HARTFORD CASUALTY INSURANCE COMPANY

CONTRACT NO. V688C-1241 **VABCA-5262**

**VA MEDICAL CENTER
WASHINGTON, D.C.**

***Joel S. Rubinstein, Esq.*, and *Robert J. Sciaroni, Esq.*, Bell, Boyd & Lloyd, Washington, D.C., for the Appellant.**

***Patrick J. LaMoure, Esq.,* Trial Attorney; *Charlma J. Quarles, Esq.,* Deputy Assistant General Counsel; and *Phillipa L. Anderson, Esq.,* Assistant General Counsel, Washington, D.C., for the Department of Veterans Affairs.**

OPINION BY ADMINISTRATIVE JUDGE ROBINSON

This appeal is from a final decision of the Contracting Officer (CO), denying the claim of Hartford Casualty Insurance Company (HCI) for costs incurred in removing an existing waterproofing membrane from two rooftop patios at a medical center operated by the Department of Veterans Affairs (VA or Government). HCI has characterized the existence of the particular membrane encountered as a differing site condition, initially claiming $81,870 as the reasonable cost of the attempts to remove, as well as the eventual successful removal of, the membrane.

The VA counters that there was no changed condition and that the erroneous Contract (Drawing) indications were irrelevant because the roof membrane depicted would have required the same removal techniques as the material actually encountered. The VA further asserts that the Contractor could have determined independently, through an adequate pre-bid site investigation, the difficulty of removing the pre-existing membrane.

A hearing was held in Washington, D.C., with both entitlement and quantum at issue. The evidentiary record consists of the one volume hearing transcript ("Tr. ___"); Government's Rule 4 file (R4, tabs 1-31 and 101-13), Appellant's Rule 4 Supplements (App. Supp., tabs 32-40, 501-05 and 601-24), and two demonstrative exhibits presented by Appellant during the hearing (Exh. A-1, A-2). Both parties filed post-hearing briefs.

BACKGROUND

The VA originally contracted with Elrich Contracting, Inc. (Elrich or Contractor) to perform various construction activities at its Washington, D.C. Medical Center (Washington VAMC). During the course of that construction, Elrich encountered difficulty in removing an existing bituthane waterproofing membrane on the concrete roof slab which also served as the deck of the South Patio. The Contractor placed the VA on notice of this "changed condition," asserting that the Contract Drawings indicated another waterproofing material which could have been more easily removed.

In a separate action, unrelated to the membrane problem, the VA terminated the Project for default. Subsequently, VA entered into a takeover agreement with HCI, the

surety for Elrich. HCI then contracted with CamCo Construction Co., Inc. (CamCo) to complete the work begun by its principal. Because of the prior membrane removal problems encountered by Elrich on the South Patio, HCI agreed to additional compensation for CamCo, at a stated price, if the same condition prevailed at the yet-to-be refurbished North Patio area.

For reasons unrelated to this appeal, the VA later agreed to withdraw the default termination, converting it to a termination for the convenience of the Government. In the meantime, CamCo had encountered the same bituthane membrane on major portions of the North Patio as had previously been found on the South Patio. HCI paid its subcontractor for the added work as had been agreed. The Surety presented the two claims to the CO and was denied compensation. In this appeal, HCI is pursuing an equitable adjustment for the additional costs incurred by its principal and itself in removing the bituthane membrane from both the North and South Patios.

FINDINGS OF FACT

On August 9, 1994, the VA issued Invitation For Bids No. 688-41-94 (the IFB). The work described therein included the repair of structural leaks on three outside areas denoted North, South and Green Patios at the Washington VAMC. All of these (elevated) patios were situated on concrete decking which also served as roof slabs for portions of a large concrete structure used for a parking garage and for other purposes. While the space beneath the South Patio was occupied by offices, the spaces beneath the North and Green Patios consisted of warehouses and a swimming pool. The area of the North Patio was approximately 11,000 square feet. The South and Green Patios each measured approximately 6,000 square feet. (R4, tab 2; tr. 23)

The IFB called for lump sum bids for one bid item and separate bids for each of six alternates. The IFB instructed that the alternates progressively deleted aspects of the overall work required in Bid Item 1, and that one contract would be awarded to the low responsive bidder offering the greatest number of features within the funds available.

Bid Item 1 called for the removal of existing patio finishes down to the structural slab in the areas depicted on the drawings. The work included reconstruction of the patios with new waterproofing, flashing, drains, plaza finishes and lamp posts. This Item also called for the repair of structural leaks in the parking garage with expansion joint replacement, new deck drains and associated plumbing, concrete slab crack and delamination repairs, precast panel fracture repairs, repairs to the loading dock drywall soffits, stair tower door replacements, replacement of precast joint sealants, sawcutting of new drip edge into precast concrete, trench drain repairs, re-stripping of garage, and repainting of structural steel. (R4, tab 2, pg. 6)

Bid Alternate II required the same work as Bid Item 1 except that painting of the structural steel and the color requirements for patio finishes were deleted.

The VA received three bids in response to this IFB:

Bidder	Bid Item 1	Bid Alternate II
Ronald Hsu Construction	$1,115,800	$1,008,400

Elrich Contracting, Inc.	$1,095,000	$ 986,000
Technical Construction	$1,567,000	$1,467,000

(R4, tab 1)

Because the Elrich price for Bid Alternate II was low and within the funds available to the VA, that Contractor was awarded Contract No. V688C-1241 at its price of $986,000, and received the Notice to Proceed on November 10, 1994. (R4, tab 4)

The Architect/Engineer for the Project was the firm of Ehlert/Bryan, Inc., Structural Engineers (the A/E). Thomas Bouffard, a partner in the firm, was involved in the preparation of the Project Drawings which had accompanied the IFB and subsequently became part of the VA's Contract with Elrich. (Tr. 177-82)

In explaining how the information on these Contract Drawings was derived, Mr. Bouffard related that the "Typical Existing Patio System" shown in cross-section on Detail 1-D-2 of Drawing D-2 consists of five "ingredients." The patio surface is composed of brick pavers with concrete accent bands underlain by a mortar setting bed, a concrete topping, and ten inch rigid insulation, glued to an *adhered liquid waterproofing membrane*, all of which covered a structural concrete slab. The Detail required removal of all such *existing materials*. (Tr. 181)

During the Project design stage, the A/E discovered that the VA's as-built drawings did not clearly indicate the subsurface composition of these two patios. The patio cross-section was developed after the A/E – with the VA's permission – hired a contractor to cut 2 foot square holes (or "test pits") in both the North and South Patio surfaces at four randomly chosen locations. Mr. Bouffard, who directed the cutting of these pits, saw no need to perform any chemical analysis of the membrane or its adhesive. In his professional judgment, his description of the membrane as being "adhered liquid," would leave no doubt [in the mind of a knowledgeable contractor] that the membrane "would be a very difficult system to remove." In his view, when the hot liquid membrane material was originally poured directly on the slab, it would have resulted in a complete adherence between the membrane and the slab once the liquid cooled. (Tr. 182-84)

When questioned on cross-examination, Mr. Bouffard admitted that the depiction of the membrane as "liquid" did not accurately describe the adhered bituthene sheeting which was eventually found to underlie the layered patio materials. He insisted, however, that this misrepresentation of the actual site conditions was not material in that the liquid and the sheet membranes would be equally difficult to remove. (Tr. 194-95)

Specification Section 02070 is titled "Selective Demolition." Part 3.2.A directs the Contractor to perform this work in accordance with the Demolition General Notes on the Contract Drawings. Note "G" of the Demolition General Notes on Drawing D-1, Sheet 3, limits the major part of the Contractor's demolition methods to sawcutting, on account of the need *to control the noise of the work on the patios.* A small utility machine such as "a Bobcat 543 or equal" is allowed, as well as jackhammers that do not exceed 30 lb. in size. The Contract makes no mention of any other equipment which could be used for this patio demolition work. It does not mention any removal processes such as

sandblasting, hydroblasting, or shotblasting. (R4, tabs 2, 29-30)

Contained within the General Conditions of the Contract is paragraph 52.236-2, Differing Site Conditions. (APR 1984). This is followed by paragraph 52.236-3, Site Investigation And Conditions Affecting The Work. (APR 1984). This latter provision requires bidders to familiarize themselves with the general nature of the site conditions prior to preparing their bids.

Elrich specializes in federal renovation projects. Its president, Mr. Edward Fuller, had over thirty years of experience in the construction industry at the time this Project was bid. He does all of his company's estimating, handles correspondence, and coordinates with the firm's superintendents in the field. Mr. Fuller visited the VAMC Project site. While he was aware of the existence of the test pits in the patios, his testimony did not clearly establish that he actually inspected any of the pits during that visit. In addition to his pre-bid site visit, Fuller had also reviewed the specifications and Drawings accompanying the IFB in order to prepare his company's bid. He did not price the removal of the "adhered liquid waterproofing membrane" as a separate item. Instead, he included the removal of the membrane within the estimated cost to demolish all materials shown on the Contract Drawings, from the patio surface all the way down to the concrete slab. In his experience, a liquid membrane such as depicted on Detail 1-D-2 of Contract Drawing D-2 could be removed relatively easily in one scraping action. He reasoned that the membrane could be removed in the same manner as his company had previously removed built-up roofing from slabs in similar demolition efforts. Fuller reasoned that the liquid asphalt which was mopped onto the concrete slab as the base course for a built-up roofing system constituted a "liquid membrane" similar to that shown on the Drawing Detail. Consistent with that experience, he had planned to use a combination of jackhammers and "Terramite" (a small backhoe), to break up the material and scrape the majority (of surface finish, concrete topping, insulation and waterproof membrane) in one operation, then haul it over to the chute for disposal into a dumpster. In addition to shovels, a minimal amount of manual scraping was anticipated, using shovels and/or a handle with an eight to twelve inch blade, a tool often used to take up floor tile. (Tr. 21-29, 39, 68)

