure provides specific instructions for processing potential claims from the contractor. The Construction Manager (CM) will provide claims support as authorized by the Metropolitan Transportation Authority (MTA).

2.0 GENERAL

2.1 CLAIMS AND DISPUTES

Claims and disputes will be handled in accordance with the contract General Conditions or General Provisions articles governing:

- Disputes
- Notice of intent to claim
- Submittal of claims
- Mediation or Disputes Review Board

2.2 REQUESTS FOR TIME AND COMPENSATION

Contractor requests for additional time and compensation for work that are found by the resident engineer (RE) and the MTA to have merit are to be processed as bilateral change orders, whenever possible. If the request for change is determined to have no merit and the contractor does not agree, the contractor may submit a notice of intent to claim.

2.3 CLAIMS AND FINAL PAYMENT

No claims shall be made after final payment is made to the contractor for the work. A claim will cease to be a claim if, at any time, a change order or contract amendment resolving the issue is signed by all parties.

2.4 CLAIMS UNDER $375,000

Claims of $375,000 or less (including any claims for extensions of time) are subject to a series of procedures under Public Contract Code sections 20104 et seq., effective January 1, 1991. A summary of the Statutory Requirements for Resolution of Claims Under $375,000 is given in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Request for Change:* Any letter or correspondence from the contractor requesting modification to the contract.

4.0 RESPONSIBILITIES

4.1 The RE is responsible for initially assessing the validity of contractor requests for change, preparing a response to requests for change and appeals, and compiling a file of potential claims-related documentation and correspondence. The RE also has the primary responsibility for the negotiation of all change settlements, with the contracts representative assisting in the negotiation of claim settlements.

Exhibit 7.3

Sample IOC Contracting Officer's Determination (not included)

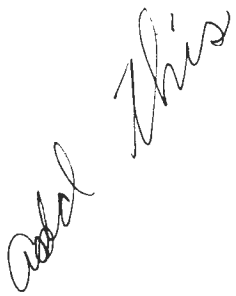


Exhibit 7.2

Handling of Disputes (not included)

add this chart

5.1.2 The RE and Inspectors should monitor the Contractor's work for compliance with plans, specifications, and contractual provisions, perform quality assurance inspections of the workmanship, materials and equipment and monitor the Contractor's quality control process.

5.1.3 The overall project schedule should be maintained and Contractor schedules monitored on a weekly basis. Schedule progress should be compared against actual observed field progress. The RE may require the Contractor to provide mitigation plans to recover the schedule if the Contractor is not maintaining schedule progress.

5.1.4 Payment requests, change notices, and change orders should be processed in a timely manner.

5.1.5 The RE should plan, schedule and expedite the delivery of MTA-furnished materials and equipment to the job site. This responsibility includes warehousing and coordination between supplier and Contractor.

5.2 IDENTIFYING AND DOCUMENTING A POTENTIAL CLAIM

5.2.1 The RE should anticipate and identify potential problem areas in the work. It is the RE's responsibility to alert the Deputy Project Manager, Construction, in order to allow as much lead time as possible to schedule major changes requiring action from the MTA Configuration Control and other Boards.

5.2.2 The RE will maintain a complete history of potential changes, to include written records of the following:

- Contract change possibilities
- Claim of differing site conditions
- Omissions or conflicting information in contract documents
- Cost or time revision requests

5.2.3 Any documentation relating to disputed work and/or documents, to include correspondence, memos, diaries, and photographs, should be kept in a potential claim file whenever a potential claim is recognized.

5.3 MITIGATING POTENTIAL CLAIMS

5.3.1 The RE will reach one of three decisions in determining the merit of a potential claim:

- There is merit in the claim and the Contractor clearly has the entitlement. In this case, the RE acts immediately to issue a Change Notice or Cost-Plus Change Notice to remedy the problem.

- There is clearly no entitlement, in which case the RE notifies the Deputy Project Manager, Construction, and the Contractor that the potential claim has no merit.

- There is entitlement, but time and/or dollars cannot be quantified at this time. In such cases, the RE will issue a Change Notice or Cost-Plus Change Notice for the amount he feels the Contractor is entitled.

- Authority limits and appeal procedures will follow the provisions in the Contract.

6.7 CLAIMS AVOIDANCE

1.0 PURPOSE

The purpose of this procedure is to provide guidelines for claims avoidance and to define the Resident Engineer's (RE) role in claims mitigation.

2.0 GENERAL

2.1 Potential claims may come from the Contractor in the form of:

- Notice of Intent to Claim
- Request for Information or Requests for Change
- Phone calls from the work site (informal notification)
- Notification of differing site conditions, deficient specifications or design drawings, conflicting information in contract documents

2.2 Contract specifications allow the Contractor to claim damages or delays provided adequate notice and documentation are furnished. It is essential that the RE recognize potential claims situations and look ahead pro-actively to identify potential claims. Prompt notification to the Deputy Project Manager, Construction, of potential claims situations will give responsible parties sufficient time to set the mitigation process in motion and possibly avoid the claim entirely.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 The RE is responsible for the timely resolution of potential claims through the prompt negotiation of a change order, when appropriate. The RE is responsible for identifying potential claims; providing initial technical analysis and review of all requested changes; providing clear and concise descriptions of the change notice or change order scope of work; scheduling ahead for major changes; and communicating requirements and problems to the Deputy Project Manager, Construction, for prompt resolution.

4.2 The RE is responsible for keeping clear and accurate records of the events and issues leading to a potential claim. Timely response to Contractor Requests for Information or Requests for Change is coordinated through the RE Office, the Project Office, and the MTA by the Contract Administrator.

5.0 PROCEDURE

5.1 CLAIMS AVOIDANCE GUIDELINES

5.1.1 The RE should conduct periodic job coordination meetings with the Contractor to discuss work progress and any schedule, administrative and project problems. MTA staff should be included in these meetings, as well as the Engineering ~~Management~~ Consultant (~~EMC~~ GEC) if specific design issues are to be addressed. Detailed meeting minutes should be kept.

General

- Inform potential contractors of all available geotechnical information on subsurface conditions.
- Ensure that all Grantee-furnished materials are available when needed.
- Complete all preconstruction surveys and ensure that engineering is complete prior to issuing the contractor a notice to proceed.
- Obtain the necessary approvals and agreements from all other public authorities affected by the project prior to contract award.
- Ensure that all design and shop drawings are promptly approved and made available to the contractor, as needed.

5.2 If the grantee's claim records substantiate that reasonable and prudent measures were taken to prevent or offset the causes underlying the claim, regardless of the criteria described above, the FTA may participate in the negotiated cost. The RE's narrative in the contract modification shall state that none of the eight items listed above (and in paragraph 14 of Circular 5010.1A) applies and shall demonstrate support of a "reasonable and prudent" approach to the problem.

5.3 If the CN is charged to local funds, the RE's narrative should spell out which of the eight items above (also stated in paragraph 14 of Circular 5010.1A) applies or why the CN represents a design issue that will require a determination by the MTA.

5.4 Once eligibility has been determined, the appropriate Change Control System (CCS) entries can be made. The CCS requires that the funding source(s) be identified as either "FTA eligible," which is the system default, or "local."

5.5 Time and material changes (also referred to as "cost-plus") are eligible for federal funding as long as the change meets all other criteria for federal funding eligibility. The type of change notice used to initiate the work (i.e., request for proposal, work authorization) has no direct bearing on eligibility. Eligibility is based on the underlying cause of the change, not the manner of administration.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
FTA Circular 5010.1A	

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Funding Eligibility Checklist
7.2	Contract Value Statement

6.8 FTA FUNDING ELIGIBILITY

1.0 PURPOSE

This procedure describes the ground rules for coding contract changes for Federal Transit Administration (FTA) funding eligibility.

2.0 GENERAL

Construction contract changes must be coded to reflect the relevant source of funds for the increased cost of each contract change. It is the responsibility of the resident engineer (RE) to control and manage the contract's costs. The Metropolitan Transportation Authority (MTA) looks to the RE, to use his or her best judgment to make the initial effort in coding the applicable funds source for each contract change.

MTA Program Control has final responsibility for determining funding eligibility. The MTA completes a Funding Eligibility Checklist (Exhibit 7.1) and signs off on the Contract Value Statement (Exhibit 7.2), indicating its concurrence with the RE.

The basis for determining fund source coding is FTA Circular 5010.1A.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

The RE should exercise his judgment in coding the applicable funds source for each contract change.

5.0 PROCEDURE

5.1 Ascertain whether the change/claim issue falls within the following restrictive categories:

- Changes/Claims resulting from the following general categories are not eligible for FTA funding:
  - Grantee (MTA or its representatives/consultants) negligence or error
  - Mismanagement by the Grantee
  - Problems or issues attributable to the contractor

Paragraph 14 of Circular 5010.1A specifies that the FTA normally will not participate in any claim or change resulting from issues for which the Grantee failed to:

- Obtain clear access to all needed right-of-ways prior to award of the construction contract.
- Execute all required utility agreements in time to ensure uninterrupted construction progress.
- Undertake comprehensive project planning and scheduling to achieve proper coordination among contractors.

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

OUTINE

S I# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: (INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

RECEIVED
SEP 16 1996
MTA CONFIGURATION MANAGEMENT

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:	YES	NO	NEED CLARIFICATION
the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[ ]	[ ]	[ ]
s the proposed approach the most COST EFFICIENT??	[ ]	[ ]	[ ]
Is the requested TIME IMPACT or schedule change reasonable?	[ ]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[ ]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[ ]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[ ]	[ ]

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS: Comments written in margin of RE Manual attached
Need for As Built "Record Drawings" and contractor's
submittals to be cross-reference is ESSENTIAL
change needed as well as use of terms "Record Drawing,"
"Record Drawing Set," and "Superseded" on Drawings

EVALUATOR: Hal Stang TITLE/ORG: Manager Rail Activation DATE: 9/12/96

RESPONSE:

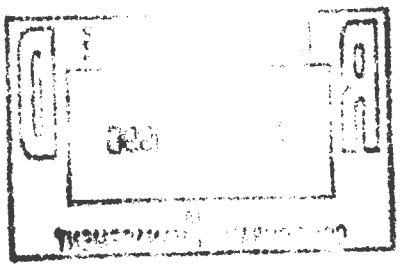
RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA
90053

MARY HEITMEYER
96 AUG 14 A10:03
rev 4.01 08/06/96 edt



4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Each RE's office is responsible for controlling records received or generated at that office and ensuring their safekeeping until formally transmitted to CM Document Control as part of the contract close-out process as defined in REP 4.12. The RE's office is responsible for ensuring that a complete record of correspondence from and to the RE's office is maintained, and for ensuring that a complete and current set of contract and design documents is maintained at the field office at all times. The RE is responsible for maintaining files of all contract deliverable documents, other Construction Manager (CM) related files, and for forwarding construction photographs (negatives and one set of prints) to Document Control. The RE's file is the official project record of the related contract until close-out transfer is completed. Copies of these documents in the possession of other departments of the RE are not official.

4.2 CM DOCUMENT CONTROL

The CM Document Control department is responsible for coordinating with various departments and RE offices and for providing training and assistance, as required, to ensure consistency of document processing. Document Control is also responsible for records storage and retrieval, transfer of completed contract files and, for maintaining the Technical Library.

5.0 PROCEDURES

5.1 DOCUMENT SEQUENCE NUMBER IDENTIFICATION AND INDEXING

5.1.1 SEQUENCE NUMBER ASSIGNMENT

All documents and correspondence to be included as part of project records and/or contract files shall be assigned a unique document sequence number identifier and subject code.

5.1.2 SEQUENCE NUMBER LOCATION

For incoming and outgoing correspondence, the document sequence number shall be placed in the upper portion of the document prior to its distribution. The sequence number may be typed or hand-written.

5.1.3 SEQUENCE NUMBER STRUCTURE

The document sequence number identifier for correspondence will include: project number - contract number - to/from code - sequence number. For example, for contract B201, the first letter from the RE to the contractor shall be assigned R81-B201-REC-00001. Subsequent letters would be assigned 00002, etc. The following list describes components of the document sequence number:

- Project Number: Example "R82"
- Contract Number: Example: "C01234"

3.4 DOCUMENT CONTROL

1.0 PURPOSE

1.1 This procedure covers methods by which the Project records are controlled, retained, and secured for ready retrieval. Procedures include:

- Document sequence number identification
- Subject/file code assignment
- Records Management System (RMS)/IMAGEABLE (Records Imaging System)
- Records storage and retrieval
- Technical library
- Contract document maintenance
- Contract Equipment Information & Maintenance Records

Add

1.2 This procedure establishes document control methods for the resident engineer (RE) offices. Document control procedures for other project departments are described in CM procedures, Construction Support Policies and Procedures, Document Control.

2.0 GENERAL

These procedures are compliant with the MTA document control procedures and file coding system which provide minimum standard for records management and document control procedures for mta rail construction / procurement contracts.

3.0 DEFINITIONS

Case Files: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations. See Paragraph 5.6.3.

IMAGEABLE System: The automated MTA document imaging and indexing system.

Project Record Documents: All correspondence and records pertaining to the contract work. Includes but is not limited to:

- All correspondence and documents sent to and from the contractor
- All correspondence and documents sent to and from the MTA
- All correspondence and documents sent to and from the designer
- All correspondence and documents sent to and from third parties and agencies
- All contractor deliverables
- All contract documents

Records Management System (RMS): The automated MTA correspondence and document indexing and reporting system

Sequence Files: Correspondence and documents filed in sequence number order. See Section 5.1.

the MTA are required to be coded and organized in accordance with this system.

5.2.2 FILE CODE CHANGES

The MTA will control the code numbers. Any changes or additions made to the index must be coordinated through Document Control. In turn, Document Control will contact the MTA to request changes to the index. When changes are accepted by the MTA, Document Control distributes changes to all RE offices.

5.2.3 SUBJECT CODING

Documents will be coded with at least two code numbers. The first code number should be the sequence file code, and the second code number should be the appropriate subject code. A maximum of five code numbers (including sequence code and subject codes) may be assigned to a single document.

5.2.4 SUBJECT CODE LOCATION

The subject/file code numbers will be placed on the document prior to distribution of the document. The code numbers may be typed or hand-written.

5.2.5 SEQUENCE FILES

At a minimum, the RE maintains a complete (physical) sequence file of all incoming/outgoing correspondence. Duplicate copies of documents may also be filed in subject files at the discretion of the RE or as required for certain case files. See paragraph 5.6.3 for case file requirements.

5.3 RECORDS MANAGEMENT SYSTEM (RMS) \ IMAGEABLE SCANNING AND INDEXING SYSTEM

5.3.1 RMS INDEXING SYSTEM

The RMS document indexing system is maintained on the wide area network. The MTA is responsible for the maintenance of the RMS program. Included in the network are RE field offices and departments in the CM office. Input to the RMS document index provides an index of project-related correspondence and allows for prompt and accurate retrieval of records.

5.3.2 DATA ENTRY

For correspondence and documents they directly receive or generate, the RE's office is responsible for data entry to the RMS, or, where available, for scanning and indexing correspondence using the MTA IMAGEABLE system.

5.3.3 IMAGEABLE DOCUMENT SCANNING AND INDEXING SYSTEM

The IMAGEABLE document scanning and indexing systems will be used in lieu of RMS where available to capture retrievable document images and to index all incoming and outgoing RE office correspondence. The MTA is responsible for maintenance of the IMAGEABLE system. A listing of documents to be captured by the field office using the IMAGEABLE system is contained in Exhibit 7.2.

The alphanumeric contract number assigned at award. For documents not related to a specific contract, the contract number should be left blank.

- From/To Acronym

The following codes are used on all projects

REC = Identifies all RE to Contractor correspondence.
CRE = Identifies all Contractor to RE correspondence.
RED = Identifies all RE to Designer correspondence.
DRE = Identifies all Designer to RE correspondence
REM = Identifies all RE to MTA correspondence
MRE = Identifies all MTA to RE correspondence
Other CM or project specific acronyms for "From/To" as identified by the consultant.

- Sequence Number

Sequence number shall be a five-digit sequence number beginning with 00001 for each "From/To" code and continuing sequentially until completion of contract and/or project.

5.1.4 CORRESPONDENCE INDEXING

The RE's office will enter all incoming and outgoing corresondence into the MTA RMS or Imageable document indexing system. During document approval cycle, if a sequence number is assigned and for whatever reason the document is cancelled prior to signature and issuance, the originator will note "cancelled" and the date in the RMS for the corresponding sequence number. Canceled sequence numbers will not be re-used.

5.1.5 CASE FILE SEQUENCE ASSIGNMENT

For documents other than correspondence, sequence numbers may be the unique number or date assigned to the document. For example, Change Orders, Change Notices, Requests for Information, Requests for Change, Notice of Intent to Claim, Claims, and Submittals have a unique sequential number assigned to them. Refer to the procedure applicable to the document for assigning these sequence numbers. In the case of reports, either a sequential report number is assigned or the issue date of the report becomes the report number. This type of document is not generally input to the RMS, unless it is attached to correspondence or a transmittal.

5.1.6 QUALITY DOCUMENTATION FILING

Documentation attesting to the quality of the work/activities performed for a particular contract(s) shall be stored in accordance with Exhibit 7.1, Quality Documentation Storage Requirements.

5.2 SUBJECT CODE/FILE SEQUENCE SYSTEM

5.2.1 MTA FILE CODING SYSTEM

MTA Construction

The MTA has developed a unified Subject Code/File Sequence System. The latest listing can be obtained from the Document Control department. This listing is required to be used for all project related correspondence and documents. All documents transmitted to

- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits

5.7 PREPARATION FOR DOCUMENT CLOSE-OUT TRANSFER OR OFF-SITE STORAGE

5.7.1 FILE QUALITY REVIEW

Field Office files will be prepared for contract document close-out transfer within 90 days after contract substantial completion. Prior to document close-out transfer or any transfer to off-site storage, the originating RE will review files prior to their transmittal to CM Document Control. File folders for unused file codes and duplicate copies shall be removed and disposed of. Files or records should be placed in a logical order that will allow for the prompt retrieval of records.

5.7.2 RECORDS INDEX PREPARATION

A typed Records Index and Storage Request Form, Form ___(Exhibit 7.3), must be completed by the originating RE for each storage box. Multiple boxes listed on a single form will not be accepted by Document Control.

5.7.3 BOX IDENTIFICATION:

The "records title" portion of the Records Index and Storage Request form must include sufficient information to retrieve records, including document date or date range (from/to), applicable file codes, document numbers and contract numbers. For example, 10 boxes labeled "Harry's files" make it difficult to retrieve a specific document. All 10 boxes would have to be reviewed to find the requested document. Chronological files should indicate a date range and subject files should list subject headings.

5.7.4 BOX NUMBER

MTA - ? CM who

The "box number" block on the ~~Records Index~~ and Storage Request form and on the carton label should be left blank. Document Control will assign the box number and return a copy of the Records Index and Storage Request form, including the assigned box number, to the originator.

5.7.5 BOX PACKING

Records storage boxes must be full but not overflowing. Half-empty boxes are crushed when stacked and waste valuable space. Overflowing boxes will break, documents will be crushed, and boxes will not stack well. Half-empty and overflowing boxes received by MTA Document Control will be returned to the originator for correction.

5.7.6 HANGING FILE REMOVAL

Pendaflex (hanging) folders are designed for use in file cabinets, not storage boxes. Storage boxes will not support the weight of Pendaflex folders. Boxes with Pendaflex folders received by Document Control will be returned to the originator for correction.

MTA

5.4 DOCUMENT RESPONSE TRACKING

The RE will establish and maintain a method for tracking incoming and outgoing correspondence that requires a response and is not tracked in other automated systems. The tracking of documents not controlled in other systems may be maintained manually or electronically. The RE is responsible for ensuring that a timely response is generated and that open items are closed. Receipt and response to the following types of correspondence are tracked in the MTA CCS® : Request-for-Information (RFI), Request-for-Change (RFC), Change Orders/Change Notices, Claims/Notice of Intent to Claim (NOI), Contractor Submittals, and do not require separate response tracking.

5.5 DOCUMENT DISTRIBUTION

The originator of correspondence will be responsible for specifying who will receive copies. The distribution will depend on the subject of the document. One copy of all correspondence originating from or originally received at the RE's office will be forwarded to CM Document Control (documents scanned into the IMAGEABLE system excepted). While standard distribution lists may exist, the originator must use good judgment to ensure that appropriate distribution of correspondence is made.

5.6 RECORDS FILING AND FIELD OFFICE STORAGE

5.6.1 SAFE STORAGE REQUIREMENTS

During construction, the RE will maintain contract deliverable documents in filing cabinets or other file storage units at the field office. Fire retardant filing cabinets are only required for documents that are not duplicated at a remote area. Acceptable remote areas include Home Office files (e.g., Document Control, Scheduling, EO Representative).

When copies of documents are not disseminated (e.g., pour cards, warranties, and test reports), these documents will require storage in a fire retardant cabinet.

5.6.2 ESTABLISHING FIELD OFFICE FILES:

The field office will set up sequence and subject code files using the MTA standard file code structures. File code labels may be created using the MTA RMS system, or are available from MTA Configuration Management.

5.6.3 CASE FILES:

The following document types will be maintained in segregated subject sequence files:

- Request-for-Information (RFI)
- Request-for-Change (RFC)
- Change Orders/Change Notices
- Claims/Notice of Intent to Claim (NOI)
- Contractor Submittals: General submittals will be filed by Submittal Number (Specification Section and paragraph number). The following submittal types will be further segregated by subject to simplify transfer to MTA Operations following contract close-out:

    - Warranties and Guarantees

5.10 CM TECHNICAL LIBRARY

CM Document Control is responsible for ordering and controlling technical documents and publications to be included as part of the Technical Library. The requester of a technical document or publication will complete a Purchase Requisition Form. The requisition must include the title of the publication, the source, estimated cost, and the designated user. A copy of the publication order form, if available, should be attached. The completed requisition, when signed by the requester, is forwarded to Accounting for processing with a carbon copy to Document Control.

5.11 CONTRACT DOCUMENT MAINTENANCE

The RE office will maintain a current conformed set of all contract documents at all times. The current conformed set of contract documents will include the "as-awarded" set of contract documents conformed to include all modifcations or revisions issued to the contractor under a change notice, including mark-ups, sketches, or other technical direction issued to the contractor which alters or modifies the original contract terms, specifications, drawings, or design.

6.0 REFERENCES

The following documents are referred to in, or are related to, this procedure and are available under separate publication:

REP	Title
4.8	Construction Photographs
4.9	As-Builts
4.11	Physical Closeout
4.12	Document Closeout
6.1	Submittals

MTA Plans & Procedures	Title
PA302	MTA File Coding System
CF2	Document Control: Baseline
CF3	Document Control: Conforming Contract Documents
CF4	Contractor Submittal Tracking
CF5	Document Control: Contract Records Close-Out
CF6	Document Control: Tranfer of Records to Operator

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Quality Documentation Storage Requirements
7.2	IMAGEABLE Document Scanning System: Document Capture Requirements
7.3	Records Index and Storage Request Form

5.7.7 BOX SIZE

Generally, only standard record storage boxes (12 inches by 18 inches) will be accepted by Document Control for storage. Xerox or paper boxes will not be accepted for storage. The originator shall contact Document Control for assistance with records that will not fit in standard storage boxes.

5.7.8 BOX PICK-UP

The completed Records Index and Storage Request form should be in front of documents in the corresponding box. The originating RE should contact Office Services couriers for pick up and delivery of boxes to Document Control.

5.8 STORAGE

CM Document Control will make copies of the Records Index and Storage Request form and distribute one copy to the originator. This copy will serve as a receipt and will notify the originator of the assigned box number.

CM Storage Procedures and procedures for transfer of document to the MTA are contained elsewhere in CM procedures.

5.9 DOCUMENT RETRIEVAL

5.9.1 RETRIEVAL REQUESTS

Any RE office may request that Document Control retrieve their documents from records storage. If an RE requests records from another department's files, the RE must first obtain permission from the originating RE, department, or CM, as appropriate.

5.9.2 RETRIEVAL BOX IDENTIFICATION

The requester shall contact Document Control and request retrieval. The requester should provide Document Control with as much information as possible to assist in retrieving the records. If the box number is known, this will accelerate the retrieval process.

5.9.3 DOCUMENT RETRIEVAL

CM Document Control will identify the box number of the requested records and refer to the box number location index. When the box is retrieved, Document Control will complete and place an "out" card in the file of Records Index and Storage Request forms directly behind the request form of the box number being retrieved. The out card will include the requester's name, date, and box number. If only a portion of the box has been retrieved, Document Control will note on the out card which specific documents have been removed from the box.

5.9.4 DOCUMENT RETURN

When the requester returns the box or portion of the box, Document Control will remove the out card from the Records Index and Storage Request form file and cross off the retrieval information. This indicates that the documents have been returned to storage.

5.0 PROCEDURE

5.1 IDENTIFYING LESSONS LEARNED

When a significant change or improvement occurs in response to problems encountered during construction and at contract closeout, the RE, and to a lesser extent support staff, will complete a Lessons Learned form (Exhibit 7.1) to document the following:

- A description of the observed situation or issue
- Other contracts that are affected
- Drawings affected, if known
- A description of any immediate action that was taken to correct the situation
- The immediate cost or schedule impact, if known
- The recommended action to prevent a recurrence of a problem or to implement an improvement

5.2 LESSONS LEARNED EXIT INTERVIEW

In order to systematically capture lessons learned, a lessons learned exit interview will be conducted by the Lessons Learned Coordinator and members of each RE office staff. This interview is part of the contract closeout procedure and will be conducted prior to closing the RE office. Refer to REP 4.11.

5.3 RECORDING LESSONS LEARNED

The Lessons Learned Coordinator maintains a file of lessons learned forwarded to the EMC.

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Lessons Learned (Form #___)

3.5 LESSONS LEARNED

1.0 PURPOSE

This procedure explains the process of documenting and implementing lessons learned on the Project.

2.0 GENERAL

2.1 Project management relies on lessons learned information to identify problems and improvements on the Project. Lessons learned information enables project management to take timely action to control the budget and schedule impacts associated with problems encountered on the job and to anticipate and offset potential problems in the future.

2.2 The Lessons Learned Form (Form #___, Exhibit 7.1), is the vehicle for identifying problems and improvements affecting safety, quality, schedule, or budget. By documenting a lesson learned and its impact, management is able to prioritize problems and take remedial action in a timely manner.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Resident engineers (REs) are responsible for submitting lessons learned for every significant change and improvement initiated to solve problems encountered during construction and at contract closeout.

4.2 SUPPORT STAFF

Support staff are responsible for submitting lessons learned when they discover a problem or improvement that will impact project safety, quality, cost, or schedule.

4.3 LESSONS LEARNED COORDINATOR

The Lessons Learned Coordinator is responsible for submitting complete Lessons Learned forms to the Engineering Management Consultant (EMC). The Deputy Project Manager - Engineering will serve as lessons learned coordinator.

4.4 ENGINEERING MANAGEMENT CONSULTANT

The EMC is responsible for reviewing, prioritizing, implementing, and tracking lessons learned on the project, as well as identifying specific alterations to past methods, approaches, design bases, and quality control mechanisms. A database tracks all lessons learned information.

3.1.5 *Conformed Contract Documents:* The current set of contract documents conformed to include all revisions and modifications to the documents issued under cover of Change Notice, Change Order, or other written direction to the Contractor. Will also include interim modifications such as mark-up, sketches, contractor as-built submittals, or other written technical direction. Contract documents are listed in Article II of the Form of Contract.

3.2 *Submittals:* There are several items covered under this generally used term. General submittal requirements are defined on Specification Section 1300; specific submittal requirements are also contained in each section of the technical specifications. ~~Many~~ Shop drawings are for facilities and equipment installation, showing details of ~~how~~ the contractor ~~plans to execute the~~ design as ~~shown~~ in the Contract Drawings. Working drawings are for temporary work performed by the contractor in constructing the facility. Other Contractor Submittals include, but are not limited, to:

- Master Submittal Schedule
- Monthly Schedule updates
- Manufacturers' standard schematic and wiring drawings
- Manufacturers' calculations
- Manufacturers' standard data
- Manufacturers' printed installation, erection, application and placing instructions
- Inspection reports, test reports and product certificates of compliance, mill certificates
- Samples and mockups
- Concrete and grout mix designs
- Operations and maintenance data and manuals (refer to Specification Section 01730 for requirements)
- Warranties and Guarantees

3.3 ~~As-Built documents:~~ For the purpose of this procedure, as-built documents include ~~three~~ five elements: (Contract Record Drawings/Specifications)

Current Status
~~Marked Contract~~ *Drawings:* A set of drawings of the facility that are a combination of the most current contract drawing revisions, plus any Request for Information (RFI) changes, Nonconformance Report changes, and Change Order drawings, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments or other purposes.

Current Status
~~Marked Contract~~ *Specifications:* A set of the most current Contract Specification revisions, plus any specifications or specification changes added by RFI changes, Nonconformance Report changes, and Change Orders, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments.

Current Status Contractor Furnished Drawings
~~Marked Shop Drawing Submittals:~~ Permanent facility item shop drawings, as noted in paragraph 3.2. that have been marked by the contractor to show deviations from approved shop drawings where necessitated by field adjustments or other purposes.

Document
As-Built Logs: Drawing, Contract Revision, and As-built listings maintained by the Contractor in compliance with Specification Section 1720.

Contract Record Drawing Set: The combination of marked contract drawings and marked Shop Drawings with index indicating cross-reference relationship of the drawings.

EM calling it STAMPING AS "RECORD" DRAWINGS or SPECS

4.9 AS-BUILTS

1.0 PURPOSE

This procedure defines responsibility and processes for the Resident Engineer's (RE's) monitoring of contractor preparation and submittal of as-built Contract Drawings, Contract Specifications, and contractor shop drawings; and for maintenance of current drawings and specifications used by the RE and CM Inspectors.

2.0 GENERAL

2.1 As-Built Contract Documents: Resident Engineer shall ensure that the Contractor maintains at the contractor's construction site office a complete set of conformed contract documents updated continuously as the record set of contract documents showing all as-built conditions. Any changes to the data shown on conformed contract drawings and construction specifications will be legibly noted, marked, or sketched by redlining a "record copy" of the document as defined in Contract Specification Section 1720.

2.2 As-Built Shop Drawings: Although related, the as-built shop drawings are independent of the contract documents. The contractor is required to prepare and submit one set of the shop drawings showing the final installed conditions. These are supplemental to the as-built contract drawings and specifications covered in this procedure and will also be transmitted to the RE for subsequent transmittal to the Engineering Management Consultant (EMC) and to the MTA following contract close-out.

3.0 DEFINITIONS

3.1 *Construction documents:* There are several types of construction documents; this procedure deals only with the technical aspect of the contract, including the drawings and specifications of the original contract, contractor shop drawings, and any modification made by Change Notice, Change Order, or other technical direction issued to the contractor via response to a Request-for-Information, Submittal acceptance request, or other form of direction.

3.1.1 *Drawings:* Sometimes referred to as Contract Drawings or Design Drawings; the complete set of EMC-prepared full-size drawings showing all construction work required in the original contract.

3.1.2 *Specifications:* Sometimes referred to as Contract Specifications Book or construction specifications; the complete set of specifications in accordance with the Construction Specifications Institute (CSI) format, which is written for the specific construction contract scope of work.

3.1.3 *Change Orders:* Negotiated and authorized changes to the technical work required in the documents of paragraphs 3.1.1 and 3.1.2, including any revised or new drawings and specifications. These changes are to be included in the as-built drawings and specifications.

3.1.4 *Current Status Documents:* A set of full size reproducible drawings and a copy of the specifications marked and maintained by the contractor to show current as-built status of construction in progress and current design status..

and the associated shop drawing(s) as the as-built submittal.

5.2 Changes to Underground or Covered Work: Contract drawing markings shall show all changes, including elevation and dimensional location for underground or otherwise covered structures, conduits, switchboards, switchgear, utilities, boxes, duct work, piping, valves, and other mechanical and electrical equipment, etc., as noted in the Contract Specifications.

5.3 Shop Drawings: Shop drawing originals shall be revised by the contractor to show as-built conditions and submitted in accordance with Specification Section 01300. When an RFI or other document modifies and EMC accepted Contractor Shop Drawing, the contractor will ~~redline~~ the drawing to reflect the changes pending formal revision and resubmittal. Shop drawings will include cross-references to the contract drawing or drawings to which they are related. As-built shop drawings may be maintained in lieu of as-built contact drawings when the detail shown on the shop drawing is superior to that provided in the contract drawing.

5.4 RE Review: The RE shall review monthly with the payment request, the contractor's maintenance of as-built documents to determine that as-built data is being recorded properly and accurately and in accordance with all contract requirements. The RE or designee should conduct a review of the Contract Record Drawings prior to submittal of the contractor monthly progress payments to ensure that the contractor is meeting all of the specified obligations. If the Contract Record Drawings are not current in the judgment of the RE, the Contractor should be advised of the required corrections or additions.

5.5 Payment Witholding: The RE may recommend to the MTA Contract Administrator that approval of all or part of the monthly progress payments may be withheld until the as-built documents are made current ~~by the contractor~~.

5.6 As-Built Submittal: After completion of construction/installation milestones defined in the contractor's "As-Built Documents Log", the RE will receive a full size copy of the as-built contract and shop drawings which have been marked with the as-built conditions. The RE will verify that the information included is complete, and that the Contractor Submittal Form attests that the documents are true and complete. The As-Built submittal will be entered into the CCS® submittal record. The logged submittal record will contain a complete listing of drawings and documents provided.

5.7 As-Built Submittal Log: The RE shall verify that the contractor is maintaining and submitting all logs in accordance with the specifications.

5.8 Field Office Copy of As-Built Documents: The RE shall maintain a master set of prints of contractor submitted as-built documents for use by CM Inspection. The prints shall be kept current on at least a weekly basis by writing the information relative to changes near the affected areas of the appropriate sheets. The information is to include the change notice number or the RFI number. When the RE receives revised drawings, the RE should immediately check to see if the ~~redlined~~ changes have been incorporated into the revised drawing. If the changes have not been incorporated, the change notice or RFI information must be transferred onto the revised drawing.

5.9 Third Party and Utility Review: The RE will coordinate Third Party and Utility review of the contractor as-built submittal prior to forwarding the as-built documents to the EMC for acceptance and incorporation into master record documents.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE ensures that an accurate set of as-built "record" contract drawings and specifications depicting as-built conditions are prepared and maintained by the contractor and provided in accordance with established milestones and Specification Section 01720. The RE is responsible for notifying the contractor of non-compliance and for recommending withholding of payment for non-compliance as allowed under the contract.

4.2 CONTRACTOR

The contractor, including the contractor's subcontractors, prepares, maintains, and submits appropriately marked contract drawings, specifications, and shop drawings to the RE for acceptance in accordance with contract specification requirements (i.e., Section 01720). The contractor is responsible for providing a specific listing of as-built contract documents to be submitted at defined contract milestones or quarterly as specified in the contract.

4.3 ENGINEERING MANAGEMENT CONSULTANT (EMC)

The EMC is responsible for ensuring that all available contractor as-built information, furnished by the RE, is incorporated into specifications or drawings when making formal design revisions. The EMC is responsible for incorporating all previously unincorporated as-built notations into the final Project Record Documents following contract close-out.

5.0 PROCEDURE

The following steps define the methods to be used in receipt, acceptance, and transmittal of contractor-prepared as-built Contract Drawings and Contract Specifications (Contract Record Documents).

5.1 As-Built Maintenance: The contractor shall keep the Contract Record Documents at the site and shall continually update them during construction. As construction work is accomplished (work that is different from or in addition to that which the contract drawing shows), the contractor will ~~redline~~ blackline the as-built conditions on the Contract drawings.

5.1.1 Superseded As-Built Documents: When a new revision of a document is received, the contractor stamps the superseded document "SUPERSEDED", and keeps the document in the "Current Status Set" of contract record documents for future reference of previous mark-ups and for use of production of as-built drawings. (See paragraph 5.11 for coordination of incorporation of contractor as-built notations into interim document revisions). The contractor need not transfer the data recorded on superseded drawings onto the new revision. However, prior to submittal to the RE, the final as-built drawing will be ~~redlined~~ blacklined by the contractor to incorporate any and all missing information from all superseded revisions of the drawing.

5.1.2 Use of Shop Drawings in Lieu of Contract Drawings: Should as-built detail shown on a shop drawing supersede or provide better information than can be shown on a contract drawing, the as-built shop drawing may be maintained in lieu of the contract drawing. In such cases, the contractor will provide a mylar copy of the shop drawing and appropriate shop drawing number cross references on the "as-built" contract drawing, and will provide both the contract drawing and drawing Index

5.10 Transfer to EMC: Following acceptance of the contractor's ~~as-built document submittal~~ Contract Record Drawing Set and acceptance by affected Third Parties or Utilities, the RE will forward the marked-up document set to the EMC under standard submittal transmittal cover. The as-built ~~submittal record~~ will include a specific listing of all documents and drawings transmitted.

MTA CMC for forwarding to

5.11 Incorporation of Interim As-Built Notations into Document Revisions: On notice that a formal document revision is being processed by the EMC, the RE will ensure that a copy of the current contractor's as-built records are provided to the EMC for all specification sections and drawings affected by the pending change. The EMC will incorporate all contractor as-built notations into the master record document concurrent with incorporation of the new revision. Contractor as-built notations will be incorporated under a separate revision number, and separate revision line from the design change.

6.0 REFERENCES

The following documents are referred to in, or are related to this procedure and are available under separate publication:

RE MANUAL SECTION	TITLE
3.4	Document Control
6.1	Submittals
6.5	Changes

SPECIFICATION SECTION	TITLE
01720	As-Built Drawings and Current Status Documents
01300	Submittals

MTA PROCEDURES	TITLE
CF3	Document Identification and Formatting Standards
CF4	Submittals
CF8	Design Changes
CF11	Contract Changes

EMC PROCEDURES	TITLE
	Preparation of Project Record Documents

7.0 EXHIBITS

None

- Train Control Interlocking Tests
- Traction Power Short Circuit Tests
- Radio Coverage Tests
- Fire Line Pressure Tests
- Vehicle Propulsion Tests

3.2 *System Integration Tests:* Conducted to ensure that all elements of the rail system can function properly together as an integral system. They confirm that the Line can be operated as designed and constructed. The tests involve end-point-to-end-point verification of system functionality when more than one contract is involved. Although some contractually required tests may be classified as integration tests, most integration tests are non-contractual. These tests are the responsibility of the Rail Activation Group. Examples of these tests are:

MTA Construction's

- SCADA Control of Train Routing and Tracking
- Emergency Management Panel Control of the Ventilation System

3.3 *System Readiness Drills:* A subset of system integration testing. Performed during the system integration test phase, they are deigned to verify that the system is capable of permitting an appropriate response to an abnormal or emergency operational condition. These drills involve the simulation of an abnormal or emergency situation that generates a response by operations and emergency personnel. The drills provide an opportunity for verifying operational readiness, testing planned emergency response procedures, and providing a training exercise to personnel. Examples of these drills are:

- Simulated fire and smoke in a traction power substation requiring evacuation of the adjacent passenger station
- Train fire in ~~the tunnel~~
- Loss of ~~power~~ TRACS in the Central Control Facility resulting in the loss of central control and requiring local control of operations

Satisfactory completion of the integration tests and readiness drills provides the basis for certifying that the system is capable of providing safe and dependable revenue service.

3.4 *Pre-Revenue Operations ~~Tests~~:* Conducted by the MTA Operations Division at the system level to simulate revenue service operations during normal, ~~abnormal, and emergency~~ revenue conditions. These ~~tests~~ train operations verify and augment the training of train crews, station and central control personnel, maintenance personnel, and security and safety personnel. They are non-contractual ~~tests~~, and require the full operational capability of all systems, equipment and facilities on the Line.

3.5 *Demonstration Tests:* Contractually required tests. They are conducted at the subsystem level beginning with the system pre-revenue phase and continuing into the revenue service phase to demonstrate that reliability and maintainability of individual elements meet specified levels. These tests are the responsibility of contractors with data acquisition support provided by MTA Operations. The Resident Engineer monitors these tests. Examples of these tests are:

- Passenger vehicle
- Fare collection

4.10 SYSTEMS START-UP

1.0 PURPOSE:

The objectives of this procedure are to describe the framework for systems start-up.

2.0 GENERAL

2.1 There are two basic phases involved in any construction project: The construction phase and the start-up phase. The systems start-up phase traditionally begins when the systems are about to be activated (i.e., power is supplied to equipment). The start-up phase is related to tasks that were in place during the construction phase.

2.1.1 Relationship to the Safety Certification Program: The safety certification program documents that all safety requirements in design criteria and specifications are achieved and that the safety content of plans, procedures, and training materials are systematically reviewed. While the safety certification program and the test program are managed as separate programs, they complement and reinforce each other and are coordinated in the area of safety-related tests to satisfy California Public Utilities Commission (CPUC) requirements in accordance with their "Safety Oversight Plan."

2.1.1.1 The Test Program Plan (See References) contains safety related tests that are identified as elements that must receive Completion Certificates under the safety certification program.

2.1.1.2 As the test program proceeds, the Safety Certification Review Team verifies that all safety related tests are successfully completed and that all identified hazards are resolved.

2.1.2 California Public Utilities Commission (CPUC) Requirements: The California Public Utilities Commission oversees the MTA's efforts in certifying that the Line is built in accordance with established safety standards. The outcome of this activity will be a certification of a safe operable system.

2.1.3 Test Categories: Fixed facilities, systems, and equipment undergo tests throughout the construction and start-up phases. The tests progress from the component to the system level to ensure that the installed project operates as an integrated system. As elements of the project system become operational, certain start-up tests are performed to verify operational readiness, the adequacy of personnel training, and the reliability and safety of the system. The tests which are required throughout the construction and start-up phases are described in the Test Program Plan for each new line or segment. Acceptance, integration, and pre-revenue tests and drills constitute the start-up program testing activities.

3.0 DEFINITIONS

3.1 *Acceptance Tests:* Conducted at the subsystem level to verify that the performance of each project element and subsystem/assembly contained therein is in compliance with specification requirements. Some earlier tests may be repeated as acceptance tests to verify proper operation of the element after installation. These tests are performed at the project site and are prerequisite to the system integration tests. These tests are the responsibility of contractors and are monitored by the Resident Engineer. Examples of these tests are:

- Review and approval of requests for additional tests
- Direction of system integration test performance
- Submittal of test documentation to the Safety Certification Review Team for review
- Coordination with Operations and consultant staff in scheduling and arranging tests
- Distribution and filing of test reports

For pre-revenue ~~testing~~ operations, the Rail Activation Group supports MTA Operations and Maintenance groups. Duties include:

- Coordination in scheduling and arranging ~~tests~~ simulated Rev Trains Ops
- Observation and support of MTA directed pre-revenue ~~test~~ performance
- Support to Operations in preparation of ~~test~~ pre-revenue status reports

4.4 Construction Manager (CM): Responsible for management of all facilities construction and the procurement and installation of all systems and system-wide equipment, with the exception of passenger vehicles and fare collection equipment.

4.4.1 On Assigned contracts, the CM's scope of work includes:

- Enforcement of safety, security, and quality assurance requirements
- Proper integration of systems and facilities equipment
- Coordination of facilities testing, system testing and start-up
- Maintenance support during all testing phases
- Support of the system integration testing and pre-revenue ~~testing~~ operations programs

4.4.2 The CM designates a Resident Engineer to manage each assigned contract to track, coordinate and provide progress reports on on-site testing. The Start-up Organization includes Systems Integration Testing and Start-up Group which is managed by the CM. The responsibilities of the Resident Engineer and the Systems Integration Testing and Start-Up Group are discussed below.

4.5 CM Resident Engineer (RE): The RE coordinates resolution of contractor-responsible problems during Integrated Testing.

4.5.1 During the start-up phase of the project, the Resident Engineer will retain his full authority. With several Contractors working and testing on-site, site access coordination and test management responsibilities will be augmented by the CM Systems Integration, Testing, and Start-Up Group.

4.6 CM Systems Integration, Testing, and Start-Up Group (Start-Up Group) manages acceptance testing and supports the Rail Activation Group during integration testing.

4.6.1 During acceptance testing the Start-Up Group reviews test procedures and schedules and witnesses all tests, arranging for MTA support when required. It verifies test data and provides test status reports to management.

4.6.2 During systems integration testing, the Start-Up Group may coordinate, perform and/or witness tests on behalf of the Rail Activation Group.

4.7 Engineering Management Consultant (EMC): Responsible for system design and preparation of contract documents for all facilities and systems elements. The Engineering Management Consultant provides engineering support during the construction of stations

- Communications
- Train control reliability tests

Note: The titles used to identify test categories may vary somewhat among the project documents.

4.0 RESPONSIBILITIES

4.1 Metropolitan Transportation Authority (MTA): Responsible for administering all design, construction, testing and start-up activities. This includes direction of engineering and construction management consultant activities and overall management and coordination of the system safety and system assurance program. Within the MTA several departments have key test related responsibilities.

4.1.1 MTA Rail Activation and Integration: Responsible for operations and maintenance planning and system activation. The department staff works to ensure that operating needs will be met and the MTA will be in a position to support system activation. The Director of Rail Activation and Integration (RA&I) oversees the rail activation effort, including on-site testing associated with the start-up phase. An RA&I Start-up Program Manager is assigned to manage the day-to-day activities of each new rail project.

4.1.2 MTA Quality Assurance: Responsible for implementing an independent Quality Assurance program encompassing construction, installation and test activity for the project. The program is supervised by the Director of Quality and carried out on a day-to-day basis by the CM's QC personnel. With respect to Integrated Tests, the quality assurance responsibilities are to review test procedures and test reports and to provide an independent audit of test performance.

4.1.3 MTA System Safety and Assurance: Responsible for overseeing the establishment of safety criteria for the design of the rail system and then verifying that the criteria are implemented and verified through each phase of the project. Safety conformance checklists are established to confirm that the criteria have been incorporated into design, and that design has been followed in construction and procurement. Selected tests are denoted as safety related if they verify the achievement of a safety requirement.

4.2 MTA Operations. Operates and maintains the rail system with the commencement of pre-revenue service. To help prepare for this role, Operations participates in design, test and start-up activities. Involvement of Operations personnel provide a familiarity with system design and augments personnel training. During acceptance testing and contract close-out activities, Operations personnel will witness tests and may provide additional support by operating and/or monitoring vehicles, systems and responsibility for the rail line and has the opportunity to conduct pre-revenue operations simulations prior to the start of revenue service.

4.3 Rail Activation Group (RAG): Responsible for coordinating and managing system activation, including systems integration testing and related commissioning activities. It is composed of engineers and operating personnel from the Construction Manager, Engineering Management Consultant, equipment procurement consultants, other identified consultants and MTA. During systems integration testing, the Rail Activation Group is responsible for managing the test program. Duties to be performed include:

- Development and Review of system integration test requirements, test plans, and procedures

3.6 *Partial final inspection:* a formal review by closeout team and contractor to allow acceptance of a portion of the work for use and possession, or for partial acceptance, to meet milestone completion date. Partial beneficial occupancy may occur at this time. A sample room release form is shown in Exhibit 7.5. This form may be modified by the RE to meet the specific needs of the contract and work involved.

3.7 *Substantial completion review/inspection:* a review of contract status when the contractor requests recognition of substantial completion per the terms of the specific contract. A sample closeout checklist for use at this stage is shown in Exhibit 7.4. This list will be modified by the RE as necessary to meet the specific needs of the contract being reviewed.

3.8 *Substantial completion:* when the work, or a designated portion of the work, is sufficiently complete that the MTA may occupy it or cause others to occupy it for the use for which it was intended. Substantial completion may be granted prior to the contract completion date.

3.9 *Notice of Completion:* submitted by the contractor when it believes the work has been completed. Contains specific information relating to the completion of the punch list and any change orders.

3.10 *Final acceptance inspection:* The MTA's last review of the project, conducted by the closeout team, to examine, observe, and ensure that the conformance of materials, supplies, components, parts, appurtenances, systems, processes, and structures to the contract documents and the completion of all punch list items.

3.11 *Final acceptance testing:* MTA and Construction Manager witness to a demonstration of an item's capability to meet contractual requirements by subjecting it to normal or extreme operating conditions. This testing may occur at any time before the contract completion, but contract completion cannot be granted without it.

3.12 *Final completion:* acceptance by the MTA of the contract work as completed in full, evidenced by a Notice of Final Acceptance.

3.13 *Certificate for Final Acceptance (Exhibit 7.7, Form #___):* recommendation by the RE to the MTA that Notice of Final Acceptance be issued to the contractor when all contract deliverables are determined to be complete. The actual Notice of Final Acceptance will be provided by the MTA.

3.14 *Contract closeout book:* compilation of documents that validates the completion status of the contract (refer to Exhibit 7.6).

3.15 *Lessons learned interview:* an interview conducted during closeout to identify and record lessons learned for use in other contracts; the Lessons Learned Coordinator interviews the RE office staff and inspectors.

MTA, EMC or CM ?

4.0 RESPONSIBILITIES

The RE modifies these procedures as necessary for specific contracts and monitors progress of the closeout process.

4.11 PHYSICAL CLOSEOUT

1.0 PURPOSE

This procedure establishes the process and documentation necessary for completing the physical closeout of construction contracts on the Project.

2.0 GENERAL

2.1 The document closeout procedure is addressed in REP 4.12. Any modifications are to be coordinated with the Metropolitan Transportation Authority's (MTA's) Director of Operation and Maintenance.

Title Wrong

2.2 Dates in this procedure are relative to the contract completion date carried on the most current approved schedule. As schedule revisions are approved, these dates will be revised by the area manager in coordination with the resident engineer (RE).

3.0 DEFINITIONS

3.1 *Beneficial occupancy:* when the MTA takes possession of a portion of the work for its use and/or occupancy on other than a temporary or emergency basis.

3.2 *Closeout team:* a team consisting of representatives of the RE, area manager, the MTA, and others that may be designated by the MTA. The exact makeup and representation on the team will be established prior to the prefinal inspection through coordination with the MTA by the RE.

3.3 *Punch list:* a tabulation indicating items to be furnished, including documentation or work to be performed by the contractor or subcontractor, in order to complete the work as specified in the contract documents (refer to Exhibit 7.1, Form #___).

A preliminary punch list for both physical and document deficiencies is prepared. This punch list covers both work not completed and work completed with deficiencies or nonconformances. A sample punch list format is shown at Exhibit 7.1. This form contains the minimum information required for a punch list. It may be expanded as necessary to meet specific contract requirements.

3.4 *Initial inspection:* an inspection conducted by the RE using contract specifications and drawings to identify the work completed, including documentation. The initial inspection is performed within 120 days of scheduled completion of the contract and is completed with or without contractor participation. A punch list and an action item responsibility list are the end product of this inspection.

3.5 *Prefinal inspection:* a complete review by the closeout team with contractor to examine, observe, and measure the conformance of materials, supplies, components, parts, appurtenances, systems, processes, and structures to the contract documents. Contract submittals and other documents are reviewed at this stage. A revised punch list and an action items responsibility list are the end products of this review. A general list of contract submittals and documents is shown in Exhibit 7.2. A sample Closeout Sequence Checklist is shown in Exhibit 7.3. These samples may be modified by the area manager to meet the specific needs of the contract being reviewed.

5.5.2 Photographs will be used to document the condition of the completed portions of the contract that the contractor has turned over under substantial completion. It may be necessary to accept the work with some deficiencies. A punch list of any deficiencies, including outstanding Change Orders or claims, will also be made a part of the formal documentation used to accept the substantially completed work.

5.5.3 The partial final inspection should document who has responsibility for security, safety, inspection, operations, utilities, maintenance, and access control for the portion of work that ~~is being~~ substantially completed.
^has been

5.6 FINAL INSPECTION/COMPLETION

5.6.1 When the contractor believes the work or any portion of the work has been completed, it may submit, via a letter to the RE of the affected contract, a Notice of Completion. The RE evaluates and determines whether to accept or reject the contractor's Notice of Completion. If the RE rejects it, the RE states why and requests the contractor to correct the deficiencies leading to rejection. If the RE accepts the Notice of Completion, the RE schedules the final inspection by the review team and recommends that MTA/Operations operating and maintenance functional managers or their representatives participate in the final inspection.

5.6.2 Deficiencies noted during the final inspection are listed in a revised punch list, and corrected and verified as stated in paragraph 5.6.1.

5.6.3 As part of the final inspection, any work identified as required but not in the contract or work in the contract that will not be accomplished by the contractor for whatever reason will be managed as follows:

- Work required but not in contract will be referred to the MTA for disposition (i.e., use as is, initiate a change order, or have it accomplished by another contractor).

- Work in contract that is not completed will be referred to the MTA as a deductive change or a backcharge credit (refer to REP 6.3).

5.6.4 Based on corrective action taken, the contractor modifies its Notice of Completion and resubmits it to the RE. The RE reviews and accepts or rejects the revised Notice of Completion.

5.6.5 The RE begins preparation of a contract closeout book to document the completeness of the contract. A sample contract closeout book is a separately controlled manual, distributed and maintained by Document Control.
CM or MTA

5.6.6 When final inspection deficiencies have been corrected, the RE completes the contract closeout book, including the draft Board Report to be submitted to the MTA Board recommending that the MTA issue a Certificate for Final Acceptance to the contractor. If the MTA does not accept the RE recommendation, the RE takes the necessary action to resolve concerns. This process continues until final acceptance by the MTA and the physical and document requirements are achieved.

5.6.7 A Closeout Book Document Completeness Checklist, Form #____ (Exhibit 7.6), is checked and signed off by the reviewers at the RE and area office to ensure that the closeout book is complete. The routing process for the contract closeout package is listed on Form

The RE performs or assists in the actions required for contract closeout. The RE is the focal point for all contacts with the contractor, ensuring deficiencies are corrected and that completion/acceptance documents are prepared. The RE also recommends to the MTA final acceptance of physical work and final payment to the contractor and prepares the contract closeout book.

Safety certification documentation shall be processed in accordance with REP 4.13. All Safety Certifications not completed shall be included on the Punch List (Exhibit 7.1). Responsibility for determining the level of documentation required to satisfy a Safety Certification line item rests with the RE.

Ask Tom ? Eng Safety Certification

5.0 PROCEDURE

5.1 MONITORING WORK

Work is monitored throughout construction by the RE. An initial closeout punch list is prepared by the RE within 120 days prior to contract completion. Within 90 days of the contract completion date, the closeout team reviews the project punch list status and establishes contract-specific closeout objectives, schedule, and responsibilities.

5.2 PROGRESS MEETINGS

As part of the progress meetings, progress in the closeout schedule will be tracked.

5.3 INITIAL INSPECTION

Contract "Record Drawing" set

5.3.1 A full review is made of submittal status to ensure availability of operation and maintenance manuals, training plans, warranties, and all other information needed to complete the safety certification.

5.3.2 The closeout team develops a preliminary punch list (refer to Exhibit 7.1) incorporating all physical and document deficiencies.

5.4 PREFINAL INSPECTION

Within 90 days prior to contract completion, the closeout review team modifies previously prepared checklists as necessary and, with contractor participation, conducts the prefinal inspection. A Closeout Checklist and Status (Exhibit 7.4), identifying physical work and documentation deficiencies, is generated by the review team and agreed to by the participants and contractor. The punch list also identifies outstanding Change Orders and claims status, also specifying whether they must be closed out prior to recommending final acceptance.

5.5 PARTIAL FINAL INSPECTIONS

5.5.1 It may be necessary from time to time to use, or for other contractors or the MTA/Operations to use, portions of substantially completed work. In such cases, the closeout team will conduct a specific use and possession partial final inspection, with contractor and, if appropriate, follow-on contractor or MTA/Operations user participation. The results of the partial final inspection may be used to allow beneficial occupancy or to support a progress payment to the contractor for the portion of work accepted and relieve the contractor of responsibility.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE is responsible for directing the RE staff in performing the activities described in this procedure, and for ensuring that contract records and files are closed out and transferred in a timely manner. The RE is responsible for ongoing verification of file quality and completeness. The specific close-out activities described below will begin 2 to 3 months prior to physical contract completion.

