



**Quality Control Program Manual
for
Contractor, Source and Production**

**Department of Public Works
Quality Control Program**

Revised 7-1-02

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SECTION 1

Precedence and Introduction

1.01 Precedence

This specification shall be considered a Special Provision to the Clark County Uniform Standard Specifications for Public Works' Construction Off-Site Improvements for Mesquite, Nevada. This specification shall be applied to the project in accordance with Section 105.04 of the Clark County Uniform Standard Specifications.

The scope of this specification covers many sections of the Uniform Standards and shall be applied to all sections as can be reasonably determined.

All Water Works construction will follow the most current Virgin Valley Water District Design Standard and Specifications for Water Works Construction.

All Sanitary Sewer improvements will follow the most current Design and Construction Standards for Wastewater Collection Systems of Southern Nevada.

1.02 Introduction

The contractor has responsibility for the quality of all materials and workmanship on any project, including but not limited to all aspects of testing, inspection, submittal, etc. This specification is intended to quantify the requirements for acceptance of materials and to establish a minimum standard for the control of quality within a project. Quality Control is an important component of acceptance testing and inspection for the project. Thus, Quality Control must be performed at a frequency which ensures the Agency that the materials meet specifications for acceptance for Public Works, Private Subdivision, Commercial and Industrial projects.

One major goal of this program is to set the standards for City of Mesquite Public Works testing, testing frequencies and inspections for a specific project. This will be through the use of Qualified Materials from the Clark County Inter-Agency Quality Assurance (IQAC) Qualified Materials List.

In effect, this will provide a higher level of Quality Control as follows:

Quality Control Type	Typical Organizations
<i>Source</i>	Aggregate pits, aggregate base pits, etc. The <i>Source</i> Organization typically manufactures construction materials from raw materials.
<i>Production</i>	Batch plants, precast plants, etc. The <i>Production</i> Organization typically combines two or more <i>Source</i> provided materials into an aggregate material.

All Source and Production organizations will establish, submit, execute and receive, Clark County's IQAC approval for Qualified Material. Once Source and Production organizations are IQAC Qualified, and copies of the IQAC approved mix designations are submitted to the City of Mesquite Public Works Department, and the Project Engineer the material will be allowed on Public Works projects.

SECTION 2

Control of Work

2.01 General

The General Contractor has responsibility for all the materials, workmanship and Quality Control on the Project.

When interpreting testing or inspection requirements from the Uniform Standard Specification, any reference to the Owner, Engineer, Contracting Agency, Agency, etc. which is related to testing and inspection shall be considered as a requirement on the Source, Production and/or Contractor Quality Control Programs as applicable.

2.02 Cooperation Between Contractors

The General Contractor has responsibility for all Quality Control Measures required for all Sub-Contractors. All Sub-Contractors shall also abide by all Control Measures of the City of Mesquite Quality Control Program.

When the City of Mesquites Quality Control Program does not contain Quality Control Measures or Procedures for a particular "Item" of work performed by the General Contractor or Sub-Contractor, the City of Mesquite and General Contractor and/or Sub-Contractor shall be required to establish, submit, execute and receive approval for a new procedure for this "Item."

2.03 Qualifications of Testing Personnel

Organizations that perform materials testing services will be required to provide field personnel to be certified by the Western Alliance for Quality Transportation Construction (WAQTC) or Nevada Alliance for Quality Transportation Construction (NAQTC). All personnel will be subject to approval by the City of Mesquite prior to the work being completed.

All testing shall be performed by an AASHTO accredited laboratory. Included in this accreditation is participation in AMRL/CCRL proficiency sample programs related to the materials addressed. In addition, the Agency may periodically distribute proficiency samples and require the materials testing laboratory participation.

2.04 Elevation and Grade Control

All Elevation referenced for location of test, inspection or submittal shall be from those listed in the table below.

Abbreviation	Grade Name	Description of Grade
FG	Finish Grade	Final elevation for the top of completed work
FGAB	Finish Grade - Aggregate Base	Final elevation for the top of Aggregate Base
FGE	Finish Grade - Embankment	Final elevation for the top of Embankment Fills
FGS	Finish Grade - Subgrade	Final elevation for the top of Subgrade *Note 1

Note 1: The Finish Grade - Subgrade elevation shall only reference the top of the "scarified", "in-place", "native", "original ground" material. This elevation Shall Not be used to reference any portion of embankment materials.

In Trench Zone work, this elevation shall be the bottom of the trench excavation only, all other elevations shall be referenced to FGE, FGAB or FG.

In the event that the Aggregate Base Zone is placed directly on scarified original ground, the FGS elevation shall be used for the top of native subgrade.

All elevations shall be "called out" as one of the Finish Grade elevations noted in the table above ***minus the number of feet below that grade***

An example would be Finish Grade Aggregate Base minus 0.5 feet or FGAB-0.5'. In the example, the elevation stated would be one-half of one foot below finish grade for the aggregate base.

Another example would be a trench backfill operation currently being tested two (2) feet above a three foot thick pipe zone in an eighteen (18) foot total depth trench measured from Finish Grade (FG) would be FG-13'. Alternately, if the pavement zone and aggregate base zone are not given for the work, the elevation may be FGE-13' for the same excavation where the surface elevation is Finish Grade Embankment.

When available for the Project, the actual elevation in feet above sea level shall be noted on all documentation, in addition to the elevation "call out" above.

SECTION 3

Control of Materials

3.01 General

The City of Mesquite will maintain one type of materials list: the "Qualified Materials List" for materials by type. All material used will be required to be on the IQAC Qualified Materials list and copies of those mix designs for each project will be submitted to the City of Mesquite Public Works Department and Project Engineer for future reference.

Source and Production Organizations seeking evaluation of a material to be listed in the Qualified Materials List must contact Clark County Public Works.

3.02 Level 3 - "Non-Authorized Materials"

These materials will not be allowed by the City of Mesquite. Approval must be received from the Clark County Public Works prior to incorporation into the City of Mesquite Public Works, Private Subdivision, Commercial or Industrial projects.

Submittal Requirements

A full submittal package, including certification of component materials, test results of components and finished material, design criteria, etc. must be submitted to and approved by Clark County Public Works prior to materials arriving on the Project.

Quality Control Requirements

See Section 3.04

3.03 Submittal Requirements

A list of submittals has been attached as Table 1 - Quality Control Frequency Table. While this list is comprehensive, it shall not be construed to include all the materials or procedures requiring submittal. Any materials, procedures, etc. which are not listed shall be submitted to the Agency with all relevant certifications, test results, design criteria, etc.

All Submittals shall be transmitted in accordance with Section 3.02 - Levels of Material Control above. The Contractor, Production or Source Organization shall receive approval for all material submittal prior to the material being delivered to the Project and for all procedural submittals prior to implementation on the Project.

3.04 Quality Control Requirements

The Organization shall be required to maintain a records of all in-house quality control testing during production of materials and shall be available for review by the Agency.

All testing and inspections are the responsibility of the Organization. The Organization shall perform all Quality Control Measures for Production or Source Organizations supplying "Qualified Materials" prior to materials arriving on the Project.

SECTION:**Test Methods and Frequency****4.01 General**

All tests, inspections and submittals shall be required to be numbered. The numbering system shall allow for tracking and quantifying of all testing, inspection and submittal data.

4.02 Test Methods General

The test methods referenced in this manual shall be considered to supersede the test methods stated in the Uniform Standard Specifications for work within the Scope of the Project, with the exception of NDOT jurisdiction.

The test methods for NDOT jurisdiction as given in this manual should be identical to the test methods referenced in NDOT - Standard Specifications for Road and Bridge Construction. In case of dispute, the NDOT - Standard Specifications shall govern.

All documentation of testing and inspection shall be in accordance with the applicable reference test method.

4.03 Testing and Inspection Frequency and Methods

Table 1 shall be a guide for where and how often all testing and inspection are to be performed. While Table 1 does identify many general inspection types, the specific items to inspect and the procedures to follow are not defined therein. The Uniform Standard Specifications shall be utilized to determine when inspections are required.

SECTION 5

Quality Control Programs

5.01 Control Measures

5.02 In-Process Inspections, Oversight and Testing

These inspections and tests include qualification tests, factory tests, installation and verification tests, material tests and pre-operational checks/tests.

Inspection, process oversight and testing of items in-process or under construction shall be performed for work activities, as required in the Contract Documents and at the frequency referenced in the specifications.

A combination of inspection, testing and process oversight shall be performed in a systematic manner to assure the specific requirements for control of the process and quality of the item are being achieved throughout the duration of the process.

Inspection, oversight and test results shall be documented and evaluated, and the acceptability determined by the Agency Quality Assurance Manager utilizing technical or Agency personnel when required.

Modifications, repairs or replacement of items subsequent to final inspection shall require reinspection and/or retest to verify acceptability. Reinspection and retesting shall be accomplished on a subsequent Activity Card(s).

The Inspection Program shall utilize a four (4) phase inspection plan. This plan shall generally follow the outlined process for each project.

The four phases are outlined as follows:

- A) **Pre-Activity Meetings:** This process will include a written description and schedule for which the contract items will be completed. The Contractor shall be prepared to discuss any problems or conflicts that are foreseen.
- B) **Sampling and Testing:** The procedure shall include a description for the process of the Sampling and Testing.
- C) **Oversight Inspections:** This process shall consist of the full-time and part-time observation (oversight) and inspection during construction. In addition to daily inspection of the physical performance of the work, oversight shall include any combination of the following:
 - 1) Observation of Quality Assurance tests performed;
 - 2) Review or spot checks of procedures or instructions governing the work, including inspection and test procedures;
 - 3) Evaluation or verification of the presence and effectiveness of project controls; and,
 - 4) Discussion with personnel performing or supervising the work.

- D) **Weekly Reporting:** This procedure describes the processes utilized to summarize the weekly activities performed on the project. This summary report shall be submitted to the Public Works Department and copied to the Project Engineer by 5:00 p.m. of Wednesday following the previous week's construction activities. At a minimum, the procedure shall address:
- 1) Copies of all Daily Inspections for the week with Field Test Results attached;
 - 2) Summaries of each field and laboratory test results;
 - 3) Summary of Testable Quantities and the corresponding total count of each test performed;
 - 4) Responsible party(ies) for completion of the weekly inspection reports.
 - 5) Professional Engineer's individual stamp of test results.

APPENDIX

- A ITEM SPECIFIC PROCEDURES, QUALITY CONTROL PROGRAM**
- B DAILY INSPECTION REPORT**
- C DAILY INSPECTION QUALITY CONTROL REPORT**
- D MATERIAL TESTING QUALITY CONTROL REPORT**
- E DEFICIENCY AND NON-CONFORMANCE LOG**
- F TABLE 1, QUALITY CONTROL FREQUENCY TABLE**

QUALITY CONTROL PROGRAM

ITEM SPECIFIC PROCEDURES

100	Subgrade	542	CIP RCB Culvert Walls
200	Embankment	543	CIP RCB Culvert Deck
210	Flowable Fill - Embankment	544	Precast RCB Culvert
213	Irrigation Systems	551	Retaining Wall Footings
300	Base Section	552	Retaining Walls - Masonry
310	BPM Base	553	Retaining Walls - Concrete
320	CTB	561	Bridge Abutment Footing
330	LTB	562	Bridge Abutment Walls
340	Soil Cement	563	Bridge Pier Footing
350	Emulsion Treated Base	564	Bridge Pier Columns
400	Pavement Section	565	Bridge Deck Bottom Slab
410	HMA - 1IIc	566	Bridge Deck Web Walls
420	HMA - 1If	567	Bridge Deck Top Slab
430	HMA - 2II	568	Bridge Wing Wall Footing
440	HMA - 2III	569	Bridge Wing Walls
450	HMA - OG	580	Slope Paving
460	Chip Seal	582	Channel Invert - Concrete
470	Sand Seal	583	Channel Walls - Concrete
480	Slurry Seal	584	Channel Ramp - Concrete
490	PCCP	592	CIP Nonreinforced Concrete Pipe
500	CIP Concrete Plain (Rarely Used)	593	Precast Nonreinforced Concrete Pipe
501	Curb and Gutter	594	CIP Reinforced Concrete Pipe
502	Sidewalk	595	Precast Reinforced Concrete Pipe
503	Valley Gutter	600	Corrugated Metal Pipe and Metal Arch
504	Spandrel	607	Underdrains
505	Driveway	610	Thermoplastic Pipe Culverts
506	Bus Stop Pad	650	Structural Plat Pipe and Pipe Arch Culverts
507	Fence Post Base	700	Gabions
508	Utility Pedastal - Nonreinforced	701	Riprap
509	Thrust Block	702	Grouted Riprap
511	CIP Manhole Base	703	Erosion Control
512	CIP Manhole Walls	704	Drain Backfill
513	CIP Manhole Deck	710	Guardrail
514	Precast Manhole	718	Timber
521	CIP Drop Inlet Base	720	Fencing
522	CIP Drop Inlet Walls	722	Water
523	CIP Drop Inlet Deck	726	Roadside Materials
524	Precast Manhole	727	Plants
531	CIP Catch Basin Base	730	Cattle Guards
532	CIP Catch Basin Walls	750	Geotextile
533	CIP Catch Basin Deck	800	Pavement Markers
534	Precast Catch Basin	900	Signs and Signals
541	CIP RCB Culvert Invert		

Deficiency and Non-Conformance Log

Project Name: _____

Project No.: _____ Project Name: _____

Contractor: _____

Page:

Daily Inspection Report

Engineer: _____

Inspector: _____

Project: _____

Date: _____

Developer: _____

Weather: _____

General Contractor: _____

High: _____

Material Testing: _____

Low: _____

Subcontractors:

Earthwork _____

Concrete _____

Base _____

Street Lights _____

Paving _____

Staking _____

Underground _____

Other _____

Activity	Street / Location	Station	
		From	To
1. Curb and Gutter Subgrade			
2. Road Subgrade			
3. Sewer (Main)			
4. Sewer (Laterals)			
5. Sewer (Manholes)			
6. Water (Main)			
7. Water (Laterals)			
8. Fire-Hydrants			
9. Curb and Gutter			
10. Road Base			
11. Sidewalk (Subgrade)			
12. Sidewalk (Base)			
13. Sidewalk (Concrete)			
14. Cross-gutter			
15. Storm Drain (Main)			
16. Storm Drain (Manholes)			
17. Drop Inlets			
18. Asphalt Paving			
19. Street Lights			
20. Signs			
21. Pavement Markings			
22. Other			

REMARKS: (Description of work performed by contractor, record conversations, verbal agreements, and instructions - exchanged with the contractor)

Signature: _____

MATERIALS TESTING

Q.C. Card

Project:		Contract Day	of								
Date:	Bid No.	Report No.									
Section 1 - Actual Work Performed <small>(To be completed after work is performed and inspections are done)</small>											
Type of Work Performed		Location									
Section 2 - Deficiency Check No Deficiencies exist or have been corrected Contractor has verified that deficiencies are outstanding and are listed by item / Materials below.											
Material #	Type #	QC Initials _____	Date _____								
Section 3 - Inspection Items The following items will be signed off by the Contractor prior to the requested time for inspection by QA											
Material #	Material Description	QC Initials/Date	QA Initials/Date	Time requested for QA							
Section 4 - Testing Requirements											
Item No. (Set A & B)	Zone Number	Material Number	Test Type Number	Sequential Test Nos.	Description of Test	Actual No. Performed	Testable Quantity				
Section 5 - Sampling Requirements											
Item No. (Set A & B)	Zone Number	Material Number	Test Type Number	Sequential Test Nos.	Description of Test	Actual No. Performed	Testable Quantity				
Section 6 - Remarks:											
<hr/> <hr/> <hr/>											
Section 7 - Q.A. Sign-Off QA Representative Verification of QC Performance and Quantities This "sign-off" does not represent acceptance of work performed but is verification that QC testing/inspection was performed and testable quantities are representative of the work.				Initials _____	Date _____						
Common Zone Numbers			Common Material Numbers			Common Test Type Numbers					
001	General	521	DI Base	100	Subgrade	303	Type II Agg Base	001	Field Sample for Lab	171	Sieve Analysis
100	Subgrade	522	DI Walls	201	Borrow	320	CTB	010	Field Density Testing	416	% AC Content Fumace
200	Embankment	523	DI Deck	202	Select Borrow	340	Soil Cement	100	Spec. Gravity - Fine	418	Stability & Flow
300	Base Section	540	CIP RCB	203	Crushed Rock	410	Plantmix	101	Sand Equivalent	421	Rice
400	Pavement Sec	541	CIP RCB Invert	206	Type II Backfill	490	PCCP - White Paving	108	Spec. Gravity Coarse	422	AC Density - Gauge
501	Curb & Gutter	542	CIP RCB Walls	207	Select Backfill	510	Concrete	109	L.A. Abrasion	424	Marshalls
502	Sidewalk	543	CIP RCB Deck	208	Granular Backfill	590	Rebar	118	R - Value	520	% Air - Concrete
503	Valley Gutter	544	Precast RCB	210	Flowable Backfill			117	PI	525	Slump
505	Driveway	595	Precast RCP	212	Native Fill			118	CV	526	Unit Weight
510	CIP Manhole	600	CMP	301	Pulverized Base			121	Proctor	527	Comp. Str Cylinders
520	CIP Drop Inlet	701	Riprap	302	Type I Agg Base			153	Sand Cone		

DAILY INSPECTION

Q.C. Card

Project:				Contract Day	of						
Date:		Bid No.		Report No.							
Section 1 - Actual Work Performed (To be completed after work is performed and inspections are done)											
Type of Work Performed				Location							
Section 2 - Deficiency Check No Deficiencies exist or have been corrected QC Initials _____ Date _____											
Contractor has verified that deficiencies are outstanding and are listed by Item / Materials below.											
Material #	Type #	Type of Deficiency / Description (Use remarks for additional info)			Deficiency Log ID #	QC Initial & Date					
Section 3 - Inspection Items The following items will be signed off by the Contractor prior to the requested time for inspection by QA											
Material #	Material Description			QC Initials/Date	QA Initials/Date	Time requested for QA					
Section 4 - Testing Requirements											
Item No. (Set A & B)	Zone Number	Material Number	Test Type Number	Sequential Test Nos.	Description of Test	Actual No. Performed	Testable Quantity				
Section 5 - Sampling Requirements											
Item No. (Set A & B)	Zone Number	Material Number	Test Type Number	Sequential Test Nos.	Description of Test	Actual No. Performed	Testable Quantity				
Section 6 - Remarks:											
Section 7 - Q.A. Sign-Off QA Representative Verification of QC Performance and Quantities Initials _____ Date _____											
This "sign-off" does not represent acceptance of work performed but is verification that QC testing/inspection was performed and testable quantities are representative of the work.											
Common Zone Numbers			Common Material Numbers			Common Test Type Numbers					
001	General	521	DI Base	100	Subgrade	303	Type II Agg Base	001	Field Sample for Lab	171	Sieve Analysis
100	Subgrade	522	DI Walls	201	Borrow	320	CTB	010	Field Density Testing	416	% AC Content Furnace
200	Embankment	523	DI Deck	202	Select Borrow	340	Soil Cement	100	Spec. Gravity - Fine	418	Stability & Flow
300	Base Section	540	CIP RCB	203	Crushed Rock	410	Plantmix	101	Sand Equivalent	421	Rice
400	Pavement Sec	541	CIP RCB Invert	206	Type II Backfill	490	PCCP - White Paving	108	Spec. Gravity Coarse	422	AC Density - Gauge
501	Curb & Gutter	542	CIP RCB Walls	207	Select Backfill	510	Concrete	109	L.A. Abrasion	424	Marshalls
502	Sidewalk	543	CIP RCB Deck	208	Granular Backfill	590	Rebar	116	R - Value	520	% Air - Concrete
503	Valley Gutter	544	Precast RCB	210	Flowable Backfill			117	PI	525	Slump
505	Driveway	595	Precast RCP	212	Native Fill			118	CV	526	Unit Weight
510	CIP Manhole	600	CMP	301	Pulverized Base			121	Proctor	527	Comp. Str Cylinders
520	CIP Drop Inlet	701	Riprap	302	Type I Agg Base			153	Sand Cone		

City of Mesquite Public Works Quality Control Frequency Table-1

Review May 2002

City of Mesquite Public Works Quality Control Frequency Table-1
Revised May 30, 2002

SPEC. NUMBER	SUB SECTION	ITEM DESCRIPTION	MATERIAL	TEST OR SUBMITTAL	REFERENCE SPECIFICATIONS AND TEST PROCEDURES		FREQUENCY	IMP. ITEM	TESTING ITEM	SUBMITTAL CERT	PROCED. OTHER	#ST. # TESTS
208 TRENCH EXCAVATION AND BACKFILL												
208.02.01	SELECTED BACKFILL	S & A			RTC 301							
208.02.02	GRANULAR BACKFILL	S & A			RTC 301							
208.02.03	SAND BACKFILL		MIX DESIGN SUBMITTAL									
208.02.04	SAND BACKFILL	S & A	FIELD DENSITY	RTC 111		1/200LF / 2 lifts max	YES					
		S & A	SIEVE ANALYSIS	RTC 111		1/TYPE	YES					
		S & A	PLASTICITY INDEX	ASTM D4318		1/TYPE	YES					
		S & A	SOLUBLE SULFATES	CALTRANS 41TB		As required by Engineer	YES					
		S & A	FIELD DENSITY - TRENCH - STRUCTURES	RTC 111		1/200LF / 2 lifts max						
		S & A		RTC 704								
208.02.05	TYPE II AGGREGATE BASE	S & A	MIX DESIGN SUBMITTAL									
208.02.06	CLSM - FLOWABLE BACKFILL	PCC	COMPRESSIVE STRENGTH	ASTM D4832		1/100 CY	YES					
208.02.07	CLSM - FLOWABLE BACKFILL	PCC	BALL DROP TEST	ASTM D6024 (SPECIAL PROVISIONS)		1/100 LF	YES					
		S & A		RTC 501								
		S & A	SOURCE SUBMITTAL									
208.02.08	CRUSHED ROCK	S & A	SIEVE ANALYSIS	RTC 111		1/ TYPE	YES					
208.02.09	CRUSHED ROCK	S & A	FIELD DENSITY	RTC 111		1/200LF / 2 lifts max	YES					
208.03.03	TRENCH BACKFILL	S & A	FIELD DENSITY	RTC 111		1/200LF / 2 lifts max	YES					
		TRENCH BACKFILL - PIPE BEDDING										
209 DRAIN BACKFILL												
209.02.01	GENERAL	S & A			RTC 704.03.01							
210 WATERING												
210.02.01	GENERAL	WATER			RTC 722							
211 EROSION CONTROL												
211.02.01	ROADSIDE MATERIALS	CHIPS			RTC 728.03.04 (c)							
		BARK			RTC 728.03.04 (d)							
201 SELECTED BORROW												
201.02.01	GENERAL	S & A	SIEVE ANALYSIS	RTC 111		SPECIAL PROVISIONS 1/TYPE	YES					
		S & A	PLASTICITY INDEX	RTC 111		SPECIAL PROVISIONS 1/TYPE	YES					
		S & A	SOLUBILITY	CCTM - 200		SPECIAL PROVISIONS 1/TYPE	YES					
		S & A	R-VALUE	ASTM D2844		SPECIAL PROVISIONS 1/ TYPE	YES					
		S & A	FIELD DENSITY	RTC 111		1/ 5000 SF / LIFT 8" max						
302 AGGREGATE BASE COURSE (BA)												
302.02.01	GENERAL	S & A			RTC 704							
302.03.05	COMPACTION	S & A	FIELD DENSITY	RTC 111		1/ 5000 SF / LIFT 8" max	YES					

City of Mesquite Public Works Quality Control Frequency Table 1
Revised May 30, 2002

SPEC. NUMBER	SUB SECTION	ITEM DESCRIPTION	MATERIAL	TEST OR SUBMITTAL	REFERENCE SPECIFICATIONS AND TEST PROCEDURES		FREQUENCY	TEST ITEM	TEST NO.	TESTED ITEM	TESTED OTHER TESTS	SUBMITTAL
					TEST	PROCED.						
303		PLANTMIX BITUMINOUS BASE (BPM-BASE)										
303.02.01	GENERAL	BIT.					RTC 401					
304		PORTLAND CEMENT TREATED BASE (CTB)										
304.02.01	GENERAL	PORT CEMENT					RTC 701					
		WATER					RTC 702					
		AGG					RTC 704.03.08					
		AC					RTC 703.03.03					
		EMULSIFIED					RTC 703.03.04					
		CTB	COMPRESSIVE STRENGTH				ASTM D1633 & C39	3 / DAY 1 - THEN 1 / DAY				
		CTB	MOISTURE CONTENT				ASTM D2218	1 / 1000 TONS				
		AGG	SIEVE ANALYSIS				RTC 111	1 / 1000 TONS				
		AGG	SAND EQUIVALENT				ASTM D2419	1 / 1000 TONS				
304.03.05	COMPACTION	CTB	FIELD DENSITY				RTC 111 & ASTM D558	1 / 5000 SF / LIFT				
306		LIME STABILIZED SUBGRADE (LTB)										
306.02.01	SUBGRADE MATERIALS	S & A	SOLUBLE SULFATES				CALTRANS 417B	1 / SOIL TYPE				
306.02.02	LIME	LIME					ASTM C877					YES
306.02.03	WATER	WATER					AASHTO T28					YES
306.03.01	MIX DESIGN	LTB	LTB MIX DESIGN				HEREIN	1 / SOIL TYPE				YES
306.03.02	LIME APPLICATION	LIME	APPLICATION OF LIME				ASTM D3155 - daily field inspection report	CONTINUOUS				
306.03.04	MIXING	LTB	COMPRESSIVE STRENGTH				ASTM D1633 'A'	3 / DAY 1 - THEN 1 / DAY				
306.03.04		LTB	MOISTURE CONTENT				ASTM D2218	1 / 1000 CY				
		LTB	SIEVE ANALYSIS				RTC 111	1 / 1000 CY				
		LTB	LIME CONTENT				ASTM D3155	1 / 1000 CY				
		LTB	PLASTICITY INDEX				ASTM D4318	1 / 1000 CY				
		LTB	MOISTURE DENSITY RELATIONSHIP				ASTM D698	1 / SOIL TYPE				
		LTB	FIELD DENSITY				RTC 111	1 / 5000 SF / LIFT				
401		PLANTMIX BITUMINOUS PAVEMENTS										
401.02.01	COMPOSITION OF MIXTURES	BPM	MARSHALL MIX DESIGN				ASPH. INST. MS-2					
401.02.02	AGGREGATES	S & A	AGG SAMPLE/COLD FEED SIEVE ANALYSIS				REFERENCE SECTION 705	1 / 750 TON/DAY				
401.02.03	COMMERCIAL MINERAL FILLER	MF					RTC 705.03.04					
401.02.04	BITUMINOUS MATERIALS	BM					RTC 703					
401.03.01	BITUMINOUS MIXING PLANT	BPM	PLANT INSPECTION				ASTM D290	daily field inspection report				
		BPM	PRODUCTION RATE REPORT					As requested by Engineer				
		BPM	PRODUCTION RATE REPORT					daily field inspection report				
401.03.08	PREP OF EXISTING SURFACE	AC - MC - SS	PRIME OR TACK COAT				RTC 405, 406					
401.03.08	MIXING	S & A	MOISTURE CONTENT				ASTM D2218					
401.03.12	SAMPLING & TESTING OF BIT MIXTURE	BPM	ASPHALT CONTENT				ASTM D2112, D4125, OR AASHTO TP53	1 / 750 TONS				
		BPM	SIEVE ANALYSIS				ASTM C136, C117	1 / 750 TONS				

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				TEST	SUBMITTAL								
		BPM	MOISTURE CONTENT	ASTM D1461 OR NDOT T306B									
		BPM	THEORETICAL MAXIMUM SPECIFIC GRAVITY	ASTM D2041		1/750 TONS							
		BPM	BULK SPEC. GRVY OF LAB. COMP & AIR V	ASTM D1188, D2850		1/750 TONS							
		BPM	MARSHALL - STABILITY AND FLOW	ASTM D1658		1/750 TONS							
		BPM	RETAINED TENSILE STRENGTH	AASHTO T283		As requested by Engineer							
		BPM	FIELD DENSITY/THICKNESS	RTC 401.03.12		5DAY MIN.							
		BPM	PROFILOGRAPH	NDOT A02									
402 PLANTMIX BITUMINOUS SURFACE													
402.01.01	COMPOSITION OF MIXTURES	BPM	MIX DESIGN	ASPH. INST. MS-2									
402.02.01	AGGREGATES	S & A	AGG SAMPLE COLD FEED SEIVE ANALYSIS	RTC 705		1/750TONS/DAY					YES		
	COMMERCIAL MINERAL FILLER	MF		RTC 705.03.04									
	BITUMINOUS MATERIALS	BM		RTC 703									
	BITUMINOUS MIXING PLANT	BPM	PLANT INSPECTION	ASTM D280 daily field Inspection report		As requested by engineer	YES						
		BPM	PRODUCTION RATE REPORT			daily field inspection report	/DAILY						
		BPM	PRODUCTION RATE REPORT	RTC 405, 406		daily field inspection report	PROJECT SUMMARY						
402.03.01	PREP OF EXISTING SURFACE	AC - MC - SS	PRIME OR TACK COAT	RTC 405, 406									
	MIXING	S & A	MOISTURE CONTENT	ASTM D2218									
	SAMPLING & TESTING OF BIT. MIXTURE	BPM	ASPHALT CONTENT	ASTM D212, D4125, OR AASHTO TP53		1/750 TONS					YES		
		BPM	SIEVE ANALYSIS	ASTM C138, C117		1/750 TONS					YES		
		BPM	MOISTURE CONTENT	ASTM D1461 OR NDOT T306B							YES		
		BPM	THEO. MAX. SPECIFIC GRAVITY - RICE	ASTM D2041		As requested by engineer	YES						
		BPM	THEO. MAX. SPECIFIC GRAVITY - RICE	SPECIAL PROVISIONS 401.03.12 (A)		SPECIAL PROVISIONS							
		BPM	BULK SPEC. GRVY OF LAB. COMP & AIR V	ASTM D1188, D2850		1/750 TONS					YES		
		BPM	MARSHALL - STABILITY AND FLOW	ASTM D1658		1/750 TONS							
		BPM	RETAINED TENSILE STRENGTH	AASHTO T283		SPECIAL PROVISIONS							
		BPM	RUT TEST - APA	SPECIAL PROVISIONS 401.02.01		As requested by engineer	YES						
		BPM	IN-PLACE CORES FOR BINDER TESTS	SPECIAL PROVISIONS 703.03.02.01		As requested by engineer	YES						
		BPM	FIELD DENSITY/THICKNESS	RTC 111		5DAY							
		BPM	THICKNESS MEASUREMENT	SPECIAL PROVISIONS 401.03.12 (B)		1 / DAY / TOP LIFT					YES		
402.03.03	SURFACE TOLERANCE	BM	STRAIGHT EDGE	RTC 401.03.03.01		1/LANE CONT. TOP LIFT	YES						
403 PLANTMIX BITUMINOUS OPEN-GRADED SURFACE													
403.02.02	COMPOSITION OF MIXTURES	BPM	MIX DESIGN	ASPH. INST. MS-2		1 / TYPE					YES		
403.02.01	AGGREGATES	S & A	AGG SAMPLE/COLD FEED SEIVE ANALYSIS	ASTM C138 & C117		1/750/DAILY							
	COMMERCIAL MINERAL FILLER	MF		RTC 705.03.04									
	BITUMINOUS MATERIALS	BM	PLANT INSPECTION	RTC 703		As requested by engineer	YES						
	BITUMINOUS MIXING PLANT	BPM	PRODUCTION RATE REPORT			daily field inspection report	1 / DAILY						
		BPM	PRODUCTION RATE REPORT			daily field inspection report	PROJECT SUMMARY						
	PREP OF EXISTING SURFACE	AC - MC - SS	PRIME OR TACK COAT	RTC 405, 406									

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				TEST	SUBMITTAL						
	403.03.01	MIXING	S & A	MOISTURE CONTENT		ASTM D2218				YES	
		SAMPLING & TESTING OF BIT. MIXTURE	BPM	ASPHALT CONTENT		ASTM D2172, D4125, OR AASHTO TP53	1 / 750 TONS			YES	
			BPM	SIEVE ANALYSIS		ASTM D2138, C117	1 / 750 TONS			YES	
			BPM	MOISTURE CONTENT		ASTM D1461 OR NDOT 1308B				YES	
			BPM	THEO. MAX. SPECIFIC GRAVITY - RICE		ASTM D2041				As requested by engineer	
	403.03.04	SURFACE TOLERANCE	BPM	STRAIGHT EDGE		RTC 403.03.04				YES	
										1 / LANE CONT-TOP LIFT	
403	ULTRA THIN ASPHALT CONCRETE SURFACE (UTACS - NOVACHIP)										
	403.02.03	COMPOSITION OF MIXTURES	BPM	MIX DESIGN		SPECIAL PROVISIONS	1 / TYPE			YES	
	403.02.01	AGGREGATES	S & A	AGG SAMPLE		RTC 705					
		COMMERCIAL MINERAL FILLER	MF			RTC 705.03.04					
						RTC 703					
		BITUMINOUS MATERIALS	BM								
		BITUMINOUS MIXING PLANT	BPM	PLANT INSPECTION		ASTM D280 daily field inspection report	CONTINUOUS			YES	
			BPM	PRODUCTION RATE REPORT		daily field inspection report	1 / 100 TONS			YES	
			BPM	PRODUCTION RATE REPORT		daily field inspection report	PROJECT SUMMARY			YES	
	403.03.03	PREP OF EXISTING SURFACE	PMM	PMM - NOVABOND APPLICATION RATE		SPECIAL PROVISIONS Insp. report	TWICE / LOT			YES	
	403.03.06	SAMPLING & TESTING OF BIT. MIX.	BPM	ASPHALT CONTENT		ASTM D2172, D4125, OR AASHTO TP53	MIN 3 / DAY			YES	
			BPM	SIEVE ANALYSIS		ASTM D2138, C117	MIN 3 / DAY			YES	
	403.03.08	SURFACE TOLERANCE	BPM	PROFILEOGRAPH		NDOT 402	SPECIAL PROVISIONS			YES	
404	HOT PLANT MIX RECYCLED BITUMINOUS PAVEMENT										
	404.01.01	COMMERCIAL MINERAL FILLER	MF			RTC 705.03.04					
		PREP OF EXISTING SURFACE	AC - MC - SS			RTC 405, 408					
	404.02.01	COMPOSITION OF MIXTURES	BPM	MIX DESIGN		FEDERAL HIGHWAYS SPEC	1 / TYPE			YES	
	404.02.02	AGGREGATES	S & A	AGG SAMPLE/COLD FEED SIEVE ANALYSIS		ASTM C138, C117	1 / 750 DAILY				
	404.02.03	BITUMINOUS MATERIALS	BM			RTC 703					
	404.02.04	RECYCLED AGENT	RA	VISCOOSITY		ASTM D2170					
			RA	FLASH POINT		ASTM D82					
			RA	SATURATES		ASTM D2007					
			RA	RESIDUE FROM RTC		ASTM D2872					
			RA	SPECIFIC GRAVITY		ASTM D70 - D1268					
	404.03.01	MIXING	S & A	MOISTURE CONTENT		ASTM D2218					
		SAMPLING & TESTING OF BIT. MIXTURE	BPM	ASPHALT CONTENT		ASTM D2172, D4125, OR AASHTO TP53	1 / 750 TONS				
			BPM	SIEVE ANALYSIS		ASTM C138, C117	1 / 750 TONS				
			BPM	MOISTURE CONTENT		ASTM D1461 OR NDOT 1308B					
			BPM	THEORETICAL MAXIMUM SPECIFIC GRAVITY		ASTM D2041	1 / 750 TONS				
			BPM	BULK SPEC. GRVY OF LAB. COMP & AIR V		ASTM D1788, D2850	1 / 750 TONS				
			BPM	MARSHALL - STABILITY AND FLOW		ASTM D1359	1 / 750 TONS				
			BPM	RETAINED TENSILE STRENGTH		AASHTO T283	SPECIAL PROVISIONS				
			BPM	FIELD DENSITY		RTC 402.03.12	5/DAILY				
			BPM	STREIGHT EDGE		RTC 402.03.03.01	1 / LANE CONT - TOP LIFT				

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				CART.	PROCD.						
404.03.03		PREPARATION OF AGGREGATES	S & A	MOISTURE CONTENT		ASTM D2218					
405	TACK COAT										
405.02.01	BITUMINOUS MATERIALS	OIL	BIT. MATERIALS	RTC 703							
405.03.04	APPLICATION OF ASPHALTIC EMULSION OIL		APPLICATION RATE	RTC 408.03.04 daily field inspection report		CONTINUOUS	YES				
406	PRIME COAT										
406.02.01	BITUMINOUS MATERIALS	OIL	BIT. MATERIALS	RTC 703							
406.03.04	APPLICATION OF ASPHALTIC EMULSION OIL		APPLICATION RATE	RTC 408.03.04 daily field inspection report		CONTINUOUS	YES				
407	SEAL COAT										
407.02.01	BITUMINOUS MATERIALS	OIL	BIT. MATERIALS	RTC 703							
407.02.02	SAND BLOTTER	S & A	AGG SAMPLE	RTC 705.03.06							
407.03.04	APPLICATION OF ASPHALTIC EMULSION OIL		APPLICATION RATE	RTC 408.03.04 daily field inspection report		CONTINUOUS	YES				
408	SURFACE TREATMENT										
408.02.01	SLURRY SEAL MIX DESIGN					11 TYPE	YES				
408.02.01	BITUMINOUS MATERIALS	OIL	BIT. MATERIALS	RTC 703							
408.02.02	SCREENINGS	S & A	AGG SAMPLE	RTC 705.03.06							
408.03.07	APPLICATION OF ASPHALTIC EMULSION	OIL	APPLICATION RATE	RTC 408.03.04 daily field inspection report		CONTINUOUS					
408.03.08	APPLICATION OF SCREENINGS	S & A	APPLICATION RATE			daily field inspection report	CONTINUOUS				
409	PORTLAND CEMENT CONCRETE PAVEMENT (PCCP)										
409.02.01	GENERAL	S & A	SAMPLING	RTC 708.03.08							
		S & A	SAMPLING	RTC 708.03.01							
		PC	SAMPLING	RTC 701							
		WATER	SAMPLING	RTC 722							
		AIR ADMIX.	SAMPLING	RTC 702.03.03							
		JOINT FILLER	SAMPLING	RTC 707.03.01							
		CURING MAT.	SAMPLING	RTC 702.03.01							
		SG PAPER	SAMPLING	RTC 702.03.02							
		REINFORCEMENT SAMPLING		RTC 713							
409.02.02	GRADATION REQUIREMENTS	S & A	SAMPLING	RTC 501.02.02							
409.02.03	CONCRETE PROPERTIES AND TESTS	PCC	FLEXURAL STRENGTH	ASTM C283, C76		1/500 CY					
		PCC	SLUMP	ASTM C143		1/500 CY					
		PCC	UNIT WEIGHT	ASTM C138		1/500 CY					
		PCC	AIR CONTENT	ASTM C173, OR C231		1/500 CY					
		PCC	COMPRESSIVE STRENGTH	ASTM C39		1/500 CY					
		PCC	YIELD	ASTM C138		daily field inspection report	CONTINUOUS				
409.03.01	CLASSIFICATION AND PROPORTIONS	PCCP	MIX DESIGN	As Specified in the Special Provisions		1/ TYPE					

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				TEST OR SUBMITTAL	PLANT INSPECTION					
409.03.02	EQUIPMENT - GENERAL	PCCP	REINFORCEMENT SAMPLING	ASTM C84, OR C885 daily field inspection rpt.	CONTINUOUS					
409.03.05	REINFORCEMENT	PCCP	PROFILOGRAPH	RTC 505 As Specified in the Special Provisions	1 / LANE					
409.03.08	SPREADING, COMPACTING AND SHAPE	PCCP								
495	PRESTRESSING CAST-IN-PLACE CONCRETE									
485.03.04	PRESTRESSING	STRAND	STRESSING INSPECTION	daily field inspection report	CONTINUOUS					
485.03.05	BONDING AND GROUTING	PC	SAMPLING	RTC 701						
		WATER	SAMPLING	RTC 722						
		ADMIX	SAMPLING	RTC 501.02.03						
		GROUT	PUMP-ABILITY	US CORP CRD-C79	1 / BATCH					
485.02.01	SAMPLES AND TESTING	STRAND	ULTIMATE TENSILE STRENGTH	ASTM A416 - A421	1 / LOT					
		GROUT	COMPRESSIVE STRENGTH	ASTM C39	1 / DAY					
501	PORTLAND CEMENT CONCRETE (CONCRETE)									
501	SIDWALK		MIX DESIGN SUBMITTAL	YES						
501	COMMERCIAL DRIVEWAYS		MIX DESIGN SUBMITTAL	YES						
501	RESIDENTIAL DRIVEWAYS		MIX DESIGN SUBMITTAL	YES						
501	VALLEY GUTTER		MIX DESIGN SUBMITTAL	YES						
501	MEDIAN ISLANDS		MIX DESIGN SUBMITTAL	YES						
501	STRUCTURAL CONCRETE		MIX DESIGN SUBMITTAL	YES						
501	DROP INLETS		MIX DESIGN SUBMITTAL	YES						
501	MANHOLES		MIX DESIGN SUBMITTAL	YES						
501	ENCASEMENTS		MIX DESIGN SUBMITTAL	YES						
501	CURB / GUTTER		MIX DESIGN SUBMITTAL	YES						
501	CONCRETE SLOPE PAVING		MIX DESIGN SUBMITTAL	YES						
501	TRAFFIC SIGNAL AND STREET LIGHT BASES		MIX DESIGN SUBMITTAL	YES						
501	CONCRETE		MIX DESIGN SUBMITTAL	YES						
501.02.01	GENERAL	WATER	SAMPLING	RTC 722						
		S & A	SAMPLING	RTC 708						
		PC	SAMPLING	RTC 701						
		CURING MAT	SAMPLING	RTC 702						
		ADMIX	SAMPLING	RTC 702						
501.02.04	CONCRETE MAKING PROPERTIES	PCC	COMPRESSIVE STRENGTH	ASTM C39, C162	1 / 100 CY / DAY	YES				
		PCC	SLUMP	ASTM C143	1 / 100 CY / DAY	YES				
		PCC	UNIT WEIGHT	ASTM C138	As requested by Engineer	YES				
		PCC	AIR CONTENT/ MIX DESIGN	ASTM C231	1 / 100 CY / DAY					
		PCC	CONCRETE CORING	ASTM C42	AS NECC.					
501.03.01	EQUIPMENT	PLANT	PLANT INSPECTOR	ASTM C	daily field inspector report	As requested by Engineer	YES			
		PLANT	YIELD	ASTM C138	daily field inspector report	As requested by Engineer				
501.03.04	CLASSIFICATION AND PROPORTIONS	MIX	MIX DESIGN	ACI	Engineered Design	1 / TYPE	YES			
501.03.11	GENERAL -MORTAR	CEMENT	SAMPLING	RTC 701						