The South Patio Demolition

After beginning demolition of the South Patio, the Contractor encountered difficulty in removing the membrane from the underlying concrete slab. It was then that it discovered that, instead of an anticipated poured liquid adhered substance, the membrane actually consisted of bituthene sheeting material (a rubberized type of product) which was strongly bonded to the slab. Mr. Fuller immediately wrote a letter to the CO, on February 21, 1995. He advised her that, contrary to the indications of Drawing Detail 1-D-2, there were sheets of bituthene glued to the structural slab. Because the material appeared to be in good condition, Fuller recommended that it remain in place and that the [lightweight] concrete be poured directly over it. (R4, tab 6)

The CO responded to Mr. Fuller's letter on February 23, 1995. She instructed him to "[r]eplace the existing waterproof membrane as called for in the Project documents. *Do not replace until* submittal is submitted and approved." (emphasis in original) (R4, tab 7)

Mr. Fuller's immediate response was to advise the CO that the Contract did not require Elrich to replace the bituthene sheeting, as an applied liquid membrane was indicated on the drawings. He further advised that he was informed that "the most economical way to remove the bituthene is by sandblasting." Fuller concluded the letter by stating that, as the particular removal work was extracontractual, his firm would only remove the bituthene if specifically directed to do so by the CO. (R4, tab 9; tr. 64)

The CO responded to Elrich on March 6, 1995. In her letter, she stated that the VA had consulted "experts in the field" and had been advised that there was no difference in the effort required to remove adhered liquid applied membrane versus removing adhered bituthene sheeting. In the view of these "experts," either material would require *scraping and sandblasting*. So stating, the CO directed Elrich to remove the existing membrane and "to prepare the [uncovered slab] to receive new finishes." (R4, tab 10)

Previously, on March 3, 1995, Mr. Fuller had advised that he had been informed that sandblasting was *not* an economical way to remove the bituthene membrane. He had been told that the sand will "bounce" off of the bituthene. Fuller agreed to attempt sandblasting, but insisted that the VA's "experts" be present during such attempts. On March 8, Mr. Fuller wrote to the CO that he had been informed by an industry [removal] specialist that there were two acceptable methods for removing bituthene membrane – scarifying or hydroblasting. Because hydroblasting would allow water penetration into the unprotected slab, the only acceptable method appeared to be scarification. This would involve use of a large machine with small mechanical devices which serve to break up the membrane. It is operated from the rear by a man on foot. Fuller proposed to subcontract the scarification ($18,450), and to afford the VA a credit for (what it should have planned for) manual membrane *residue* removal ($2,600). Adding its cost of supervision plus markup, the Contractor's proposed equitable adjustment came to $23,680. (R4, tabs 11, 12; R4 Supp., tabs 606-08; tr. 46; tr. 171)

On March 17, 1995, the Elrich subcontractor attempted to remove the bituthene by sandblasting, in the presence of the CO. Mr. Fuller testified that the subcontractor spent twenty minutes, using four hundred pounds of sand, to remove one square foot of the membrane. The sandblasting was discontinued as ineffective. (R4, tab 13; tr. 41)

After the March 17th sandblasting attempt proved impractical, Mr. Fuller again requested permission from the CO to scarify the membrane, at the cost previously quoted. In her letter of March 20, 1995, the CO rejected the Contractor's request for an equitable adjustment, asserting that removal of the membrane was a Contract requirement and that the means of removal was "entirely up to you." In her view, the direction in Contract Drawing D-1, Note 9, to "[r]emove existing patio finish down to structural slab" rendered any particular drawing detail "redundant." (R4, tabs 14, 15)

Mr. Fuller responded on March 27, 1995, stressing that the sandblasting suggested by the CO had been unsuccessful. He advised that since the VA refused to recognize that the bituthene membrane was a changed condition, and was now "refusing to specify a method of removing this unexpected material," Elrich would proceed with the removal using whatever method it deemed appropriate. (R4, tab 16)

In a letter to the CO dated April 7, 1995, Mr. Fuller related that his firm had used two

types of scarifiers, high pressure sandblasting, and wire brushes and chemicals, but that a residue from the bituthene still remained. This was after twelve working days devoted to these efforts. This residue was unacceptable to the VA and it's A/E. Mr. Fuller informed the CO that its removal specialty subcontractor, Kerill Enterprises, had advised that the only other procedures available were shotblasting or hydroblasting. These methods did present certain problems however. The Shotblaster operated at a very high noise level and probably exceeded the weight limitations for working over the deck slabs. Fuller followed up on this with a letter to the CO of April 12th, in which he advised that his firm had located a Shotblaster which would meet the weight requirements. He also stated his opinion that the Contract did not restrict the operational noise levels of the machine. He concluded by requesting that the CO advise immediately if the noise level would be unacceptable. The VA did not object. The Shotblaster, a large machine ridden by an operator, traversed the entire South Patio, blasting steel shot into the surface of the roof slab. This enabled the Contractor to completely remove the bituthene residue so that the concrete slab was acceptable to the VA. The Shotblaster was in use for three work days. (R4, tabs 17, 18; App. Supp., tabs 601-24; tr. 42-50)