4.2 CM DOCUMENT CONTROL

Document Control is responsible for coordinating the activities described in this procedure with the RE and the MTA, final record inspection, and physical transfer of records from the CM offices to the MTA or location designated by the MTA CM Document Control is responsible for incorporating any contract related records maintained and filed by other CM departments are also transferred to the MTA.

4.3 MTA CONFIGURATION MANAGEMENT CONSULTANT

The MTA Configuration Management Consultant is responsible for initial acceptance of close-out documents identified as deliverables for MTA Rail Operation Support (ROS) and for transfer of such documents to MTA ROS. Operation deliverables include as-built contract documents, contractor shop drawings, permits and warranties, and operations and maintenance manuals. The Configuration Management Consultant is not responsible for handling closeout transfer of general correspondence files.

4.4 MTA RECORDS MANAGEMENT CENTER (RMC)

The MTA RMC has overall responsibility for long term storage, protection, and retrieval of contract files and documents following close-out. The RMC is responsible for accepting close-out records and for coordinating transfer to long term storage. The MTA RMC is responsible for determining document retention requirements, and for approving any CM requests to destroy or discard documents.

5.0 PROCEDURE

To ensure complete files are transferred to the MTA at closeout (e.g., file verification at contract closeout), an on-going verification of files shall be performed by the RE throughout the duration of the contract. Maintenance of document files will also be periodically audited by MTA QA and/or Configuration Management staff throughout the life of the contract.

5.1 VERIFICATION OF FILE COMPLETENESS

5.1.1 SEQUENCE FILE REVIEW

The sequence files and the corresponding indexes and logs controlled by the RE will be reviewed at the RE office to ensure completeness and accuracy.

4.12 DOCUMENT CLOSEOUT

1.0 PURPOSE

This procedure describes the processes for transferring contract files to the CM Document Control Center for forwarding to the Metropolitan Transportation Authority (MTA) when the contract is complete.

Records Mgm't Center

2.0 GENERAL

All correspondence and documents produced to support construction of MTA contracts are the property of the MTA, including all CM originated documents, logs, ledgers, and work related diaries and documents submitted by the contractor. The CM is required to transfer all and any project documents to the MTA on request of the MTA RMC, and to destroy document copies when and if directed by the MTA RMC. These procedures are compliant with the MTA document control procedures (See Section 6.0 References) and comply with minimum standard for records management and document control procedures for MTA Rail Construction / Procurement contracts.

RMC? spell out

2.1 PROCESSING TIME

After a contract is physically completed, the resident engineer (RE) has performed the necessary contract closeout processes, and the MTA has accepted substantial completion of the contract, the contract files will be transferred within 6 weeks to the MTA for long-term retention, and use by MTA Operations

Sometime DOES NOT occur For years more after physical completion NEED RECORDS FOR 6 yrs SOONER

2.2 DOCUMENT INDEXES

Electronic indexes referred to in this procedure include the Records Management System (RMS) for correspondence and the Change Control System (CCS) for Change Orders, Change Notices, Requests for Information, Requests for Change, submittals, and claims.

3.0 DEFINITIONS

3.1 *Records Management System (RMS):* The automated MTA correspondence and document indexing and reporting system

3.2 *Sequence Files:* Correspondence and documents filed in sequence number order. See REP 3.4, "Document Control" for further definition.

3.3 *Case Files*: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

3.4 *IMAGEABLE System:* The automated MTA document imaging and indexing system. NOTE: Close-out processes for field offices using the IMAGEABLE system may differ. Differences are noted below.

3.5 *Change Control System (CCS):* The MTA automated contract change and submittal tracking system. CCS is used to track and index RFIs, RFCs, Change Notice, Change Orders, Claim, and Contractor Submittals.

Documents found in files that are not logged in indexing systems will be logged. Where the IMAGEABLE system is being used, documents will also be scanned into the electronic file.

5.2 BOX PREPARATION

5.2.1 BOXING AND IDENTIFICATION

When verification is complete, all field records will be boxed, indexed (using the Records Index and Storage Request, Form ___ [Exhibit 7.1]), and labeled (using the Records Storage Carton Label, Form ___ [Exhibit 7.2]) by the RE in accordance with the Document Control records storage procedure (refer to REP 3.4, Document Control). The records will be boxed and indexed so that they are securely enclosed and identified for storage. Document Control will coordinate with the RE to ensure that boxes are properly indexed. The type and size of record storage boxes will be in accordance with MTA requirements. Case files will be segregated into separate boxes. 5.2.2 The RE will print a final index for each sequence file or case file, place the final index in the first box for each sequence or case file, and list the index on the Records Index and Storage Request (Exhibit 7.1).

5.2.3 In addition to the sequence files described in paragraph 4.1.1, the RE shall box, index, and label all remaining project-related files. These include, but are not limited to, subject files, photographs, RE and inspector diaries, delivery tickets, concrete pour cards, inspection records, test reports, analyses, estimates, schedules, survey and geotechnical material, and radio and audio tapes. If these records are maintained by other departments, the RE shall notify these departments that the contract is complete and that all records shall be transferred to the RE for closeout preparation.

5.2.4 RETENTION IDENTIFICATION

Retention schedule information on Box labels and indexes will be marked "RETAINED UNTIL NOTIFIED".

5.3 TRANSFER OF DOCUMENTS

5.3.1 CM DOCUMENT CONTROL VERIFICATION

Prior to transfer, CM Document Control staff will review the box indexes and file boxes prepared by the RE for completeness. On CM Document Control approval, the RE will add the note, "completed contract, transferred to t, CM Document Control" on the Records Index and Storage Request form (Exhibit 7.1) and will assign box numbers. The box number will include the contract number and a sequential number, beginning with number "1" (e.g., B201-001). The box number will be placed on Form ___ and Form ___ (Exhibits 7.1 and 7.2).

5.3.2 The RE will forward a complete set of Records Index and Storage Requests (Exhibit 7.1) and final indexes to Document Control.

5.3.3 DUPLICATE DOCUMENT DESTRUCTION

During review of indexes and boxes, CM Document Control will identify document duplications (e.g., duplicate RE subject files or copy files maintained at the CM main or

5.1.2 CASE FILE REVIEW

Case files such as submittals, request-for-information, request-for-change, change orders, claims, shop drawings, warranties and guarantees., etc., defined in REP 3.4 will be reviewed against the approved master lists maintained in the CCS® or other approved tracking systems. The RE will verify that all required submittals have been received and approved before turning records over to CM Document Control for transfer to the MTA or MTA designee.

5.1.3 CANCELLED SEQUENCE NUMBERS

If a document sequence number has been canceled, a target sheet will be inserted in the file indicating the canceled sequence number. If a document is missing from the file, the RE will make every effort to locate the document. If the document is not found a target sheet will so indicate. ✓

5.1.4 GENERAL FILE ORGANIZATION

All physical document files will be organized and turned over in accordance with REP 3.4 and MTA's Subject Code/File Sequence numbering order defined in the MTA File Coding System document.

5.1.5 CASE FILE ORGANIZATION

5.1.5.1 Contract Change Files: Change files will be organized sequentially by Change Order number under subject code CA500. Supporting documentation for Change Notices, Requests for Change/Information, and claims shall be filed with the corresponding change order, in the order required by MTA Policy CF11, Change Control: Construction/Procurement Contracts. Change Notices, Requests for Change/Information, and claims which have been cancelled, withdrawn, or not incorporated into a Change Order file for any other reason (i.e, unresolved claim) shall be organized by the sequential number under their appropriate subject code (CA520, CA530, etc.)

5.1.5.2 Submittal Files: General submittal files will be organized in submittal number order. Approved copies of submittals identified as Rail Operations Support deliverables (Operations and Maintenance Manuals, Warranties and Guarantees, As-Builts, Shop Drawings) will be segregated from general submittal files into special subject or case files, but will also be filed in submittal number order.

5.1.6 ELECTRONIC LOG REVIEW

The RE will review the associated electronic indexes and logs against files to ensure that all sequence numbers are listed and properly identified, making corrections or additions as necessary. If a sequence number has been canceled, the sequence number will be input to the index and the word "canceled" inserted in the subject field. In addition to review of RMS or IMAGEABLE document indexes, the RE will review case files against logs maintain in CCS (RFI, RFC, Change Notices, Change Orders, Submittals, Claims) to ensure that both files and logs are complete. Any missing sequence numbers in CCS will be added, identified as a "not used" record.

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Records Index and Storage Request (Form ___)
7.2	Records Storage Carton Label (Form ___)
7.3	Sample Transmittal
7.4	Duplicate Document Destruction Request

[Note: Exhibits not included in electronic file for this REP. MTA Configuration Management to provide standard form templates]

other offices), including hard copy duplications of documents scanned into the IMAGEABLE system. The CM Document Control Manager will prepare and submit a duplicate destruction request to the MTA RMC identifying all duplicates in either RE or CM home office files, and identify the location of the record copy (.e.g, Field Office Sequence Files, IMAGEABLE system image, etc., as appropriate). A copy of the document destruction request will be sent to the MTA Construction Division Document Control Manager and the assigned MTA Contract Administrator. The RMC Record Manager will provide written approval or request that duplicate files be transferred to MTA control on a case by case basis. On receipt of approval from the MTA RMC Record Manager, CM Document Control will discard or destroy all known extant copies of such documents as directed, and will verify destruction to the MTA RMC.

NOTE: Any and all copies of project correspondence or documents retained by the CM or a CM employee either before or after transfer to the MTA are subject to legal discovery should a claim or other legal action arise in conjunction with the contract or project.

5.3.4 DOCUMENT TRANSMITTAL

Documents not captured in the IMAGEABLE system, or where hard copy is specifically requested by the MTA will be transferred to the MTA RMC, Configuration Management Consultant, or to any other location directed by the MTA RMC. Document Control will send a transmittal (refer to Exhibit 7.3) to the MTA RMC, listing the box numbers and contract number. Copies of the transmittal will be sent to the MTA Contract Administrator, EMC Document Control, the MTA's Construction Division Document Control Manager, and the MTA's Configuration Management Consultant. The transmittal will require a receipt acknowledgment. A copy of the transmittal, Records Index and Storage Requests, and indexes will be retained by Document Control.

5.3.5 PHYSICAL DELIVERY

Document Control will notify the MTA of the impending transfer and coordinate with CM couriers in transporting the boxes, indexes, and transmittals to the MTA RMC, or a storage location designated by the MTA. Operations deliverables (as-builts, approved shop drawings, approved operations and maintenance manuals, warranties and guarantees, etc.) will be delivered to the MTA Configuration Management Consultant ~~for transfer to MTA Rail Operations~~. All other records will be delivered to the MTA RMC or to a storage location specified by the MTA RMC.

(Drawings To EMC)

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
REP 3.4	Document Control
MTA Policy CF5	Records Close-out
MTA Policy CF6	Transfer to Rail Operations
MTA CM420??	MTA File Coding System

5.2 RESIDENT ENGINEER

The RE implements the following:

5.2.1 Establishing and maintaining a separate file for safety certification documents. This separate file shall contain copies, not the original documents. The file structure shall be consistent with the item numbers on the Certification Checklist.

5.2.2 Establishing and maintaining a list of required documents that demonstrate compliance with the items listed in the Certification Checklist. This list identifies the required safety certification documents and serves as a checklist to ensure that all required documents are received.

5.2.3 Identifying safety certification items in the computerized Submittal Module of the Change Control System (CCS) by adding the letters "SFC" in the category block of the computer input screen (refer to Exhibit-7-1 for an example of the resulting computer output).

5.2.4 Monitoring safety certification submittals and project documents (e.g., Daily Inspection Reports and test reports) regarding receipt, review (documented with transmittal letters), approval, and followup, as required.

5.2.5 In preparation for submittal to the MTA and prior to contract closeout, placing the safety certification documents in a binder(s) indexed by the Certification Checklist item number.

5.2.6 Verifying each item on the Certification Checklist by completing, signing, and dating Form #____, Safety Item Verification (Exhibit 7-2), for each checklist item and placing the completed forms in the Contract Safety Certification Book.

5.2.7 Preparing and signing a Consultant Specification Conformance Certificate (Exhibit 7.3) for the contract and placing the document in the Contract Safety Certification Book.

5.2.8 Submitting the Contract Safety Certification Book(s) to the MTA Manager, Safety Certification for acceptance. Open items requiring followup action shall be listed and tracked on the contract closeout punchlist. Safety certifications must be accepted by the MTA Manager, Safety Certification before the contract can be closed. The Safety Certification Book(s), shall then be available for review by representatives from the Public Utilities Commission.

5.3 QUALITY ASSURANCE

MTA Quality Assurance will conduct periodic audits of safety certification operations.

5.4 CONTRACTOR

The contractor interfaces with the RE's office and others, as necessary, to comply with the specifications.

5.5 DOCUMENTATION

Safety certification documentation, along with all other documents, will be turned over to the MTA ~~at contract closeout as part~~ of the project records. Verification of all items and ~~requirements will be required~~ before contract closeout.

4.13 SAFETY CERTIFICATION

1.0 PURPOSE

This procedure describes the process used to verify that safety related items and systems are installed and operating in accordance with contract requirements.

2.0 GENERAL

The CM supports the Metropolitan Transportation Authority (MTA) Safety Certification Program. The process described ensures conformance to safety-related contractual requirements by identifying, tracking, reviewing, and approving safety-related documentation.

3.0 DEFINITIONS

Safety Certification Specification Conformance Checklist: a compilation of safety-related items extracted from contract specifications. A separate checklist will be prepared, reviewed, and approved for each system and facilities contract. Each line item will require some form of documented approval (e.g., drawing, catalog, data, certificate of compliance, test report, qualification, and procedure) to be considered complete and acceptable.

Each document will include EMC's approval stamp as evidence of review acceptance by the engineer. If the document is a submittal, only the submittal cover page, the engineer acceptance stamp and the specific page of the submittal that provides evidence of compliance need be provided. The balance of the pages for the submittal are not required. Items that are multiple submittals (such as test reports for rebar steel) should have a representative sample provided, but not necessarily every submittal.

4.0 RESPONSIBILITIES

The Engineering Management Consultant (EMC) produces the initial Safety Certification Specification Conformance Checklist (henceforth referred to as the Certification Checklist) and forwards the document to the MTA Systems Safety Manager for review, comment, and approval. As Construction Manager (CM), the CM has overall responsibility for verifying compliance with Certification Checklist items. The CM may utilize the assistance of the EMC in this effort.

The resident engineer (RE) is responsible for verification of all items on the Certification Checklist on an on-going basis and is responsible for seeing that they are completed prior to contract closeout.

5.0 PROCEDURE

5.1 MTA

The MTA Systems Safety Manager provides the Certification Checklist to the CM for each contract.

2.0 GENERAL

2.1 Minimum participants in the Readiness Review meeting shall include:

1) Resident Engineer
2) Inspectors
3) Quality Manager or Chief Inspector
4) Contractor representatives (Project Manager, Project Engineer, QC Manager, appropriate Superintendent.)
5) MTA Construction Manager (as determined by MTA)
6) MTA Quality Assurance Manager (as determined by MTA)
7) Engineering Management Consultant representatives
8) Other Support personnel as determined by the RE

Add MTA Rail Activation Manager

2.2 The RE is responsible for scheduling the meeting, conducting the meeting, maintaining and issuing meeting minutes, and notifying the contractor to commence work. The notification to commence work may be either in the meeting notes or in a letter to the contractor.

2.3 The RE is responsible for reviewing contract requirements and preparing a Readiness Review checklist. The checklist shall be issued for review by the attendees prior to the meeting.

2.4 The Readiness Review meeting shall be conducted prior to the start of the work. All checklist items must be satisfactorily completed or action(s) agreed to by the RE before authorization to start work is granted by the RE. Exceptions or omissions of requirements discovered during the Readiness Review meeting will be noted in the meeting minutes. Dates will be assigned for the completion of action items. The RE will be responsible to ensure that the Contractor resolves open issues noted in the meeting minutes.

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 Resident Engineer: Shall be responsible for issuing the meeting notice, preparing the agenda, chairing the meeting, preparing meeting minutes, identifying action items, close-out of action items and maintaining a project file of Readiness Reviews. The RE. shall be responsible for issuing the notice to proceed to the contractor.

4.2 Meeting Participant: Shall assist the RE in reviewing the Readiness Review checklist and making any recommendations to the meeting. Shall review the checklist in the meeting and advise and assist the RE in determining if the submitted documents meet the checklist requirements.

4.3 Contractor: Shall supply the necessary personnel with the authority to act on their behalf. Supply the latest version of the design documents for review and identify any relevant issues/topics for the meeting agenda.

4.15 READINESS REVIEW

1.0 PURPOSE

1.1 The purpose of this procedure is to provide the Resident Engineer (RE) with guidelines for conducting Readiness Reviews. Readiness Reviews will evaluate the preparedness for accomplishing designated construction operations or activities.

1.2 The Readiness Review will address all construction operations or activities as determined by the RE. Readiness Reviews are not needed for every work activity, but any work activity may be scheduled for a Readiness Review at the RE's discretion. The following construction operations or activities requiring Readiness Review meetings include, but are not limited to:

Stations/General Construction

a) Survey control
b) Utility relocation
c) Dewatering
d) Temporary utility services
e) Maintenance of traffic
f) Excavation and support
g) High Density Polyethylene (HDPE)
h) Concrete
i) Elevators/escalators
j) Masonry
k) Welding
l) Fire protection systems
m) HVAC systems
n) Lighting systems
o) Thermal and moisture protection

Tunnels/Line Segments

a) Survey control
b) Staging area
c) Temporary power
d) Dewatering
e) Shaft
f) Excavation and initial support
g) Concrete lining (invert, arch, walkway)
h) High Density Polyethylene (HDPE)
i) Welding
j) Fire protection systems
k) HVAC systems
l) Lighting systems

Systems Operations

a) Equipment installation
b) Field acceptance tests
c) Integration tests
d) O&M Manuals, Warranties
e) As-Built "Record Drawing" set

5.6 RECOMMENDED READINESS REVIEW MEETING SUBJECTS

5.6.1 Traffic Maintenance: Haul route plans, traffic control plans, etc.

5.6.2 Permits: Review and assure appropriate permits are obtained before related work starts.

5.6.3 Design Drawing: A list of appropriate design drawings and revision identification.

5.6.4 Design Specifications: Appropriate specification(s) and revision identification.

5.6.5 Contract Submittals: Required submittals based on the latest revision of the contract.

5.6.6 Contractor Construction Work Plan (CWP): The appropriate CWPs shall be listed and verified to be ready for implementation. Each CWP will list the operations to be performed in a step-by-step manner, and inspection points (including CM witness points) with appropriate reference to installation and inspection procedures.

5.6.7 Manufacturer Quality Control (QCP): The appropriate QCPs shall be listed and in-place.

5.6.8 CM's Quality Control Inspection Instruction: Shall be reviewed and in-place.

5.6.9 Manufacturer Recommendations: Any appropriate manufacturer recommendations as they apply to the scope of work shall be listed in the Readiness Review checklist.

5.6.10 Hazard Analysis: The hazard associated with the construction operation or activity shall be identified and measures to be implemented to reduce/eliminate these hazards shall be agreed upon.

5.6.11 Health and Safety: Any appropriate health and safety procedures need to be reviewed with the contractor/manufacturer.

5.6.12 Start-up: Preparation for Systems Integrated Testing

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Quality Control Inspection Instruction (QCII) Manual

7.0 EXHIBITS

None

5.0 PROCEDURE

5.1 MEETING NOTICE

5.1.1 The RE reviews the latest issue of the contract and determine which items apply to the subject work effort. A checklist of applicable items is then prepared.

5.1.2 The RE uses the Readiness Review checklist as a guide during the meeting.

5.1.3 The RE distributes the meeting notice, with the checklist, to all attendees.

5.2 MEETING AGENDA

5.2.1 The RE prepares the meeting agenda utilizing Contractor's input.

5.3 CHECKLIST

5.3.1 The RE prepares a checklist of contract required items, i.e., shop and working drawings, QC instructions, supplier samples, catalog cuts, material certifications, and any issues to be reviewed and/or discussed at the Readiness Review Meeting.

5.3.2 The RE shall send a copy of the Readiness Review checklist to the proposed attendee for their comments prior to the issue of the Readiness Review meeting notice. The attendees would review the list and suggest any additions or deletions.

5.3.3 The Readiness Review Checklist shall be distributed with the meeting notice and the agenda.

5.4 READINESS REVIEW MEETING

5.4.1 The RE conducts the meeting according to the agenda and distributes the meeting minutes.

5.4.2 The RE assigns action items as appropriate. All action items must be resolved to the RE's satisfaction prior to start of the work.

5.4.3 The RE tracks all of the action items and verify close-out prior to start of work associated with the action items.

5.5 ACCEPTANCE CRITERIA

5.5.1 Design Documents/Specifications: The latest revision of the documents per the contract has been received by the contractor/manufacturer.

5.5.2 Contractor/Manufacturer Submittals: Required submittals have been received, reviewed and approved by the RE.

5.5.3 Contractor/Manufacturer Procedures: Required procedures have been received, reviewed and approved by the RE.

5.0 PROCEDURE

5.1 FACILITIES APPROVAL AND DISPOSITION PROCESS

The following approval and disposition process is in accordance with Specification Section 01730:

1. The Resident Engineer (RE) submits the proposed O&M manual format to the EMC and ~~MTA ROS~~ RA&I Users Group for review.
2. The EMC and MTA ~~ROS~~ RA&I return the reviewed manual format to the RE for transmittal to the contractor, who revises the format and/or content per the review comments.
3. The contractor will then submit a complete manual to the RE for EMC' and MTA ~~ROS~~ RA&I review and acceptance.
4. The RE will review the manual for compliance with submittal and format requirements. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.
5. The RE will transmit the manual to EMC and MTA ~~ROS~~ RA&I following logging.
6. The EMC and MTA ~~ROS~~ RA&I will review and return comments within the specified review time frame.
7. Upon receipt of the MTA ~~ROS~~ RA&I and EMC-reviewed manual, the RE will retain a copy of the review comments and return the reviewed manual to the contractor for correction, if required.
8. The contractor then submits six copies of the corrected manual to the RE.
9. The RE reviews the manual to ensure that the EMC and ~~ROS~~ RA&I review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action. ~~For distribution to MTA ROS~~ O&M
10. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, and send five copies to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC.. The sixth copy will be retained by the RE for reference until transfer occurs.
11. The RE will notify the Contractor of the change in address for forwarding any subsequent updates to the manuals received from the manufacturer or other originator.

5.2 Should be the same as 5.1 Spec Conditions section 01730.

5.2 SYSTEMS APPROVAL AND DISPOSITION PROCESS

The following process is in accordance with the appropriate technical provisions and Contract Data Requirements List (CDRL):

1. The RE will submit one copy of the contractor's complete manual to the EMC and

4.16 OPERATIONS AND MAINTENANCE (O&M) MANUAL PROCESSING

1.0 PURPOSE

This procedure provides guidelines for the processing of operations and maintenance (O&M) manuals for both facilities and systems contracts. Although generally processed as a contractor submittal in accordance with REP 6.1, O&M manuals require additional special handling as a deliverable to the MTA Operations Division.

2.0 GENERAL

The O&M manual format and content for the facilities contracts are described in Specification Section 01730. The content includes Warranties and Bonds, as detailed in Section 01740; Spare Parts and Replacement Materials, as described in Section 01750; and as-built shop drawings, as detailed in Section 01340, entitled Shop Drawings, Product Data, and Samples. O&M manual requirements for the systems contracts are detailed in various technical provisions of those contracts. All are required to be submitted to the Engineering Management Consultant (EMC) ~~and the MTA Rail Operations Support (ROS) department for acceptance~~ Per Spec 01730 the MTA Rail Activation

3.0 DEFINITIONS

Case File: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

4.0 RESPONSIBILITIES

Contractor: The contractor is responsible for submitting all manufacturer operations and maintenance manuals in accordance with the agreed submittal schedule. The Contractor is responsible for identifying any and all warranties and guarantees contained in such manuals in submittal documentation, and for providing any updates to manuals received following initial submittal and acceptance.

Resident Engineer: The Resident Engineer (RE) is responsible for implementing this procedure and coordinating O&M Manual processing.

Engineering Management Consultant: The EMC is responsible for review and acceptance of O&M Manual submittals.

MTA Rail Activation & Integration Department (RA&I): MTA staff responsible for review, distribution of O&M Manual to "User Group" participant

MTA Rail Operations Support (ROS): MTA ROS staff are responsible for reviewing and accepting O&M manual submittals.

Configuration Management Office (CMO): The MTA's Configuration Management consultant (LKG) referred to herein as the CMO, is responsible for storage, protection, and maintenance of O&M manuals on behalf of the MTA Rail Operations Support department.

MTA ROS for review and approval.

2. Upon receipt of the reviewed manual, the RE retains a copy of the review comments and returns the reviewed manual to the contractor for correction.

3. The contractor then submits the corrected manual to the RE (the number of submitted copies is determined by the requirements of the appropriate technical provision).

4. The RE reviews the manual for compliance with submittal and format requirements and to ensure that the EMC and MTA ROS review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

5. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.

5. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, to all copies and send all but one copy to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC. One copy will be retained by the RE for reference until transfer occurs.

6. The RE will notify the Contractor of the change in address for forwarding any subsequent updates to the manuals received from the manufacturer or other originator.

7. Manuals that are required by the Rail Activation Group or MTA ROS will be obtained from the MTA CMO.

5.3 FILING

All O&M manuals will be filed in a separate case file in submittal number order. Copies of Warranties and Guarantees contained in manuals will be also maintained in a separate case file in submittal number order.

6.0 REFERENCES

RE PROCEDURE NUMBER	TITLE
6.1	Submittals
4.12	Document Close-Out

7.0 EXHIBITS

None

shall be in accordance with individual contract requirements.

4.3 ENGINEERING MANAGEMENT CONSULTANT

The EMC is responsible for reviewing and approving the contractor test procedures to ensure that the testing meets specification requirements. Should additional tests or testing (which was not specified in the contract) be required, the EMC shall be responsible for the generation of Design Change Notices (DCNs), if required. The EMC is also responsible for correcting test problems that are specification related and for generating applicable Change Notices (CNs). The EMC will initiate CNs or DCNs for other affected contracts.

5.0 PROCEDURE

5.1 SUBMITTALS

Each test procedure is submitted to the RE, who forwards it to the TSM for review. The submittal will be processed as follows:

5.1.1 If the procedure is not acceptable, it is rejected and returned with comments to the RE for resubmittal by the contractor.

5.1.2 If the procedure review is acceptable, the procedure, with the TSM comments, is returned to the RE for transmittal to the EMC for review and approval. The TSM will coordinate the procedure review with the EMC.

5.1.3 EMC reviews and returns the procedure to the RE and TSM with its comments, if any.

5.1.4 The CM reviews EMC comments and resolves any discrepancies.

5.1.5 With the RE, the TSM coordinates resubmittal of the test procedure to the contractor to ensure that all pertinent comments are addressed.

5.1.6 The contractor revises the test procedure, if necessary, and resubmits it to the RE.

5.1.7 The submittal procedure outlined above is followed again until final approval is obtained.

5.2 SYSTEMWIDE CONTRACTOR/STATION CONTRACTOR INTERFACE

Initial acceptance testing of systemwide equipment shall be performed under those contracts to verify compliance with the specification requirements. Once accepted the equipment will be turned over for interim maintenance and additional system testing, as required.

5.3 PERSONNEL/TEST EQUIPMENT

The CM Quality Control will verify that approved test procedures and, if applicable, certified test personnel are used for testing. As specified, Quality Control will verify that required test equipment is functional and that calibration certifications are current.

5.6 FACILITIES AND SYSTEMS TESTING

1.0 PURPOSE

This document specifies the requirements that the contractor, resident engineer (RE), the Construction Manager (CM) Quality Control, and the Engineering Management Consultant (EMC) must satisfy to furnish approved test procedures and perform testing of facilities equipment and systems.

2.0 GENERAL

The contractor shall submit an overall test plan and schedule before submittal of any test procedures. A master equipment list will be issued to the contractor by the CM's Test and Startup Manager (TSM). This list is a general guideline for the test procedures to be submitted for all equipment and systems in the contract. Test folders, containing the necessary information for turnover to the Metropolitan Transportation Authority (MTA), will be prepared for all equipment to be tested. The TSM will review all contractor test procedures, make comments, if appropriate, and, through coordination with the RE, obtain EMC approval. The RE will advise the TSM, who will schedule the testing with EMC and MTA, when equipment is ready for testing. The TSM will also resolve testing problems and coordinate retesting (refer to Exhibit 7.1).

3.0 DEFINITIONS

Refer to QCII 1.2 for general definitions.

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

Resident Engineer (RE): Ensures that the contractor provides the required test plan, procedures, schedule, and performs required tests. Responsible for all communications with the contractor concerning technical matters. The RE receives and approves all contractually required submittals from the contractor including design documentation, schedules, progress reports, test plans, procedures, and reports. The RE manages the contract with the contractor, responds to contractor requests for information and clarification, and has limited authority to direct changes.

The Test and Startup Manager (TSM): Shall request assistance from the engineering support group as necessary. The TSM reviews test procedure(s) prior to EMC review and approval, prepares the test folder for item(s) to be tested, witnesses testing of equipment and systems, coordinates the resolution of test problems and retesting, and turns over properly tested and maintained equipment to the MTA for Integrated Testing where applicable.

? Who ^ Rail Activation & Integration

4.2 CONTRACTOR

The contractor shall submit test procedures for all installed equipment and systems. It shall be responsible for conducting required inspections and tests to ensure compliance with contract requirements, for providing personnel and test equipment to conduct the tests, for maintaining calibration records for all test equipment, and for correcting problems that are caused by faulty construction. Contractor support of Integrated Tests

- Turnover Checklist
- Jumper list
- Warranty status

specify Who or Job Title

5.8.4 The TSM schedules the test date(s) subject to the RE's approval. The MTA and EMC are notified 48 hours prior to initiation of the test.

5.8.5 Test is performed in accordance with EMC approved test procedures.

5.8.6 If the test fails:

- If it is a specification problem, the EMC corrects the specification and issues a DCN, if required, to the RE. The RE has the problem corrected and reschedules retesting through the TSM.
- If it is a construction or system problem, the contractor corrects the problem and notifies the RE when the equipment is ready for retesting.
- Depending on the circumstances of the failed test, the test may resume using existing test documents or may be retested, the documentation revised accordingly to reflect the extent of retesting.
- Each red-lined test procedure change must be approved by the contractor, the EMC, and the CM. This means that each red-lined change must be signed and dated by the contractor, EMC and CM.

5.8.7 If the test passes:

- The signoff sheet is completed.
- The test folder and maintenance records are held by the TSM and turned over to MTA Operations when MTA takes custody of the equipment. per EMC Task B11

5.8.8 The TSM maintains a test log for each facility.

5.9 NONCONFORMING CONDITIONS

The CM Quality Control will verify that the documentation for any nonconforming condition associated with the testing is included in the test folder. Nonconforming conditions shall be processed as described in QAP 14, Control of Deficient Items.

5.10 TESTS AND TEST REPORTS

The CM Quality Control will verify that required test results have been obtained and that test reports have been submitted within 10 working days of test completion. Quality Control will also witness and document each test, verifying that test reports are approved prior to continuing work dependent on those tests.

5.11 RECORDS

CMC for logging & distribution to MTA

The test folders shall be held by the TSM until turnover to MTA Operations, in accordance with REP 4.12. Interim maintenance records will be included in the test folder. One copy

5.4 FACTORY TESTING

The TSM will ensure that factory inspections/test results and documentation are included in the test folder when factory testing is specified.

5.5 SUPPLY AND EXHAUST SYSTEMS FOR HVAC EQUIPMENT

The CM's inspection staff shall visually perform an internal check of all accessible ducting and concrete shafts for any equipment to be tested. All ducting and concrete supply and exhaust shafts shall be clean and free of debris and have unobstructed air supply or exhaust source. The records for these inspections are to be included in the test folder. This shall be done prior to starting any of the heating, ventilation, and air conditioning (HVAC) equipment.

5.6 MAINTENANCE

By whom? CM quality control shall verify that electrical and mechanical equipment has been serviced and maintained per the manufacturer's recommendations. Verify that the documentation for this work is included in the test folders prior to turnover. Per EMC Task B11

5.7 EQUIPMENT/SYSTEMS TO BE TESTED

All equipment installed by the facilities contractor will be tested in accordance with the approved test procedures. The RE, in coordination with the TSM, will furnish the contractor with a list of facilities equipment from the latest revised drawings for the contract; the contractor is responsible for any omissions in the list. The purpose of the equipment list is to provide guidelines for the contractor in preparation of the test procedures. All test procedures must be approved by the EMC prior to testing.

5.8 TESTING

The following requirements must be met before tests are performed. Exhibit 7.2 lists the test control requirements.

5.8.1 The contractor notifies the RE of equipment that is ready to be tested.

5.8.2 The RE notifies the TSM, who will verify that the required submittals for testing have been submitted and approved, that equipment is ready for testing.

5.8.3 The TSM shall prepare the test package for equipment to be tested and shall ensure that all mandatory pretest requirements have been completed and documented. The test package shall consist of:

- Vendor data
- Inspection records/checklist
- Verify status of the Safety Certification Specification Conformance Checklist (SCSCC) for equipment to be tested
- Maintenance records
- Contract instrument calibration/settings
- Approved test procedure
- Latest revised drawings or as builts
- Test instrumentation certifications/calibrations

Exhibit 7.2 (Continued)

TEST CONTROL REQUIREMENTS

12. Parameters of specific tests are specified in the test procedure/test data report.

13. Tests are conducted in order specified.

14. Go/No-Go results are individually accepted by the operator's signature/initials.

15. Equipment/items replaced during the test must be documented and approved by the contractor, EMC, and the CM before the test continues.

16. Test failures shall be documented on a Nonconformance Report (Form #___).

17. Test reports shall be signed by the test technicians conducting the test, the contractor's authorized management representative, and the CM. The CM's approval should include review by the CM's Quality Control department.

18. Ensure that the test report original document, with approval signature, is controlled and secure.

19. Ensure that test reports are maintained in a logical and controlled manner for presentation to the Metropolitan Transportation Authority.

Exhibit 7.2

TEST CONTROL REQUIREMENTS

1. Review field, text plan, procedures, and schedules.

2. Test summary reports shall be approved before the next level of testing starts.

3. Final test reports for each level of test includes:

   A. Name of test and test procedure reference

   B. Identification of equipment under test, including nomenclature, part number, and serial number of each lowest level replacement unit.

   C. Test equipment calibration is identified (within current calibration) and documented

   D. Test and support equipment nomenclature, part number, and serial number are documented.

   E. Test equipment environment is described: approximate temperature, humidity, dust conditions, and other pertinent test environment factors.

   F. Location of tests

   G. Test input data and results are documented for each test parameter.

   H. Identification of points and functions measured, monitored, or checked; results at each point with pass or fail statement

   I. Description and explanation of test failures or deviations from expected results

   J. Date of test

   K. Signature of person conducting test

   L. Signature indicating contractor's approval, other than the test operator, should include contractor's quality control manager and project manager.

4. Next level test reports shall reference the previous test by name and report identification.

5. Ensure that test plan(s) and procedure(s) are approved by contractor and the CM.

6. Test procedure revision is current and referenced on the test data sheets (if used).

7. If dry-run tests are performed, participate and provide guidance for requirements. Ensure that dry-run data is not used as final data.

8. Participate in pretest meetings.

9. Each red-lined test procedure change must be approved by the contractor, the EMC, and the CM. This means that each red-lined change must be signed and dated by the contractor, EMC, and CM.

10. Check calibration of test equipment before the test starts.

11. Verify that test equipment, cables, connectors, and interface devices are in place and in accordance with the procedure.

underpinning, restoration of structures, and concrete reinforcement)

- Working drawings (i.e., tunneling methods and operations, support of excavations, decking, form work, support, utilities support, temporary ventilation, access roads and parking areas, and grouting)
- Utilities relocation and support
- Electrical systematic schematic diagrams and circuit diagrams
- Test schedules and testing and manufacturing procedures
- Samples and mockups
- Operations and maintenance/training manuals
- Programmatic documentation (hazard analysis)
- Test procedures and test reports
- As-Built Document Submittals

2.3 CONTRACTOR SUBMITTAL REVIEW

The process to be followed in Contractor Submittal Review is shown in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Master list of submittals:* a list of all submittals that the contractor is required, by Contract Specifications and Contract Drawings, to submit to the RE for review and approval. The list shall be submitted to EMC for approval of technical content.

3.2 *Urgency of response:* This is an indicator on the Submittal Transmittal to the reviewers and is defined as follows:

Routine: within the terms of the contract.

3.3 As-Built Document Log: The list of as-built documents that the contractor is to submit at interim and final contract milestones per Contract Section 1720, paragraph 1.3.c.

Urgent: as defined by the contractor at time of the submittal

4.0 RESPONSIBILITIES

4.1 CONTRACTOR

The contractor is responsible for furnishing a Master List of Submittals as required by the contract specifications and Contract Drawings, with corresponding submittal dates that allow adequate time for review by the CM, the EMC, MTA, or third parties. The Master List of Submittals is to be submitted in both electronic and hard copy format. The electronic copy is to be submitted in a format compatible with the MTA CCS Submittal Tracking system.

6.1 SUBMITTALS

1.0 PURPOSE

This procedure establishes guidelines for establishing submittal schedules and for processing contractor submittals and describes the processing of submittals from original receipt by the resident engineer (RE) until the submittal is reviewed, dispositioned, and returned to the contractor, via the RE.

2.0 GENERAL

2.1 The Construction Manager (CM) is responsible for managing contractor submittals, coordinating review of submittals with the Engineering Management Consultant (EMC), Metropolitan Transportation Authority (MTA), and CM staff, as required, and for tracking the approval process of submittals within the time frame specified in the contract documents. The CM will maintain submittal status tracking systems, using the MTA's Change Control System (Submittal Tracking Module), and will be responsible for maintaining submittal documents in a readily retrievable manner throughout the construction phase of the project.

Contractor submittals will be turned over to the MTA at contract closeout as part of the project record. Included in this task is tracking of all systems ~~Contract Data~~ Requirement List (CDRL) items and subsequent notification to the contractor of any submittal deficiencies. Design interpretation or changes to approved submittals must be reviewed and approved by the EMC, or other designated reviewer.

2.2 This procedure outlines the process, control, coordination of review, and retention of contractor submittals. The review must be performed in a timely manner (i.e., within 30 days) in order to comply with contract documents and deliverable requirements schedules.

2.2.1 Submittal review and acceptance requirements include, but are not limited to: (Additional review responsibility guidelines are provided in Exhibit 7.3)

- Master Submittal Schedule (CM, MTA, EMC)
- Schedules (CM)
- As-Built Document Submittal Schedule (CM, EMC, MTA)
- Contractor's QA/QC programs and procedures (CM)
- Contractor's construction work plans (CM)
- Geotechnical instrumentation and monitoring (CM)
- Safety and security programs and procedures (MTA)
- Traffic control (transmitted to City of Los Angeles Department of Transportation [LADOT] for review and approval)
- Welding procedures (EMC)
- Welder qualifications (CM)
- Permits (CM)
- Environmental, hazardous waste, and pollution control plans and procedures (MTA)

2.2.2 The technical and engineering submittals to be logged by the RE and transmitted to the EMC for review and approval include, but are not limited to, the following:

- Shop drawings (i.e., design implications regarding permanent installation and finish items, temporary installations required by specifications or drawings, lift drawings,

5.2 CONTRACTOR SUBMISSION

The contractor produces submittals according to the contract documents and approved schedule, reviews the submittal; and affixes, dispositions, and signs the Contractor Review Stamp. The submittals are forwarded to the RE with the contractor's letter of transmittal.

5.2 RE ACCEPTANCE

After receipt of the submittal, the RE scans the submittal to ascertain that the information required to support the submittal is provided in accordance with the appropriate Specification Section 01300. If the proper information is not included, or is not adequately identified, the RE returns the entire submittal to the contractor. When the RE is satisfied that the submittal has provided the information required, the RE determines the routing and review requirements of the submittal. Standard review requirements are listed in Exhibit 7.3. Submittal receipt is entered into the Submittals module of the Change Control System (CCS). The RE uses this module to track, generate forms, and report activities related to contractor submittals.

In order to maintain the submittal review schedule, the RE may also return submittals provided by the Contractor significantly earlier than their approved due date, and request that they be resubmitted closer to their approved due date.

5.3 SUBMITTAL REVIEW

for permanent facilities and utilities

If it is determined that the submittal is of an engineering or technical nature, it is transmitted to the EMC. Following the engineering review, the submittal is returned to the RE for subsequent transmittal to the contractor. The EMC is responsible for coordinating approval by City of Los Angeles agencies. The RE is responsible for tracking the submittal during this step and ensuring that it is returned in a timely manner to stay within the time restraints established by Contract Documents Section 01300 or as indicated in the Urgency of Response disposition.

When the RE disputes the disposition of a submittal by the EMC, the RE contacts the EMC representative to resolve the dispute within the allotted review time. This resolution process should be initiated as soon as possible. The RE documents the resolution with an explanatory letter attached to the disputed review when it is returned to the EMC for a resolution.

5.4 ACCEPTANCE DISPOSITION MARKING

When the EMC completes review of a submittal, a review stamp is affixed to the submittal. The EMC assigns a disposition code and signs the review stamp. The RE shall not stamp or approve submittals that are reviewed by the Engineer (EMC).

When a submittal (as listed in subsection 2.2.1) is reviewed within the CM/MTA organization, the RE affixes a review stamp (Exhibit 7.2), signs the stamp, marks the disposition code, logs the disposition into CCS, and returns the submittal to the contractor with comments.

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with estimated/scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as delinquent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring ~~that for ensuring~~ Typo that all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number (see 5.1.2 for format), Submittal Title, due date, and schedule activity code. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS.

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

The submittal number will consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1 for each specification section), and revision number (beginning with 0). Systems contracts will assign submittal numbers by CDRL number, in place of specification section and paragraph.

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by 1.

5.1.2 AS-BUILT DOCUMENTS LOG

The as-built document log is to be developed as part of the Master Submittal schedule. Each as-built submittal record will identify the due date, the associated milestone, and the specific drawings and documents to be submitted.

5.9 EQUIPMENT AND MATERIAL LISTS

Construction contract specifications may require the contractor to complete a list of all long-lead and/or schedule-critical material and equipment items, the name of each supplier, and the required and promised delivery dates for each item. The list is received and processed by the RE as a submittal. This submittal is to be made on those contracts where it is required in the contract specifications.

5.10 SUBMITTAL RECORD FILING

The RE retains copies of all submittal documents, related documentation, comments, and revisions, filed in submittal number order (exceptions listed below). The RE is responsible for ensuring that an accurate file is available for ready retrieval during the life of the project and for turnover to the MTA at closeout. To ensure retrievability, a signout system is maintained by the RE for documents removed from files. For ease of retrieval and transfer to MTA Operations following close-out, the following submittal types will be maintained in separate case files, also organized by submittal number

- Warranties and Guarantees
- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits
- As Built Submittals
- Equipment Information and Maintenance Records

5.11 SUBMITTAL DISPOSITION CHANGES

A submittal that was assigned a disposition code of "Approved as Noted, Correct and Resubmit in 30 days" or "Rejected, Revise and Resubmit," may be resolved and upgraded to an "Approved" code, without the contractor actually resubmitting the submittal. In this case, the RE will first obtain written notification from the EMC, specifically approving the submittal issues. Then the RE will log a revision in the CCS for the submittal number and upgrade the review code. The RE will affix a new review stamp to the submittal, cross out the old stamp, and sign the new stamp, marking the "Approved" code. A transmittal, including justification for the change, will be sent to the contractor.

5.12 RESUBMITTALS

Required resubmittals will be logged in CCS as soon as identified. Where parts of a submittal were accepted and parts rejected (e.g., specific drawings), only rejected items need be resubmitted. Resubmittals will be process in the same manner as original submittals.

5.13 SUBMITTAL SCHEDULE REVIEW

The RE periodically reviews the status of submittals and advises the contractor of submittals due that may impact the schedule. Status listings of submittals required for specific contract activities will be included as part of "readiness" reviews. The submittal schedule will be reviewed and adjusted periodically on a 6-month look ahead basis.

Disposition Codes are as follows:

ACC = Accepted. (Submittal package accepted in entirety, no changes or resubmittals required. -Resubmittal Required.

ANR = Accepted As Noted. Correct and resubmit within 30 days for record. (Contractor may work to submittal documents as marked by the reviewer. Marked corrections are to be incorporated and resubmitted.

ANR-NRR – No Resubmittal Required.

REJ = Rejected. Revise and Resubmit. (Submittal package is rejected in entirety or in part. Specific documents or drawings rejected are identified. The contractor is to resubmit by the due date indicated prior to work)

FRO = For Record Only. The submittal package is accepted for record purposed only. was not reviewed for acceptance and is accepted for record purposes only.

On issuance of a "Rejected" or "Accepted as Noted" submittal response to the contractor, the RE will immediately log the required resubmittal into CCS and assign an appropriate due date. The exception is submittals that are rejected because they are no longer required.

5.6 RESPONSE TIME REQUIREMENTS

Each construction contract specification states a response time requirement for contractor submittals. The RE is responsible for responding to the contractor in the shortest time possible, but no longer than the contractual requirement, in order to limit vulnerability for potential contractor claims and to avoid operations and schedule conflicts. The due date indicated to reviewers on the transmittal and CCS should allow for processing time required by the RE after review (to transmit the submittal to the contractor.) Review and approval actions are to be complete and comprehensive within the specified period. In some instances this may not be possible, and a partial or "review status" response is issued to the contractor so that concerned parties are aware of the circumstances. This is followed as soon as possible with a complete, formal response.

If the RE projects that the review period will take longer than 30 days, the RE contacts the contractor by telephone for the purpose of explaining the possible delay. The RE sends a confirming letter immediately following the call.

5.7 ON SITE REVIEW

The EMC ~~will~~ may be requested visit the jobsite as required, to observe a condition in question or to discuss the subject with the RE, the contractor, or others, as necessary.

5.8 REVIEW STATUS TRACKING

All known submittals will be logged in CCS prior to their due date. Throughout the contractor submittal review process the RE monitors and tracks the status of all submittals utilizing the CCS.

R92 Systemwide

SYSTEMWIDE BASELINE

CHANGE NOTICE
TECHNICAL EVALUATION

ROUTINE

S J# : CM111-SBCN-1.00

DATE CTE ISSUED: 08/14/96

DATE RESPONSE DUE: 09/04/96 Wednesday

FORECAST APPROVAL:

FROM: MARY HEITMEYER, MTA CONFIGURATION MANAGEMENT MH FAX#: 922-7381 TEL #: 922-7350

BASELINE: CM111 / MTA RESIDENT ENGINEER'S MANUAL

CHANGE TITLE: **(INITIAL BASELINE RELEASE - REV 0) MTA CONSTRUCTION RESIDENT ENGINEER'S MANUAL**

CTE DISTRIBUTION: YOUR ASSESSMENT OF CHANGE NOTICE 1.00 IS REQUESTED. COMPLETE AND RETURN TO SENDER BY 08/21/96.
RESPONSE IS MANDATORY FOR "FYA" RECIPIENTS RESPONSE NOT REQUIRED FOR "FYI" DISTRIBUTION.

MTA CONSTRUCTION
FYI J. J. Adams, DEO Project Management
FYA C. Stark, 99-16
FYA J. Cohen, DPMC Pasadena Line
FYA D. Sievers, 99-18
FYA J. Adams, 99-17
FYA J. Sandberg, 99-18
FYA S. Polechronis, 99-16
FYI L. Simpson, MTA Configuration
FYI L. Graw, 99-17-2
FYA D. Champion, 99-17-1
FYA H. Priluck, DPMC Redline S2/East Side
FYA H. Fuks, DPMC, No. Hollywood
FYA J. Christiansen, DEO Program Mgmt
FYA

PROJECT / CONTRACT MANAGERS:
R05 S. Vranesh
R84 L. McCaffrey
R81 L. Kelsey

CM
FYI C. Dixon/D. Curzon, PD
FYI A. Biggart/G. Lamb, JMA
FYA
FYA R. Falls, MTC

RECEIVED
AUG 14 1996

EMC
FYA B. Weiss, EMC
FYI S. Masserat, EMC
FYI K. N. Murthy, Project Director
FYI A. Hadnett, EMC Project Control
FYI
FYI

OTHER
FYI L. Garside, LKG CMC, Inc. c/o C.Elliott

R82 J. Kinsel
T01 T. Lewis

CHANGE NOTICE ASSESSMENT AND RECOMMENDATION:

	YES	NO	NEED CLARIFICATION
the requested change technically NECESSARY AND/OR BENEFICIAL to the Program:?	[X]	[ ]	[ ]
the proposed approach the most COST EFFICIENT??	[X]	[ ]	[ ]
the requested TIME IMPACT or schedule change reasonable?	[X]	[ ]	[ ]
Is the proposed ROM COST reasonable? Is the ALLOCATION correct? (see Data Sheet)	[X]	[ ]	[ ]
Are potential impacts on the Program and/or Projects identified (LESSONS LEARNED)?	[X]	[ ]	[ ]
DO YOU RECOMMEND ISSUANCE OF THE CHANGE AS PROPOSED?	[ ]	[X]	[ ] MAKE PROPOSED MODIFICATION BEFORE ISSUANCE

NOTE: **Do not put comments on post it notes.** ***Please return comments by the indicated due date, late comments may be deferred to a subsequent revision.***

COMMENTS:

See ATTACHED MODIFICATION REQUESTS.

EVALUATOR: [signature] TITLE/ORG: DIR, CONTR ADM DATE: 8/22/96

RESPONSE:

RESPONSE BY: TITLE/ORG: DATE:

ACCEPTED BY: TITLE/ORG: DATE:

Los Angeles County Metropolitan Transportation Authority
818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213 623-1194

Mailing Address:
P.O. Box 194
Los Angeles, CA 90053

MARY HEITMEYER 08/14/96 10:03
rev 4.01 08/05/96 edf

COMMENTS TO SBCN#: C 1-SBCN-1.00

1. REP 1.1, Section 5.5, "The Resident Engineer's Jurisdiction," 2nd paragraph. Refer to the list of items the MTA can handle directly with the contractor. Clarify "Monthly Progress Payments" to included "after the RE has approved and submitted to the MTA."
2. REP 1.1, Section 5.6, "Contact with the Contractor." This is almost totally redundant to REP 4.5. It appears the only unique subsection is 5.6.3, Contact with the MTA. This includes some items not included in REP 4.5. Why not combine this Subsection with REP 4.5 and refer the reader to procedure REP 4.5?
3. REP 1.1, Section 5.6, Subsection 5.6.3, Para. (2), "MTA Contract Administrator (MTA/CA)" This requires an "informal" line of communication with the MTA/CA. Since the MTA/CA's are now being assigned to the field with the RE, and recent audit findings on contract administration, shouldn't this address a formal line of communication between the RE and MTA/CA?
4. REP 1.1, Section 5.6, Subsection 5.6.3, Para. (6). Recommend this paragraph be combined with Para. (4) because it is the exact same subject matter.
5. REP 2.3, Preconstruction Surveys. Subsection 2.1, needs to define what support the CM may provide for the pre-construction surveys. Subsection 4.1, states the pre-construction survey reports are available for review by the RE or its designee. This needs to be double checked with Risk Management or Legal. This implies blanket access to the reports. I understand access will be restricted on an as necessary basis with the MTA's prior written approval to the PCS Contractor. Refer to Subsection 5.1. We may want the RE to give copies of such photographs to the MTA's PCS Contractor, to assist and support their work.
6. REP 4.1, Subsection 4.0, Responsibilities. In the fifth line delete the word "proposed" so there is no confusion on whether or not this activity is part of a bid evaluation. The word "candidate" clearly indicates the persons presented for this position are subject to RE and MTA approval. Refer to Table 4.1-1. Recommend the anacronym for each column be included under Subsection 3.0, Definitions, for more clarity. Also, an item on page 2 of the table is not numbered and Item 15 on the same page does not have any description.
7. REP 6.5, Change Process. This procedure doesn't clearly include the requirements of AB1869; for merit determination by the MTA, MTA audit of all changes $\geq$\$100,000, or providing certification of cost or pricing data with the initial proposal and after final negotiations.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Each RE's office is responsible for controlling records received or generated at that office and ensuring their safekeeping until formally transmitted to CM Document Control as part of the contract close-out process as defined in REP 4.12. The RE's office is responsible for ensuring that a complete record of correspondence from and to the RE's office is maintained, and for ensuring that a complete and current set of contract and design documents is maintained at the field office at all times. The RE is responsible for maintaining files of all contract deliverable documents, other Construction Manager (CM) related files, and for forwarding construction photographs (negatives and one set of prints) to Document Control. The RE's file is the official project record of the related contract until close-out transfer is completed. Copies of these documents in the possession of other departments or RE are not official.

4.2 CM DOCUMENT CONTROL

The CM Document Control department is responsible for coordinating with various departments and RE offices and for providing training and assistance, as required, to ensure consistency of document processing. Document Control is also responsible for records storage and retrieval, transfer of completed contract files and, for maintaining the Technical Library.

5.0 PROCEDURES

5.1 DOCUMENT SEQUENCE NUMBER IDENTIFICATION AND INDEXING

5.1.1 SEQUENCE NUMBER ASSIGNMENT

All documents and correspondence to be included as part of project records and/or contract files shall be assigned a unique document sequence number identifier and subject code.

5.1.2 SEQUENCE NUMBER LOCATION

For incoming and outgoing correspondence, the document sequence number shall be placed in the upper portion of the document prior to its distribution. The sequence number may be typed or hand-written.

5.1.3 SEQUENCE NUMBER STRUCTURE

The document sequence number identifier for correspondence will include: project number - contract number - to/from code - sequence number. For example, for contract B201, the first letter from the RE to the contractor shall be assigned R81-B201-REC-00001. Subsequent letters would be assigned 00002, etc. The following list describes components of the document sequence number:

- Project Number: Example "R82"
- Contract Number: Example: "C01234"

COMMENTS: ED FOREMAN MTA

3.4 DOCUMENT CONTROL

1.0 PURPOSE

1.1 This procedure covers methods by which the Project records are controlled, retained, and secured for ready retrieval. Procedures include:

- Document sequence number identification
- Subject/file code assignment
- Records Management System (RMS)/IMAGEABLE (Records Imaging System)
- Records storage and retrieval
- Technical library
- Contract document maintenance

NOT SURE, TITLES ARE CAP. OR NOT?

1.2 This procedure establishes document control methods for the resident engineer (RE) offices. Document control procedures for other project departments are described in CM procedures, Construction Support Policies and Procedures, Document Control.

MAY OR MAY NOT BE TRUE FOR ALL CMs. TO BE DELETED.

2.0 GENERAL

These procedures are compliant with the MTA document control procedures and file coding system which provide minimum standard for records management and document control procedures for mta rail construction / procurement contracts.

3.0 DEFINITIONS

Case Files: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction, and/or Rail Operations. See Paragraph 5.6.3.

RE OFFICE STAFF, CM STAFF,

IMAGEABLE System: The automated MTA document imaging and indexing system.

Project Record Documents: All correspondence and records pertaining to the contract work. Includes but is not limited to:

- All correspondence and documents sent to and from the contractor
- All correspondence and documents sent to and from the MTA
- All correspondence and documents sent to and from the designer
- All correspondence and documents sent to and from third parties and agencies
- All contractor deliverables
- All contract documents

Records Management System (RMS): The automated MTA correspondence and document indexing and reporting system.

Sequence Files: Correspondence and documents filed in sequence number order. See Section 5.1.

the MTA AT ~~THE~~ CONTRACT CLOSE-OUT are required to be coded and organized in accordance with this system.

5.2.2 FILE CODE CHANGES

The MTA will control the code numbers. Any changes or additions made to the index must be coordinated through Document Control. In turn, Document Control will contact the MTA to request changes to the index. When changes are accepted by the MTA, Document Control distributes changes to all RE offices.

