TOWN OF QUEEN CREEK

RIGHT OF WAY CONSTRUCTION, INSPECTION, AND MATERIALS TESTING REQUIREMENTS

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FOR

CONSTRUCTION IN TOWN OF QUEEN CREEK RIGHT-OF-WAY

SPECIFICATIONS: All work and materials shall conform to the latest edition of the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, Town of Queen Creek (SEC. 7.6a) (TOQC) Roadway Design Standards and Procedures Manual, Town of Queen Creek Utilities Department Design and Construction Standards Manual, and this document. All asphalt concrete materials shall conform to East Valley Asphalt Committee (EVAC) standards and commodity codes for submitted mix designs shall be on the latest City of Mesa "Approved Asphalt Mixes" list.

GOVERNING ORDER: In case of discrepancy or conflict, the governing order of project documents shall be as follows:

1. Supplemental Agreements

2. Special Provisions
3. Project Plans
4. Standard Drawings
5. Standard Specifications

PRIOR TO STARTING WORK: The developer/contractor is required to conduct a pre-construction meeting with the TOQC Inspector at least two complete work days prior to commencing work in the right-of-way. The developer/contractor's field representative, field representatives from each subcontractor, the design engineer, and the technician who will be performing materials testing shall also be in attendance. The developer/contractor shall also present a copy of the approved plans, a permit issued by the TOQC for the construction and the SWPPP. The developers/ contractor's shall follow the storm water management plan located on the internet at (www.queencreek.org/departments/public-works/envirnmental/stormwater-4622). The pre-construction meeting will not take place if the required personnel are not in attendance or if the required documentation is not presented. Contact Shawn Allen at 480-358-3151 to obtain the name and telephone number of the inspector for the project. If the contractor/subcontractor's field representative changes for any reason during the course of construction, the contractor/subcontractor shall notify the TOQC inspector and set up a meeting between the new field representative and the TOQC inspector.

CONSTRUCTION CHANGES: During the course of a project it may become necessary to deviate from the plans and specifications. If a deviation from the plans and specifications is desired, the following steps must be taken.

1. The request along with a drawing and the reason for requesting the change shall be submitted to the TOQC Engineering Department for review and comment.
2. Once the request has been approved, the contractor shall contact the TOQC Inspector prior to performing the work.

CONSTRUCTION PROBLEMS: If a construction change appears necessary, or if a problem arises during the course of work, the contractor shall notify the TOQC Inspector. The TOQC Inspector will determine the corrective action required and/or direct the problem to the appropriate TOQC personnel. The TOQC Inspector is the primary contact person for work in the right-of-way.

UPON COMPLETION OF WORK: The permit holder shall notify the TOQC Inspector once work is complete to ensure timely release of the permit and bond.

General Materials Testing & Sampling Requirements

SAMPLING GUIDE FOR SOIL			
MATERIAL	**TYPE OF TEST(S) REQUIRED**	**SAMPLING POINT**	**MINIMUM SAMPLING FREQUENCY**
Soil Backfill or Trench Backfill	Proctor	In-Place	One per soil type

Sub grade	Proctor	Roadway	One per soil type

SAMPLING GUIDE FOR ABC AND ASPHALT			
MATERIAL	**TYPE OF TEST(S) REQUIRED**	**SAMPLING POINT**	**MINIMUM SAMPLING FREQUENCY**
Aggregate Base	Proctor	Roadway and Pipe Bedding	One per source
	Gradation, PI	Roadway and Pipe Bedding	One per 1000 tons or fraction thereof
Asphalt Concrete (During Placement)	Unit Weight, Gradation, Binder Content	Behind Lay-Down Machine	One per sublot (500 tons) or fraction thereof MAG 321.10.2
Asphalt Concrete (During Placement)	Laboratory Voids	Behind Lay-Down Machine	One per lot (day's production) MAG 321.10.1
Asphalt Concrete (After Placement)	Thickness, Compaction	In-Place	One per sublot (500 tons) or fraction thereof MAG 321.10.4 & 321.10.5