In his company's past experience in removing built up roofing, the bottom layers of which he considered to be adhered applied liquid membranes, Mr. Fuller stated that it had never involved the extraordinary degree of effort which was required to remove the bituthene sheet membrane from the concrete slabs at this VAMC. As the firm's estimator, he did not anticipate using a Shotblaster, because it was too expensive. The scarification of the glued sheet membrane, followed by shotblasting of the sticky, rubberized residue, previously had not been required to remove applied liquid membranes. (Tr. 44, 51-53)

Mr. Steve Gordon is an officer of a firm specializing in waterproofing and protecting structures. As such, he has had extensive experience in selling and observing installation and removal of various waterproofing systems. At one time, he was a representative of W.R. Grace, the firm which manufactures the bituthene membrane. He is familiar with the properties of bituthene sheet membrane as well as applied liquid waterproofing membranes. His background qualified him to render expert testimony in these matters. In addition, Gordon had been called by the VA to observe the removal of the membrane while this dispute was ongoing. In his opinion, the removal of an adhered liquid waterproofing membrane is equally as difficult as removal of an adhered sheet waterproofing membrane such as bituthene. (Tr. 153-59; R4, tab 104b)

Mr. Gordon testified that scraping, both by hand and with machines such as vibratory or pneumatic scrapers, would be sufficient to remove both types of membranes. He noted that the process would be expensive and time consuming. He dismissed scarifying as ineffective. He was likewise dismissive of sandblasting as a useful removal method. He did not mention either hydroblasting or shotblasting as removal methods. (Tr. 169-73)

A built-up roofing system consists of liquid asphalt mopped on the roof slab and alternating thereafter with layers of felt paper and more liquid asphalt until the desired number of plies is attained. In Gordon's opinion, such a system should not even be considered a "waterproofing system." The liquid applied membranes with which he deals are "a completely different type of asphalt than this product." (Tr. 162)

Mr. Christopher Hodges is a civil engineer and currently an officer with an engineering firm in Virginia. He has extensive experience in construction and particularly in the analysis of roofing, waterproofing and construction materials. By virtue of his education and experience, Mr. Hodges was qualified to offer expert opinion testimony in this appeal. Like Mr. Gordon, Hodges testified that the liquid applied and bituthene membranes were equally difficult to remove. He did concede that there is no specific standard by which to determine the strength of adherence of any particular type of membrane. (Tr. 118-27, 130, 135)

When asked what method of removal would be appropriate for these types of membranes, Mr. Hodges stated that sandblasting would be helpful only if the edges of the membrane were first exposed by scraping. His criteria for an "industry standard," however, would be scraping the membrane followed by shotblasting or hydroblasting to "peel that membrane back." (Tr. 130-37)

The North Patio Demolition

After the Contract had been terminated for default, HCI executed a Surety Takeover Agreement with the VA. The Surety then requested quotes from several contractors for the price to complete the VAMC Project. When CamCo was contacted by the Surety to quote a price for completion of the Project, it stated that it could do the work for a total of $986,000. However, because of the problems Elrich had encountered in removing the membrane on the South Patio, CamCo added the following proviso to its Completion Agreement with HCI: "If existing waterproofing membrane on North Patio is the same material as encountered on the South Patio, then the price will increase by $44,780." CamCo's president, Mr. Joseph Campbell, testified that he added this language because he could not tell by examining the existing North Patio area, whether the membrane under that surface was bituthene sheeting or poured liquid membrane. Because the Drawing Detail indicated a liquid membrane, he bid on that basis, but protected his company in case the Detail was as erroneous with respect to the North Patio, as it had been for the South Patio. In the event that bituthene would be encountered, CamCo made arrangements to subcontract this particular demolition work to Kerill Enterprises. Strictly for removal of the bituthene sheeting, Kerill had agreed to a price of $33,695. The additional $11,085 was to cover CamCo's costs of general cleanup and supervision plus overhead and profit. (Tr. 65; App. Supp., tab 504)

CamCo encountered a bituthene membrane, similar to the one that Elrich found at the South Patio, underlying the entire North Patio area. The Contractor had Kerrill hydroblast the area, utilizing an approximately 40,000 psi stream of water. It was possible to use this water pressure method on the North Patio since there were no occupied spaces below. The hydroblasting was consistent with the additional price which HCI had agreed to pay to CamCo under the terms of their agreement. (Tr. 103-05)

CamCo also demolished the surface materials over the structural concrete roof slabs of the Green Patio – an area containing a basketball court, and distinguished by a green mastic coating on its surface. This particular patio was depicted in a "typical" cross sectional view on Detail 2-D-2 of Contract Drawing D-2. In addition to the surface material, the view showed concrete topping, over a waterproof membrane, over 1 ¼' thick insulation, over the roof slab. There was no membrane depicted between the

insulation and the slab. This Detail also proved to be erroneous. The Contractor actually encountered an applied liquid waterproofing membrane (a "black bituminous product") attached directly to the slab. The VA issued a change order to compensate Appellant for the additional effort which was required to remove this unanticipated waterproofing membrane. (Tr. 52, 108-09)