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				TEST OR SUBMITTAL							
502	CONCRETE STRUCTURES			MIX DESIGN SUBMITTAL	RTC 501						
502.01.10	GENERAL - DESCRIPTION	ALL	PCC TESTING	RTC 501							
502.02.02	CONCRETE ENCASEMENTS	CLSM	PCC TESTING	SPECIAL PROVISIONS & RTC 501							
502.02.02	GENERAL - MATERIALS	JOINT MAT	SAMPLING	RTC 707							
		REINFORCE	SAMPLING	RTC 713							
		MISC METALS	SAMPLING	RTC 712							
		BEARING PADS	SAMPLING	RTC 725							
502.03.15	FINISH HORIZONTAL SURFACES	PCC	STRAIGHTEDGING	As Specified in the Special Provisions							
503	PRECAST PRESTRESSED CONCRETE MEMBERS			MIX DESIGN SUBMITTAL	RTC 501						
503	CONCRETE	ALL	PCC TESTING	RTC 501							
503.02.01	GENERAL - DESCRIPTION	ALL	CONCRETE STRUCTURES	RTC 502							
		ALL	REINFORCING	RTC 713							
504	LIGHTWEIGHT CONCRETE FOR STRUCTURES			MIX DESIGN SUBMITTAL	RTC 501						
504	CONCRETE	ALL	PCC TESTING	RTC 501							
504.01.01	GENERAL - DESCRIPTION	ALL	CONCRETE STRUCTURES	RTC 502							
504.02.03	CONCRETE MAKING PROPERTIES	LPCC	TESTS FOR POPOUTS	ASTM C330	1 / 100 CY						
		LPCC	UNIT WEIGHT AND CEMENT	ASTM C138	1 / 100 CY						
		LPCC	FREEZING AND THAWING	ASTM C896	1 / 100 CY						
		LPCC	AIR DRY WEIGHT	ASTM C587	1 / 100 CY						
505	REINFORCING STEEL										
505.02.01	GENERAL - MATERIALS	ALL	FAB STEEL BARS	RTC 713.03.02							
		ALL	BAR STEEL	RTC 713.03.01							
		ALL	WELDED STEEL WIRE	RTC 713.03.03							
505.02.02	SAMPLES	REBAR	ULTIMATE TENSILE	ASTM A615/MANUFACTURE CERT.	2/LOT/SIZE						
506	STEEL STRUCTURES			STRUCTURAL AND EYEBAR STEEL	RTC 710						
506.02.01	GENERAL - DESCRIPTION	ALL	ALUMINUM FOR BRIDGE RAIL	RTC 711							
		ALL	MISC METALS	RTC 712							
		ALL	PAINT	RTC 714							
		ALL	GALVANIZING	RTC 715							
		ALL	BEARING PADS	RTC 725							
506.03.02	NOTICE OF BEGINNING WORK	MILL	MILL INSPECTION	ASTM A6 daily field inspection report	1 / FABRICATION						

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				TEST	SUBMITTAL						
508.03.20	WELDING	WELD	WELD	SHOP WELDING INSPECTION - UT	AWS D 2.0	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
		WELD	WELD	SHOP WELDING INSPECTION - MAG	AWS D 2.0	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
		WELD	WELD	SHOP WELDING INSPECTION - XRAY	ASTM E108	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
		WELD	WELD	FIELD WELDING INSPECTION - UT	AWS D 2.0	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
		WELD	WELD	FIELD WELDING INSPECTION - MAG	AWS D 2.0	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
		WELD	WELD	FIELD WELDING INSPECTION - XRAY	ASTM E108	AS NECC.	AS NECC.	AS NECC.	AS NECC.	YES W / TESTS	
507	TIMBER STRUCTURES										
507.02.01	GENERAL - MATERIALS	ALL	STRUCTURAL AND EYEBAR STEEL	RTC 710							
		ALL	PAINT	RTC 710, 614							
		ALL	MISC METALS	RTC 710							
		ALL	HARDWARE	RTC 710							
		ALL	TIMBER	RTC 710							
		ALL	TIMBER PRESERVATIVE	RTC 710							
508	PILING										
508.02.01	GENERAL - MATERIALS	ALL	STEEL SHELL FOR PILES	RTC 712.03.08							
		ALL	STEEL PILES	RTC 712.03.07							
		ALL	REINFORCEMENT	RTC 713							
		ALL	TIMBER PILES	RTC 717							
		ALL	LOAD TESTING		ENGINEER SPECIFIED						
		ALL	PRECAST CONCRETE PILES	RTC 501							
		ALL	CONCRETE TESTING								
601	PIPE CULVERTS - GENERAL										
601.02.01	GENERAL - MATERIALS	ALL	CONRRUGATED METAL PIPE	RTC 708.03.01							
		ALL	BIT. COATED CORRUGATED PIPE	RTC 708.03.02							
		ALL	REINFORCED CONCRETE PIPE	RTC 708.03.01							
		ALL	NON-REINFORCED CONCRETE PIPE	RTC 708.03.02							
		ALL	CLAY PIPE	RTC 708.03.04							
		ALL	GROUT AND MORTAR SAND	RTC 708.03.04							
		ALL	RUBBER GASKETS	RTC 707.03.02							
		ALL	EARTHWORK	RTC 208, 207, AND 208							
		ALL	HEADVALVS	RTC 501, AND 502							
		ALL	CONCRETE								
602	NON-REINFORCED CONCRETE AND CLAY PIPE										
602.02.01	GENERAL - MATERIALS	ALL	REINFORCED CONCRETE PIPE	RTC 803.02.01, 803.03.01 THRU 803.03.08							
		ALL	PIPE CULVERTS - GENERAL	RTC 801.02.01							
603	REINFORCED CONCRETE PIPE										
603.02.01	GENERAL - MATERIALS	ALL	PIPE CULVERTS - GENERAL	RTC 801.02.01							
		ALL	JOINT MORTAR	RTC 501.05.01°C*							

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				TEST OR SUBMITTAL	AND TEST PROCEDURES					
604	604.02.01	CORRUGATED METAL PIPE AND METAL ARCH PIPE	ALL	GROUT AND MORTAR SAND	RTC 706.03.04					
605	605.02.01	THERMOPLASTIC PIPE CULVERTS	ALL	PIPE CULVERTS - GENERAL	RTC 801.02.01					
606	606.02.01	STRUCTURAL PLATE PIPE AND ARCH CULVERTS	PIPE	DEFLECTION TESTING	RTC 801.02.01 As Specified in the Special Provisions	1/LOT		YES W / TESTS		
607	607.02.01	UNDERDRAINS	GENERAL - MATERIALS	STRUCT. PLATE PIPE & ARCHES PIPE BITUMIN, COATED PIPE ALL EARTHWORK HEADWALLS ALL CONCRETE	AASHTO M167 OR ASTM 761 AASHTO M180 A, B, C RTC 206.207, 208 RTC 501, 502	1/LOT 1/LOT		YES W / TESTS		
608	608.02.01	DOWNDRAINS	GENERAL - MATERIALS	ALL CORR. METAL PIPE ALL BITUMIN, COATED CORR. PIPE ALL PERFORATED CONC PIPE ALL CLAY PIPE ALL DRAIN BACKFILL ALL EARTHWORK	RTC 708.03.05 RTC 708.03.06 RTC 708.03.03 RTC 708.03.04 RTC 704.03.01 RTC 206, 209					
609	609.02.01	CATCH BASINS, MANHOLES, AND INLETS	609 GENERAL - MATERIALS	CONCRETE ALL GENERAL - MATERIALS	MIX DESIGN SUBMITTAL CORR. METAL PIPE SURFACING MISC. AREAS GROUTED RIPRAP CONCRETE REINFORCING STEEL FRAMES FOR GATES PIPE FOR CROSSBARS	RTC 501 RTC 708.03.04 RTC 401.03.14 RTC 610.03.04 RTC 501 RTC 506 RTC 609 ASTM A53, A120	1/LOT	YES		

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				TEST	ITEM					
609.03.04	EARTHWORK	ALL	EARTHWORK	RTC 208, 207						
610 SLOPE AND CHANNEL PROTECTION										
610.02.01	CONCRETE	MIX DESIGN SUBMITTAL	RTC 501							
	GENERAL - MATERIALS	ALL WATER	RTC 722							
		ALL STONE FOR MASONRY & RIPRAP	RTC 708.03.05							
		ALL PORTLAND CEMENT	RTC 701							
		ALL GROUT AND MORTAR SAND	RTC 708.03.04							
610.02.04	STONES FOR RIPRAP	RIPRAP GRADUATION INSPECTION	daily field inspection report	1 / SOURCE						
		RIPRAP PERCENT OF WEAR	ASTM C-131							
		RIPRAP BULK SPECIFIC GRAVITY	ASTM C127	1 / SOURCE						
610.02.06	WIRE MESH FOR GABIONS	WIRE MESH	ASTM A841, A809			MANUFACTURE CERT.				YES W / TESTS
		WIRE MESH ULTIMATE STRENGTH	ASTM A370			MANUFACTURE CERT.				YES W / TESTS
		WIRE MESH GALVANIZING	ASTM A841, A809			MANUFACTURE CERT.				YES W / TESTS
610.03.01	EARTHWORK	ALL EARTHWORK	RTC 208, 207							
610.03.04	GROUTED RIPRAP	ALL PCC	RTC 501, 502							
611 CONCRETE SLOPE PAVING										
611	CONCRETE	MIX DESIGN SUBMITTAL	RTC 501							
611.02.01	GENERAL - MATERIALS	ALL PCC	RTC 501							
		ALL REINFORCING STEEL	RTC 505							
		S & A FINE AGGREGATE	RTC 708.03.03							
		ALL WIRE MESH	ASTM A185			MANUFACTURE CERT.				
611.03.01	EARTHWORK	ALL EARTHWORK	RTC 208							
612 PNEUMATICALLY PLACED CONCRETE MORTAR										
612	CONCRETE	MIX DESIGN SUBMITTAL	RTC 501							
612.02.01	GENERAL - MATERIALS	ALL PORTLAND CEMENT	RTC 701							
		ALL FINE AGGREGATE	RTC 708.03.03							
		ALL FINE AGGREGATE # 89	ASTM 448							
		ALL WIRE MESH	ASTM A185							
612.03.01	PREPARATION OF SUBGRADE	S & A FIELD DENSITY	RTC 111							
613 CONCRETE CURB, WALK, GUTTERS, DRIVEWAYS AND ALLEY INTERSECTIONS										
613	CONCRETE	MIX DESIGN SUBMITTAL	RTC 501							
613.02.01	GENERAL - MATERIALS	ALL PCC	RTC 501, 502							
613.03.01	CONSTRUCTION	S & A FIELD DENSITY - AGGREGATE BASE	RTC 111							YES
613.03.06	SLIP FORMS	S & A FIELD DENSITY - SUBGRADE	RTC 111							YES
613.03.08	EXPANSION JOINTS	AGG EXTRUDED CONC, AGGREGATES	RTC 708.02.01 (3/4")							
		ALL JOINT FILLER	RTC 707							

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				TEST OR SUBMITTAL							
614	PAINTING										
614.02.01	GENERAL - MATERIALS	ALL	PAINT			RTC 714					
615	PRESERVATIVE TREATMENT FOR TIMBER										
615.02.01	GENERAL - MATERIALS	ALL	TIMBER PRESERVATIVES			RTC 719					
616	FENCING										
616.02.01	GENERAL - MATERIALS	ALL	PCC			RTC 501					
617	CATTLE GUARDS										
617.02.01	GENERAL - MATERIALS	ALL	PCC			RTC 501					
		ALL	REINFORCING STEEL			RTC 505					
		ALL	STEEL STRUCTURES			RTC 508					
		ALL	HARDWARE			RTC 723					
		ALL	PAINTING			RTC 814					
		ALL	PAINT			RTC 714					
		ALL	TIMBER			RTC 718					
		ALL	EARTHWORK			RTC 208, 207					
618	GUARDRAIL										
618.02.01	GENERAL - MATERIALS	ALL	TIMBER			RTC 718					
		ALL	TIMBER PRESERVATIVES			RTC 719					
		ALL	GUARDRAIL MATERIALS			RTC 720					
		ALL	GALVANIZING			RTC 715					
		ALL	CABLE END CONNECTOR			RTC 720, 03, 04					
		ALL	REFLECTORS			RTC 721, 02, 03					
618.03.01	GENERAL - CONSTRUCTION	ALL	PCC			RTC 501, 502					
619	OBJECT MARKERS AND GUIDE POSTS										
619.02.01	GENERAL - MATERIALS	ALL	OBJECT MARKERS			RTC 721					
620	RIGHT-OF-WAY MARKERS										
620.02.01	GENERAL - MATERIALS	ALL	OBJECT MARKERS AND GUIDE PASTS			RTC 721					
621	MONUMENTS										
621.02.01	GENERAL - MATERIALS	ALL	PCC			RTC 501					
623	TRAFFIC SIGNALS AND STREET LIGHTING										
623.02.01	CONCRETE			MIX DESIGN SUBMITTAL			RTC 501				
	TRAFFIC SIGNALS SECTION										
623.G.02.01	CONDUIT		HARDNESS			ASTM					
						MANUFACTURE CERT.					
						YES					

