Executive Summary of Project Status and Deliverables

Purpose of Award:
This award will provide funds to renovate research laboratories in the Science Building of Lawrence Technological University, which was built in 1968. The ARI project includes the complete renovation of three existing research laboratories. The renovations will transform Lawrence Tech's antiquated Life Sciences Research Laboratories (LSRL) into a state-of-the-art research facility that promotes research and research training activities in the Metro Detroit Area. The LSRL supports research from an interdisciplinary Life Sciences Group encompassing five academic departments and two colleges at Lawrence Tech. It also supports collaborative research with a myriad of Michigan institutions including several major public universities, medical schools, hospitals, and life sciences companies.

Status of Project Execution Plan (PEP):
Final Project Execution Plan (PEP) in accordance with the provided template was completed on October 28, 2010 and submitted to NSF via Fastlane on Nov. 1, 2010.

Status of Contracts or Subawards:
During this quarter, significant progress has been made towards the selection of the following subawardees:

1. Construction Manager (CM): The CM services contract was competitively bid during October and November of 2010. Frank Rewold and Son, Inc., a small CM firm with experience in laboratory work, has been selected. A request to enter into contract was made to NSF via Fastlane on Dec. 7, 2010, and approval was received on Dec. 20, 2010 as Award Amendment 001.

2. Asbestos Abatement Contractor (AAC): Competitive bids were solicited from ten abatement contractors. Seven bids were received by the deadline of December 16, 2010. The lowest bidder, Environmental Specialty Services, Inc., was selected. A request to enter into contract was made to NSF via Fastlane on Dec. 20, 2010, and approval was received on Dec. 22, 2010 as Award Amendment 002.

3. Laboratory Design Consultant (LC): Lawrence Tech has selected iDesign Solutions, LLC – a small, woman-owned and operated business - to provide laboratory design services. A detailed description/justification for our selection process and request to enter into contract were sent to NSF via Fastlane on Dec. 7, 2010. Approval was received on Dec. 22, 2010 as Award Amendment 004.

4. Architecture and Engineering (A/E): In October and November of 2010, competitive bids were solicited. Four bids were received on November 12, 2010, and the lowest bidder that also provides the best value was selected. A request to enter into contract with MAEngineering was made to NSF via Fastlane on December 7, 2010. Approval was received on Dec. 23, 2010 as Award Amendment 005.

Status of ARRA Reporting:
The PI has completed the quarterly report for Primary and Sub- Recipients according to the Recipient Reporting Data Model V4.0 found on Recovery.gov.

Status of Design and Drawing
Over the recently closed quarter, the project team has held bi-weekly meetings with our Lab Design Consultant as well as the End-User Committee to discuss the project plan in great detail. Discussions involved the floor plan and its finalization, scheduling, preferences for casework,
equipment selections, lab elevations, and appropriate water and gas delivery. Meeting minutes (Sept. 30, Oct. 19, Oct. 29, Nov. 12, Nov. 18, Nov. 30, Dec. 21, Dec. 22) are available upon request.

The laboratory design plan was finalized on November 19, 2010. The group finalized elevation, casework and equipment specifications keeping in mind energy efficiency and lab safety. Copies of the final design are included in the Appendices.

**Status of Construction**

1. *Status of construction subawards:*
   All four approved subawards have been confirmed and contracts have been executed. All subawardees have registered with CCR and Fastlane.

2. *Construction WBS element overview:*
   We are currently in the “pre-construction activity” phase (WBS 1). The following is a summary of our current status:

<table>
<thead>
<tr>
<th>WBS Number</th>
<th>WBS Element</th>
<th>Scheduled Completion Date</th>
<th>Actual Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Finalize consultant contracts</td>
<td>11/12/10</td>
<td>12/6/10</td>
</tr>
<tr>
<td>1.2</td>
<td>Prepare engineering documents</td>
<td>12/24/10</td>
<td>1/7/10</td>
</tr>
<tr>
<td>1.3</td>
<td>Finalize casework specifications</td>
<td>11/19/10</td>
<td>11/19/10</td>
</tr>
<tr>
<td>1.4</td>
<td>Issue build-in documents for bids</td>
<td>12/3/10</td>
<td>1/10/11</td>
</tr>
<tr>
<td>1.5 – 1.6</td>
<td>Review construction bid package</td>
<td>1/12/11</td>
<td>2/7/11</td>
</tr>
<tr>
<td>1.7</td>
<td>Secure bids for abatement work</td>
<td>1/12/11</td>
<td>12/19/10</td>
</tr>
</tbody>
</table>

*Green:* On Schedule  
*Blue:* Ahead of Schedule  
*Red:* Behind Schedule

3. *Codes/permits & occupancy approvals/regulatory agency issues:*
   In progress.

4. *Changes in scope & contingency:*
   None.

**Project Management**

1. *Governance, management, & stakeholder activities, action items, issues:*
   On track. Project team is in place and each team member’s responsibility is clearly defined. An end user committee (Sheppard Committee) has been formed which have facilitated communications between the project manager, the PI and the end users. The PI, PM and
SRA have met numerous times to review federal regulations regarding ARRA and ARI-R2 requirements to ensure all guidelines are followed.

2. **Review master project schedule and project milestones:**

We are staying fairly close to our original schedule. A slight delay was encountered at the very beginning of the project due to unfamiliar reporting and selection procedures.

After consultation with the CM, we have decided to move the asbestos abatement work of the 2nd floor to Jan. 3-13, 2011, a few months earlier than scheduled.

The following chart indicates the project milestones that have been completed to date.

<table>
<thead>
<tr>
<th>Level (major)</th>
<th>Schedule Milestone</th>
<th>Scheduled Date</th>
<th>Actual Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (minor)</td>
<td>Complete bid and deliver build-ins</td>
<td>March 23, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete design and drawings</td>
<td>Nov. 19, 2010</td>
<td>Nov. 19, 2010</td>
</tr>
<tr>
<td>II (minor)</td>
<td>Issue build-in contract</td>
<td>Dec. 15, 2010</td>
<td>Feb 1, 2011</td>
</tr>
<tr>
<td>II (minor)</td>
<td>Delivery of build-ins</td>
<td>March 23, 2011</td>
<td></td>
</tr>
<tr>
<td>I (minor)</td>
<td>Complete alterations of S308</td>
<td>April 27, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete demolition</td>
<td>March 24, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete installation of build-ins</td>
<td>April 27, 2011</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Complete alterations of S327</td>
<td>June 27, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete abatement of S327</td>
<td>June 2, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete installation of build-ins in S327</td>
<td>June 27, 2011</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Complete alterations of S325</td>
<td>May 9, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete abatement of S325</td>
<td>March 17, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete installation of build-ins in S325</td>
<td>May 9, 2011</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Complete alterations of S303</td>
<td>August 3, 2011</td>
<td></td>
</tr>
<tr>
<td>II (minor)</td>
<td>Complete abatement of S303</td>
<td>June 8, 2011</td>
<td></td>
</tr>
</tbody>
</table>
3. Review project costs and budget performance (including contingency):
   Thus far, all bids have come within our projected costs. The only contract that required the use of contingency funds is asbestos abatement, which included $1,978 from the contingency fund (from a total of $41,793 reserved for abatement contingency).

4. Problems and risks:
   After removing the ceilings of S223, the abatement contractor discovered concealed pipes that will require abatement. This is not included in the original scope of work. We are in the process of determining the additional amount required to complete this work. Fortunately, there is $39,761 still remaining in the abatement contingency fund.

5. Success metrics (initiated, underway, measurement, success or completion, documentation, and when appropriate scientific and broader impact metrics):
   Nothing to report (yet).

