UNIVERSITY OF CALIFORNIA, SANTA BARBARA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ

OFFICE OF DESIGN & CONSTRUCTION SERVICES and PHYSICAL FACILITIES

CONTRACTING SERVICES
Building 439
Santa Barbara, California 93106-1030
Telephone (805) 893-3356
Fax (805) 893-8592

**SENT VIA:**
- ☐ FAX ON THIS DATE
- ☐ HAND DELIVERY ON THIS DATE
- ☒ FEDERAL EXPRESS ON THIS DATE
- ☐ UNITED PARCEL SERVICE ON THIS DATE

HOLDERS OF PLANS AND SPECIFICATIONS:

Microscopy and Cell Culture Lab Renovation – Room 2201, Life Sciences, Building 235
Project No. FM090498S/987732
**Addendum No. ONE**

March 11, 2010

Enclosed is **ADDENDUM NO. One** to the Construction Documents on the above-captioned project.

Bid date has been changed from Wednesday, March 17, 2010 at 2:30PM to **Thursday, March 18, 2010 at 2:30PM** to be held at:

CONTRACTING SERVICES
Facilities Management, Bldg. 439,
Door #E, Reception Counter
University of California, Santa Barbara
Santa Barbara, CA 93106-1030.

Late arrivals shall be disqualified. Please allow time for unforeseen traffic delays, securing a parking permit and potential parking problems.

Anna Galanis
Director, Contracting Services

ADDENDUM NUMBER ONE

to the

CONSTRUCTION DOCUMENTS

March 11, 2010

## GENERAL

The following changes, additions or deletions shall be made to the following document(s) as indicated; all other conditions shall remain the same.

## I. ADVERTISEMENT

Item No.

1. Second page, first paragraph: **CHANGE** to read as follows:
"Bid Deadline: Sealed bids must be received on or before 2:30PM on **Thursday, March 18, 2020.** Sealed Bids will b e received only at: Contracting Services, Facilities Management, Building #439, Door #E, Reception Counter, University of California, Santa Barbara, Santa Barbara, California 93106-1030."

## II. SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

Item No.

1. Number 4: **CHANGE** to read as follows:
"Bids will be received on or before the Bid Deadline: **2:30P.M., Thursday, March 18, 2010** and only at: Contracting Services, Facilities Management, Building #439, Door #E, Reception Counter, University of California, Santa Barbara, Santa Barbara, California 93106-1030."

## III. SPECIFICATIONS

Item No.

1. Table of Contents: **ADD** Section 01560, Temporary Stormwater Pollution Prevention Construction Sites Less Than One Acre, pages 1-11.

Item No.

2. Table of Contents: Section 16740, Voice and Data System, **CHANGE** to read **"**Section 16740, Communications System", pages 1-5.

Item No.

3. Section 01560 – "TEMPORARY STORMWATER POLLUTION PREVENTION CONSTRUCTION SITES LESS THAN ONE ACRE":
   **ADD** Section 01560, "TEMPORARY STORMWATER POLLUTION PREVENTION CONSTRUCTION SITES LESS THAN ONE ACRE, attached, 11 pages.

Item No.

4. Section 16740 – "VOICE AND DATA SYSTEM": **DELETE** this section in its entirety.

Item No.

5. Section 16740 – "COMMUNICATIONS SYSTEM": **ADD** this section in its entirety, attached, 5 pages.

## IV. CLARIFICATIONS (ON QUESTIONS RECEIVED)

1. Please provide a copy of the plan holders list with the list of plan rooms:

   •The plan holders list and the list of planrooms are located on the facilities website: http://facilities.ucsb.edu/

2. Is the funding for the project coming from Federal Funds (Stimulus) or State Funds or both?

   •No.

3. 6.3.5-.6 States "Names of all Subcontractor, with their addresses, telephone number, facsimile number, contact person, portion of the Work and designation of any Subcontractor as a Small Business Enterprise (SBE), Disadvantaged Business Enterprise (DBE), Women-owned Business Enterprise (WBE) and Disabled Veteran Business Enterprise (DVBE) on Report Subcontractor Information in the form contained in the Exhibits." Are SBE, DBE, WBE, & DVBE participation required? If so, what are the requirements?

   •Participation is not required. Need to list only per construction documents requirements.

4. Drawing E1.0 does not provide information of how far we are to run conduit for the communication required. Conduit can be run to an existing cable tray if one exists or to the communication room. Please provide scaled drawing that provides such required information for estimate.

   •The cable tray is located in the ceiling above the corridor to the north of the existing door to this lab; the cable tray starts approximately 6'-0" north of the existing door and then continues east to the communications room.

5. Is the contractor going to be required to provide temporary utilities to adjacent rooms for any utility outages that will be required to perform the work? (for example, will we be required to maintain water to restroom facilities located next to the project?)

   •See Specification Section 01500 "Construction Facilities and Temporary Controls" and all other applicable specification sections for utility outages.

END OF ADDENDUM ONE

# SECTION 01560

# TEMPORARY STORMWATER POLLUTION PREVENTION CONSTRUCTION SITES LESS THAN ONE ACRE

## PART 1 - GENERAL

### 1.01 GENERAL

A. Stormdrains at the University of California Santa Barbara Campus discharge directly to creeks, the Goleta Slough, the Campus Lagoon, and the Pacific Ocean without treatment. Discharge of Pollutants or Contaminants (any substance, material, or waste other than uncontaminated stormwater) from this Project into the stormdrain system is strictly prohibited by the State Water Resources Control Board (SWRCB) and the Central Coast Regional Water Quality Control Board (RWQCB).