CamCo's removal of the applied liquid waterproofing membrane on the Green Patio was considerably easier than the removal of the bituthene sheet membrane on the North Patio. Approximately 95% of the Green Patio membrane came up when scraped with CamCo's Bobcat. The remainder resisted scraping by hand due to the roughness of the surface of the concrete structural slabs. The Green Patio's concrete slabs were much rougher than the structural slabs beneath the North Patio. In the words of CamCo's president: "I guess it looked like concrete after it rained on it. It was real rough, and there were a lot of holes in it. The North Patio was smooth, reasonably smooth, like it had a light trowel on it, finished, and the basketball court was extremely rough." This 5% residual membrane had to be removed with a [hydroblaster]. (Tr. 52-53, 71-74, 106-10)

By way of contrast, CamCo spent approximately thirty days to remove 11,000 square feet of bituthene sheeting membrane from the North Patio, using hydroblasting, while only taking five days to hydroblast the liquid applied membrane from the 6,000 square feet of the Green Patio. (Tr. 114-15)

During the hearing, neither of the VA's two expert witnesses was asked to explain the obvious discrepancy between their views concerning the anticipated difficulty of removing *any* generic applied liquid waterproofing membrane and the Appellant's actual experience in removing such a membrane from the Green Patio.

DISCUSSION

We conclude that the conditions Appellant encountered at both the North and South Patios differed materially from Contract indications, specifically in the Contract Drawings. The VA's experts state unequivocally that an adhered liquid membrane would be as difficult to remove as a bituthene membrane; but we are not dealing with hypotheticals here. We have buildings of a certain age and construction and it is unrefuted that the adhered liquid membrane encountered on the Green Patio came up just as the Contractor expected, and, even with the hydroblasting of the 5% residue, was a much easier removal than the North and South Patios, where the bituthene membrane was encountered. Thus, while we believe the Contractor may have been unduly optimistic in assuming the adhered liquid membrane would have the same removal properties as a built-up roof, the actual removal techniques required to remove the bituthene membrane on the North and South Patios were materially more difficult than dealing with the adhered liquid membrane encountered at the Green Patio. The reality of the situation is that Appellant's assumptions proved to be closer to what was actually encountered. It is factually established that the adhered liquid membrane was far easier to remove than the adhered bituthene membrane. We conclude that these Type I differing site conditions (DSC) caused additional effort to be expended which would be beyond the expectation of a prudent construction contractor regularly engaged in building renovation or demolition.

The VA and it's A/E admit that the Drawing Detail misrepresented the true nature of the North and South Patio waterproofing membranes as adhered applied liquid, rather than the strongly adhered bituthene sheeting actually encountered. This misrepresentation is characterized by the VA as immaterial. According to the VA's experts, both types of membrane are *equally difficult* to remove from concrete slabs. This certainly was not the case in the situation before us. The facts in this appeal establish that the applied liquid membrane discovered beneath the Green Patio was much more easily removed than the bituthene sheeting beneath the North Patio, and by the same subcontractor utilizing the same methods – scraping and hydroblasting. As we have found, the time involved in removing the liquid membrane was 30% of the time taken to remove the bituthene sheeting. In our view, this qualifies as a *material* difference in reasonable efforts taken to remove the misrepresented material from the concrete roof slabs. This actual *demonstrated difference* in degree of difficulty is more persuasive than generalized testimony to the contrary from individuals denominated experts – no matter how impressive their qualifications happen to be. In this case, the adhered liquid waterproofing membrane encountered at the Green Patio was removed using the same process that Elrich had often utilized in dealing with built-up roofing under similar situations. The fact that CamCo had to resort to hydroblasting the 5% residue remaining after scraping may well be attributable more to the pocked and deteriorated condition of the concrete slabs than to the nature of the liquid applied membrane.

If the VA or it's A/E wanted to be more specific, they could have removed and tested samples of the membrane and provided a more exacting description of the particular material (and its adhesive properties) in the drawing details or notes. They chose not to do so.

The Government argues that, notwithstanding the misdescription of the precise nature of the waterproofing membrane on the Drawing Detail, a reasonable bidder would have conducted a pre-bid visit to ascertain the nature of this material. Mr. Fuller *did* make a pre-bid visit, but he did not conclusively establish that he actually inspected the several areas where the A/E had made its test pits through the surface of the patio areas. Had he done so, according to the VA, he would have seen that the material was a "tough rubbery surface that the A/E observed to be strongly adhered to the surface of the concrete pad." (Gov. Brief at 16) Nowhere in the Drawing Details in question was there an indication that the membrane was *strongly* adhered. The A/E testified that he considered that the membrane would be "a very difficult product to remove," but he conducted no chemical analysis nor did he describe it as other then simply "adhered."