5.2.3 SUBJECT CODING

Documents will be coded SELECTED BY THE ORIGINATOR OF THE DOCUMENT, with at least two code numbers. The first code number should be the sequence file code, and the second code number should be the appropriate subject code(s). A maximum of five code numbers (including ONE sequence code and FOUR RELEVANT subject codes) may be assigned to a single document.

5.2.4 SUBJECT CODE ~~LOCATION~~ APPLICATION

The subject/file code numbers will be placed on the document prior to distribution of the document. The code numbers may be typed or hand-written, AND SHOULD BE LOCATED IN ACCORDANCE WITH THE DIRECTIONS IN THE FILE CODE BOOKLET.

5.2.5 SEQUENCE FILES

At a minimum, the RE maintains a complete (physical) sequence file of all incoming/outgoing correspondence. Duplicate copies of documents may also be filed in subject files at the discretion of the RE or as required for certain case files. See paragraph 5.6.3 for case file requirements.

5.3 RECORDS MANAGEMENT SYSTEM (RMS) \ IMAGEABLE SCANNING AND INDEXING SYSTEM

5.3.1 RMS INDEXING SYSTEM

The RMS document indexing system is maintained on the wide area network. The MTA is responsible for the maintenance of the RMS program. Included in the network are RE field offices and departments in the CM office. Input to the RMS document index provides an index of project-related correspondence and allows for prompt and accurate retrieval of records.

5.3.2 DATA ENTRY

For correspondence and documents they directly receive or generate, the RE's office is responsible for data entry to the RMS, or, where available, for scanning and indexing correspondence using the MTA IMAGEABLE system.

5.3.3 IMAGEABLE DOCUMENT SCANNING AND INDEXING SYSTEM

The IMAGEABLE document scanning and indexing systems will be used in lieu of RMS where available to capture retrievable document images and to index all incoming and outgoing RE office correspondence. The MTA is responsible for maintenance of the IMAGEABLE system. A listing of documents to be captured by the field office using the IMAGEABLE system is contained in Exhibit 7.2.

The alphanumeric contract number assigned at award. For documents not related to a specific contract, the contract number should be left blank.

- From/To Acronym

The following codes are used on all projects

REC = Identifies all RE to Contractor correspondence.
CRE = Identifies all Contractor to RE correspondence.
RED = Identifies all RE to Designer correspondence.
DRE = Identifies all Designer to RE correspondence
REM = Identifies all RE to MTA correspondence
MRE = Identifies all MTA to RE correspondence
Other CM or project specific acronyms for "From/To" as identified by the consultant.

- Sequence Number

Sequence number shall be a five-digit sequence number beginning with 00001 for each "From/To" code and continuing sequentially until completion of contract and/or project.

5.1.4 CORRESPONDENCE INDEXING

The RE's office will enter all incoming and outgoing corresondence into the MTA RMS or Imageable document indexing system. During document approval cycle, if a sequence number is assigned and for whatever reason the document is cancelled prior to signature and issuance, the originator will note "cancelled" and the date in the ~~RMS~~ INDEXING SYSTEM for the corresponding sequence number. Canceled sequence numbers will not be re-used.

5.1.5 CASE FILE SEQUENCE ASSIGNMENT

~~(IF IMAGEABLE SUPPORTS INDEX ENTRIES W/O IMAGES)~~ OR

For documents other than correspondence, sequence numbers may be the unique number or date assigned to the document. For example, Change Orders, Change Notices, Requests for Information, Requests for Change, Notice of Intent to Claim, Claims, and Submittals have a unique sequential number assigned to them. Refer to the procedure applicable to the document for assigning these sequence numbers. In the case of reports, either a sequential report number is assigned or the issue date of the report becomes the report number. This type of document is not generally input to the ~~RMS~~ INDEXING SYSTEM unless it is attached to correspondence or a transmittal.

5.1.6 QUALITY DOCUMENTATION FILING

Documentation attesting to the quality of the work/activities performed for a particular contract(s) shall be stored in accordance with Exhibit 7.1, Quality Documentation Storage Requirements.

5.2 SUBJECT CODE/FILE SEQUENCE SYSTEM

5.2.1 MTA FILE CODING SYSTEM

The MTA has developed a unified Subject Code/File Sequence System. The latest listing can be obtained from the Document Control department. This listing is required to be used for all project related correspondence and documents. All documents transmitted to

CM

OR MTA CONSTRUCTION CONFIGURATION MANAGEMENT.

"NON CASE FILE"

EF
? CHECK PROCESS: APP → FILE → STICK?

- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits

5.7 PREPARATION FOR DOCUMENT CLOSE-OUT TRANSFER OR OFF-SITE STORAGE

5.7.1 FILE QUALITY REVIEW

DUPLICATED TERM.

Field Office files will be prepared for contract document close-out transfer within 90 days after contract substantial completion. Prior to document close-out transfer or any transfer to off-site storage, the originating RE will review files ~~prior~~ to their transmittal to CM Document Control. File folders for unused file codes ~~and~~ duplicate copies shall be removed and disposed of. Files or records should be placed in a logical order that will allow for the prompt retrieval of records.

5.7.2 RECORDS INDEX PREPARATION

A typed Records Index and Storage Request Form, Form ___(Exhibit 7.3), must be completed by the originating RE for each storage box. Multiple boxes listed on a single form will not be accepted by Document Control.

5.7.3 BOX IDENTIFICATION:

The "records title" portion of the Records Index and Storage Request form must include sufficient information to retrieve records, including document date or date range (from/to), applicable file codes, document numbers and contract numbers. For example, 10 boxes labeled "Harry's files" make it difficult to retrieve a specific document. All 10 boxes would have to be reviewed to find the requested document. Chronological files should indicate a date range and subject files should list subject headings.

5.7.4 BOX NUMBER

The "box number" block on the Records Index and Storage Request form and on the carton label should be left blank. Document Control will assign the box number and return a copy of the Records Index and Storage Request form, including the assigned box number, to the originator.

5.7.5 BOX PACKING

Records storage boxes must be full but not overflowing. Half-empty boxes are crushed when stacked and waste valuable space. Overflowing boxes will break, documents will be crushed, and boxes will not stack well. Half-empty and overflowing boxes received by Document Control will be returned to the originator for correction.

5.7.6 HANGING FILE REMOVAL

Pendaflex (hanging) folders are designed for use in file cabinets, not storage boxes. Storage boxes will not support the weight of Pendaflex folders. Boxes with Pendaflex folders received by Document Control will be returned to the originator for correction.

5.4 DOCUMENT RESPONSE TRACKING

The RE will establish and maintain ~~a method~~ A SYTEM OF USING THE CCS ACTION ITEMS MODULE for tracking incoming and outgoing correspondence that requires a response and is not tracked in other automated systems. ~~The tracking of documents not controlled in other systems may be maintained manually or electronically.~~ The RE is responsible for ensuring that a timely response is generated and that open items are closed. Receipt and response to the following types of correspondence are tracked in the MTA CCS® : Request-for-Information (RFI), Request-for-Change (RFC), Change Orders/Change Notices, Claims/Notice of Intent to Claim (NOI), Contractor Submittals, and do not require separate response tracking.

OTHER MODULES OF

LAS? CAN THE RES USE CCS-A.I. MOD. FOR ACTION TRACKING?

THE CCS MODULE WILL BE THE PRIMARY METHOD OF ACTION ITEM TRACKING USED.

5.5 DOCUMENT DISTRIBUTION

The originator of correspondence will be responsible for specifying who will receive copies. The distribution will depend on the subject of the document. One copy of all correspondence originating from or originally received at the RE's office will be forwarded to CM Document Control (documents scanned into the IMAGEABLE system excepted). While standard distribution lists may exist, the originator must use good judgment to ensure that appropriate distribution of correspondence is made.

5.6 RECORDS FILING AND FIELD OFFICE STORAGE

5.6.1 SAFE STORAGE REQUIREMENTS

During construction, the RE will maintain contract deliverable documents in filing cabinets or other file storage units at the field office. Fire retardant filing cabinets are only required for documents that are not duplicated at a remote area. Acceptable remote areas include Home Office files (e.g., Document Control, Scheduling, EO Representative).

When copies of documents are not disseminated (e.g., AS-BUILTS, pour cards, warranties, and test reports), these documents will require storage in a fire retardant cabinet.

5.6.2 ESTABLISHING FIELD OFFICE FILES:

The field office will set up sequence and subject code files using the MTA standard file code structures. File code labels may be created using ~~the MTA RMS system~~, or are available from MTA Configuration Management.

USING FILES AVAILABLE FROM MTA CONFIGURATION MANAGEMENT...

5.6.3 CASE FILES:

The following document types will be maintained in segregated subject sequence files:

- Request-for-Information (RFI)
- Request-for-Change (RFC)
- Change Orders/Change Notices
- Claims/Notice of Intent to Claim (NOI)
- Contractor Submittals: General submittals will be filed by Submittal Number ~~(Specification Section and paragraph number).~~ The following submittal types will be further segregated by subject to simplify transfer to MTA ~~Operations following contract close out:~~

AT CONTRACT CLOSEOUT

GENERAL NOTE ALL DOCS ARE SENT TO RMC RMC WILL PROVIDE TO OPS.

TYPIST

THIS IS A PARTICULARLY BAD EXAMPLE OF AN ORPHAN THAT NEEDS TO BE FIXED.

- Warranties and Guarantees

5.10 CM TECHNICAL LIBRARY

PD PARTICULAR PROCESS. NOT GENERIC

CM Document Control is responsible for ordering and controlling technical documents and publications to be included as part of the Technical Library. The requester of a technical document or publication will complete a Purchase Requisition Form. The requisition must include the title of the publication, the source, estimated cost, and the designated user. A copy of the publication order form, if available, should be attached. The completed requisition, when signed by the requester, is forwarded to Accounting for processing with a carbon copy to Document Control.

5.11 CONTRACT DOCUMENT MAINTENANCE

The RE office will maintain a current ~~conformed~~ AS BUILT set of all contract documents at all times. The current ~~conformed~~ AS BUILT set of contract documents will include the "as-awarded" set of contract documents ~~conformed~~ ANNOTATED to include all modifcations or revisions issued to the contractor under ~~a change notice, including mark-ups, sketches, or other technical direction issued to the contractor which alters or modifies the original contract terms, specifications, drawings, or design.~~ STET STET STET

~~ADDENDUM. THE DOCUMENTS WILL BE UPDATED TO INCLUDE ALL ADDENDA AND BE REISSUED BY THE MTA AT CONTRACT START UP.~~ ?

6.0 REFERENCES

The following documents are referred to in, or are related to, this procedure and are available under separate publication:

REP	Title
4.8	Construction Photographs
4.9	As-Builts
4.11	Physical Closeout
4.12	Document Closeout
6.1	Submittals

THE AS BUILT DOCUMENTS WILL ALSO BE ANNOTATED TO SHOW ANY NEW INFORMATION DEVELOPED DURING THE LIFE OF THE CONTRACT. (SEE 4.9 FOR COMPLETE AS BUILT REQUIREMENTS).

MTA Plans & Procedures	Title
PA302	MTA File Coding System
CF2	Document Control: Baseline
CF3	Document Control: Conforming Contract Documents
CF4	Contractor Submittal Tracking
CF5	Document Control: Contract Records Close-Out
CF6	Document Control: Tranfer of Records to Operator

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Quality Documentation Storage Requirements
7.2	IMAGEABLE Document Scanning System: Document Capture Requirements
7.3	Records Index and Storage Request Form

5.7.7 BOX SIZE

Generally, only standard record storage boxes (12 inches by 18 inches) will be accepted by Document Control for storage. Xerox or paper boxes will not be accepted for storage. The originator shall contact Document Control for assistance with records that will not fit in standard storage boxes.

5.7.8 BOX PICK-UP

The completed Records Index and Storage Request form should be in front of documents in the corresponding box. The originating RE should contact Office Services couriers for pick up and delivery of boxes to Document Control.

5.8 STORAGE

CM Document Control will make copies of the Records Index and Storage Request form and distribute one copy to the originator. This copy will serve as a receipt and will notify the originator of the assigned box number.

CM Storage Procedures and procedures for transfer of document to the MTA are contained elsewhere in CM procedures.

5.9 DOCUMENT RETRIEVAL

5.9.1 RETRIEVAL REQUESTS

Any RE office may request that Document Control retrieve their documents from records storage. If an RE requests records from another department's files, the RE must first obtain permission from the originating RE, department, or CM, as appropriate.

5.9.2 RETRIEVAL BOX IDENTIFICATION

The requester shall contact Document Control and request retrieval. The requester should provide Document Control with as much information as possible to assist in retrieving the records. If the box number is known, this will accelerate the retrieval process.

5.9.3 DOCUMENT RETRIEVAL

Document Control will identify the box number of the requested records and refer to the box number location index. When the box is retrieved, Document Control will complete and place an "out" card in the file of Records Index and Storage Request forms directly behind the request form of the box number being retrieved. The out card will include the requester's name, date, and box number. If only a portion of the box has been retrieved, Document Control will note on the out card which specific documents have been removed from the box.

5.9.4 DOCUMENT RETURN

When the requester returns the box or portion of the box, Document Control will remove the out card from the Records Index and Storage Request form file and cross off the retrieval information. This indicates that the documents have been returned to storage.

Exhibit 7.1

QUALITY DOCUMENTATION STORAGE REQUIREMENTS (filed with RE unless otherwise noted)			
DOCUMENTATION	SUBCODE*	PRIMARY (required)	SECONDARY (required)
QUALITY			
Inspection Surveillance Reports (monthly folders)	CM122.3	Chron. per QCII 1.2	na
Daily Inspection Reports (monthly folders)	CM122.0	Chron. per QCII 1.2	na
QCII checklists (per QCII)	na	Attached to Daily Inspection Reports	Subject file per QCII
Non conformance Reports	CM122.1	Sequentially per QAP 14	Attached to QCII checklist
Deficiency Reports	CM122.1	Sequentially per QAP 14	Attached to QCII checklist
Geotechnical Soils	DE122	Attached to Daily Inspection Reports	Chron. by subject
Geotechnical Settlement Studies	DE122	Chron. by subject	Area office by date/contract
Geotechnical Instrument Monitoring	DE122	Chron. by subject	Area office by date/contract
Geotechnical Geology - Tunnels	DE122	Chron. by subject	Area office by date/contract
Geotechnical Geology - Stations	DE122	Chron. by subject	Area office by date/contract
Survey As-Builts	CA165	Chron. by subject	Area office by date/contract
Quality Assurance Audits	SI310	Sequentially per QAP 17	Chron. by subject
Test and startup (folders)	SI2000	Per REP 5.6 with Testing and Startup Manager	na
Environmental - Health and Safety	DE560	Chron. by subject	na
Environmental - Water Quality Control	DE560	Monthly at Document Control	Monthly at Main Office
Environmental - Air Quality Control	DE561	Chron. by subject	na
Environmental - Contaminated Soils	DE560	Chron. by subject	na
Environmental - Noise and Vibration	DE562	Chron. by subject	na
Environmental - Temporary Soil Storage	DE560	Chron. by subject	na
CONTRACTOR QUALITY			
Contractor Cylinder Tests Reports	CM700	Chron. by subject	na
Soils Testing Reports	DE472	Chron. by subject	na
Nondestructive Examination Reports	DE122	Chron. by subject	na
Material Test Reports	CA800	Chron. by subject	na
Equipment Test Results	CA800	Per Testing Plan	Attached to Daily Inspection Report
As-Builts	CA165	Chron. by subject	Area office by date/contract
Concrete Batch Tickets (monthly)	CM740	Chron. by subject	na
HDPE As-Builts	CA165	Chron. by subject	na
Welding Procedure Specifications (WPS)	CM810	Sequentially by subject	na
Welding Procedures Quality Records (PQR)	CM810	Sequentially by subject	Attached to WPS
Welder Qualifications/Certifications	CM810	Sequentially by subject	na
EMC QUALITY			
Cathodic Protection	DE480	Chron. by subject	Area office by date/contract

Copies of all documentation are to be sent to Document Control per REP 3.4 subsection 3.5

* MAY BE EFFECTED BY CHANGES TO THE MTA FILE CODE MANUAL.

Exhibit 7.2

MTA IMAGEABLE Document Scanning and Indexing System: Minimum Document Capture Requirements

Field and CM Document Control Offices utilizing the IMAGEABLE system to capture retrievable images of project correspondence will ensure that the following documents are scanned and indexed, at a minimum:

LAS?

1. All general letters to or from the contractor
2. All RFC / RFI ~~transmittal covers or letters~~ - both request and response (w/o ~~attachments~~) DRAWINGS* GREATER THA 11×17
3. All Contractor Notice-of-Intent to Claim or Claim submittal ~~cover~~ letters
4. All executed Change Notice Forms (w/o ~~attachments~~) DRAWINGS...*
5. All executed Change Order Forms (w/o ~~attachments~~) DRAWINGS...*
6. Change Order Summary Record of Negotiation Forms
7. All contractor submittal and RE submittal response ~~cover letters or transmittal~~ forms
8. Non Conformance Reports (NCR) and corrective action responses
9. Daily Inspection Reports
10. Pour cards (concrete placement)
11. Meeting agendas and minutes
12. Site-specific reports (progress, safety, issues, geotech, survey, etc.)
13. Pay estimates
14. CS-50s (Construction Safety Survey Form)
15. Accident/injury reports

* DRAWINGS GREATER THAN 11X17 ~~sh~~ WILL BE REPLACED BY A STANDARD FORM STATING THAT "ATTACHED DRAWINGS WERE NOT IMAGED AND ARE FILED WITH THE ORIGINAL DOCUMENTS" AND LIST THE DRAWINGS ON THE FORM IF THEY ARE NOT LISTED IN THE IMAGED PAPER WORK.

- Maintain quality records in a manner consistent with contract document requirements.
- Assure the issuance of daily inspection reports and review said reports for items of concern. Assure that identified issues are resolved in a timely and appropriate manner.
- Assure the periodic use of an independent laboratory to verify the accuracy of contractor laboratory provided testing, in conjunction with the CM's Quality Control Manager.
- Track and assure appropriate review quality related submittals.
- Confer with inspectors and process the issuance/resolution of Nonconformance Reports
- Assure timely response to Nonconformance Reports by the contractor(s).

5.0 PROCEDURE

5.1 QUALITY CONTROL SURVEILLANCE OPERATIONS

The RE is responsible for implementing a system of quality surveillance operations through all contract phases and establishing the frequency and areas of surveillance. This system of surveillance operations, as a minimum, shall consist of the following:

- Determine the day to day assignments of the field inspectors and determine priorities for those assignments.
- Assure that the inspectors are utilizing the inspection procedures, forms and checklist as established in the Quality Control Inspection Procedure (QCII) Manual, Resident Engineer Procedure (ERP) Manual and the Quality Program Manual.
- Assure that the inspectors are utilizing the latest approved drawings and specifications.

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- Review the inspectors Daily Inspectors Reports for accuracy and completeness.

NOTE: THE DAILY REPORTS CAN BE A VALUABLE SOURCE OF LESSONS LEARNED DATA AT CONTRACT CLOSEOUT.

- Assure that the Action Item Log is being properly maintained and that Action Items are being properly addressed and closed out in a reasonable time.
- Assure that noncompliant issues and Action Items that cannot be closed out in a reasonable time are properly documented by an Nonconformance Report (NCR) and that all NCR's are properly tracked to their successful resolution.
- Schedule and assign personnel to monitor and/or witness testing conducted by the contractor as required by the Contract Specifications.
- Schedule Independent Testing Agencies to conduct verification test and inspections as required by the Contract Specifications.
- Assure that all documentation resulting from inspections, test witnessing or general quality surveillances are maintained in the project files as quality records.

COMMENTS: ED FOREMAN MTA

4.2 FIELD QUALITY CONTROL SURVEILLANCE

1.0 PURPOSE

To define the Resident Engineer's (RE) responsibilities for quality activities consistent with MTA requirements.

2.0 GENERAL

The Contractor is responsible to perform the work in accordance with the contract documents and contract reference requirements. It is the RE's responsibility to assign inspection or surveillance personnel to monitor the contractor's work and work-affecting related activities.

3.0 DEFINITIONS

3.1 *Conformance:* An affirmative indication or judgment that the condition of an item meets the requirements of relevant specifications, contract, and/or regulations; also, the state of meeting the requirements.

3.2 *Nonconformance:* A deficiency in characteristic, documentation, or procedure, that affects form, fit, or function and renders the quality of an item unacceptable or indeterminate in regard to meeting all relevant project requirements. Examples of nonconformance include physical defects, test failures, incorrect or inadequate documentation, or deviation from prescribed processing, inspections, or test procedures.

3.3 *Nonconformance Report:* A form used to identify a nonconforming condition and document a proposed corrective action disposition for consideration by the appropriate organization(s), i.e., Resident Engineer (RE), EMC, Quality Assurance, Quality Control, Safety, etc.

3.4 *Surveillance:* Monitoring or observing a specific activity or event to determine if it is accomplished in accordance with specified requirements (i.e., contract, specification, project procedure, inspection instruction, test procedure, etc.). Surveillance may be scheduled events or conducted at random.

4.0 RESPONSIBILITIES

4.1 The Resident Engineer (RE) is responsible to:

- Assign inspection staff to monitor all phases of the work.
- Utilize appropriately qualified inspectors available for the monitoring of the work.
- Identify the necessity for securing the services of specially trained inspection staff as may be required.
- Promptly respond to MTA audit identified issues with remedial action to resolve the identified concern and action to prevent recurrence.
- Assure that the contractor responds to MTA and CM audit identified issues with remedial action to resolve the identified concern and action to prevent recurrence.

printed as desired. Action items that have been resolved can be dropped from the weekly review summary report after two weeks of resolution.

5.2.1.9 A deficiency and/or quality concern can be identified by anyone associated with this project. The quality concern shall be brought to the attention of any CM field or management personnel who will direct the concern to the appropriate Action Item reviewer. The reviewer shall enter the item on the Action Item Log and follow the same sequence of events as indicated above (assign a number and person to investigate and/or resolve).

5.2.2 NONCONFORMANCE REPORT (NCR)

Refer to the Nonconformance Report Process Flowchart (Exhibit 7.3) for a description of the Nonconformance Report process.

5.2.2.1 An NCR, Form ____ (Form #___, Exhibit 7.4), and its continuation page, (Form #___ , Exhibit 7.5), shall be used when deficiency or indeterminate condition is identified that is in non-compliance with contract requirements, requires repair or replacement, use-as-is disposition, or involves extensive rework that requires close review or lengthy process. The NCR form shall be completed in accordance with the Nonconformance Report Instructions, Form ____ (Exhibit 7.4). The NCR form and instructions for completing the form are available on the CM computer network.

5.2.2.2 Anyone associated with this project can initiate an NCR whenever they identify a condition that is in non-compliance with contract requirements. The condition shall be brought to the applicable RE's attention or any of the RE's field personnel.

5.2.2.3 The Lead Inspector or the RE's designated representative (i.e., Assistant RE or Office Engineer) shall maintain a Nonconformance Report Log, (Form #___, Exhibit 7.6). This log shall be kept current at all times.

5.2.2.4 The Lead Inspector/designee shall assign a unique control number to each NCR issued. The control number shall consist of the contract number and a sequence number (i.e., CO321-021). ***The sequential NCR number is continuous throughout the contract.***

5.2.2.5 The Lead Inspector/designee shall determine if a Status Tag is required. If it is required, the designee shall issue and log the appropriate tag (refer to QCII 1.4).

5.2.2.6 The Lead Inspector/designee reviews the NCR for accuracy and completeness, validating the NCR. If the NCR is determined to be invalid or incomplete, the designee shall consult with the initiator of the NCR and resolve the areas of concern prior to further processing of the NCR. The designee forwards the NCR to the RE for final review and completion of the ROD (Revenue Operating Date) Section including RE's initials.

5.2.2.7 The RE issues the NCR to the contractor and/or the responsible organization/individual and assures proper distribution. As a minimum the NCR shall be distributed to the following:

- CM Quality Control Manager
- CM Deputy Project Manager (Construction)
- EMC (if the RE anticipates a possible repair or use-as-is status)
- MTA Construction Manager

5.2 DOCUMENTATION OF NONCOMPLIANT ISSUES

Identification of conditions adverse to quality can be accomplished by anyone involved in any manner with the Project by bringing the adverse condition to the attention of any CM field or management personnel. That CM person shall initiate the appropriate documentation and corrective action sequence.

5.2.1 ACTION ITEM (AI) LOG

The RE shall designate a representative from his/her staff (Assistant RE, Office Engineer or Lead Inspector) that shall maintain the Action Item Log.

5.2.1.1 Identification of Action Items normally occurs as a result of an entry on the Daily Inspectors Report (DIR), (Form #___, Exhibit 7.1). In accordance with the Quality Control Inspection Instructions (QCII 1.2), each inspector completes a DIR to document all of the activities that the inspector was involved with for that day. Any materials, activities or work that the inspector suspects and/or confirms as deficient or requires future action is identified on the DIR as an Action Item by placing an "A" in the right hand column adjacent to the appropriate entry.

5.2.1.2 Once an action item has been identified on the DIR, the reviewer (the lead inspector/designee) shall assign an Action Item Log Number to the item and details of the item shall be entered in the Action Item Log (Form #___, Exhibit 7.2) along with the initials of the reporting inspector, the date of the report, the action to be taken and the current status of the action. This information shall be entered into a computer file which shall be updated daily.

5.2.1.3 The reviewer shall enter the assigned Action Item Log Number in the Action Item Summary box on the original DIR and verify that all action items identified in that DIR have been assigned its own AI Log number.

5.2.1.4 Every Action Item shall be assigned to a particular individual whose responsibility it will be to ensure that the assigned action is carried out to resolution.

5.2.1.5 Each week, or more often if required, a summary report of the Action Item Log shall be printed and circulated for review to the inspectors and RE for comment and updating of the action status. The summary report printout shall be reviewed at the RE's weekly staff meeting. A copy of this weekly Action Item Log shall be available for ready reference by all parties concerned.

5.2.1.6 As each item is resolved and inspected, it shall be identified on the close-out DIR (i.e. corresponding inspection report for the resolution) by referencing the Action Item Log Number and entering a crossed-out circled "A" . The DIR reviewer shall include information concerning the closed-out action item (i.e., what was done to close the item out) in the Action Item Summary box at the top of the DIR.

5.2.1.7 The resolution description shall be identified by the reviewer and entered in the Action Item Log by showing the initials of the inspector for the close-out DIR and date the resolution was reported.

5.2.1.8 The master electronic file for the Action Item Log shall maintain all action items including both open and resolved action items so that a history of the action items can be

- Quality Program Manual

7.0 EXHIBITS

Exhibit	Title
7.1	Daily Inspection Report (4 pages) (Form #___)
7.2	Action Item Log (Form #___)
7.3	Nonconformance Report Flowchart
7.4	Nonconformance Report (2 pages) (Form #___)
7.5	Nonconformance Report Continuation Page (Form #___)
7.6	Nonconformance Report Log (Form #___)

- MTA Quality Assurance Manager ↑ PREVIOUS PAGE

5.2.2.8 The responsible organization/individual investigates and enters the root cause of the nonconformance, corrective action to correct the nonconformance and action to prevent recurrence in blocks 13 and 14 of the NCR, Form #____.

5.2.2.9 The RE is responsible for initiating and coordinating required meetings, review, etc., with the contractor, engineer, or other organizations (as required) to resolve the NCR. If the RE concurs with the root cause statement, corrective action, and the action to prevent recurrence, the RE's concurrence is indicated by signing and dating block 17. The RE also designates a disposition status (reject, rework, repair or use-as-is) in block 18 of the NCR. If the disposition status is repair or use-as-is, the RE shall get the EMC's approval of the disposition. If the RE does not concur with the proposed disposition (blocks 13 and 14), the NCR is returned to the responsible organization for reevaluation of the disposition.

5.2.2.10 EMC approval is required for repair and use-as-is dispositions. Approval is indicated by the EMC completing block 19 of the NCR.

5.2.2.11 The Lead Inspector/designee reviews the NCR disposition to verify that all nonconforming conditions identified in block 9 have been addressed and that the correct disposition status is indicated in block 18 . The designee signs and dates block 19, enters the status in the Nonconformance Report Log and returns a copy of the NCR to the for implementation.

5.2.2.12 Quality Control conducts appropriate inspections to verify that corrective actions are completed in accordance with the NCR instructions. The method of verification and the results of the verification/inspection are documented in block 21. When all actions are accepted, the inspector completes block 22.

5.2.2.13 The RE designee updates the Nonconformance Report Log and distributes copies of the completed (closed) NCR to the following individuals, placing the original in the RE contract documentation files:

- Contractor (responsible organization/individual)
- CM Quality Control Manager
- CM Deputy Project Manager Construction
- Originator
- MTA Construction Manager
- MTA Quality Assurance Manager

5.2.2.14 The QC Manager has the authority to review any NCR at any time during the NCR process and shall review all NCRs after they are completed/closed.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

- Quality Control Inspection Instruction (QCII) Manual
- QCII 1.2, Inspector's Duties and Responsibilities
- Resident Engineer Procedure (ERP) Manual

Exhibit 7.1 (Continued)

DAILY INSPECTION REPORT (CONTINUATION SHEET)

Page ___ of ___

Contractor:	Contract No:	Date:

Contract Specification No.	1. Type and Location of Work Being Performed 2. Drawings and Submittals Used for Inspection 3. Acceptance Status with NCRs Identified 4. ...	A C C	R E J	Quantity of Work Completed & Pay/Bid Item No.

Inspector's Name: _____ Signature: _____
(Print Name)

FORM #____

Exhibit 7.1

DAILY INSPECTION REPORT

Page ___ of ___

Contract No:	Date:	
Contractor/Subcontractor:	Contract Day No:	
Shift In:	Shift Out:	
Weather: Sky: Wind: Precip.:	Temperature: High: Low:	

DESCRIPTION OF WORK ACTIVITIES BEING INSPECTED BY THE CM AND PERFORMED BY THE CONTRACTOR

Contract Specification No.	1. Type and Location of Work Being Performed 2. Drawings and Submittals Used for Inspection 3. Acceptance Status with NCRs Identified 4. POSSIBLE LESSONS LEARNED FLAG. (MARK?)	A C C	R E J	Quantity of Work Completed & Pay/Bid Item No.

Inspector's Name: _____ (Print Name)

Signature: _____

Lead Inspector: _____ (Signature and Date)

Resident Engineer: _____ (Signature and Date)

FORM #____

3.1.5 *Conformed Contract Documents:* The current set of contract documents conformed to include all revisions and modifications to the documents issued under cover of Change Notice, Change Order, or other written direction to the Contractor. Will also include interim modifications such as mark-up, sketches, contractor as-built submittals, or other written technical direction. Contract documents are listed in Article II of the Form of Contract.

3.2 *Submittals:* There are several items covered under this generally used term. General submittal requirements are defined on Specification Section 1300; specific submittal requirements are also contained in each section of the technical specifications. Many shop drawings are for facilities and equipment installation, showing details of how the contractor plans to execute the design as shown in the Contract Drawings.

Other Contractor Submittals include, but are not limited, to:

- Master Submittal Schedule
- Monthly Schedule updates
- Manufacturers' standard schematic and wiring drawings
- Manufacturers' calculations
- Manufacturers' standard data
- Manufacturers' printed installation, erection, application and placing instructions
- Inspection reports, test reports and product certificates of compliance, mill certificates
- Samples and mockups
- Concrete and grout mix designs
- Operations and maintenance data and manuals (refer to Specification Section 01730 for requirements)
- Warranties and Guarantees

3.3 *As-Built documents:* For the purpose of this procedure, as-built documents include three elements:

Marked Contract Drawings: A set of drawings of the facility (OR SYSTEM) that are a combination of the most current contract drawing revisions, plus any Request for Information (RFI) changes, Nonconformance Report changes, and Change Order drawings, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments or other purposes.

Marked Contract Specifications: A set of the most current Contract Specification revisions, plus any specifications or specification changes added by RFI changes, Nonconformance Report changes, and Change Orders, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments.

Marked Shop Drawing submittals: Permanent facility item shop drawings, as noted in paragraph 3.2, that have been marked by the contractor to show deviations from approved shop drawings where necessitated by field adjustments or other purposes.

As-Built Logs: Drawing, Contract Revision, and As-built listings maintained by the Contractor in compliance with Specification Section 1720.

COMMENTS:
ED FOREMAN MTA

4.9 AS-BUILTS

1.0 PURPOSE

This procedure defines responsibility and processes for the Resident Engineer's (RE's) monitoring of contractor preparation and submittal of as-built Contract Drawings, Contract Specifications, and contractor shop drawings; and for maintenance of current drawings and specifications used by the RE and CM Inspectors.

2.0 GENERAL

2.1 As-Built Contract Documents: Resident Engineer shall ensure that the Contractor maintains at the contractor's construction site office a complete set of conformed contract documents updated continuously as the record set of contract documents showing all as-built conditions. Any changes to the data shown on conformed contract drawings and construction specifications will be legibly noted, marked, or sketched by redlining a "record copy" of the document as defined in Contract Specification Section 1720.

2.2 ~~As-Built~~ Shop Drawings: Although related, the as-built shop drawings are independent of the contract documents. The contractor is required to ~~prepare and~~ submit ~~one copia of~~ the shop drawings, showing the final installed conditions. These are supplemental to the as-built contract drawings and specifications covered in this procedure and will also be transmitted to the RE for subsequent transmittal to the Engineering Management Consultant (EMC) and to the MTA following contract close-out.

UPDATED TO

3.0 DEFINITIONS

3.1 *Construction documents:* There are several types of construction documents; this procedure deals only with the technical aspect of the contract, including the drawings and specifications of the original contract, contractor shop drawings, and any modification made by Change Notice, Change Order, or other technical direction issued to the contractor via response to a Request-for-Information, Submittal acceptance request, or other form of direction.

3.1.1 *Drawings:* Sometimes referred to as Contract Drawings or Design Drawings; the complete set of EMC-prepared full-size drawings showing all construction work required in the original contract.

3.1.2 *Specifications:* Sometimes referred to as Contract Specifications Book or construction specifications; the complete set of specifications in accordance with the Construction Specifications Institute (CSI) format, which is written for the specific construction contract scope of work.

3.1.3 *Change Orders:* Negotiated and authorized changes to the technical work required in the documents of paragraphs 3.1.1 and 3.1.2, including any revised or new drawings and specifications. These changes are to be included in the as-built drawings and specifications.

3.1.4 *Current Status Documents:* A set of full size reproducible drawings and a copy of the specifications marked and maintained by the contractor to show current as-built status of construction in progress and current design status.

and the associated shop drawing(s) as ~~the~~ REQUIRED FOR INTERIM as-built submittal.

5.2 Changes to Underground or Covered Work: Contract drawing markings shall show all changes, including elevation and dimensional location for underground or otherwise covered structures, conduits, switchboards, switchgear, utilities, boxes, duct work, piping, valves, and other mechanical and electrical equipment, etc., as noted in the Contract Specifications.

5.3 Shop Drawings: Shop drawing originals shall be revised by the contractor to show as-built conditions and submitted in accordance with Specification Section 01300. When an RFI or other document modifies and EMC accepted Contractor Shop Drawing, the contractor will redline the drawing to reflect the changes pending formal revision and resubmittal. Shop drawings will include cross-references to the contract drawing or drawings to which they are related. As-built shop drawings may be maintained in lieu of as-built contact drawings when the detail shown on the shop drawing is superior to that provided in the contract drawing.

5.4 RE Review: The RE shall review monthly with the payment request, the contractor's maintenance of as-built documents to determine that as-built data is being recorded properly and accurately and in accordance with all contract requirements. The RE or designee ~~should~~ WILL conduct a review of the Contract Record Drawings prior to submittal of the contractor monthly progress payments to ensure that the contractor is meeting all of the specified obligations. If the Contract Record Drawings are not current in the judgment of the RE, the Contractor ~~should~~ WILL be advised of the required corrections or additions.

LAS?

5.5 Payment Witholding: The RE ~~may~~ SHOULD WILL recommend to the MTA Contract Administrator that approval of all or part of the monthly progress payments ~~may~~ SHOULD be withheld until the as-built documents are made current by the contractor.

5.6 As-Built Submittal: After completion of construction/installation milestones defined in the contractor's "As-Built Documents Log", the RE will receive a full size copy of the as-built contract and shop drawings which have been marked with the as-built conditions. The RE will verify that the information included is complete, and that the Contractor Submittal Form attests that the documents are true and complete. The As-Built submittal will be entered into the CCS® submittal record. The logged submittal record will contain a complete listing of drawings and documents provided.

5.7 As-Built Submittal Log: The RE shall verify that the contractor is maintaining and submitting all logs in accordance with the specifications.

5.8 Field Office Copy of As-Built Documents: The RE shall maintain a master set of prints of contractor submitted as-built documents for use by CM Inspection. The prints shall be kept current on at least a weekly basis by writing the information relative to changes near the affected areas of the appropriate sheets. The information is to include the change notice number or the RFI number. When the RE receives revised drawings, the RE should immediately check to see if the redlined changes have been incorporated into the revised drawing. If the changes have not been incorporated, the change notice or RFI information must be transferred onto the revised drawing. ← THE DRAWINGS SHOULD BE REJECTED, OR

5.9 Third Party and Utility Review: The RE will coordinate Third Party and Utility review of the contractor as-built submittal prior to forwarding the as-built documents to the EMC for acceptance and incorporation into master record documents.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE ensures that an accurate set of as-built contract drawings and specifications depicting as-built conditions are prepared and maintained by the contractor and provided in accordance with established milestones and Specification Section 01720. The RE is responsible for notifying the contractor of non-compliance and for recommending withholding of payment for non-compliance as allowed under the contract.

4.2 CONTRACTOR

The contractor, including the contractor's subcontractors, prepares, maintains, and submits appropriately marked contract drawings, specifications, and shop drawings to the RE for acceptance in accordance with contract specification requirements (i.e., Section 01720). The contractor is responsible for providing a specific listing of as-built contract documents to be submitted at defined contract milestones or quarterly as specified in the contract.

4.3 ENGINEERING MANAGEMENT CONSULTANT (EMC)

The EMC is responsible for ensuring that all available contractor as-built information is incorporated into specifications or drawings when making formal design revisions. The EMC is responsible for incorporating all previously unincorporated as-built notations into the final Project Record Documents ~~following contract close-out~~, AND INCORPORATING THE CONTRACTORS SHOP DRAWINGS INTO THE FINAL PROJECT RECORD DOCS.

5.0 PROCEDURE BY ADDING THE SUBMITTED DRAWINGS TO THE END OF THE CONTRACT DRAWING SET & THE INDEX. FOLLOWING CONTRACT CLOSE OUT.

The following steps define the methods to be used in receipt, acceptance, and transmittal of contractor-prepared as-built Contract Drawings and Contract Specifications (Contract Record Documents).

5.1 As-Built Maintenance: The contractor shall keep the Contract Record Documents at the site and shall continually update them during construction. As construction work is accomplished (work that is different from or in addition to that which the contract drawing shows), the contractor will redline the as-built conditions on the Contract drawings.

5.1.1 Superseded As-Built Documents: When a new revision of a document is received, the contractor stamps the superseded document "SUPERSEDED", and keeps the document in the "Current Status Set" of contract record documents for future reference of previous mark-ups and for use of production of as-built drawings. (See paragraph 5.11 for coordination of incorporation of contractor as-built notations into interim document revisions). The contractor need not transfer the data recorded on superseded drawings onto the new revision. However, prior to submittal to the RE, the final as-built drawing will be redlined by the contractor to incorporate any and all missing information from all superseded revisions of the drawing.

5.1.2 Use of Shop Drawings in Lieu of Contract Drawings: Should as-built detail shown on a shop drawing supersede or provide better information than can be shown on a contract drawing, the as-built shop drawing may be maintained in lieu of the contract drawing. In such cases, the contractor will provide appropriate shop drawing number cross references on the "as-built" contract drawing, and will provide both the contract drawing

5.10 Transfer to EMC: Following acceptance of the contractor's as-built document submittal and acceptance by affected Third Parties or Utilities, the RE will forward the marked-up document set to the EMC ~~under~~ standard submittal transmittal ~~cover~~. The as-built submittal record will include a specific listing of all documents and drawings ~~transmitted~~. IN CDS USING THE PROCESS. SUBMITTED

5.11 Incorporation of Interim As-Built Notations into Document Revisions: On notice that a formal document revision is being processed by the EMC, the RE will ensure that a copy of the current contractor's as-built records are provided to the EMC for all specification sections and drawings affected by the pending change. The EMC will incorporate all contractor as-built notations into the master record document concurrent with incorporation of the new revision. Contractor as-built notations will be incorporated under a separate revision number, and separate revision line from the design change.

6.0 REFERENCES

The following documents are referred to in, or are related to this procedure and are available under separate publication:

RE MANUAL SECTION	TITLE
3.4	Document Control
6.1	Submittals
6.5	Changes

SPECIFICATION SECTION	TITLE
01720	As-Built Drawings and Current Status Documents
01300	Submittals

MTA PROCEDURES	TITLE
CF3	Document Identification and Formatting Standards
CF4	Submittals
CF8	Design Changes
CF11	Contract Changes

EMC PROCEDURES	TITLE
	Preparation of Project Record Documents

7.0 EXHIBITS

None

3.6 *Partial final inspection:* a formal review by closeout team and contractor to allow acceptance of a portion of the work for use and possession, or for partial acceptance, to meet milestone completion date. Partial beneficial occupancy may occur at this time. A sample room release form is shown in Exhibit 7.5. This form may be modified by the RE to meet the specific needs of the contract and work involved.

3.7 *Substantial completion review/inspection:* a review of contract status when the contractor requests recognition of substantial completion per the terms of the specific contract. A sample closeout checklist for use at this stage is shown in Exhibit 7.4. This list will be modified by the RE as necessary to meet the specific needs of the contract being reviewed.

3.8 *Substantial completion:* when the work, or a designated portion of the work, is sufficiently complete that the MTA may occupy it or cause others to occupy it for the use for which it was intended. Substantial completion may be granted prior to the contract completion date.

3.9 *Notice of Completion:* submitted by the contractor when it believes the work has been completed. Contains specific information relating to the completion of the punch list and any change orders.

3.10 *Final acceptance inspection:* The MTA's last review of the project, conducted by the closeout team, to examine, observe, and ensure that the conformance of materials, supplies, components, parts, appurtenances, systems, processes, and structures to the contract documents and the completion of all punch list items.

3.11 *Final acceptance testing:* MTA and Construction Manager witness to a demonstration of an item's capability to meet contractual requirements by subjecting it to normal or extreme operating conditions. This testing may occur at any time before the contract completion, but contract completion cannot be granted without it.

3.12 *Final completion:* acceptance by the MTA of the contract work as completed in full, evidenced by a Notice of Final Acceptance.

3.13 *Certificate for Final Acceptance (Exhibit 7.7, Form #___):* recommendation by the RE to the MTA that Notice of Final Acceptance be issued to the contractor when all contract deliverables are determined to be complete. The actual Notice of Final Acceptance will be provided by the MTA.

3.14 *Contract closeout book:* compilation of documents that validates the completion status of the contract (refer to Exhibit 7.6).

3.15 *Lessons learned interview:* an interview conducted during closeout to identify and record lessons learned for use in other contracts; the Lessons Learned Coordinator interviews the RE office staff and inspectors.

4.0 RESPONSIBILITIES

The RE modifies these procedures as necessary for specific contracts and monitors progress of the closeout process, AND SECURES THE APPROVAL OF THE MTA DEO ENGINEERING FOR MODIFICATIONS.

COMMENTS:

ED FOREMAN MTA

4.11 PHYSICAL CLOSEOUT

1.0 PURPOSE

This procedure establishes the process and documentation necessary for completing the physical closeout of construction contracts on the Project.

2.0 GENERAL

2.1 The document closeout procedure is addressed in REP 4.12. Any modifications are to be coordinated with the Metropolitan Transportation Authority's (MTA's) Director of ~~Operation and Maintenance.~~ RECORDS MANAGEMENT

2.2 Dates in this procedure are relative to the contract completion date carried on the most current approved schedule. As schedule revisions are approved, these dates will be revised by the area manager in coordination with the resident engineer (RE).

3.0 DEFINITIONS

3.1 *Beneficial occupancy:* when the MTA takes possession of a portion of the work for its use and/or occupancy on other than a temporary or emergency basis.

3.2 *Closeout team:* a team consisting of representatives of the RE, area manager, the MTA, and others that may be designated by the MTA. The exact makeup and representation on the team will be established prior to the prefinal inspection through coordination with the MTA by the RE.

3.3 *Punch list:* a tabulation indicating items to be furnished, including documentation or work to be performed by the contractor or subcontractor, in order to complete the work as specified in the contract documents (refer to Exhibit 7.1, Form #___).

A preliminary punch list for both physical and document deficiencies is prepared. This punch list covers both work not completed and work completed with deficiencies or nonconformances. A sample punch list format is shown at Exhibit 7.1. This form contains the minimum information required for a punch list. It may be expanded as necessary to meet specific contract requirements.

3.4 *Initial inspection:* an inspection conducted by the RE using contract specifications and drawings to identify the work completed, including documentation. The initial inspection is performed within 120 days of scheduled completion of the contract and is completed with or without contractor participation. A punch list and an action item responsibility list are the end product of this inspection.

3.5 *Prefinal inspection:* a complete review by the closeout team with contractor to examine, observe, and measure the conformance of materials, supplies, components, parts, appurtenances, systems, processes, and structures to the contract documents. Contract submittals and other documents are reviewed at this stage. A revised punch list and an action items responsibility list are the end products of this review. A general list of contract submittals and documents is shown in Exhibit 7.2. A sample Closeout Sequence Checklist is shown in Exhibit 7.3. These samples may be modified by the area manager to meet the specific needs of the contract being reviewed.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE is responsible for directing the RE staff in performing the activities described in this procedure, and for ensuring that contract records and files are closed out and transferred in a timely manner. The RE is responsible for ongoing verification of file quality and completeness. The specific close-out activities described below will begin 2 to 3 months prior to physical contract completion.

4.2 CM DOCUMENT CONTROL

Document Control is responsible for coordinating the activities described in this procedure with the RE and the MTA, final record inspection, and physical transfer of records from the CM offices to the MTA or location designated by the MTA CM Document Control is responsible for incorporating any contract related records maintained and filed by other CM departments are also transferred to the MTA.

~~4.3 MTA CONFIGURATION MANAGEMENT CONSULTANT~~ STET

~~RMC~~ STET

The MTA ~~Configuration Management Consultant~~ is responsible for initial acceptance of close-out documents identified as deliverables for MTA Rail Operation Support (ROS) and for transfer of such documents to MTA ROS. Operation deliverables include as-built contract documents, contractor shop drawings, permits and warranties, and operations and maintenance manuals. The Configuration Management Consultant is not responsible for handling closeout transfer of general correspondence files.

4.4 MTA RECORDS MANAGEMENT CENTER (RMC)

The MTA RMC has overall responsibility for long term storage, protection, and retrieval of contract files and documents following close-out. The RMC is responsible for accepting close-out records and for coordinating transfer to long term storage. The MTA RMC is responsible for determining document retention requirements, and for approving any CM requests to destroy or discard documents.

5.0 PROCEDURE

To ensure complete files are transferred to the MTA at closeout (e.g., file verification at contract closeout), an on-going verification of files shall be performed by the RE throughout the duration of the contract. Maintenance of document files will also be periodically audited by MTA QA and/or Configuration Management staff throughout the life of the contract.

5.1 VERIFICATION OF FILE COMPLETENESS

5.1.1 SEQUENCE FILE REVIEW (5.1.4)

The sequence files and the corresponding indexes and logs controlled by the RE will be reviewed at the RE office to ensure completeness and accuracy.

LAS THIS NEEDS TO BE RE THINKED. BUT O.K. FOR NOW. LKG IS DELEGATED THIS AUTHORITY, & RESP FROM RMC. PROC. SHOULD BE WRITTEN THAT WAY, RMC WILL DIRECT CM WHERE TO SEND DOCS...

IN ALL CASES, THE RE WILL MAKE EVERY EFFORT TO LOCATE MISSING DOCUMENTS. IF EXHAUSTIVE EFFORTS HAVE NOT LOCATED THE DOCUMENT, IT IS TO BE REPLACED WITH A PAGE THAT IDENTIFIES THE DOC. & STATES THAT IT IS LOST.

THIS WILL PREVENT FUTURE FUTILE SEARCHES & IDENT. THE POINT AT WHICH THE DOC. WAS LOST IN THE SYSTEM

COMMENTS:

ED FOREMAN MTA

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Document Closeout	*REP 4.12*	*0*	*1 of 10*

4.12 DOCUMENT CLOSEOUT

1.0 PURPOSE

This procedure describes the processes for transferring contract files to the CM Document Control Center for forwarding to the Metropolitan Transportation Authority (MTA) when the contract is complete.

2.0 GENERAL

All correspondence and documents produced to support construction of MTA contracts are the property of the MTA, including all CM originated documents, logs, ledgers, and work related diaries and documents submitted by the contractor. The CM is required to transfer all and any project documents to the MTA on request of the MTA RMC, and to destroy document copies when and if directed by the MTA RMC. These procedures are compliant with the MTA document control procedures (See Section 6.0 References) and comply with minimum standard for records management and document control procedures for MTA Rail Construction / Procurement contracts.

2.1 PROCESSING TIME

After a contract is physically completed, the resident engineer (RE) has performed the necessary contract closeout processes, and the MTA has accepted substantial completion of the contract, the contract files will be transferred within 6 weeks to the MTA for long-term retention, and use by MTA Operations

2.2 DOCUMENT INDEXES

Electronic indexes referred to in this procedure include the Records Management System (RMS) for correspondence and the Change Control System (CCS) for Change Orders, Change Notices, Requests for Information, Requests for Change, submittals, and claims.

3.0 DEFINITIONS

3.1 *Records Management System (RMS):* The automated MTA correspondence and document indexing and reporting system

3.2 *Sequence Files:* Correspondence and documents filed in sequence number order. See REP 3.4, "Document Control" for further definition.

3.3 *Case Files*: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

3.4 *IMAGEABLE System:* The automated MTA document imaging and indexing system. NOTE: Close-out processes for field offices using the IMAGEABLE system may differ. Differences are noted below.

3.5 *Change Control System (CCS):* The MTA automated contract change and submittal tracking system. CCS is used to track and index RFIs, RFCs, Change Notice, Change Orders, Claim, and Contractor Submittals.

Documents found in files that are not logged in indexing systems will be logged. Where the IMAGEABLE system is being used, documents will also be scanned into the electronic file.

5.2 BOX PREPARATION

5.2.1 BOXING AND IDENTIFICATION

When verification is complete, all field records will be boxed, indexed (using the Records Index and Storage Request, Form ____ [Exhibit 7.1]), and labeled (using the Records Storage Carton Label, Form ____ [Exhibit 7.2]) by the RE in accordance with the Document Control records storage procedure (refer to REP 3.4, Document Control). The records will be boxed and indexed so that they are securely enclosed and identified for storage. Document Control will coordinate with the RE to ensure that boxes are properly indexed. The type and size of record storage boxes will be in accordance with MTA requirements. Case files will be segregated into separate boxes. 5.2.2 The RE will print a final index for each sequence file or case file, place the final index in the first box for each sequence or case file, and list the index on the Records Index and Storage Request (Exhibit 7.1).

5.2.3 In addition to the sequence files described in paragraph 4.1.1, the RE shall box, index, and label all remaining project-related files. These include, but are not limited to, subject files, photographs, RE and inspector diaries, delivery tickets, concrete pour cards, inspection records, test reports, analyses, estimates, schedules, survey and geotechnical material, and radio and audio tapes. If these records are maintained by other departments, the RE shall notify these departments that the contract is complete and that all records shall be transferred to the RE for closeout preparation.

5.2.4 RETENTION IDENTIFICATION

Retention schedule information on Box labels and indexes will be marked "RETAINED UNTIL NOTIFIED".

5.3 TRANSFER OF DOCUMENTS

5.3.1 CM DOCUMENT CONTROL VERIFICATION

Prior to transfer, CM Document Control staff will review the box indexes and file boxes prepared by the RE for completeness. On CM Document Control approval, the RE will add the note, "completed contract, transferred to CM Document Control" on the Records Index and Storage Request form (Exhibit 7.1) and will assign box numbers. The box number will include the contract number and a sequential number, beginning with number "1" (e.g., B201-001). The box number will be placed on Form ____ and Form ____ (Exhibits 7.1 and 7.2).

5.3.2 The RE will forward a complete set of Records Index and Storage Requests (Exhibit 7.1) and final indexes to Document Control.

5.3.3 DUPLICATE DOCUMENT DESTRUCTION

During review of indexes and boxes, CM Document Control will identify document duplications (e.g., duplicate RE subject files or copy files maintained at the CM main or

5.1.2 CASE FILE REVIEW

Case files such as submittals, request-for-information, request-for-change, change orders, claims, shop drawings, warranties and guarantees., etc., defined in REP 3.4 will be reviewed against the approved master lists maintained in the CCS® or other approved tracking systems. The RE will verify that all required submittals have been received and approved before turning records over to CM Document Control for transfer to the MTA or MTA designee.

5.1.3 CANCELLED SEQUENCE NUMBERS

If a document sequence number has been canceled, a target sheet will be inserted in the file indicating the canceled sequence number. If a document is missing from the file, the RE will make every effort to locate the document.

5.1.4 GENERAL FILE ORGANIZATION

All physical document files will be organized and turned over in accordance with REP 3.4 and MTA's Subject Code/File Sequence numbering order defined in the MTA File Coding System document.

5.1.5 CASE FILE ORGANIZATION

5.1.5.1 Contract Change Files: Change files will be organized sequentially by Change Order number under subject code CA500. Supporting documentation for Change Notices, Requests for Change/Information, and claims shall be filed with the corresponding change order, in the order required by MTA Policy CF11, Change Control: Construction/Procurement Contracts. Change Notices, Requests for Change/Information, and claims which have been cancelled, withdrawn, or not incorporated into a Change Order file for any other reason (i.e, unresolved claim) shall be organized by the sequential number under their appropriate subject code (CA520, CA530, etc.)

5.1.5.2 Submittal Files: General submittal files will be organized in submittal number order. Approved copies of submittals identified as Rail Operations Support deliverables (Operations and Maintenance Manuals, Warranties and Guarantees, As-Builts, Shop Drawings) will be segregated from general submittal files into special subject or case files, but will also be filed in submittal number order.

5.1.6 ELECTRONIC LOG REVIEW

The RE will review the associated electronic indexes and logs against files to ensure that all sequence numbers are listed and properly identified, making corrections or additions as necessary. If a sequence number has been canceled, the sequence number will be input to the index and the word "canceled" inserted in the subject field. In addition to review of RMS or IMAGEABLE document indexes, the RE will review case files against logs maintain in CCS (RFI, RFC, Change Notices, Change Orders, Submittals, Claims) to ensure that both files and logs are complete. Any missing sequence numbers in CCS will be added, identified as a "not used" record.

5.0 PROCEDURE

5.1 FACILITIES APPROVAL AND DISPOSITION PROCESS

The following approval and disposition process is in accordance with Specification Section 01730:

1. The Resident Engineer (RE) submits the proposed O&M manual format to the EMC and MTA ROS.

2. The EMC and MTA ROS return the reviewed manual format to the RE for transmittal to the contractor, who revises the format and/or content per the review comments.

3. The contractor will then submit a complete manual to the RE for EMC' and MTA ROS review and acceptance.

4. The RE will review the manual for compliance with submittal and format requirements. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into submittal and warranty tracking systems.

5. The RE will transmit the manual to EMC and MTA ROS following logging.

6. The EMC and MTA ROS will review and return comments within the specified review time frame.

7. Upon receipt of the MTA ROS and EMC-reviewed manual, the RE will retain a copy of the review comments and return the reviewed manual to the contractor for correction, if required.
8. The contractor then submits six copies of the corrected manual to the RE.

9. The RE reviews the manual to ensure that the EMC and ROS review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

10. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, and send five copies to the MTA's Configuration Management ~~Office~~ (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC.. The sixth copy will be retained by the RE for reference until transfer occurs.