B. The Contractor is responsible for stormwater quality within the Project site (which includes the staging area, material storage, waste management areas, construction areas, on-site parking, site entrances and exists, and anywhere Project construction disturbs soil) and the quality of stormwater leaving the Project site.

C. The Contractor is required to prevent erosion of disturbed areas during construction and ensure pollutants, including sediment, do not leave the Project site, either water-borne, air-borne, on the tires of vehicles, or by spillage from offsite hauling of soils.

D. The Contractor is responsible for properly managing all construction debris, solid and construction waste materials including litter, liquid waste including fluids from vehicles, construction materials, hazardous materials and waste, and sanitary and septic waste.

E. The requirements in this section are intended to be implemented on a year-round basis, not just during the part of year when there is a high probability of a rain event which results in stormwater runoff. The requirements and practices discussed in this Section should be implemented at the appropriate level and in a proactive manner during all seasons while construction is ongoing.

F. The following terms and their definitions will be used throughout this Section.

1. Best Management Practices (BMPs) – The term BMP is used to describe the controls and activities used to prevent stormwater pollution.

2. BMP Site Map – A map typically 11"x17" including, but not limited to, the following: entire construction site, site perimeter, adjacent roadways, all existing and proposed stormdrains on and near the site, site entrances/exits, building footprint, construction trailer, topography including slope, all current BMPs, NOI, and the location of the Questionnaire or Stormwater Pollution Prevention Plan (SWPPP).

3. Contaminants or Pollutants – Any substance, material, or waste other than uncontaminated stormwater, including, but not limited to materials such as acids, adhesives, asphalts, concrete compounds, curing compounds, detergents, fertilizers, glues, lime, paints, pesticides and herbicides, petroleum products, plaster, roofing tar, solvents, wood preservatives, soil and any materials that may be detrimental if released to the environment.

4. Contractor – The term "Contractor" refers to the person or firm responsible for performing the work and is identified as such in the Agreement. The Contractor may use subcontractors, and the subcontractors may use sub-subcontractors to perform parts of the work. However, the Agreement is between the University and the Contractor, and the Contractor alone is responsible for completing the Project.

5. Final Stabilization – Final stabilization is achieved when all construction activities are complete, all disturbed soil areas have been properly stabilized, all stormwater regulations have been achieved, and a uniform vegetative cover with 70 percent coverage has been established.
6. General Permit - National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated with Construction Activity Water Quality Order 00-08-DWQ, Waste Discharge Requirements Order No. 99-08 DWQ (National Pollution Discharge Elimination System (NPDES) Permit No. CAS000002), Resolution No. 2001-046, Modification of Water Quality Order 99-08, State Water Resources Control Board, and any amendments or revisions of these permits or orders.
7. Hazardous Materials – Materials such as paints, solvents, petroleum products, pesticides, wood preservatives, treated wood, acids, roofing tar, batteries, Fluorescent lights, light ballasts, etc.
8. Maximum Extent Practicable (MEP) – Less-effective treatment or activities may not be substituted when it is practicable to provide more effective treatment or activities.
9. Notice of Intent (NOI) – Document that must be submitted to the State of California to obtain coverage under the General Permit and be permitted to develop property one acre or larger.
10. Notice of Termination (NOT) – Document that must be submitted to the State of California once the Project is complete and has achieved Final Stabilization, which certifies that all State and local requirements have been met in accordance with Special Provisions for Construction Activity, C.7, of the General Permit.
11. Post-Construction BMPs – Permanent features designed to minimize pollutant discharges, including sediment, from the site after construction has been completed. These features; such as bioswales, rain gardens, roof drains connected to landscaping, permeable pavement, etc.; will be installed and maintained by the Contractor during the construction of the Project until the Project has achieved Final Stabilization.
12. Project or Project site – All areas including the staging area, material storage, waste management areas, construction areas, on-site parking, site entrances and exits, and anywhere Project construction disturbs soil.
13. Questionnaire - UCSB Construction Stormwater Quality Questionnaire for Site Less than 1 Acre.
14. Storm drain System - Stormwater conduits, stormdrain inlets and other stormdrain structures, street gutters, channels, watercourses, creeks, the Goleta Slough, the Campus Lagoon, and the Pacific Ocean.
15. Stormwater Pollution Prevention Plan (SWPPP) Sites greater than or equal to one acre – A living document that is site specific and created by the Contractor that specifies Best Management Practices that will prevent construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters. The SWPPP will be written to comply with all requirements of the State Water Resources Control Board (SWRCB) National Pollution Discharge Elimination System (NPDES) General Permit for Construction Stormwater Discharges (General Permit), and will be modified throughout the life of the Project, as needed, to maintain compliance with the General Permit.

1.02 RELATED SECTIONS

A. Section 01010, "Summary of Work".

1.03 GENERAL CONTRACTOR SCOPE

A. Provide all material, labor, and equipment, for installation, implementation, and maintenance of all stormwater quality control measures. This work includes the following:
   1. Complying with applicable standards and regulations per Paragraph 1.04 REGULATIONS AND STANDARDS.
   2. Furnishing, placing, and installing effective measures for preventing erosion and runoff of soil, silts, gravel, hazardous chemicals, all construction materials including wastes, or other materials prohibited by the Central Coast RWQCB from leaving the site and/or entering the stormwater drainage system.
   3. Management of onsite construction materials and waste in such a manner as to prevent said materials and waste from contacting stormwater or wash water and running off site and/or into the stormdrain system.