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				CONDUIT	DIELECTRIC STRENGTH						
			CONDUIT	TENSILE STRENGTH	ASTM	MANUFACTUREE CERT.				YES	
623 G 02.04	COPPER WIRE	WIRE		ASTM	ASTM D2220 (82, 86)	MANUFACTUREE CERT.				YES	
		CABLE	SIGNAL CABLE	IMSA		MANUFACTUREE CERT.				YES	
623 G 03.02	SCHEDULING OF WORK	ALL	FIELD TESTS	RTC 623	daily field inspection report	CONTINUOUS					
623 G 03.04	EXCAVATING AND BACKFILL	ALL	EARTHWORK	RTC 208, 207, 208							
623 G 03.06	FOUNDATIONS	ALL	PCC	RTC 501							
623 T 02.07	PEDESTRIAN SIGNAL FACES	GASKETS	HOUSING GASKETS	ASTM D1058 (SBE42)		MANUFACTUREE CERT.				YES	
623 T 02.08	STANDARD STEEL PED. AND POSTS	WELD	WELD INSPECTION	AWS D2.0		MANUFACTUREE CERT.					
		PIPE	STEEL PIPE	ASTM A53, A120		MANUFACTUREE CERT.				YES	
		SHEET STEEL	SHEET STEEL	ASTM A283 (D), A570 (C)		MANUFACTUREE CERT.				YES	
		STRCTL ST	STRUCTURAL STEEL	ASTM A36		MANUFACTUREE CERT.				YES	
		BASES	CAST IRON BASES	ASTM A27 (70-40)		MANUFACTUREE CERT.				YES	
		BOLTS	ANCHOR BOLTS	ASTM A578 (C-1056), A153, A165		MANUFACTUREE CERT.				YES	
623 T 03.01	PAINTING	ALL	PRIMER	RTC 714 03 01(B)							
		ALL	GALVANIZING	RTC 716 03 01							
			STREET LIGHTING SECTION								
623 L 02.01	MATERIALS STANDARDS AND POSTS	WELDS	WELDING INSPECTION	AWS D2.0	daily field inspection report	CONTINUOUS					
		POLES	SHEET STEEL	ASTM E8		MANUFACTUREE CERT.				YES	
		POLES	CAST STEEL	ASTM A27, (85-35)		MANUFACTUREE CERT.				YES	
		POLES	SHEET STEEL	ASTM A36, A283 (D)		MANUFACTUREE CERT.				YES	
		POLE ARMS	STEEL	ASTM A120		MANUFACTUREE CERT.				YES	
		POLE ARMS	STEEL	ASTM A570 (A)		MANUFACTUREE CERT.				YES	
		POLE ARMS	BOLTS	ASTM A325		MANUFACTUREE CERT.				YES	
		ALL	TESTS	ASTM A370 (13.1)		MANUFACTUREE CERT.				YES	
623 L 02.02	ANCHOR BOLTS	ALL	ANCHOR BOLTS	ASTM A578 (C1055), A153, A165		MANUFACTUREE CERT.				YES	
623 L 02.07	PAINT	ALL	PAINT AND PAVEMENT MARKERS	RTC 714							
623 L 03.03	TESTING	ALL	FIELD TEST		daily field inspection report	CONTINUOUS					
625	CONSTRUCTION SIGNS										
625.02.01	GENERAL - MATERIALS	ALL	SIGN MATERIALS	RTC 716 03 01							
627	PERMANENT SIGNS										
627.02.01	GENERAL - MATERIALS	ALL	SIGN MATERIALS	RTC 716							
627.03.03	INSTALLATION	ALL	EARTHWORK	RTC 203, 206, 207							
628	PAINTING TRAFFIC STRIPING, PAVEMENT MARKINGS, AND CURB MARKINGS										
628.01.01	GENERAL - DESCRIPTION	ALL	MATERIALS								
628.02.01	PAINT FOR TRAF. STRIPPING, ETC.	ALL	PAINT	RTC 714 03 05							
628.02.02	INSTALLATION	ALL	TRAFFIC STRIPES	RTC 714 03 09							
628.02.03	RETROREFLECTIVE MARKINGS	ALL	MARKINGS	RTC 714 03 08							

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				ALL	PAINT THICKNESS						
628.03.02	EQUIPMENT	APPLICATION OF PAINT	ALL	APPLICATION OF PAINT	RTC 714.03 08&07 daily fd inspection rpt	CONTINUOUS					
628.03.08		Straightedging	ALL		As Specified in the sp	daily fd insp rpt	CONTINUOUS				
629	WATER DISTRIBUTION FACILITIES										
			S & A	FIELD DENSITY	RTC 208						
			PCC	SAMPLING & TESTING	RTC 501						
630	SANITARY SEWERS		S & A	FIELD DENSITY	RTC 208						
			PCC	SAMPLING & TESTING	RTC 501						
631	STREET NAME SIGNS	MATERIALS	ALL	REFLECTIVE SHEETING	RTC 716.03.01						
632	HEADLIGHT GLARE SCREEN										
632.02.01	GENERAL - EXPANDED MESH	ALL		GALVANIZED SHEET	ASTM A526	MANUFACTURE CERT.	YES				
	GENERAL - EXPANDED MESH	DRY FILM		DRY FILM THICKNESS	ASTM D1400	MANUFACTURE CERT.	YES				
	GENERAL - EXPANDED MESH	DRY FILM		GLOSS	FED TEST STAND #14 (8101)	MANUFACTURE CERT.	YES				
	GENERAL - POSTS, CAPS, AND HROWR	ALL		STRUCTURAL STEEL	ASTM A36	MANUFACTURE CERT.	YES				
		ALL		GALVANIZING	ASTM A123	MANUFACTURE CERT.	YES				
				POST PIPE	ASTM A55, A120	MANUFACTURE CERT.	YES				
				TIES	ALUMINUM WIRE TIES	ASTM B211	MANUFACTURE CERT.	YES			
				MESH PANEL	REMOVABLE MESH PANEL	RTC 721					
633	PAVEMENT MARKERS										
633.02.01	NONREFLECTIVE MARKERS			BOND STRENGTH	RTC 633.02.03	MANUFACTURE CERT.	YES				
	MARKERS			GLAZE THICKNESS	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			MOH HARDNESS	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			DIRECTIONAL REFLECTANCE	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			YELLOWNESS INDEX	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			AUTOCLAVE - VISUAL	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			STRENGTH	ASTM	MANUFACTURE CERT.	YES				
	MARKERS			WATER ABSORPTION	ASTM	MANUFACTURE CERT.	YES				
633.02.02	REFLECTIVE MARKERS			BOND STRENGTH	RTC 633.02.03						
	MARKERS			REFLECTIVENESS	CALTRANS - TEST # 868	MANUFACTURE CERT.	YES				
	MARKERS			STRENGTH	CALTRANS - TEST # 869	MANUFACTURE CERT.	YES				
633.02.03	HOT APPLIED FLXBL MARKER ADHESIVE			SAFE HEATING TEMP		MANUFACTURE CERT.	YES				
	ADHESIVE			PENETRATION	ASTM D3407	MANUFACTURE CERT.	YES				
				SOFTENING POINT	ASTM D2398	MANUFACTURE CERT.	YES				
	ADHESIVE			DUCTILITY @ 77F	ASTM D113	MANUFACTURE CERT.	YES				
	ADHESIVE			DUCTILITY @ 39.2F	ASTM D113	MANUFACTURE CERT.	YES				

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			ADHESIVE	ASPHALT COMPATIBILITY	ASTM D3407	MANUFACTURE CERT.		CERT. PROCED.	OTHER TESTS	YES
WATERPROOFING AND DAMPROOFING										
648	648.02.01	GENERAL - MATERIALS	ASPHALT	WATERPROOF ASPHALT	ASTM D448 (A OR B)	MANUFACTURE CERT.		YES W / TESTS		
	648.03.02	EARTHWORK	PRIMER	WATERPROOF PRIMER	ASTM D41	MANUFACTURE CERT.		YES W / TESTS		
			FABRIC	WATERPROOF FABRIC	ASTM D1988	MANUFACTURE CERT.		YES W / TESTS		
METAL BIN-TYPE RETAINING WALLS										
660	660.02.01	GENERAL - MATERIALS	SHEETING	CORRUGATED METAL PIPE	AASHTO M88	MANUFACTURE CERT.		YES W / TESTS		
	660.03.02	EARTHWORK	ALL	EARTHWORK	RTC 208, 207					
DIVISION III - MATERIALS DETAILS										
PORTLAND CEMENT										
701	701.01.01	GENERAL - SCOPE	ALL	SOLUBLE SULFATES	CALTRANS TM 417-B	MANUFACTURE CERT.		YES W / TESTS		
	701.01.02	GENERAL - MATERIALS	FLYASH	FLYASH	RTC 729	MANUFACTURE CERT.				
	701.01.03	REQUIREMENTS	TYPE I-P	PORTLAND CEMENT	ASTM C595	MANUFACTURE CERT.		YES W / TESTS		
			TYPE II	PORTLAND CEMENT	ASTM C150	MANUFACTURE CERT.		YES W / TESTS		
			ALL OTHERS	PORTLAND CEMENT	AASHTO M85	MANUFACTURE CERT.		YES W / TESTS		
			ALL	ALKALIES	ASTM C114	MANUFACTURE CERT.		YES W / TESTS		
CONCRETE CURING MATERIALS AND ADMIXTURES										
702	702.03.01	CURING MATERIALS	ALL	BURLAP COTH	AASHTO M182	MANUFACTURE CERT.		YES W / TESTS		
	702.03.02		ALL	WATERPROOF PAPER	AASHTO M171	MANUFACTURE CERT.		YES W / TESTS		
	702.03.03		ALL	LIQUID COMPOUNDS	ASTM C309 (1D)	MANUFACTURE CERT.		YES W / TESTS		
	702.03.04		ALL	PLASTIC SHEETING	ASTM C171	MANUFACTURE CERT.		YES W / TESTS		
	702.03.05		ALL	WHITE PIGMENTED COMPOUND	ASTM C308 (2)	MANUFACTURE CERT.		YES W / TESTS		
	702.03.06		ALL	WHITE POLYETHYLENE SHEETING	ASTM C171	MANUFACTURE CERT.		YES W / TESTS		
	702.03.07	AIR-ENTRAINING ADMIXTURES	ALL	AIR ADMIXTURES	ASTM C280	MANUFACTURE CERT.		YES W / TESTS		
	702.03.08	ADMIXTURES - OTHER THAN AIR-ENT.	ALL	ADMIXTURES	ASTM C484	MANUFACTURE CERT.		YES W / TESTS		
	702.03.09	HYDRATED LIME	ALL	HYDRATED LIME	ASTM C207 (N)	MANUFACTURE CERT.		YES W / TESTS		
	702.03.10	WHITE PIGMENTED CURING COMPOUND	ALL	WHITE PIGMENTED CURING COMPOUND CH INDOT CURRENT SPECS	RTC 729	MANUFACTURE CERT.		YES W / TESTS		
	702.03.11	FLYASH	ALL	FLYASH						
BITUMINOUS MATERIALS										
703	703.03.01	REFINERY TEST REPORT	ALL	REFINERY TEST REPORT		MANUFACTURE CERT.		YES W / TESTS		
	703.03.02	ASPHALT CEMENTS	ALL	VISCOSITY @ 140F	AASHTO T202	MANUFACTURE CERT.		YES W / TESTS		
	703.03.03		ALL	VISCOSITY @ 276F	AASHTO T201	MANUFACTURE CERT.		YES W / TESTS		
	703.03.04		ALL	PENETRATION @ 77F	AASHTO T49	MANUFACTURE CERT.		YES W / TESTS		
	703.03.05		ALL	FLASH POINT	AASHTO T48	MANUFACTURE CERT.		YES W / TESTS		
	703.03.06		ALL	SOLUBILITY IN TRICHLOROETHYLENE	AASHTO T44	MANUFACTURE CERT.		YES W / TESTS		