SAMPLING GUIDE FOR CONCRETE			
MATERIAL	**TYPE OF TEST(S) REQUIRED**	**SAMPLING POINT**	**MINIMUM SAMPLING FREQUENCY**
Concrete flat work, Cast In Place, Structural	Compressive Strength	At discharge	One set of 4 cylinders per 50 c.y., or one set per half day's placement MAG 725.8.2
	Slump, Time & Temp	At discharge	One per set of cylinders

4.0 - Production Tolerances and Specifications

The following tables are adapted from MAG and edited in accordance with EVAC mix design criteria and Performance Analysis Report (8/10/20) as referenced. A copy of the Performance Analysis Report is available at the City of Mesa's Engineering website.

For non-modified, Conventional Asphalt mixes, use the appropriate MAG Tolerances tables for the applicable production test results.

For Modified Asphalt mixes, the following acceptance and penalties shall be used:

TABLE 326-4
ASPHALT BINDER CONTENT ACCEPTANCE AND PENALTIES

Deviation from that permitted	When the contracting agency is the owner: Corrective Action	When the contracting agency is not the owner (i.e. permits): Corrective Action
Over 0.7% above optimum binder content	Removal*	Removal*
Within permitted range of optimum binder content	Full Payment	No Corrective Action
Over 0.2% below optimum binder content	Removal*	Removal*

* The contractor shall remove and replace the entire sublot that is deficient. In addition, it is at the discretion of the Engineer to determine if removal or a penalty option maybe levied as the Engineer dictates for non-permit work.

Field Density Testing Requirements

Backfill Item	% Compaction Required	Test Depth	Notes	Frequency
SEWER				
Manhole Base Foundation	95%	6”	See Trench Specifications	All Manholes Tested
Manhole backfill	95% All Cases	12”	MAG Specifications Section 601 (Table 601-2) See Note 15 of Misc. Testing Requirements	1 test at 2 ft. lift increment At various locations around manhole Within 2’ of manhole
Pipe Bedding	95%	4”	See TOQC Utilities Design Construction Standards Manual standard Detail QS442	1 test per 500 LF (or fraction thereof)
Initial Backfill	95%	8”	See TOQC Utilities Design Construction Standards Manual Standard Detail QS442	1 test per 500 LF (or fraction thereof)
Final Backfill	95% All cases within right-of-way	12”	See TOQC Utilities Design Construction Standards Manual Standard Detail QS442	1 test per 500 LF (or fraction thereof) per 1ft lift – Mechanical in R/W 1 test per 500 LF (or fraction thereof) per 4 ft lift – Flooding in PUE or Tract
Services	95%	12”	50% Tested Failures require testing on two closest services	1 test per 500 LF (or fraction thereof) per 1ft lift
WATER				

Foundation	95%	6”	See TOQC Utilities Design Construction Standards Manual Standard detail QW606	1 test per 500 LF (or fraction thereof)

Backfill Item	% Compaction Required	Test Depth	Notes	Frequency
Trench Backfill	95% All Cases	12”	See TOQC Utilities Design Construction Standards Manual Standard detail QW606	1 test per 500 LF (or fraction thereof) per 1 ft lift – Mechanical in R/W 1 test per 500 LF (or fraction thereof) per 4 ft lift – Flooding in PUE or Tract
Backfill (Behind Curb)	95%	12”		1 test per 500 LF (or fraction thereof) per 1 ft lift
Services	95%	12”	50% Tested Failures require testing on two closest services	1 test per 500 LF (or fraction thereof) per 1 ft lift
Hydrants	95%	12”	MAG Specifications Section 601 (Table 601-2)	50% at various lifts
DRY UTILITIES				
Trench Backfill (ROW)	95% All Cases	12”	MAG Specifications Section 601 (Table 601-2)	1 test per 500 LF (or fraction thereof) per 1 ft lift – Mechanical Only
Trench Backfill (PUE)	90% All Cases	12”		1 test per 500 LF (or fraction thereof) per 1 ft lift – Mechanical 1 test per 500 LF (or fraction thereof) per 4 ft lift - Flooding
Trench Backfill (Road Crossings)	95%	12”	All crossings tested	1 test per 1 ft lift – Mechanical
STORM DRAIN / UNDERGROUND STORMWATER STORAGE FACILITIES				
Manhole Base Foundation	95%	4”	See Trench Specifications	All manholes tested

Manhole backfill	95% All Cases	12”	MAG Specifications Section 601 (Table 601-2)	1 test at 2 ft. lift increment At various locations around manhole Within 2’ of manhole
Pipe Bedding	100%	6”	See Trench Specifications	1 test per 500 LF (or fraction thereof)
Trench Backfill (ROW/Road Crossings)	95% All Cases	12”		1 test per 500 LF (or fraction thereof) or per crossing per 1ft lift Mechanical Only

Backfill Item	**% Compaction Required**	**Test Depth**	**Notes**	**Frequency**
Trench Backfill (PUE/Tract)	90%	12”		1 test per 500 LF (or fraction thereof) per 1 ft lift – Mechanical 1 test per 500 LF (or fraction thereof) per 4 ft lift - Flooding
STREETS AND PAVING				
Curb Sub Grade	95%	6”	MAG 301.3	1 test per 500 LF (or fraction thereof) with at least 1 test per street per side
Sidewalk Sub Grade (Attached)	95%	6”	MAG 301.3	1 test per 500 LF (or fraction thereof) with at least 1 test per street per side
Sidewalk Sub Grade (Detached)	95% at Driveways 85% All Other	6”	MAG 301.3	1 test per 500 LF (or fraction thereof) with at least 1 test per street per side
ADA Ramp Sub Grade	95%	6”	MAG 301.3	All ramps tested
Driveway (Res.) Sub Grade	95%	6”	MAG 301.3	50% tested random
Driveway (Comm.) Sub Grade	95%	6”	MAG 301.3	All commercial driveways tested
Valley Gutter Apron Sub Grade	95%	6”	MAG 301.3	All aprons tested

Valley Gutter Sub Grade	95%	6”	MAG 301.3	All valley gutters tested
Scupper, Catch Basin Sub Grade	95%	6”		All scuppers and catch basins tested
Street Sub Grade	95%	12”	MAG 301.3	1 test per 500 LF (or fraction thereof) with at least 1 test per lane of traffic per street
ABC	100%	12”	MAG 310.3	1 test per 500 LF (or fraction thereof) with at least 1 test per lane of traffic per street (max. lift 6”)
AC	Thickness and Air Voids Per MAG Section 321		MAG 321.14	Samples per MAG 321.10.2 Cores per MAG 321.10.4