11. The ~~RE~~ will notify the ~~Contractor~~ of the change in address for forwarding any subsequent updates to the manuals. ~~received from the manufacturer or other originator.~~

5.2 SYSTEMS APPROVAL AND DISPOSITION PROCESS

The following process is in accordance with the appropriate technical provisions and Contract Data Requirements List (CDRL):

1. The RE will submit one copy of the contractor's complete manual to the EMC and

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4.16 OPERATIONS AND MAINTENANCE (O&M) MANUAL PROCESSING

1.0 PURPOSE

This procedure provides guidelines for the processing of operations and maintenance (O&M) manuals for both facilities and systems contracts. Although generally processed as a contractor submittal in accordance with REP 6.1, O&M manuals require additional special handling as a deliverable to the MTA Operations Division.

2.0 GENERAL

The O&M manual format and content for the facilities contracts are described in Specification Section 01730. The content includes Warranties and Bonds, as detailed in Section 01740; Spare Parts and Replacement Materials, as described in Section 01750; and as-built shop drawings, as detailed in Section 01340, entitled Shop Drawings, Product Data, and Samples. O&M manual requirements for the systems contracts are detailed in various technical provisions of those contracts. All are required to be submitted to the Engineering Management Consultant (EMC) and the MTA Rail Operations Support (ROS) department for acceptance, AND WILL BE TURNED OVER TO THE MTA-RMC ON REQUEST, FOR FORWARDING TO THE MTA-ROS.

3.0 DEFINITIONS

Case File: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

4.0 RESPONSIBILITIES

Contractor: The contractor is responsible for submitting all manufacturer operations and maintenance manuals in accordance with the agreed submittal schedule. The Contractor is responsible for identifying any and all warranties and guarantees contained in such manuals in submittal documentation, and for providing any updates to manuals received following initial submittal and acceptance.

Resident Engineer: The Resident Engineer (RE) is responsible for implementing this procedure and coordinating O&M Manual processing.

Engineering Management Consultant: The EMC is responsible for review and acceptance of O&M Manual submittals.

MTA Rail Operations Support (ROS): MTA ROS staff are responsible for reviewing and ~~accepting~~ O&M manual submittals.
ACCEPTANCE OF

Configuration Management ~~Office~~ (CMØ): The MTA's Configuration Management consultant ~~(LKG)~~ CONSULTANT referred to herein as the CMØ, is responsible for storage, protection, and maintenance of O&M manuals on behalf of the MTA ~~Rail Operations Support~~ RMC department.

MTA ROS for review and approval.

2. Upon receipt of the reviewed manual, the RE retains a copy of the review comments and returns the reviewed manual to the contractor for correction.

3. The contractor then submits the corrected manual to the RE (the number of submitted copies is determined by the requirements of the appropriate technical provision).

4. The RE reviews the manual for compliance with submittal and format requirements and to ensure that the EMC and MTA ROS review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

5. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.

5. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, to all copies and send all but one copy to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC. One copy will be retained by the RE for reference until transfer occurs.

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6. The RE will notify the Contractor of the change in address for forwarding any subsequent updates to the manuals received from the manufacturer or other originator.

7. Manuals that are required by the Rail Activation Group or MTA ROS will be obtained from the MTA CMØ.C

5.3 FILING

All O&M manuals will be filed in a separate case file in submittal number order. Copies of Warranties and Guarantees contained in manuals will be also maintained in a separate case file in submittal number order.

6.0 REFERENCES

RE PROCEDURE NUMBER	TITLE
6.1	Submittals
4.12	Document Close-Out

7.0 EXHIBITS

None

NOTE: 5.1 & 5.2 SHOULD BE COMBINED THERE ARE NO SUBSTANTIAL DIFFERENCES BETWEEN THEM THAT WOULD NOT BENEFIT THEM BOTH BY INCLUSION IN THE OTHER.

5.0 PROCEDURE

5.1 IDENTIFYING LESSONS LEARNED

When a significant change or improvement occurs in response to problems encountered during construction and at contract closeout, the RE, and to a lesser extent support staff, will complete a Lessons Learned form (Exhibit 7.1) to document the following:

- A description of the observed situation or issue
- Other contracts that are affected
- Drawings affected, if known
- A description of any immediate action that was taken to correct the situation
- The immediate cost or schedule impact, if known
- The recommended action to prevent a recurrence of a problem or to implement an improvement

5.2 LESSONS LEARNED EXIT INTERVIEW

In order to systematically capture lessons learned, a lessons learned exit interview will be conducted by the Lessons Learned Coordinator and members of each RE office staff. This interview is part of the contract closeout procedure and will be conducted prior to closing the RE office. Refer to REP 4.11.

5.3 RECORDING LESSONS LEARNED

The Lessons Learned Coordinator maintains a file of lessons learned forwarded to the EMC.

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Lessons Learned (Form #___)

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3.5 LESSONS LEARNED

1.0 PURPOSE

This procedure explains the process of documenting and implementing lessons learned on the Project.

2.0 GENERAL

2.1 Project management relies on lessons learned information to identify problems and improvements on the Project. Lessons learned information enables project management to take timely action to control the budget and schedule impacts associated with problems encountered on the job and to anticipate and offset potential problems in the future.

2.2 The Lessons Learned Form (Form #___, Exhibit 7.1), is the vehicle for identifying problems and improvements affecting safety, quality, schedule, or budget. By documenting a lesson learned and its impact, management is able to prioritize problems and take remedial action in a timely manner.

3.0 DEFINITIONS

None

THIS SECTION, AS WRITTEN, MAKES NO MENTION OF OR TIE-IN TO, THE CCS SYSTEM WHICH INCLUDES A L.L. CHECK BOX FOR EACH CHANGE PROCESSED.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Resident engineers (REs) are responsible for submitting lessons learned for every significant change and improvement initiated to solve problems encountered during construction and at contract closeout.

4.2 SUPPORT STAFF

Support staff are responsible for submitting lessons learned when they discover a problem or improvement that will impact project safety, quality, cost, or schedule.

4.3 LESSONS LEARNED COORDINATOR

The Lessons Learned Coordinator is responsible for submitting complete Lessons Learned forms to the Engineering Management Consultant (EMC). The Deputy Project Manager - Engineering will serve as lessons learned coordinator.

4.4 ENGINEERING MANAGEMENT CONSULTANT

The EMC is responsible for reviewing, prioritizing, implementing, and tracking lessons learned on the project, as well as identifying specific alterations to past methods, approaches, design bases, and quality control mechanisms. A database tracks all lessons learned information.

Exhibit 7.1

REPORT NUMBER:
LL File No.: LL Date:
For Administration Use Only

LESSONS LEARNED

CASE INITIATION FORM

NAME: _____	DATE: _____
ORGANIZATION: _____	CONTRACT NO: _____
PHONE:	OTHER REFERENCE:

DESCRIPTION OF OBSERVED ISSUE (attach additional sheets, if necessary):

Use drawing numbers and coordinates where applicable.

OTHER AFFECTED CONTRACTS BY NUMBER	DRAWINGS OR SPECIFICATIONS AFFECTED

CORRECTIVE ACTION TAKEN:

LIST ANY CHANGE NOTICES, CHANGE ORDERS, RFIs, RFCs, ... WHERE APPLICABLE

DIRECT COST IMPACT ($):	NEAR TERM SCHEDULE IMPACT:

RECOMMENDED ACTION TO PREVENT RECURRENCE ON OTHER CONTRACTS:

Forward to Lessons Learned Coordinator

FORM #____

underpinning, restoration of structures, and concrete reinforcement)

- Working drawings (i.e., tunneling methods and operations, support of excavations, decking, form work, support, utilities support, temporary ventilation, access roads and parking areas, and grouting)
- Utilities relocation and support
- Electrical systematic schematic diagrams and circuit diagrams
- Test schedules and testing and manufacturing procedures
- Samples and mockups
- Operations and maintenance/training manuals
- Programmatic documentation (hazard analysis)
- Test procedures and test reports
- As-Built Document Submittals

2.3 CONTRACTOR SUBMITTAL REVIEW

The process to be followed in Contractor Submittal Review is shown in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Master list of submittals:* a list of all submittals that the contractor is required, by Contract Specifications and Contract Drawings, to submit to the RE for review and approval. The list shall be submitted to EMC for approval of technical content. ~~THE LIST WILL BE SUBMITTED IN ELECTRONIC FORMAT (ON 3.5" DISK) AND ACCOMPANIED BY A PRINT OF THE~~ SPREADSHEET STEP FILE.

3.2 *Urgency of response:* This is an indicator on the Submittal Transmittal to the reviewers and is defined as follows:

Routine: within the terms of the contract.

3.3 As-Built Document Log: The list of as-built documents that the contractor is to submit at interim and final contract milestones per Contract Section 1720, paragraph 1.3.c.

Urgent: as defined by the contractor at time of the submittal

4.0 RESPONSIBILITIES

4.1 CONTRACTOR

The contractor is responsible for furnishing a Master List of Submittals as required by the contract specifications and Contract Drawings, with corresponding submittal dates that allow adequate time for review by the CM, the EMC, MTA, or third parties. The Master List of Submittals is to be submitted in both electronic and hard copy format. The electronic copy is to be submitted in a format compatible with the MTA CCS Submittal Tracking system. FORMAT AVAILABLE FROM CM CCS ADMINISTRATOR.

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6.1 SUBMITTALS

1.0 PURPOSE

This procedure establishes guidelines for establishing submittal schedules and for processing contractor submittals and describes the processing of submittals from original receipt by the resident engineer (RE) until the submittal is reviewed, dispositioned, and returned to the contractor, via the RE.

2.0 GENERAL

2.1 The Construction Manager (CM) is responsible for managing contractor submittals, coordinating review of submittals with the Engineering Management Consultant (EMC), Metropolitan Transportation Authority (MTA), and CM staff, as required, and for tracking the approval process of submittals within the time frame specified in the contract documents. The CM will maintain submittal status tracking systems, using the MTA's Change Control System (Submittal Tracking Module), and will be responsible for maintaining submittal documents in a readily retrievable manner throughout the construction phase of the project.

Contractor submittals will be turned over to the MTA at contract closeout as part of the project record. Included in this task is tracking of all systems Contract Data Requirement List (CDRL) items and subsequent notification to the contractor of any submittal deficiencies. Design interpretation or changes to approved submittals must be reviewed and approved by the EMC, or other designated reviewer.

2.2 This procedure outlines the process, control, coordination of review, and retention of contractor submittals. The review must be performed in a timely manner (i.e., within 30 days) in order to comply with contract documents and deliverable requirements schedules.
(UNLESS SPECIFIED OTHERWISE IN THE CONTRACT DOCUMENTS)

2.2.1 Submittal review and acceptance requirements include, but are not limited to: (Additional review responsibility guidelines are provided in Exhibit 7.3)

- Master Submittal Schedule (CM, MTA)
- Schedules (CM)
- As-Built Document Submittal Schedule (CM, EMC, MTA)
- Contractor's QA/QC programs and procedures (CM)
- Contractor's construction work plans (CM)
- Geotechnical instrumentation and monitoring (CM)
- Safety and security programs and procedures (MTA)
- Traffic control (transmitted to City of Los Angeles Department of Transportation [LADOT] for review and approval)
- Welding procedures (EMC)
- Welder qualifications (CM)
- Permits (CM)
- Environmental, hazardous waste, and pollution control plans and procedures (MTA)

2.2.2 The technical and engineering submittals to be logged by the RE and transmitted to the EMC for review and approval include, but are not limited to, the following:

- Shop drawings (i.e., design implications regarding permanent installation and finish items, temporary installations required by specifications or drawings, lift drawings,

5.2 CONTRACTOR SUBMISSION

The contractor produces submittals according to the contract documents and approved schedule, reviews the submittal; and affixes, dispositions, and signs the Contractor Review Stamp. The submittals are forwarded to the RE with the contractor's letter of transmittal.

5.2 RE ACCEPTANCE

After receipt of the submittal, the RE scans the submittal to ascertain that the information required to support the submittal is provided in accordance with the appropriate Specification Section 01300. If the proper information is not included, or is not adequately identified, the RE returns the entire submittal to the contractor. When the RE is satisfied that the submittal has provided the information required, the RE determines the routing and review requirements of the submittal. Standard review requirements are listed in Exhibit 7.3. Submittal receipt is entered into the Submittals module of the Change Control System (CCS). The RE uses this module to track, generate forms, and report activities related to contractor submittals.

In order to maintain the submittal review schedule, the RE may also return submittals provided by the Contractor significantly earlier than their approved due date, and request that they be resubmitted closer to their approved due date.

5.3 SUBMITTAL REVIEW

If it is determined that the submittal is of an engineering or technical nature, it is transmitted to the EMC. Following the engineering review, the submittal is returned to the RE for subsequent transmittal to the contractor. The EMC is responsible for coordinating approval by City of Los Angeles agencies. The RE is responsible for tracking the submittal during this step and ensuring that it is returned in a timely manner to stay within the time restraints established by Contract Documents Section 01300 or as indicated in the Urgency of Response disposition.

When the RE disputes the disposition of a submittal by the EMC, the RE contacts the EMC representative to resolve the dispute within the allotted review time. This resolution process should be initiated as soon as possible. The RE documents the resolution with an explanatory letter attached to the disputed review when it is returned to the EMC for a resolution.

5.4 ACCEPTANCE DISPOSITION MARKING

When the EMC completes review of a submittal, a review stamp is affixed to the submittal. The EMC assigns a disposition code and signs the review stamp. The RE shall not stamp or approve submittals that are reviewed by the Engineer (EMC).

When a submittal (as listed in subsection 2.2.1) is reviewed within the CM/MTA organization, the RE affixes a review stamp (Exhibit 7.2), signs the stamp, marks the disposition code, logs the disposition into CCS, and returns the submittal to the contractor with comments.

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with ~~estimated/~~scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as delinquent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring that for ensuring that all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number (see 5.1.2 for format), Submittal Title, due date, and schedule activity code. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS.

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

(USE OF THE TERM "ALL" IS NOT ACCEPTABLE)

PARAGRAPH OF FA. SECTION NO.

The submittal number will consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1 for each ~~specification section~~), and revision number (beginning with ~~0~~). Systems contracts will assign submittal numbers by CDRL number, in ~~place of~~ specification section and paragraph.

ADDITION TO .00

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by ~~1.~~ .01

5.1.2 AS-BUILT DOCUMENTS LOG

The as-built document log is to be developed as part of the Master Submittal schedule. Each as-built submittal record will identify the due date, the associated milestone, and the specific drawings and documents to be submitted.

5.9 EQUIPMENT AND MATERIAL LISTS

Construction contract specifications may require the contractor to complete a list of all long-lead and/or schedule-critical material and equipment items, the name of each supplier, and the required and promised delivery dates for each item. The list is received and processed by the RE as a submittal. This submittal is to be made on those contracts where it is required in the contract specifications.

5.10 SUBMITTAL RECORD FILING

The RE retains copies of all submittal documents, related documentation, comments, and revisions, filed in submittal number order (exceptions listed below). The RE is responsible for ensuring that an accurate file is available for ready retrieval during the life of the project and for turnover to the MTA at closeout. To ensure retrievability, a signout system is maintained by the RE for documents removed from files. For ease of retrieval and transfer to MTA Operations following close-out, the following submittal types will be maintained in separate case files, also organized by submittal number

- Warranties and Guarantees
- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits
- As Built Submittals

5.11 SUBMITTAL DISPOSITION CHANGES

A submittal that was assigned a disposition code of "Approved as Noted, Correct and Resubmit in 30 days" or "Rejected, Revise and Resubmit," may be resolved and upgraded to an "Approved" code, without the contractor actually resubmitting the submittal. In this case, the RE will first obtain written notification from the EMC, specifically approving the submittal issues. Then the RE will log a revision in the CCS for the submittal number and upgrade the review code. The RE will affix a new review stamp to the submittal, cross out the old stamp, and sign the new stamp, marking the "Approved" code. A transmittal, including justification for the change, will be sent to the contractor.

5.12 RESUBMITTALS

Required resubmittals will be logged in CCS as soon as identified. Where parts of a submittal were accepted and parts rejected (e.g., specific drawings), only rejected items need be resubmitted. Resubmittals will be process in the same manner as original submittals.

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5.13 SUBMITTAL SCHEDULE REVIEW

The RE periodically reviews the status of submittals and advises the contractor of submittals due that may impact the schedule. Status listings of submittals required for specific contract activities will be included as part of "readiness" reviews. The submittal schedule will be reviewed and adjusted periodically on a 6-month look ahead basis.

Disposition Codes are as follows:

ACC = Accepted. (Submittal package accepted in entirety, no changes or resubmittals required.

ANR = Accepted As Noted. Correct and resubmit within 30 days for record. (Contractor may work to submittal documents as marked by the reviewer. Marked corrections are to be incorporated and resubmitted.

REJ = Rejected. Revise and Resubmit. (Submittal package is rejected in entirety or in part. Specific documents or drawings rejected are identified. The contractor is to resubmit by the due date indicated prior to work)

FRO = For Record Only. The submittal package is accepted for record purposed only.

On issuance of a "Rejected" or "Accepted as Noted" submittal response to the contractor, the RE will immediately log the required resubmittal into CCS and assign an appropriate due date. The exception is submittals that are rejected because they are no longer required.

5.6 RESPONSE TIME REQUIREMENTS

Each construction contract specification states a response time requirement for contractor submittals. The RE is responsible for responding to the contractor in the shortest time possible, but no longer than the contractual requirement, in order to limit vulnerability for potential contractor claims and to avoid operations and schedule conflicts. The due date indicated to reviewers on the transmittal and CCS should allow for processing time required by the RE after review (to transmit the submittal to the contractor.) Review and approval actions are to be complete and comprehensive within the specified period. In some instances this may not be possible, and a partial or "review status" response is issued to the contractor so that concerned parties are aware of the circumstances. This is followed as soon as possible with a complete, formal response.

If the RE projects that the review period will take longer than 30 days, the RE contacts the contractor by telephone for the purpose of explaining the possible delay. The RE sends a confirming letter immediately following the call.

5.7 ON SITE REVIEW

The EMC will visit the jobsite as required, to observe a condition in question or to discuss the subject with the RE, the contractor, or others, as necessary.

5.8 REVIEW STATUS TRACKING

All known submittals will be logged in CCS prior to their due date. Throughout the contractor submittal review process the RE monitors and tracks the status of all submittals utilizing the CCS.

4.10 SYSTEMS START-UP

1.0 PURPOSE:

The objectives of this procedure are to describe the framework for systems start-up.

2.0 GENERAL

2.1 There are two basic phases involved in any construction project: The construction phase and the start-up phase. The systems start-up phase traditionally begins when the systems are about to be activated (i.e., power is supplied to equipment). The start-up phase is related to tasks that were in place during the construction phase.

2.1.1 Relationship to the Safety Certification Program: The safety certification program documents that all safety requirements in design criteria and specifications are achieved and that the safety content of plans, procedures, and training materials are systematically reviewed. While the safety certification program and the test program are managed as separate programs, they complement and reinforce each other and are coordinated in the area of safety-related tests to satisfy California Public Utilities Commission (CPUC) requirements in accordance with their "Safety Oversight Plan."

2.1.1.1 The Test Program Plan (See References) contains safety related tests that are identified as elements that must receive Completion Certificates under the safety certification program.

2.1.1.2 As the test program proceeds, the Safety Certification Review Team verifies that all safety related tests are successfully completed and that all identified hazards are resolved.

2.1.2 California Public Utilities Commission (CPUC) Requirements: The California Public Utilities Commission oversees the MTA's efforts in certifying that the Line is built in accordance with established safety standards. The outcome of this activity will be a certification of a safe operable system.

2.1.3 Test Categories: Fixed facilities, systems, and equipment undergo tests throughout the construction and start-up phases. The tests progress from the component to the system level to ensure that the installed project operates as an integrated system. As elements of the project system become operational, certain start-up tests are performed to verify operational readiness, the adequacy of personnel training, and the reliability and safety of the system. The tests which are required throughout the construction and start-up phases are described in the Test Program Plan for each new line or segment. Acceptance, integration, and pre-revenue tests and drills constitute the start-up program testing activities.

3.0 DEFINITIONS

3.1 *Acceptance Tests:* Conducted at the subsystem level to verify that the performance of each project element and subsystem/assembly contained therein is in compliance with specification requirements. Some earlier tests may be repeated as acceptance tests to verify proper operation of the element after installation. These tests are performed at the project site and are prerequisite to the system integration tests. These tests are the responsibility of contractors and are monitored by the Resident Engineer. Examples of these tests are:

Comments by Mark Bristow 12/11/96

- Train Control Interlocking Tests
- Traction Power Short Circuit Tests
- Radio Coverage Tests
- Fire Line Pressure Tests
- Vehicle Propulsion Tests

3.2 *System Integration Tests:* Conducted to ensure that all elements of the rail system can function properly together as an integral system. They confirm that the Line can be operated as designed and constructed. The tests involve end-point-to-end-point verification of system functionality when more than one contract is involved. Although some contractually required tests may be classified as integration tests, most integration tests are non-contractual. These tests are the responsibility of the Rail Activation Group. Examples of these tests are:

- SCADA Control of Train Routing and Tracking
- Emergency Management Panel Control of the Ventilation System

3.3 *System Readiness Drills:* A subset of system integration testing. Performed during the system integration test phase, they are deigned to verify that the system is capable of permitting an appropriate response to an abnormal or emergency operational condition. These drills involve the simulation of an abnormal or emergency situation that generates a response by operations and emergency personnel. The drills provide an opportunity for verifying operational readiness, testing planned emergency response procedures, and providing a training exercise to personnel. Examples of these drills are:

- Simulated fire and smoke in a traction power substation requiring evacuation of the adjacent passenger station

- Train fire in the tunnel

- Loss of power in the Central Control Facility resulting in the loss of central control and requiring local control of operations

Satisfactory completion of the integration tests and readiness drills provides the basis for certifying that the system is capable of providing safe and dependable revenue.

3.4 *Pre-Revenue Operations Tests:* Conducted by the MTA Operations Division at the system level to simulate revenue service operations during normal, abnormal, and emergency conditions. These tests verify and augment the training of train crews, station and central control personnel, maintenance personnel, and security and safety personnel. They are non-contractual tests, and require the full operational capability of all systems, equipment and facilities on the Line.

3.5 *Demonstration Tests:* Contractually required tests. They are conducted at the subsystem level beginning with the system pre-revenue phase and continuing into the revenue service phase to demonstrate that reliability and maintainability of individual elements meet specified levels. These tests are the responsibility of contractors with data acquisition support provided by MTA Operations. The Resident Engineer monitors these tests. Examples of these tests are:

- Passenger vehicle
- Fare collection

- Communications
- Train control reliability tests

Note: The titles used to identify test categories may vary somewhat among the project documents.

4.0 RESPONSIBILITIES

4.1 Metropolitan Transportation Authority (MTA): Responsible for administering all design, construction, testing and start-up activities. This includes direction of engineering and construction management consultant activities and overall management and coordination of the system safety and system assurance program. Within the MTA several departments have key test related responsibilities.

4.1.1 MTA Rail Activation and Integration: Responsible for operations and maintenance planning and system activation. The department staff works to ensure that operating needs will be met and the MTA will be in a position to support system activation. The Director of Rail Activation and Integration (RA&I) oversees the rail activation effort, including on-site testing associated with the start-up phase. An RA&I Start-up Program Manager is assigned to manage the day-to-day activities of each new rail project.

4.1.2 MTA Quality Assurance: Responsible for implementing an independent Quality Assurance program encompassing construction, installation and test activity for the project. The program is supervised by the Director of Quality and carried out on a day-to-day basis by the CM's QC personnel. With respect to Integrated Tests, the quality assurance responsibilities are to review test procedures and test reports and to provide an independent audit of test performance.

4.1.3 MTA System Safety and Assurance: Responsible for overseeing the establishment of safety criteria for the design of the rail system and then verifying that the criteria are implemented and verified through each phase of the project. Safety conformance checklists are established to confirm that the criteria have been incorporated into design, and that design has been followed in construction and procurement. Selected tests are denoted as safety related if they verify the achievement of a safety requirement.

4.2 MTA Operations. Operates and maintains the rail system with the commencement of pre-revenue service. To help prepare for this role, Operations participates in design, test and start-up activities. Involvement of Operations personnel provide a familiarity with system design and augments personnel training. During acceptance testing and contract close-out activities, Operations personnel will witness tests and may provide additional support by operating and/or monitoring vehicles, systems ~~and responsibility for the rail line~~ and ~~has~~ have the opportunity to conduct pre-revenue operations simulations prior to the start of revenue service.

4.3 Rail Activation Group (RAG): Responsible for coordinating and managing system activation, including systems integration testing and related commissioning activities. It is composed of engineers and operating personnel from the Construction Manager, Engineering Management Consultant, equipment procurement consultants, other identified consultants and MTA. During systems integration testing, the Rail Activation Group is responsible for managing the test program. Duties to be performed include:

- Review of system integration test requirements, test plans, and procedures

- Review and approval of requests for additional tests
- Direction of system integration test performance
- Submittal of test documentation to the Safety Certification Review Team for review
- Coordination with Operations and consultant staff in scheduling and arranging tests
- Distribution and filing of test reports

For pre-revenue testing, the Rail Activation Group supports MTA Operations and Maintenance groups. Duties include:

- Coordination in scheduling and arranging tests
- Observation and support of MTA directed pre-revenue test performance
- Support to Operations in preparation of test status reports

4.4 Construction Manager (CM): Responsible for management of all facilities construction and the procurement and installation of all systems and system-wide equipment, with the exception of passenger vehicles and fare collection equipment.

4.4.1 On Assigned contracts, the CM's scope of work includes:

- Enforcement of safety, security, and quality assurance requirements
- Proper integration of systems and facilities equipment
- Coordination of facilities testing, system testing and start-up
- Maintenance support during all testing phases
- Support of the system integration testing and pre-revenue testing programs

4.4.2 The CM designates a Resident Engineer to manage each assigned contract to track, coordinate and provide progress reports on on-site testing. The Start-up Organization includes Systems Integration Testing and Start-up Group which is managed by the CM. The responsibilities of the Resident Engineer and the Systems Integration Testing and Start-Up Group are discussed below.

4.5 CM Resident Engineer (RE): The RE coordinates resolution of contractor-responsible problems during Integrated Testing.

4.5.1 During the start-up phase of the project, the Resident Engineer will retain his full authority. With several Contractors working and testing on-site, site access coordination and test management responsibilities will be augmented by the CM Systems Integration, Testing, and Start-Up Group.

4.6 CM Systems Integration, Testing, and Start-Up Group (Start-Up Group) manages acceptance testing and supports the Rail Activation Group during integration testing.

4.6.1 During acceptance testing the Start-Up Group reviews test procedures and schedules and witnesses all tests, arranging for MTA support when required. It verifies test data and provides test status reports to management.

4.6.2 During systems integration testing, the Start-Up Group may coordinate, perform and/or witness tests on behalf of the Rail Activation Group.

4.7 Engineering Management Consultant (EMC): Responsible for system design and preparation of contract documents for all facilities and systems elements. The Engineering Management Consultant provides engineering support during the construction of stations

and tunnels and the procurement, installation, and testing of systems and system-wide equipment.

4.7.1 The EMC is responsible for developing detailed plans for system integration testing, identifying test requirements, and writing detailed test procedures that test the proper interface relationships among all system elements, including automatic train control, communications elements, passenger vehicles, traction power and fixed facilities equipment. The EMC performs the Integrated Tests. The EMC Integration Test Manager and his group are assigned to the ~~CM's Rail Activation Manager~~ MTA's Program Start-Up Manager. The EMC participates on the Rail Activation Group. During the System integration testing phase, EMC Engineers support the Rail Activation Group, monitoring performance of tests, evaluating test results and recommending approval and/or re-testing.

4.8 Equipment Procurement Consultants: Responsible for managing the procurement of passenger vehicles, fare collection and other equipment. The consultant designates Resident Engineers to manage these contracts, coordinate with the CM Start-Up Group for acceptance testing, and support the Rail Activation Group for system integration testing.

4.9 Safety Certification Review Team: Responsible for ensuring that design, construction, and testing of all elements of the project produces a safe operating system. The Certification Team consists of personnel from the MTA and consultants. The responsibilities are to:

- Review all safety-related contractor and start-up test procedures to verify that safety concerns are addressed
- Identify those procedures for which a Safety Certification Test Completion Report or checklist needs to be processed
- Identify any additional safety tests required and assist in the preparation of test procedures
- Verify completion of all safety related requirements for the California Public Utilities Commission to issue a certification of a safe operable system
- Complete all test related paper work in order to issue a Certificate of Compliance

5.0 PROCEDURES

Refer to Reference 6.1 for detailed procedures of testing programs.

6.0 REFERENCES

6.1 "Metro Project Test Program Plan," prepared by MTA.

7.0 EXHIBITS

None

80 Copies

PRINTER INSTRUCTIONS

1) 6 tabs (6th cut)
   a) SECTION 1.0
   b) SECTION 2.0
   c) SECTION 3.0
   d) SECTION 4.0
   e) SECTION 5.0
   f) SECTION 6.0

A-F (listed above) should appear on the tab. Centered on the face of the 8 x 11 ½ tab sheet the title of each section should appear. Example: SEE OTHER SIDE →

2) White Stock dividers

   Each section has subsections which will not have their own tabs. Please insert white stock with the subsection number and title centered on its face.

   Example:

3) Each individual section should be run 2 sided.
4) Three hole punch entire document.
5) All of the sections' and subsections' titles have been provided on disk and a hard copy is also attached for information.

If you have any questions please contact Mary Heitmeyer at 922-7350 or if it is a Friday I can be contacted at (805) 297-6826.

In the event that you cannot reach me, please contact Dianne Curzon at 922-3831

Thank you
Mary

RE MANUAL
TABLE OF CONTENTS

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RE MANUAL
LIST OF EXHIBITS

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SECTION 1.0
INTRODUCTION

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SECTION 1.0

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of tab sheet as shown

SECTION 2.0
PRECONSTRUCTION

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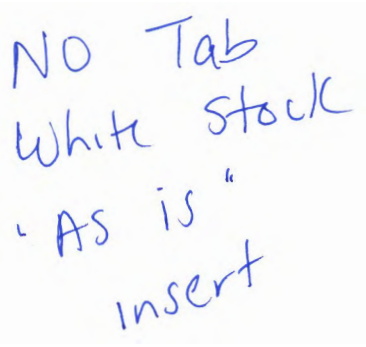
SECTION 3.0
CONTROL OF RESIDENT ENGINEER'S OFFICE

Same instructions as 2.0

SECTION 5.0
TECHNICAL SUPPORT SERVICES

SECTION 6.0
CONTRACT ADMINISTRATION

REP 1.01
Introduction



REP 1.02
Preparation and Control of Procedures and Forms

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1.01

REP 2.01
Constructability Reviews

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Sub sections

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REP 2.02
Contractor Bid Evaluation

REP 2.03
Preconstruction Surveys

REP 3.01
Office Administration

Same instructions as 1.01

REP 3.02
Monthly Status Report

REP 3.03
Daily Diary and Telephone Log

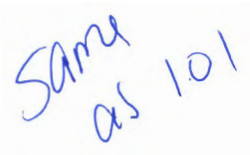
REP 3.04
Document Control

REP 3.05
Lessons Learned

SECTION 4.0
CONSTRUCTION OPERATIONS

Same as 2.0

REP 4.01
Safety



REP 4.02
Field Quality Control Surveillance

REP 4.03
Utilities Excavation

REP 4.04
Master Agreement Work Verification

REP 4.05
Contacts

REP 4.06
Scheduling

REP 4.07
Meetings

REP 4.08
Construction Photographs

REP 4.09
As-Builts

REP 4.10
Systems Start-Up

REP 4.11
Physical Close-Out

REP 4.12
Document Close-Out

REP 4.13
Safety Certification

REP 4.14
Fiscal Close-Out

REP 4.15
Readiness Review

REP 4.16
O&M Manual Processing

REP 4.17
Suspension of Work Notice

REP 4.18
Use of Construction Safety Survey (CS-50)

REP 4.19
Removal of Contractor Personnel for Safety Related Causes

REP 4.20
Contractor Safety Audit Program

REP 4.21
Verification Testing

REP 4.22
Construction Work Plans

REP 4.23
Materials

REP 5.01
Permitting Services

REP 5.02
Surveys

REP 5.03
Duties and Responsibilities of the Geotechnical Group

REP 5.04
Environmental Compliance

REP 5.05
Historical, Scientific, and Archaeological Discoveries

REP 5.06
Facilities and Systems Testing

REP 6.01
Submittals

REP 6.02
Progress Payments

REP 6.03
Backcharges

REP 6.04
Differing Site Conditions

REP 6.05
Change Process

REP 6.06
Claims Process

REP 6.07
Claims Avoidance

REP 6.08
FTA Funding Eligibility

6.5 CHANGE PROCESS & Negotiation Guidelines

1.0 PURPOSE

This procedure outlines the ~~R~~resident ~~E~~engineer's (RE's) responsibilities in providing full and complete documentation for processing changes to the Metropolitan Transportation Authority's (MTA) construction and procurement contracts. **Additional detail requirements are contain in MTA Procedure PM400-11: CF11,"Change Control: Construction Procurement Contracts" (included herein as Appendix A). In the case of conflict or discrepancy, MTA procedures supersede any direction provided below, with the exception of discrepancies between the contract and the MTA procedures, in which cast the contract requirements take precedence.**

2.0 GENERAL

2.1 The change control process consists of five basic steps:

1. Change initiation
2. Change Notice (CN) processing
3. Negotiation/Cost verification
4. Change Order (CO) processing
5. Change cost posting and file closeout

All contract changes will be processed in accordance with California Public Utilities Code 130234 (Exhibit 7.1).

~~2.2 Exhibit 7.1 shows an overview of the change control process as developed by the MTA. The flowchart contains major process steps, responsibilities, and documentation requirements.~~

2.~~2~~3 Terms and conditions vary from contract to contract, refer to the specific contract documents in question when processing changes. Any changes to construction contracts that affect the scope of the Construction Management Services contract between the MTA and the Construction Manager (CM) should be handled according to **MTA Procedure PM400-10: CF10, "Change Control: Consultant Contracts."**~~CMS ____, Changes to CM Services Scope of Work.~~

~~2.4 Exhibit 7.2 shows the breakdown of change approval and execution authority under the MTA. Approval authority is established by the preliminary cost and impact assessment for the change.~~

3.0 DEFINITIONS

Refer to the MTA procedure **PM400-11,** CF 11: "Change Control: Construction/Procurement Contracts" (refer to Section 6.0) for definitions of change-process terms.

~~3.1 *Request for Information (RFI):* a request for design or other contract information for an item which may not be sufficiently detailed or explained in the contract documents. An RFI may be generated from the contractor, the Engineering Management Consultant (GECEMC), or from any CM staff.~~

~~3.2 *Request for Change (RFC):* a request from the contractor for additional time, a contract/design change, or compensation for work.~~

~~3.3 *Change Control System (CCS):* The MTA's automated tracking system that tracks, controls,~~

2. MTA "Contract Change Control System (CCS) Users Manual,~~ Version 3.0, dated March 24, 1992~~

3. REP 6.6, Claims Process

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	**California State Public Utilities Code 130234**~~Change Control Process Overview~~
~~7.2~~	~~Change Approval and Execution Authority Matrix~~
7.2~~3~~	Change Package Document Completeness Checklist (Form 6.5-01)
7.3~~4~~	Guidelines for Negotiations
7.4~~5~~	Sample Negotiating Position Format (Form 6.5-02)
7.5~~6~~	Time and Material Sheet (Force Account Work Record) (Form 6.5-03)
7.6	**Time and Material Sheet (Disputed Work Record) (Form 6.5-04)**

7.4 Sample Record of Negotiations (CCS Form)

8.0 Appendices

#	Title
A	MTA Procedure DM+??-11, CFM, "Change Control: Construct/Procurement Contracts.

Exhibit 7.1

TEXT OF CALIFORNIA STATE PUBLIC UTILITIES CODE 130234 (Initiated as AB1869)

Effective March 13, 1996

130243. The Los Angeles County Metropolitan Transportation Authority shall adopt a change order procedure for contracts awarded by the authority that includes each of the following requirements:

(a) When a change order is proposed, the contract administrator of the authority shall be notified and shall determine whether a change order is required. After consulting with the general counsel of the authority and appropriate technical advisers, the contract administrator shall either approve or disapprove the proposed contract change order.

(b) The general counsel of the authority shall be consulted on the proposed change order at the earliest possible time to consider and render advice on the legal implications of the proposed change. The contract administrator shall not approve a proposed change order unless the general counsel recommends changing the terms of the contract.

(c) The contract administrator shall require the contractor to submit certified cost and pricing data for the proposed change, and shall require an internal fiscal audit of any proposed change order that would cost in excess of one hundred thousand dollars ($100,000) to implement.

(d) The opinions of informed individuals working on the contract who oppose the adoption of a proposed change order shall be documented and be taken into consideration by the authority's change control board when determining whether a contract change is warranted.

MTA Interpretation & Implementation Guidelines

A) All changes will be forwarded for merit review by the MTA Contract Administrator ~~& legal~~ prior to issuance of any change notice or order to the contractor. (Except changes accepted as defined in CF11). ... & ZERO COST

B) General Counsel will review and indicate approval on the CCR/Merit Determination review sheet prior to issuance.

C) Certified cost & price DATA required for all changes. Audit required for all changes with a contractor proposed cost > $100,000.

D) All written comments and correspondence related to

Exhibit 7.2 ~~Exhibit 7.3~~

Contract No: _____ CO/CN No: _____

Title: _____

CHANGE PACKAGE DOCUMENT COMPLETENESS CHECKLIST

CHANGE PACKAGE DOCUMENTS	Required ? Y	Required ? N	In package? Y	In package? N	COMMENTS
APPROVAL AND PREFACE DOCUMENTS (Insert in front of the CO tab.)					
Executive Summary					Required by CM for all changes > $25K
Change Order Approval Sign-Off					
Contract Value Summary Form					
Cost Allocation Detail Record					
Federal Eligibility Checklist					Required for all changes > $200,000
Finding-of-Fact Statement(s) Form Only					
Draft LACMTA Board Report					Required for all changes > $200,000
CHANGE ORDER TAB (CO documents issued to contractor)					
Change Order transmittal					
Change Order original (s)					Includes any attachments that are part of change description
Revised Contract Docs,Dwgs, Markups, Sketches					Reference (if any) by title ID#, Rev#, Rev Date. See the CN portion of file for documents issued under cover of the CN.
NEGOTIATION RECORDS TAB					
Summary Log of Negotiations					Required for multiple CN changes only
Record of Negotiations (Detailed)					Negotiation record or time and material cost reconciliation (i.e., Force Account Closeout Statement Form 364)
Negotiations Backup Correspondence or Meeting Minutes					
COST AND TIME RECORDS TAB Include the complete package for each CN incorporated. If multiple CNs are involved, insert under an appropriately numbered subtab; each package is to include:					
LACMTA Audit Report					Required if proposal is >$1200,000
Contractor Proposal, Summary(dies)					Sufficient for negotiated changes < $25K
Contractor Proposal, Detail					Required if > $25K; *may be required any time
Certificate of Cost and Pricing Data					Supplied by contractor; required ~~by contract if proposal is greater than $100,000~~ for all changes
Contractor's Time and Material Records					~~If Cost~~ Chg; if not included, reference file location
Fair Cost Estimate Summary					**May be prepared by RE if cost is within RE authority**
Fair Cost Estimate Detail					May substitute annotated Contractor Summary Proposal if <$25K
Cost and Price Analysis Form					**States method used to determine FCE costs.**
Time Impact Analysis					
CHANGE NOTICE(S) TAB (CO and CN Packages; for multiple-CN COs, use CN-numbered subtabs.) **Include all superseded revisions.**					
CN Approval Sign-Off Original/DCN Approval Sign-Off Copy (If DCN originated)					
Board Report or Advisory Letter					Required if > $200,000
CN Data Sheet(s) with all related/initiating correspondence, exhibits, contractor's RFI/RFC					
CN Form Original/DCN Form Copy					
Revised/marked-up documents and sketches					
Change Technical Evaluation (CTE) Summary Sheet					~~If no CTE is issued, explain~~
CN/DCN CTE Sheets					~~Required for changes >$50,000~~
SIGNATURES/EXECUTION	**Yes**		**No**		
CM/Contractor Execution Authority					
MTA Execution Authority					
REVIEWER (RE OFFICE):	**DATE:** _____				**SIGNATURE:** _____
REVIEWER (AREA OFFICE):	**DATE:** _____				**SIGNATURE:** _____

Form **6.5-01**

Exhibit 7.4 3

Guidelines for Change Negotiations

1. Prepare in advance. Have the estimator develop a detailed estimate for the change and review it with the RE before writing up the scope of the work. (The estimating process brings out many scope factors that may not be obvious until costs are calculated on an item-by-item basis.)

2. Select a proposal format based on estimating criteria and determine the criteria to be used for pricing the change (how are you going to estimate the change?). Document in the Cost/Price method Analysis form

3. Ask the contractor to prepare its proposal in accordance with your format. Provide the contractor with any forms you want its staff to fill out vis-à-vis cost breakdown (e.g., systems estimators need to have the contractor complete an Estimate Summary form to get the kind of detailed breakdown they need to price electrical work; this form is not used by construction/installation).

4. Know your variances:

   - Analyze quantities, line items, scope, pricing differences.
   - Prepare a spreadsheet to show corrected quantities and how price is affected by quantity adjustments and varying rates.

5. Establish a baseline negotiating position (minimum and maximum) based on known variances.

6. Come to an agreement with the contractor on estimate criteria before negotiations begin:

   - Resolve technical, quantity, and scope differences, and establish a definitive scope and quantity position agreeable to both sides.

7. Adjust the team's minimum/maximum negotiating figures once the team and the contractor reach an agreement on estimate criteria.

8. Negotiate price with the contractor. Summarize +

9. Document Negotiations. Prepare a Record of negotiations which clearly substantiates all significant variances from the contractor's proposal

Exhibit 7.4 (~~Continued~~)

"Detailed Record of Negotiations" from CCS

Delete page

Exhibit 7.7

TIME AND MATERIAL SHEET (DISPUTED WORK RECORD)

Contractor: _____ CN Number: _____

Contract No: _____ Title: _____ Date: _____

Description of Work: _____

Approved by: _____ R.E. Accepted by: _____ Contractor

LABOR				MATERIAL & OTHER (Invoices Required)		
Name and Craft	Hours	Rate	Wages	Description	Unit Cost	Amount

Equip No.	EQUIPMENT	Hours	Rate	Amount	SUMMARY		
					Wages Paid		
					Travel Allowance		
					Subtotal		
					Mark-Up %		
					TOTAL LABOR		
					Material		
					Equipment		
					Subtotal		
					Markup %		
					TOTAL MATERIAL & EQUIPMENT		
					TOTAL		

This signature acknowledges verification of labor, equipment, and material quantities expended under disputed contract work. This acknowledgement is for cost accounting only and in no way binds the Authority to pay for the itemized costs. Any costs determined not to be allowable for payment shall be in accordance with the contract terms and are subject to audit verification.

Inspector _____ Signature _____ Date _____

FORM 6.5-04

See Revised Section 12/14/96

4.12 DOCUMENT CLOSEOUT

1.0 PURPOSE

This procedure describes the processes for transferring contract files to the CM Document Control Center for forwarding to the Metropolitan Transportation Authority (MTA) when the contract is complete.

Records Management Center

2.0 GENERAL

All correspondence and documents produced to support construction of MTA contracts are the property of the MTA, including all CM originated documents, logs, ledgers, and work related diaries and documents submitted by the contractor. The CM is required to transfer all and any project documents to the MTA on request of the MTA RMC, and to destroy document copies when and if directed by the MTA RMC. These procedures are compliant with the MTA document control procedures (See Section 6.0 References) and comply with minimum standard for records management and document control procedures for MTA Rail Construction / Procurement contracts.

X Dixon Staley

2.1 PROCESSING TIME

After a contract is physically completed, the resident engineer (RE) has performed the necessary contract closeout processes, and the MTA has accepted substantial completion of the contract, the contract files will be transferred within 6 weeks to the MTA for long-term retention, and use by MTA Operations. Change order case files may be ~~returned~~ retained by the CM pending resolution of any open issues.

X LAS

2.2 DOCUMENT INDEXES

Electronic indexes referred to in this procedure include the Records Management System (RMS) for correspondence and the Change Control System (CCS) for Change Orders, Change Notices, Requests for Information, Requests for Change, submittals, and claims.

3.0 DEFINITIONS

3.1 *Records Management System (RMS):* The automated MTA correspondence and document indexing and reporting system

3.2 *Sequence Files:* Correspondence and documents filed in sequence number order. See REP 3.4, "Document Control" for further definition.

3.3 *Case Files*: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

3.4 *IMAGEABLE System:* The automated MTA document imaging and indexing system. NOTE: Close-out processes for field offices using the IMAGEABLE system may differ. Differences are noted below.

3.5 *Change Control System (CCS):* The MTA automated contract change and submittal tracking system. CCS is used to track and index RFIs, RFCs, Change Notice, Change Orders, Claim, and Contractor Submittals.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE is responsible for directing the RE staff in performing the activities described in this procedure, and for ensuring that contract records and files are closed out and transferred in a timely manner. The RE is responsible for ongoing verification of file quality and completeness. The specific close-out activities described below will begin 2 to 3 months prior to physical contract completion.

4.2 CM DOCUMENT CONTROL

Document Control is responsible for coordinating the activities described in this procedure with the RE and the MTA, final record inspection, and physical transfer of records from the CM offices to the MTA or location designated by the MTA CM Document Control is responsible for incorporating any contract related records maintained and filed by other CM departments are also transferred to the MTA.

4.3 MTA CONFIGURATION MANAGEMENT CONSULTANT

in variance WI REP 4.9 (5.10)

The MTA Configuration Management Consultant is responsible for initial acceptance of close-out documents identified as deliverables for MTA Rail Operation Support (ROS) and for transfer of such documents to MTA ROS. Operation deliverables include as-built contract documents, contractor shop drawings, permits and warranties, and operations and maintenance manuals. The Configuration Management Consultant is not responsible for handling closeout transfer of general correspondence files.

4.4 MTA RECORDS MANAGEMENT CENTER (RMC)

The MTA RMC has overall responsibility for long term storage, protection, and retrieval of contract files and documents following close-out. The RMC is responsible for accepting close-out records and for coordinating transfer to long term storage. The MTA RMC is responsible for determining document retention requirements, and for approving any CM requests to destroy or discard documents.

5.0 PROCEDURE

To ensure complete files are transferred to the MTA at closeout (e.g., file verification at contract closeout), an on-going verification of files shall be performed by the RE throughout the duration of the contract. Maintenance of document files will also be periodically audited by MTA QA and/or Configuration Management staff throughout the life of the contract.

5.1 VERIFICATION OF FILE COMPLETENESS

5.1.1 SEQUENCE FILE REVIEW

The sequence files and the corresponding indexes and logs controlled by the RE will be reviewed at the RE office to ensure completeness and accuracy.

5.1.2 CASE FILE REVIEW

Case files such as submittals, request-for-information, request-for-change, change orders, claims, shop drawings, warranties and guarantees., etc., defined in REP 3.4 will be reviewed against the approved master lists maintained in the CCS® or other approved tracking systems. The RE will verify that all required submittals have been received and approved before turning records over to CM Document Control for transfer to the MTA or MTA designee.

5.1.3 CANCELLED SEQUENCE NUMBERS

If a document sequence number has been canceled, a target sheet will be inserted in the file indicating the canceled sequence number. If a document is missing from the file, the RE will make every effort to locate the document. If the document is not found, a target sheet will so indicate.

5.1.4 GENERAL FILE ORGANIZATION

All physical document files will be organized and turned over in accordance with REP 3.4 and MTA's Subject Code/File Sequence numbering order defined in the MTA File Coding System document.

5.1.5 CASE FILE ORGANIZATION

5.1.5.1 Contract Change Files: Change files will be organized sequentially by Change Order number under subject code CA500. Supporting documentation for Change Notices, Requests for Change/Information, and claims shall be filed with the corresponding change order, in the order required by MTA Policy CF11, Change Control: Construction/Procurement Contracts. Change Notices, Requests for Change/Information, and claims which have been cancelled, withdrawn, or not incorporated into a Change Order file for any other reason (i.e, unresolved claim) shall be organized by the sequential number under their appropriate subject code (CA520, CA530, etc.)

5.1.5.2 Submittal Files: General submittal files will be organized in submittal number order. Approved copies of submittals identified as Rail Operations Support deliverables (Operations and Maintenance Manuals, Warranties and Guarantees, As-Builts, Shop Drawings) will be segregated from general submittal files into special subject or case files, but will also be filed in submittal number order.

5.1.6 ELECTRONIC LOG REVIEW

The RE will review the associated electronic indexes and logs against files to ensure that all sequence numbers are listed and properly identified, making corrections or additions as necessary. If a sequence number has been canceled, the sequence number will be input to the index and the word "canceled" inserted in the subject field. In addition to review of RMS or IMAGEABLE document indexes, the RE will review case files against logs maintain in CCS (RFI, RFC, Change Notices, Change Orders, Submittals, Claims) to ensure that both files and logs are complete. Any missing sequence numbers in CCS will be added, identified as a "not used" record.

Documents found in files that are not logged in indexing systems will be logged. Where the IMAGEABLE system is being used, documents will also be scanned into the electronic file.

5.2 BOX PREPARATION

5.2.1 BOXING AND IDENTIFICATION

When verification is complete, all field records will be boxed, indexed (using the Records Index and Storage Request, Form ____ [Exhibit 7.1]), and labeled (using the Records Storage Carton Label, Form ____ [Exhibit 7.2]) by the RE in accordance with the Document Control records storage procedure (refer to REP 3.4, Document Control). The records will be boxed and indexed so that they are securely enclosed and identified for storage. Document Control will coordinate with the RE to ensure that boxes are properly indexed. The type and size of record storage boxes will be in accordance with MTA requirements. Case files will be segregated into separate boxes. 5.2.2 The RE will print a final index for each sequence file or case file, place the final index in the first box for each sequence or case file, and list the index on the Records Index and Storage Request (Exhibit 7.1).

5.2.3 In addition to the sequence files described in paragraph 4.1.1, the RE shall box, index, and label all remaining project-related files. These include, but are not limited to, subject files, photographs, RE and inspector diaries, delivery tickets, concrete pour cards, inspection records, test reports, analyses, estimates, schedules, survey and geotechnical material, and radio and audio tapes. If these records are maintained by other departments, the RE shall notify these departments that the contract is complete and that all records shall be transferred to the RE for closeout preparation.

5.2.4 RETENTION IDENTIFICATION

Retention schedule information on Box labels and indexes will be marked "RETAINED UNTIL NOTIFIED".

5.3 TRANSFER OF DOCUMENTS

5.3.1 CM DOCUMENT CONTROL VERIFICATION

Prior to transfer, CM Document Control staff will review the box indexes and file boxes prepared by the RE for completeness. On CM Document Control approval, the RE will add the note, "completed contract, transferred to CM Document Control" on the Records Index and Storage Request form (Exhibit 7.1) and will assign box numbers. The box number will include the contract number and a sequential number, beginning with number "1" (e.g., B201-001). The box number will be placed on Form ____ and Form ____ (Exhibits 7.1 and 7.2).

5.3.2 The RE will forward a complete set of Records Index and Storage Requests (Exhibit 7.1) and final indexes to Document Control.

5.3.3 DUPLICATE DOCUMENT DESTRUCTION

During review of indexes and boxes, CM Document Control will identify document duplications (e.g., duplicate RE subject files or copy files maintained at the CM main or

other offices), including hard copy duplications of documents scanned into the IMAGEABLE system. The CM Document Control Manager will prepare and submit a duplicate destruction request to the MTA RMC identifying all duplicates in either RE or CM home office files, and identify the location of the record copy (.e.g, Field Office Sequence Files, IMAGEABLE system image, etc., as appropriate). A copy of the document destruction request will be sent to the MTA Construction Division Document Control Manager and the assigned MTA Contract Administrator. The RMC Record Manager will provide written approval or request that duplicate files be transferred to MTA control on a case by case basis. On receipt of approval from the MTA RMC Record Manager, CM Document Control will discard or destroy all known extant copies of such documents as directed, and will verify destruction to the MTA RMC.

NOTE: Any and all copies of project correspondence or documents retained by the CM or a CM employee either before or after transfer to the MTA are subject to legal discovery should a claim or other legal action arise in conjunction with the contract or project.

5.3.4 DOCUMENT TRANSMITTAL

Documents not captured in the IMAGEABLE system, or where hard copy is specifically requested by the MTA will be transferred to the MTA RMC, Configuration Management Consultant, or to any other location directed by the MTA RMC. Document Control will send a transmittal (refer to Exhibit 7.3) to the MTA RMC, listing the box numbers and contract number. Copies of the transmittal will be sent to the MTA Contract Administrator, EMC Document Control, the MTA's Construction Division Document Control Manager, and the MTA's Configuration Management Consultant. The transmittal will require a receipt acknowledgment. A copy of the transmittal, Records Index and Storage Requests, and indexes will be retained by Document Control.

5.3.5 PHYSICAL DELIVERY

Document Control will notify the MTA of the impending transfer and coordinate with CM couriers in transporting the boxes, indexes, and transmittals to the MTA RMC, or a storage location designated by the MTA. Operations deliverables (as-builts, approved shop drawings, approved operations and maintenance manuals, warranties and guarantees, etc.) will be delivered to the MTA Configuration Management Consultant ~~for transfer to MTA Rail Operations~~. All other records will be delivered to the MTA RMC or to a storage location specified by the MTA RMC.

(drawings to EMC)

To CMO first for filming

Dixon

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
REP 3.4	Document Control
MTA Policy CF5	Records Close-out
MTA Policy CF6	Transfer to Rail Operations
MTA CM420??	MTA File Coding System

Louisa, from Ted. Revised

Subject: Lessons Learned	Procedure No: REP 3.5	Rev: 0	Page: 1 of 3

3.5 LESSONS LEARNED

1.0 PURPOSE

This procedure explains the process of documenting and implementing lessons learned on the Project. initiating evaluation under the MTA Lessons Learned Program from the project.

2.0 GENERAL

2.1 Project management relies on lessons learned information to identify problems and improvements on the Project. Lessons learned information enables project management to take timely action to control the budget and schedule impacts associated with problems encountered on the job and to anticipate and offset potential problems in the future. The Purpose of the Program is to improve future design or performance.

2.2 The Lessons Learned Form (Form #___, Exhibit 7.1), is the vehicle for identifying problems and improvements affecting safety, quality, schedule, or budget. By documenting a lesson learned and its impact, management is able to prioritize problems and take remedial action in a timely manner.

3.0 DEFINITIONS

None

which may impact other contracts or future designs.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Resident engineers (REs) are responsible for submitting lessons learned forms for every significant change and improvement initiated to solve problems encountered during construction and at contract closeout to the MTA Lessons Learned Coordinator.

4.2 SUPPORT STAFF

Support staff are responsible for submitting lessons learned form when they discover a problem or improvement that will impact project safety, quality, cost, or schedule to the MTA LL Coordinator.

4.3 LESSONS LEARNED COORDINATOR

The Lessons Learned Coordinator is responsible for submitting complete Lessons Learned forms to the Engineering Management Consultant (EMC). The Deputy Project Manager - Engineering will serve as lessons learned coordinator.

4.4 ENGINEERING MANAGEMENT CONSULTANT

The EMC is responsible for reviewing, prioritizing, implementing, and tracking lessons learned on the project, as well as identifying specific alterations to past methods, approaches, design bases, and quality control mechanisms. A database tracks all lessons learned information.

5.0 PROCEDURE

5.1 IDENTIFYING LESSONS LEARNED

When a significant change or improvement occurs ~~in response to problems encountered~~ during construction and at contract closeout, the RE, and to a lesser extent ~~support~~ staff, will complete a Lessons Learned form (Exhibit 7.1) to document the following:

- A description of the observed situation or issue
- Other contracts that are affected
- Drawings affected, if known
- A description of any immediate action that was taken to correct the situation
- The immediate cost or schedule impact, if known
- The recommended action to prevent a recurrence of a problem or to implement an improvement

5.2 LESSONS LEARNED EXIT INTERVIEW

In order to systematically capture lessons learned, a lessons learned exit interview will be conducted by the Lessons Learned Coordinator and members of each RE office staff. This interview is part of the contract closeout procedure and will be conducted prior to closing the RE office. Refer to REP 4.11.