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				TEST OR SUBMITTAL	CERT.				PROCED.	OTHER TESTS
		DUCTILITY @ 39F	AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		ALL TESTS ON RESIDUE FROM RTFC	AASHTO T240, T202	MANUFACTURE CERT.					YES W / TESTS	
	ASPHALT CEMENTS - AC20-P	VISCOSITY @ 140F	NDOT T727	MANUFACTURE CERT.					YES W / TESTS	
		VISCOSITY @ 275F	AASHTO T201	MANUFACTURE CERT.					YES W / TESTS	
		FLASH POINT	AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DUCTILITY @ 39F	NDOT T746	MANUFACTURE CERT.					YES W / TESTS	
		TOUGHNESS / TENACITY	NDOT T745	MANUFACTURE CERT.					YES W / TESTS	
		TESTS ON RESIDUE FROM RTFC	AASHTO T240 NDOT T727, T48	MANUFACTURE CERT.					YES W / TESTS	
	703.03.04	Liquid Asphalt - Rapid Curing	ASTM D2170, AASHTO T201	MANUFACTURE CERT.					YES W / TESTS	
		FLASH POINT	ASTM D1310, AASHTO T79	MANUFACTURE CERT.					YES W / TESTS	
		DISTILLATION	ASTM D402, AASHTO T78	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - PEN	ASTM D5, AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - DUCTILITY	ASTM D113, AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - SOLUBILITY	ASTM D202, AASHTO T44	MANUFACTURE CERT.					YES W / TESTS	
		WATER CONTENT	ASTM D85, AASHTO T55	MANUFACTURE CERT.					YES W / TESTS	
	Liquid Asphalt-Medium Curing	VISCOSITY @ 140F	ASTM D2170, AASHTO T201	MANUFACTURE CERT.					YES W / TESTS	
		FLASH POINT	ASTM D1310, AASHTO T79	MANUFACTURE CERT.					YES W / TESTS	
		DISTILLATION	ASTM D402, AASHTO T78	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - PEN	ASTM D5, AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - DUCTILITY	ASTM D113, AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - SOLUBILITY	ASTM D2042, AASHTO T44	MANUFACTURE CERT.					YES W / TESTS	
		WATER CONTENT	ASTM D85, AASHTO T55	MANUFACTURE CERT.					YES W / TESTS	
	Liquid Asphalt-Slow Curing	VISCOSITY @ 140F	ASTM D2170, AASHTO T201	MANUFACTURE CERT.					YES W / TESTS	
		FLASH POINT	ASTM D1310, AASHTO T79	MANUFACTURE CERT.					YES W / TESTS	
		DISTILLATION	ASTM D402, AASHTO T78	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - PEN	ASTM D5, AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - DUCTILITY	ASTM D113, AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - SOLUBILITY	ASTM D2042, AASHTO T44	MANUFACTURE CERT.					YES W / TESTS	
		WATER CONTENT	ASTM D85, AASHTO T55	MANUFACTURE CERT.					YES W / TESTS	
	703.03.04	Emulsified Asphalt - Anionic	TEST OF EMULSION	ASTM D88	MANUFACTURE CERT.				YES W / TESTS	
		DISTILLATION	ASTM D244	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - PEN	ASTM D5, AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - DUCTILITY	ASTM D113, AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - SOLUBILITY	ASTM D2042, AASHTO T44	MANUFACTURE CERT.					YES W / TESTS	
	EMULSIFIED ASPHALT - CATIONIC	TEST OF EMULSION	ASTM D88	MANUFACTURE CERT.					YES W / TESTS	
		DISTILLATION	ASTM D244	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - PEN	ASTM D5, AASHTO T48	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - DUCTILITY	ASTM D113, AASHTO T51	MANUFACTURE CERT.					YES W / TESTS	
		DISTILL RESIDUE - SOLUBILITY	ASTM D2042, AASHTO T44	MANUFACTURE CERT.					YES W / TESTS	

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704	BASE AGGREGATES											
704.02.03	PLASTIC LIMITS	ALL	PLASTIC LIMITS	ASTM D4318		1/1500 TONS	YES					
704	DRAIN BACKFILL	ALL	SOURCE SUBMITTAL			IQAC QUALIFIED				YES W / TESTS		
704.03.01	DRAIN BACKFILL	ALL	SIEVE ANALYSIS	ASTM C138, C117		1/1500 TONS						
704	TYPE I AGGREGATE BASE	ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		1/TYPE						
704.03.02	TYPE I AGGREGATE BASE	ALL	SOURCE SUBMITTAL							YES W / TESTS		
704	TYPE II AGGREGATE BASE	ALL	SIEVE ANALYSIS	ASTM C138, C117		1/1500 TONS						
		ALL	PLASTIC LIMITS	ASTM D4318		1/1500 TONS						
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer						
		ALL	RESISTANCE (R VALUE)	ASTM D2844		As requested by Engineer						
		ALL	SAND EQUIVALENT			As requested by Engineer						
										YES W / TESTS		
704	TYPE II AGGREGATE BASE	ALL	SIEVE ANALYSIS	ASTM C138, C117		1/1500 TONS	YES					
704.03.04	TYPE II AGGREGATE BASE	ALL	PLASTIC LIMITS	ASTM D4318		1/1500 TONS	YES					
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer	YES					
		ALL	RESISTANCE (R VALUE)	ASTM D2844		As requested by Engineer	YES					
		ALL	FRACTURED FACES	NDOT T230		1/1500 TONS	YES					
		ALL	SAND EQUIVALENT	ASTM D2419		As requested by Engineer	YES					
			SOURCE SUBMITTAL							YES W / TESTS		
704	AGGREGATE BASE FOR CTB	ALL	SIEVE ANALYSIS	ASTM C138, C117		1 / 1500 TONS						
704.03.08	AGGREGATE BASE FOR CTB	ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer						
705	AGGREGATES FOR BITUMINOUS COURSES											
705.03.01	PLANT MIX AND ROAD MIX BIT. BS & SRF	ALL	SIEVE ANALYSIS/COLD FEED SIEVE ANY/S	ASTM C138,C117		1 / 750 TONS/DAILY	YES					
		ALL	PLASTIC LIMITS	ASTM D4318			YES					
		ALL	FRACTURED FACES	NDOT T230		1 / DAILY	YES					
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer	YES					
		ALL	SAND EQUIVALENT	ASTM D2419		As requested by Engineer	YES					
		ALL	FRACTURED FACES	NDOT T230		1/DAILY	YES					
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer	YES					
		ALL	SAND EQUIVALENT	ASTM D2419		As requested by Engineer	YES					
		ALL	MINERAL FILLER	ASTM C877, C1087		MANUFACTURED CERT.	YES					
		ALL	SCREENINGS	AASHTO T27		1 / 750 TONS						
		ALL	PLASTIC LIMITS	ASTM D4318								
		ALL	FRACTURED FACES	NDOT T230		1 / 750 TONS						
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer	YES					
		ALL	SAND EQUIVALENT	ASTM D2419		As requested by Engineer	YES					
		ALL	COMMERCIAL MINERAL FILLER	ASTM C131		As requested by Engineer	YES					
		ALL	SCREENINGS	AASHTO T27								
		ALL	PLASTIC LIMITS	ASTM D4318								
		ALL	FRACTURED FACES	NDOT T230		1 / 750 TONS						
		ALL	PERCENT WEAR (LA ABRASION)	ASTM C131		As requested by Engineer	YES					
		ALL	SAND EQUIVALENT	ASTM D2419		As requested by Engineer	YES					
		ALL	SIEVE ANALYSIS	AASHTO T27		As requested by Engineer	YES					

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				TEST OR SUBMITTAL	ORGANIC MATERIALS						
			ALL	ASTM C40		As requested by Engineer					
			ALL	ASTM D2419		As requested by Engineer					
706 AGGREGATES FOR PORTLAND CEMENT PRODUCTS											
706.02.01	GENERAL	MIX DESIGN	RTC	Engineered Design	IDAC QUALIFIED	YES					
706.03.01	COARSE AGGREGATE	SIEVE ANALYSIS	AASHTO T27		As requested by engineer	YES					
		FRACTURED FACES	NDOT T230		As requested by engineer	YES					
		PERCENT WEAR (LA ABRASION)	ASTM C131-100 REV'S		As requested by engineer	YES					
		PERCENT WEAR (LA ABRASION)	ASTM C131- 500 REV'S		As requested by engineer	YES					
		SOUNDNESS (SODIUM SULFATE)	AASHTO T104		As requested by engineer	YES					
		CLAY LUMPS	AASHTO T112		As requested by engineer	YES					
		FLAT AND ELONGATED PIECES		As Specified in Special Provisions			As requested by engineer	YES			
		CLEANNESS VALUE	CALTRANS TEST #227				As requested by engineer	YES			
		SIEVE ANALYSIS	AASHTO T27		As requested by engineer	YES					
		UNIT WEIGHT	ASTM C28		As requested by engineer	YES					
706.03.02	LIGHTWEIGHT AGGREGATE	ORGANIC IMPURITIES	ASTM C40		As requested by engineer	---					
		CLAY LUMPS	AASHTO T112		As requested by engineer	---					
		TESTS FOR STAINING MATERIALS	ASTM D330		As requested by engineer	---					
		MORTAR MAKING PROPERTIES	ASTM C87		As requested by engineer	---					
		CLEANNESS VALUE	CALTRANS TEST #227		As requested by engineer	---					
		SIEVE ANALYSIS	AASHTO T27		As requested by engineer	YES					
		ORGANIC IMPURITIES	ASTM C40		As requested by engineer	YES					
		LIGHTWEIGHT PIECES	AASHTO T113		As requested by engineer	YES					
		SOUNDNESS (SODIUM SULFATE)	AASHTO T104		As requested by engineer	YES					
		CLAY LUMPS	AASHTO T112		As requested by engineer	YES					
		MORTAR MAKING PROPERTIES	ASTM C87		As requested by engineer	---					
		SAND EQUIVALENT	ASTM D2419		As requested by engineer	YES					
		PERCENT WEAR (LA ABRASION)	SPECIAL PROVISIONS 208.02.06		As requested by engineer	YES					
		SIEVE ANALYSIS	AASHTO T27		As requested by engineer	YES					
		ORGANIC IMPURITIES	ASTM C40		As requested by engineer	YES					
		MORTAR MAKING PROPERTIES	ASTM C87		As requested by engineer	---					
		SAND EQUIVALENT	ASTM D2419		As requested by engineer	YES					
		PERCENT WEAR	ASTM C131		As requested by engineer	YES					
		BULK SPECIFIC GRAVITY	ASTM C127		As requested by engineer	---					
707 JOINT MATERIAL											
707.03.01	JOINT FILLERS	JOINT FILLERS	AASHTO M213, ASTM D1751		1 / LOT						
707.03.02	RUBBER GASKETS	RUBBER GASKETS	AASHTO M188		1 / LOT						
707.03.03	WATERSTOPPS	NATURAL	TENSION OF VUL. RUBBER	ASTM D412	1 / LOT						
		NATURAL	ACCEL. AGING VUL. RUBBER	ASTM D572	1 / LOT						
		NATURAL	INDENTATION OF RUBBER	ASTM D240	1 / LOT						
					YES W / TESTS						
					YES W / TESTS						
					YES W / TESTS						
					YES W / TESTS						

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		SYNTHETIC TENSION OF VUL. RUBBER	ASTM D412	1/LOT				YES W / TESTS				
		SYNTHETIC ACCEL AGING VUL. RUBBER	ASTM D572	1/LOT				YES W / TESTS				
		SYNTHETIC INDENTATION OF RUBBER	ASTM D240	1/LOT				YES W / TESTS				
		POLYVINYL POLYVINYL CHLORIDE WATERSTOP	CORP CRD-C572	1/LOT				YES W / TESTS				
707.03.04	PORTABLE JOINT SEALER	ALL SEALANT	CALTRANS 701 58-39	1/LOT				YES W / TESTS				
707.03.05	ASPHALT PLANK	ALL PLAIN ASPHALT PLANK	ASTM D517	1/LOT				YES W / TESTS				
707.03.06	PERFORMED ELASTIC JOINT SEALER	ALL PERFORMED ELASTIC JOINT SEALER	AASHTO M220	1/LOT				YES W / TESTS				
708 CONCRETE AND CLAY PIPE AND DRAINS												
708.03.01	REINFORCED CONCRETE PIPE	ROUND	REINFORCED CONCRETE PIPE	ASTM C76, OR C855	1/LOT			YES W / TESTS				
		ELLIPTICAL	REINFORCED CONCRETE PIPE	ASTM C507, OR C855	1/LOT			YES W / TESTS				
708.03.02	NON-REINFORCED CONCRETE PIPE	ALL	NON-REINFORCED CONCRETE PIPE	ASTM C14 AST	1/LOT			YES W / TESTS				
708.03.03	PERFORATED CONCRETE PIPE	ALL	PERFORATED CONCRETE PIPE	AASHTO M175, ASTM C444	1/LOT			YES W / TESTS				
708.03.04	CLAY PIPE	ALL	CLAY PIPE	AASHTO M65	1/LOT			YES W / TESTS				
708.03.05	ABS COMPOSITE PIPE	ALL	ABS PIPE	ASTM D2880	1/LOT			YES W / TESTS				
708.03.06	ASBESTOS CEMENT PRESSURE PIPE	ALL	ASBESTOS CEMENT PRESSURE PIPE	ASTM C288	1/LOT			YES W / TESTS				
708.03.07	ASBESTOS CEMENT PIPE	ALL	ASBESTOS CEMENT PIPE	ASTM C428	1/LOT			YES W / TESTS				
708.03.08	REINFORCED CONC. PRESSURE PIPE	ALL	REINF. CONC. PRESSURE PIPE	AWWA C300, C301, C302	1/LOT			YES W / TESTS				
709 METAL AND THERMOPLASTIC PIPE												
709.03.01	CORR. METAL PIPE AND PIPE ARCHES	ALL	CORR. METAL PIPE AND ARCHES	AASHTO M38, M190	1/LOT			YES W / TESTS				
		S & A	Ph AND ELEC RESISTANCE	CALTRANS TEST 843	1/LOT			YES W / TESTS				
709.03.02	BITUMINOUS COATED CORR. MTL PIPE	ALL	BIT. COATED CORR. METAL PIPE AND ARCHI	AASHTO M38, M190	1/LOT			YES W / TESTS				
709.03.03	ALUMINIZED TYPE 2 COATED CORR STL	ALL	ALUM. TYPE 2 COATED CORR. STEEL PIPE	AASHTO M38, M274	1/LOT			YES W / TESTS				
		S & A	Ph AND ELEC RESISTANCE	CALTRANS TEST 843	1/LOT			YES W / TESTS				
709.03.04	CONCRETE LINED CORR. STEEL PIPE	ALL	CONCRETE LINES CORR. STEEL PIPE	RTC 708.03.03 ASTM A848	1/LOT			YES W / TESTS				
		PCC		RTC 701	1/LOT			YES W / TESTS				
709.03.05	CORR. ALUMINUM PIPE	ALL	CORR. ALUMINUM PIPE	AASHTO M190	1/LOT			YES W / TESTS				
709.03.06	CORR. METAL PIPES FOR DOWNDRAINS	ALL	CORR. METAL PIPES FOR DOWNDRAINS	AASHTO M38, M190, ASTM A525	1/LOT			YES W / TESTS				
		ANCHORS	ANCHORS AND ASSEMBLIES	ASTM A153, A123	1/LOT			YES W / TESTS				
709.03.07	CORR. METAL PIPE FOR UNDERDRAINS	ALL	CORR. METAL PIPE FOR UNDERGROUND	AASHTO M38	1/LOT			YES W / TESTS				
710.03.07	BIT. COATED CORR. METAL PIPE FOR UDL		BIT. COATED CORR. METAL PIPE FOR UDL	AASHTO M38, M190	1/LOT			YES W / TESTS				
709.03.08	THERMOPLASTIC PLASTIC PIPE CLVT DRAINS											
	A) CORR. POLYETHYLENE PIPE TYPE C	ALL	CORR. POLYETHYLENE PIPE TYPE C	AASHTO M294	1/LOT			YES W / TESTS				
	B) CORR. POLYETHYLENE PIPE TYPE S	ALL	CORR. POLYETHYLENE PIPE TYPE S	AASHTO M294, MP8-95	1/LOT			YES W / TESTS				
	C) CORR. POLYETHYLENE PIPE TYPE D	ALL	CORR. POLYETHYLENE PIPE TYPE D	AASHTO MP8-95	1/LOT			YES W / TESTS				
	D) RIBBED WALL OR SPIRAL POLYETH	ALL	RIB WALL OR SPIRAL POLYETHYLENE PIPE	ASTM F844	1/LOT			YES W / TESTS				
	E) RIBBED WALL OR SPIRAL POLYETH	ALL	RIB WALL OR SPIRAL PVC PIPE	AASHTO M304	1/LOT			YES W / TESTS				
	F) SOLID WALL POLY. CHLORIDE PIPE	ALL	SOLID WALL PVC PIPE	ASTM D434, AASHTO M278	1/LOT			YES W / TESTS				
	G) SPECIAL FITTINGS	HDPE	HDPE FITTINGS	ASTM D350	1/LOT			YES W / TESTS				
		PVC	PVC FITTINGS	ASTM D1744	1/LOT			YES W / TESTS				