MISCELLANEOUS TESTING REQUIREMENTS

1. Before testing begins in any parcel and when requested, a schedule of proposed testing based upon mainline trench (sewer, water, dry utility, etc.) total footage and depth, number of manholes or structures, and number of service trenches shall be provided to the Town.
2. The TOQC Inspector, on an as needed basis, may require additional material testing and/or sampling at his/her discretion.
3. All testing personnel shall be certified for the required tests to be performed. Documentation of the certifications for each onsite testing technician must be supplied to the TOQC Inspector upon request.
4. A geotechnical trainee shall be under the direct supervision of a certified testing technician at all times.
5. The contractor shall be responsible for all necessary barricading, trench shoring, and safety requirements needed by testing personnel to perform the required tests as needed.
6. It is mandatory that the testing technician or the testing company notify the TOQC Inspector on the same day of any failed test relating to trench backfill, sub grade, concrete, ABC, or asphaltic concrete. An electronic copy of all field reports shall be provided to the TOQC Inspector weekly.
7. Additional testing will be required when sloping or benching of trenches is used. One additional test per lift per 500’ (or fraction thereof) will be required for every 4’ of additional trench width.
8. All trench backfill compaction tests shall be at staggered depths and at random locations throughout each 500’ length of the trench.
9. Potholing of backfilled trenches for density testing is not allowed unless approved by the TOQC inspector. If potholing is allowed, one failing test in any pothole will result in the backfill material for the entire trench being removed and re-compacted. The extents of removal will be determined by addition potholing or logical begin and end points i.e. manhole to manhole.
10. If asphalt millings or recycled concrete are allowed to be used for pipe bedding and shading or roadway ABC, they shall meet the physical properties of MAG Section 702, Table 702-1.
11. An additional sample and proctor test shall be required where any compaction test result is greater than +4% of maximum dry density.
12. The nuclear gauge shall be calibrated against the sand cone a minimum of every ten (10) tests.
13. All correlation testing documentation for sand cone and nuclear testing shall be provided in the final testing booklet submittal.
14. Soil samples taken to determine the standard proctor for trench backfill and compaction shall be taken directly from the trenched spoil piles as a representation of the blended soil types from the excavation process.
15. Significant compaction test failures shall be retested using a sand cone. Any resulting failure will be re-worked before any retesting.
16. Compaction tests taken around structures shall be taken as close to the structure as possible and are separate from the required 1 test per lift per 500 LF.
17. Moisture control range for compaction tests on non-granular soil shall be determined by standard proctor test AASHTO T99 or ASTM D698, and not deviate more than -3% to +2% from optimum moisture unless specifically shown in geotechnical report.
18. During paving, the testing technician shall determine and mark the beginning and end of each 500 ton lot of asphalt in such a way that the TOQC inspector can readily identify the extents of each lot.

TRENCH SPECIFICATIONS AND ACCEPTANCE REQUIREMENTS

GENERAL

1. All contractors performing work within the TOQC shall be required to have a certified competent person on site at all times to review and provide for proper trench safety.
2. Backfill consolidation by means of water flooding is not permitted in the Town of Queen Creek right of way.
3. When backfill consolidation by means of water flooding is used in a PUE or Tract, it will consist of inundating the entire lift with water and then puddle with poles or bars transversely across the trench every 4'-6' to insure saturation of the entire lift.
4. Maximum density testing lift depths: 1' mechanical, 4' water flooding.
5. Sloping or benching of trenches shall be used only in those soils that will not support hydraulic trench shoring, trench shields, or boxes safely.
6. All transverse and diagonal trench backfill under existing pavement and within 2' of back of curb or limit of paved surface shall be ½ sack CLSM per MAG 728 placed full depth of trench above the pipe zone. For parallel trenches under pavement or future pavement, backfill may be 100% ABC if approved by the Town Engineer or his/her representative.
7. Additional exploratory excavations or potholes may be required for any main or service trench as directed by the TOQC Inspector.

SEWER/STORM DRAIN

1. Pipe zone: Shall be 100% ABC material per MAG Specifications Section 702, table 702-1 for aggregate base, placed and compacted to 95% from 6" min. below pipe to 1' above pipe.
2. Bedding for storm drain manhole bases shall be 6" ABC compacted to 95%.

WATER

1. Water line pipe zone and trench backfill shall be native material meeting the requirements of MAG Specifications Section 601. The trench bottom shall be undisturbed native material and shall maintain contact with the bottom of the pipe for its entire length. The bottom of all trench that has been over excavated shall be compacted to 95% and tested.

CONSTRUCTION SPECIFICATIONS

GENERAL:

1. The construction sequence shall consist of all underground utilities being installed prior to placement of any concrete and all concrete being installed prior to placement of any ABC or pavement. Any deviation from this sequence shall be approved by the TOQC Inspector.
2. Contractor shall have an approved set of plans and a current permit on site at all times.

3. Contractors have a duty to perform work in strict accordance with plans and specifications whether or not the Town of Queen Creek inspects the work. The presence of a TOQC official does not legally relieve the Contractor of the responsibility to comply with all plans and specifications. Some judgment is required to verify that the Contractor's work is reasonably close to conformity.
4. ABC SIEVE AND PI RESULTS: Paving will not be allowed to take place until ABC sieve and PI results for in place samples are provided to the TOQC inspector.
5. AC PAVEMENT MIX DESIGN SUBMITTAL: An AC pavement mix design shall be submitted to the TOQC Inspector and approved 48 hours prior to commencement of paving. All mix designs shall conform to East Valley Asphalt Committee (EVAC) standards and commodity codes for submitted mix designs shall be on the latest City of Mesa "Approved Asphalt Mixes" list.