B. Contractor shall have stormdrain pollution prevention measures in place and follow this Specification at all times. It is the responsibility of the Contractor to be prepared for a rain event, and to be aware of weather predictions. The University is not responsible for informing the Contractor of rain predictions.

C. Contractor shall not allow any unauthorized non-stormwater to enter the stormdrain system or leave the construction site. Non-stormwater includes domestic supply water used onsite to wash painting and drywall equipment, tools, equipment, or vehicles.

D. Sanitary sewer discharge regulations are intended to provide protection of the sanitary sewer system and Goleta Sanitary District (GSD) and Goleta West Sanitary District's (GWSD) wastewater treatment plants. In this Section, "sanitary sewer" shall include any sanitary sewer manhole, clean-out, side sewer or other connection to the GSD and GWSD wastewater treatment plants.

E. Sanitary sewer blockage will likely result in a back-up and overflow to the stormdrain system. The Contractor shall immediately notify the University's Representative if there is a clogged sanitary sewer.

1.04 REGULATIONS AND STANDARDS

A. Contractor shall comply with the following applicable regulations:
   1. Clean Water Act, United States Environmental Protection Agency.
   2. The Porter-Cologne Clean Water Act, State of California.
   3. Central Coast Basin (Region 3) Water Quality Control Plan (Basin Plan).
   4. National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated with Construction Activity (General Permit) Water Quality Order 00-08-DWQ, Waste Discharge Requirements Order No. 99-08 DWQ (National Pollution Discharge Elimination System (NPDES) Permit No. CAS000002), Resolution No. 2001-046, Modification of Water Quality Order 99-08, State Water Resources Control Board, and any amendments or revisions of these permits or orders. These orders are referred to as the General Permit.

B. Contractor shall comply with the following standards and guidelines on stormwater pollution prevention:
   1. University of California, Santa Barbara BMP Handbook
   2. California Stormwater Quality Association Handbooks – Construction, Municipal, Industrial and Commercial, and New Development and Redevelopment. These documents can be viewed and downloaded from the UCSB Environmental Health & Safety website, or at http://www.cabmphandbooks.com/.
   3. Caltrans Storm Water Quality Handbooks - This document can be viewed and downloaded from the UCSB Environmental Health & Safety website, or at

http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm.

1.05 SUBMITTALS

A. When the entire construction Project, including the staging area, material storage, waste management areas, construction areas, onsite parking, site entrances and exists, and anywhere Project construction disturbs soil, is less than 1 acre and is not part of a common plan of development, the Contractor shall comply with UCSB Construction Stormwater Quality Questionnaire for Site Less than 1 Acre (Questionnaire) which is available as Information available to bidders.

1. Submit the Questionnaire to the University's Representative for review 14 calendar days prior to scheduled implementation. At the completion of the review, a meeting will be conducted by the University's Representative and the Contractor to discuss and agree upon the implementation of the Questionnaire.
2. No work shall begin until the Questionnaire has been approved by the University's Representative and the Questionnaire has been implemented.
3. The Contractor shall bear all cost of design, installation, and maintenance of all stormwater quality control measures.
4. The Contractor shall submit written reports of inspections and maintenance. Submit all completed inspection sheets from the previous week, to the University's Representative on the first day of each week. Written reports include:
   a. Pre-rain event inspections.
   b. Post-rain event inspections.
   c. Weekly inspections.
   d. Maintenance inspections.

1.06 Environmental Enforcement

The SWRCB and the RWQCB have the authority to enforce, through codified regulations, any portions of this Section that if not implemented may violate applicable regulations. Agency enforcement may include but is not limited to: citations, orders to abate, bills for cleanup costs and administration, civil suits, and/or criminal charges. Regulating agencies will cite UCSB for all violations which will be the Contractor's responsibility to correct, pay any fines issued, and remedy all violations as needed. The University's Representative may stop all construction activities as deemed necessary until such violations are remedied.

PART 2 - PRODUCTS

2.01 GENERAL

A. Provide products and materials as indicated in the Questionnaire/SWPPP, including Activity and Best Management Practice sheets and Drawings.

B. Where product or material requirements are not specified in the Questionnaire/SWPPP, comply with other applicable sections of the Specifications and obtain approval of the University's Representative.

PART 3 - EXECUTION

3.01 GENERAL

A. The Contractor will write and implement the Questionnaire/SWPPP and include a BMP Site Map and written description of pollution prevention methods. The intent of this requirement is to ensure Contractor compliance with applicable regulations for the discharge of stormwater from the Project. The Contractor will choose the best available performance-

based technology and methods to prevent stormwater pollution from construction activities to the Maximum Extent Practicable (MEP). The method(s) chosen shall be appropriate for each specific site condition.

B. The Contractor will implement the Questionnaire/SWPPP once it has been reviewed and approved by the University's Representative. Construction activities including clearing and grading will not begin until the Questionnaire/SWPPP has been implemented.