Even where, as here, the Contract contains a clause requiring the bidder to visit the site and satisfy itself concerning the conditions to be encountered in performing the work, the Site Investigation clause requires no extraordinary efforts such as cutting the membrane or performing a chemical analysis to determine the precise nature of the material. In other words, if the misrepresented condition is not readily apparent on a site inspection, the erroneous contract information may reasonably be relied upon by the bidder. ***Foster Construction C.A. v. United States***, 435 F.2d 873, 885-86 (Ct. Cl. 1970). Further, if a site visit would not readily have disclosed the misrepresentation, the bidder's failure to comply with the Site Investigation clause, by making a pre-bid visit, will not preclude recovery based on a Type I DSC. ***Amelco Electric***, VABCA No. 3785, 96-2 BCA ¶ 28,381; ***Betancourt & Gonzalez, S.E.***, DOT BCA Nos. 2785 *et al*., 95-1 BCA ¶ 27,455.

While it might have been a better practice for the Appellant to have personally examined these test pits, there is no reason to believe that the Projector would have been any more informed about the actual removal difficulty than the A/E. The fact remains, the bituthene sheet membrane was significantly more difficult to remove than the adhered liquid membrane encountered on this Project.

By stopping short of actually piercing/removing the waterproof membranes in its creation and analysis of the patio test pits, the A/E erroneously described the membrane. We will not impose a higher standard of inspection on bidders relying on the description thus rendered. ***Shumate Constructors, Inc.***, VABCA No. 2772, 90-3 BCA ¶ 22,946 at 115,198. It would have been an entirely different situation had the Detail identified the membrane as "adhered bituthene sheeting," and if the noise control provisions of the Drawing Note had listed different (and more expensive) removal methods than scraping and jackhammering. In that event, the Contractor would have been *on clear notice* of what it was expected to remove. Prudence then would have dictated that it consult a membrane removal specialist or submit an inquiry to the VA prior to submitting its bid for the Project.

The Government has cited our decision in ***O. K. Johnson Electric Co., Inc.,*** VABCA No. 3464, 94-1 BCA ¶ 26,505, in support of its position that Appellant failed to conduct a proper pre-bid site investigation. In the ***O. K. Johnson*** appeal, the contractor had conducted only a superficial inspection of interstitial spaces (where congested utility equipment easily could have been observed) prior to bidding. In that case, however, the VA had made no express representations concerning the condition of those interstitial spaces. It had been left completely up to the bidders to ascertain those conditions in an investigative site visit. There was no way that a reasonable bidder could have estimated the difficulty of installing cable trays in those spaces absent a closer inspection than was performed by O. K. Johnson. For that reason, we denied its claim for a Type II DSC. That case is easily distinguishable from the *instant* appeal because of the material misrepresentations, not only of the type of waterproofing membrane, but of the methods listed for its removal. If a *close examination* of the membrane by the A/E nevertheless led it to draft a Demolition Note omitting both hydroblasting and shotblasting – methods subsequently proven necessary for satisfactory removal of the bituthene membrane - how are we to conclude that a general contractor should come to a more accurate evaluation of the nature of the material and appropriate measures for its complete removal, even if it examined the test pits as closely as had the A/E? ***Shumate Constructors, Inc.***, at 115,198.

Unlike beneath the North Patio, the space beneath the South Patio was occupied. Appellant thus could not use the hydroblasting procedure when its reasonable attempts at scraping, then sandblasting, then scarifying, failed to remove enough of the bituthene residue to satisfy the VA. Instead, Elrich was forced to resort to a large and expensive piece of equipment known as a Shotblaster, a machine large enough to be mistaken by hockey fans for a Zamboni, according to the photographs entered into evidence. Certainly, this piece of equipment was beyond anyone's reasonable expectations for removal of what was mistakenly depicted as an "adhered liquid waterproofing membrane." The Contract itself seems more consistent with the Appellant's expectations than with the opinions later expressed by the Government's experts. General Note "G" of the Demolition General Notes on Drawing D-1 is geared toward keeping noise to a

minimum during patio surface removal. While sawcutting, small jackhammers, and small motorized scraping machines are allowed, there is no mention of anything resembling a Shotblaster. This large machine was driven over the entire 6,200 square foot area of the South Patio, shooting what essentially were numerous "shotgun blasts" into the concrete slab in order to remove the bituthene residue. It worked, but the attendant noise was inconsistent with the intent of the referenced *noise control* General Note of the Contract Drawing.

Mr. Fuller's expectation that removal of the liquid membrane would be as easy as prior removals of built-up roofing, was at best overly optimistic, particularly since he was unaware of whether the membrane was bituminous, polyvinyl, asphalt or whatever. That will be addressed in the quantum portion, which follows. However, we are persuaded that he could not have predicted the extreme difficulty involved in removing the misrepresented bituthene sheeting. Whatever the prior experience of the VA's experts might have been, the bituthene encountered by Appellant *at this Project* was even more difficult than they were willing to admit. These experts were not even consistent in their recommendations for removing the membranes. Mr. Hodges testified that scraping, followed by shotblasting or hydroblasting, would meet his criteria of an industry standard for removing both types of membranes. On the other hand, Mr. Gordon stated that scraping, both by hand and with machines such as vibratory or pneumatic scrapers, was all that would be needed to eventually remove both types of membranes, but that the process would be difficult and time consuming. He never mentioned either hydroblasting or shotblasting as necessary procedures. Both witnesses dismissed scarifying as ineffective. Mr. Hodges was of the opinion that while sandblasting the surface of the membrane would be fruitless, it would be helpful in peeling the membrane back once its edges had been lifted by scraping. Mr. Gordon rejected any use of sandblasting as a practical method of membrane removal.