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PAVEMENT STRUCTURAL SECTION

(SEE NOTE 2)

TOQC STANDARD DETAIL	STREET CLASSIFICATION	SURFACE COURSE (DEPTH) (TYPE)	BASE COURSE (DEPTH) (TYPE)	UNTREATED BASE (MINIMUM)
R-101	PRINCIPAL ARTERIAL	2.0" 1/2" PG76-22PMTR **OR** 1/2" PG76-22PMTR W/ 15% MAX RAP	3.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP	12"
R-102	MAJOR ARTERIAL	2.0" 1/2" PG76-22PMTR **OR** 1/2" PG76-22PMTR W/ 15% MAX RAP	3.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP	12"
R-103	MAJOR COLLECTOR	4.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP		10"
R-104	RURAL RESIDENTIAL COLLECTOR	4.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP		10"
R-105	URBAN RESIDETIAL COLLECTOR	4.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP		10"
R-106	INDUSTRIAL COLLECTOR	4.0" 3/4" PG76-22PMTR **OR** 3/4" PG76-22PMTR w/ 15% Max RAP		10"
R-107	URBAN LOCAL	3.0" 1/2" PG70-16TR		6"
R-108	RURAL, ESTATE & SUBURBAN DEV. TYPE 'A' LOCAL	3.0" 1/2" PG70-16TR		6"
R-109	SUBURBAN DEV. TYPE 'B' LOCAL	3.0" 1/2" PG70-16TR		6"
R-110	HILLSIDE DEVELOPMENT LOCAL	3.0" 1/2" PG70-16TR		6"
R-111	FRONTAGE ROAD	3.0" 1/2" PG70-16TR		6"

NOTES:

1. All AC materials utilized shall be found on most current EVAC Approved Mix Design List

2. Values listed in table reflects the minimum Town requirements. Town approval of proposed street sections will also be based on a projects geotechnical report findings and recommendations which may require additional thickness.

Temporary Bypass

3.0" of A-12.5 **OR** A-19 on Compacted Native Soils

TOWN OF QUEEN CREEK

ROADWAY CROSS SECTION PAVEMENT STRUCTURAL SECTIONS

STANDARD DETAIL	R-120

SEWER:

1. See TOQC Utilities Design Construction Standards Manual for requirements.

WATER:

1. See TOQC Utilities Design Construction Standards Manual for requirements.

STORM DRAIN:

1. Storm drain pipes shall be saw cut when trimming to their final shape and length with a smooth edge.

CONCRETE:

1. All attached sidewalk placed behind roll curb and all sidewalk adjacent to driveway locations shall be 5" thick.
2. All concrete shall be cured per MAG 324.3.8. Concrete curing materials shall conform to MAG Specifications Section 726.2. When liquid membrane forming compounds are used, they shall be white in color.
3. All sidewalk and curb shall be backfilled prior to pavement being placed.
4. Concrete that has not been discharged within 90 minutes or reaches a temperature of 90 degrees Fahrenheit will be rejected.
5. Concrete used for all utility adjustments shall be MAG Class "AA" with fiberglass reinforcement per MAG Specifications Section 725 & 505.
6. Concrete curb shall be stamped with a "W" for water and an "S" for sewer adjacent to water and sewer services.
7. Concrete used for all aprons and valley gutters shall be MAG class "AA" with fiberglass reinforcement per MAG Specification 725 & 505.
8. All scupper and catch basin tops shall have the City of Chandler detail C-508 medallion installed.
9. All concrete repairs that are adjacent to asphalt shall have crack seal applied where the new concrete meets the existing asphalt.
10. Truncated Dome Tiles will be (CAST IRON)

ROADWAY:

1. The Town of Queen Creek does not allow a roadway shear edge at any time. A 4:1 slope may be constructed as a shear edge is being created or water barriers will be placed the length of the shear edge. No exceptions will be allowed.
2. Sewer manhole adjustments shall be per TOQC Std. Dtl. QS421.
3. Water valve adjustments shall be per TOQC Std. Dtl. QW302.
4. Minimum temperature of asphalt immediately behind the lay down machine shall be per MAG 321.8.4, Table 321-2. Asphalt with temperatures below this will be rejected.
5. Asphalt trucks shall not clean out on the roadway base. A designated location off of the ABC base will be determined for truck clean out.
6. All core holes shall be backfilled with high strength non-shrink grout.
7. Crack seal shall be applied to all utility and survey adjustments at the end of the one year warranty period. Additional crack seal may be required at the edge of roadway or at pavement joints if deemed necessary by the TOQC inspector.

8. Trench patching in existing pavement shall be accomplished by the following; a 1' full depth T-Top and a 1' edge mill 1.5" deep adjacent to the trench wall.
9. ½" hot mix asphalt material shall be used for all patches in existing pavement. All asphalt shall conform to East Valley Asphalt Committee (EVAC) standards and commodity codes for mix designs shall be on the latest City of Mesa "Accepted Mix Designs" list.

ACCEPTANCE TESTING:

SEWER:

1. See TOQC Utilities Design Construction Standards Manual for requirements.

WATER:

1. See TOQC Utilities Design Construction Standards Manual for requirements.

STORM DRAIN:

1. All new storm drain main line shall be video inspected per MAG Specifications Section 611.4.

REQUIRED INSPECTIONS/PROVISIONS

The inspections listed here are the minimum required by the Town of Queen Creek. Additional inspections may be required as directed by the TOQC Inspector. All inspections are required to be scheduled a minimum of 24 hrs. in advance. Items that are installed without required inspections may be required to be uncovered or removed and replaced at the contractor's expense.

GENERAL:

1. Inspections are on a first call first served basis.
2. A supervisor or foreman shall be at every inspection and shall be able to speak English.

DRY WELL:

1. Depth verification with contractor prior to installing rock.
2. Inspection of settling chamber at final inspection.
3. Contractor to provide drilling logs and certifications of all dry wells.

SEWER:

1. All trench after placement of bedding material.
2. All trench after placement of shading material.
3. All manhole base sub grade after compaction and after pipe has been trimmed and water stops installed.
4. All service lines prior to backfill.
5. All utility crossings prior to backfill.
6. All repairs prior to backfill.
7. All asphalt pavement trench patching prior to paving.
8. Manhole adjustments prior to concrete.

WATER:

1. All trench prior to placing pipe.

2. All trench after placement of shading material.
3. All valve adjustments prior to concrete.

STORM DRAIN:

1. All trench after placement of bedding material and pipe.
2. All trench after placement of shading material.
3. All manhole base sub grade after compaction and after pipe has been trimmed and water stops installed (if required).
4. All utility crossings prior to backfill.

DRY UTILITIES:

1. All trench after installation of utility conduit prior to final backfill.
2. If flooding is used, all trench after water and puddling.
3. All roadway crossings after installation of utility conduit prior to final backfill.

INTELLIGENT TRANSPORTATION SYSTEMS CONDUIT/PULL BOXES:

1. All trench after conduit has been installed and prior to slurry being placed.
2. All trench after slurry and caution tape has been placed.
3. All pull box excavations prior to rock being installed.
4. All no. 7 pull boxes after box and concrete forms have been installed.
5. All no. 9 pull boxes prior to box being backfilled.
6. TOQC inspector shall be present when mandrel and pull strap are installed in conduit.

TRAFFIC SIGNALS: (Inspected by the Traffic Engineering Department)

1. All trench after conduit has been installed and prior to backfill being placed.
2. All foundations prior to concrete being poured.
3. All pull box excavations prior to rock being installed.