C. The University's Representative and the Contractor will meet to discuss and agree upon implementation of the Questionnaire/SWPPP.

D. The Contractor is required to maintain a standby crew for emergency work at all times during the rainy season, October 1 through May 1. Necessary materials shall be available on the Project site and stockpiled at convenient locations to facilitate rapid construction of temporary devices or to repair any damaged stormwater quality control measures when rain is imminent.

3.02 IMPLEMENTATION

A. Stormwater Quality Control Measures

Comply with all requirements and stormwater quality control measures of the Questionnaire/SWPPP including, but not limited to, the following approved BMPs referenced in the UCSB BMP Handbook. This list is not all inclusive and the Contractor should refer to the resources listed in Paragraph 1.04 REGULATIONS AND STANDARDS of this Section for additional information. The Contractor will consult the University's Representative before implementing a BMP that is not included in the UCSB BMP Handbook. The Contractor is required to, at a minimum, implement the following applicable BMPs. The Contractor may implement equivalent BMPs as long as the University's Representative approves. The Contractor is required to include BMP specification sheets for all BMPs that are not currently listed in the UCSB BMP Handbook.

1. Best Management Practices

a. Erosion Control (EC)

Provide a description of erosion control measures, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of the Project site, and identify the controls on the BMP Site Map. Areas requiring erosion control measures are exposed soil, such as soil piles, bare soil, sloped soil, and any area of disturbed soil. All inactive soil disturbed areas on the Project site and some active areas that are not experiencing high traffic, including relatively flat areas, must be protected from erosion. Both erosion and sediment control practices are designed to be implemented as an integrated system of pollution control. Without erosion controls, sediment controls are easily overwhelmed and will not prevent pollution. Preserve existing vegetation where feasible, limit disturbance of existing vegetation, and stabilize and revegetate disturbed areas as soon as possible after grading or construction. Stabilize exposed soil to the Maximum Extent Practicable (MEP) throughout the duration of the Project.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

EC – 1 Scheduling of Activities

EC – 2 Preserving Existing Vegetation

EC – 3 Temporary Soil Stabilization: Erosion Control Blanket

b. Temporary Sediment Control (TSC)

Provide a description of temporary sediment control measures that will be used on the Project site, and identify the controls on the BMP Site Map. Temporary

sediment control measures generally involve intercepting sediment laden runoff, slow the flow of stormwater, and cause suspended sediment particles to drop out of suspension to ensure contaminants do not leave the Project site and enter the waters of the United States. An example of temporary sediment control measures include stormdrain inlet protection and site perimeter controls. Do not use sand bags near the Project site perimeter or near stormdrain inlets. Install sediment control BMPs at appropriate locations along the site perimeter and at all operational inlets to the stormdrain system. All new and existing roadways, curbs, and gutters must be protected from sediment-laden runoff, are considered as perimeters of the site, and will need perimeter controls installed. Sediment control BMPs should be installed and maintained according to specifications. Ensure that adequate erosion control, sediment control, and soil stabilization BMPs are available onsite throughout the life of the Project.

1. The Contractor is required to implement, at a minimum, at least one of the following applicable perimeter control BMPs, or equivalent BMPs with the approval of the University's Representative:

   TSC – 1 Cut Back Curb (Perimeter Control)

   TSC – 2 Fiber Roll (Perimeter Control)

   TSC – 3 Gravel Bag Berm (Perimeter Control)

2. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

   TSC – 4 Stormdrain Inlet Protection (Secondary Control)

   TSC – 5 Slope BMP: Fiber Roll or Gravel Bag

c. Tracking Control (TC)

All new and existing roadways, curbs, and gutters must be protected from sediment-laden runoff, are considered as perimeters of the site, and will need to be swept and vacuumed daily to ensure sediment and pollutants from construction activities are not leaving the site and potentially entering the stormdrain system. Identify and clearly mark one or two locations where vehicles will enter and exit the construction site and focus stabilizing measures at these locations. Install and maintain a stabilized entrance at all Project site entrances and exits to prevent tracking of mud and sediment off site. Vacuum and sweep sidewalks, roadways, site entrance/exit, curb, and gutter daily. Do not use kick brooms or sweeper attachments. Dispose of sweeper waste at an approved disposal facility. If construction parking is permitted on the Project site, then the area needs to be properly maintained and free of tracking and trash.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

   TC – 1 Stabilized Construction Entrance: Rumble Strips

   TC – 2 Sweeping and Vacuuming

d. Wind Erosion Control (WEC)

Contractor shall use best available dust suppression equipment and methods to control dust so that the dust does not cause discomfort or nuisance to occupants of the Project site neighboring property. Contractor shall control dust suppression water so that it is effective in controlling dust, but does not leave the Project site or enter the stormdrain system. Contractor shall describe their dust suppression water management methods in the Questionnaire/SWPPP

1. The Contractor is required to implement the following applicable BMP, or equivalent BMPs with the approval of the University's Representative:

WEC – 1 Dust Control

e. Non-Stormwater Management (NSM)

Non-stormwater discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Eliminate all unauthorized non-stormwater discharges to the Maximum Extent Practicable. Assign a qualified person the responsibility for ensuring that no materials other than stormwater, free of all contaminants, are discharged. Include the name, contact information, and qualifications of said person in the Questionnaire/SWPPP.

All workers on the Project site must be adequately trained on non-stormwater management procedures and be in compliance with procedures such as the following at all times:

- Washing in designated, contained areas only.
- Eliminating discharges to the stormdrain system by infiltrating the wash water on site.
- All washing activities must be approved by the University's Representative if there is a potential to discharge to the stormdrain system or for discharge to leave the Project site.
- Do not wash paved areas.
- Route water line flushing and water from water line repair to landscaped areas.
- Avoid dewatering discharges by using water for dust control or allow to infiltrate onsite.
- Unauthorized non-stormwater cannot be discharged without obtaining a permit from the Central Coast RWQCB.
- Send vehicles/equipment offsite to be cleaned, fuelled, and repaired as much as possible. If it cannot be avoided, the Contractor is required to follow the practices described in NSM-3 Vehicle and Equipment Practices.
- Inspect the site regularly for evidence of illicit connections, illegal dumping, or discharges.
- Discharges of stormwater and non-stormwater exposed to concrete during curing and finishing may have a high pH and may contain chemicals, metals, and fines. Properly maintain all chemicals and wastes related to concrete curing and finishing as outlined in NSM-5 Concrete Curing and NSM-6 Concrete Finishing.
- Prevent the discharge of pollutants from paving operations by following the practices described in NSM-7 Paving and Grinding Operations.
- Minimize use of hazardous materials onsite. Store and dispose of all materials properly. Do not allow hazardous materials to come in contact with stormwater which could run off site and pollute the stormdrain system.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

NSM – 1 Water Conservation
NSM – 2 Dewatering Operations
NSM – 3 Vehicle and Equipment Practices
NSM – 4 Illicit Connection/Illegal Discharge Detection
NSM – 5 Concrete Curing
NSM – 6 Concrete Finishing
NSM – 7 Paving and Grinding

NSM – 8 Potable Water/Irrigation

NSM – 9 Material Use

f. Waste Management (WM)

The Contractor is required to prevent the discharge of pollutants to stormwater from solid or liquid wastes that will be generated at the Project site. Dumpsters or disposal containers of sufficient size, number, complete with no holes or damage where waste could leak out, are watertight, and have proper covering will be provided and properly maintained by the Contractor. Littering on the Project site is prohibited. If necessary, the Contractor may provide and maintain trash receptacles at locations where workers congregate for lunch and breaks, as long as the trash receptacles have no holes or breaks where waste could leak out, are watertight, are properly covered, and are properly maintained. Construction debris and litter from work areas within the construction limits of the Project site shall be collected and placed in watertight dumpster at the end of every work day. Provide convenient, well-maintained, and properly located toilet facilities. All workers on the Project site must be adequately trained on proper material use, storage, and waste disposal. The Contractor is required to implement a comprehensive set of waste-management practices for hazardous or toxic materials including storage, handling, inventory, and clean-up procedures.

All workers on the Project site must be adequately trained on waster management procedures and be in compliance with procedures such as the following at all times:

- Temporary material storage should be covered, have secondary containment, and be located away from vehicular traffic, the Project perimeter, and stormdrains.
- The Contractor shall provide and properly maintain an adequate number of watertight, crack free, covered containers for all trash and waste related to the construction Project. Collect construction trash daily throughout the Project and from around the perimeter of the site.
- Store dry and wet concrete materials under cover, in secondary containment, away from drainage areas and the Project perimeter. Concrete washout is only permitted in a designated and properly maintained concrete washout bin. Concrete is not allowed to be dumped or spilled anywhere onsite except in the concrete washout bin.
- Temporary sanitary facilities should be located away from watercourses, stormdrain inlets, the Project site perimeter, and traffic circulation. If there is a risk of tipping over or being blown over, the temporary sanitary facility should be secured by stakes or ties to prevent overturning. Wastewater should never be discharged or buried within or anywhere around the Project site.
- Locate stockpiles on a permeable surface a minimum of 50 feet away from concentrated flows of stormwater, stormdrain inlets, and the Project site perimeter. Do not place stockpiles on an impermeable surface. Completely cover all stockpiles with a tarp or some type of cover; anchor the cover to ensure the stockpile is completely covered at all times.
- Spills of oil, petroleum products, substances listed under 40 CFR Parts 11, 117, and 302, and sanitary wastes should be contained and cleaned up immediately. Practice spill prevention procedures at all times including proper material handling and storage. Provide stockpiles of cleanup materials at key locations throughout the Project site.

1. The Contractor is required to implement the following applicable BMPs, or equivalent BMPs with the approval of the University's Representative:

| | |
|---|---|
| WM – 1 | Material Delivery and Storage |
| WM – 2 | Trash Containment |
| WM – 3 | Temporary Concrete Washout and Waste Management |
| WM – 4 | Sanitary Waste Management |
| WM – 5 | Stockpile Management |
| WM – 6 | Spill Prevention and Control |
| WM – 7 | Hazardous Waste Management |
| WM – 8 | Contaminated Soil Management |

B. Monitoring and Maintenance

Throughout the life of the Project and especially during the rainy season, all protective devices shall be in place at the end of each working day including those protective devices removed during the day's activities. Please note: no protective devices shall be removed during a rain event.

1. Do not move or modify stormwater quality control devices without the approval of the University's Representative.
2. All removable protective devices indicated on the Questionnaire/SWPPP shall be in place at the end of each day and especially any time rain is predicted in the Santa Barbara area.
3. After a rain event, manage and repair all stormwater quality control devices to ensure they are in good working condition. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

C. Water Main and Sanitary Sewer Line Break Contingency Plan

If working on or near a water main line or sanitary sewer line, the Contractor shall have a written emergency response plan that states procedures for responding to a break and release of supply water or waste water to the stormdrain system. The Contractor shall meet the following requirements:

1. Water Main Work
   a. Determine the direction of water flow if the main were to break.
   b. Divert water from entering the storm drain system and contain when possible.
   c. If there is a water main break, pump the water that is collected or diverted to a sanitary sewer, based on the approval of the University Representative.
   d. Put in place, before digging, sediment control structures upstream of drain inlets and at drain inlets.
   e. If a break occurs contact the University's Representative or inspector of record immediately. Include in the Plan the phone number of the University's Representative.
2. Sanitary Sewer Line Work
   a. Determine where the sewage will flow if the work could cause a blockage.
   b. Contain any sewage spill from entering the storm drain system.
   c. If a sewage blockage occurs, pump it to a sanitary sewer, and do not allow it to flow into the stormdrain system.
   d. If a sewage blockage or spill occurs contact the University's Representative or inspector of record immediately. Include in the Plan the phone number of the University's Representative contact.
3. Excavation Work

   This Paragraph applies to Contractors that excavate in the vicinity of sanitary sewer lines

and cause or discover a sewage spill, leak or blockage.

a. Immediately notify the University's Representative. Include in the Plan the phone number of the University's Representative.

D. Good Housekeeping Practices

The Contractor shall implement the following applicable good housekeeping practices:

1. Store materials that have the potential to be transported to the stormdrain system by stormwater runoff or spillage away from areas of heavy traffic and under cover in a contained area or in sealed waterproof containers.
2. Use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.
3. Secure opened bags of powdered materials (if any) that could contribute to stormwater pollution and visible dust emissions.
4. Pick up litter, construction debris, and other waste generated by Project activities daily from the Project site and adjacent areas, including the sidewalk area, gutter, street pavement, and stormdrains impacted by the Project. All wastes shall be stored in watertight covered containers, disposed of, or recycled immediately.
5. Clean sidewalks, driveways, or other paved areas within and around the construction site to eliminate or prevent mud-tracking conditions. Dispose of sweepings in a place that will not pollute the stormdrain system. If wash-water is used in the interior of the site ensure it does not leave the site perimeter or enter a stormdrain inlet. The discharge of wash-water to the stormdrain system is prohibited.
6. Inspect vehicles and equipment arriving on-site for leaking fluids, and promptly repair leaking vehicles and equipment. Use drip pans to catch leaks until repairs are made.
7. Avoid spills by handling materials carefully. Keep a stockpile of appropriate spill clean-up materials, such as rags or absorbent materials, readily accessible on site. Clean up all spills of materials brought on site for Project activities.
8. Train employees regularly on good housekeeping practices and procedures. Assign responsibility to specific employees for inspecting good housekeeping and responding to spills.

E. Post-Construction Stormwater Run-Off Control Measures

1. All permanent structural and nonstructural control measures that are planned for the Project to control pollutants in stormwater discharges after construction is completed shall be delineated on a post-construction BMP Site Map. Post-construction BMPs include, but are not limited to:
   a. Minimization of land disturbance.
   b. Minimization of impervious surfaces.
   c. Treatment of stormwater run-off using infiltration.
   d. Water detention/retention, bioswales, or rain gardens.
   e. Bio-filter BMPs.
   f. Efficient irrigation systems.
   g. Ensuring that interior building drains and trash enclosures are tied to the sanitary sewer system, and not the stormdrain system.
   h. Appropriately designed and constructed energy dissipation devices.
   i. Ensuring that roof drains are directed to rain gardens or landscaped areas, not the stormdrain system.
   j. Use permeable pavement and permeable surfaces where possible.

2. Post construction BMPs must be consistent with all University's and local post-construction stormwater management requirements, policies, and guidelines.
3. Contractor shall refer to construction drawings for post-construction BMPs and include them in the SWPPP and on the post-construction BMP Site Map.

F. Personnel Training

1. The Contractor shall train its employees working on the site on the requirements contained in this Section. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, and other locally recognized agencies or professional organizations.
2. The Contractor shall document this training in writing. The University's Representative for the site will request to see the training materials and records at the onset of work. All training records will be included in the SWPPP.
3. The Contractor shall inform all subcontractors (if any) of the water pollution prevention requirements contained in this specification and include appropriate subcontract provisions to ensure that these requirements are met.

3.03 Final Stabilization

A. All disturbed areas of the construction site must be stabilized before the Project is deemed complete. Final Stabilization for the purposes of submitting a NOT is satisfied when all disturbing soil activities are completed, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and a uniform vegetative cover with 70 percent coverage has been established.

B. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, submit the completed Notice of Termination (NOT) form to the University's Representative. The NOT will be signed by the University's Representative.

C. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, submit the completed SWPPP with all necessary documents including but not limited to inspections, annual certifications, SWPPP amendments, training certificates, schedules, qualifications, BMP Site Maps, NOI, and NOT to the University's Representative.

D. When construction is complete, the Project site has achieved Final Stabilization, all construction materials and waste have been disposed of properly, the site is in compliance with all stormwater regulations, and the Project is deemed complete by the University's Representative, if the stormwater protections are no longer required and upon obtaining approval from the University's Representative and the University's Representative, remove the protections and restore the site or structure to the required condition.

**END OF SECTION 01560**

# SECTION 16740
# COMMUNICATIONS SYSTEM

## PART 1 - GENERAL

1.1 SUMMARY

As required by demolition in the conversion space, remove existing communications outlets and wiring as required. Provide all materials and labor to install, test and document inside communications station wiring for wall and Wiremold-mounted locations as shown on drawings.

A. Section Includes:

1. Raceway for system cables, including service cables, distribution cables and branch cables: Cat5e Enhanced 4-pair station cable, Cat5e jacks, faceplates, cable ties, and misc installation materials.

2. All materials and installation labor shall be tested by the installer for conformance to manufacturer specifications per EIA/TIA 568-B and results provided for direct download to the University Representative.

1.2 REFERENCES

A. The Work under this section is subject to requirements of the Contract Documents including the GENERAL CONDITIONS and sections under Division 1 GENERAL REQUIREMENTS.

B. Refer to UCSB 'COMMUNICATIONS GUIDELINE' for the campus construction standards for workstation outlets, conduit, and wiring.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Raceways:

1. Types as indicated in Section 16110 - Raceways and Fittings. Conduits shall have end bushings.

2. Use UL listed metallic grounding clamps when terminating conduit to cable tray.

3. Minimum conduit size from raceway to tray shall be 1" conduit, unless otherwise noted on drawings.

B. Wall Outlets:

1. Provide flush 5" x 5" x 2-1/8" outlet box for each symbol shown on drawings, except provide single gang box form wall mounted telephones.

C. Wiremold, Surface Mounted Multi Outlet:

1. Provide 1¼" minimum conduit from each surface wiremold to cable tray.

## PART 3 - EXECUTION

3.1 CONDUIT INSTALLATION

A. Install raceway components, sleeves, cabinets, etc., in accordance with requirements of this specification.

B. Provide one 1" conduit from each wall outlet to cable tray. Horizontal string runs between wall rings are not allowed.

E. Building Management Systems will be fed via a dedicated 3/4" EMT conduit attached to the nearest communications cable tray. UCSB Facilities Management Services shall be contacted for appropriate panel selection.

F. Each installed conduit will require a pull string rated at 200 lbs. or greater in place and tied securely at each end.

G. All conduit routing from Voice/Data Combination, Telephone Only, Television Only or special outlet location must be attached and grounded to the cable tray. All conduit shall be reamed to eliminate sharp edges and protective plastic bushings shall be installed on the conduit at both ends.

H. No conduit segment shall contain more than 270° cumulative bend angles between pull points or pull boxes.

I. The inside radius of a bend in conduit shall be at least six times the internal diameter. When the size is greater than 50mm (2-inch), the inside radius shall be at least ten times the internal diameter of the conduit.

3.2 Work Station Wire and Termination

1. All cables and jacks shall be installed and tested according to the current TIA/EIA-568-B Standard (with Addendums). Current Standard and Addendums are defined in the May, 2009 release of Global Communications TIA/EIA-568-B-1,-2 and -3 Addendums

2. Three (3) four-wire Category 5e cables shall be placed to each workstation from the serving 'TELE' or "DATA" Room (Terminal Room 2202) via existing or new conduit and existing cable tray. This grouping of three cables and jacks will be referred to as one "package" throughout these plans. The specific sub-terminal to be used will be identified by the University's Representative.

3. The cables are provided in three distinct sheath colors which shall be placed and terminated by the Contractor to provide a uniform installation for "VOICE", "DATA 1" and "DATA 2" jacks in both the workstation and sub-terminal patch panels.

4. All cables shall be terminated on the Category 5e rated jacks with integrated 110-type connectors using the 568-A configuration for pair termination.

5. All Category 5e-rated, RJ-45 jacks shall fit in a standard EIA-defined RJ-45 opening in the wall or wiremold insert plates. No proprietary jacks or wall plates with manufacturer-unique physical profiles or configurations shall be used.

6. All jacks shall be tested for conformance or exceeding performance specifications for the TIA/EIA-568-B Standard. All test results shall be down-loaded directly from the contractor test

instruments or the removable memory chip used to record the tests results, onto a University-identified workstation.

7. All workstation jacks shall be identified as "VOICE", "DATA 1" and "DATA 2" accompanied by a unique identifier for the room and wallplate and this identification repeated at the attached patch panel. All labeling shall be consistent with the existing wiring identification scheme in use in Building 235.

3.3 Materials for Workstation Wiring:

1. All workstation cabling shall be Enhanced Category 5e 4-pair plenum cable with specification bandwidth to 350MHz. Cable shall be provided in three colors - white, blue and gray to facilitate identification of "Voice", "Data1" and "Data 2". Acceptable products include AMP 57825-x; Hubbell UTP Cat 5e C5ESPXX; Belden DataTwist 3600, or equal.

2. Workstation insert RJ-45 jacks shall be Category 5e -rated and color-coded white, blue and gray to facilitate identification of "Voice", "Data1" and "Data 2". Acceptable products include AMP 1375191-x; Hubbell NEXTSPEED HXJ5Exx; Belden Key Connect AX1013xx, or equal.

3. Workstation wall places shall be white, single-gang or two-gang high-impact plastic with 3 or 4-port RJ-45 standard openings. A fourth opening shall be filled with a manufacturer-supplied insert blank. Acceptable products include AMP 83935-3 (white); Hubbell IFP IFP13xx or Multimedia NSP13xx or NSP24xx Belden; wall plates or equal.

3.4 Materials for Sub-Terminal Patch Panels (if required)

1. All workstation cabling shall terminate directly on individual jacks within patch panels in the communications sub-terminal. The individual jacks within patch panels are TIA/EIA-568-B Category 5e rated with 110-type wire termination strips supporting the 568-A pair configuration punch down.

2. The three RJ-45 Category 5e jacks on the wall plate will be mirrored on three separate patch panels located in the serving communications sub-terminal. If the number of new cable packages (3-Cat5e) exceeds available capacity of the existing patch panels, the contractor shall provide three (3) patch panels and install them with existing patch panels to maintain the consistency of the "VOICE", "DATA1" and "DATA2" cable break-out and numbering scheme existing in the serving terminal. The contractor may ask the Owner's Representative for permission to consolidate the groups of three jacks in a single 19" patch panel. The Owner's Representative is solely responsible for the decision to consolidate the number of required patch panels.

3. Each jack on the patch panel will mirror the labeling information of the corresponding work station jack -"VOICE", "DATA 1" and "DATA 2" jacks

4. If required, new patch panels shall be 24-port and 48-port panels for 19" racks provided as 24 and 48 RJ-45 jack openings for insertable jacks.

5. Acceptable products include black AMP NetConnect 5e SL Series 24-port 1U 1479154-2; AMP 48-port black 2U 1479155-2; Hubbell UDC48E or equal.

6. If new patch panels are provided without RJ-45 insertable jacks, the contractor shall provide, from the same manufacturer, the RJ-45 jacks. These jacks shall be Category 5e -rated and color-coded white, blue and gray to facilitate identification of "Voice", "Data1" and "Data 2". The jacks for wall plates and patch panels shall be of the same manufacturer part number and three colors. Acceptable products include AMP 1375191-3(white), -4(gray) and -6(blue); Hubbell NextSpeed HXJ3-W (white) –GY (Gray), -B (Blue); or equal

3.5 Testing

A. The Contractor shall conduct acceptance testing on 100% of the cabling segments installed under this agreement.

B. Any test that does not show that a component is satisfactorily installed, as per these specifications, shall be repeated at no additional cost to the University.

C. All outlets, cables, patch panels and associated components shall be fully assembled and labeled prior to testing. Any testing performed on incomplete systems shall be redone on completion of the work.

D. Provide the University's Representative with the opportunity to witness all testing. On reasonable request, the Contractor shall demonstrate that the test procedure competently identifies the fault conditions being tested for.

E. Complete all of the tests identified in these specifications.

F. Notify the University's Representative at least five (5) working days before the scheduled date of commencement of the cable tests. Provide details in writing, on that advance date, of proposed tests, the test schedule, equipment to be used, its certification and calibration and the names and qualifications of test personnel.

G. Personnel shall be competent in and qualified by experience or training for comprehensive TDR and OTDR operation and troubleshooting, for both copper and optical fiber testing.

H. Ensure that all test equipment is in calibration before delivery to site and throughout testing period. Documentation of most recent calibration shall be provided to University Representative prior to start of testing. The Contractor shall be responsible for ensuring that any necessary tests and rework to maintain equipment's calibration status is carried out. Any tests performed on test equipment without accurate calibration shall be repeated at the Contractor's cost.

I. University's Representative has the right to observe and verify all re-tests. If the University's Representative wishes to exercise this right, Contractor and University's Representative will develop a mutually agreeable, reasonable re-test schedule.

J. Failures detected during the testing shall be retained in the original record of testing for future tracking of correction and re-testing. If, on submittal of the construction record documentation, there are any missing test results or incorrectly named files, the test shall be repeated at the Contractor's expense.

K. Rectification of all damaged cables shall include replacing damaged cables with new cables in complete runs, replacing damaged connectors or remaking poor terminations. In-line cable joints, splices or distribution points will not be acceptable except where specified in this document. All

damaged cables shall be removed from site.

L. All measurements shall be recorded within the testing instrument and downloaded directly into the University's cable database. The test machine or memory card may be submitted for download. The University's Representative will coordinate the download for the test equipment used by the Contractor. NO HARDCOPY or transferred CD or DVD or tape of the measurements will be accepted.

3.6 Category 5e Cable Testing

It is required that all UTP horizontal station cables be Permanent Link tested with a Level IIE or later tester for full compliance with TIA/EIA 568-B.1 and B.2, (to include all current addendums) Category 5e specifications, regardless of intended use. In addition to the testing, perform out the inspections listed below on every Category 5e cable.

A. Test each Category 5e and associated connectors. The Contractor shall provide test results for all conductors of each cable demonstrating that the cable meets or exceed all parameters of TIA/EIA certification testing.

B. Verify that the jack identification number is identical for the jacks at the workstation wall plate and at the corresponding patch panel jacks to be tested.

C. Verify that factory pair twists are maintained within .50" or less of termination point.

D. Verify that a mechanically sound connection exists for each wire at each of the attached terminations on an RJ-45 jack.

E. Verify correct mapping of all eight (8) wires at each RJ-45 termination of the cable.

END OF SECTION