6. Other?
   None.

7. Review previous quarter action items:
   - PEP was submitted through Fastlane on Nov. 1, 2010, and reviewed by NSF on Nov. 24, 2010.

8. Summary of upcoming action items:
   - Complete abatement of 2nd floor
   - Bid and award build-ins; obtain samples (where available) on various build-in items before final purchase decisions are made.
   - Issue and review construction bid packages
   - Issue build-in purchase orders
   - Manufacture and deliver build-ins
   - Prep S327 for temporary equipment relocation from S308
   - Demolition of S308

Please see the attached meeting minutes of Dec. 22, 2010 for details.
**Other Project Highlights:**

The grant award has continued to receive significant media coverage. During this quarter, several articles have appeared in Tech News, Lawrence Tech Magazine, and Lawrence Tech Alumni Newspaper. A celebration event was held on Oct. 21, 2010, which included collaborators from Wayne State University, Oakland University, Ferndale University High School, General Motors, Beaumont Hospitals Research Institute, MichBio, and many industry advisory board members. The publicity has further attracted opportunities for partners in the region: in collaboration with Wayne Resa and University of Michigan-Dearborn, a grant proposal entitled “Project Biology for All” has been submitted to NSF.

**Appendices** (Figures, Drawings, Pictures):

1. Final Lab Design, L1
2. Final Lab Design, L2 S303
3. Final Lab Design, L3 S308
4. Final Lab Design, L4 S325 S327
5. Final Lab Design, L5 Lab Details
6. Final Lab Design, L6 Lab Details
7. Final Lab Design, L7 Lab Details
8. Final Lab Design, TS
9. Meeting minutes of Dec. 22, 2010
## Appendix 9. Meeting Minutes 12-22-2010

### Date: 12/22/2010
Revised: 1/5/2011

### Attendees:
John Richards, MA-Engineering; Bob Sellman, Rewold; Joe Veryser, LTU;

### Subject: Project schedule and details

#### Items Discussed:
Schedule tentatively revised based on expected equipment interval. Firm dates are shown with (*):

- Clear out 2nd floor loose equipment 12/15 to 12/18/2010* (complete)
- Abate and re-spray 1/3/2011 to 1/13/2011*
- Space in service for lab use 1/15/2011*
- Install temporary lighting 1/7/2011 thru 1/13/2011*
- Equipment OFB on 1/10/2011*
- Equipment bidder mandatory open house 1/12/2011*
- Equipment bids due 3:00PM EST on 1/24/2011*
- Equipment shop drawing approvals 1/25/2011 thru 2/18/2011
- Equipment fabrication and ship 2/18/2011 thru 7/5/2011
- Equipment installation 7/6/2011 thru 8/12/2011
- Lab equipment start up week of 8/15/2011
- Punch list week of 8/15/2011
- Temporary prep for S308 equipment in S327 3/1/2011 thru 3/15/2011*
- Move equipment S308 to S327 3/15/2011 thru 3/18/2011*
- Demo S308 3/21/2011 thru 4/1/2011*
- S308 build out 4/1/2011 thru 5/2/2011*
- Return equipment back to S308 5/2/2011
- To City for permit 1/17/2011
- OFB to trades 1/17/2011
- Required Open House for bidders 1/20/2011
- Bids due 2/7/2011
- Pre-award scope review meetings 2/9/2011
- Contract awards 2/14/2011
- Long lead award of items by 2/21/2011
- Equipment arrival 6/15/2011 +/- to be confirmed

**Action Items:**

- JCV to have CO2 system shut off by CampFac in S325 prior to abatement start.
- Bob Sellman to file Notice of Commencement with County.
- JCV to have CampFac shut off pwer, water and services to 3\textsuperscript{rd} floor labs just prior to abatement start for S303, S325 and S327.

**Distribution:**

H. Moore; G. Bauer; B. Sellman; J. Richards; L. Clary; File