SCUPPERS/CATCH BASINS/HEADWALLS:

1. Sub grade after compaction testing and prior to placing forms,
2. All forms after steel has been placed (if required) and prior to concrete.

CURB & GUTTER/SIDEWALK/VALLEY GUTTERS/APRONS/SIDEWALK RAMPS/DRIVEWAYS

1. All sub grade after compaction testing.
2. All forms and or string line prior to concrete.

STORM DRAIN:

1. All trench after placement of bedding material and pipe.
2. All trench after placement of shading material.
3. All manhole base sub grade after compaction and after pipe has been trimmed and water stops installed (if required).
4. All utility crossings prior to backfill.

ROADWAY:

1. ABC SIEVE AND PI RESULTS: Paving will not be allowed to take place until ABC sieve and PI results for in place samples are provided to the TOQC inspector.
2. AC PAVEMENT MIX DESIGN SUBMITTAL: An AC pavement mix design shall be submitted to the TOQC Inspector and approved 48 hours prior to commencement of paving. All mix designs shall conform to East Valley

Asphalt Committee (EVAC) standards and commodity codes for submitted mix designs shall be on the latest City of Mesa "Accepted Mix Designs" list.

3. String line of sub grade. Sub grade tolerance is ½" (compensating). If proof rolling is required by the TOQC Inspector, it shall be done with a vehicle loaded to18,000 pound axle load. During string line, if there are more than five corrections, the string line session will be re-scheduled.
4. String line of ABC. ABC tolerance is ¼" (compensating). If proof rolling is required by the TOQC Inspector, it shall be done with a vehicle loaded to18,000 pound axle load. During string line, if there are more than five corrections, the string line session will be re-scheduled.
5. A TOQC inspector shall be on site prior to the commencement of paving to verify condition of ABC and that correct material is being placed.
6. An ATTI, City of Phoenix Certified material tester must be on site at all time for testing and sampling. They must set up a documented rolling pattern and follow the compaction of the mat till final roll. Samples should be picked up by a runner if necessary.

UTILITY ADJUSTMENTS:

1. All adjustments prior to placing concrete.

SIGN INSTALLATION:

1. All post holes prior to placing concrete.

UTILITY LOCATION POTHOLES:

1. All potholes prior to slurry being placed.
2. All potholes at time hot mix asphalt patch is placed.

PROJECT INSPECTIONS

GENERAL:

The project will not be considered ready for final inspection until;

1. All drainage items, grading, and backfill are complete.
2. Pavement, curbs, and sidewalks are swept clean of all dirt and debris.
3. All parkway grading is complete and all curbs and sidewalk are backfilled to within 3" of top.
4. All Landscaping is complete.
5. All signing and striping is complete.
6. All street lights have been installed.
7. All catch basins, connector pipes, drywell settling chambers, and drywells cleaned of all dirt and silt.
8. Make all payments on remaining Over Time billing.

Prior to all project inspections, pavement, curbs, and sidewalk shall be swept. During the final and 1 year warranty inspections, all broken, cracked and/or chipped concrete will be marked for removal and replacement. Asphalt repairs will be addressed on a case by case basis. Damaged concrete that is found to be in front of houses that are under construction will be allowed to be repaired at the time the house is inspected for C of O.

PRIOR TO FINAL INSPECTION:

1. One month prior to completion a Pre-Final Inspection Meeting shall be held at the Town of Queen Creek office to discuss the remaining paper work and answer any questions you may have for any Departments. This meeting

requires the developer/owner with the Senior Inspector for the Town. Schedule this meeting with the Senior Civil Engineering Inspector for the Town.

2. **When your Right of Way work is completed and your subs and you have marked the job and created a working punch list. Schedule your final with the Civil Engineer Inspector of Record and submit your punch list.** They will then final walk your job. Final walks are scheduled Tuesday thru Thursday 6: am to 10: am thru your inspector.
   Public safety is the Town of Queen Creeks direction for moving properties into opening. Right of Way must be completed to move traffic and pedestrians safely. All streetlights shall be working properly. All striping and signage shall be completed. All pedestrian concrete shall be completed.