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708.03.10	CORR. POLYETHYLENE PIPE - PRFRD	ALL	CORR. POLYETHYLENE PIPE	AASHTO M252, M284		1/L OT		YES W / TESTS				
708.03.11	STRUC. PLATE PIPE AND ARCHES	ALL	STRUC. PLATE PIPE AND ARCHES	AASHTO M187		1/L OT		YES W / TESTS				
708.03.12	CAST IRON PIPE	ALL	CAST IRON PIPE	ASTM 74, AWWA 108, 108		1/L OT		YES W / TESTS				
708.03.13	STEEL WATER PIPE	ALL	STEEL WATER PIPE	AWWA C201, C202		1/L OT		YES W / TESTS				
710 STRUCTURAL AND EYEBAR STEEL												
710.02.02	CHARPY V-NOTCH TEST	ALL	CHARPY V-NOTCH TEST	AASHTO		1/L OT		YES W / TESTS				
710.03.01	STANDARD STEEL	ALL	STANDARD STEEL	AASHTO M183		1/L OT		YES W / TESTS				
710.03.02	MANGANESE VANADIUM STEEL	ALL	MANGANESE VANADIUM STEEL	ASTM A441		1/L OT		YES W / TESTS				
710.03.03	HIGH TENSILE STRENGTH BOLTS	ALL	HIGH TENSILE STRENGTH BOLTS	ASTM A325		1/L OT		YES W / TESTS				
710.03.04	STAINLESS STEEL BOLTS	ALL	STAINLESS STEEL BOLTS	ASTM A728		1/L OT		YES W / TESTS				
710.03.05	WELDED SEAMLESS STEEL PIPE	ALL	WELDED SEAMLESS STEEL PIPE	ASTM A53		1/L OT		YES W / TESTS				
710.03.06	SEAMLESS CARBON STEEL STRUCT	ALL	SEAMLESS CARBON STUC. TUBING	ASTM A500 (B)		1/L OT		YES W / TESTS				
710.03.07	SHEAR CONNECTOR STUDS	ALL	SHEAR CONNECTOR STUDS	ASTM A108, A109		1/L OT		YES W / TESTS				
710.03.08	PINS AND ROLLERS	ALL	PINS AND ROLLERS	ASTM A235		1/L OT		YES W / TESTS				
711 ALUMINUM FOR BRIDGE RAIL												
711.03.01	ALUMINUM ALLOY FOR PIPE	ALL	ALUMINUM ALLOY FOR PIPE	ASTM B241		1/L OT		YES W / TESTS				
711.03.02	ALUMINUM ALLOY FOR TUBING	ALL	ALUMINUM ALLOY FOR TUBING	ASTM B221		1/L OT		YES W / TESTS				
711.03.03	CAST ALUMINUM ALLOY	ALL	CAST ALUMINUM ALLOY	AASHTO M183		1/L OT		YES W / TESTS				
711.03.04	ALUMINUM ALLOY SHIMS	ALL	ALUMINUM ALLOY SHIMS	ASTM B209		1/L OT		YES W / TESTS				
712 MISCELLANEOUS METAL												
712.03.01	STEEL CASTINGS	ALL	STEEL CASTINGS	ASTM A27		1/L OT		YES W / TESTS				
712.03.02	GRAY IRON CASTINGS	ALL	GRAY IRON CASTINGS	ASTM A48		1/L OT		YES W / TESTS				
712.03.03	MALLEABLE CASTINGS	ALL	MALLEABLE CASTINGS	ASTM A47		1/L OT		YES W / TESTS				
712.03.04	WROUGHT IRON PLATES	ALL	WROUGHT IRON PLATES	ASTM A42		1/L OT		YES W / TESTS				
712.03.05	BRONZE CASTINGS	ALL	BRONZE CASTINGS	ASTM B22		1/L OT		YES W / TESTS				
712.03.06	WELDING MATERIALS	ALL	WELDING MATERIALS	AWS, AASHTO		1/L OT		YES W / TESTS				
712.03.07	STEEL PIPES	ALL	STEEL PIPES	ASTM A38		1/L OT		YES W / TESTS				
712.03.08	STEEL SHELL FOR PILES	ALL	STEEL SHELL FOR PILES	ASTM A252		1/L OT		YES W / TESTS				
713 REINFORCEMENT												
713.03.01	BAR STEEL REINFORCEMENT	ALL	DEFORMED BARS BILLET - STEEL REINF.	ASTM A615		2/L OT SIZE						
		ALL	AXLE-STEEL DEFORMED BARS REINF.	ASTM A617		2/L OT SIZE						
		ALL	SPIRAL REINFORCEMENT	ASTM A615		2/L OT SIZE						
703.03.02	FABRICATED STEEL BAR AND ROD MAT	ALL	FABRICATED STEEL BAR AND ROD MAT	ASTM A184		2/L OT SIZE		YES W / TESTS				
703.03.03	WELDED STEEL WIRE FABRIC	ALL	WELDED STEEL WIRE FABRIC	ASTM A185		2/L OT SIZE		YES W / TESTS				
703.03.04	PRESTRESSING STEEL	ALL	STEEL WIRE	ASTM A421		2/L OT SIZE		YES W / TESTS				
		ALL	SEVEN-STRAND WIRE	ASTM A416		2/L OT SIZE		YES W / TESTS				
703.03.05	COLD-DRAWN STEEL WIRE FOR SPIRAL	ALL	COLD-DRAWN STEEL WIRE FOR SPIRAL	ASTM A82		2/L OT SIZE		YES W / TESTS				

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714 PAINT AND PAVEMENT MARKERS																
714.03.01	IRON AND STEEL USE ITEMS	A) PRE-TRIMINT, ORGANIC VEHICLE TYP ALL	PAINT	CALTRANS 8010-81J-38	1/LOT							YES				
	B) PRE-TRIMINT, VINYL WASH PRIMER	ALL	PAINT	CALTRANS 8010-81J-27	1/LOT							YES				
	C) VINYL PRIMER RED IRON OXIDE TYPE	ALL	PAINT	CALTRANS 8010-81J-23	1/LOT							YES				
	D) ALUMINUM VEHICLE	ALL	PAINT	CALTRANS 8010-81B-75	1/LOT							YES				
	E) ALUMINUM PAINT, ALUMINUM FNSH C ALL	PAINT	CALTRANS 8010-81J-45	1/LOT								YES				
	F) VINYL PAINT, ALUMINUM FNSH COAT	ALL	PAINT	CALTRANS 8010-81J-25	1/LOT							YES				
	G) BURNT UMBER TINT FISHING COAT	ALL	PAINT	CALTRANS 8010-81J-41	1/LOT							YES				
	H) BURNT SIENNA FINISH COAT	ALL	PAINT	CALTRANS 8010-81J-53	1/LOT							YES				
	I) GREEN FINISH COAT	ALL	PAINT	CALTRANS 8010-81J-47	1/LOT							YES				
	J) VINYL GREEN FINNISH COAT	ALL	PAINT	CALTRANS 8010-81J-40	1/LOT							YES				
	K) VINYL IRIDESCENT GREEN FINISH C	ALL	PAINT	CALTRANS 8010-81B-43	1/LOT							YES				
	L) TAN FINISH COAT	ALL	PAINT	CALTRANS 8010-81J-51	1/LOT							YES				
	M) WHITE TENT BASE FNSH VINYL CT	ALL	PAINT	CALTRANS 8010-71C-35	1/LOT							YES				
	N) ENAMEL; EXTERIOR WHITE METAL	ALL	PAINT	CALTRANS 8010-81J-08	1/LOT							YES				
	O) ENAMEL; TRAFFIC SIGNAL LUSTLESS	ALL	PAINT	CALTRANS 8010-81J-13	1/LOT							YES				
	P) ENAMEL; TRAFFIC SIGNAL DARK OL	ALL	PAINT	CALTRANS 8010-41B-A	1/LOT							YES				
	Q) ENAMEL; TRAFFIC SIGNAL YELLOW	ALL	PAINT	FED SPEC 865A	1/LOT							YES				
	R) ENAMEL; TRAFFIC SIGNAL SILVER	ALL	PAINT	FED SPEC 865A	1/LOT							YES				
714.03.02	TIMBER USE ITEMS															
	A) WOOD PRIMER LATEX BASE	ALL	PAINT	FED SPEC TT-P001984	1/LOT							YES				
	B) PAINT, LATEX BASE FOR EXT. WHITE	ALL	PAINT	FED SPEC TT-P86D	1/LOT							YES				
	C) ENAMEL; SIGN POST BLACK	ALL	PAINT	CALTRANS 8010-81J-08	1/LOT							YES				
714.03.04	ALUMINUM USE ITEMS	ALL	PAINT	RTC 714.03.01(b)	1/LOT											
714.03.05 PAINT FOR TRAFFIC STRIPPING AND MARKING																
	A) ABRASIVE RESISTANCE	ALL	ALL TYPES	FED TEST #141 METHOD 6182	1/LOT							YES				
	C) FLEXIBILITY	ALL	ALL TYPES	FED TEST #141 METHOD 2021.1	1/LOT							YES				
714.03.06	 THERMOPLASTIC PAINT & PAVEMENT MARKERS															
	A) THERMOPLASTIC PAINT	ALL	PAINT	CALTRANS 8010-71K-19	1/LOT							YES				
	B) TYPE I FILM	ALL	TYPE I FILM - COLOR	ASTM E1349, E308	1/LOT							YES				
		ALL	TYPE I FILM - REFLECTANCE	ASTM D4061	1/LOT							YES				
		ALL	TYPE I FILM - SKID RESISTANCE	ASTM E303	1/LOT							YES				
		ALL	TYPE I FILM - TENSILE STRENGTH	ASTM D88-78	1/LOT							YES				
	C) TYPE II FILM	ALL	TYPE II FILM - REFLECTANCE	ASTM D4061	1/LOT							YES				
		ALL	TYPE II FILM - SKID RESISTANCE	ASTM E303	1/LOT							YES				
		ALL	TYPE II FILM - TENSILE STRENGTH	ASTM D88-78	1/LOT							YES				
714.03.09	REFLECTIVE MATERIALS	GLASS BEADS	GLASS BEADS	FED SPEC TT-B-1325B	1/LOT							YES				