5.3 RECORDING LESSONS LEARNED

The Lessons Learned Coordinator maintains a file of lessons learned forwarded to the EMC.

6.0 REFERENCES

~~None~~ Engineering Policies & Procedures

DSGNG- on Lessons Learned.

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Lessons Learned (Form #___)

5.2 is OK

4.11 has a closeout checklist item for LL exit interview

Exhibit 7.1

REPORT NUMBER:
LL File No.:
LL Date:
For Administration Use Only

LESSONS LEARNED

CASE INITIATION FORM

NAME: _____	DATE: _____
ORGANIZATION: _____	CONTRACT NO: _____
PHONE:	OTHER REFERENCE:

DESCRIPTION OF OBSERVED ISSUE (attach additional sheets, if necessary):

Use drawing numbers and coordinates where applicable.

OTHER AFFECTED CONTRACTS BY NUMBER	DRAWINGS OR SPECIFICATIONS AFFECTED

CORRECTIVE ACTION TAKEN:

DIRECT COST IMPACT ($):	NEAR TERM SCHEDULE IMPACT:

RECOMMENDED ACTION TO PREVENT RECURRENCE ON OTHER CONTRACTS:

Forward to MTA Lessons Learned Coordinator

FORM #____

This form# should be the same as the form# in the CCS System.

3.5 LESSONS LEARNED

1.0 PURPOSE

This procedure explains the process of documenting and implementing lessons learned on the Project.

2.0 GENERAL

2.1 Project management relies on lessons learned information to identify problems and improvements on the Project. Lessons learned information enables project management to take timely action to control the budget and schedule impacts associated with problems encountered on the job and to anticipate and offset potential problems in the future.

2.2 The Lessons Learned Form (Form #___, Exhibit 7.1), is the vehicle for identifying problems and improvements affecting safety, quality, schedule, or budget. By documenting a lesson learned and its impact, management is able to prioritize problems and take remedial action in a timely manner.

design

X Dixon Stolpy

3.0 DEFINITIONS

None

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Resident engineers (REs) are responsible for submitting lessons learned for every significant change and improvement initiated to solve problems encountered during construction and at contract closeout.

4.2 SUPPORT STAFF

Support staff are responsible for submitting lessons learned when they discover a problem or improvement that will impact project safety, quality, cost, or schedule.

X Stolpy Dixon

4.3 LESSONS LEARNED COORDINATOR

future design

The Lessons Learned Coordinator is responsible for submitting complete Lessons Learned forms to the ~~Engineering Management Consultant (EMC). The Deputy Project Manager - Engineering will serve as lessons learned coordinator~~. MTA

4.4 ENGINEERING MANAGEMENT CONSULTANT

~~lessons learned Coordinator~~

X Stolpy Dixon

The EMC is responsible for reviewing, prioritizing, implementing, and tracking lessons learned on the project, as well as identifying specific alterations to past methods, approaches, design bases, and quality control mechanisms. A database tracks all lessons learned information.

4.5 MTA Construction

5.0 PROCEDURE

5.1 IDENTIFYING LESSONS LEARNED

When a significant change or improvement occurs in response to problems encountered during construction and at contract closeout, the RE, and to a lesser extent support staff, will complete a Lessons Learned form (Exhibit 7.1) to document the following:

- A description of the observed situation or issue
- Other contracts that are affected
- Drawings affected, if known
- A description of any immediate action that was taken to correct the situation
- The immediate cost or schedule impact, if known
- The recommended action to prevent a recurrence of a problem or to implement an improvement

5.2 LESSONS LEARNED EXIT INTERVIEW

In order to systematically capture lessons learned, a lessons learned exit interview will be conducted by the Lessons Learned Coordinator and members of each RE office staff. This interview is part of the contract closeout procedure and will be conducted prior to closing the RE office. Refer to REP 4.11.

5.3 RECORDING LESSONS LEARNED

The Lessons Learned Coordinator maintains a file of lessons learned forwarded to the ~~EMC~~ MTA

6.0 REFERENCES

None

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Lessons Learned (Form #___)

EMC has diff. form (Story Book)

Exhibit 7.1

REPORT NUMBER:
LL File No.:
LL Date:
For Administration Use Only

get form from LESSONS LEARNED A Sohn - MTA

CASE INITIATION FORM

NAME:	DATE:
ORGANIZATION:	CONTRACT NO:
PHONE:	OTHER REFERENCE:

DESCRIPTION OF OBSERVED ISSUE (attach additional sheets, if necessary):

Use drawing numbers and coordinates where applicable.

OTHER AFFECTED CONTRACTS BY NUMBER	DRAWINGS OR SPECIFICATIONS AFFECTED

CORRECTIVE ACTION TAKEN:

List any change notices, change orders, RFIs, RFCs ... where applicable.

X Foreman

DIRECT COST IMPACT ($):	NEAR TERM SCHEDULE IMPACT:

RECOMMENDED ACTION TO PREVENT RECURRENCE ON OTHER CONTRACTS:

Forward to Lessons Learned Coordinator

FORM #____

Comments reviewed and in 2p by LAS 12/11/96 (pat) FONT

3.4 DOCUMENT CONTROL

1.0 PURPOSE

1.1 This procedure covers methods by which the Project records are controlled, retained, and secured for ready retrieval. Procedures include:

- Document sequence number identification
- Subject/file code assignment
- Records Management System (RMS)/IMAGEABLE (Records Imaging System)
- Records storage and retrieval
- Technical library
- Contract document maintenance
- Contract equipment information and maintenance records

1.2 This procedure establishes document control methods for the resident engineer (RE) offices. ~~Document control procedures for other project departments are described in CM procedures, Construction Support Policies and Procedures, Document Control.~~

2.0 GENERAL

These procedures are compliant with the MTA document control procedures and file coding system which provide minimum standard for records management and document control procedures for mta rail construction / procurement contracts.

3.0 DEFINITIONS

Case Files: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA ~~Construction and/or Rail Operations.~~ See Paragraph 5.6.3.

IMAGEABLE System: The automated MTA document imaging and indexing system.

Project Record Documents: All correspondence and records pertaining to the contract work. Includes but is not limited to:

- All correspondence and documents sent to and from the contractor
- All correspondence and documents sent to and from the MTA
- All correspondence and documents sent to and from the designer
- All correspondence and documents sent to and from third parties and agencies
- All contractor deliverables
- All contract documents

Records Management System (RMS): The automated MTA correspondence and document indexing and reporting system.

Sequence Files: Correspondence and documents filed in sequence number order. See Section 5.1.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

Each RE's office is responsible for controlling records received or generated at that office and ensuring their safekeeping until formally transmitted to CM Document Control as part of the contract close-out process as defined in REP 4.12. The RE's office is responsible for ensuring that a complete record of correspondence from and to the RE's office is maintained, and for ensuring that a complete and current set of contract and design documents is maintained at the field office at all times. The RE is responsible for maintaining files of all contract deliverable documents, other Construction Manager (CM) related files, and for forwarding construction photographs (negatives and one set of prints) to Document Control. The RE's file is the official project record of the related contract until close-out transfer is completed. Copies of these documents in the possession of other departments or RE are not official.

4.2 CM DOCUMENT CONTROL

The CM Document Control department is responsible for coordinating with various departments and RE offices and for providing training and assistance, as required, to ensure consistency of document processing. Document Control is also responsible for records storage and retrieval, transfer of completed contract files and, for maintaining the Technical Library.

5.0 PROCEDURES

5.1 DOCUMENT SEQUENCE NUMBER IDENTIFICATION AND INDEXING

5.1.1 SEQUENCE NUMBER ASSIGNMENT

All documents and correspondence to be included as part of project records and/or contract files shall be assigned a unique document sequence number identifier and subject code.

5.1.2 SEQUENCE NUMBER LOCATION

For incoming and outgoing correspondence, the document sequence number shall be placed in the upper portion of the document prior to its distribution. The sequence number may be typed or hand-written.

5.1.3 SEQUENCE NUMBER STRUCTURE

The document sequence number identifier for correspondence will include: project number - contract number - to/from code - sequence number. For example, for contract B201, the first letter from the RE to the contractor shall be assigned R81-B201-REC-00001. Subsequent letters would be assigned 00002, etc. The following list describes components of the document sequence number:

- Project Number: Example "R82"
- Contract Number: Example: "C01234"

The alphanumeric contract number assigned at award. For documents not related to a specific contract, the contract number should be left blank.

- From/To Acronym

The following codes are used on all projects

REC = Identifies all RE to Contractor correspondence.
CRE = Identifies all Contractor to RE correspondence.
RED = Identifies all RE to Designer correspondence.
DRE = Identifies all Designer to RE correspondence
REM = Identifies all RE to MTA correspondence
MRE = Identifies all MTA to RE correspondence
Other CM or project specific acronyms for "From/To" as identified by the consultant.

- Sequence Number

Sequence number shall be a five-digit sequence number beginning with 00001 for each "From/To" code and continuing sequentially until completion of contract and/or project.

5.1.4 CORRESPONDENCE INDEXING

The RE's office will enter all incoming and outgoing corresondence into the MTA RMS or Imageable document indexing system. During document approval cycle, if a sequence number is assigned and for whatever reason the document is cancelled prior to signature and issuance, the originator will note "cancelled" and the date in the RMS for the corresponding sequence number. Canceled sequence numbers will not be re-used.

5.1.5 CASE FILE SEQUENCE ASSIGNMENT

For documents other than correspondence, sequence numbers may be the unique number or date assigned to the document. For example, Change Orders, Change Notices, Requests for Information, Requests for Change, Notice of Intent to Claim, Claims, and Submittals have a unique sequential number assigned to them. Refer to the procedure applicable to the document for assigning these sequence numbers. In the case of reports, either a sequential report number is assigned or the issue date of the report becomes the report number. This type of document is not generally input to the RMS, unless it is attached to correspondence or a transmittal.

5.1.6 QUALITY DOCUMENTATION FILING

Documentation attesting to the quality of the work/activities performed for a particular contract(s) shall be stored in accordance with Exhibit 7.1, Quality Documentation Storage Requirements.

5.2 SUBJECT CODE/FILE SEQUENCE SYSTEM

5.2.1 MTA FILE CODING SYSTEM

The MTA has developed a unified Subject Code/File Sequence System. The latest listing can be obtained from the Document Control department. This listing is required to be used for all project related correspondence and documents. All documents transmitted to the MTA are required to be coded and organized in accordance with this system.

5.2.2 FILE CODE CHANGES

The MTA will control the code numbers. Any changes or additions made to the index must be coordinated through Document Control. In turn, Document Control will contact the MTA to request changes to the index. When changes are accepted by the MTA, Document Control distributes changes to all RE offices.

5.2.3 SUBJECT CODING

Documents will be coded with at least two code numbers. The first code number should be the sequence file code, and the second code number should be the appropriate subject code(s). A maximum of five code numbers (including sequence code and subject codes) may be assigned to a single document.

5.2.4 SUBJECT CODE ~~LOCATION~~ APPLICATION

The subject/file code numbers will be placed on the document prior to distribution of the document. The code numbers may be typed or hand-written.

5.2.5 SEQUENCE FILES

At a minimum, the RE maintains a complete (physical) sequence file of all incoming/outgoing correspondence. Duplicate copies of documents may also be filed in subject files at the discretion of the RE or as required for certain case files. See paragraph 5.6.3 for case file requirements.

5.3 RECORDS MANAGEMENT SYSTEM (RMS) \ IMAGEABLE SCANNING AND INDEXING SYSTEM

5.3.1 RMS INDEXING SYSTEM

The RMS document indexing system is maintained on the wide area network. The MTA is responsible for the maintenance of the RMS program. Included in the network are RE field offices and departments in the CM office. Input to the RMS document index provides an index of project-related correspondence and allows for prompt and accurate retrieval of records.

5.3.2 DATA ENTRY

For correspondence and documents they directly receive or generate, the RE's office is responsible for data entry to the RMS, or, where available, for scanning and indexing correspondence using the MTA IMAGEABLE system.

5.3.3 IMAGEABLE DOCUMENT SCANNING AND INDEXING SYSTEM

The IMAGEABLE document scanning and indexing systems will be used in lieu of RMS where available to capture retrievable document images and to index all incoming and outgoing RE office correspondence. The MTA is responsible for maintenance of the IMAGEABLE system. A listing of documents to be captured by the field office using the IMAGEABLE system is contained in Exhibit 7.2.

5.4 DOCUMENT RESPONSE TRACKING

The RE will establish and maintain a ~~method~~ system of using the CCS action items module for tracking incoming and outgoing correspondence that requires a response and is not tracked in other automated systems. ~~The tracking of documents not controlled in other systems may be maintained manually or electronically.~~ The RE is responsible for ensuring that a timely response is generated and that open items are closed. Receipt and response to the following types of correspondence are tracked in the MTA CCS® : Request-for-Information (RFI), Request-for-Change (RFC), Change Orders/Change Notices, Claims/Notice of Intent to Claim (NOI), Contractor Submittals, and do not require separate response tracking.

5.5 DOCUMENT DISTRIBUTION

The originator of correspondence will be responsible for specifying who will receive copies. The

distribution will depend on the subject of the document. One copy of all correspondence originating from or originally received at the RE's office will be forwarded to CM Document Control (documents scanned into the IMAGEABLE system excepted). While standard distribution lists may exist, the originator must use good judgment to ensure that appropriate distribution of correspondence is made.

5.6 RECORDS FILING AND FIELD OFFICE STORAGE

5.6.1 SAFE STORAGE REQUIREMENTS

During construction, the RE will maintain contract deliverable documents in filing cabinets or other file storage units at the field office. Fire retardant filing cabinets are only required for documents that are not duplicated at a remote area. Acceptable remote areas include Home Office files (e.g., Document Control, Scheduling, EO Representative).

When copies of documents are not disseminated (e.g., pour cards, warranties, and test reports), these documents will require storage in a fire retardant cabinet.

5.6.2 ESTABLISHING FIELD OFFICE FILES:

The field office will set up sequence and subject code files using the MTA standard file code structures. File code labels ~~may be created using the MTA RMS system, or~~ are available from MTA Configuration Management.

5.6.3 CASE FILES:

The following document types will be maintained in segregated subject sequence files:

- Request-for-Information (RFI)
- Request-for-Change (RFC)
- Change Orders/Change Notices
- Claims/Notice of Intent to Claim (NOI)
- Contractor Submittals: General submittals will be filed by Submittal Number ~~(Specification Section and paragraph number).~~ The following submittal types will be further segregated by subject to simplify transfer to MTA ~~Operations following contract close-out:~~
    - Warranties and Guarantees
    - Contractor Shop Drawings
    - Operations and Maintenance Manuals
    - Permits

5.7 PREPARATION FOR DOCUMENT CLOSE-OUT TRANSFER OR OFF-SITE STORAGE

5.7.1 FILE QUALITY REVIEW

Field Office files will be prepared for contract document close-out transfer within 90 days after contract substantial completion. Prior to document close-out transfer or any transfer to off-site storage, the originating RE will review files ~~prior to their transmittal to CM Document Control~~. File folders for unused file codes and duplicate copies shall be removed and disposed of. Files or records should be placed in a logical order that will allow for the prompt retrieval of records.

5.7.2 RECORDS INDEX PREPARATION

A typed Records Index and Storage Request Form, Form ___(Exhibit 7.3), must be completed by the originating RE for each storage box. Multiple boxes listed on a single form will not be accepted by Document Control.

5.7.3 BOX IDENTIFICATION:

The "records title" portion of the Records Index and Storage Request form must include sufficient information to retrieve records, including document date or date range (from/to), applicable file codes, document numbers and contract numbers. For example, 10 boxes labeled "Harry's files" make it difficult to retrieve a specific document. All 10 boxes would have to be reviewed to find the requested document. Chronological files should indicate a date range and subject files should list subject headings.

5.7.4 BOX NUMBER

The "box number" block on the Records Index and Storage Request form and on the carton label should be left blank. Document Control will assign the box number and return a copy of the Records Index and Storage Request form, including the assigned box number, to the originator.

5.7.5 BOX PACKING

Records storage boxes must be full but not overflowing. Half-empty boxes are crushed when stacked and waste valuable space. Overflowing boxes will break, documents will be crushed, and boxes will not stack well. Half-empty and overflowing boxes received by Document Control will be returned to the originator for correction.

5.7.6 HANGING FILE REMOVAL

Pendaflex (hanging) folders are designed for use in file cabinets, not storage boxes. Storage boxes will not support the weight of Pendaflex folders. Boxes with Pendaflex folders received by Document Control will be returned to the originator for correction.

5.7.7 BOX SIZE

Generally, only standard record storage boxes (12 inches by 18 inches) will be accepted by Document Control for storage. Xerox or paper boxes will not be accepted for storage. The originator shall contact Document Control for assistance with records that will not fit in standard storage boxes.

5.7.8 BOX PICK-UP

The completed Records Index and Storage Request form should be in front of documents in the corresponding box. The originating RE should contact Office Services couriers for pick up and delivery of boxes to Document Control.

5.8 STORAGE

CM Document Control will make copies of the Records Index and Storage Request form and distribute one copy to the originator. This copy will serve as a receipt and will notify the originator of the assigned box number.

CM Storage Procedures and procedures for transfer of document to the MTA are contained elsewhere in

CM procedures.

5.9 DOCUMENT RETRIEVAL

5.9.1 RETRIEVAL REQUESTS

Any RE office may request that Document Control retrieve their documents from records storage. If an RE requests records from another department's files, the RE must first obtain permission from the originating RE, department, or CM, as appropriate.

5.9.2 RETRIEVAL BOX IDENTIFICATION

The requester shall contact Document Control and request retrieval. The requester should provide Document Control with as much information as possible to assist in retrieving the records. If the box number is known, this will accelerate the retrieval process.

5.9.3 DOCUMENT RETRIEVAL

Document Control will identify the box number of the requested records and refer to the box number location index. When the box is retrieved, Document Control will complete and place an "out" card in the file of Records Index and Storage Request forms directly behind the request form of the box number being retrieved. The out card will include the requester's name, date, and box number. If only a portion of the box has been retrieved, Document Control will note on the out card which specific documents have been removed from the box.

5.9.4 DOCUMENT RETURN

When the requester returns the box or portion of the box, Document Control will remove the out card from the Records Index and Storage Request form file and cross off the retrieval information. This indicates that the documents have been returned to storage.

5.10 CM TECHNICAL LIBRARY

CM Document Control is responsible for ordering and controlling technical documents and publications to be included as part of the Technical Library. The requester of a technical document or publication will complete a Purchase Requisition Form. The requisition must include the title of the publication, the source, estimated cost, and the designated user. A copy of the publication order form, if available, should be attached. The completed requisition, when signed by the requester, is forwarded to Accounting for processing with a carbon copy to Document Control.

5.11 CONTRACT DOCUMENT MAINTENANCE

The RE office will maintain a current ~~conformed~~ set of all contract documents at all times. The current ~~conformed~~ set of contract documents will include the "as-awarded" set of contract documents ~~conformed~~ to include all modifcations or revisions issued to the contractor under a change notice, including mark-ups, sketches, or other technical direction issued to the contractor which alters or modifies the original contract terms, specifications, drawings, or design. ~~The as-built documents will also be annotated to show any new information developed during the life of the contract.~~ (See 4.9 for complete as-built requirements.)

6.0 REFERENCES

The following documents are referred to in, or are related to, this procedure and are available under separate publication:

REP	Title
4.8	Construction Photographs
4.9	As-Builts
4.11	Physical Closeout
4.12	Document Closeout
6.1	Submittals

MTA Plans & Procedures	Title
PA302	MTA File Coding System
CF2	Document Control: Baseline
CF3	Document Control: Conforming Contract Documents
CF4	Contractor Submittal Tracking
CF5	Document Control: Contract Records Close-Out
CF6	Document Control: Tranfer of Records to Operator

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Quality Documentation Storage Requirements
7.2	IMAGEABLE Document Scanning System: Document Capture Requirements
7.3	Records Index and Storage Request Form

x Foreman

Exhibit 7.1

QUALITY DOCUMENTATION STORAGE REQUIREMENTS
(filed with RE unless otherwise noted)

DOCUMENTATION	SUBCODE*	PRIMARY (required)	SECONDARY (required)
QUALITY			
Inspection Surveillance Reports (monthly folders)	CM122.3	Chron. per QCII 1.2	na
Daily Inspection Reports (monthly folders)	CM122.0	Chron. per QCII 1.2	na
QCII checklists (per QCII)	na	Attached to Daily Inspection Reports	Subject file per QCII
Non conformance Reports	CM122.1	Sequentially per QAP 14	Attached to QCII checklist
Deficiency Reports	CM122.1	Sequentially per QAP 14	Attached to QCII checklist
Geotechnical Soils	DE122	Attached to Daily Inspection Reports	Chron. by subject
Geotechnical Settlement Studies	DE122	Chron. by subject	Area office by date/contract
Geotechnical Instrument Monitoring	DE122	Chron. by subject	Area office by date/contract
Geotechnical Geology - Tunnels	DE122	Chron. by subject	Area office by date/contract
Geotechnical Geology - Stations	DE122	Chron. by subject	Area office by date/contract
Survey As-Builts	CA165	Chron. by subject	Area office by date/contract
Quality Assurance Audits	SI310	Sequentially per QAP 17	Chron. by subject
Test and startup (folders)	SI2000	Per REP 5.6 with Testing and Startup Manager	na
Environmental - Health and Safety	DE560	Chron. by subject	na
Environmental - Water Quality Control	DE560	Monthly at Document Control	Monthly at Main Office
Environmental - Air Quality Control	DE561	Chron. by subject	na
Environmental - Contaminated Soils	DE560	Chron. by subject	na
Environmental - Noise and Vibration	DE562	Chron. by subject	na
Environmental - Temporary Soil Storage	DE560	Chron. by subject	na
CONTRACTOR QUALITY			
Contractor Cylinder Tests Reports	CM700	Chron. by subject	na
Soils Testing Reports	DE472	Chron. by subject	na
Nondestructive Examination Reports	DE122	Chron. by subject	na
Material Test Reports	CA800	Chron. by subject	na
Equipment Test Results	CA800	Per Testing Plan	Attached to Daily Inspection Report
As-Builts	CA165	Chron. by subject	Area office by date/contract
Concrete Batch Tickets (monthly)	CM740	Chron. by subject	na
HDPE As-Builts	CA165	Chron. by subject	na
Welding Procedure Specifications (WPS)	CM810	Sequentially by subject	na
Welding Procedures Quality Records (PQR)	CM810	Sequentially by subject	Attached to WPS
Welder Qualifications/Certifications	CM810	Sequentially by subject	na
EMC QUALITY			
Cathodic Protection	DE480	Chron. by subject	Area office by date/contract

Copies of all documentation are to be sent to Document Control per REP 3.4 subsection 3.5

* may be affected by changes to the MTA file code manual.

Exhibit 7.2

MTA IMAGEABLE Document Scanning and Indexing System: Minimum Document Capture Requirements

Field and CM Document Control Offices utilizing the IMAGEABLE system to capture retrievable images of project correspondence will ensure that the following documents are scanned and indexed, at a minimum:

1. All general letters to or from the contractor
2. All RFC / RFI ~~transmittal covers or letters~~ - both request and response (w/o ~~attachments~~) drawings* greater than 11x17
3. All Contractor Notice-of-Intent to Claim or Claim submittal ~~cover~~ letters
4. All executed Change Notice Forms (w/o ~~attachments~~) drawings*
5. All executed Change Order Forms (w/o ~~attachments~~) drawings
6. Change Order Summary Record of Negotiation Forms
7. All contractor submittal and RE submittal response ~~cover letters or transmittal~~ forms
8. Non Conformance Reports (NCR) and corrective action responses
9. Daily Inspection Reports
10. Pour cards (concrete placement)
11. Meeting agendas and minutes
12. Site-specific reports (progress, safety, issues, geotech, survey, etc.)
13. Pay estimates
14. CS-50s (Construction Safety Survey Form)
15. Accident/injury reports

by whom? (pat)

* Drawings greater than 11x17 will be replaced by a standard Form stating that "attached drawings were not imaged and are filed with the original documents", and list the drawings on the form if they are not listed in the imaged paperwork.

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with estimated/scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as delinquent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring that for ensuring that all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number (see 5.1.~~1~~2 for format), Submittal Title, due date, and schedule activity code. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS. **Progress payments will be withheld until the master submittal schedule is approved in accordance with contract requirements.**

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

The submittal number will consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1 for each ~~specification section~~), and revision number (beginning with 0). **The use of the word "all" to replace specific paragraph identification is not acceptable.**

Proj+Cont+Spec+Para+Seq, Rev

Original Submittal Example: **R84-C0333-01310-1.3.b-1.00 (1st submittal required)**
R84-C0333-01310-1.3.b-2.00 (2nd submittal required)

Systems contracts will assign submittal numbers by CDRL number, in **addition to submittal number.** ~~place of specification section and paragraph~~.

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by **.01**.

Resubmittal Example: **R84-C0333-01310-1.3.b-1.01 (1st resubmittal)**
R84-C0333-01310-1.3.b-1.02 (2nd resubmittal)

5.1.2 AS-BUILT DOCUMENTS LOG

The as-built document log is to be developed as part of the Master Submittal schedule. Each as-built submittal record will identify the due date, the associated milestone, and the specific drawings and documents to be submitted. An electronic listing of the "As-Awarded" Contract drawing may be exported from CCS ~~to~~ in spreadsheet for the contractor's use.

5.2 CONTRACTOR SUBMISSION

The contractor produces submittals according to the contract documents and approved schedule, reviews the submittal; and affixes, dispositions, and signs the Contractor Review Stamp. The submittals are forwarded to the RE with the contractor's letter of transmittal.

5.2 RE ACCEPTANCE

After receipt of the submittal, the RE scans the submittal to ascertain that the information required to support the submittal is provided in accordance with the appropriate Specification Section 01300. If the proper information is not included, or is not adequately identified, the RE returns the entire submittal to the contractor. When the RE is satisfied that the submittal has provided the information required, the RE determines the routing and review requirements of the submittal. Standard review requirements are listed in Exhibit 7.3. Submittal receipt is entered into the Submittals module of the Change Control System (CCS). The RE uses this module to track, generate forms, and report activities related to contractor submittals.

In order to maintain the submittal review schedule, the RE may also return submittals provided by the Contractor significantly earlier than their approved due date, and request that they be resubmitted closer to their approved due date.

5.3 SUBMITTAL REVIEW

If it is determined that the submittal is of an engineering or technical nature, it is transmitted to the GEC~~EMC~~. Following the ~~engineering~~ review, the submittal is returned to the RE for subsequent transmittal to the contractor. The GEC~~EMC~~ is responsible for coordinating approval by City of Los Angeles agencies. The RE is responsible for tracking the submittal during this step and ensuring that it is returned in a timely manner to stay within the time restraints established by Contract Documents Section 01300 or as indicated in the Urgency of Response disposition.

When the RE disputes the disposition of a submittal by the GEC~~EMC~~, the RE contacts the GEC~~EMC~~ representative to resolve the dispute within the allotted review time. This resolution process should be initiated as soon as possible. The RE documents the resolution with an explanatory letter attached to the disputed review when it is returned to the GEC~~EMC~~ for a resolution.

5.4 ACCEPTANCE DISPOSITION MARKING

When the GEC~~EMC~~ completes review of a submittal, a review stamp is affixed to the submittal. The GEC~~EMC~~ assigns a disposition code and signs the review stamp. The RE shall not stamp or ~~approve~~ submittals that are reviewed by the Engineer (GEC~~EMC~~).

solely accept ?

When a submittal (as listed in subsection 2.2.1) is reviewed within the CM/MTA organization, the RE affixes a review stamp (Exhibit 7.2), signs the stamp, marks the disposition code, logs the disposition into CCS, and returns the submittal to the contractor with comments.

Typical Disposition Codes are as follows**, check contract requirements for specific application**:

ACC = Accepted. (Submittal package accepted in entirety, no changes or resubmittals required.

ANR = Accepted As Noted **- Resubmittal Required**. Correct and resubmit within 30 days for record. (Contractor may work to submittal documents as marked by the reviewer. Marked corrections are to be incorporated and resubmitted.)

ANN = Accepted As Noted - Resubmittal Not Required. Incorporporate into accepted submittal records as marked and accepted by the reviewer.

REJ = Rejected. Revise and Resubmit. (Submittal package is rejected in entirety or in part. Specific documents or drawings rejected are identified. The contractor is to resubmit by the due date indicated prior to work)

FRO = For Record Only. The submittal package is accepted for record purposes only.

On issuance of a "Rejected" or "Accepted as Noted" submittal response to the contractor, the RE will immediately log the required resubmittal into CCS and assign an appropriate due date. The exception is submittals that are rejected because they are no longer required.

5.6 RESPONSE TIME REQUIREMENTS

Each construction contract specification states a response time requirement for contractor submittals. The RE is responsible for responding to the contractor in the shortest time possible, but no longer than the contractual requirement, in order to limit vulnerability for potential contractor claims and to avoid operations and schedule conflicts. The due date indicated to reviewers on the transmittal and CCS should allow for processing time required by the RE after review (to transmit the submittal to the contractor.) Review and approval actions are to be complete and comprehensive within the specified period. In some instances this may not be possible, and a partial or "review status" response is issued to the contractor so that concerned parties are aware of the circumstances. This is followed as soon as possible with a complete, formal response.

If the RE projects that the review period will take longer than 30 days, the RE contacts the contractor by telephone for the purpose of explaining the possible delay. The RE sends a confirming letter immediately following the call.

5.7 ON SITE REVIEW

The **GEC**~~EMC~~ will visit the jobsite ~~as~~**when** required, to observe a condition in question or to discuss the subject with the RE, the contractor, or others, as necessary.

5.8 REVIEW STATUS TRACKING

reviewed and adjusted periodically on a 6-month look ahead basis.

6.0 REFERENCES

Reference	Title
Contract Section 1300	Submittals
Contract Section 1720	As-Builts
MTA Policye CF4	**Document Control:** Contractor Submittals

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Contractor Submittal Process
7.2	Review Stamp
~~7.3~~	~~Review Responsibility Guidelines~~

Revised by LAS 12/04/9?

6.1 SUBMITTALS

1.0 PURPOSE

This procedure establishes guidelines for establishing submittal schedules and for processing contractor submittals and describes the processing of submittals from original receipt by the resident engineer (RE) until the submittal is reviewed, dispositioned, and returned to the contractor via the RE.

2.0 GENERAL

2.1 The Construction Manager (CM) is responsible for managing contractor submittals, coordinating review of submittals with the Engineering Management Consultant (EMC), Metropolitan Transportation Authority (MTA), and CM staff, as required, and for tracking the approval process of submittals within the time frame specified in the contract documents. The CM will maintain submittal status tracking systems, using the MTA's Change Control System (Submittal Tracking Module), and will be responsible for maintaining submittal documents in a readily retrievable manner throughout the construction phase of the project.

Contractor submittals will be turned over to the MTA at contract closeout as part of the project record. Included in this task is tracking of all systems Contract Data Requirement List (CDRL) items and subsequent notification to the contractor of any submittal deficiencies. Design interpretation or changes to approved submittals must be reviewed and approved by the EMC or other designated reviewer.

2.2 This procedure outlines the process, control, coordination of review, and retention of contractor submittals. The review must be performed in a timely manner (i.e., within 30 days) unless specified otherwise in the contract documents in order to comply with contract documents and deliverable requirements schedules.

2.2.1 Submittal review and acceptance requirements include, but are not limited to: (Additional review responsibility guidelines are provided in Exhibit 7.3)

- Master Submittal Schedule (CM, MTA, & EMC)
- Schedules (CM)
- As-Built Document Submittal Schedule (CM, EMC, MTA)
- Contractor's QA/QC programs and procedures (CM)
- Contractor's construction work plans (CM)
- Geotechnical instrumentation and monitoring (CM)
- Safety and security programs and procedures (MTA)
- Traffic control (submitted to City of Los Angeles Department of Transportation [LADOT] for review and approval)
- Welding procedures (EMC)
- Welder qualifications (CM)
- Permits (CM)
- Environmental, hazardous waste, and pollution control plans and procedures (MTA)

2.2.2 The technical and engineering submittals to be logged by the RE and transmitted to the EMC for review and approval include, but are not limited to, the following:

- Shop drawings (i.e., design implications regarding permanent installation and finish items, temporary installations required by specifications or drawings, lift drawings,

underpinning, rest ration of structures, and concrete reinforcement)

- Working drawings (i tunneling methods and operations, support of excavations, decking, form wo pport, utilities support, temporary ventilation, access roads and parking areas, and gro iting)
- Utilities relocation and support
- Electrical systematic schematic diagrams and circuit diagrams
- Test schedules and testing and manufacturing procedures
- Samples and mock ups
- Operations and maintenance/training manuals
- Programmatic documentation (hazard analysis)
- Test procedures and test reports
- As-Built Document Submittals

2.3 CONTRACTOR SUBMITTAL REVIEW

The process to be followed in Contractor Submittal Review is shown in Exhibit 7.1.

3.0 DEFINITIONS

3.1 *Master list of submittals:* a list of all submittals that the contractor is required, by Contract Specifications and Contract Drawings, to submit to the RE for review and approval. The list shall be submitted to EMC for approval of technical content. Progress payments will be withheld until master submittal list is approved in accordance with contract documents.

3.2 *Urgency of response:* This is an indicator on the Submittal Transmittal to the reviewers and is defined as follows:

Routine: within the terms of the contract.

3.3 As-Built Document Log: the list of as-built documents that the contractor is to submit at interim and final contract milestones per Contract Section 1720, paragraph 1.3.c.

Urgent: as defined by the contractor at time of the submittal

4.0 RESPONSIBILITIES

4.1 CONTRACTOR

The contractor is responsible for furnishing a Master List of Submittals as required by the contract specifications and Contract Drawings, with corresponding submittal dates that allow adequate time for review by the CM, the EMC, MTA, or third parties. The Master List of Submittals is to be submitted in both electronic and hard copy format. The electronic copy is to be submitted in a format compatible with the MTA CCS Submittal Tracking system.

This procedure is not defi... (5.4)

FU KS

4.2 RESIDENT ENGINEER

The RE is responsible for receiving the submittal and determining the proper course of action based on the list of items provided in Subsections 2.2.1 and 2.2.2. The RE is responsible for tracking the approval process of the submittals and ensuring completion of review within the time frame specified in contract documents.

Information/each item from the approved Master List of Submittals is entered into the Submittal Module of the CCS upon approval of the Master List of Submittals, along with estimated/scheduled submittal dates. This provides visibility to the RE as to required submittals, as well as subsequent submittals.

The RE is responsible for tracking all submittal items and subsequent notification to the contractor of any submittal deficiencies, including overdue submittals and resubmittals. The RE is responsible for ensuring that all field staff responsible for tracking submittal status receive training in use of the CCS Submittal Tracking module.

The RE is responsible for ensuring that ~~for ensuring that~~ all submittals are properly filed, and that the latest approved version of contractor supplied drawings and other documents are logged and being used by inspectors.

5.0 PROCEDURE

5.1 DEVELOP SUBMITTAL SCHEDULE

The Resident Engineer will provide the contractor with a submittal schedule spreadsheet in a format compatible with the CCS Submittal Tracking system. Minimum schedule requirements are: Submittal Number ~~(see 5.1.2 for format)~~, Submittal Title, due date, and schedule activity code. The contractor will submit both electronic and hard copy versions of the schedule. On approval, the RE will coordinate with MTA Configuration Management staff to have the approved Master List and schedule loaded into CCS.

5.1.1 SUBMITTAL NUMBER ASSIGNMENT

The submittal number shall consist of project number, contract number, specification section number, paragraph number, sequence number (beginning with 1 for each ~~specification~~ section), and revision number (beginning with 0). Systems contracts will assign submittal numbers by CDRL number, ~~in place of~~ in addition to specification section and paragraph.

If a submittal is revised and resubmitted for review, the contractor indicates this revision by incrementing the revision number of the submittal document. The RE will assign the same sequential submittal number and increment the revision number by 1.

5.1.2 AS-BUILT DOCUMENTING

The as-built documents is to be developed as part of the Master Submittal schedule. Each as-built submittal record will identify the due date, the associated milestone, and the specific drawings and documents to be submitted.

5.2 CONTRACTOR SUBMISSION

The contractor produces submittals according to the contract documents and approved schedule, reviews the submittal; and affixes, dispositions, and signs the Contractor Review Stamp. The submittals are forwarded to the RE with the contractor's letter of transmittal.

5.2 RE ACCEPTANCE

After receipt of the submittal, the RE scans the submittal to ascertain that the information required to support the submittal is provided in accordance with the appropriate Specification Section 01300. If the proper information is not included, or is not adequately identified, the RE returns the entire submittal to the contractor. When the RE is satisfied that the submittal has provided the information required, the RE determines the routing and review requirements of the submittal. Standard review requirements are listed in Exhibit 7.3. Submittal receipt is entered into the Submittals module of the Change Control System (CCS). The RE uses this module to track, generate forms, and report activities related to contractor submittals.

In order to maintain submittal review schedule, the RE may also return submittals provided by the Contractor significantly earlier than their approved due date, and request that they be resubmitted closer to their approved due date.

5.3 SUBMITTAL REVIEW

If it is determined that the submittal is of an engineering or technical nature, it is transmitted to the EMC. Following the engineering review, the submittal is returned to the RE for subsequent transmittal to the contractor. The EMC is responsible for coordinating approval by City of Los Angeles agencies. The RE is responsible for tracking the submittal during this step and ensuring that it is returned in a timely manner to stay within the time restraints established in Contract Documents Section 01300 or as indicated in the Urgency of Response Disposition.

When the RE disputes the disposition of a submittal by the EMC, the RE contacts the EMC representative to resolve the dispute within the allotted review time. This resolution process should be initiated as soon as possible. The RE documents the resolution with an explanatory letter attached to the disputed review when it is returned to the EMC for a resolution.

5.4 ACCEPTANCE DISPOSITION MARKING

When the EMC completes review of a submittal, a review stamp is affixed to the submittal. The EMC marks a disposition code and signs the review stamp. The RE shall not stamp or approve submittals that are reviewed by the Engineer (EMC).

When a submittal (as listed in subsection 2.2.1) is reviewed within the CM/MTA organization, the RE affixes a review stamp (Exhibit 7.2), signs the stamp, marks the disposition code, logs the disposition into CCS, and returns the submittal to the contractor with comments.

Disposition Codes are as follows:

ACC = Accepted. (Submittal package accepted in entirety, no changes or resubmittals required.

ANR = Accepted As Noted. Correct and resubmit within 30 days for record. (Contractor may work to submittal documents as marked by the reviewer. Marked corrections are to be incorporated and resubmitted.

REJ = Rejected. Revise and Resubmit. (Submittal package is rejected in entirety or in part. Specific documents or drawings rejected are identified. The contractor is to resubmit by the due date indicated prior to work)

FRO = For Record Only. The submittal package is accepted for record purposes only.

On issuance of a "Rejected" or "Accepted as Noted" submittal response to the contractor, the RE will immediately log the required resubmittal into CCS and assign an appropriate due date. The exception is submittals that are rejected because they are no longer required.

5.6 RESPONSE TIME REQUIREMENTS

Each construction contract specification states a response time requirement for contractor submittals. The RE is responsible for responding to the contractor in the shortest time possible, but no longer than the contractual requirement, in order to limit vulnerability for potential contractor claims and to avoid operations and schedule conflicts. The due date indicated to reviewers on the transmittal and CCS should allow for processing time required by the RE after review (to transmit the submittal to the contractor.) Review and approval actions are to be complete and comprehensive within the specified period. In some instances this may not be possible, and a partial or "review status" response is issued to the contractor so that concerned parties are aware of the circumstances. This is followed as soon as possible with a complete, formal response.

If the RE projects that the review period will take longer than 30 days, the RE contacts the contractor by telephone for the purpose of explaining the possible delay. The RE sends a confirming letter immediately following the call.

5.7 ON SITE REVIEW

The EMC will visit the jobsite as required, to observe a condition in question or to discuss the subject with the RE, the contractor, or others, as necessary.

5.8 REVIEW STATUS TRACKING

All known submittals will be logged in CCS prior to their due date. Throughout the contractor submittal review process the RE monitors and tracks the status of all submittals utilizing the CCS.

5.9 EQUIPMENT AND MATERIAL LISTS

Construction contract specifications may require the contractor to complete a list of all long-lead and/or schedule critical material and equipment items, the name of each supplier, and the required and promised delivery dates for each item. The list is received and processed by the RE as a submittal. This submittal is to be made on those contracts where it is required in the contract specifications.

5.10 SUBMITTAL RECORD KEEPING

The RE retains copies of all submittal documents, related documentation, comments, and revisions, filed in submittal number order (exceptions listed below). The RE is responsible for ensuring that an accurate file is available for ready retrieval during the life of the project and for turnover to the MTA at closeout. To ensure retrievability, a signout system is maintained by the RE for documents removed from files. For ease of retrieval and transfer to MTA Operations following close-out, the following submittal types will be maintained in separate case files, also organized by submittal number

- Warranties and Guarantees
- Contractor Shop Drawings
- Operations and Maintenance Manuals
- Permits
- As Built Submittal

5.11 SUBMITTAL DISPOSITION CHANGES

A submittal that was assigned a disposition code of "Approved as Noted, Correct and Resubmit in 30 days" or "Rejected, Revise and Resubmit," may be resolved and upgraded to an "Approved" code without the contractor actually resubmitting the submittal. In this case, the RE will first obtain written notification from the EMC, specifically approving the submittal issues. Then the RE will log a revision in the CCS for the submittal number and upgrade the review code. The RE will affix a new review stamp to the submittal, cross out the old stamp, and sign the new stamp, marking the "Approved" code. A transmittal, including justification for the change, will be sent to the contractor.

5.12 RESUBMITTALS

Required resubmittals will be logged in CCS as soon as identified. Where parts of a submittal were accepted and parts rejected (e.g., specific drawings), only rejected items need be resubmitted. Resubmittals will be processed in the same manner as original submittals.

5.13 SUBMITTAL SCHEDULE REVIEW

The RE periodically reviews the status of submittals and advises the contractor of submittals due that may impact the schedule. Status listings of submittals required for specific contract activities will be included as part of "readiness" reviews. The submittal schedule will be reviewed and adjusted periodically on a 6-month look ahead basis.

6.0 REFERENCES

Reference	Title
Contract Section 130	Submittals
Contract Section 172(	As-Builts
MTA Policy CF4	Contractor Submittals

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Contractor Submittal Process
7.2	Review Stamp
7.3	Review Responsibility Guidelines

Exhibit 7.2

REVIEW STAMP

Reviewed for General Compliance with the Contract Documents

ACCEPTED (ACC) ☐

ACCEPTED AS NOTED (ANR) ☐
(Correct and Resubmit Within 30 Days for Record)

ACCEPTED AS NOTED (ANN) ☐
(Resubmittal Not Required)

REJECTED, REVISE AND RESUBMIT (RES) ☐

FOR RECORD ONLY (FRO) ☐

Resident Engineer:	Date:

4.16 OPERATIONS AND MAINTENANCE (O&M) MANUAL PROCESSING

1.0 PURPOSE

This procedure provides guidelines for the processing of operations and maintenance (O&M) manuals for both facilities and systems contracts. Although generally processed as a contractor submittal in accordance with REP 6.1, O&M manuals require additional special handling as a deliverable to the MTA Operations Division.

2.0 GENERAL

The O&M manual format and content for the facilities contracts are described in Specification Section 01730. The content includes Warranties and Bonds, as detailed in Section 01740; Spare Parts and Replacement Materials, as described in Section 01750; and as-built shop drawings, as detailed in Section 01340, entitled Shop Drawings, Product Data, and Samples. O&M manual requirements for the systems contracts are detailed in various technical provisions of those contracts. All are required to be submitted to the Engineering Management Consultant (EMC) ~~and the MTA Rail Operations Support (ROS), department for acceptance~~ . per specification 01730.

3.0 DEFINITIONS

Case File: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

4.0 RESPONSIBILITIES

Contractor: The contractor is responsible for submitting all manufacturer operations and maintenance manuals in accordance with the agreed submittal schedule. The Contractor is responsible for identifying any and all warranties and guarantees contained in such manuals in submittal documentation, and for providing any updates to manuals received following initial submittal and acceptance.

Resident Engineer: The Resident Engineer (RE) is responsible for implementing this procedure and coordinating O&M Manual processing.

Engineering Management Consultant: The EMC is responsible for review and acceptance of O&M Manual submittals.

MTA Rail Activation and Integration Department (RA&I): MTA staff responsible for review and distribution of O&M Manual to User Group participant,

MTA Rail Operations Support (ROS): MTA ROS staff are responsible for reviewing and accepting O&M manual submittals.

Configuration Management ~~Office (CMO)~~: The MTA's Configuration Management consultant (LKG) referred to herein as the CMO, is responsible for storage, protection, and maintenance of O&M manuals on behalf of the MTA ~~Rail Operations Support~~ department.

NOTE: Resolve ROS/RA&I issue: Lyland & Story

5.0 PROCEDURE

5.1 FACILITIES APPROVAL AND DISPOSITION PROCESS

The following approval and disposition process is in accordance with Specification Section 01730:

1. The Resident Engineer (RE) submits the proposed O&M manual format to the EMC ~~and MTA ROS~~. for RA&I Users group.
2. The EMC and MTA ~~ROS~~ RA&I return the reviewed manual format to the RE for transmittal to the contractor, who revises the format and/or content per the review comments.
3. The contractor will then submit a complete manual to the RE for EMC' and MTA ~~ROS~~ RA&I review and acceptance.
4. The RE will review the manual for compliance with submittal and format requirements. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.
5. The RE will transmit the manual to EMC and MTA ~~ROS~~ RA&I following logging.
6. The EMC and MTA ~~ROS~~ RA&I will review and return comments within the specified review time frame.
7. Upon receipt of the MTA ~~ROS~~ RA&I and EMC-reviewed manual, the RE will retain a copy of the review comments and return the reviewed manual to the contractor for correction, if required.
8. The contractor then submits six copies of the corrected manual to the RE.
9. The RE reviews the manual to ensure that the EMC and ~~ROS~~ RA&I review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.
10. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, and send five copies to the MTA's Configuration Management ~~Office~~ (CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC.. The sixth copy will be retained by the RE for reference until transfer occurs.
11. The ~~RE~~ Contractor will notify the ~~Contractor~~ manufacturer of the change in address for forwarding any subsequent updates to the manuals, ~~received from the manufacturer or other originator~~. A copy of the notification will be provided to the RE for their files.

consultant (F) — for distribution to MTA ROS. — O&M

5.2 SYSTEMS APPROVAL AND DISPOSITION PROCESS

The following process is in accordance with the appropriate technical provisions and Contract Data Requirements List (CDRL):

1. The RE will submit one copy of the contractor's complete manual to the EMC and

MTA ~~ROS~~ for review and approval.

2. Upon receipt of the reviewed manual, the RE retains a copy of the review comments and returns the reviewed manual to the contractor for correction.

3. The contractor then submits the corrected manual to the RE (the number of submitted copies is determined by the requirements of the appropriate technical provision).

4. The RE reviews the manual for compliance with submittal and format requirements and to ensure that the EMC and MTA ~~ROS~~ review comments have been properly incorporated. Manuals without full corrections will be returned to the contractor for appropriate action.

5. The RE will also review the manual to ensure that all warranties and guarantees contained in the manual are identified and specifically logged into both submittal and warranty tracking systems.

6. When the RE is assured that all corrections have been made, he or she will apply an approved/acceptance stamp, sign, date, to all copies and send all but one copy to the MTA's Configuration Management Office (LKG-CMC). A copy of the transmittal will be provided to the CM Document Control, MTA Configuration Management, and MTA RMC. *One copy will be retained by the RE for reference until transfer occurs.*

7. ~~The RE~~ will notify the ~~Contractor~~ of the change in address for forwarding any subsequent updates to the manuals ~~received from the manufacturer or other originator~~. A copy of the notification will be provided to the RE for their files.

8. Manuals that are required by the Rail Activation Group or MTA ROS will be obtained from the MTA CMO.

5.3 FILING

All O&M manuals will be filed in a separate case file in submittal number order. Copies of Warranties and Guarantees contained in manuals will be also maintained in a separate case file in submittal number order.

6.0 REFERENCES

~~RE PROCEDURE NUMBER~~	TITLE
6.1	Submittals
4.12	Document Close-Out

7.0 EXHIBITS

None

4.9 AS-BUILTS

1.0 PURPOSE

This procedure defines responsibility and processes for the Resident Engineer's (RE's) monitoring of contractor preparation and submittal of as-built Contract Drawings, Contract Specifications, and contractor shop drawings; and for maintenance of current drawings and specifications used by the RE and CM Inspectors.

2.0 GENERAL

2.1 As-Built Contract Documents: Resident Engineer shall ensure that the Contractor maintains at the contractor's construction site office a complete set of conformed contract documents updated continuously as the record set of contract documents showing all as-built conditions. Any changes to the data shown on conformed contract drawings and construction specifications will be legibly noted, marked, or sketched by **marking** ~~redlining~~ a "record copy" of the document as defined in Contract Specification Section 1720.

2.2 As-Built Shop Drawings: Although related, the as-built shop drawings are independent of the contract documents. The contractor is required to prepare and submit one ~~sepia~~ of the shop drawings, showing the final installed conditions **and cross-referenced to the related contract drawing(s)**. These are supplemental to the as-built contract drawings and specifications covered in this procedure and will also be transmitted to the RE for subsequent transmittal to the Engineering Management Consultant (**GECE~~MC~~**) and to the MTA following contract close-out.

3.0 DEFINITIONS

3.1 *Construction documents:* There are several types of construction documents; this procedure deals only with the technical aspect of the contract, including the drawings and specifications of the original contract, contractor shop drawings, and any modification made by Change Notice, Change Order, or other technical direction issued to the contractor via response to a Request-for-Information, Submittal acceptance request, or other form of direction.

3.1.1 *Drawings:* Sometimes referred to as Contract Drawings or Design Drawings; the complete set of **GECE~~MC~~**-prepared full-size drawings showing all construction work required in the original contract. **See also Shop Drawings and Working Drawings.**

3.1.2 *Specifications:* Sometimes referred to as Contract Specifications Book or construction specifications; the complete set of specifications ~~in accordance with the Construction Specifications Institute (CSI) format~~, which is written for the specific construction contract scope of work.

3.1.3 *Change Orders:* ~~Negotiated~~ and authorized changes to the technical work required in the documents of paragraphs 3.1.1 and 3.1.2, including any ~~revised or new drawings and~~ specifications. These changes are to be included in the as-built drawings and specifications.

3.1.4 *Current Status Documents:* A set of full size reproducible drawings and a copy of the specifications marked and maintained by the contractor to show current as-built status of construction in progress and current design status.

3.1.5 *Conformed Contract Documents:* The current set of contract documents conformed to include all revisions and modifications to the documents issued under cover of Change Notice, Change

Order, or other written direction to the Contractor. Will also include interim modifications such as mark-up, sketches, contractor as-built submittals, or other written technical direction. Contract documents are listed in Article II of the Form of Contract.

3.1.6 ***Shop Drawings:*** **Contractor provided drawings for facilities and contractor-furnished equipment installation, showing details of how the contractor plans to execute the design as shown in the Contract Specifications and Drawings. On acceptance, shop drawings become part of the contract record.**

3.1.7 ***Working Drawings:*** **Contractor provided drawings for temporary work performed by the contractor in order to execute the design as required by the Contract Specifications and Drawings.**

3.2 *Submittals:* There are several items covered under this generally used term. General submittal requirements are defined on Specification Section 1300; specific submittal requirements are also contained in each section of the technical specifications. ~~Many shop drawings are for facilities and equipment installation, showing details of how the contractor plans to execute the design as shown in the Contract Drawings.~~

~~Other~~ Contractor Submittals include, but are not limited, to:

- Master Submittal Schedule
- Monthly Schedule updates
- **Shop and Working Drawings**
- Manufacturers' standard schematic and wiring drawings
- Manufacturers' calculations
- Manufacturers' standard data
- Manufacturers' printed installation, erection, application and placing instructions
- Inspection reports, test reports and product certificates of compliance, mill certificates
- Samples and mockups
- Concrete and grout mix designs
- Operations and maintenance data and manuals (refer to Specification Section 01730 for requirements)
- Warranties and Guarantees

3.3 *As-Built documents:* **The combination of revised and marked-up contract drawings, shop drawings, contract specifications, and logs showing the final as-built conditions of the constructed facility or installed item.** ~~For the purpose of this procedure, as-built documents include three elements:~~ **Specific labels and titles to be used for as-built documents are defined in contract specification section 1720. As-built documents are maintained by the contractor:**

~~*Marked* **As-Built** *Contract Drawings:*~~ A set of drawings ~~of the facility~~ that are a combination of the most current contract drawing revisions, ~~plus any Request for Information (RFI) changes, Nonconformance Report changes, and Change Order drawings~~ **plus any other modifications or alterations**, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments or other purposes. **Includes cross references to shop drawings containing details of plan execution.**

~~*Marked* **As-Built** *Contract Specifications:*~~ A set of the most current Contract Specification revisions, plus any ~~specifications or specification changes added by RFI changes, Nonconformance Report changes, and Change Orders~~**plus any other modifications or**

alterations including identification of specific installed equipment, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments **or other purposes**.

~~Marked~~ **As-Built** *Shop Drawing submittals:* Permanent facility item shop drawings, as noted in paragraph 3.2, that have been marked by the contractor to show deviations from ~~approved~~ **originally accepted** shop drawings where necessitated by field adjustments or other purposes. **Include cross-references to original contract drawings related to the detail provided in the shop drawing.**

As-Built ***Document*** *Logs:* Drawing, Contract Revision, and As-built listings maintained by the Contractor in compliance with Specification Section 01720.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE ensures that an accurate set of as-built contract drawings and specifications depicting as-built conditions are prepared and maintained by the contractor and ~~provided in~~ accordance with established milestones and Specification Sections **01300 and** 01720. The RE is responsible for notifying the contractor of non-compliance and for recommending withholding of payment for non-compliance as allowed under the contract.

4.2 CONTRACTOR

The contractor, including the contractor's subcontractors, prepares, maintains, and submits appropriately marked contract drawings, specifications, and shop drawings to the RE for acceptance in accordance with contract specification requirements (i.e., Section 01720). The contractor is responsible for providing a specific listing of as-built contract documents to be submitted at defined contract milestones or quarterly as specified in the contract.

4.3 ~~ENGINEERING MANAGEMENT CONSULTANT (EMC)~~ GENERAL ENGINEERING CONSULTANT (GEC)

The GEC~~EMC~~ is responsible for ensuring that all available contractor as-built information is incorporated into specifications or drawings when making formal design revisions. The GEC~~EMC~~ is responsible for incorporating all previously un-incorporated as-built notations into the final Project Record Documents following contract close-out**, including incorporation of of as-built contractor drawings into the Project Record Document set and indices**.

5.0 PROCEDURE

The following steps define the methods to be used in receipt, acceptance, and transmittal of contractor-prepared as-built Contract Drawings and Contract Specifications (Contract Record Documents).

5.1 As-Built Maintenance: The contractor shall keep the Contract Record Documents at the site and shall continually update them during construction. As construction work is accomplished (work that is different from or in addition to that which the contract drawing **or specification** shows), the contractor will ~~redline~~ **mark** the as-built conditions on the Contract drawings.

5.1.1 Superseded As-Built Documents: When a new revision of a document is received, the contractor stamps the superseded document "SUPERSEDED", and keeps the document in the "Current Status Set" of contract record documents for future reference of previous mark-ups and for use of production of as-built drawings. (See paragraph 5.11 for coordination of incorporation of contractor as-built notations into interim document revisions). The contractor need not transfer the data recorded on superseded drawings onto the new revision. However, prior to submittal to the RE, the final as-built drawing will be ~~redlined~~ **marked** by the contractor to incorporate any and all missing information from all superseded revisions of the drawing.