The Drawing's erroneous description of the nature of the roofing membrane, together with the misleading listing of removal procedures under the noise control provisions of the Contract, constitute a material misrepresentation ("Type I") under the Differing Site Conditions clause of the Contract. *See, e.g.*, ***Bic-Com Corporation***, VABCA No. 1320, 80-1 BCA ¶ 14,285 at 70,345, wherein the Board stated, *inter alia*:

> The action taken with which we disagree, is the failure of the Government to timely acknowledge and to compensate the Appellant for the costs of meeting a differing site condition where clearly the Government recognized that *the measures needed to remove* the basalt ledge and boulders *exceeded the methods contemplated by and indicated in the contract provisions*. (Emphasis added)

In the *instant* appeal, the Government representatives at one point suggested sandblasting, as did one of their experts at trial. That expert also endorsed the use of either hydroblasting or shotblasting. In attempting to remove the bituthene sheet membranes and their residue from the North and South Patios, the Appellant eventually used one or a combination of these methods. None of the three methods were mentioned in the specifications or the Drawing notes. In these important respects, the Government's

refusal to recognize that the Appellant's extraordinary removal measures were at odds with the VA-drafted Project language is reminiscent of its position in ***Bic-Com*. Id**.

We conclude, therefore, that the Appellant's Type I DSC claim meets the six-part test set forth in ***Weeks Dredging & Contracting v. United States***, 13 Cl. Ct. 193, 218 (1987); *aff'd*, 861 F.2d 728 (Fed. Cir. 1988): (1) The Contract documents affirmatively represented that there were adhered liquid waterproof membranes on the patio slabs and that such membranes could be removed by methods other than hydroblasting and shotblasting; (2) The Appellant acted as a reasonable and prudent contractor in interpreting the relevant Contract documents; (3) The Appellant relied on these erroneous indications of existing conditions as set forth in the Contract; (4) The subsurface conditions – the bituthene sheet membranes – differed materially from the adhered liquid membrane depicted in the Contract, as did the methods necessary for complete and satisfactory removal; (5) The bituthene membranes, together with the extreme difficulty of removal, were not reasonably foreseeable to Appellant; and, (6) The costs claimed (as adjusted by the Board in the quantum portion which follows) are solely attributable to the existence of the materially different subsurface conditions – the bituthene membranes.

Indeed, given the removal methods listed by the A/E in the Drawing's General Note, together with the testimony of Mr. Gordon, the degree of difficulty in removing the bituthene membranes has some earmarks of a Type II DSC, even had the membranes been accurately represented as bituthene on the Contract Drawing. However, in light of our determination that this was a Type I material misrepresentation, we do not pursue that issue.

QUANTUM

1. Costs Incurred By Elrich

SUPPLEMENTAL FINDINGS OF FACT

Elrich attempted to scrape the bituthene sheet membrane along with the other materials comprising the South Patio deck covering. This was largely futile. The Contractor then tried several procedures in sequence; all of which were reasonable attempts to remove the unanticipated bituthene. Appellant has presented documentation for the costs associated with these extraordinary measures. (App. Supp., tabs 501-505; R4, tabs 11, 12; tr. 53-66) The Government does not dispute the fact that these costs were incurred. It argues only that the costs should have been foreseen and were the result of the Contractor's lack of familiarity with the proper methods of bituthene removal. As we have already determined that the Contractor acted reasonably, we need only satisfy ourselves that the costs claimed were reasonable under the circumstances presented.

QUANTUM DISCUSSION

(a) Labor

Elrich expended a total of $6,007 in additional labor cost to remove the bituthene membrane. These costs for the superintendent, carpenters and laborers, are supported by the Certified Payrolls and Daily Logs covering the period when Appellant was attempting the various removal methods which led to ultimate VA approval of the work.

We find the labor cost reasonable, as well as the previously audited 36% labor burden ($2,163). The total labor cost of **$8,170** is reasonable.

(b) Materials, Services & Equipment

Elrich personnel used polyethylene sheeting, which had to be removed on a daily basis, for waterproofing the exposed deck ($691), duct tape (self explanatory-$118) and plywood ($300), to protect glass surfaces from damage. Additional construction progress photos were contracted for at $319. A 30-ton crane was required to hoist the Shotblaster from North Capital Street onto the building roof, and later to remove it. All of these costs are documented with invoices and records of payment. The only discrepancy concerns crane rental costs. The April fourth, 1995 invoice from Crane Service Company, Inc., shows the crane used on two dates. On April fourteenth, and on April seventeenth, the minimum charge was $472. With $54.28 tax added, the invoice totaled $998.28. Appellant claims $1,684, with no explanation for the difference. We will allow only the documented $998.28 for crane rental. The total of the reasonable and supported costs for these items ($691 + $118 + $300 + $319 + $998) is **$2,426**.