FINAL INSPECTION:
The project developer/owner shall notify each TOQC Department Inspector (Traffic, Utility, Planning and Development Services) a minimum of two weeks prior to date of requested final inspection. Required attendees are; developer/owner, concrete contractor, paving contractor, underground utility contractor. The underground utility contractor shall have sufficient personnel at the final inspection to open sewer and storm drain manholes, water valve lids, and meter box lids. A water truck shall apply water to the streets one hour before start time of final inspection. For large projects or during hot weather, additional water may need to be applied as requested by the TOQC Inspector.

Prior to final acceptance of the project, the following items are required to be presented to the TOQC Inspector.

1. Written approval of all signing and striping from the TOQC Traffic Department.
2. Written approval of all water and sewer installation from the TOQC Utility Department.
3. Written approval of all landscaping improvements from the TOQC Planning Department.
4. Materials testing and sampling reports for all phases of construction in PDF form.
5. Drywell drill logs and registration forms in PDF form.
6. Submit 1 black and white copy of the as-built plans for approval.
7. When accepted 4 mil Mylars, CD and PDF will be submitted.

At the completion of the final inspection, a punch list will be generated by the developer/owner and will be supplied to the TOQC inspector. The TOQC Inspector shall be kept apprised of all work being done as punch list items are being completed and the contractor shall contact the TOQC inspector for required inspections per this document. The original assurance bond will be released once a warranty bond is posted. An acceptance letter will then be emailed. At this time the project enters the warranty period.
NOTE: Failure to complete the punch list within 45 calendar days of the final inspection. A schedule will be submitted to TOQC and all additional Inspections will be covered by overtime at no expense to TOQC. .

1 YEAR WARRANTY INSPECTION:
The project developer/owner shall notify the TOQC Inspector a minimum of 90 days prior to bond expiration that the job will be walked by the contractor and his subs. When your 1 Year walk is completed and your subs and you have marked the job and created a working punch list. Schedule your 1 Year Warranty Final with the Civil Engineer Inspector of

Record and submit your punch list. They will then 1 Year Warranty Final your job. Final walks are scheduled Tuesday thru Thursday 6: am to 10: am thru your inspector.

At this time the project will be inspected again utilizing the same criteria as described above for the final inspection. A punch list will be generated by the developer/owner. Upon satisfactory completion of all punch list items, the project will be accepted into maintenance and operation by the TOQC. The warranty bond will be released and an acceptance letter will be emailed. Crack seal all adjustments at this time.
NOTE: Failure to complete the punch list prior to the expiration of the warranty period . A schedule will be submitted to TOQC and all additional Inspections will be covered by overtime at no expense to TOQC.

CONSTRUCTION DEFICIENCIES

SEWER:

See TOQC Utilities Design Construction Standards Manual for requirements.

CONCRETE:

Low concrete cylinder breaks shall be core tested per MAG Specifications Section 725.8.2. When average core strength test results do not meet the required compressive strength requirements, additional cores shall be taken to determine the extents of the deficient concrete. Once the extents have been determined, the deficient concrete shall be removed and replaced at the Contractor's expense.

Concrete smoothness and corrective measures shall be per MAG Specifications Section 234.4.1.

AGGREGATE BASE COURSE:

All sieve and PI test results shall be provided to the TOQC inspector prior to placing AC. Penalties for deficient ABC shall be per MAG Specifications Section 310.4, Table 310-1.

AC PAVEMENT:

Cores shall be used to test all new asphalt concrete pavement for thickness, gradation, oil content, and density after construction is complete. Coring method, laboratory and in-place deficiencies, and corrective measures for asphalt concrete shall be per MAG Specifications Section 321.

Pavement smoothness shall meet the requirements of MAG Specifications Section 321.8.5.

NOTE: When more than one lift of AC pavement is to be placed, the laboratory and core test results for the current lift shall be provided to the TOQC inspector prior to placing subsequent lift(s).

TOWN OF QUEEN CREEK STANDARD DETAILS

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