5.1.2 Use of Shop Drawings in Lieu of Contract Drawings: Should as-built detail shown on a shop drawing supersede or provide better information than can be shown on a contract drawing, the as-built shop drawing may be maintained in lieu of the contract drawing. In such cases, the contractor will provide appropriate shop drawing number cross references on the "as-built" contract drawing, and will provide both the contract drawing and **a revisable** ~~original~~ **of** ~~the~~ associated shop drawing(s) as the as-built submittal. reproducible (and vice-versa)

5.2 Changes to Underground or Covered Work: Contract drawing markings shall show all changes, including elevation and dimensional location for underground or otherwise covered structures, conduits, switchboards, switchgear, utilities, boxes, duct work, piping, valves, and other mechanical and electrical equipment, etc., as noted in the Contract Specifications.

5.3 Shop Drawings: Shop drawing originals shall be revised by the contractor to show as-built conditions **as** ~~defined~~ **in Specification Section 1720** and submitted in accordance with Specification Section 01300. When ~~an RFI or other document modifies and EMC~~ **a subsequent change modifies an** accepted Contractor Shop Drawing, the contractor will **mark** ~~redline~~ the drawing to reflect the changes pending formal revision and resubmittal. Shop drawings will include cross-references to the contract drawing or drawings to which they are related. As-built shop drawings may be maintained in lieu of as-built contact drawings when the detail shown on the shop drawing is superior to that provided in the contract drawing.

5.4 RE Review: The RE shall review monthly with the payment request, the contractor's maintenance of as-built documents to determine that as-built data is being recorded properly and accurately and in accordance with all contract requirements. The RE or designee should conduct a review of the Contract Record Drawings prior to submittal of the contractor monthly progress payments to ensure that the contractor is meeting all of the specified obligations. If the Contract Record Drawings are not current in the judgment of the RE, the Contractor should be advised of the required corrections or additions.

5.5 Payment Witholding: **Should the contractor fail to maintain or submit as-built document**s **as required in the contract,** ~~T~~the RE **will**~~may~~ recommend to the MTA Contract Administrator that approval of all or part of the monthly progress payments may be withheld until the as-built documents are made current by the contractor.

5.6 As-Built Submittal: After completion of construction/installation milestones defined in the ~~contractor's "As-Built Documents Log"~~, the RE will receive a full size copy of the as-built contract and shop drawings which have been marked with the as-built conditions. The RE will verify that the information included is complete, and that the Contractor Submittal Form attests that the documents are true and complete. The As-Built submittal will be entered into the CCS® submittal record. The logged submittal record will contain a complete listing of drawings and documents provided.

5.7 As-Built Submittal Log: The RE shall verify that the contractor is maintaining and submitting all logs in accordance with the specifications.

5.8 Field Office Copy of As-Built Documents: The RE shall maintain a master set of prints of contractor submitted as-built documents for use by CM Inspection. The prints shall be kept current on at least a weekly basis by writing the information relative to changes near the affected areas of the appropriate sheets. The information is to include the change notice number or the RFI number. When the RE receives revised drawings, the RE should immediately check to see if the **marked** ~~redlined~~ changes have been incorporated into the revised drawing. If the changes have not been incorporated, the change notice or RFI information must be transferred onto the revised drawing.

5.9 Third Party and Utility Review: The RE will coordinate Third Party and Utility review of the contractor as-built submittal prior to forwarding the as-built documents to the **GEC**~~EMC~~ for acceptance and incorporation into master record documents.

5.10 Transfer to **GEC**~~EMC~~: Following acceptance of the contractor's as-built document submittal and acceptance by affected Third Parties or Utilities, the RE will forward the marked-up document set to the ~~EMC~~ **GEC using standard submittal transmittal processes.** ~~under standard submittal transmittal cover~~. The as-built submittal record will include a specific listing of all documents and drawings transmitted.

5.11 Incorporation of Interim As-Built Notations into Document Revisions: On notice that a formal document revision is being processed by the ~~EMC~~**GEC**~~,~~ the RE will ensure that a copy of the current contractor's as-built records are provided to the ~~EMC~~**GEC** for all specification sections and drawings affected by the pending change. The ~~EMC~~**GEC** will incorporate all contractor as-built notations into the master record document concurrent with incorporation of the new revision. Contractor as-built notations will be incorporated under a separate revision number, and separate revision line from the design change.

6.0 REFERENCES

The following documents are referred to in, or are related to this procedure and are available under separate publication:

RE MANUAL SECTION	TITLE
3.4	Document Control
6.1	Submittals
6.5	Changes

SPECIFICATION SECTION	TITLE
01720	As-Built Drawings and Current Status Documents
01300	Submittals

MTA PROCEDURES	TITLE
CF3	**Document Control:** Document Identification and Formatting Standards
CF4	**Document Control:** Submittals
CF5	**Document Control: As-Builts**
CF~~8~~**9**	**Change Control:** Design Changes
CF11	**Change Control: Construction/Procurement** Contract Changes
CM14	**Engineering??: As Built Documents**

GEC~~EMC~~ PROCEDURES	TITLE
???	Preparation of Project Record Documents

7.0 EXHIBITS

None

Revis' by LAS 12/4/96

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As-Builts	REP 4.9	0	1 of 5

4.9 AS-BUILTS

1.0 PURPOSE

This procedure defines responsibility and processes for the Resident Engineer's (RE's) monitoring of contractor preparation and submittal of as-built Contract Drawings, Contract Specifications, and contractor shop drawings; and for maintenance of current drawings and specifications used by the RE and CM Inspectors.

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2.0 GENERAL

2.1 As-Built Contract Documents: Resident Engineer shall ensure that the Contractor maintains at the contractor's construction site office a complete set of conformed contract documents updated continuously as the record set of contract documents showing all as-built conditions. Any changes to the data shown on conformed contract drawings and construction specifications will be legibly noted, marked, or sketched by redlining a "record copy" of the document as defined in Contract Specification Section 1720.

2.2 ~~As-Built~~ Shop Drawings: Although related, the as-built shop drawings are independent of the contract documents. The contractor is required to prepare and submit one ~~sepia~~ mylar of the shop drawings ~~showing~~ the final installed conditions. These are supplemental to the as-built contract drawings and specifications covered in this procedure and will also be transmitted to the RE for subsequent transmittal to the Engineering Management Consultant (EMC) and to the MTA following contract close-out.

but should be cross-referenced to the pertinent contract document and vice-versa.

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3.0 DEFINITIONS

3.1 *Construction documents:* There are several types of construction documents; this procedure deals only with the technical aspect of the contract, including the drawings and specifications of the original contract, contractor shop drawings, and any modification made by Change Notice, Change Order, or other technical direction issued to the contractor via response to a Request-for-Information, Submittal acceptance request, or other form of direction.

3.1.1 *Drawings:* Sometimes referred to as Contract Drawings or Design Drawings; the complete set of EMC-prepared full-size drawings showing all construction work required in the original contract.

3.1.2 *Specifications:* Sometimes referred to as Contract Specifications Book or construction specifications; the complete set of specifications in accordance with the Construction Specifications Institute (CSI) format, which is written for the specific construction contract scope of work.

3.1.3 *Change Orders:* Negotiated and authorized changes to the technical work required in the documents of paragraphs 3.1.1 and 3.1.2, including any revised or new drawings and specifications. These changes are to be included in the as-built drawings and specifications.

3.1.4 *Current Status Documents:* A set of full size reproducible drawings and a copy of the specifications marked and maintained by the contractor to show current as-built status of construction in progress and current design status.

& Foreman

3.1.5 *Conformed Contract Documents:* The current set of contract documents conformed to include all revisions and modifications to the documents issued under cover of Change Notice, Change Order, or other written direction to the Contractor. Will also include interim modifications such as mark-up, sketches, contractor as-built submittals, or other written technical direction. Contract documents are listed in Article II of the Form of Contract.

3.2 *Submittals:* There are several items covered under this generally used term. General submittal requirements are defined on Specification Section 1300; specific submittal requirements are also contained in each section of the technical specifications. ~~Many~~ shop drawings are for facilities and equipment installation, showing details of ~~how~~ the contractor ~~plans to execute the~~ design as ~~shown~~ in the Contract Drawings. Working drawings are for temporary work performed by the contractor in constructing the facility. Other Contractor Submittals include, but are not limited, to:

- Master Submittal Schedule
- Monthly Schedule updates
- Manufacturers' standard schematic and wiring drawings
- Manufacturers' calculations
- Manufacturers' standard data
- Manufacturers' printed installation, erection, application and placing instructions
- Inspection reports, test reports and product certificates of compliance, mill certificates
- Samples and mockups
- Concrete and grout mix designs
- Operations and maintenance data and manuals (refer to Specification Section 01730 for requirements)
- Warranties and Guarantees

3.3 ~~*As-Built documents:*~~ For the purpose of this procedure, as-built documents include ~~three~~ five elements:

Contract Record Drawing Set:

~~*Marked Contract Drawings:*~~ A set of drawings of the facility or system (F) that are a combination of the most current contract drawing revisions, plus any ~~Request for Information (RFI) changes~~, Nonconformance Report changes, and Change Order drawings, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments or other purposes.

Current Status

~~*Marked Contract*~~ *Specifications:* A set of the most current Contract Specification revisions, plus any specifications or specification changes added by RFI changes, Nonconformance Report changes, and Change Orders, which have been continuously marked by the contractor to show any as-built conditions differing from the plan necessitated by field adjustments.

Current Status Contractor Furnished Drawings

~~*Marked Shop Drawing submittals:*~~ Permanent facility item shop drawings, as noted in paragraph 3.2, that have been marked by the contractor to show deviations from approved shop drawings where necessitated by field adjustments or other purposes.

As-Built Documents Logs: Drawing, Contract Revision, and As-built listings maintained by the Contractor in compliance with Specification Section 1720.

The combination of marked contract drawings and marked shop drawings with index indicating cross-reference relationship of the drawings.

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE ensures that an accurate set of as-built contract drawings and specifications depicting as-built conditions are prepared and maintained by the contractor and provided in accordance with established milestones and Specification Section 01720. The RE is responsible for notifying the contractor of non-compliance and for recommending withholding of payment for non-compliance as allowed under the contract.

4.2 CONTRACTOR

The contractor, including the contractor's subcontractors, prepares, maintains, and submits appropriately marked contract drawings, specifications, and shop drawings to the RE for acceptance in accordance with contract specification requirements (i.e., Section 01720). The contractor is responsible for providing a specific listing of as-built contract documents to be submitted at defined contract milestones or quarterly as specified in the contract.

4.3 ENGINEERING MANAGEMENT CONSULTANT (EMC)

The EMC is responsible for ensuring that all available contractor as-built information is incorporated into specifications or drawings when making formal design revisions. The EMC is responsible for incorporating all previously unincorporated as-built notations into the final Project Record Documents following contract close-out.

5.0 PROCEDURE

The following steps define the methods to be used in receipt, acceptance, and transmittal of contractor-prepared as-built Contract Drawings and Contract Specifications (Contract Record Documents).

5.1 As-Built Maintenance: The contractor shall keep the Contract Record Documents at the site and shall continually update them during construction. As construction work is accomplished (work that is different from or in addition to that which the contract drawing shows), the contractor will redline the as-built conditions on the Contract drawings.

5.1.1 Superseded As-Built Documents: When a new revision of a document is received, the contractor stamps the superseded document "SUPERSEDED", and keeps the document in the "Current Status Set" of contract record documents for future reference of previous mark-ups and for use of production of as-built drawings. (See paragraph 5.11 for coordination of incorporation of contractor as-built notations into interim document revisions). The contractor need not transfer the data recorded on superseded drawings onto the new revision. However, prior to submittal to the RE, the final as-built drawing will be redlined by the contractor to incorporate any and all missing information from all superseded revisions of the drawing.

5.1.2 Use of Shop Drawings in Lieu of Contract Drawings: Should as-built detail shown on a shop drawing supersede or provide better information than can be shown on a contract drawing, the as-built shop drawing may be maintained in lieu of the contract drawing. In such cases, the contractor will provide appropriate shop drawing number cross references on the "as-built" contract drawing, and will provide both the contract drawing

and the associated shop drawing(s) as the as-built submittal.

5.2 Changes to Underground or Covered Work: Contract drawing markings shall show all changes, including elevation and dimensional location for underground or otherwise covered structures, conduits, switchboards, switchgear, utilities, boxes, duct work, piping, valves, and other mechanical and electrical equipment, etc., as noted in the Contract Specifications.

5.3 Shop Drawings: Shop drawing originals shall be revised by the contractor to show as-built conditions and submitted in accordance with Specification Section 01300. When an RFI or other document modifies and EMC accepted Contractor Shop Drawing, the contractor will redline the drawing to reflect the changes pending formal revision and resubmittal. Shop drawings will include cross-references to the contract drawing or drawings to which they are related. As-built shop drawings may be maintained in lieu of as-built contact drawings when the detail shown on the shop drawing is superior to that provided in the contract drawing.

5.4 RE Review: The RE shall review monthly with the payment request, the contractor's maintenance of as-built documents to determine that as-built data is being recorded properly and accurately and in accordance with all contract requirements. The RE or designee should conduct a review of the Contract Record Drawings prior to submittal of the contractor monthly progress payments to ensure that the contractor is meeting all of the specified obligations. If the Contract Record Drawings are not current in the judgment of the RE, the Contractor should be advised of the required corrections or additions.

5.5 Payment Witholding: The RE may recommend to the MTA Contract Administrator that approval of all or part of the monthly progress payments may be withheld until the as-built documents are made current by the contractor.

5.6 As-Built Submittal: After completion of construction/installation milestones defined in the contractor's "As-Built Documents Log", the RE will receive a full size copy of the as-built contract and shop drawings which have been marked with the as-built conditions. The RE will verify that the information included is complete, and that the Contractor Submittal Form attests that the documents are true and complete. The As-Built submittal will be entered into the CCS® submittal record. The logged submittal record will contain a complete listing of drawings and documents provided.

5.7 As-Built Submittal Log: The RE shall verify that the contractor is maintaining and submitting all logs in accordance with the specifications.

5.8 Field Office Copy of As-Built Documents: The RE shall maintain a master set of prints of contractor submitted as-built documents for use by CM Inspection. The prints shall be kept current on at least a weekly basis by writing the information relative to changes near the affected areas of the appropriate sheets. The information is to include the change notice number or the RFI number. When the RE receives revised drawings, the RE should immediately check to see if the redlined changes have been incorporated into the revised drawing. If the changes have not been incorporated, the change notice or RFI information must be transferred onto the revised drawing.

5.9 Third Party and Utility Review: The RE will coordinate Third Party and Utility review of the contractor as-built submittal prior to forwarding the as-built documents to the EMC for acceptance and incorporation into master record documents.

5.10 Transfer to EMC: Following acceptance of the contractor's as-built document submittal and acceptance by affected Third Parties or Utilities, the RE will forward the marked-up document set to the EMC ~~under~~ standard submittal transmittal ~~cover~~. The as-built submittal record will include a specific listing of all documents and drawings ~~transmitted~~.

5.11 Incorporation of Interim As-Built Notations into Document Revisions: On notice that a formal document revision is being processed by the EMC, the RE will ensure that a copy of the current contractor's as-built records are provided to the EMC for all specification sections and drawings affected by the pending change. The EMC will incorporate all contractor as-built notations into the master record document concurrent with incorporation of the new revision. Contractor as-built notations will be incorporated under a separate revision number, and separate revision line from the design change.

6.0 REFERENCES

The following documents are referred to in, or are related to this procedure and are available under separate publication:

RE MANUAL SECTION	TITLE
3.4	Document Control
6.1	Submittals
6.5	Changes

SPECIFICATION SECTION	TITLE
01720	As-Built Drawings and Current Status Documents
01300	Submittals

MTA PROCEDURES	TITLE
CF3	Document Identification and Formatting Standards
CF4	Submittals
CF8	Design Changes
CF11	Contract Changes
CF5	Document Control: As-Built Documents

EMC PROCEDURES	TITLE
	Preparation of Project Record Documents

7.0 EXHIBITS

None

CM 14 Engineering: As-Built Drawings

- Inform potential contractors of all available geotechnical information on subsurface conditions.
- Ensure that all Grantee-furnished materials are available when needed.
- Complete all reconstruction surveys and ensure that engineering is complete prior to issuing the contractor a notice to proceed.
- Obtain the necessary approvals and agreements from all other public authorities affected by the project prior to contract award.
- Ensure that design and shop drawings are promptly approved and made available to the contractor as needed.

5.2 If the grantee's claim records substantiate that reasonable and prudent measures were taken to prevent or offset the causes underlying the claim, regardless of the criteria described above, the FTA may participate in the negotiated cost. The RE's narrative in the contract modification shall state that none of the eight items listed above (and in paragraph 14 of Circular 5010.1A) applies and shall demonstrate support of a "reasonable and prudent" approach to the problem.

5.3 If the CN charged to local funds the RE's narrative should spell out which of the eight items above (all listed in paragraph 14 of Circular 5010.1A) applies or why the CN represents a design issue that will require a determination by the MTA.

5.4 Once eligibility has been determined, the appropriate Change Control System (CCS) entries can be made. The CCS requires that the funding source(s) be identified as either "FTA eligible," which is the system default, or "local."

5.5 Time and material changes ~~(also referred to as "cost-plus")~~ are eligible for federal funding as long as the change meets all other criteria for federal funding eligibility. The type of change notice used to initiate the work (i.e., request for proposal, work authorization) has no direct bearing on eligibility. Eligibility is based on the underlying cause of the change, not the manner of administration.

5.6 Partial eligibility

6.0 REFERENCES

The following documents are referenced in this procedure and are available under separate publication:

Document	Title
FTA Circular 5010.1A	

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Funding Eligibility Checklist
7.2	Contract Value Statement

X Champion

Review

PARSONS-DILLINGHAM
523 WEST SIXTH STREET, SUITE 400
LOS ANGELES, CALIFORNIA 90014

FAX COVER SHEET

TO: LOUISA SIMPSON
COMPANY: MTA
PHONE:
FAX:

FROM: DIANNE CURZON
COMPANY: PD
PHONE: 362-6040
FAX: 623-5401

DATE: 01/23/97

PAGES INCLUDING THIS COVER PAGE 5

COMMENTS:

I lost one of the procedures so I had to re write my comments.

Thanks!

WARNING: This FAX communication may contain information that is privileged or confidential. It is intended for the sole use of the individual or entity to whom it is addressed. If you have received this communication in error, please notify us immediately by telephone and return the original message to us at the above address via United States Mail. If you are not the intended recipient of this message, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited.

Form 292 (3/95)

1.2 RE MANUAL MODIFICATION AND CONTROL ~~PREPARATION AND CONTROL OF PROCEDURES AND FORMS~~

1.0 PURPOSE

This procedure describes the process for preparing, reviewing, and approving changes, project or consultant specific additions, and waivers to the baseline MTA RE Manual.

2.0 GENERAL

Modifications to the RE Manual fall into three major classes:

1. Revisions to the standard baseline document which are applicable to all projects.
2. Project or consultant specific additions which provide detail specific to a given project or internal consultant practices, but which do not conflict with the general RE Manual requirements.
3. Project specific deviations from the baseline RE Manual.

3.0 DEFINITIONS

4.0 RESPONSIBILITIES

4.1 REQUESTER

New procedures or revisions to existing procedures may be requested by any RE Manual user. Similarly, any user may request the revision or deletion of a form. The requester ~~brings~~ **submits a Request-for-Change along with** a draft of the proposed procedure or a revised markup of an existing procedure to ~~the Technical Writer/Editor~~ **the MTA**. This draft shall consist of the following:

- A printout of the draft
- ~~A floppy disk containing the draft~~**The draft maintained in electronic format (i.e. floppy disk, e-mail, etc.)**

The requester ensures that the technical information in the draft is correct and current. The requester is responsible for coordinating the procedure revision with the **CM and MTA** functional manager(s) most responsible for performing the tasks described in the procedure. The requester also answers ~~the Technical Writer/Editor's~~ queries and suggests reviewers for the completed draft. Frequently the functional manager is the requester for procedure or form creation, revision, or deletion.

4.2 MTA CONFIGURATION SYSTEMS

MTA Configuration Systems is responsible for ensuring that the draft meets the following standards:

- Uses standard RE Manual format for the following:
  - Abbreviations

- References
- Grammar
- Spelling

- Includes latest version of referenced forms
- **Correct document and revision identification**
- **Logging and tracking of the baseline Change Notice**

The ~~Technical Writer/Editor~~ adds queries to the draft if he or she has questions about the draft. Once the queries have been answered, the **MTA Configuration Analyst** ~~Technical Writer/Editor~~ distributes the draft for review, setting a deadline for the return of comments.

Note: there is confusion in the use of Technical Writer/Editor, sometimes it is crossed out sometimes not

Each procedure may have a different list of reviewers. For example, each Resident Engineer Procedure is reviewed by each RE, **CM Project Managers, Project Managers,** DPMs, QCM, QAM and by the MTA. Review comments are incorporated before a procedure is distributed for final signature on the ~~Executive Correspondence Review and Approval Form~~ **Change Approval Sign-off form,** Form #~~__~~1.2-1 (Exhibit 7.1).

4.3 MTA MANAGER, DOCUMENT CONTROL

The Manager, Document Control reviews and signs the ~~Executive Correspondence Review~~ **Change Approval Sign-off Form**~~and Approval Form , Form #__ (Exhibit 7.1)~~, verifying editorial accuracy, **format, and proper preparation of the change documentation.**

4.4 MTA FUNCTIONAL MANAGER/DOCUMENT OWNER

Each RE Manual section is assigned to an MTA Document Owner. The Document Owner is responsible for ensuring that ~~and~~y proposed change or deviation procedure is in compliance with contract requirements and current MTA Construction Division procedures. When a procedure affects multiple functional departments, the appropriate functional managers will review and approve the procedure.

4.5 MTA EXECUTIVE OFFICER, CONSTRUCTION DIVISION

The MTA **DEO Construction and Engineering, and** EO, Construction is responsible for final approval sign-off or RE Manual revisions or deviation approvals.

4.6 DOCUMENT CONTROL

After the ~~CM~~ **MTA EO, Construction** has signed the procedure and returned it to the ~~Technical Writer/Editor~~ **Configuration Analyst,** ~~Document Control~~ **MTA Configuration staff** distributes the new procedure to appropriate personnel and the MTA.

~~Document Control~~ **MTA Configuration** maintains the original, signed copy of each procedure. ~~Document Control~~ **MTA Configuration** also maintains the following:

- An electronic copy of each approved procedure
- An electronic copy of each current form (feasibly maintained in electronic format)
- Logs of each form available on the drive

Although forms are not created or revised in as formal a process as used for procedures, forms are still submitted by a requester and revised or created by the Technical Writer/Editor. The requester reviews the draft created by the Technical Writer/Editor before the new form is placed on the drive (procedure*forms* subdirectory). Only those forms on the drive are the latest version of CM forms.

5.0 PROCEDURE

5.1 RE Manual Change

The RE Manual is an MTA baseline document subject to baseline document control procedures identified in MTA Procedure CF8: Change Control - Systemwide Baseline Documents. A summary of steps are required to revise the manual are:

- REQUEST FOR CHANGE: Any project participant may submit a Request for Change (RFC) to the RE Manual. The RFC may be in letter format and should include, at a minimum:
  - A general description of the requested change.
  - A mark-up of the existing manual section, if appropriate
  - **Electronic copy of the proposed new procedure or revision, if appropriate**
  - Justification and reason for the change, including cost benefit, if appropriate
  - Identification of the urgency and priority of the change (e.g., needs immediate incorporation or can wait until the next scheduled manual revision).

  The RFC is submitted to the MTA Executive Officer, Construction & Engineering with a copy to MTA Configuration Systems.

- REVIEW/APPROVE RFC: The MTA EO, Construction & Engineering will review and either approve, reject, or request further information related to the RFC.

- CHANGE PROCESSED. If the RFC is approved and Change Notice number will be assigned to the revision, and the electronic file will be released to the document owner's of the affected sections for incorporation of the proposed change. The electronic mark-up will then be circulated for review by the major MTA Construction functional managers, Project Managers, and consultants. Following review and incorporation of accepted comments, the document will be submitted for final approval by the MTA DEO, Construction & Engineering and the MTA EO, Construction.

- RE MANUAL REVISION RELEASED: Following final approval the revision will be distributed to the controlled copy distribution list for the RE Manual and posted to the network for electronic access.

- Requester brings ~~hardcopy and electronic versions of procedure~~ to the Technical Writer/Editor **I don't understand this bullet I think you should delete it**

5.2 PROJECT OR CONSULTANT SPECIFIC ADDITIONS

Detail processes in support of the RE Manual requirements may vary from Project to Project

1.2 RE MANUAL MODIFICATION ~~AND CONTROL~~

1.0 PURPOSE

This procedure describes the process for preparing, reviewing, and approving changes, project or consultant specific additions, and waivers to the baseline MTA RE Manual.

2.0 GENERAL

Modifications to the RE Manual fall into three major classes:

1. Revisions to the standard baseline document which are applicable to all projects.

2. Project or consultant specific additions which provide detail specific to a given project or internal consultant practices, but which do not conflict with the general RE Manual requirements.

3. Project specific deviations from the baseline RE Manual.

3.0 DEFINITIONS

4.0 RESPONSIBILITIES

4.1 REQUESTER

New procedures or revisions to existing procedures may be requested by any RE Manual user. Similarly, any user may request the revision or deletion of a form. The requester brings a draft of the proposed procedure or a revised markup of an existing procedure to the Technical Writer/Editor. This draft shall consist of the following:

- A printout of the draft
- A floppy disk containing the draft

The requester ensures that the technical information in the draft is correct and current. The requester is responsible for coordinating the procedure revision with the functional manager(s) most responsible for performing the tasks described in the procedure. The requester also answers the Technical Writer/Editor's queries and suggests reviewers for the completed draft. Frequently the functional manager is the requester for procedure or form creation, revision, or deletion.

4.2 MTA CONFIGURATION SYSTEMS

MTA Configuration Systems is responsible for ensuring that the draft meets the following standards:

- Uses standard RE Manual format for the following:
  - Abbreviations
  - References
  - Grammar
  - Spelling

Re Rewrite, as RE Manual Cont. Procedure 4A5

1.2 PREPARATION AND CONTROL OF PROCEDURES AND FORMS

re-write from MTA perspective, not CM

1.0 PURPOSE

This procedure describes the process for preparing, reviewing, and approving new or revised CM procedures or forms. It also describes the process for deleting procedures or forms.

2.0 GENERAL

The project is a dynamic project. Consequently, its procedures change as field conditions, lessons learned, and client requirements change.

All current CM procedures and the vast majority of CM forms are available on the x drive. Because of special requirements for their use, some forms (e.g., labels, no carbon reproduction [NCR] forms, and tags) are not available on the x drive.

3.0 DEFINITIONS

Functional Manager: The functional manager, as used in this procedure, refers to the person responsible for the department indicated in the Title block of the procedure as "Issuing Department".

Procedure: An official CM document, written to describe a specific construction-management task and a method for accomplishing that task. Procedures provide a process description, a list of the individuals who contribute to the process, and the approved method of performing the task. Procedures may be supplemented with flowcharts, definitions, background material, references and sample forms and exhibits. CM procedures are written to comply with policies and procedures established by the Metropolitan Transportation Authority (MTA) for the project.

Technical Writer/Editor: The technical writer/editor, as used in this procedure, refers to the person that originated a specific manual indicated on the Title page of that manual as "Prepared by".

4.0 RESPONSIBILITIES

4.1 REQUESTER

New procedures or revisions to existing procedures may be requested by any procedure user. Similarly, any procedure user may request the revision or deletion of a form. The requester brings a draft of the proposed procedure or a revised markup of an existing procedure to the Technical Writer/Editor. This draft shall consist of the following:

- A printout of the draft
- A floppy disk containing the draft

The requester ensures that the technical information in the draft is correct and current. The requester is responsible for coordinating the procedure revision with the functional manager(s) most responsible for performing the tasks described in the procedure. The requester also answers the Technical Writer/Editor's queries and suggests reviewers for the completed draft. Frequently the functional manager is the requester for procedure or form creation, revision, or deletion.

4.2 TECHNICAL WRITER/EDITOR

The Technical Writer/Editor is responsible for ensuring that the draft meets the following standards:

- Agrees with relevant CM procedures
- Uses CM procedure format for the following:
  - Abbreviations
  - References
  - Grammar
  - Spelling
- Includes latest version of referenced forms

The Technical Writer/Editor adds queries to the draft if he or she has questions about the draft. Once the queries have been answered, the Technical Writer/Editor distributes the draft for review, setting a deadline for the return of comments.

Each procedure may have a different list of reviewers. For example, each Resident Engineer Procedure is reviewed by each RE, DPM, QCM, QAM and by the MTA. Review comments are incorporated before a procedure is distributed for final signature on the Executive Correspondence Review and Approval Form, Form #___ (Exhibit 7.1).

4.3 MANAGER, DOCUMENT CONTROL

The Manager, Document Control reviews and signs the Executive Correspondence Review and Approval Form , Form #___ (Exhibit 7.1), verifying editorial accuracy.

4.4 FUNCTIONAL MANAGER

The functional manager is responsible for ensuring that the new/revised procedure is in compliance with contract requirements. The functional manager documents his/her approval of the new/revised procedure by signing the Executive Correspondence Review and Approval Form, Form #___(Exhibit 7.1). When a procedure affects multiple functional departments, ~~the~~ all appropriate functional managers will review and approve the procedure. X Champion

Functional managers are responsible for ensuring that their staff perform to the most current procedures and use only the latest revision of forms.

4.5 PROJECT MANAGER

After the functional manager (and any staff members the functional manager has requested) has signed the Executive Correspondence Review and Approval Form, Form #___ (Exhibit 7.1), the procedure is signed by the Project Manager. The Project Manager is the final person to sign off on a procedure--both by signing Executive Correspondence Review and Approval Form and by signing the first page of the procedure. Only procedures signed by the PM are valid CM procedures.

4.6 DOCUMENT CONTROL

After the CM has signed the procedure and returned it to the Technical Writer/Editor, Document Control distributes the new procedure to appropriate personnel and the MTA.

6.5 CHANGE PROCESS

1.0 PURPOSE

This procedure outlines the resident engineer's (RE's) responsibilities in providing full and complete documentation for processing changes to the Metropolitan Transportation Authority's (MTA) construction and procurement contracts. **Additional detail requirements are contained in MTA Procedure PM400-11: CF11, "Change Control: Construction/ Procurement Contracts". In the case of conflict or discrepancy, MTA procedures supersede any direction provided below, with the exception of discrepancies between the contract and the MTA procedures, in which case the contract requirements take precedence.**

2.0 GENERAL

2.1 The change control process consists of five basic steps:

1. Change **identification and** initiation
2. Change Notice (CN) processing
3. Negotiation/Cost verification
4. Change Order (CO) processing
5. Change cost posting and file closeout

~~2.2 Exhibit 7.1 shows an overview of the change control process as developed by the MTA. The flowchart contains major process steps, responsibilities, and documentation requirements.~~

2.~~2~~3 Terms and conditions vary from contract to contract, refer to the specific contract documents in question when processing changes. Any changes to construction contracts that affect the scope of the Construction Management Services contract between the MTA and the Construction Manager (CM) should be handled according to **MTA Procedure PM400-10: CF10, "Change Control: Consultant Contracts".** ~~CMS ____, Changes to CM Services Scope of Work.~~

~~2.4 Exhibit 7.2 shows the breakdown of change approval and execution authority under the MTA. Approval authority is established by the preliminary cost and impact assessment for the change.~~

3.0 DEFINITIONS

Refer to the MTA procedure **PM400-11,** CF 11: "Change Control: Construction/Procurement Contracts" ~~(refer to Section 6.6)~~ for definitions of change-process terms.

3.1 *Request for Information (RFI):* a request for design or other contract information for an item which may not be sufficiently detailed or explained in the contract documents. An RFI may be generated from the contractor, the **General Engineering Consultant** ~~Engineering Management Consultant~~ (**GEC**~~EMC~~), or from any CM staff.

3.2 *Request for Change (RFC):*

Contractor Request: Anya request from the contractor for additional time, a contract/design change, or compensation for work. **All such requests will be logged in the CCS RFI/RFC tracking system regardless of the form or title of the request.**

RE Request: Any request originated by the RE to the GEC or MTA requesting a

alteration or modification to the contract documents.

GEC Request: Any GEC request to the RE to issue an alteration or modification to the contract documents.

3.3 *Change Control System (CCS):* The MTA's automated tracking system that tracks, controls, and generates documentation in support of the RFI/RFC, submittals, and issues, as well as the change and claims process.

3.4 Change Notice:

3.5 Work Authorization Change Notice:

3.6 Change Order:

3.7 Design Change Notice (DCN):

3.8 Design Modification (DM):

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

~~The CM has change approval and execution authority for changes with a cost impact of up to $50,000 (based on the cumulative absolute value of the change at the time of execution), provided the change does not affect other program baselines or schedule milestones. The CM may delegate any or all authority for costs up to $50,000 to the RE or other CM staff members.~~ The CM is responsible for **identifying and** notifying the MTA of any changes in the work; evaluating the impact of changes on the contract, project cost, and schedule; and identifying and processing field changes at the lowest ~~possible~~ level to mitigate delays or construction problems. **CM authority for approving and executing contract changes is defined in MTA Procedure PM400-11, CF11, "Change Control: Construction/Procurement Contracts".**

4.2 RESIDENT ENGINEER

~~The RE has change approval and execution authority for contract COs with a cost impact of up to $25,000, with an additional $25,000 still within the authority of the CM. The RE is not authorized to execute any contract change extending contract duration or milestones or otherwise affecting the contract General or Special Conditions or to unilaterally execute changes arising from contractor's claims.~~ The RE is responsible for **early identification of potential changes, logging and tracking of changes, preparation of change documentation, coordination with the MTA and GEC, and** monitoring the progress of contract changes ~~and~~ ensuring that they are processed in a timely manner, ensuring that milestones and schedules within his/her jurisdiction are not affected or impacted. The CM Project Office shall provide RE with the advice, support and training required to effectively process the changes.

4.3 **GENERAL ENGINEERING CONSULTANT**~~ENGINEERING MANAGEMENT CONSULTANT~~

~~Only the EMC has change approval authority for design documents and specifications or the substitution of materials. Agreements at meetings or through letters or memos do not constitute design changes. Design changes must be submitted through the formal change process to the EMC~~.

The GEC is responsible for early identification and incorporation of design changes into contract documents, for logging and tracking design changes, for providing timely revisions or modifications to contract documents, and for close coordination with the RE of incorporation of design changes into contract documents. Detail requirements for processing of design changes are contained in MTA Procedure PM400-09: CF9, "Change Control: Design Changes".

5.0 PROCEDURE

5.1 REQUEST FOR INFORMATION/CHANGE

5.1.1 RFI

The RE will log and track RFIs in the CCS. All RFI transmittals will be generated from the CCS~~, when required~~. RFIs will be reviewed by the **GEC**~~EMC~~ for technical response **when required**. The RE will review the **GEC**~~EMC~~ response before forwarding the response to the originator. If the response to an RFI indicates a change is required, the RE will generate a CN **or request that the GEC process a DCN** in accordance with MTA procedures. Multiple RFIs may be processed in a single CN.

5.1.2 RFC

The RE will log and track RFCs in the CCS. All RFC transmittals will be generated from the CCS. The RFC will be reviewed by the **GEC**~~EMC~~ and the RE, and merit will be determined. If the RFC is merited, the RE will generate a CN **or request that the GEC process a DCN** in accordance with MTA procedures. If the RE determines the RFC has no merit, the contractor will be notified. If the contractor does not agree, it may submit a notice of intent to claim **in the time frame required by the contract.** (refer to REP 6.6).

5.1.3 RESPONSE TIME

All RFIs/RFCs shall be responded to in accordance with contractual requirements. Typically the time from receipt to response should not exceed 15 calendar days.

5.2 CHANGE CONTROL SYSTEM

Project construction/procurement contract changes will be logged, tracked, and reported using the MTA CCS. All standard change documentation forms (e.g., CN, CO, Approval Sign-Off Sheets, Change Technical Evaluation, Summary/Detail Records of Negotiation, Finding-of-Fact statements, **change document transmittals,** etc.) will be generated from the CCS. All ~~users~~ **RE office staff who participate in change control processes** must attend an **MTA** CCS instruction session~~, provided by the MTA, before being allowed to enter data into the system~~. A "CCS Users Manual" and revision updates will be distributed to all bona fide system users upon their completion of the course.

5.3 CHANGE DOCUMENTATION

Change documentation will be processed in accordance with MTA procedure **MTA Procedure PM400-11, CF11, "Change Control: Construction/Procurement Contracts".** ~~CF_____~~

"Change Control: Construction/Procurement Contracts" ~~(refer to section 6.0)~~. The most recent revision of this procedure should be considered the definitive guide in the preparation of change documentation for the Project. Copies of this procedure may be obtained from the **CM** Manager, Document Control ~~or from the MTA Manager, Configuration Management~~. Directives issued by the MTA **Director, Configuration systems** ~~Manager, Configuration Management~~ may supersede MTA procedure CF**11 requirements pending formal incorporation and release of revised procedures.** ~~.~~

5.4 MONTHLY CHANGE STATUS REPORTS

Monthly change status reports will be taken directly from the CCS database files. The ~~user~~ is therefore responsible for keeping change information current by updating critical database fields throughout the change process (e.g., "next action" and "need date" [for ball-in-court and priority reports]; CN/CO issue, acceptance, approval and execution dates; change cost data, cost recovery data). The CM Project Office will ~~take weekly~~ **issue** Change Status Reports from CCS ~~for forwarding~~ to MTA**, GEC, and other project participants as requested by the MTA Project Manager or DPM, Construction**~~.~~

5.5 ADDITIONAL REQUIREMENTS

Additional **CM internal or project** requirements **expanding on, clarifying, but not conflicting with** ~~not included in~~ the MTA procedure may be distributed from time to time via interoffice correspondence (IOC) from the Document Control department, or from the MTA (e.g., at the request of the Change Control Board or MTA board). Such instructions should be implemented in the change process immediately upon receipt~~.~~ ~~The following items, resulting from such correspondence, should be included in processing change documentation:~~

~~5.5.1 NEED DATES~~

~~When a CN is logged in the CCS, a need date shall be provided. The need date is the date the CN is needed for issue to the contractor to avoid any impact to the construction activity.~~

5.~~6~~5.2 MTA CHANGE CONTROL BOARD **PARTICIPATION**

All changes that require MTA approval and execution must be presented to the Change Control Board (CCB). The RE or designee shall be present at the CCB meeting to address the change **as requested by the MTA Project team**~~. The MTA Change Coordinator shall attend the CCB meeting, taking meeting minutes and distributing them per MTA requirements.~~

~~5.5.3 EXECUTIVE SUMMARIES~~

~~Executive Summaries are required for all changes over $50,000. This form is automatically generated on the CCS~~ by using the "WHY" paragraph from the ~~Change Notice~~ text screen.

5.5.~~4~~3. BOARD REPORTS

Board Reports are required for changes **which must presented to the MTA Board for approval prior to execution.** ~~over $200,000~~. Board Reports must be prepared per MTA-stipulated format and must include a paragraph on the authorization for expenditure (AFE) increase and a paragraph on disadvantaged business enterprise (DBE) performance to date. A paper copy of the Board Report and an electronic file on a 3-1/2-inch diskette in WordPerfect 5.1 should be mailed directly to the appropriate MTA manager of contracts in time to meet the schedule dates for the MTA boards (schedules can be obtained from the Document Control

department).

5.5.5. ADVISORY BOARD REPORTS

Advisory Board Reports are look-aheads for the boards to inform them of complex changes over $200,000 anticipated within the next month. These reports are more flexible in format and do not require the amount of detail or the AFE or DBE paragraphs that are mandatory in a standard Board Report.

5.5.6. **CHANGE ORDER~~RED~~** BOOK PREPARATION

Change Order~~Red~~ Books (Change Packages) should be prepared as outlined in the MTA's Change Control procedure. The **Change Order~~Red~~** Books are currently organized under a five-tab system. White subtabs should be used to break out documentation supporting individual CNs within a given tab (if the CO involves multiple CNs), to break out attachments and exhibits within a tab, or to simplify reader access within a tab when several, or very lengthy, documents are presented to the reader in a given section.

To ensure that a **Change Order~~Red~~** Book is complete, the Change Package Document Completeness Checklist, Form ____ (Exhibit 7.3), will be used to verify that all required documents are included in the book. The RE shall forward the completed **Change Order** ~~Red~~ Book to the CM Project Office for approval, keeping a copy in the field office document control files. The completed Change Package Document Completeness Checklist will be signed by the Project Manager , who shall forward the ~~Red~~ Book to the MTA **Contract Adminstrator**~~Change Coordinator~~. The MTA **Contract Administrator** ~~Change Coordinator~~ will obtain MTA approval. When all signatures have been obtained, the MTA ~~Change Coordinator~~ will ~~forward~~ the original **Change order** ~~Red Book to the MTA Records Management Center for retention.~~

5.5.7. SIGNED ORIGINALS

All change documentation (especially originals requiring approval signatures) should be printed on MTA letterhead paper. Letterhead can be obtained from the MTA Change Coordinator. Where indicated, document approval/validation shall be by signature. A typed name on a CCS-generated form does not constitute approval/validation.

~~5~~.5.8 SUPPORT DOCUMENTATION

For those documents that support the change process, but are not required to be included in the **Change order** ~~Red~~ Book, the RE shall maintain a file of documentation supporting the construction change. The support file is part of the project file and will be forwarded to the MTA at contract closeout.

5.5.9 CHANGE FILE MAINTENANCE

5.6 NEGOTIATIONS

Prior to scheduling formal negotiations, the RE may form a negotiation team to develop a negotiation position and negotiating limits on cost and schedule impact, based on the Fair Cost Estimate and Time Impact Analysis. Guidelines for change negotiations are provided in Exhibit 7.4. The RE will determine the time and place for the negotiations, schedule a meeting with the contractor, and contact negotiating team members to attend,

The CM has been instructed by the MTA to obtain MTA concurrence prior to negotiations taking place on COs over $50,000. The CM will implement the following procedures prior to starting change order negotiations.

For any CO ~~within the criteria described in paragraphs 5.6.1 through 5.6.3~~, the evolution of negotiations from original position to final settlement shall be clearly documented and explained in the Record of Negotiations, shown in Exhibit 7.4.

5.6.1 CHANGES LESS THAN $25,000

The RE establishes pre-negotiation position based on FCE and/or other supporting data and negotiates and documents the CO accordingly. Mark-up of proposal

5.6.2 CHANGES FROM $25,000 TO $50,000

The RE establishes a written pre-negotiation position based on FCE and/or other supporting data and sends the position to the Deputy Project Manager, Construction, for review and approval.

The RE negotiates CO accordingly.

Prior to final settlement with the contractor, the Project Manager will review and approve the Record of Negotiations. Negotiations with the contractor will be reopened as required.

5.6.3 CHANGES GREATER THAN $50,000

RE establishes written pre-negotiation position based on FCE and/or other supporting data and sends it to the Project Manager for review and approval. After obtaining Project Manager approval, the RE sends the pre-negotiation position to the MTA Project Manager.

The MTA Project Manager reviews and approves the negotiation position based on whatever internal procedures or approvals MTA determines are necessary. The MTA Project Manager returns the negotiation position to the RE.

The RE negotiates the CO accordingly. If, during the course of negotiations, it appears that the final settlement is going to exceed the upper limit of the pre-negotiation position, the RE will prepare a revised negotiation position for MTA approval.

Prior to final settlement with the contractor, the MTA Project Manager and the CM's Project Manager will review and approve the Record of Negotiations.

The enclosed Sample Negotiating Position Format, Form ____ (Exhibit 7.7) is to be prepared by the REs for changes exceeding their $25,000 authority limit.

5.7 MEETING MINUTES

Meeting minutes for negotiations and finding-of-fact sessions will be recorded by a designated team member, and an attendance roster will be circulated at the meeting. A finding-of-fact memorandum or Detail Record of Negotiations, if required, will be prepared after the meeting and will be included in the change documentation. A Detail Record of Negotiations is optional for changes within the RE's authority.

5.8 UNILATERAL CHANGES

5.8.1 METROPOLITAN TRANSPORTATION AUTHORITY

The contractor's contract gives the MTA the right to issue a unilateral CO to the contractor in the event the contractor and the MTA are unable to agree on an adjustment to the contract price or contract time. The contractor is then entitled to file a claim.

5.8.2 RESIDENT ENGINEER

The RE may choose to issue a unilateral CO or Work Authorization Change Notice (WACN) if:

- Negotiations with the contractor fail to result in agreement on cost and schedule adjustments.
- Notice and agreement of the contractor is not required.
- Contractor fails to submit a Cost/Schedule Proposal on time.
- Contractor refuses to accept the bilateral change by failing to sign the bilateral CO.

A unilateral CO is issued based on the cost and time adjustments determined by the CM. If the contractor wishes to dispute those adjustments, it must file a claim per the general and special conditions of the contract. Because of the high risk of contractor claims resulting from issuance of a unilateral CO, cost and schedule information supporting the change should be well documented.

The RE, however, shall not make a unilateral change in design or substitution of materials without the full consent and authorization of the design group represented within the **GECEMC**.

5.8.3 PROCESS FOR OBTAINING MTA CONCURRENCE

When an RE has had substantial negotiations, and it is obvious that an agreement is not possible, it becomes apparent that a unilateral CO is necessary. However, many times the contractor is nonresponsive to a CN and does not submit a timely proposal, making negotiations impossible. In this situation, it may also be necessary to issue a unilateral CO in order to avoid impacting the schedule or a follow-on contractor.

In both cases, the CM should obtain MTA concurrence, if the CO exceeds $50,000, using the following process, before issuing a unilateral CO:

1. When the change cannot be successfully negotiated, prepare a letter for the CM's signature. The letter should explain the impasse to the MTA and ask for its concurrence to issue the change unilaterally. If the change is schedule critical, be sure to start this process in a timely manner. This should take a format similar to a claims analysis, including all supporting documentation.

2. When the contractor fails to respond with a proposal within the allotted time:

   - Send the contractor a letter to establish a drop-dead date for submittal of the proposal based on your schedule needs. (Do not use an arbitrary number [e.g., two weeks] but base it on the schedule.) Allow enough time to negotiate and implement the change if the contractor does respond.

Work Record (Exhibit 7.5).

If the T&M sheet does not contain the language contained just above the inspector's signature on Form ____, the inspector (or knowledgeable RE staff member) should add this language (via a stamp or in writing) prior to signing the T&M sheet.

5.9.3 DISPUTED WORK/CLAIM CONDITIONS

In this situation, the contractor is proceeding with work as directed, but feels that a change is merited. The contractor has been directed to perform work by the Owner/CM as part of the contract and has been denied a Request for Change. Consequently, the contractor intends to pursue reimbursement through the claim process.

In certain cases, T&M sheets should be kept without any acknowledgment of merit. This facilitates quantification of the cost of the disputed work. This requirement is identified in the General Conditions on Claims, regarding disputes over claims. Here, as in WACNs, it is important that there be a clear understanding of the scope of the disputed work and that the time sheets be submitted and signed off on a daily basis. Refer to Form ____, Disputed Work Order (Exhibit 7.6).

If the disputed T&M sheet does not contain the language contained just above the inspector's signature on Form ____, the inspector (or knowledgeable RE staff member) should add this language (via a stamp or in writing) prior to signing the T&M sheet. (The final paragraph of Form ____, just above the inspector's signature, differs from the final paragraph of Form ____.)

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

1. MTA Policies and Procedures, Configuration Management, Policy CF 11, "Change Control: Construction/Procurement Contracts"
2. MTA "Contract Change Control System (CCS) Users Manual, Version 3.0, dated March 24, 1992
3. REP 6.6, Claims Process

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
~~7.1~~	~~Change Control Process Overview~~
~~7.2~~	~~Change Approval and Execution Authority Matrix~~
7.3	Change Package Document Completeness Checklist (Form ____)
7.4	Guidelines for Negotiations
7.5	Sample Negotiating Position Format (Form ____)
7.6	Time and Material Sheet (Force Account Work Record)

Exhibit 7.2

Change Approval and Execution Authority

Authority	Cost Impact (1)	Time Impact	Other
CM Project Manager (2)	≤ $50,000	None	Does not affect other program baselines.
MTA Project Manager	≤ $200,000	Contract schedule	Design changes affecting multiple contracts or program baselines (3)
MTA Contracting Officer	> $200,000	Revenue operations date	With prior MTA Board/ MTA approval

(1) Based on the cumulative absolute value of the change at the time of execution.
(2) The PM may further delegate any or all authority for costs up to $50,000 to the RE, or other CM staff members. Typical RE's authority is up to $25,000.
(3) For example, Contract Unit Descriptions, Standard and Directive Drawings, Construction Safety Manual

Exhibit 7.7

TIME AND MATERIAL SHEET (DISPUTED WORK RECORD)

Contractor: _____ CN Number: _____

Contract No: _____ Title: _____ Date: _____

Description of Work: _____

Approved by: _____ R.E. Accepted by: _____ Contractor

LABOR				MATERIAL & OTHER (Invoices Required)		
Name and Craft	Hours	Rate	Wages	Description	Unit Cost	Amount

Equip No.	EQUIPMENT	Hours	Rate	Amount

SUMMARY		
Wages Paid		
Travel Allowance		
Subtotal		
Mark-Up %		
TOTAL LABOR		
Material		
Equipment		
Subtotal		
Markup %		
TOTAL MATERIAL & EQUIPMENT		
TOTAL		

This signature acknowledges verification of labor, equipment, and material quantities expended under disputed contract work. This acknowledgement is for cost accounting only and in no way binds the Authority to pay for the itemized costs. Any costs determined not to be allowable for payment shall be in accordance with the contract terms and are subject to audit verification.

Inspector _____ Signature _____ Date _____

FORM #____

6.5 CHANGE PROCESS

1.0 PURPOSE

This proced[illegible] the resident engineer's (RE's) responsibilities in providing full and complete docu[illegible] for processing changes to the Metropolitan Transportation Authority's (MTA) con[illegible]uction and procurement contracts.

2.0 GENERAL

2.1 The change control p[illegible]ess consists of five basic steps:

1. Change initiati
2. Change Notic[illegible]N) processing
3. Negotiation/C[illegible]erification
4. Change Orde[illegible] processing
5. Chan[illegible]ost [illegible]ng and file closeout

2.2 Exhibit 7.1 shows a[illegible]erview of the change control process as developed by the MTA. The flowchart cont[illegible] major process steps, responsibilities, and documentation requirements.

2.3 Terms and conditio[illegible]ary from contract to contract, refer to the specific contract documents in questio[illegible]hen processing changes. Any changes to construction contracts that affect the scop[illegible] the Construction Management Services contract between the MTA and the Const[illegible]on Manager (CM) should be handled according to CMS ___, Changes to CM Servi[illegible] Scope of Work. Champion

2.4 Exhibit 7.[illegible] breakdown of change approval and execution authority under the MTA. Appro[illegible] is established by the preliminary cost and impact assessment for the change.

3.0 DEFINITIONS

Refer to the MTA [illegible]ocedure CF 11: "Change Control: Construction/Procurement Contracts" (refer to Se[illegible]on 6.0) for definitions of change-process terms.

3.1 *Request for Informa[illegible] (RFI):* a request for design or other contract information for an item which [illegible] sufficiently detailed or explained in the contract documents. An RFI may [illegible] from the contractor, the Engineering Management Consultant (EMC), [illegible] staff.

3.2 *Request for Change[illegible] (RFC):* a request from the contractor for additional time, a contract/design chan[illegible] compensation for work.

3.3 *Change Control Sys[illegible] (CCS):* The MTA's automated tracking system that tracks, controls, and [illegible] documentation in support of the RFI/RFC, submittals, and issues, as well as the change[illegible] claims process.

3.4 Red Book: provide definition

4.0 RESPONSIBILITIES

4.1 CONSTRUCTION MANAGER

The CM has change approval and execution authority for changes with a cost impact of up to $50,000 (based on the cumulative absolute value of the change at the time of execution), provided the change does not affect other program baselines or schedule milestones. The CM may delegate any or all authority for costs up to $50,000 to the RE or other CM staff members. The CM is responsible for notifying the MTA of any changes in the work; evaluating the impact of changes on the contract, project cost, and schedule; and identifying and processing field changes at the lowest possible level to mitigate delays or construction problems.

4.2 RESIDENT ENGINEER

The RE has change approval and execution authority for contract COs with a cost impact of up to $25,000, with an additional $25,000 still within the authority of the CM. The RE is not authorized to execute any contract change extending contract duration or milestones or otherwise affecting the contract General or Special Conditions or to unilaterally execute changes arising from contractor's claims. The RE is responsible for monitoring the progress of contract changes and ensuring that they are processed in a timely manner, ensuring that milestones and schedules within his/her jurisdiction are not affected or impacted. The CM Project Office shall provide RE with the advice, support and training required to effectively process the changes.

4.3 ENGINEERING MANAGEMENT CONSULTANT

Only the EMC has change approval authority for design documents and specifications or the substitution of materials. Agreements at meetings or through letters or memos do not constitute design changes. Design changes must be submitted through the formal change process to the EMC.

5.0 PROCEDURE

5.1 REQUEST FOR INFORMATION/CHANGE

5.1.1 RFI

The RE will log and track RFIs in the CCS. All RFI transmittals will be generated from the CCS, when required. RFIs will be reviewed by the EMC for technical response. The RE will review the EMC response before forwarding the response to the originator. If the response to an RFI indicates a change is required, the RE will generate a CN in accordance with MTA procedures. Multiple RFIs may be processed in a single CN.

5.1.2 RFC

The RE will log and track RFCs in the CCS. All RFC transmittals will be generated from the CCS. The RFC will be reviewed by the EMC and the RE, and merit will be determined. If the RFC is merited, the RE will generate a CN in accordance with MTA procedures. If the RFC has no merit, the contractor will be notified. If the contractor does not agree, it may submit a notice of intent to claim (refer to REP 6.6).

5.1.3 RESPONSE TIME

All RFIs/RFCs shall be responded to in accordance with contractual requirements.

5.2 CHANGE CONTROL SYSTEM

Project construction/procurement contract changes will be logged, tracked, and reported using the MTA CCS standard change documentation forms (e.g., CN, CO, Approval Sign-Off Sheets, Change Technical Evaluation, Summary/Detail Records of Negotiation, Finding-of-Fact statements, etc.) will be generated from the CCS. All users must attend a CCS instruction session, provided by the MTA, before being allowed to enter data into the system. A "CCS User's Manual" and revision updates will be distributed to all bona fide system users upon the completion of the course.

5.3 CHANGE DOCUMENTATION

Change documentation will be processed in accordance with MTA procedure CF 11, "Change Control: Construction/Procurement Contracts" (refer to section 6.0). The most recent revision of this procedure should be considered the definitive guide in the preparation of change documentation for the Project. Copies of this procedure may be obtained from the Manager, Document Control or from the MTA Manager, Configuration Management. Directives issued by the MTA ~~Manager, Configuration Management~~ Director, Configuration Systems may supersede MTA procedure CF 11.

5.4 MONTHLY CHANGE STATUS REPORTS

Monthly change status reports will be taken directly from the CCS database files. The user is therefore responsible for keeping change information current by updating critical database fields throughout the change process (e.g., "next action" and "need date" [for ball-in-court and prior reports]; CN/CO issue, acceptance, approval and execution dates; change cost data, cost recovery data). The CM Project Office will take weekly Change Status Reports from CCS for forwarding to MTA.

5.5 ADDITIONAL REQUIREMENTS

Additional requirements not included in the MTA procedure may be distributed from time to time via interoffice correspondence (IOC) from the Document Control department, or from the MTA (e.g., at the request of the Change Control Board or MTA board). Such instructions should be implemented in the change process immediately upon receipt. The following items, resulting from such correspondence, should be included in processing change documentation:

5.5.1 NEED DATES

When a CN is logged in the CCS, a need date shall be provided. The need date is the date the CN is needed for issue to the contractor to avoid any impact to the construction activity.