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				CERT.	PROCD.				TESTING ITEM	REF. #
715	GALVANIZING									
716.03.01	PRODUCTS ONE-EIGHTH INCH THICK	ALL	DUCTS ONE EIGHTH INCH THICK	ASTM A123	1 / APPLICATION				YES	
716.03.02	GUARDRAIL ELEMENTS	ALL	GUARDRAIL ELEMENTS	AASHTO M180	1 / APPLICATION				YES	
716.03.03	HARDWARE	ALL	HARDWARE	ASTM A153	1 / APPLICATION				YES	
716	SIGN MATERIALS									
716.02.01	GENERAL	PCC	PCC	RTC 501						
		REBAR	REINFORCING STEEL	RTC 505						
716.03.01	REFLECTIVE SHEETING									
	CLASS 1-NON-REFLECTIVE PLASTIC FILM	ALL	CLASS 1	MIL-M-43718B	1 / SOURCE				YES	
	CLASS 2-ENCLOSED LENS RETRO SHT	ALL	CLASS 2	USDOT FHWA SPEC FP-98 SEC 718 TYP 1	1 / SOURCE				YES	
	CLASS 3-ENCLOSED LENS RETRO SHT	ALL	CLASS 3	USDOT FHWA SPEC FP-98 SEC 718 TYP 2	1 / SOURCE				YES	
	CLASS 4-ENCAP. LENS RETRO SHT (HG)	ALL	CLASS 4	USDOT FHWA SPEC FP-98 SEC 718 TYP 3	1 / SOURCE				YES	
	CLASS 5-WIDE ANGLE PRISM DMND GR	ALL	CLASS 5	ASTM E910	1 / SOURCE				YES	
	CLASS 6-WIDE ANGEL PRISM DMND VIP	ALL	CLASS 6	ASTM E910	1 / SOURCE				YES	
716.03.03	ALUMINUM SIGN PANELS	ALL	ALUMINUM SHEETING	ASTM B209	1 / SOURCE				YES	
716.03.05	OVERHEAD SIGN STRUC. AND SIGN FRM									
	1) SIGN FRAMES	ALL	SIGN FRAMES	ASTM A36	1 / SOURCE				YES	
	2) SIGN PIPE POSTS	ALL	SIGN PIPE POSTS	ASTM A53 A373 OPTION(A36, A283)	1 / SOURCE				YES	
	4) BOLTS AND NUTS	ALL	BOLTS AND BILTED CONNECTIONS	RTC 508 03.10 ASTM A307	1 / SOURCE				YES	
	5) WELDING	ALL	WELDING	RTC 508 03.20	1 / SOURCE				YES	
	6) ANCHOR BOLTS	ALL	ANCHOR BOLTS	ASTM A153, A195	1 / SOURCE				YES	
716.03.08	SIGN HARDWARE, POST AND RELATED	ALL	HARDWARE	ASTM A36, A120, A123, A163, A185	1 / SOURCE				YES	
717	TIMBER PILES									
717.03.01	GENERAL	ALL	TIMBERS	ASTM D25	1 / SOURCE				YES	
718	TIMBER									
718.03.02	GRADES	ALL	TIMBERS	AASHTO M188	1 / SOURCE				YES	
719	TIMBER PRESERVATIVES									
719.03.01	PRESERVATIVES	ALL	PRESERVATIVES	AASHTO M133	1 / SOURCE				YES	
720	GUARDRAIL MATERIALS									
720.03.01	RAIL MEMBERS	ALL	CORR. SHEET STEEL BEAMS	AASHTO M 180-74	1 / SOURCE				YES	
	FITTINGS	ALL	FITTINGS	RTC 715						
720.03.02	REFLECTOR PLATES	ALL	REFLECTOR PLATES	RTC 721 03.03						
720.03.04	CABLE END ANCHOR ASSEMBLIES	ALL	ANCHOR PLATES	ASTM A36	1 / SOURCE				YES	
		ALL	ANCHOR ROD	ASTM G76, A576	1 / SOURCE				YES	
		ALL	BOLTS AND NUTS	ASTM A307	1 / SOURCE				YES	
		ALL	SWAGED FITTINGS	AISI C-1035	1 / SOURCE				YES	

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								CERT.	PROCED.	OTHER	TESTS	
721 OBJECT MARKERS AND GUIDE POSTS												
721.03.01	METAL POSTS	ALL	POSTS			ASTM A570	1 / SOURCE			YES		
721.03.02	TARGET PLATES											
ZINC-COATED STEEL	ALL	ZINC-COATED STEEL				FED SPEC QQ-S-775	1 / SOURCE			YES		
COATED ALUMINUM	ALL	COATED ALUMINUM				FED SPEC MIL-C-5641	1 / SOURCE			YES		
PAINT	ALL	PAINT				FED SPEC TT-E-489	1 / SOURCE			YES		
721.03.03	REFLECTORS											
PHOTOMETRIC REQUIREMENTS	ALL	REFLECTORS				SOC AUTO ENGINEERS & FED SPEC MIL-R 1 / SOURCE				YES		
722 WATER												
722.03.01	CONCRETE USE	ALL	TEST FOR QUALITY OF WATER			AASHTO T28	1 / SOURCE			YES		
723 HARDWARE												
723.03.01	GALVANIZING	ALL	GALVANIZING			ASTM A153	1 / SOURCE			YES		
723.03.02	BOLTS, NUTS, DOWELS, & DRIFT BLTS	ALL	SPEC. FOR STEEL MACHINE BOLTS & NUTS			ASTM A507	1 / SOURCE			YES		
724 FENCE MATERIALS												
724.03.01	WOOD POSTS	ALL	TIMBER			RTC 718						
724.03.02	METAL POSTS	ALL	METAL POSTS			ASTM F1083, OPTION AASHTO M181	1 / SOURCE			YES		
	C-SECTION METAL POSTS	ALL	METAL POSTS			ASTM A570, OPTION AASHTO M181	1 / SOURCE			YES		
	T-SECTION METAL POSTS	ALL	METAL POSTS			ASTM A238, A683, OR A675 AND A702	1 / SOURCE			YES		
	GALVANIZING	ALL	METAL POSTS			ASTM A780	1 / SOURCE			YES		
	SALT SPRAY TESTING	ALL	METAL POSTS			ASTM B117	1 / SOURCE			YES		
724.03.03	BARBED WIRE	ALL	STEEL BARBED WIRE			ASTM A121	1 / SOURCE			YES		
		ALL	ALUMINUM BARBED WIRE			ASTM B211	1 / SOURCE			YES		
724.03.04	WOVEN WIRE	ALL	WOVEN WIRE			ASTM A116	1 / SOURCE			YES		
724.03.05	CHAIN-LINK FABRIC	ALL	CHAIN-LINK FABRIC			AASHTO M181	1 / SOURCE			YES		
724.03.07	METAL GATES	ALL	GATES			ASTM A53 OR AASHTO M181	1 / SOURCE			YES		
725 ELASTOMERIC BEARING PADS												
725.03.01	GENERAL	ALL	DUROMETER			ASTM	1 / SOURCE			YES		
		ALL	HARDNESS			ASTM D2240	1 / SOURCE			YES		
		ALL	TENSILE STRENGTH			ASTM D412	1 / SOURCE			YES		
		ALL	HEAT RESISTANCE			ASTM D673	1 / SOURCE			YES		
		ALL	COMPRESSION SET			ASTM D395-B	1 / SOURCE			YES		
		ALL	OZONE			ASTM D1149	1 / SOURCE			YES		
		ALL	ADHESION			ASTM D420-B	1 / SOURCE			YES		

City of Mesquite Public Works Quality Control Frequency Table-1
Revised May '02

Revised May 30, 2002

SPEC. NUMBER	SUB. SECTION	ITEM DESCRIPTION	MATERIAL	TEST OR SUBMITTAL		REFERENCE SPECIFICATIONS AND TEST PROCEDURES	FREQUENCY	INPUT ITEM	SUBMITTAL ITEM	TESTING ITEM	TESTED OTHER
				CUT	PROCD.						
726 ROADSIDE MATERIALS											
726.03.01	PLANTING SOIL	ALL	ORGANIC MATTER	1/ SOURCE						YES	
		ALL	PARTICLE SIZE	1/ SOURCE						YES	
		ALL	CLAY CONTENT	1/ SOURCE						YES	
		ALL	PH FACTOR	1/ SOURCE						YES	
		ALL	ELECTRICAL CONDUCTIVITY	1/ SOURCE						YES	
726.03.02	FERTILIZER	ALL	FERTILIZER	1/ SOURCE						YES	
726.03.03	ORGANIC MATERIAL	ALL	MOISTURE RETENTION CAPACITY	1/ SOURCE						YES	
		ALL	ORGANIC MATTER	1/ SOURCE						YES	
		ALL	MINERAL MATTER	1/ SOURCE						YES	
		ALL	SILICA	1/ SOURCE						YES	
		ALL	NITROGEN	1/ SOURCE						YES	
		ALL	PH VALUE	1/ SOURCE						YES	
		ALL	DOUGLAS AIR CONTENT	1/ SOURCE						YES	
		ALL	MOISTURE CONTENT	1/ SOURCE						YES	
		ALL	ORGANIC MATTER	1/ SOURCE						YES	
		ALL	ASH CONTENT	1/ SOURCE						YES	
		ALL	WATER HOLDING CAPACITY	1/ SOURCE						YES	
726.03.08	PLANTS	ALL	PLANTS	ASA SPEC Z80.1						YES	
		ALL	SEEDS	As Specified in the Special Provisions						YES	
726.03.09	PIPE AND FITTINGS	ALL	ASBESTOS PIPE	AWWA/C-400-84T						YES	
		ALL	PVC PIPE	ASTM D2287						YES	
726.03.11	GATE VALVES	ALL	GATE VALVES	ASTM B92						YES	
726.03.12	QUICK COPPER VALVES	ALL	GATE VALVES	ASTM B584						YES	
726.03.13	MASONRY	CMU	LOAD BEARING CMU	ASTM C90						YES	
		CMU	NON-LOAD BEARING CMU	ASTM C128						YES	
727 CONCRETE SURFACE FINISHING MATERIALS											
727.02.01	REQUIREMENTS	ALL	VISCOSITY	FED STD #4281						YES	
		ALL	TOTAL SOLIDS	FED STD #4042						YES	
		ALL	FLEXIBILITY	FED STD #6221						YES	
		ALL	WATER RESISTANCE	ASTM D1647						YES	
		ALL	WEATHEROMETER DURABILITY	FED STD #8152						YES	
728 EPOXY											
728.02.01	SAMPLING AND TESTING	ALL	EPoxy	ASTM FED STD #41						YES W / TESTS	
728.03.01	BINDER (ADHESIVE) EPOXY RESIN BASE	ALL	BINDER EPOXY RESIN BASE	CAI TRANS SPEC 741-80-28						YES W / TESTS	
728.03.02	COAL TAR MODIFYING EPOXY RESIN	ALL	COAL TAR MODIFYING EPOXY RESIN	CAI TRANS SPEC 701-80-35						YES W / TESTS	
728.03.03	EPoxy RESIN ADE. FOR BONDING NEW	ALL	CONCRETE EXPOSE	CAI TRANS SPEC 741-80-43						YES W / TESTS	
728.03.08	BINDER EPOXY RESIN BASE ALKYBENZEN	ALL	BINDER EPOXY RESIN BASE ALKYBENZEN	CAI TRANS SPEC 741-80-48						YES W / TESTS	
728.03.07	BINDER EPOXY RESIN BASE SETTING	ALL	BINDER EPOXY RESIN BASE SETTING	CAI TRANS SPEC 741-80-47						YES W / TESTS	

City of Mesquite Public Works Quality Control Frequency Table-1

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SPEC. NUMBER	SUB SECTION	ITEM DESCRIPTION	MATERIAL	TEST OR SUBMITTAL		REFERENCE SPECIFICATIONS AND TEST PROCEDURES	FREQUENCY	INSP. ITEM	TESTING ITEM	SUBMITTAL CERT PROCD.	EST. # TESTS
				TEST	SUBMITTAL						
728.08.08	BINDER EPOXY RESIN BASE FAST ST	ALL	BINDER EPOXY RESIN BASE FAST SETTING	CALTRANS SPEC 741-80-48	1 / SOURCE						
728.08.09	EPOXY SEALANT FOR INDUCTIVE LOOP	ALL	EPOXY SEALANT FOR INDUCTIVE LOOP	CALTRANS SPEC 741-80-38	1 / SOURCE						
729	FLY ASH										
729.02.01	REQUIREMENTS	ALL	FLY ASH	ASTM C818 & C311	1 / SOURCE					YES	

LEGEND:

S & A = SOILS AND AGGREGATES

BPM = BITUMINOUS PLANT MIX

PCC = PORTLAND CEMENT CONCRETE

PCCP = PORTLAND CEMENT CONCRETE PAVEMENT

LPCC = LIGHTWEIGHT PORTLAND CEMENT CONCRETE

AGG = AGGREGATE

CTB = CEMENT TREATED BASE

LTB = LIME TREATED BASE

MF = LIME FILLER

BM = BITUMINOUS MATERIALS

AC-MC-SS= OIL & EMULSION TYPES

RA = RECYCLED ASPHALT

FREQUENCY

CY = CUBIC YARD

SF = SQUARE FEET

LANE = INDIVIDUAL TRAVEL LANE

NOTES

1) ALL FREQUENCIES ARE A MINIMUM OF ONE PER DAY OF PRODUCTION

2) SUBMITTALS MARKED WITH YES REQUIRE CERTIFICATION SUBMITTAL

3) SUBMITTALS MARKED YES W / TESTS REQUIRE CERTIFICATION WITH SOURCE TEST RESULTS



"Come for a Day ... Stay for a Lifetime"

February 27, 2007

OFFICE OF THE CITY ENGINEER and
ECONOMIC DEVELOPMENT

Allen Bell, Director

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(702) 346-5295 Fax: (702) 346-2795
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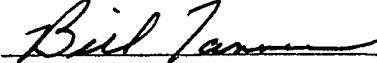
TO: ALL Engineering Firms
Providing Inspections and Testing

There seems to be a lot of confusion as to what the requirements are for inspection and testing, hopefully, this letter should clear it up.

1. Each firm, inspector, responsible engineer, will maintain an inspector's daily log for every project which they are inspecting. There should be records for every day including weekends until the project is finalized. (Even if no work is occurring.)
2. All inspectors shall have a copy of the City of Mesquite's Public Works Quality Control Program.
3. Inspector's daily log will typically contain the phase of the work, stations on the streets, work being done, any quality control/ quality assurance testing that is being done, any materials delivered but not installed, etc. and will note meetings regarding the work or changes, attendees, and agreed time frame..
4. Reports on the project will be turned into the Public Works Director by 5:00 pm of Wednesday following previous week's construction activities which will include a Daily Inspection Report for day's no work was done including weekends. As long as the project is still on going..
5. No field changes are to be authorized without the express approval of the Public Works Director and/or City Engineer, and in most cases revision to the plans may be required prior to the field change being allowed.
6. Tests which pass can be forwarded routinely, however, tests which fail must be noticed immediately and the inspector must make arrangements for rework and retest of the failed area. Public Works should be notified of this as a minimum by e-mail as soon as possible.
7. Retest for these areas needs to be followed up on with similar notification as to whether they passed or failed etc.
8. Failure to comply will cause your authorization to do inspection and testing to be revoked by the City.

Sincerely,


Allen Bell, P. E.
Director of Engineering and
Economic Development


Bill Tanner
Director of Public Works

Attachments