



Midpeninsula Regional
Open Space District

R-15-01
Meeting No. 15-01
January 14, 2015

AGENDA ITEM 12

AGENDA ITEM

Construction and Demolition Waste Diversion Policy

GENERAL MANAGER'S RECOMMENDATION

A handwritten signature in black ink, appearing to be "G. G. G.", written over the printed text of the recommendation header.

Approve the new Construction and Demolition Waste Diversion Policy, as reviewed and revised by the Planning and Natural Resources Committee.

SUMMARY

The goal of the Construction and Demolition Waste Diversion (C&D WD) Policy is to establish capital project guidelines for contracted construction and demolition projects to divert 100% of all recyclable materials away from landfills, the minimum of which is described in Exhibit 2, Section 2 of this policy. Exhibit 2 may be updated administratively by the General Manager from time to time to include materials that become recyclable.

BACKGROUND

The Midpeninsula Regional Open Space District (District) has conducted multiple demolition projects in the past year and will be completing more demolition and construction projects in the future. Past projects have included contract requirements for waste diversion on a project to project basis. Rather than continuing with this approach, the Board recently directed the General Manager to draft a waste diversion policy for Board consideration that reflects the District's mission of environmental stewardship and ensures that all capital projects involving contracted demolition or construction work consistently adhere to Board-approved policy guidelines.

At this time, California Special Districts are not required to comply with specific C&D WD requirements. State law AB 939 mandates cities and counties to divert 50% of all solid waste, not just C&D debris, and requires each city and county to prepare a Waste Management Plan. AB 341 raises the goal to source-reduce, recycle, or compost 75% of solid waste generated by 2020.

As part of the background research for the development of a draft C&D WD policy, other open space districts, cities, and agencies were contacted. Some agencies have no ordinances, policies or practices in place; others require the diversion of a specific percentage of C&D waste. Furthermore, the LEED (Leadership in Energy and Environmental Design) green building certification program credits one point to projects that achieve 50% diversion and two points for 75% diversion based on total weight or volume. LEED has various levels for certification, from a minimum of 40 points for a "certified" project to 80 points for a "platinum" rated project. The

County of San Mateo requires that C&D projects recycle 100% of inert solids and 50% of remaining project waste. Currently, the County of Santa Clara does not have a C&D WD policy.

DISCUSSION

Limitations on Using Minimum Percentage Requirements

Most local jurisdictions that possess a C&D WD policy utilize a “minimum percentage” diversion requirement that is calculated by either total weight or volume. Only a few District projects generate large quantities of heavy waste (e.g. asphalt or concrete removal) that would be able to meet minimum percentage requirements for waste diversion as measured by weight. Most District demolition projects involve basic wood structures with minimal foundations. Wood that is stained or painted cannot be recycled, making it difficult to reach the “minimum percentage” requirement as measured by either weight or volume. Moreover, given that most structures on District lands tend to be from the 1930s-80s, it is typical to find lead-painted and asbestos-containing materials throughout these structures, further limiting the District’s ability to meet minimum percentage requirements. Debris that contains hazardous materials cannot be recycled. Given these real constraints regarding what percentage of the waste materials can actually be reused, salvaged, or recycled, setting minimum waste diversion percentages for District projects may not be suitable or practical for the District. Another drawback to establishing minimum thresholds for diversion is that these requirements do not address the potential for *onsite* salvage or re-use of materials because these requirements measure compliance by the quantity (or volume) of materials that are *hauled off-site* to recycling facilities.

Recommendation

The goal of the District C&D WD policy is to support the District’s regional environmental stewardship efforts by diverting as many materials from landfills as possible. Rather than setting minimum percentage requirements for projects, the District C&D WD policy proposes a simple and sustainable approach for evaluating each site independently to ensure that the maximum amount of waste is diverted from the landfill.

BOARD COMMITTEE REVIEW

Following review and discussion of staff’s proposed District C&D WD policy, the Planning and Natural Resources Committee (Committee) recommendation is to divert 100% of all recyclable materials, the minimum of which is described in Exhibit 2, Section 2 of this policy. The Committee further recommended that Section 2 of Exhibit 2 of the District C&D WD policy be administratively amended from time to time to ensure it remains updated to reflect advances in recycling and salvage opportunities, with the ultimate goal to divert additional salvaged items, as feasible. The Committee also recommends that, where applicable, the District identify sites where there are items with high salvage value, and expedite cleanup and demolition projects to facilitate salvage of these materials before they deteriorate beyond salvage value.

FISCAL IMPACT

Adoption of a District C&DWD policy should not have an impact on project costs, since it is more costly (in the Bay Area) to send debris to the landfill than it is to send debris to a waste handling facility for recycling. The proposed C&DWD policy would promote 100% diversion of all recyclable materials, and would require project managers to obtain a separate cost for the

salvage of any other materials on a project by project basis to evaluate the fiscal impact of any additional waste diversion costs.

PUBLIC NOTICE

Public notice was provided as required by the Brown Act.

CEQA COMPLIANCE

The proposed policy is not considered a project under the California Environmental Quality Act (CEQA). Future construction and demolition projects will be evaluated for CEQA compliance prior to implementation.

NEXT STEPS

Upon approval by the Board, the District's Board Policy Manual will be updated with the new policy and the policy would be put into effect.

Attachment

1. Draft C&D WD Policy

Responsible Department Head:

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Prepared by:

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Midpeninsula Regional Open Space District

Board Policy Manual

Construction and Demolition Waste Diversion	Policy X.XX Chapter 4 – Acquisition and Maintenance of District Lands
Effective Date:	Revised Date: Not applicable
Prior Versions: Not applicable	
Attachments: 1 - Construction Demolition Waste Diversion Worksheet 2 - Definitions, Materials Identification & Waste Diversion Strategies 3 - Construction Demolition Waste Diversion Policy Resource Directory 4 - Sample District waste handling specifications	

Purpose

The goal of the Construction and Demolition Waste Diversion (C&D WD) Policy is to establish capital project guidelines for contracted construction and demolition projects to divert waste away from landfills. Minimally, the goal for all contracted construction and demolition projects shall be to divert 100% of all recyclable materials.

Existing Policy

The District's "Policies Regarding Improvements on District Lands", last amended in 2007, requires preliminary Use and Management (U&M) Plans to consider the "cost and practicality of salvaging materials being removed" when the U&M plan proposes demolition.

Policy

For every contracted District Capital construction or demolition project, the following waste diversion guidelines shall be followed:

1. SURVEYS

Surveys shall be completed prior to the commencement of the project to identify existing conditions. Minimally these shall include:

- a. Hazardous Materials Surveys – to identify all hazardous materials.
- b. Historic Resource Evaluation – to evaluate potential historical significance on structures over 50 years old or containing known historical resources.
- c. Bat / Biological Surveys - to determine presence of bat roosting, bird nesting, woodrat nesting or any other wildlife. Also to determine the presence of any sensitive habitat or wildlife corridors in the area of the proposed project work.
- d. Plant Surveys – confirm whether the site has any trees or other plant communities that need to be protected. Also, identify any invasive species that might be present in the project area to ensure that project work does not further spread the invasive species around or off the site, and keep invasive species separated from the plant materials that are being recycled as mulch.

2. C&D WD EVALUATION FORM

Staff shall evaluate and document all the materials, fixtures and equipment at a site and determine the best diversion strategy for all items. (Refer to Attachments 1 & 2).

a. Fill out a project specific Structure C&D WD Worksheet (Attachment 1).

i. Construction Projects

1. List construction materials that will be used on site and describe what, if any, waste materials will be generated. Examples include:
 - a. Packaging - cardboard, styrofoam, plastics, paper products
 - b. Crates (unpainted wood pallets, crates and other packaging made of lumbered or engineered wood)
 - c. Scrap metal, wood
 - d. Excess concrete
 - e. Tile, brick trimmings
 - f. Drywall scraps
 - g. Roofing materials
 - h. All other materials (carpets, linoleum, sheet products, glass, laminates, etc.)
2. Indicate diversion strategy. Refer to Attachment 2 for a list of common diversion strategies, which include:
 - a. Salvage
 - b. Recycle
 - c. Reuse on site
 - d. Reuse off site
 - e. If uncertain, refer to Attachment 3, list of recyclers, waste handlers, salvage companies and demolition contractor who may be able to assist.
3. Include any pertinent comments related to the desired diversion strategy or constraints to implementing diversion for each material

ii. Demolition Projects

1. List all materials on site that will be demolished, including:
 - a. Trees, landscaping
 - b. Roads, patios, paving, flatwork
 - c. Roofing
 - d. Exterior enclosure – walls, paneling, stucco, brick
 - e. Interior finishes, flooring, wall paneling, etc.
 - f. Fixtures (lighting, plumbing)
 - g. Appliances
 - h. All other materials (carpets, linoleum, sheet products, glass, laminates, etc.)
2. Indicate diversion strategy. Refer to Attachment 2 for a list of common diversion strategies, which include:
 - a. Salvage
 - b. Recycle
 - c. Reuse on site

- d. Reuse off site
 - e. If uncertain, refer to Attachment 3, a non-exclusive list of recyclers, waste handlers, salvage companies and demolition contractor who may be able to assist.
3. Include any pertinent comments related to diversion strategy or constraints to implementing diversion for that material (for example, presence of hazardous materials.)

3. C&DWD SCOPE DOCUMENTS

- a. Include C&D WD requirements in the Project Scope and Contract Specifications (see sample specification, Attachment 4).

4. BOARD REPORT

Reference C&DWD strategies for each project as part of each Board report prepared for award of construction and demolition contracts. Include description of material salvage opportunities, any additional associated costs, and if applicable, reasons why 100% of recyclable materials cannot be recycled.

- * Attachments may be updated administratively to reflect changes and advances in recycling and salvage practices. The C&D WSD process outlined in the Policy would not be affected by updates to the Attachments. Any proposed revisions in the Policy shall be brought to Board for review and approval.

Project:		Preserve:	
<hr/>			
Material	Description	Diversion Strategy	Remarks

Construction and Demolition Waste Diversion

Attachment 2 Definitions, Materials Identification & Waste Diversion Strategies

1. Definitions

Waste Diversion The practice of directing waste away from landfills and into re-use, recycle or salvage opportunities.

Construction Waste Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes (but is not limited to) wood, concrete, drywall, masonry, roofing, siding, structural metal, wire, insulation, asphalt, and packaging materials.

Demolition Waste Building and site improvement materials resulting from demolition operations.

Hazardous Material Any material that is regulated as a hazardous material in accordance with 49 CFR 173, requires a Material Safety Data Sheet (MSDS) in accordance with 29 CFR 1910.1200, or which during end use, treatment, handling, storage, transportation or disposal meets, has components which meet, or have the potential to meet the definition of a Hazardous Waste in accordance with 40 CFR 261.

Debris Non-hazardous solid waste generated during the construction, demolition, or renovation of a structure that exceeds 2.5 inch (60 mm) particle size and is: a manufactured object; plant or animal matter; or natural geologic material (e.g. cobbles and boulders). A mixture of debris and other material such as soil or sludge are also subject to regulation as debris if the mixture is comprised primarily of debris by volume, based on visual inspection.

Inert solids Asphalt, concrete, rock, stone, brick, sand, soil and fines.

Remainder/Composite Inerts and Other Inerts and other material that cannot be put in any other type. This type may include items from different types combined, which would be very hard to separate. Examples include brick, ceramics, tiles, toilets, sinks, and fiberglass insulation. This type may also include demolition debris that is a mixture of items such as plate glass, wood, tiles, gypsum board, and aluminum scrap.

Remainder/Composite Plastic Materials that are made mostly of plastic but combined with other materials. These items are usually recognized by their optical opacity. Examples include auto parts made of plastic attached to metal, plastic drinking straws, foam drinking cups, produce trays, foam packing blocks, packing peanuts, cookie trays found in cookie packages, plastic strapping, foam plates/bowls, and new Formica, vinyl, or linoleum.

Deconstruction The process of careful demolition to remove materials in a manner that they remain intact for the purpose of salvaging the materials.

Salvage The recovery of intact demolition or construction materials for the purpose of reuse or storage for later sale or reuse in another facility.

Recycle Recovery of demolition or construction waste for subsequent processing (for example, grinding or melting) in preparation for re-use.

Re-Use The process of taking demolished materials and re-using (often in the same place of demolition) with minimal intervening processing. For example, concrete being broken up and buried on site as fill or wood being ground up and used as mulch.

Re-Purpose Removing demolition or construction waste and re-purposing for another use without any intervening processing. For example, wood siding being re-purposed as planter boxes.

Source (On-site) Waste Segregation The process of segregating demolition or construction waste materials on site (i.e: concrete, bare drywall, wood, steel) for offhaul to recycling facilities.

Comingled Waste Demolition or construction waste that is mixed together and brought to the recycling facility.

2. Construction & demolition waste materials typically diverted

Much of the waste materials derived through demolition or construction can be diverted from the landfill. Specific materials include:

Inert Materials Concrete, brick, stone, rock, asphalt paving, sand from demolished building slabs, sidewalks, walls, etc.

Metals All steel, aluminum, copper, bronze, tin, etc., found in scraps, piping, wiring, structural steel, partition framing, door and window frames, building siding or roofing.

Wood materials Any and all dimensional lumber, fencing or construction wood that are not chemically treated, creosoted, pressure treated, contaminated or painted.

Vegetative materials Trees, tree parts, shrubs, stumps, logs, brush or any other type of plants that are cleared from a site for construction or other use.

Roofing materials Wood shingles and shakes as well as asphalt shingles, stone and slate based roofing material.

Salvageable materials and structures Doors, windows, fixtures, cabinets, hardwood flooring, sinks, bathtubs and appliances, etc. (see Salvage below).

Miscellaneous recyclable materials Glass, carpets, plastics, linoleum, etc.

Salvage Typical salvaged materials include:

- Cabinets (kitchen, bath, built-in woodwork) that are in very good condition and/or have unique workmanship

- Appliances that are in new to almost new condition (older appliances are not energy efficient and are recycled)
- Hardwood flooring
- Wood panels – interior or exterior – if they are in very good condition or of unique material – for example, redwood
- Doors and windows in good condition
- Fixtures
- High value materials such as old-growth redwood

3. Waste Diversion Strategies

Concrete

- Can be broken down on site, to approximately 12” or less (12” minus) and utilized as fill material to fill voids / holes / vaults on site.
 - 12” minus materials should be used in 24” lifts and compacted.
 - If 12”-minus is used to fill large areas, or as part of fill for grading and re-contouring, a geologic engineer should be consulted.
- Can be shipped offsite to a recycling facility to be ground up for use as class 2 baserock material.
- If the project is large, a concrete grinder can be brought onto the site and the concrete can be ground onsite and either re-used as class 2 fill or shipped offsite to be re-purposed as class 2 fill at another relocation
- NOTE: Painted concrete must have lead content evaluated; contractor shall conduct waste profiles to determine if concrete painted with lead paint can still be recycled or re-used (buried) on site.

Masonry / Brick / Stone

- Most masonry is difficult (if not impossible) to deconstruct and salvage intact.
- Most masonry can be sent to a recycling facility and crushed.
- On District sites where there are areas that can be filled, most masonry can be combined with crushed concrete and used as fill.
 - If large areas are to be filled or fill is to be used as part of grading and re-contouring, a geologic engineer should be consulted.
- NOTE: Painted masonry must have lead content evaluated; contractor shall conduct waste profiles to determine if masonry painted with lead paint can still be recycled or re-used (buried) on site.

Asphalt Paving

- Asphalt Paving can be demolished, removed from the site, and recycled for use in new AC paving.

Metals

- Can be source-separated on site and sent directly to a metals recycler or be comingled and sent to a recycling / waste handling facility that accepts, separates and recycles the materials.
- Typically metals can be painted, even with lead based paint, and still be recycled.

Wood Materials

- Wood materials should be evaluated for potential salvage value. If there is potential salvage value, wood materials should be carefully removed or deconstructed to salvage intact.
 - Typical wood items that *may be suitable** for salvage include:
 - Large dimensional lumber (beams, posts)
 - Hard wood flooring
 - Wood windows
 - Wood cabinetry
 - Wood siding / paneling

*Suitability should be evaluated. If hazardous materials survey indicates there is lead paint on wood, it shall not be salvaged due to concerns of potentially hazardous materials being funneled back into the marketplace.

 - Wood framing members cannot be reused for framing, as they are not graded. Unless the wood framing is exceptionally unique (for example, redwood) there is little actual value in salvage.
 - Wood that is not painted or treated can be recycled and made into a variety of mulch products.
 - Wood can be source-separated on site and transported to a recycling center or be co-mingled and sent to a recycling site that separates demolition debris for recycling.
 - Wood can also be ground on site and used as mulch to aid in site stabilization and erosion control.
 - Wood materials can be grounded for mulch with tree and vegetation materials as long as there are no invasive weed concerns.
 - Thickness and location of mulch should be discussed with District biologist.

Trees / Plant Materials

- Trees and other plant materials removed from the site for a construction or demolition project can be recycled with other wood products.
- Care shall be given to ensure that no invasive weeds are recycled.
- Invasive plants may need to be removed or treated in compliance with the District's Integrated Pest Management program.

Salvage Strategies

Salvage of materials can be difficult and costly, as it usually requires careful deconstruction, often by hand. District construction contracts require contractors to pay prevailing wage, and the result may be that salvage of materials could be considerably more expensive than recycling the material. Often, materials that have incurred costly labor-hours to salvage ultimately end up being recycled. Therefore, clear identification of the salvage potential of any materials is critical. The following outlines steps for identifying the potential salvage of items slated for demolition:

1. In filling out Exhibit 1, identify any materials, appliances, fixtures, cabinetry, etc., that may have salvage value.
2. Photograph items, and e-mail photos to a minimum of two salvage companies to obtain their opinion as to the potential salvage value of the items.
3. If the items have a clear strong salvage value (gauged by response from salvage companies interested in the materials), staff may opt to follow one of the two following options:
 - a. Prepare a separate Request for Quotes for Salvage of items.

- i. Salvage work must be evaluated against remediation work required. If any of the salvage work could disturb hazardous materials, then the hazardous materials remediation must take place before salvage operations.
 - ii. Salvage, remediation and demolition work shall be managed as separate contracts.
 - b. Include salvage requirements within the construction or demolition bid package
 - i. Place the responsibility for salvage of materials on the contractor.
 - ii. Invite salvage companies/subcontractors to attend the pre-bid meetings and have them submit their bids to the prime contractors for inclusion with the bid packages.
 - iii. This approach transfers coordination of salvage work to contractor.
- 4. For all salvage activities, the salvage company shall identify the end use for the salvaged item(s). Minimally salvage company shall issue a letter stating:
 - a. Which materials will be salvaged;
 - b. Where the salvaged materials will be taken;
 - c. What the salvaged materials will be used for; and,
 - d. Confirmation that the salvaged items shall be retained, in their intact state, and will not be recycled.
 - e. Acknowledgement that receipts shall be provided for the off-site disposition of the salvaged materials.

**Construction Demolition Waste Diversion Policy
Resource Directory***

Company Name	Discipline	Contact	E-mail	Phone	Communications / Info
Reuse Network City of Palo Alto	PM / Expeditor for Salvage Projects Jurisdiction / City Planner	Lorenz Schilling Scott McKay	lorenz@reusenetwork.org	562-307-6065	Planner who enforces City-mandated deconstruction for single family homes 501.c.3 non-profit, do deconstruction 7 salvage. Do not do prevailing wage projects. Can work as sub to prime contractor.
The Re Use People	Salvage Company / Deconstruction / Non-profit		info@TheReUsePeople.org	510-383-1983	
Driftwood Salvage	Salvage Company	Same as Wholehouse Building Supply & Salvage			Non-profit retail store that sells salvaged and donated items
Habitat for Humanity	Re-store / Salvage Retailer			650-847-4000	
Green Earth Appraisals	Appraisal for deconstruction/Salvage	David Xepoleas	info@greenearthappraisals.com	650-455-6683	Specialize in old growth redwood, large timbers and large slabs of lumber.
Firewood Farms	Salvage Company	James Harper		650-726-1702	
WholeHouse Building Supply & Salvage	Salvage Company; demo contractor; Non profit		gardner@batnet.com	650-558-1400	Same as Driftwood Salvage - appears to do demolition, appraisals, salvage, and have a non-profit for raising funds for east Palo Alto.
Rebuild Green Makoni Construction	Deconstruction Contractor Deconstruction Contractor	Roderick Cooper Lisi Makoni	rebuildgreen@gmail.com lisi@makonideconcompany.com	650-670-5907 650-533-2124	Local large recycling center; has demolition waste line that sorts & separates co-mingled waste from demolition/construction projects
Zanker Road resource Management	Waste Handling / recycling	Michael Gross	michael@zankerrecycling.com	408-263-2384	

*This directory is not comprehensive and may not include all available resources in the region; Listing herein does not imply any endorsement or guarantee of the listed entity.



Construction & Demolition Waste Diversion

Attachment 4

**SECTION 01115 HANDLING, TRANSPORT AND DISPOSAL OF CONSTRUCTION
DEBRIS**

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SECTION 01115

HANDLING, TRANSPORT, AND DISPOSAL OF CONSTRUCTION DEBRIS

PART 1 -GENERAL

1.1 SUMMARY

A. This Section of the Specifications to specify project requirements for:

1. Handling, transport, and disposal of building and site materials as construction debris that do not contain asbestos, lead, or other hazardous materials.
2. Handling, transport, and disposal of building and site materials as construction debris that contain asbestos and/or lead.
3. Handling and storage of all construction debris after its removal.
4. A waste-stream diversion plan for all non-hazardous materials.
5. Transportation of all construction debris.
6. Disposal of all construction debris.
7. Additional procedures related to the handling, transport, and disposal of hazardous materials are described in Specification Section 01110.

B. Additional sampling and analyses to the extent required by the disposal facility is the responsibility of the Contractor. Contractor shall be responsible for all costs and schedule impacts associated with additional sampling requirements.

C. The Contractor is solely responsible for Source-Separation and shall not permit construction debris which is intended to be disposed of as non-hazardous waste to be commingled with hazardous substances or hazardous materials. The District will not pay any additional costs the Contractor incurs if construction debris designated to be disposed of as non-hazardous waste is commingled with hazardous substances or hazardous materials.

D. The Contractor is solely responsible for the handling, storage, transportation, and disposal of all construction debris in strict accordance with applicable Federal, State, regional, and local statutes, laws, regulations, rules, ordinances, codes, and standards.

E. The Contractor shall develop and implement a waste-stream diversion plan for all materials that are not classified as hazardous waste. This may include recycling, salvage, or re-use of the materials on site.

1.3 REGULATORY REQUIREMENTS

A. See REGULATORY REQUIREMENTS Section.

B. Compliance with regulatory requirements:

1. Perform all handling, storage, transportation, and disposal of construction debris in compliance with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances.
2. Obtain all Federal, State of California, State in which disposal facility is located if not in California, regional, and local permits and any other approvals from agencies and authorities required to perform the Work.
3. Submit all required notifications to Federal, State of California, and local agencies with regulatory responsibilities associated with the work activities that are included in the project. All notifications shall be served in the form required by the agency requiring notification, and in a timely manner so as not to negatively impact the project schedule. Submit copies of all notifications as actually served to agencies to the District.

1.4 LICENSES

A. Licenses:

The Contractor shall be currently licensed by the State of California to perform demolition work, and removal, handling, storing, and transportation of construction debris, and shall also maintain current any additional registrations and certifications required by Federal, State of California, regional, or local governmental or quasi-governmental agencies, or other entities having jurisdiction.

1.5 SUBMITTALS

A. Submit copies of current valid permits required by Federal agencies, the State of California, and regional and local regulations, including arrangements for storage and transportation of asbestos containing materials, lead containing materials, PCB containing materials, and other hazardous waste materials.

B. Pre-demolition construction debris characterization:

1. Prior to demolition work the Contractor shall complete material sampling and material characterization, and shall establish the physical characteristics of the various waste streams the Contractor will generate.
2. Prior to any demolition work the Contractor shall obtain preliminary letters of commitment from disposal facilities based on the physical characteristics of the various waste streams the Contractor will generate.
3. Demolition work shall not commence until the District has reviewed the results of the physical characteristics of the various waste streams the Contractor proposes to generate and the preliminary letters of commitment from disposal facilities.

C. Characterization of waste generated by demolition:

1. While executing demolition work the Contractor shall undertake material sampling and material characterization to verify that the physical characteristics of the waste from demolition work is similar to the waste streams the Contractor identified in the Contractor's pre-demolition waste characterization.
2. If the sampling and waste characterization during demolition work indicates that the various waste streams being generated are substantially different from those the Contractor submitted for pre-demolition waste characterization, the Contractor shall:
 - i. Temporarily stop work;
 - ii. Inform the District;
 - iii. Undertake additional material sampling and material characterization to establish the revised physical characteristics of the various waste streams the Contractor will generate, and;
 - iv. Inform the proposed disposal facilities of the revised physical characteristics of the waste streams the Contractor is generating, and obtain new letters of commitment from disposal facilities.

D. Waste-Stream Diversion.

The Contractor shall prepare a waste-stream diversion plan describing how all non-hazardous demolished materials will be handled. Waste-stream diversion plan (WSDP) shall list all materials that will be sent to the landfill, with an explanation of why they cannot be recycled or salvaged. Contractor shall provide receipts for all materials disposed of offsite including a certified recycling center or salvage company.

- On-site recycling: concrete and concrete block may be re-used on site as fill (if material is painted characterization is required). Un-treated wood can be ground and used as mulch.
- Off-site recycling: Contractor is required to recycle 100% of all concrete, non-treated wood, steel, metal, appliances, and cabling.
- Salvage: Contractor shall explore any opportunities for salvage of materials. If salvage of materials is proposed, WSDP shall indicate what items shall be salvaged, and where they will be transported to.

E. Disposal facilities compliance and commitment: Prior to off-site transport of any construction debris, submit copies of letters of commitment from all proposed disposal facilities. Each letter shall state the following:

1. Confirmation that the facility and its operations are in compliance with all Federal, State in which the disposal facility is located, regional, and local requirements.
2. Confirmation that the facility has reviewed applicable material characterization reports and is licensed to accept the materials, and will accept the materials proposed for disposal at the facility.
3. Any restrictions of the disposal facility that may cause rejection of transported materials.
4. Additional sampling and characterization of materials required prior to delivery of materials to the disposal facility.

5. Any restrictions on delivery schedules.
6. Full disclosure concerning any existing, imminent or pending corrective action programs which may impact the ability of the facility to accept materials from the Project Site during performance of this Contract.

F. Submit copies of all manifests, weight receipts, material analyses, waste profiles, disposal facility receipts, and all other documents and records pertaining to the sampling, characterization, transport, and disposal of all construction debris required to be removed and disposed of in accordance with the requirements specified in the Contract Documents.

G. Review by the District of the above required submittals is intended only to be for general conformance with the requirements of the Contract Documents. The District assumes no responsibility for permits, licenses, notices, materials and methods, equipment, or temporary construction required to execute the Work. The implementation of these procedures is the sole responsibility of the Contractor.

1.6 HEALTH AND SAFETY

A. The Contractor shall determine the level of hazard resulting from actual conditions at the work site, and shall ensure that safety procedures employed and protective gear provided to workers are appropriate for the conditions and in compliance with all applicable regulations and standards

B. The Contractor shall provide protection for personnel in accordance with the Contractor's Health and Safety Plan, in compliance with all OSHA and all other Federal, State of California, regional, and local statutes, laws, regulations, rules, and ordinances, and take all additional precautions necessary to safely execute the Work.

C. Enforcement of personnel protection requirements and compliance with NIOSH and OSHA requirements are the sole responsibility of the Contractor.

D. The Contractor shall comply with applicable OSHA CCR requirements.

E. EPA and CAL-EPA requirements:

1. The contractor is solely responsible for compliance with all applicable EPA and CAL-EPA statutes, laws, regulations, rules, and ordinances relating to waste disposal.
2. Waste from demolition and abatement activities must be evaluated for the Resource Conservation and Recovery Act (RCRA) Toxicity Characteristics. The contractor shall comply with RCRA requirements as defined in Subtitles C and D, and other State of California waste management requirements.

F. During all phases of work Contractor shall comply with all applicable sections of State of California Code of Regulations (CCR), Industrial Safety Orders (Title 8), as well as Federal and State of California Occupational Safety and Health Administration (OSHA) regulations, including the Hazardous Waste Operations and Emergency Response regulation (Title 8, Section 5192 and 29 CFR 1910.120).

1. Prior to commencement of any work, the Contractor shall instruct all workers regarding the hazards involved in removal of each specific building material, and ensure that all

workers are properly trained in the methods and work procedures to be employed and in the operation of all equipment to be used.

2. The Contractor shall provide all workers with appropriate protective clothing, including appropriate headgear, non-skid foot coverings, gloves, and respiratory protection as required in this Section of the Specifications, other Sections of the Specifications, and the requirements of applicable Federal, State, regional, and local statutes, and laws.

PART 2 - PRODUCTS

(not used)

PART 3 - EXECUTION

3.1 HANDLING OF CONSTRUCTION DEBRIS

A. Accomplish all demolition and removal with the minimum production of airborne dust and debris.

B. Monitor airborne dust/particle emissions as required to comply with all applicable regulations and standards. If monitoring indicates that emissions exceed those allowed by applicable regulations and standards, or the District's representative determines that emissions are greater than acceptable exposure levels (or standards), the Contractor shall modify removal methods and/or dust suppression methods as required to reduce emissions to an acceptable level.

C. Execute all work using equipment and methods that prevent the spread and/or migration of dust and flying particles and the accumulation of dust and/or debris on adjacent surfaces, adjacent materials, and/or adjacent property.

D. Remove materials using methods that will minimize splintering, shattering and creation of dust and fine debris. Do not permit removed materials to drop on unprotected soil.

3.2 REQUIREMENTS FOR THE TRANSPORT OF CONSTRUCTION DEBRIS

A. Comply with all applicable Federal, State, regional, and local statutes, laws, regulations, rules, and ordinances regarding packaging, labeling, and transport.

B. Cover all trucks hauling construction debris to eliminate the emission of dust and airborne particulate matter.

3.3 GENERAL DISPOSAL REQUIREMENTS

A. