

# Perspectives

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## The Specification Process

by Alvin Nunnikhoven, RRC

Once you've contacted a roof consulting firm to prepare the necessary bid documents, technical specifications and drawings to replace an existing roof on your building, how long do you have to wait for the finished document? How long should the roof design and bidding process take?

The following article outlines the procedures Benchmark follows in developing roofing specifications and roof replacement bids.

The first step - a site visit is conducted by the consultant to collect the data necessary for preparing the specification. During a site visit, the following data is gathered:

- Roof elevation heights above grade
- Exterior wall openings beneath the roof
- Review of existing building drawings, if available, to verify / document existing roof perimeter and penetration details. If existing drawings are not available, core samples will be removed from the membrane to determine the substrate components and their condition. Existing detail conditions are then sketched.
- Review interior building operations and determine the need for interior protection from potential debris contamination
- Visually review interior surface of roof deck (if visible) and determine amount of deck replacement
- Assess possible project set-up and staging locations and the potential need for protection on adjacent roofs or ground level staging locations
- Review roof drainage characteristics and determine the need, if any, for tapered insulation, additional drainage devices, etc.

After data collection, various calculations are performed to determine the required or recommended wind uplift resistance of the new roofing system, in order to comply with building codes. The collected data and wind resistance calculations are used in selecting the replacement roof system.

A description of the roof system selection process is generally presented in a written report. Selection of the new roofing system should be based on the specific parameters and agreed upon between the building owner and the consultant.

Roof system selection can be significantly impacted by the building owner's insurance carrier. Building owners insured by FM Global must use tested and approved roof assemblies. In 2006, FM Global implemented their RoofNav database as the only means of searching for approved roof assemblies. The database contains thousands of approved roof assemblies and depending on the potential roof type, the search and selection process can be quite extensive, tedious and time consuming.

With agreement on the new roofing system, the roof plan and drawings are prepared to illustrate the installation requirements of the new roofing system.

As these CAD drawings are prepared, the consultant will prepare a preliminary draft of the technical specifications. The typical timeframe from the site visit through the completion of the preliminary specification and drawings ranges from 30 days for non-FM projects to 45 days for FM projects.

The preliminary project documents are sent to the building owner. This allows the building owner to review the project documents prior to their final issuance to the bidders. Copies of the preliminary specification are also forwarded to the appropriate roofing material manufacturers as well as FM Global, if applicable, for their review.

Review by the roofing manufacturers ensures that the design is in compliance with the specified warranty requirements. Review by FM Global ensures that the design is in compliance and acceptable for the owner's insurance carrier requirements. The typical timeframe for the review process ranges from 15-30 days. After review letters are received, any necessary revisions are incorporated into the specification and drawings.

During the review process, the consultant is also working with the owner and roofing manufacturer(s) in prequalifying potential bidding contractors. The bidders' list should be finalized by the completion of the review period.

The specification and drawings, now complete, are sent to the bidders and a pre-bid meeting is conducted. The pre-bid meeting is typically conducted at the project site to review the project specification requirements with the bidders. Bidders are given the opportunity to walk the roof(s) and gather needed information for bid preparation.

The average timeframe for bid preparation and submission is 15 days following the pre-bid meeting. Bid submission times may be shortened for smaller, less complex projects, but longer times are usually required for larger, more complex projects.

After bids are received, they must be compiled and reviewed to determine the responsive and responsible bidder(s); not necessarily the lowest bidder. Based on the bid results, it may be necessary or advantageous to conduct bid review interviews with one, two or more bidders to determine the successful bidder. The timeframe for bid review and bidder selection can vary significantly, but the average time is estimated at 15 days after bid receipt.

Now that the contractor has been selected, the contract between the owner and contractor must be issued. The required time for contract issuance varies greatly, but we estimate the average time to be 15 days.

Prior to the start of construction, the successful contractor must assemble and submit required project submittals to ensure compliance with the project specifications. In addition to these submittals, materials must be ordered and delivered to the site and roofing personnel scheduled. The timeframe for roof replacement commencement will vary significantly, but we estimate the average time to be 30 days.



C	Task Name	Duration	Start	Finish	January 21		March 11		May 1		June 21		August 11		October 1		N
					1/21	2/11	3/4	3/25	4/15	5/6	5/27	6/17	7/8	7/29	8/19	9/9	
1																	
2	Site Visit	1 day	Wed 2/14/07	Wed 2/14/07													
3	Wind Resistance Calculations Performed	15 days	Thu 2/15/07	Wed 3/7/07													
4	FM Global Tested and Approved	15 days	Thu 3/8/07	Wed 3/28/07													
5	Roof Plan and Detail Drawings	45 days	Thu 3/29/07	Wed 5/30/07													
6	Preliminary Project Review	30 days	Thu 5/31/07	Wed 7/11/07													
7	Pre-bid Meeting	1 day	Thu 7/12/07	Thu 7/12/07													
8	Bid Preparation and Submission	15 days	Fri 7/13/07	Thu 8/2/07													
9	Bid Review and Bidder Selection	15 days	Fri 8/3/07	Thu 8/23/07													
#	Contract Issuance	15 days	Fri 8/24/07	Thu 9/13/07													
#	Start of Construction	30 days	Fri 9/14/07	Thu 10/25/07													

Project: Alvin's Article.mpp Date: Thu 3/8/07	Task		Milestone		External Tasks	
	Split		Summary		External Milestone	
	Progress		Project Summary		Deadline	

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