(c) Subcontracted Work

Kerrill Enterprises, a specialty firm, was contacted by Elrich when the Contractor realized that the bituthene membrane could not be removed as it had contemplated. Kerrill's proposal was dated March 13, 1995. The subcontractor spent part of one day attempting to sandblast the bituthene, at an agreed lump sum price of $895 per day for crew and equipment plus $7.95 per bag of sand. Four bags were used ($31.80). Elrich paid Kerrill $926.80 for this work. Thereafter, Kerrill submitted a March 21, 1995 proposal to remove the 6,200 square feet of bituthene at $2.93 per square foot, for a total price of $18,166. Kerrill first scarified the entire surface, removing most of the material. However, the VA and its A/E refused to accept the concrete slab until the residue was also removed. For this, Kerrill utilized a Shotblaster to traverse the entire patio surface a second time, resulting in complete removal of the bituthene. It appears that the use of the Shotblaster, *in addition to* the scarifier, was unanticipated and that the unit price of $2.93 proved to be a bargain for Elrich. The VA has challenged neither the reasonableness of the shotblasting costs nor the unit price for bituthene removal agreed to between Elrich and Kerrill. We find that the Appellant reasonably incurred all of the subcontracted costs in an arm's length transaction with Kerrill, and award the total subcontract prices paid - **$19,093**.

(d) Calculation Of The Credit

Appellant has offered a credit of $2,600 for the additional costs that it concededly should have anticipated to separately remove the residue of the misrepresented liquid membrane (left after mechanized scraping) from the South Patio slab. Mr. Fuller arrived at that figure by consulting the 1994 Means estimating guide for the year the Contract was bid. The unit price per square foot was $.34 for removing resilient flooring (linoleum) from gym floors applied with a mastic. The unit price to remove a built-up five ply roof from a concrete slab was $.77. In Mr. Fuller's experience, removing glued linoleum from a surface was as difficult as removing a liquid membrane, maybe more so. Fuller reasoned that a figure somewhere between these two unit prices would be a

reasonable estimate to remove the residue of the applied liquid membrane depicted on the Contract Drawing. Such an averaged unit price would be $.56 per square foot for a total credit of $3,360 (6,000 x $.56). The $2,600 proposed by Appellant is based on a somewhat lower unit price. In light of the Appellant's overly optimistic pre-bid assumptions (without actually examining the exposed membrane) that the applied liquid would be as easily removed as the applied liquid asphalt layer of built-up roofing, the Board will apply a unit price of $.77 per square foot (which includes overhead and profit), reflecting the most difficult hand scraping effort listed in the Means guide. A credit of **$4,620** for the forgone hand scraping (6,000 x $.77) is allowed against the costs of bituthene removal.

To recapitulate:

Prime Contractor's Labor	$8,170
Materials, Services & Equipment	2,426
Subcontractor	19,093
Subtotal	29,689
Overhead (10%)	2,969
Subtotal	32,658
Profit (10%)	3,266
Subtotal	35,924
Credit	(4,620)
Total	**$31,304**

2. Costs Incurred by HCI

QUANTUM DISCUSSION

When the Surety signed the takeover agreement, there is no indication from the record that it could have known that the VA would subsequently agree to convert the default termination to one for its convenience. HCI thus had every reason to mitigate the costs of completing the VAMC Project, considering its potential liability for additional costs. Accordingly, it solicited prices from several firms, selecting CamCo as its completion contractor. We conclude that this was an arm's-length transaction conducted in a competitive venue. We further conclude that the alternate price for bituthene removal (by hydroblasting) was reasonable. The record indicates that CamCo and its subcontractor spent approximately thirty days removing this membrane from the 11,000 square feet comprising the North Patio. We find the subcontractor's price of **$33,695** to be quite reasonable when compared to the $19,093 charged by the same subcontractor (to Elrich) for removing bituthene from the 6,000 square foot area of the South Patio. This is bolstered by the testimony that shotblasting is somewhat more expensive than hydroblasting.

CamCo's price to the Surety of **$11,085** for the direct costs of cleanup and supervision for thirty days of membrane removal, plus the overhead and profit on those costs and the subcontractor's price, are likewise reasonable. We award Appellant the **$44,780** claimed for this portion of the extracontractual work performed at the VAMC.

DECISION

For the reasons discussed, this appeal is ***sustained***. The Appellant is entitled to **$31,304**, which represents the reasonable costs incurred in removing the unforeseen (and unforeseeable) bituthene sheet membrane from the South Patio. Appellant is likewise entitled to **$44,780** for the costs of removing this membrane from the North Patio. Interest on these monetary awards shall be paid in accordance with the Contract Disputes Act.

Date: **November 2, 1998**

James K. Robinson
Administrative Judge
Panel Chairman

We Concur:

Guy H. McMichael III *
Chief Administrative Judge

William E. Thomas
Administrative Judge

* [Not available for signature
at time of dispatch]