5.5.2 MTA CHANGE CONTROL BOARD

All changes that require MTA approval and execution must be presented to the Change Control Board (CCB). The RE or designee shall be present at the CCB meeting to address

the change. The MT[illegible]nge Coordinator shall attend the CCB meeting, taking meeting minutes and distribut[illegible]em per MTA requirements.

5.5.3 EXECUTIVE SUMMAR[illegible]

Executive Summaries [illegible]e required for all changes over $50,000. This form is automatically generated on the CCS[illegible]y using the "WHY" paragraph from the Change Notice text screen.

5.5.4. BOARD REPORTS

Board Reports are req[illegible]ed for changes over $200,000. Board Reports must be prepared per MTA-stipulated [illegible]mat and must include a paragraph on the authorization for expenditure (AFE) i[illegible]se and a paragraph on disadvantaged business enterprise (DBE) performance to date[illegible]paper copy of the Board Report and an electronic file on a 3-1/2-inch diskette in W[illegible]rfect 5.1 should be mailed directly to the appropriate MTA manager of contracts[illegible]time to meet the schedule dates for the MTA boards (schedules can be obtained from[illegible]Document Control department).

5.5.5. ADVISORY BOARD RE[illegible]ORTS

Advisory Board Report[illegible]re look-aheads for the boards to inform them of complex changes over $200,000 antic[illegible]ted within the next month. These reports are more flexible in format and do not re[illegible]ire the amount of detail or the AFE or DBE paragraphs that are mandatory in a stand[illegible]Board Report.

5.5.6. ~~RED~~ BOOK PREPARA[illegible]N

Change Order

Change Order

Change Order

~~Red~~ Books (Change [illegible]ckages) should be prepared as outlined in the MTA's Change Control procedure. ~~The Red~~ Books are currently organized under a five-tab system. White subtabs should be use[illegible] to break out documentation supporting individual CNs within a given tab (if the CO in[illegible]olves multiple CNs), to break out attachments and exhibits within a tab, or to simplify rea[illegible]er access within a tab when several, or very lengthy, documents are presented to the re[illegible]der in a given section.

To ensure that a Red [illegible]ook is complete, the Change Package Document Completeness Checklist, Form [illegible]ibit 7.3), will be used to verify that all required documents are included in the Book[illegible]e RE shall forward the completed Red Book to the CM Project Office for [illegible]approva[illegible]eeping a copy in the field office document control files. The completed Change[illegible]age Document Completeness Checklist will be signed by the Project Manager w[illegible]hall forward the Red Book to the MTA Change Coordinator. The MTA Change Coord[illegible]or will obtain MTA approval. When all signatures have been obtained, the MTA C[illegible]nge Coordinator will forward the original Red Book to the MTA Records Management[illegible]nter for retention.

5.5.7. SIGNED ORIGINALS

All change documen[illegible]n (especially originals requiring approval signatures) should be printed on MTA lett[illegible]ad paper. Letterhead can be obtained from the MTA Change Coordinator. Where[illegible]ted, document approval/validation shall be by signature. A typed name on a [illegible]CS gene[illegible]form does not constitute approval/validation.

Prior to final settlement with the contractor, the MTA Project Manager and the CM's Project Manager will review and approve the Record of Negotiations.

The enclosed sample Negotiating Position Format, Form ____ (Exhibit 7.7) is to be prepared by the REs for changes exceeding their $25,000 authority limit.

5/ Champion

5.7 MEETING MINUTES

Meeting minutes for negotiations and finding-of-fact sessions will be recorded by a designated team member, and an attendance roster will be circulated at the meeting. A finding-of-fact memorandum or Detail Record of Negotiations, if required, will be prepared after the meeting and will be included in the change documentation. A Detail Record of Negotiations is optional for changes within the RE's authority.

5.8 UNILATERAL CHANGE

5.8.1 METROPOLITAN TRANSPORTATION AUTHORITY

The contractor's contract gives the MTA the right to issue a unilateral CO to the contractor in the event the contractor and the MTA are unable to agree on an adjustment to the contract price or contract time. The contractor is then entitled to file a claim.

5.8.2 RESIDENT ENGINEER

The RE may choose to issue a unilateral CO or Work Authorization Change Notice (WACN) if:

- Negotiations with the contractor fail to result in agreement on cost and schedule adjustments.
- Notice and agreement of the contractor is not required.
- Contractor fails to submit a Cost/Schedule Proposal on time.
- Contractor refuses to accept the bilateral change by failing to sign the bilateral CO.

A unilateral CO is issued based on the cost and time adjustments determined by the CM. If the contractor wishes to dispute those adjustments, it must file a claim per the general and special conditions of the contract. Because of the high risk of contractor claims resulting from issuance of a unilateral CO, cost and schedule information supporting the change should be well documented.

The RE, however, shall not make a unilateral change in design or substitution of materials without the full concurrence and authorization of the design group represented within the EMC.

5.8.3 PROCESS FOR OBTAINING MTA CONCURRENCE

When an RE has had substantial negotiations, and it is obvious that an agreement is not possible, it becomes apparent that a unilateral CO is necessary. However, many times the contractor responds to a CN and does not submit a timely proposal, making

- Under no circumstances shall information (e.g., verbal, written, copies of documents) be given directly to opposing counsel. All information requests shall be directed to the MTA-appointed counsel.

- Information shall not be released without written direction from the MTA and the CM.

- If files must be reviewed at the Project Office, the MTA-appointed counsel will contact the RE to coordinate the time and location of the review. If the opposing counsel is reviewing the files, the MTA-appointed counsel will be responsible for ensuring the safekeeping of the files. The MTA-appointed counsel will be present at all times while the opposing counsel is on-site. The MTA-appointed counsel and CM will coordinate and approve any copy requests.

- The RE shall prepare a Consultant Change Request (CCR) for approval to obtain additional staff and services, as needed, to support the litigation.

- Requests from the MTA counsel shall meet the following requirements:

  - Requests shall be in writing.

  - Responses shall be coordinated with the Deputy Project Manager, Administration (DPMA). The DPMA will obtain approval from CM's Legal Department, as appropriate, before releasing information.

  - Documents provided to the MTA shall be transmitted via cover letter. The cover letter shall list all documents being provided. A copy of the cover letter shall be given to the DPMA.

5.11 VISITORS (refer to REP1.1 ¶5.6.5)

Due to safety and liability considerations, casual visits to the construction site are discouraged. Official tours will be arranged and scheduled through the RE by the MTA Public Affairs representative and the CRC. The RE will be consulted on all tour arrangements 24 hours in advance, whenever possible, to ensure that the visit is compatible with work in progress. The contractor will be informed of all scheduled tours by, and coordinate tour activities with, the RE.

5.11.1 All visits to Metro sites shall be approved by the MTA or its designee. In addition, the following requirements apply:

- All individuals visiting the construction site will sign in and be issued an approved identification badge that they must wear. Those individuals who cannot produce their badges will be asked to leave the site.

- Individuals visiting the sites must be accompanied by a qualified guide (a CM or contractor representative who is knowledgeable of the site and who has undergone proper safety training).

- All visitors will be required to wear hard hats and other required safety equipment, undergo safety training as required, and comply with California Occupational Health and Safety Program (Cal/OSHA), MTA, and CM's safety regulations.

merge w/ rev 5.9

- **Unauthorized visitors will be asked to leave the work site and directed to the appropriate RE's office.**

5.11.2 Other than those listed below, all visitors will be required to sign a Release and Hold-Harmless Agreement, Form #___ (Exhibit 7.3) before entering any hard hat area:

- CM employees assigned to the jobsite
- MTA employees assigned to the jobsite
- EMC employees assigned to the jobsite
- Employees of contractor or its subcontractors
- Employees of agency involved in onsite testing
- Federal OSHA and Cal/OSHA representatives
- PMOC representatives

5.12 SUBMISSION TO PROJECT MANAGER FOR RESOLUTION

In the event that any issue arising from the aforementioned contacts cannot be settled amicably and satisfactorily, the matter will be submitted to the Deputy Project Manager, Construction, for resolution.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
CMS 8.1	Community Affairs

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	Construction Complaint - Sample
7.2	Media Inquiry and Interview Report
7.3	Release and Hold-Harmless Agreement - Sample

Visitor Log

4.5 CONTACTS

1.0 PURPOSE

The purpose of this procedure is to provide guidance to resident engineers (REs) and staff when dealing with contractors, ~~Client~~ MTA, and public contacts.

2.0 GENERAL

The RE's conduct will be professional, ethical, and business-like during any and all contact with representatives of the Metropolitan Transportation Authority (MTA), the contractor, the public and any other parties concerned with the project.

3.0 RESPONSIBILITIES

The RE is responsible for ensuring that the RE staff follows this procedure.

4.0 DEFINITIONS

None

5.0 PROCEDURE

5.1 CORRESPONDENCE WITH CONTRACTOR

Normal contact and the day-to-day flow of correspondence with the contractor will be handled by the RE, except for the following activities, which are conducted directly between the MTA and the contractor:

- Notification of Award
- Notice To Proceed for contract
- Notification of date of contract completion
- Designation of MTA authorized representatives
- Rendering of final decision in contract disputes that exceed the authority delegated to the CM.

The RE will maintain copies of the above items in the RE files.

5.2 CONTACT WITH CONTRACTOR

The RE is the primary contact with authorized representatives of the contractor. Contact with subcontractors or vendors should be made only through the contractor or in the contractor's presence.

5.3 CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other REs should not be contacted directly, unless contact is authorized by the RE in charge. The normal chain of command will be respected at all times.

5.4 CONTACT WITH CONTRACTORS OR SUPPLIERS PRIOR TO AWARD

All contact with suppliers or contractors prior to award shall be conducted by the Metropolitan Transportation Authority (MTA).

5.5 CONTACT WITH MTA AND OTHER LOCAL AGENCIES

The RE will maintain an effective working relationship with client representatives. The REs will maintain functional lines of communication with MTA's construction managers.

5.5.1 MTA will provide coordination with their operations department.

5.5.2 The MTA, federal, state, local governments, through their respective authorized representatives (including the federal government's Project Management Oversight Consultant [PMOC]) will, at all times, have full access to the work being performed by or under the responsibility of the RE, subject to applicable safety regulations and advance notice. The PMOC may be accompanied by an MTA representative.

5.5.3 Any request or directive by MTA representatives that may adversely affect the contractor's and/or CM's cost or performance or in any way be construed as a change in CM project scope and/or work not included in CM's budget will be reported to the Project Manager.

5.6 CONTACT WITH UTILITIES AND AGENCIES

The RE will maintain effective working relationships with public or private utility or service companies and governmental agencies that are affected or otherwise involved with the project (refer to REP 4.3).

5.7 CONTACT WITH MTA CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Metro Project. The RE will cooperate fully with all consultants on the project. If the RE determines that advice from, or consultation with, a consultant or facility/system designer is necessary, the RE will contact the consultant through the MTA, CM or Engineering Management Consultant (EMC) representative.

5.8 CONTACT WITH THE PUBLIC

The RE and staff will be courteous in dealing with the public. The RE is the first line of contact for the MTA with regard to community relations and will provide full assistance to the MTA Public Affairs representative (MTA/PA), who will coordinate person-to-person contact with local residents and merchants (and the CM's Community Relations Coordinator (CRC), as required) to alleviate potential problems associated with construction in their areas.

MTA/CM policy requires that contractor not initiate contact with the public. The RE shall inform the contractor of this requirement in writing. When a member of the public initiates contact with the contractor, the contractor is to immediately report this contact to the RE.

5.8.1 The RE will provide information as needed to the MTA Public Affairs representative and CRC on construction activities and major events that will affect communities, individuals, or businesses (e.g., scheduling information). The MTA Public Affairs representative or CRC is responsible for follow-up clarification.

Requests from the community for construction-related data (e.g., settlement data or construction data) shall be forwarded to the MTA Public Affairs representative.

5.8.2 In response to project-related questions, media requests, press releases or presentations, the RE will refer the inquirer to the CRC, who will forward the inquiry to MTA as required.

5.8.3 If the RE requires assistance with a complaint or inquiry, the RE will contact the CRC and/or the Project Manager.

5.8.4 The RE will give proper attention to, and endeavor to satisfy, any complaints made by the public. In the event a complaint is received by the RE's office, the RE will immediately fill out a Construction Complaint, Form #___ (Exhibit 7.1), to identify the complainant, the nature of the complaint, and the recommended remedial action to be taken. A copy of this form is forwarded to the MTA Public Affairs representative, and the CRC. The MTA Public Affairs representative is responsible for further contact with the complainant.

5.8.5 If immediate action is required, the RE will telephone the MTA Public Affairs representative and the CRC or Project Manager, to initially report on the situation and then follow up with a Complaint Form showing the action taken. Additional follow up and activity documentation will be provided by the RE, MTA Public Affairs representative, or the CRC, in accordance with CMS 8.1, Community Affairs.

5.9 CONTACT WITH THE MEDIA

The RE will avoid making any statements to or providing any documentation to the media. All media questions/requests will be referred to the CRC. If direct contact cannot be avoided, for example, during an emergency, the RE will limit any required response to: "When the facts of the matter are determined, the MTA will provide all media releases."

If contacted by the media, the RE must report promptly and verbally to the CRC. This telephoned report must be followed promptly by written confirmation, using the Media Inquiry and Interview Report, Form #___ (Exhibit 7.2). A copy of the Media Inquiry and Interview Report must be sent to the CM manager supervising the activity being addressed by the inquiry. The CRC will provide follow-up coordination and/or documentation with the MTA Public Affairs department.

When a member of the media initiates contact with the contractor, the contractor shall immediately report the contact to the RE.

5.10 CONTACT WITH LEGAL COUNSEL

The RE and the RE's staff shall adhere to the following procedure when they receive requests for information as a result of litigation:

- Notify the MTA and the CM in writing, communicating details of the request for information. MTA will notify CM which law firm they have chosen to represent them.

- Under no circumstances shall information (e.g., verbal, written, copies of documents) be given directly to opposing counsel. All information requests shall be directed to the MTA-appointed counsel.

- Information shall not be released without written direction from the MTA and the CM.

- If files must be reviewed at the Project Office, the MTA-appointed counsel will contact the RE to coordinate the time and location of the review. If the opposing counsel is reviewing the files, the MTA-appointed counsel will be responsible for ensuring the safekeeping of the files. The MTA-appointed counsel will be present at all times while the opposing counsel is on-site. The MTA-appointed counsel and CM will coordinate and approve any copy requests.

- The RE shall prepare a Consultant Change Request (CCR) for approval to obtain additional staff and services, as needed, to support the litigation.

- Requests from the MTA counsel shall meet the following requirements:

  - Requests shall be in writing.

  - Responses shall be coordinated with the Deputy Project Manager, Administration (DPMA). The DPMA will obtain approval from CM's Legal Department, as appropriate, before releasing information.

  - Documents provided to the MTA shall be transmitted via cover letter. The cover letter shall list all documents being provided. A copy of the cover letter shall be given to the DPMA.

5.11 VISITORS (refer to REP1.1 # 5.6.5)

Due to safety and liability considerations, casual visits to the construction site are discouraged. Official tours will be arranged and scheduled through the RE by the MTA Public Affairs representative and the CRC. The RE will be consulted on all tour arrangements 24 hours in advance, whenever possible, to ensure that the visit is compatible with work in progress. The contractor will be informed of all scheduled tours by, and coordinate tour activities with, the RE.

5.11.1 All visits to Metro sites shall be approved by the MTA or its designee. In addition, the following requirements apply:

- All individuals visiting the construction site will sign in and be issued an approved identification badge that they must wear. Those individuals who cannot produce their badges will be asked to leave the site.

- Individuals visiting the sites must be accompanied by a qualified guide (a CM or contractor representative who is knowledgeable of the site and who has undergone proper safety training).

- All visitors will be required to wear hard hats and other required safety equipment, undergo safety training as required, and comply with California Occupational Health and Safety Program (Cal/OSHA), MTA, and CM's safety regulations.

merge w/ new 5.9

- Unauthorized visitors will be asked to leave the work site and directed to the appropriate RE's office.

5.11.2 Other than those listed below, all visitors will be required to sign a Release and Hold-Harmless Agreement, Form #___ (Exhibit 7.3) before entering any hard hat area:

- CM employees assigned to the jobsite
- MTA employees assigned to the jobsite
- EMC employees assigned to the jobsite
- Employees of contractor or its subcontractors
- Employees of agency involved in onsite testing
- Federal OSHA and Cal/OSHA representatives
- PMOC representatives

5.12 SUBMISSION TO PROJECT MANAGER FOR RESOLUTION

In the event that any issue arising from the aforementioned contacts cannot be settled amicably and satisfactorily, the matter will be submitted to the Deputy Project Manager, Construction, for resolution.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
CMS 8.1	Community Affairs

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
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7.2	Media Inquiry and Interview Report
7.3	Release and Hold-Harmless Agreement - Sample

Visitor Log

Exhibit 7.1

COMPLAINT FORM

Property/Incident Address:		Contract No.:	Date:
Owner:	Tenant:	Staff:	Other:
CR Rep. Assigned:	Report Date:	Report Time:	Incident Time:
Callers Name and Address:		Callers Phone Number:	

URGENT

Previous Call? Yes: ☐ No: ☐ Staff: _____ Date: _____

Description of Problem/Incident/Damages:	
Action Taken:	
Contractor Responsible:	Complaint Form Completed By:

FORM #____

Exhibit 7.2

MEDIA INQUIRY AND INTERVIEW REPORT

Date	Time	AM PM	Media	❑ Newspaper ❑ Radio	❑ Magazine ❑ TV	
Name _____ (reporter/editor, etc.)			Firm _____ (publication/network/station, etc.)			
Telephone _____				Fax _____		
Address _____						

General Purpose of Inquiry

Response

Prepared by _____ Contract: _____ Ext. _____

FORM #____

Exhibit 7.3

VISITOR'S RELEASE AND HOLD-HARMLESS AGREEMENT

In consideration of the Construction Manager for the Metropolitan Transportation Authority, granting me permission to visit the Metro Rail construction site, I hereby waive, release, and hold harmless the Metropolitan Transportation Authority, its employees, agents, consultants, and contractors from any and all injury or losses to person or property arising by the privilege of this exercise of visitation.

Contract No:

Name	Date	Time In	Time Out	Representing	Signature

Form #____

5.5 THE RESIDENT ENGINEER'S JURISDICTION

The RE is the field representative of the Construction Manager to administer the contract specifically assigned. An Office Engineer, Inspectors and a secretary will assist the RE in administering the Contract on the jobsite.

Normal day-to-day contact and correspondence with the contractor shall be through the RE except for the following specific contract actions which are conducted directly between the MTA/ and the contractor:

- Notification of Award
- Notice-to-Proceed (NTP) with Contract
- Monthly payment processing
- Rendering of Final Decision in Contract Disputes
- Final Acceptance of the Work
- Submission of DBE Reports
- Bonding and Insurance Issues
- Escrow Agreement

The RE shall maintain copies of the above items except DBE reports and the Escrow Agreement in the Field Office Contract files.

The RE will monitor the progress of the Work and all questions regarding the acceptable fulfillment of the construction contract by the contractor. The RE's approval will be contingent on inspection and approval by regulatory agencies, where applicable.

The RE will maintain a good rapport with the public and will work with the contractor and the MTA Public Affairs Department to minimize adverse impacts of construction operations on the public.

The RE will determine the value and quantity of work performed and materials which are to be paid for under the contract when approving progress payments. The project office scheduler will assist in this determination.

5.6 RESIDENT ENGINEER INTERFACES

The Resident Engineer interfaces and corresponds with many project participants on both a formal and informal basis. All correspondence generated by the RE shall be serialized in accordance with MTA identification numbers and acronyms in accordance with Document Control Section 3.4 of this manual. The following are interfaces maintained by the RE including definition of appropriate lines of communication.

5.6.1. CONTACT WITH THE CONTRACTOR

The RE shall be the primary contact with the contractor. Contact with subcontractors or vendors shall only be made through the contractor.

With the exception noted in Section 5.5 above, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies),

and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive Officer/Project Manager as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.6.2. CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other RE's should not be contacted directly but only through the RE in charge of that contractor's work. The normal chain of command shall be respected at all times.

5.6.3. CONTACT WITH THE MTA

The RE maintains both formal and informal communication with the MTA. Authorized representatives of the MTA, federal, state and local governments shall at all times have full access to the work being performed by or under the responsibility of the RE.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing informal line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections portions of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

(6) The RE will provide assistance to the MTA Public Affairs Manager who will coordinate person-to-person contact with local residents and merchants to alleviate potential problems associated with construction in community areas.

(7) MTA Third Party Coordinator - The RE shall work with the Third Party Coordinator to establish and maintain harmonious working relationships with all railroads, utilities, service companies and governmental agencies that are affected by or otherwise involved with the project. The CM provides an assistant to the MTA (Third Party Coordinator) whom the RE's should first contact to assist them in third party issues.

The MTA will negotiate project-related agreements with railroads, utility or service companies and governmental agencies. Copies of these agreements will be provided to the RE. The RE shall review the design documents and monitor the construction work to ensure that the terms, conditions, and covenants in these agreements are met. Conflicts with the contractual requirements will be discussed and resolved with the Project Manager.

Whenever possible Utility/Agency rearrangements to accommodate construction will be accomplished in advance. In the event the rearrangements are performed simultaneously with the contract work, the RE shall encourage the contractor to cooperate and coordinate with the forces or agents of the utilities. The RE will not be responsible for the progress and completion of construction work performed and inspection services rendered by affected agencies but should verify the utility work impacting the RE's project. However, the RE should consult with the Project Manager whenever it appears that an unreasonable amount of inspection or work force manpower is being used by the affected agencies, or their work is adversely affecting the Facilities/Systems contract.

If the RE decides that formal written correspondence to the MTA is required regarding third party issues, he/she shall discuss the matter with the Project Manager who may prepare a letter or ask the RE to prepare one for the Project Manager's signature to the MTA.

Any request or directive by representatives of the MTA or other governmental agencies, utilities or railroads, which may adversely impact the contractor's and/or the CM's performance or may be a change in contract scope or schedule, shall be reported immediately to the Project Manager. He/she will then advise the RE as to the appropriate course of action.

5.6.4. CONTACT WITH CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Rail Transit Project. The RE shall cooperate with all consultants on the project as follows:

(1) ~~Engineering Management Consultant (EMC)~~ - The RE shall maintain an ongoing working relationship with the ~~EMC~~ Project Unit Manager (PUM) assigned to his/her contract. Any correspondence regarding design issues shall be directed to the ~~EMC~~/PUM. Correspondence addressing design issues affecting more than one contract must be directed to the ~~EMC~~/PUM in a letter signed by the Project Manager.

(2) Owner Controlled Insurance Program Administrator (OCIP) - The RE shall transmit all required forms or information regarding the OCIP Insurance Program and Construction Safety Survey forms to the OCIP in accordance with the MTA procedures.

(3) Labor Compliance Analyst - The Labor Compliance Consultant contracted by the MTA for labor compliance monitoring of the project may enter the construction site according to the following procedures:

- The labor compliance staff shall sign in at the RE's office and obtain clearance to go on the site.
- The RE is to ensure that the labor compliance staff are properly equipped for safety such as hard hats, boots, etc.
- The RE shall make the judgment whether they should be accompanied, depending on the nature of their visit to the site.
- The RE is to make the contact with the contractor.

5.6.5 VISITORS

The RE should prohibit unnecessary visits to the construction site due to safety and liability considerations. Official tours will be arranged and scheduled through the MTA. The RE is responsible for notifying the contractor and the Project Manager of all scheduled tours.

The RE shall extend all courtesies and cooperation to, and shall arrange for escort of, all official visitors through the jobsite. Records, charts and reports should be current and available for review.

The RE shall maintain a Visitor's Register Log (Exhibit 7.5) to be signed by visitors to the RE's office. A visitor for this purpose is defined as any party not employed by the Construction Manager or its subconsultants and not specifically assigned to the jobsite.

All visitors shall also be required to sign a Visitor's Release and Hold Harmless Agreement (Exhibit 7.6) before entering any hard hat area, with the exception of the visitors listed below:

1. Employees of the MTA , including Labor Compliance and OCIP Administrator representatives.
2. Employees of the Engineering Management Consultant and their subconsultants.
3. Employees of the Construction Manager.
4. Representatives of work forces of affected utilities, railroads, cities, county, state, federal, and other bodies performing work under MTA Master Cooperative Agreements.
5. Cal/OSHA representatives.
6. Employees of the PMO/ consultant.

5.6.6 COMPLAINTS

The RE will give proper attention and endeavor to satisfy any complaints made by the public. As the on-site representative for the project, it is the RE's responsibility to enforce Contract requirements and thereby minimize or mitigate complaints.

Complaints will be based generally upon the following types of occurrences:

- Noise, vibrations, obstructions
- Dusty, wet, and unsafe conditions
- Disruption to pedestrian or vehicular traffic

Most complaints will be received via the MTA's 620-RAIL telephone number. However, should the RE receive a complaint from the public, he should endeavor to satisfy the party promptly and provide notification to the MTA Public Affairs Manager. The circumstances surrounding the complaint should be reported on a Complaint Form (Exhibit 7.7). Any corrective actions to be taken by the contractor should be noted on the form. The RE should then sign and date the form, retain the original and fax a copy to the PM and to the contractor and MTA Public Affairs. In the event the RE requires assistance with the complaint the assistance should be requested on the form.

In the event of emergency situations, the RE shall contact the PM by telephone in advance of initiating the Complaint Form. Consult the Emergency Notification Procedures Manual Revisions Level 3 for additional detail.

5.6.7 CONTACT WITH THE NEWS MEDIA

All news media questions shall be politely referred to MTA Public Affairs at (213) 922-2222. If direct contact cannot be avoided, such as during an emergency, the RE shall limit any required response to, "Until the facts of the matter are determined, there isn't anything I can say, the MTA will provide all media responses".

In the event that the Resident Engineer is contacted by a representative of any media/press organization in person or on the telephone, the following action should be taken:

- Request the reporter's name, telephone number, name of publication and reason for calling.

- Indicate to the caller that the MTA is the appropriate agency to respond to their questions.

- Refer the caller to the MTA Assistant Deputy Director of Public Affairs at (213) 922-2222.

- Call the PM with the information, who will in turn notify the MTA DEO/PROJECT MANAGER IF HE/SHE DEEMS IT NECESSARY.

4.5 CONTACTS

1.0 PURPOSE

The purpose of this procedure is to provide guidance to resident engineers (REs) and staff when dealing with the MTA, contractors, ~~Client,~~ and public contacts.

2.0 GENERAL

The RE's conduct will be professional, ethical, and business-like during any and all contact with representatives of the Metropolitan Transportation Authority (MTA), the contractor, the public and any other parties concerned with the project.

3.0 RESPONSIBILITIES

The RE is responsible for ensuring that the RE staff follows this procedure.

4.0 DEFINITIONS

None

5.0 PROCEDURE

5.1 CORRESPONDENCE WITH CONTRACTOR

Normal contact and the day-to-day flow of correspondence with the contractor will be handled by the RE, except for the following activities, which are conducted directly between the MTA and the contractor:

- Notification of Award
- Notice To Proceed for contract
- Notification of date of contract completion
- Designation of MTA authorized representatives
- Rendering of final decision in contract disputes that exceed the authority delegated to the construction manager (CM).

The RE will maintain copies of the above items in the RE files.

5.2 CONTACT WITH CONTRACTOR

The RE is the primary contact with authorized representatives of the contractor. Contact with subcontractors or vendors should be made only through the contractor~~, or in the contractor's presence.~~

With the exception noted in REP 1.1, Section 5.5, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies), and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive

Officer/Project Manager as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.3 CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other REs should not be contacted directly, unless contact is authorized by the RE in charge. The normal chain of command will be respected at all times.

5.4 CONTACT WITH CONTRACTORS OR SUPPLIERS PRIOR TO AWARD

All contact with contractors ~~suppliers~~ or suppliers ~~contractors~~ prior to award shall be conducted by the Metropolitan Transportation Authority (MTA).

5.5 CONTACT WITH MTA AND OTHER LOCAL AGENCIES

The RE will maintain an effective working relationship with ~~client~~ MTA representatives. The REs will maintain functional lines of communication with MTA's construction managers.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The RE will provide assistance to the MTA Public Affairs Manager who will coordinate person-to-person contact with local residents and merchants to alleviate potential problems associated with construction in community areas. The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA

through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

(6) MTA Third Party Coordinator - The RE shall work with the Third Party Coordinator to establish and maintain harmonious working relationships with all railroads, utilities, service companies and governmental agencies that are affected by or otherwise involved with the project. The CM:s Community Relations Coordinator (CRC) provides an assistant to the MTA (Third Party Coordinator) whom the RE's should first contact to assist them in third party issues.

(7) MTA Chief Estimator - The RE maintains informal contact with the MTA Chief Estimator on issues that affect valuation of contract changes. The RE assures that copies of all Rough Order of Magnitude (ROM), Fair Cost, and Contractor's Proposal estimates are forwarded to the MTA Chief Estimator for analysis and comment. All overhead and exceptional direct costs are to be submitted for MTA Estimating review prior to disposition.

(8) MTA Quality Assurance Manager (MTA/QA) - The RE maintains an ongoing line of communication with the MTA Quality Assurance Manager assigned to his/her contract regarding quality matters related to construction and compliance with design drawings and specifications.

(9) MTA Construction Safety Superintendent - The RE maintains an ongoing line of communication with the MTA assigned Construction Safety Superintendent regarding the development and achievement of construction safety goals and objectives and supports resolution of disputes or issues arising from contractor field operations and/or submittals.

~~5.5.1 MTA will provide coordination with their operations department.~~

~~5.5.2 The MTA, federal, state, local governments, through their respective authorized representatives (including the federal government's Project Management Oversight Consultant [PMOC]) will, at all times, have full access to the work being performed by or under the responsibility of the RE, subject to applicable safety regulations and advance notice. The PMOC may be accompanied by an MTA representative.~~

~~5.5.3 Any request or directive by MTA representatives that may adversely affect the contractor's and/or CM's cost or performance or in any way be construed as a change in CM project scope and/or work not included in CM's budget will be reported to the Project Manager.~~

5.6 CONTACT WITH UTILITIES AND AGENCIES

The RE will maintain effective working relationships with public or private utility or service companies and governmental agencies that are affected or otherwise involved with the project (refer to REP 4.3).

The MTA, federal, state, local governments, through their respective authorized representatives (including the federal government's Project Management Oversight Consultant [PMOC]) will, at all times, have full access to the work being performed by or under the responsibility of the RE, subject to applicable safety regulations and advance notice. The PMOC may be accompanied by an MTA representative.

Any request or directive by MTA representatives that may adversely affect the contractor's and/or CM's cost or performance or in any way be construed as a change in CM project scope and/or work not included in CM's budget will be reported to the Project Manager.

The MTA will negotiate project-related agreements with railroads, utility or service companies and governmental agencies. Copies of these agreements will be provided to the RE. The RE shall review the design documents and monitor the construction work to ensure that the terms, conditions, and covenants in these agreements are met. Conflicts with the contractual requirements will be discussed and resolved with the Project Manager.

Whenever possible utility/agency rearrangements to accommodate construction will be accomplished in advance. In the event the rearrangements are performed simultaneously with the contract work, the RE shall encourage the contractor to cooperate and coordinate with the forces or agents of the utilities. The RE will not be responsible for the progress and completion of construction work performed and inspection services rendered by affected agencies but should verify the utility work impacting the RE's project. However, the RE should consult with the Project Manager whenever it appears that an unreasonable amount of inspection or work force manpower is being used by the affected agencies, or their work is adversely affecting the facilities/systems contract.

If the RE decides that formal written correspondence to the MTA is required regarding third party issues, he/she shall discuss the matter with the Project Manager who may prepare a letter or ask the RE to prepare one for the Project Manager's signature to the MTA.

Any request or directive by representatives of the MTA or other governmental agencies, utilities or railroads, which may adversely impact the contractor's and/or the CM's performance or may be a change in contract scope or schedule, shall be reported immediately to the Project Manager. He/she will then advise the RE as to the appropriate course of action.

5.7 CONTACT WITH MTA CONSULTANTS

The MTA has several consultants under contract to provide services relating to the Metro Project. The RE will cooperate fully with all consultants on the project. If the RE determines that advice from, or consultation with, a consultant or facility/system designer is necessary, the RE will contact the consultant through the MTA, CM or ~~Engineering Management Consultant (EMC)~~ General Engineering Consultant (GEC) representative.

The RE shall cooperate with all consultants on the project, including:

(1) General Engineering Consultant (GEC) - The RE shall maintain an ongoing working relationship with the GEC Project Unit Manager (PUM) assigned to his/her contract.

Any correspondence regarding design issues shall be directed to the GEC/PUM. Correspondence addressing design issues affecting more than one contract must be directed to the GEC/PUM in a letter signed by the Project Manager.

(2) Owner Controlled Insurance Program Administrator (OCIP) - The RE shall transmit all required forms or information regarding the OCIP Insurance Program and Construction Safety Survey forms to the OCIP in accordance with the MTA procedures.

(3) Labor Compliance Analyst - The Labor Compliance Consultant contracted by the MTA for labor compliance monitoring of the project may enter the construction site according to the following procedures:

- The labor compliance staff shall sign in at the RE's office and obtain clearance to go on the site.
- The RE is to ensure that the labor compliance staff are properly equipped for safety such as hard hats, boots, etc.
- The RE shall make the judgment whether they should be accompanied, depending on the nature of their visit to the site.
- The RE is to make the contact with the contractor.

5.8 CONTACT WITH THE PUBLIC

The RE and staff will be courteous in dealing with the public. The RE is the first line of contact for the MTA with regard to community relations and will provide full assistance to the MTA Public Affairs representative (MTA/PA), who will coordinate person-to-person contact with local residents and merchants (and the CM's Community Relations Coordinator (CRC), as required) to alleviate potential problems associated with construction in their areas.

MTA/CM policy requires that contractor not initiate contact with the public. The RE shall inform the contractor of this requirement in writing. When a member of the public initiates contact with the contractor, the contractor is to immediately report this contact to the RE.

5.8.1 The RE will provide information as needed to the MTA Public Affairs representative and CRC on construction activities and major events that will affect communities, individuals, or businesses (e.g., scheduling information). The MTA Public Affairs representative or CRC is responsible for follow-up clarification.

Requests from the community for construction-related data (e.g., settlement data or construction data) shall be forwarded to the MTA Public Affairs representative.

5.8.2 In response to project-related questions, media requests, press releases or presentations, the RE will refer the inquirer to the CRC, who will forward the inquiry to MTA as required.

5.9 VISITORS

The RE should prohibit unnecessary visits to the construction site due to safety and liability considerations. Official tours will be arranged and scheduled through the MTA. The RE is responsible for notifying the contractor and the Project Manager of all scheduled tours.

The RE shall extend all courtesies and cooperation to, and shall arrange for escort of, all official visitors through the jobsite. Records, charts and reports should be current and available for review.

The RE shall maintain a Visitor's Register Log (Exhibit 7.1) to be signed by visitors to the RE's office. A visitor for this purpose is defined as any party not employed by the Construction Manager or its subconsultants and not specifically assigned to the jobsite.

All visitors shall also be required to sign a Visitor's Release and Hold Harmless Agreement (Exhibit 7.2) before entering any hard hat area, with the exception of the visitors listed below:

1. Employees of the MTA , including Labor Compliance and OCIP Administrator representatives.
2. Employees of the General Engineering Consultant and their subconsultants.
3. Employees of the Construction Manager.
4. Representatives of work forces of affected utilities, railroads, cities, county, state, federal, and other bodies performing work under MTA Master Cooperative Agreements.
5. Cal/OSHA representatives.
6. Employees of the PMO consultant.

5.10 COMPLAINTS

~~5.8.35.10.1~~ If the RE requires assistance with a complaint or inquiry, the RE will contact the CRC and/or the Project Manager.

~~5.8.4 The RE will give proper attention to, and endeavor to satisfy, any complaints made by the public. In the event a complaint is received by the RE's office, the RE will immediately fill out a Construction Complaint, Form #___ (Exhibit 7.1), to identify the complainant, the nature of the complaint, and the recommended remedial action to be taken. A copy of this form is forwarded to the MTA Public Affairs representative, and the CRC. The MTA Public Affairs representative is responsible for further contact with the complainant.~~

5.10.2 Most complaints will be received via the MTA's 620-RAIL telephone number. However, should the RE receive a complaint from the public, he should endeavor to satisfy the party promptly and provide notification to the MTA Public Affairs Manager. The circumstances surrounding the complaint should be reported on a Complaint Form (Exhibit 7.3). Any corrective actions to be taken by the contractor should be noted on the form. The RE should then sign and date the form, retain the original and fax a copy to the PM and to the

contractor and MTA Public Affairs. In the event the RE requires assistance with the complaint the assistance should be requested on the form.

~~5.8.5~~5.10.3 If immediate action is required, the RE will telephone the MTA Public Affairs representative and the CRC or Project Manager, to initially report on the situation and then follow up with a Complaint Form showing the action taken. Additional follow up and activity documentation will be provided by the RE, MTA Public Affairs representative, or the CRC, in accordance with CMS 8.1, Community Affairs.

In the event of emergency situations, the RE shall contact the PM by telephone in advance of initiating the Complaint Form. Consult the Emergency Notification Procedures Manual Revisions Level 3 for additional detail.

~~5.9~~5.11 CONTACT WITH THE MEDIA

The RE will avoid making any statements to or providing any documentation to the media. ~~All media questions/requests will be referred to the CRC~~. All media questions shall be politely referred to MTA Public Affairs at (213) 922-2222. If direct contact cannot be avoided, for example, during an emergency, the RE will limit any required response to: "When the facts of the matter are determined, the MTA will *provide all* media releases."

~~If contacted by the media~~, the RE must report promptly and verbally to the CRC. This telephoned report must be followed promptly by written confirmation, using the Media Inquiry and Interview Report, Form #___ (Exhibit 7.~~4~~2). A copy of the Media Inquiry and Interview Report must be sent to the CM manager supervising the activity being addressed by the inquiry. The CRC will provide follow-up coordination and/or documentation with the MTA Public Affairs department.

When a member of the media initiates contact with the contractor, the contractor shall immediately report the contact to the RE.

In the event that the Resident Engineer is contacted by a representative of any media/press organization in person or on the telephone, the following action should be taken:

- Request the reporter's name, telephone number, name of publication and reason for calling.
- Indicate to the caller that the MTA is the appropriate agency to respond to their questions.
- Refer the caller to the MTA Assistant Deputy Director of Public Affairs at (213) 922-2222.
- Call the PM with the information, who will in turn notify the MTA DEO/PROJECT MANAGER IF HE/SHE DEEMS IT NECESSARY.

~~5.10~~5.12 CONTACT WITH LEGAL COUNSEL

The RE and the RE's staff shall adhere to the following procedure when they receive requests for information as a result of litigation:

- Notify the MTA and the CM in writing, communicating details of the request for information. MTA will notify CM which law firm they have chosen to represent them.

- Under no circumstances shall information (e.g., verbal, written, copies of documents) be given directly to opposing counsel. All information requests shall be directed to the MTA-appointed counsel.

- Information shall not be released without written direction from the MTA and the CM.

- If files must be reviewed at the Project Office, the MTA-appointed counsel will contact the RE to coordinate the time and location of the review. If the opposing counsel is reviewing the files, the MTA-appointed counsel will be responsible for ensuring the safekeeping of the files. The MTA-appointed counsel will be present at all times while the opposing counsel is on-site. The MTA-appointed counsel and CM will coordinate and approve any copy requests.

- The RE shall prepare a Consultant Change Request (CCR) for approval to obtain additional staff and services, as needed, to support the litigation.

- Requests from the MTA counsel shall meet the following requirements:

  - Requests shall be in writing.

  - Responses shall be coordinated with the Deputy Project Manager, Administration (DPMA). The DPMA will obtain approval from CM's Legal Department, as appropriate, before releasing information.

  - Documents provided to the MTA shall be transmitted via cover letter. The cover letter shall list all documents being provided. A copy of the cover letter shall be given to the DPMA.

~~5.11 VISITORS~~

~~Due to safety and liability considerations, casual visits to the construction site are discouraged. Official tours will be arranged and scheduled through the RE by the MTA Public Affairs representative and the CRC. The RE will be consulted on all tour arrangements 24 hours in advance, whenever possible, to ensure that the visit is compatible with work in progress. The contractor will be informed of all scheduled tours by, and coordinate tour activities with, the RE.~~

~~5.11.1 All visits to Metro sites shall be approved by the MTA or its designee. In addition, the following requirements apply:~~

- ~~All individuals visiting the construction site will sign in and be issued an approved identification badge that they must wear. Those individuals who cannot produce their badges will be asked to leave the site.~~

- ~~Individuals visiting the sites must be accompanied by a qualified guide (a CM or contractor representative who is knowledgeable of the site and who has undergone proper safety training).~~

- ~~All visitors will be required to wear hard hats and other required safety equipment, undergo safety training as required, and comply with California Occupational Health and Safety Program (Cal/OSHA), MTA, and CM's safety regulations.~~
- ~~Unauthorized visitors will be asked to leave the work site and directed to the appropriate RE's office.~~

~~5.11.2 Other than those listed below, all visitors will be required to sign a Release and Hold Harmless Agreement, Form #___ (Exhibit 7.3) before entering any hard hat area:~~

- ~~CM employees assigned to the jobsite~~
- ~~MTA employees assigned to the jobsite~~
- ~~EMC employees assigned to the jobsite~~
- ~~Employees of contractor or its subcontractors~~
- ~~Employees of agency involved in onsite testing~~
- ~~Federal OSHA and Cal/OSHA representatives~~
- ~~PMOC representatives~~

~~5.12~~5.13 SUBMISSION TO PROJECT MANAGER FOR RESOLUTION

In the event that any issue arising from the aforementioned contacts cannot be settled amicably and satisfactorily, the matter will be submitted to the Deputy Project Manager, Construction, for resolution.

6.0 REFERENCES

The following documents are referred to in this procedure and are available under separate publication:

Document	Title
CMS 8.1	Community Affairs

7.0 EXHIBITS

The following exhibits are included in this procedure:

Exhibit	Title
7.1	~~Construction Complaint - Sample~~ Visitor's Register Log
7.2	~~Media Inquiry and Interview Report~~Release and Hold Harmless Agreement - Sample
7.3	~~Release and Hold Harmless Agreement - Sample~~Complaint Form - Sample
7.4	Media Inquiry and Interview Report

Exhibit 7.1

VISITOR'S REGISTER LOG

Contract No.

PRINT NAME	SIGNATURE	AFFILIATION	PERSON TO SEE	TIME IN	TIME OUT

FORM #____

Exhibit 7.2

VISITOR'S RELEASE AND HOLD-HARMLESS AGREEMENT - SAMPLE

In consideration of the Construction Manager for the Metropolitan Transportation Authority, granting me permission to visit the Metro Rail construction site, I hereby waive, release, and hold harmless the Metropolitan Transportation Authority, its employees, agents, consultants, and contractors from any and all injury or losses to person or property arising by the privilege of this exercise of visitation.

Contract No:

Name	Date	Time In	Time Out	Representing	Signature

Form #___

Exhibit 7.13

COMPLAINT FORM - SAMPLE

Property/Incident Address:		Contract No.:	Date:
Owner:	Tenant:	Staff:	Other:
CR Rep. Assigned:	Report Date:	Report Time:	Incident Time:
Callers Name and Address:		Callers Phone Number:	

URGENT

Previous Call? Yes: ☐ No: ☐ Staff: _____ Date: _____

Description of Problem/Incident/Damages:	
Action Taken:	
Contractor Responsible:	Complaint Form Completed By:

FORM #____

Exhibit 7.42

MEDIA INQUIRY AND INTERVIEW REPORT

Date Time AM PM	Media ❑ Newspaper ❑ Magazine ❑ Radio ❑ TV
Name _____ (reporter/editor, etc.)	Firm _____ (publication/network/station, etc.)
Telephone _____	Fax _____
Address _____	

General Purpose of Inquiry

Response

Prepared by _____ Contract: _____ Ext. _____

FORM #___

Exhibit 7.3

VISITOR'S RELEASE AND HOLD HARMLESS AGREEMENT

In consideration of the Construction Manager for the Metropolitan Transportation Authority, granting me permission to visit the Metro Rail construction site, I hereby waive, release, and hold harmless the Metropolitan Transportation Authority, its employees, agents, consultants, and contractors from any and all injury or losses to person or property arising by the privilege of this exercise of visitation.

Contract No:

Name	Date	Time In	Time Out	Representing	Signature

Form #___

Log RFC against CM111

From the desk of:
L. Simpson
Ext: 27631

To: Pat Evans - FD1 Date: 2/6/96

☒ For your information ☐ Approval and Return

☐ Comments ☐ Signature

☐ Action / Process ☐ Per your request

Remarks: Recent changes to PD Rep 6.2 (CE manual). Should be considered for incorporation into new Baseline Manual.

LAS

PARSONS–DILLINGHAM

METRO RAIL CONSTRUCTION MANAGER

TO: Louisa Simpson Date: June 24, 1996

MTA-#1 Gateway Plaza

Subject: Control Copy Distribution

Enclosed please find 1.0 copy(ies) of the following subject manual revision(s) for your review and retention.

Segment 2, Resident Engineer Procedures Manual

Revision

- REP *Table of Contents*, 6/20/96 (replaces existing)
- REP 6.2, *Progress Payments,* Rev. 2, 6/21/96 (replaces existing)

Summary of Revision

REP 6.2, PROGRESS PAYMENTS

- CHANGES MADE TO DELINEATE DIFFERENCES BETWEEN CONTRACTS THAT HAVE A SCHEDULE OF VALUES AS A REQUIREMENT AND THOSE THAT DO NOT
- DIFFERENCES DRAWN BETWEEN CONTRACTS THAT ARE "PAY-OFF-THE-SCHEDULE" AND THOSE THAT ARE NOT
- FORM 262, PAY QUANTITIES RECORD, WAS REMOVED FROM THE PROCEDURE

Please sign, date, and return the duplicate copy of this letter within 5 days as confirmation of your receipt. These manuals are charged to you. It is your responsibility to notify Document Control if the manual is reassigned to another individual.

If you need additional copies please contact Ned Racine at 362-6044.

Dianne Curzon, Document Control

Acknowledged by _____ Date _____

Louisa Simpson

A joint venture of
The Ralph M. Parsons Company
De Leuw Cather & Company
Dillingham Construction N.A., Inc

523 West Sixth Street
Suite 400
Los Angeles, California 90014
(213) 362-6000

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RESIDENT ENGINEER PROCEDURES MANUAL
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Abbreviations and Acronyms

ADA	Americans With Disabilities Act
ACCP	Air Conditioning Control Panel
ACP	Auxiliary Control Panel
AFE	Authorization for Expenditure
AFM	Authority-Furnished Materials
AGC	Associated General Contractors of America
AHU	Air Handling Units
AM	Area Manager
AMG	American Wire Gage
AQMD	Air Quality Management District
ART	Art for Rapid Transit
ASTM	American Society for Testing and Materials
AWS	American Welding Society
BAFO	Best and Final Offer
BOD	Beneficial Occupancy Date
BPW	Board of Public Works
CA	Contract Administrator
CAR	Corrective Action Request
CBF	Construction Billing Form (From RCC)
CC	Contract Conditions
CCB	Configuration Control Board
CCR	Consultant Change Request
CCS	Change Control System
CCRB	Consultant Change Request Board
CDRL	Contract Document Requirement List
CIC	Control Interface Cabinet
CM	Construction Manager
CMS	Cost Management System
CN	Change Notice
CO	Change Order
CPCN	Cost Plus Change Notice
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CRO	Community Relations Office
CRW	Continuous Welded Rail
CSI	Construction Specifications Institute
CTE	Change Technical Evaluation
DBE	Disadvantaged Business Enterprise
DC	Document Control
DCN	Design Change Notice
DCS	Document Control System

Table of Contents (Contd)

Table of Contents (Contd)

Abbreviations and Acronyms

NOI	Notice of Intent
NTE	Not to Exceed
NTP	Notice to Proceed
O & M	Operations and Maintenance
OCIP	Owner Controlled Insurance Program
OSHA	Occupational Safety and Health Administration
PBCR	Project Budget Change Requests
PC	Personal Computer
PCE	Project Controls Engineer
PERC	Partnership for Excellence in Rail Construction
PMOC	Project Management Oversight Consultant
PMSR	Project Manager's Status Report
PSP	Preaction Sprinkler
QA/QC	Quality Assurance/Quality Control
RCC	Rail Construction Corporation **(defunct)**
RCC/PA	Rail Construction Corporation Public Affairs **(defunct)**
RE	Resident Engineer
REP	Resident Engineer Procedures
RFC	Request For Change
RFI	Request For Information
RFP	Request for Proposal
RFIQ	Request for Information and Quote
ROM	Rough Order of Magnitude
RMS	Records Management System
ROD	Revenue Operations Date
ROW	Right of Way
RSSO	Rail Systems Stores Operations
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SE & A	Systems Engineering and Analysis
SY	Square Yard
TBM	Tunnel Boring Machine
TIA	Time Impact Analysis
TPSS	Traction Power Substation
TVM	Ticket Vending Machine
UMTA	Urban Mass Transportation Administration
USA	Underground Service Alert (Of Southern California)
UT	Ultrasonic Testing
VECP	Value Engineering Change Proposal
VQC	Vendor Quality Control
WACN	Work Authorization Change Notice
WBE	Women Owned Business Enterprise
WPI	Work Process Improvement

Table of Contents (Contd)

Abbreviations and Acronyms

DIR	Daily Inspection Report
DN	Deficiency Notice
DOSH	Division of Occupational Safety and Health
DOT	Department of Transport
DPD/CO	Deputy Program Director/Construction Operations
DPD/CS	Deputy Program Director/Construction Support
DPT	Differential Pressure Transmitter
DR	Discrepancy Report
DWP	City of Los Angeles Department of Water and Power
DWPWS	Department of Water and Power Water System
EAC	Estimate at Completion
EEO	Equal Employment Opportunity
EMC	Engineering Management Consultant
ETS	Electronic Timecard System
FAR	Federal Acquisition Regulation
FCE	Fair Cost Estimate
FSD	Fire Smoke Dampers
FTA	Federal Transit Administration
GC	General Conditions
GEC	General Engineering Consultant
HDPE	High density polyethylene
HUD	Department of Housing and Urban **Development**
LACTC	Los Angeles County Transportation Commission (defunct)
LADOT	City of Los Angeles Department of Transportation
LAFD	Los Angeles City Fire Department
LCS	Local Control Station
LF	Linear Foot
LIP	Local Instrument Panel
MBE	Minority Business Enterprise
MCC	Motor Control Center
MHS	Materials Handling Subcontractor
MOCO	Materials Made Obsolete to a Contract by Change Order
MOS	Minimum Operable Segment
MRTC	Metro Rail Transit Consultant (defunct)
MSDS	Material Safety and Data Sheets
MTA	Metropolitan Transportation Authority
MTA/PA	Metropolitan Transportation Authority Public Affairs
MTIA	Metro Transit Insurance Administrators
MTG	Mass Transit Group
NCR	Nonconformance Report
NCR	Noncarbon Reproduction (forms)
NDE	Non-Destructive Examination

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List of Forms (Contd)

The forms presented in this manual are illustrative samples and are not to be used. Obtain the latest version of blank forms from the network G:\FORMS directory or from Document Control.

Table of Contents (Contd)

List of Forms

The forms presented in this manual are illustrative samples and are not to be used. Obtain the latest version of blank forms from the network G:\FORMS directory or from Document Control.

Table of Contents (Contd)

Procedure Revision Status

REP Number	Title	Original Issue Date	Current Issue Date	Rev. No.
5.4	Environmental Compliance	9/13/91	6/9/95	1
5.5	Historical, Scientific, and Archaeological Discoveries	9/13/91	7/7/95	1
5.6	Facilities Testing and Startup	5/2/94		0
6.1	Submittals	9/13/91	9/29/95	3
6.2	Progress Payments	9/13/91	**6/21/96**	**2**
6.3	Back Charges	9/13/91	4/16/93	1
6.4	Differing Site Conditions	9/13/91	6/30/92	1
6.5	Change Process	9/13/91	6/14/95	4
6.6	Claims Process	9/13/91	6/30/92	1
6.7	Claims Avoidance	9/13/91		
6.8	Changes to CM Services Scope of Work	**Deleted**		
6.9	FTA Funding Eligibility (CS-50)	11/15/93		0
6.10	Design Change Authorization	3/30/94	5/27/94	1

Table of Contents (Contd)

Procedure Revision Status

REP Number	Title	Original Issue Date	Current Issue Date	Rev. No.
Intro	Introduction	9/6/91	8/3/94	1
1.1	Procedure Development, Revision, or Deletion	9/13/91	3/17/95	1
2.1	Constructability Review	9/13/91	7/30/93	1
2.2	Contractor Bid Evaluation	9/13/91		
2.3	Preconstruction Surveys	9/13/91		
3.1	Office Administration	9/13/91		
3.2	Monthly Status Report	9/13/91	9/29/94	1
3.3	Diary and Logs	9/13/91	10/28/94	3
3.4	Document Control	9/13/91	7/14/94	3
3.5	Lessons Learned	6/30/92	1/10/95	2
4.1	Safety	9/13/91	12/16/94	2
4.2	Field Quality Control Surveillance	9/13/91		
4.3	Utilities Excavation	9/13/91	9/9/94	1
4.4	Master Agreement Work Verification	9/13/91		
4.5	Contacts	9/13/91	5/10/94	1
4.6	Scheduling	9/13/91	1/27/95	1
4.7	Meetings	9/13/91	9/30/93	1
4.8	Construction Photographs	9/13/91	7/14/95	2
4.9	As-Builts	9/13/91	1/27/95	2
4.10	Systems Start-Up	9/13/91		
4.11	Physical Closeout	9/13/91	1/10/95	2
4.12	Document Closeout	9/13/91	3/2/94	1
4.13	Safety Certification	9/13/91	8/24/94	3
4.14	Fiscal Close-Out	9/13/91		
4.15	Readiness Review	11/20/92		0
4.16	O&M Manual Processing	7/16/93		0
4.17	Suspension of Work Notice	12/16/94	2/20/95	1
4.18	Use of CS-50s	12/14/93		0
4.19	Removal of Contractor Personnel	9/18/94		0
4.20	Contractor Safety Audit Program	9/29/94		0
4.21	Verification Testing	11/10/94		0
4.22	Construction Work Plans	5/5/95		0
4.23	Materials	10/6/95		0
4.24	Discrepancy Reports	2/9/96		0
5.1	Permitting Services	9/13/91	3/17/95	1
5.2	Surveys	9/13/91	1/16/95	2
5.3	Geotechnical	9/13/91	6/2/94	1

4.0 RESPONSIBILITIES

4.1 RESIDENT ENGINEER

The RE is responsible for directing the RE staff in performing the activities described in this procedure, and for ensuring that contract records and files are closed out and transferred in a timely manner. The RE is responsible for ongoing verification of file quality and completeness. The specific close-out activities described below will begin 2 to 3 months prior to physical contract completion.

4.2 CM DOCUMENT CONTROL

Document Control is responsible for coordinating the activities described in this procedure with the RE and the MTA, final record inspection, and physical transfer of records from the CM offices to the MTA or location designated by the MTA CM Document Control is responsible for incorporating any contract related records maintained and filed by other CM departments are also transferred to the MTA.

4.3 MTA CONFIGURATION MANAGEMENT CONSULTANT

The MTA Configuration Management Consultant is responsible for initial acceptance of close-out documents identified as deliverables for MTA Rail Operation Support (ROS) and for transfer of such documents to MTA ROS. Operation deliverables include as-built contract documents, contractor shop drawings, permits and warranties, and operations and maintenance manuals. The Configuration Management Consultant is not responsible for handling closeout transfer of general correspondence files.

4.4 MTA RECORDS MANAGEMENT CENTER (RMC)

The MTA RMC has overall responsibility for long term storage, protection, and retrieval of contract files and documents following close-out. The RMC is responsible for accepting close-out records and for coordinating transfer to long term storage. The MTA RMC is responsible for determining document retention requirements, and for approving any CM requests to destroy or discard documents.

5.0 PROCEDURE

To ensure complete files are transferred to the MTA at closeout (e.g., file verification at contract closeout), an on-going verification of files shall be performed by the RE throughout the duration of the contract. Maintenance of document files will also be periodically audited by MTA QA and/or Configuration Management staff throughout the life of the contract.

5.1 VERIFICATION OF FILE COMPLETENESS

5.1.1 SEQUENCE FILE REVIEW

The sequence files and the corresponding indexes and logs controlled by the RE will be reviewed at the RE office to ensure completeness and accuracy.

4.12 DOCUMENT CLOSEOUT

1.0 PURPOSE

This procedure describes the processes for transferring contract files to the CM Document Control Center for forwarding to the Metropolitan Transportation Authority (MTA) when the contract is complete.

2.0 GENERAL

All correspondence and documents produced to support construction of MTA contracts are the property of the MTA, including all CM originated documents, logs, ledgers, and work related diaries and documents submitted by the contractor. The CM is required to transfer all and any project documents to the MTA on request of the MTA RMC, and to destroy document copies when and if directed by the MTA RMC. These procedures are compliant with the MTA document control procedures (See Section 6.0 References) and comply with minimum standard for records management and document control procedures for MTA Rail Construction / Procurement contracts.

2.1 PROCESSING TIME

After a contract is physically completed, the resident engineer (RE) has performed the necessary contract closeout processes, and the MTA has accepted substantial completion of the contract, the contract files will be transferred within 6 weeks to the MTA for long-term retention, and use by MTA Operations.

2.2 DOCUMENT INDEXES

Electronic indexes referred to in this procedure include the Records Management System (RMS) for correspondence and the Change Control System (CCS) for Change Orders, Change Notices, Requests for Information, Requests for Change, submittals, and claims.

3.0 DEFINITIONS

3.1 *Records Management System (RMS):* The automated MTA correspondence and document indexing and reporting system

3.2 *Sequence Files:* Correspondence and documents filed in sequence number order. See REP 3.4, "Document Control" for further definition.

3.3 *Case Files*: Files segregated by document type such as Change Orders, Submittals, Quality Documentation, Operations and Maintenance Manuals, Permits, Warranties and Guarantees. Such files are segregated to provide efficient retrieval for use by MTA Construction and/or Rail Operations.

3.4 *IMAGEABLE System:* The automated MTA document imaging and indexing system. NOTE: Close-out processes for field offices using the IMAGEABLE system may differ. Differences are noted below.

3.5 *Change Control System (CCS):* The MTA automated contract change and submittal tracking system. CCS is used to track and index RFIs, RFCs, Change Notice, Change Orders, Claim, and Contractor Submittals.

Heitmeyer, Mary

From: Simpson, Louisa
Sent: Thursday, September 19, 1996 9:04 AM
To: Heitmeyer, Mary
Subject: RE: Draft Baseline RE Manual

Mary:

FYI, I am working on the Federal Eligiblility section and will have revised language to you by Friday. LAS

From: Heitmeyer, Mary
Sent: Thursday, September 05, 1996 8:15 AM
To: Adams, John; Ford-McCaffrey, Linda; Kelsey, Larry; Kinsel, Jeanne; Lewis, Ted; Polechronis, Steve; Sandberg, Joel; Vranesh, Scott
Cc: Luk, Maria; Partridge, Dennis; Simpson, Louisa
Subject: Draft Baseline RE Manual

On 08/14/96, a draft of the proposed baseline RE Manual was submitted to you for evaluation and comment (under CTE). A three week review period was provided due to the size of the review package. Comments were due on 09/04/96. Please submit any comments on the RE Manual to M. Heitmeyer (USG 99-17-1) by Monday, September 9, 1996 latest.

"FYA" reviewers are required to sign and return their CTE forms and should do so by Monday, September 9, 1996. "FYA" reviewers are listed below:

C. Stark
J. Sandberg
S. Polechronis
H. Fuks

Any questions please contact Mary Heitmeyer at extension 27350.

Thank you

The current eligibility checklist Needs to be added to the RE manual/ replace existing one with updated one

Hill Int. is currently reviewing the checklist. Upon Hill approval + prior to final draft contact MTA Config. Mgmt. for an updated checklist

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
CONSTRUCTION DIVISION

RESIDENT ENGINEER MANUAL

This manual provides guidelines to assist the Construction Manager (CM) and its Resident Engineer(s) (RE) in the execution of the work. However, if the requirements in this manual conflict with the requirements and obligations in the MTA contract with the CM or MTA policies and procedures, the contract and the MTA policies and procedures shall govern, respectively.

~~The CM shall modify this manual as necessary to be project specific.~~ Also, if the MTA contract with the construction contractor conflicts with any requirement of this manual, the contract shall govern. The CM shall notify the MTA of all errors, inconsistencies and omissions that it discovers in this manual. The MTA is entitled to make any corrections and interpretations as it may deem necessary for the fulfillment of the intent of the contract.

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
RESIDENT ENGINEER MANUAL

TABLE OF CONTENTS (continued)

SECTION 4 CONSTRUCTION OPERATIONS

LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY
RESIDENT ENGINEER MANUAL

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DCR	Deficiency Notice
DOT	Department of Transportation
DPM	Deputy Project Manager
EEO	Equal Employment Opportunity
EMC	Engineering Management Consultant
EPA	Environmental Protection Agency
ESM	Engineering Services Manager
FAR	Federal Acquisition Regulations
FAST	Finance and Administrative Services Team
IOC	Interoffice Correspondence
LACMTA	Los Angeles County Metropolitan Transportation Authority
LAFD	Los Angeles Fire Department
MCA	Master Cooperative Agreement
MOC	Deputy Project Manager for Construction
MSDS	Material Safety Data Sheet
NCR	Non-Conformance Report
NTP	Notice to Proceed
O & M	Operations and Maintenance
OCIP	Owner Controlled Insurance Program (Wrap-Up Insurance)
OCS	Overhead Contact System
PAD	Public Affairs Department
PIDS	Platform Intrusion Detection System
PM	Project Manager
PMO	Project Management Oversight
PUC	Public Utilities Commission
QA	Quality Assurance

LIST OF ACRONYMS

AA	Affirmative Action
AFE	Authorization for Expenditure
AGC	Associated General Contractors
AQMD	Air Quality Management District
ART	Art for Rail Transit Program
ATC	Automatic Train Control
BOD	Beneficial Occupancy Date
CA	Contract Administrator
CAL/OSHA	California Occupational Safety and Health Administration
CAR	Corrective Action Request
CBF	Construction Billing Form
CCR	Consultant Change Request
CCS	Change Control System
CDRL	Contract Deliverables Requirement List
CF11	MTA Procedure for Change Control: Construction/Procurement Contracts
CM	Construction Manager
CMC	Configuration Management Consultant
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CSEP	Construction Safety Education Program
CSI	Construction Specification Institute
DBE	Disadvantaged Business Enterprise
DCC	Document Control Center

3.0 PROJECT ORGANIZATION

3.1 MTA ORGANIZATIONAL STRUCTURE

The MTA, which is governed by a 13-member board, is responsible for the planning, integration and funding of county-wide transportation services, as well as the long range development of a rail transit and commuter rail network. The MTA prioritizes and authorizes design and construction of the various projects of the county-wide rail transit network. MTA is also responsible for the full evolution of individual rail projects from initial concept through final design, construction and operations. The MTA organization and its relationship to the MTA Construction Division are shown in Exhibit 7.1.

The MTA has seven board committees comprised of members appointed by the chairperson of the MTA Board to oversee staff efforts and to present recommendations directly to the full MTA Board. The committees are:

- Executive Management Committee
- Finance and Budget Committee
- Operations Committee
- Planning and Programming Committee
- Construction Committee
- Cost Containment, Contracts and Efficiency Committee
- Real Estate and Asset Development Committee

The members of the MTA Board appoint a Chief Executive Officer to manage a professional and administrative staff to carry out the project mission among other duties. Under policy direction, the Chief Executive Officer oversees all MTA activities and staff; directs and participates in the development of goals, objectives, policies and procedures for MTA; and oversees strategic planning for programs and future direction. The Chief Executive Officer is also responsible for providing technical, administrative, and operational direction to agency staff, and maintaining communication and coordination with MTA Board members, elected officials, governments and other agencies.

3.2 MTA CONSTRUCTION DIVISION

The Metro Construction Division is responsible for the design, construction, and start-up of all rail transit systems within Los Angeles County. The Metro Construction Division develops policies and procedures to carry out the design and construction of all approved Metro projects -- including the Red, Blue, Green and Pasadena Lines.

Metro Construction has a responsibility for the day-to-day program management and control, design and construction management, safety and security, testing and start-up of rail transit projects. Metro Construction is supported by MTA resources for certain functions, such as public affairs, right-of-way acquisition and risk management, and by other MTA divisions.

The Metro Construction Division is comprised of the Executive Officer, professional staff, and consultants. Metro Construction staff is primarily management-oriented and provides day-to-day supervision of design and construction management consultants on specific projects. The Metro Construction Division is structured as a matrix organization in order to provide designated management and technical support to the Deputy Executive Officers/Project Managers while at the same time maintaining a consistent management

1.1 INTRODUCTION

1.0 PURPOSE

The Resident Engineer Manual establishes uniform procedures and policies to be implemented by the Resident Engineer (RE) for construction management of Metropolitan Transportation Authority (MTA) projects.

2.0 GENERAL

This procedures manual provides guidance for the RE on matters related to administration of construction/procurement contracts, control of construction/procurement work, and control of the RE's office. Additional key source documents and manuals include the following:

Supplied by the CM:

a. Construction Management Plan
b. Quality Control Manual
c. Quality Control Inspection Instructions
d. Construction Support Policies and Procedures Manual
e. Injury and Illness Prevention Program
f. Emergency Notification Procedures Manual

Supplied by MTA:

a. Change Control System Users Manual
b. Metro Rail File Coding Systems
c. Configuration Management Policies and Procedures
d. Design Criteria Vol. IV Part 1, 2
e. Standard Specifications Vol. VII
f. Standard Drawings Vol. VI
g. Directive Drawing Vol. V
h. CADD Drafting Standards Vol. VIII
i. Fire/Life Safety Criteria Vol. IX
j. Quality Management Procedure

The management philosophy for the Construction Manager (CM), as presented in the Contract Scope of Services, delegates maximum authority for construction management decisions to the REs. This philosophy envisions that the primary role of the CM is to perform the resident engineering function as it relates to the administration and management of the construction/ procurement contracts, to ensure construction of quality facilities and to provide quality management of the construction on behalf of the MTA. The construction management will be primarily focused in the RE offices, ensuring that the RE has or knows where to find the necessary technical and administrative expertise to fully administer all provisions of the contract.

To meet the MTA requirements for project control, project reporting and quality of construction, each RE's office will have support resources for the services of safety overview, scheduling, estimating, cost engineering, contracts administration, and quality control. The Project Controls functions and the Contract Administration functions are organizationally independent from the field construction management functions.

functional managers. The Deputy Executive Officers/Project Managers implement project activities in accordance with policies and procedures established by functional managers in order to ensure systemwide uniformity. The Deputy Executive Officers/Project Managers report directly to the Executive Officer. The following core project team members report directly to the Deputy Executive Officer/Project Manager:

- Deputy Project Manager (DPM) of Construction - The DPM of Construction is responsible for directing construction-related activities of MTA staff and the construction management consultant. The DPM of Construction is also responsible for interfacing with the involved public agencies and assuring that the construction work being performed meets the schedule and quality requirements of the project. The DPM of Construction reports directly to the Deputy Executive Officer/Project Manager and supervises the activities of the construction managers assigned to the project.

- Deputy Project Manager (DPM) of Engineering - The DPM of Engineering is responsible for managing the MTA engineering project support staff and interfacing with the Engineering Management Consultant (EMC). The DPM of Engineering oversees the EMC's work activities and ensures that the project design is performed in a cost-effective manner, consistent with applicable systemwide and project-specific standards. The DPM of Engineering supervises the activities of systems and facilities engineering managers and utility and third-party coordinators.

- Project Control Manager - The Project Control Manager is responsible for overseeing and implementing MTA and project-specific cost and schedule goals, objectives and procedures. The Project Control Manager ensures that the activities of the MTA staff and project consultants are in compliance with MTA's overall program control standards and requirements. The Project Control Manager supervises the activities of cost engineers and schedule engineers assigned to the project.

- Public Affairs Manager - The MTA Public Affairs Manager is responsible for managing the outreach program developed to communicate project construction impacts to residents, business owners, and commuters in the construction areas. Typical assignments include coordinating community meetings to disseminate information and obtain input about the project and its impact on the community, manning project exhibits and displays, responding to complaints and coordinating communications with the media.

- Contracts Manager - The Project Contracts Manager reports to the MTA Construction Director of Contracts and is responsible for planning, organizing, supervising and evaluating project contract staff activities. The Contracts Manager also interfaces with all levels of the project management team and develops methodology for clear and efficient communications with the Deputy Executive Officer/Project Manager, project support staff and consultants. The Contracts Manager supervises the activities of contract administrators who are assigned to work either full-time or part-time on the project.

ADD MTA QA AND SAFETY DEPT FUNCTIONS,

3.62 ENGINEERING MANAGEMENT CONSULTANT (EMC)

The EMC is responsible for all facilities design, civil and systems engineering, equipment systems design and engineering for the project. The services provided over the four phases of the project (preliminary engineering, final design, construction, and testing and operations(start-up) generally include, but are not limited to:

approach on all MTA projects. Exhibit 7.2 at the end of this section depicts the MTA Construction Division structure.

3.3 STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)

Caltrans is a state agency responsible for the planning, design, and construction of state-funded highway projects. Caltrans is responsible for the design oversight of the freeway and other segments of the project involving modifications to state facilities. The responsibilities of Caltrans for the project are described in detail in the Master Cooperative Agreement (MCA) between Caltrans and the MTA.

3.4 THIRD PARTIES

Other involved public agencies are those which are located directly along the route. Each city is responsible for design oversight, and in some cases, design of city facilities affected by the project. The responsibilities of each city are described in detail in the Master Cooperative Agreements executed between each city and the MTA. Other third party involvement is outlined in detail in the MTA Project Management Plan.

3.5 ?

3.6 ROLES AND RESPONSIBILITIES OF THE PROJECT TEAM MEMBERS

3.6.1 MTA PROJECT MANAGEMENT STAFF

A core MTA Project Management staff is dedicated to each project to ensure that project management goals and objectives are met utilizing resources assigned from the various functional MTA departments and consultants. By mandate of the MTA Board, the MTA core project staff is organized so that day-to-day design, construction and procurement activities are delegated to project consultants.

Project team members, including consultants, report directly to the MTA Deputy Executive Officer/Project Manager on specific project tasks. The directors, project managers, and deputy executive officers of the MTA are responsible for developing overall policies and performance requirements for the development and implementation of rail transit projects. For the project, these policies and performance requirements are communicated by the Deputy Executive Officer/Project Manager to the Deputy Project Managers (construction or engineering) who are ultimately responsible for their implementation and enforcement.

Overviews of the roles and responsibilities of the key MTA project team members are provided in the following paragraphs.

The Deputy Executive Officers/Project Managers are responsible for overall management of the project and for ensuring that management activities are conducted in accordance with the Project Management Plan. The Deputy Executive Officers/Project Managers are responsible for project financial accountability, contract management, schedule adherence, design quality, construction quality, operational functionality, safety, site security, and community relations (public affairs) during design, construction and integrated testing for the project. The Deputy Executive Officers/Project Managers are the primary authority for rail project design, construction, testing, close-out, and transfer to the operating division. The Deputy Executive Officers/Project Managers are responsible for identifying and defining the necessary resources and project team staffing required to manage the project throughout all design and construction phases and for coordinating assignment of the Metro Construction staff and consultants to the project team with the appropriate

- Issue Conformed Contract documents
- Document control coordination.
- Technical document maintenance and protection.
- Document storage and retrieval.
- Correspondence and technical documentation index development.
- Technical reference materials services.
- Procedures manual specification control.
- Document transfer and control procedures.
- Dissemination of project records.
- Document printing and distribution control.
- Document transfer coordination.
- Coordination and tracking of design change orders.

3.6.5 MTA OPERATIONS

The MTA Operations Division will be the system operator. In order to provide input relative to their specific requirements, the MTA has formed an operations and maintenance users group responsible for interfacing with MTA during the design, construction and start-up phases of the project.

3.6.6 OTHER THIRD PARTIES

Other third party organizations involved either directly or indirectly ~~with the Pasadena Blue Line,~~ and their general areas of concern, include, but are not limited to, the following:

- City of Los Angeles - Review of modifications and impacts to city-owned facilities.
- City of South Pasadena - Review of modifications and impacts to city-owned facilities.
- City of Pasadena - Review of modifications and impacts to city-owned facilities.
- County of Los Angeles - Review of impacts to county-owned facilities.
- Catellus Development Corporation - Union Station and Del Mar Station joint use agreements and easements.
- Ratkovich Villanueva Partnership - Review of impacts to private property.
- Southern Pacific Transportation Company - Review of impacts to rail services and facilities. Provide right-of-way at Cornfield Yard.
- Atchison Topeka & Santa Fe Railway Company - Review of impacts to rail services and facilities. Provide right-of-way.
- Southern California Regional Rail Authority - Review of impacts to rail services and facilities.
- Los Angeles City Department of Public Works - Design and inspection of relocated and new city facilities.
- Los Angeles City Department of Recreation and Parks - Provide temporary easements for rail facility construction.

- Perform systems design to a level adequate to solicit design/furnish/install bids and/or proposals from equipment manufacturers/suppliers/builders.
- Perform system/facilities integration and activities necessary to ensure safe and reliable operating rail lines.
- Produce bid documents for overhead contact system (OCS) pole foundations, duct banks, and drainage.
- Support the MTA on technical coordination with outside agencies and utility companies.
- Support the MTA in obtaining permits.
- Provide environmental support and compliance assurance.
- Prepare all construction and design/furnish/install bid documents including addenda and responses to bidders' questions in conjunction with the Contracts Manager (MTA).
- Prepare conformed contract documents.
- Provide bid evaluation support with the MTA and the CM, as requested.
- Work with the CM; provide design support services during construction, procurement and installation phases including shop drawing and submittal reviews, change order evaluations, testing evaluation, and claims evaluation.
- Provide support services during system start-up and activation.
- Support the MTA and the RE in the safety certification process.
- Provide operations and maintenance planning support.

3.6.3 CONSTRUCTION MANAGEMENT CONSULTANT (CM)

The CM is responsible for providing professional construction management services for the project in accordance with the Scope of Services. These services are provided during the final design, construction/procurement/installation and operation start-up phases of the project. The CM organization is addressed in Section 4.0 below.

3.6.4 CONFIGURATION MANAGEMENT CONSULTANT (CMC)

The CMC is responsible to the Construction Division for providing a variety of document control, records management and procedures development tasks in support of the project. During design development, the document coordination and control functions are performed internally by the EMC and are not the responsibility of the CMC.

The CMC performs support services systemwide. The MTA Manager of Records Management is the technical manager of the CMC contract. The services provided by the CMC include, but are not limited to, the following.

The management emphasis will be in the RE offices, ensuring that the necessary technical and administrative expertise to fully administer the provisions of the contract are available. To avoid and control claims, a philosophy of "partnering" will be instilled in the contractors and the entire CM organization. The RE's authority and ability to work with the contractors will be enhanced by providing a reasonable level of approval for field changes, typically $25,000.00.

Project controls, project reporting and construction services will support each RE's office and provide resources for scheduling, estimating, cost engineering, contracts administration and quality. The team will organize for an efficient, effective and professional organization. The CM team organization and the RE Office Organization are shown as Exhibits 7.3 and 7.4. It is the goal of the CM to achieve recognition for excellence from its performance on the project.

The RE is the primary point of contact with the contractor on the assigned contract after the Notice-to-Proceed has been issued. A typical RE office organization is illustrated in Exhibit 7.3. The RE is responsible for managing, administering, organizing, coordinating and inspecting all assigned projects in order to achieve completion of the contract in conformance with plans, specifications and approved schedules. As a representative of the MTA, the RE acts within his authority and in accordance with policies and procedures outlined in this manual, and any other applicable administrative instructions.

4.2 GENERAL CM PROJECT ORGANIZATION

4.2.1 The technical and administrative elements of the CM's project organization provide the necessary resources to support the REs in the performance of their duties. The support services provided by these offices, such as contracts, project control, and quality control are described in other sections of this manual.

4.2.2 Functions that support the field operations include project administration, project controls, scheduling, cost engineering, management information systems, document control, procurement, personnel management, accounting, community affairs, and safety/security.

5.0 RESIDENT ENGINEER'S FUNCTION

5.1 The Construction Manager's (CM) management philosophy places the prime responsibility for each contract with the respective RE. The RE is supported by other CM departments in performing his duties but all contact is made with the contractor through the RE.

5.2 The CM provides a staff of Resident Engineers, Office Engineers and Inspectors responsible for management and inspection during construction. This staff manages the construction contract work for conformance with the contract plans and specifications. The Resident Engineer is responsible for: prosecution of work by MTA contractors in accordance with approved schedule networks; coordination with other interfacing contractors; processing change orders and following procedures established by the MTA. The CM is responsible for implementing remedial action to maintain performance consistent with the MTA's objectives. The RE staff is trained in the areas of MTA procedures including quality and safety.

5.3 During preconstruction activities, the CM has a key responsibility for conceptual review of the design for constructability and interface between dependent contracts, as well as contractual language and specifications, construction schedule compatibility, special

- Los Angeles City and County Fire Departments - Fire and life safety and hazardous waste issues.
- Los Angeles City Police Department and Los Angeles County Sheriff's Department - Security and compliance with noise control.
- California Public Utilities Commission - Safety oversight of light rail transit system.
- Los Angeles Community Redevelopment Agency - Master planning and station design review.
- Los Angeles Department of Water and Power - Relocation of water and power facilities.
- Los Angeles City Department of Transportation - Design and review of work site traffic control plans.
- Los Angeles County Coroner/Medical Examiner - Investigation of human remains, if encountered.
- The Gas Company (previously called Southern California Gas Company) - Relocation of gas mains and laterals.
- AT&T, MCI, Sprint, Wiltel - Relocation of communications facilities.
- Pacific Bell - Relocation of telephone facilities.
- Access Transmission Services, Inc. (formerly Western Union) - Relocation of telegraph facilities.
- Cal/OSHA - Occupational safety compliance.
- Southern California Edison - Relocation of electrical distribution facilities.
- Pasadena Water and Power - Relocation of water and power facilities.
- American Cablevision, Crown Cable, Century Cable TV - Relocation of cable television facilities.
- Army Corps of Engineers - Activities within the Los Angeles River including temporary construction easements and permits.

4.0 CM ORGANIZATION

4.1 CONSTRUCTION MANAGEMENT PHILOSOPHY

The CM Team shares with the MTA the management philosophy for the project which will delegate to the RE maximum authority for construction management decisions. This philosophy envisions that the CM's primary task is for the Resident Engineer (RE) functions to assure the construction of a quality facility on time and within budget of which the MTA, the EMC, the CM and the cities involved can be proud.

to favor one viewpoint and loyalties are divided. The result is a breakdown in communications throughout the project. The RE can do a great deal to improve this relationship by an appraisal of his/her methods in dealing with the contractor. The RE should readily acknowledge his/her errors and accept full responsibility of the actions of subordinates.

The RE should be as quick to praise competent workmanship as to criticize incompetent work. He/she should at all times be candid, but diplomatic, about the contractor's performance. The RE should always observe the rules of professional conduct, good taste, and common courtesy. These may not seem to be compatible with the atmosphere about a construction project, but such is a false notion. The RE must always act in a professional manner if his instructions are to be respected.

Progress on the work should be regularly checked against the contractor's schedule and the required completion dates. It is quite proper to ask what the plan is to get a delayed portion of work back in step. Critical path scheduling is a contract requirement. A plan to complete all parts of the work on time is essential.

Finally, the RE should accept no gratuities from the contractor. Although such gratuities may seem harmless, their propriety may be questioned at some future date. Further, there is no clear definition as to what is an acceptable gift and what is not. Follow the MTA rules and policies.

5.4 During the project construction phase, the primary functions of the RE involve:

- Construction/Procurement contract administration
- Construction/Procurement accomplishment in accordance with the contract documents, good construction, and sound safety practices
- Construction/Procurement completion on schedule and within budget
- Proper documentation, negotiation, and processing of all charges, changes, claims, and backcharges
- Processing of progress payments in a timely manner, ensuring progress payment files contain sufficient backup to support payment
- Performance of required field quality control surveillance and inspections to ensure constructed and procured items comply with plans and specifications.
- Coordination and interface with the MTA Quality Assurance and Safety Departments
- Initiation of the project Emergency Response Plan
- Coordination and processing of Requests for Information and design changes
- Coordination with third parties, California Department of Transportation, public utilities MTA consultants and others.

The RE is responsible for managing contractor submittals, for conducting review of submittals with the EMC and third parties as required and for tracking the approval

construction-related contractor requirements, claims avoidance assessments, and value engineering studies.

5.3.1 Well in advance of construction, the RE should study the plans and specifications and become thoroughly familiar with them. Any necessary clarification should be sought from those responsible for the design through the EMC or general engineering consultant. If there is any question on the limits and quantities of the project, discussions with the MTA and the EMC or general engineering consultant to establish the owner's position should be held as soon as possible.

A preliminary schedule of operations obtained from the contractor will permit the RE to schedule the number and type of personnel he/she will need. Any necessary special training of personnel can be started, and the equipment necessary to properly inspect the project can be procured.

The contractor should be asked to discuss in detail the methods of construction he intends to use in each operation. His primary interest is in reducing costs and expediting the project. The RE is interested in quality construction as well as in expediting the project. These goals are not necessarily incompatible and every attempt should be made to find the construction procedure that will attain both. This is not as difficult as it appears.

It should not be taken as an affront by the RE when experienced construction (contractor) people offer excellent alternative ideas. Many times a less expensive procedure will actually add to the quality of the project. It will increase the contractor's confidence in the RE and strengthen their relationship if suggestions are considered. Any suggested change to the design documents must be processed in accordance with change control procedures.

During construction, the RE should make every attempt to resolve problems as soon as possible. It is true that answers given too quickly usually create more problems than they solve. But it is also true that answers delayed unnecessarily are equally harmful, even if they appear to give an impression of thoughtfulness. When a contractor is losing money due to wasted time, his interest in quality diminishes, his relationship with the RE deteriorates, and he will attempt to conceal future problems. Regardless of the above, ADHERENCE TO CONTRACT DOCUMENTS is mandatory.

The rule should be that a problem will be diligently pursued until a solution is clearly indicated. This will serve the interests of all persons concerned. Also, the RE should keep abreast of the contractor's problems. Job personnel often operate on a day-to-day basis with inadequate planning of details of the next day or week of work. A simple question about the plan for some operation, asked well in advance, will alert the contractor's forces to any special needs.

If it will not affect the quality of the project, the RE should volunteer ideas that will aid the contractor. This will have the two-fold effect of expediting the contract and helping to place the RE and contractor on a partnership basis. However, the RE must be careful not to consider the contractor's problems as his own. He/she should not try to run the job or tell the workmen what to do. A good approach may be, "Have you thought about..." or "Did you read in...about..."

The relationship of the RE and the contractor is as important to the quality of the project as any other single factor. When a poor relationship exists, personnel on the project tend

- Implementing claims mitigation and claims resolution actions
- Surveillance of in-process work and final acceptance testing through witnessing and documentation review
- Assisting MTA in maintaining a highly visible safety program
- Monitoring and reporting contractor compliance with federal, state, and local government requirements
- Coordinating survey work performed by CM surveyors and surveying consultants for the project
- Coordinating utility work for the project
- Receiving and approving all operations and maintenance manuals prepared and submitted by contractors and/or suppliers
- Processing and coordinating responses for the interpretations of contract documents and requests for information from contractors
- Coordinating movement of Client-supplied equipment and material to jobsites
- Recommending construction techniques to expedite the project
- Monitoring contract compliance with environmental requirements
- Recommending "off-hour" construction, when desirable
- Managing the performance or operational and startup tests and runs of equipment, including tests to verify the compatibility of related systems
- Receiving, controlling and disposition of spare parts
- Providing support for training of operational personnel
- Providing support in the verification of reliability requirements set forth in systems specifications
- Enforcing warranty provisions set forth in system specifications during the life of the contract
- Implementing a specification conformance checklist
- Managing the contract closeout process
- Responding to community-related complaints and assisting in mitigation of impacts
- Supervising coordination and installation of Artwork for Transit
- Coordinating the application process to secure required permits

process of submittals within the time frame specified in the contract documents or earlier. The RE will maintain the submittal status tracking system.

The RE will also ensure that all contract deliverables are properly documented and promptly processed. These construction/procurement contract deliverables include, but are not limited to, submittals (i.e., shop drawings, working drawings, vendor data, calculations, etc.). As specified in the technical specifications of the contract, these deliverables include:

- Quality control plans
- Construction Work Plans
- As-builts/redline drawings and specifications
- Testing Plan
- Contractor Construction Schedule (Contract Schedule)
- Safety and Security Plan
- Value engineering change proposals
- Master list of submittals
- Claims
- Progress payment requests
- Safety certification documentation and supporting data

As the authorized representative of the Client, the RE's responsibilities include:

- Coordination of all construction/procurement activity, including interface between contracts and follow-on contractors
- Management of construction management forces
- Documenting, verifying, and reporting contractual progress
- Management of contract documentation
- Monitoring contractor progress against the approved schedule and obtaining work-around plans
- Working with contractor to develop and implement corrective actions to mitigate delays
- Reviewing specific types of contractor submittals for content and format. Processing appropriate submittals to and from contractors and the reviewing entity (normally) the Engineering Management Consultant (EMC)
- Implementing and managing the change control process, including processing valid contract Change Orders and extensions of time
- Issuing contract ~~Noncompliance~~ Reports (NCRs) and implementing corrective action
- Maintaining contractor deficiency lists
- Assessing contractor requests for extra payment and initiating approval actions for valid claims

and partial or complete terminations is issued only from the MTA. If the CM intends to implement one of these actions, they must coordinate it with the MTA Contract Administrator. Letters on these matters must be signed by the Deputy Executive Officer/Project Manager as the potential monetary consequences may significantly exceed the authorities issued to the Construction Manager. In addition, because of the potential consequences, it may be necessary for MTA staff to notify the MTA Board of Directors of such actions.

5.6.2. CONTACT WITH OTHER CONTRACTORS

Contractors who are under the authority of other RE's should not be contacted directly but only through the RE in charge of that contractor's work. The normal chain of command shall be respected at all times.

5.6.3. CONTACT WITH THE MTA ADD MTA QA & SAFETY

The RE maintains both formal and informal communication with the MTA. Authorized representatives of the MTA, federal, state and local governments shall at all times have full access to the work being performed by or under the responsibility of the RE.

The following are RE contacts with MTA personnel:

(1) MTA Construction Manager (MTA/CM) - The RE maintains informal contact with the MTA CM assigned to his/her contract. Should the RE wish to formally correspond with the MTA/DPM for Construction he shall prepare a letter to the MTA for the PM's signature.

(2) MTA Contract Administrator (MTA/CA) - The RE maintains an ongoing informal line of communication with the MTA/CA assigned to his/her contract including copying the MTA/CA on incoming and outgoing correspondence which addresses commercial contract matters; i.e., those arising from sections portions of the Contract Documents other than the plans and technical specifications.

(3) MTA Labor Compliance Analyst - In order to coordinate and expedite review and processing of Labor Compliance documentation by the MTA Labor Compliance Consultant, the RE has a direct formal line of communication with the assigned MTA Labor Compliance Analyst. The contractor's original certified payrolls, EEO forms and other labor compliance documents shall be forwarded, via a serialized Letter of Transmittal signed by the contractor, directly to the MTA Labor Compliance Consultant. The contractor shall send a copy of the Letter of Transmittal to the RE and MTA Labor Compliance Analyst.

(4) MTA Public Affairs Manager - The MTA Public Affairs Department is responsible for all liaison with the public. Requests for information, presentations, and tours shall be directed to the MTA through the Public Affairs Manager.

(5) Contact with archaeologists or artists such as sculptors, painters, photographers, etc., assigned by MTA/ to work within the contract limits will be in the same manner as any other contact with the public. If a request is made to remain on the premises for an extended period of time, written approval from the MTA is required.

5.5 THE RESIDENT ENGINEER'S JURISDICTION

The RE is the field representative of the Construction Manager to administer the contract specifically assigned. An Office Engineer, Inspectors and a secretary will assist the RE in administering the Contract on the jobsite.

Normal day-to-day contact and correspondence with the contractor shall be through the RE except for the following specific contract actions which are conducted directly between the MTA/ and the contractor:

- Notification of Award
- Notice-to-Proceed (NTP) with Contract
- ~~Monthly payment processing~~ ~ ?
- Rendering of Final Decision in Contract Disputes
- Final Acceptance of the Work
- Submission of DBE Reports
- Bonding and Insurance Issues
- Escrow Agreement

The RE shall maintain copies of the above items except DBE reports and the Escrow Agreement in the Field Office Contract files.

The RE will monitor the progress of the Work and all questions regarding the acceptable fulfillment of the construction contract by the contractor. The RE's approval will be contingent on inspection and approval by regulatory agencies, where applicable.

The RE will maintain a good rapport with the public and will work with the contractor and the MTA Public Affairs Department to minimize adverse impacts of construction operations on the public.

The RE will determine the value and quantity of work performed and materials which are to be paid for under the contract when approving progress payments. The project office scheduler will assist in this determination.

5.6 RESIDENT ENGINEER INTERFACES

The Resident Engineer interfaces and corresponds with many project participants on both a formal and informal basis. All correspondence generated by the RE shall be serialized in accordance with MTA identification numbers and acronyms in accordance with Document Control Section 3.4 of this manual. The following are interfaces maintained by the RE including definition of appropriate lines of communication.

5.6.1. CONTACT WITH THE CONTRACTOR

The RE shall be the primary contact with the contractor. Contact with subcontractors or vendors shall only be made through the contractor.

With the exception noted in Section 5.5 above, all correspondence to the contractor shall be signed by the RE. It will be the responsibility of the RE to arrange through the Project Manager assistance and direction on such matters as contract interpretation, schedule slippage, potential claims, change proposals, contract overruns and testing of materials. Correspondence such as notices of default, stop work orders (except in emergencies),

Exhibit 7.5

VISITOR'S REGISTER LOG

CONTRACT NO.	PRINT NAME	SIGNATURE	AFFILIATION	PERSON TO SEE	TIME IN	TIME OUT

FORM #___

Exhibit 7.4

RESIDENT ENGINEER'S ORGANIZATION (TYPICAL)

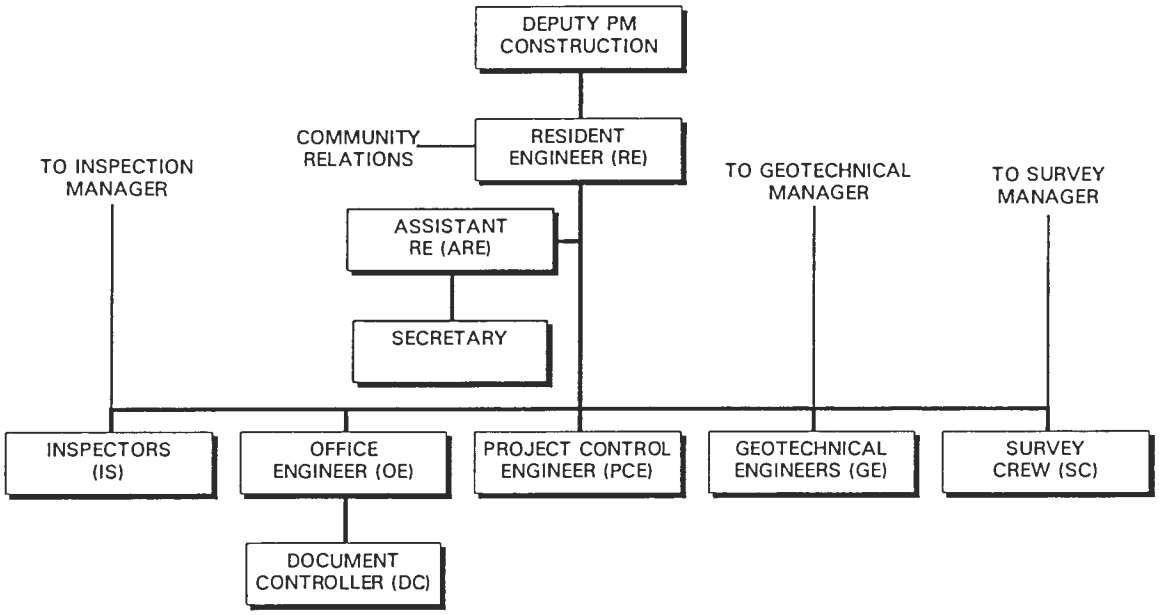

Exhibit 7.2

RECORDS STORAGE CARTON LABEL

RECORDS STORAGE CARTON LABEL					
GROUP	**FUNC. DEPT./RE.OFFICE**	DATE MONTH		DAY	YEAR
RETENTION SCHEDULE					
❑ PERMANENT	❑ RETAIN UNTIL NOTIFIED				PACKED BY
❑ INDEFINITE	❑ RETAIN UNTIL	MONTH	YEAR		
STORED BY	DATE	LOCATION CODE:			

FORM #___

Exhibit 7.1

RECORDS INDEX AND STORAGE REQUEST (SAMPLE)

Contract Number:	Group:	Dept./RE Office:	Date:	Box Number*:

Retention Schedule		Location Code
[ ] Permanent	[ ] Retain Until Notified	Hard Copy *:
[ ] Hold for transfer to	[ ] Retain Until:	

This section must be completed by typewriter/computer or it will not be accepted by Document Control

Index Code	Record Title(s)	Sequence/Date Range

Packed By:	Mgr/RE Approval:	Checked/Approved	Stored By*:	Transferred to MTA:*	Sheet:

** To be completed by records storage personnel*

FORM #____

by the contractor. Measurement of principal quantities will be performed as follows:

- Concrete measurement is made to neat line outside dimensions, as shown on lift drawings. Progress on concrete placement shall be maintained by lift number and take-off quantities. While not required for pay estimates, it is recommended that daily progress be depicted by colored areas on a schematic diagram or layout of concrete placement areas. The same visual approach would be used to show progress where numerous utility systems overlap.

- Rebar quantities are computed from cutting and bending sheets prepared by metal fabricators. The RE ensures that standees, chairs, and other rebar not specifically required by contract document are not included in chargeable quantities.

- Except as may be specifically called out on the Contract Drawings, excavation and backfill is calculated based on the external dimensions of concrete placement as indicated on lift drawings.

5.3.4 FIELD MEASUREMENTS AND VERIFICATION

Numerous items are required to be measured in place. Frequently, the measurement of such items must be made while they are being installed or while accessible. To prevent future disagreement, it is recommended that measurement of any unit price item (e.g., piping, valves, conduit, waterstop, and miscellaneous metal) be made jointly and in mutual agreement between the RE and the contractor.

5.3.5 COPY OF CONTRACTOR MEASUREMENTS

The RE or members of his staff may not always be available when the above measurement is being performed. For this reason, the RE will require the contractor's inspector to provide a copy of all measurements taken by the contractor.

5.3.6 OTHER MEASUREMENTS AND CERTIFICATIONS

Certain bid item pay quantities will be derived from certified shipping weights, bar lists, scale weights, cut sheets, meter readings, and mill test reports, as specified in the Contract Documents. This data must be checked, compiled to determine progress payments and final quantities for the respective items.

5.4 LUMP SUM PAY QUANTITIES

5.4.1 SUPPORTING DATA

Progress payments made against lump sum items require supporting data for justification of reasonable partial payment. The RE shall use the information recorded in the DIRs as a primary source in determining the percentage of completion within the pay period.

5.4.2 SCHEDULE OF VALUES

A well prepared and maintained Schedule of Values will provide an initial basis for agreement between contractor and RE. The RE will ensure that the level of detail is sufficient to readily access the cost percentage completion of each bid item.

For contracts that are not "pay-off-the-schedule," Project Controls forwards a contract skeleton form to the RE on the last day of the current work period, which is the last Friday of the calendar month. The RE and the contractor agree to the quantities and amounts indicated on the Skeleton Form for the period.

5.0 PROCEDURE

5.1 RECORDS MAINTAINED

The project control engineer maintains monthly records, which provide backup for all payments, including sub-items for each task identification code in the approved schedule baseline and/or lump sums, as contained in the approved Schedule of Values. These records include all necessary data to support the respective quantities installed that month. Pay records are subject to audit and must be maintained in a neat, orderly manner and kept up-to-date.

5.2 MEASURING AND DOCUMENTING PAY QUANTITIES

The various methods for measuring and documenting pay quantities on both a unit price and lump sum basis are described in Subsections 5.3 and 5.4.

5.3 UNIT PRICE ITEMS

5.3.1 MAINTAINING TABULATIONS

For contracts that have a Schedule of Values as a requirement, quantities shall be verified in accordance with the Schedule of Values. For contracts that do not have a Schedule of Values, the project control engineer shall maintain monthly records, including tabulation, for those unit-priced items installed that month for contracts that are not "pay-off-the-schedule." Quantities are shown, when possible, by location (e.g. between stations, columns, or elevators or, in the case of concrete and rebar, by lift number) as detailed on lift drawings. Other information to be recorded includes the pay item number, pay quantity and description, unit of measurement, unit price, and quantity installed.

5.3.2 THEORETICAL COMPUTATION

Actual pay quantities shall be mathematically computed, measured, and counted. Calculations are based on accurate dimensions determined from the Contract Drawings (e.g., Measurement and Payments Limit Drawings). The computations must be prepared in a conventional manner. Reference should be made to applicable drawings. Sketches may be attached to supplement the calculations. All final calculations must be independently checked before comparing with the contractor's calculations. Wherever possible, final quantities shall be computed before work commences on the item, or as soon thereafter as possible, thereby enabling realistic progress payments and preventing overpayment.

5.3.3 TOTAL QUANTITY TAKEOFFS

Total quantity takeoffs are to be made for major unit price items, including excavation, concrete, rebar, and backfill. In order to establish a common basis for use throughout the execution of the contract, the RE will coordinate these findings with quantities estimated

Heitmeyer, Mary

From: Heitmeyer, Mary
Sent: Thursday, February 13, 1997 10:25 AM
To: Baca, Michael; Dwyer, Donald C.
Cc: Partridge, Dennis; Simpson, Louisa; Curzon, Dianne
Subject: FW: RE Manual
Importance: High

Mike and Don

I delivered copies of the Claims, Claims Avoidance, and Back Charges sections of the final review draft of the RE Manual for your review and comment. A final CTE comment resolution meeting has been scheduled (see below) to resolve any outstanding issues - please attend or brief and send an alternate if you have **any** issues needing to be addressed prior to issuance. If you do not attend or send an alternate your concerns will be considered for incorporation in a subsequent revision.

As the designated document owner, H. Priluck will be present to determine final disposition on all issues.

When: **Tuesday, February 18, 1997**
Time: **10:30 a.m. - Noon**
Where: **USG - 17th Fl. Monterey Conference Room**

Any questions give me a call x27350

Thanks
Mary

From: Heitmeyer, Mary
Sent: Wednesday, February 12, 1997 6:19 AM
To: Nijland, Albert
Cc: Simpson, Louisa; Curzon, Dianne
Subject: RE Manual

Al

I am sending you an additional copy of the RE Manual along with a copy of H. Storey's CTE comments (I understand they include your concerns). Please use this copy for mark-up/comment. If the final review draft addresses your concerns, please sign the "Accepted by" line on the CTE form included with the package and return to MTA Configuration Systems by February 17th. If it does not, please attend the CTE resolution meeting scheduled as follows:

When: **Tuesday, February 18, 1997**
Time: **10:30 a.m. - Noon**
Where: **USG - 17th Fl. Monterey Conference Room**

If you cannot attend - brief and send an alternate. As the designated document owner, H. Priluck will be present to provide the final disposition on all disputes.

Any questions contact me at extension 27350.

Thanks
Mary (Your CTE copy of the RE Manual was mailed at 6:18 a.m. 2/12/97)

Heitmeyer, Mary

From: Heitmeyer, Mary
Sent: Wednesday, February 12, 1997 6:19 AM
To: Nijland, Albert
Cc: Simpson, Louisa; Curzon, Dianne
Subject: RE Manual

Al

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Time: **10:30 a.m. - Noon**
Where: **USG - 17th Fl. Monterey Conference Room**

If you cannot attend - brief and send an alternate. As the designated document owner, H. Priluck will be present to provide the final disposition on all disputes.

Any questions contact me at extension 27350.

Thanks
Mary (Your CTE copy of the RE Manual was mailed at 6:18 a.m. 2/12/97)

Heitmeyer, Mary

From: Heitmeyer, Mary
Sent: Tuesday, February 11, 1997 1:17 PM
To: Champion, David; Cohen, James; Foreman, Edward; Kinsel, Jeanne; Priluck, Herbert; Sievers, Dave; Storey, Hal
Cc: Simpson, Louisa; Curzon, Dianne
Subject: MTA Baseline Resident Engineer's Manual

To all:

The final review draft of the baseline MTA Resident Engineer's Manual has been forwarded to you (along with a copy of your CTE comments) for review and acceptance. Please review the final document against your CTE comments. If the final draft responds satisfactorily to your CTE comments, sign the "Response accepted by" line on your CTE form and return it to MTA Configuration Systems by February 18, 1997.

If you have additional comments, a **CTE resolution meeting has been scheduled for February 18, 1997, from 10:30 to Noon in the 17th floor Monterey Conference room**. If you cannot attend please brief and send an alternate. If you do not attend (or send an alternate) it will be considered as concurrence with the manual as submitted. As the manual owner, Herb Priluck will be responsible for final decision on any disputes.

Any questions contact M. Heitmeyer at extension 27350.

Heitmeyer, Mary

From: Curzon, Dianne
Sent: Monday, March 17, 1997 1:58 PM
To: Priluck, Herbert
Cc: Simpson, Louisa; Heitmeyer, Mary
Subject: Baseline RE Manual

Louisa has asked me to provide you with a status on issuing the baseline RE manual. All of the comments have been incorporated. I am in the process of going thru each procedure, one last time, to ensure consistency in terms and references and also assigning form numbers. An index of the forms and exhibits will need to be revised. Some forms and exhibits need to be acquired. The scheduled issue date will be April 1, 1997.

Any questions, please call 922-3831.

Return to

Heitmeyer, Mary

From: Escalle, Mike
Sent: Tuesday, December 17, 1996 1:13 PM
To: Heitmeyer, Mary
Subject: RE: FDI Work Order (Support processing of the baseline RE Manual)

Mary,

The NTP was issued 11/25/96 for $6,000. This is what authorized them to start work on the Manual. Their original cost proposal was submitted on 11/1/96. You directed them to revise the proposal with a reduced level of effort. They have not resubmitted the proposal. I will check on the status and ask them to include the 40 additional hours. Just a reminder that the CWO cannot be issued until the contract is executed.

From: Heitmeyer, Mary
Sent: Tuesday, December 17, 1996 11:55 AM
To: Escalle, Mike
Cc: Luk, Maria; Simpson, Louisa
Subject: FDI Work Order (Support processing of the baseline RE Manual)

Mike,

Louisa and I met with Fluor-Daniel today. We have directed FDI to incorporate comments and provide a final draft baseline RE Manual to us by the second week in January 1997. Based upon the work requested, Louisa is adding 40 hours to the original Work Order. Please revise the FDI Work Order from 60 hours to 100 hours.

Please notify Louisa or I when this has been completed. In addition, I still need the date the original Work Order was drafted, when it was approved, and when the NTP was issued.

Thank you
Mary

L. Simpson 12/27/96
L. Simpson
MTA Director of Configuration Systems

Mike Escalle 12/18/96
M. Escalle
MTA Contracts

Simpson, Louisa

From: Simpson, Louisa
Sent: Friday, October 04, 1996 9:30 AM
To: Escalle, Mike
Cc: Adams, John; Heitmeyer, Mary; Sandberg, Joel
Subject: MTA RE MANUAL: REVISION STATUS AND RESPONSIBLITY

Mike:

As you are aware FDI was working on a task for us to coordinate creating the MTA RE Manual. FDI provided all the original coordination work up to creating a draft for issued for formal evaluation under the MTA document baselining process.

I have received and reviewed the comments and believe that there is somewhere in the range of 20-30 hrs of work to incorporate the comment revisions. We would like for FDI to do this work, since my department is currently understaffed, and will not have time available until 11/21/96 to start on this task.

Are there enough hours left in the current FDI Task Order for this work, and, if not, what do we need to do to increase the hours?

Please get back to me ASAP. Thanks

LAS

Simpson, Louisa

From: Simpson, Louisa
Sent: Monday, October 14, 1996 8:39 AM
To: Escalle, Mike
Cc: Adams, John; Heitmeyer, Mary
Subject: FW: MTA RE MANUAL: REVISION STATUS AND RESPONSIBLITY

Mike:

I haven't heard back from you on this issue. Please advise as to how to proceed to get FDI back working on the RE manual.

Thanks

LAS

From: Simpson, Louisa
Sent: Friday, October 04, 1996 10:30 AM
To: Escalle, Mike
Cc: Adams, John; Heitmeyer, Mary; Sandberg, Joel
Subject: MTA RE MANUAL: REVISION STATUS AND RESPONSIBLITY

Mike:

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Please get back to me ASAP. Thanks

LAS

Simpson, Louisa

From: Simpson, Louisa
Sent: Monday, October 28, 1996 3:14 PM
To: Heitmeyer, Mary
Subject: RE: FDI - RE MANUAL

Ellsworth Nadeau called me today. We are meeting at 2:00 tommorrow to scope the task.

From: Simpson, Louisa
Sent: Monday, October 28, 1996 1:27 PM
To: Heitmeyer, Mary
Subject: RE: Telephone Message - Mary Heitmeyer

I didn't know I was supposed to call him.

From: Luk, Maria
Sent: Thursday, October 24, 1996 2:52 PM
To: Simpson, Louisa
Subject: Telephone Message - Mary Heitmeyer

2:44 p.m. Mary Heitmeyer 2-7350
She would like to know if you got in touch with Frank John (?) from FDI to discuss scope of work in providing some word processing services for us on the RE Manual and their expertise in their response to comments. Please let her know. Thanks.

Simpson, Louisa

From: Simpson, Louisa
Sent: Friday, October 04, 1996 10:30 AM
To: Escalle, Mike
Cc: Adams, John; Heitmeyer, Mary; Sandberg, Joel
Subject: MTA RE MANUAL: REVISION STATUS AND RESPONSIBLITY

Mike:

As you are aware FDI was working on a task for us to coordinate creating the MTA RE Manual. FDI provided all the original coordination work up to creating a draft for issued for formal evaluation under the MTA document baselining process.

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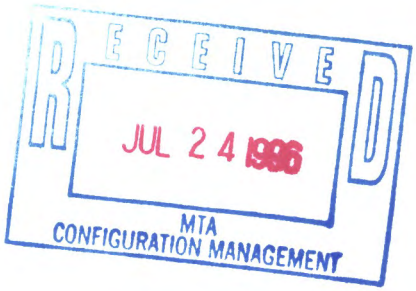
Please get back to me ASAP. Thanks

LAS

FLUOR DANIEL

Fluor Daniel, Inc.
707 Wilshire Boulevard
Suite 3730
Los Angeles, CA 90017
Tel: (213) 312-3222



July 23, 1996

Systemwide Project Management
Oversight and Assistance
Contract R90-FM-014
Fluor Daniel Contract 04578400

Mr. John J. Adams
Deputy Executive Officer
Los Angeles County Metropolitan Transportation Authority
PO Box 194
Los Angeles, CA 90017

Attention: Louisa Simpson

Dear Mr. Adams:

Draft Generic Resident Engineer Manual
Project Management Assistance Tasks 30/20/007 and 90/20/015

Fluor Daniel, Inc. (FDI) is pleased to transmit one hard copy and one electronic copy (four IBM PC diskettes, Microsoft Word for Windows Version 6) of the final draft of the Generic Resident Engineer Manual in fulfillment of Project Management Assistance Tasks 30/20/007 and 90/20/015.

The manual represents a compilation of Resident Engineer Manuals used on the Metro Green Line, the Metro Red Line Segment 2, the Metro Red Line Segment 3, and the Pasadena Blue Line. Pursuant to your instructions, the draft was processed through a review committee comprising selected members of the Los Angeles County Metropolitan Transportation Authority (MTA) staff (H. Fuks, H. Priluck, J. Cohen, J. Christiansen, L. Simpson, L. Graw, D. Jackson, W. Moore, D. Mori, and County Counsel). Comments that were received as a result of the committee's review were incorporated as appropriate.

It should be noted that this draft document does not incorporate any major revisions to Section 6.5 "Changes" as your staff indicated that the MTA Change Control Procedure (CF-11) was undergoing revisions. When revisions to CF-11 are complete, the Resident Engineer Manual should be revised accordingly.

FDI understands that this document will circulate through the MTA formal Technical Evaluation Process. Should you need additional assistance in responding to comments generated as a part of this process, please feel free to contact Mr. Ellsworth Nadeau at (213) 312-3213 or me at (213) 312-3211.

Sincerely,

Ken B. Johns
Project Director

KBJ/EAN:meg

Attachment

cc: A. Rodriguez, MTA
C. Stark, MTA
File No. 7.3.068.00007
File No. 7.9.016.00015

December 10, 1996

I have reviewed the proposal from FDI regarding incorporating and resolving conflicts on the baseline MTA Resident Engineer's Manual. My comments are as follows:

1) FDI is requesting hours to collect CTE comments, however, MTA Configuration Management provided the CTE comments to FDI. Eliminate the hours associated with collecting CTE comments.

2) FDI plans to hold a meeting of the RE committee to discuss the CTE comments prior to incorporation of said comments. I believe it would be much more efficient to input the comments in a draft manual, distribute the manual (along with a copy of each reviewer's comments) to the commentors for review and acceptance, and then call a meeting of the committee. The meeting would be held to resolve any remaining issues and should include the committee and the reviewers who still had issues.

   a) Inputting the comments as presented, spell check, and a proof the should not exceed 16 hours.
   b) Distributing the draft (with a copy of the reviewers comments) to each commentor for review and acceptance should not exceed 4 hours.
   c) The meeting to resolve outstanding comments should not exceed 2 hours. The estimate is calling for three FDI employees to attend this meeting, I do not believe it is necessary to have three representatives. FDI should send their project task leader and the representative who will be incorporating the dispute resolutions into the manual.

3) Incorporate dispute resolutions into final draft RE manual, perform spell check, and proof updated sections - should not exceed 8 hours.
4) Conduct final meeting, present final draft to committee members and resolve any remaining disputes; should not exceed 2 hours.
5) Incorporate any additional dispute resolutions; should not exceed 4 hours.
6) Submit final RE manual for approval to MTA Configuration Management; should not exceed 4 hours.

Item #	Description	#FDI Reps	Total hours
1	Collect CTE comments	0	0
2a	Input comments as presented into draft RE Manual	1	16
2b	Distribute draft ,with copy of the impacted reviewers comments, to each reviewer for review and acceptance.	1	4
2c	Schedule and conduct meeting to resolve any outstanding issues raised during step 2b.	2 (as described above)	4
3	Incorporate dispute resolutions into final draft, perform spell check; and proof updated sections.	1	8
4	Schedule and conduct final meeting, present final draft to members who had dispute resolutions incorporated into the RE manual. Obtain acceptance or additional comments. (2 hours; 2 FDI reps)	2	4
5	Incorporate any additional comments from the final meeting.	1	4
6	Submit final RE manual to MTA Configuration Management for approval processing	1	4
?	Why are E. Nadeau's hours listed separately under FDI heading? What are we getting for Ellsworht's 50 hours?		
	*We could add an additional 8 hours for cushion/unforeseen problems	Total Hours	44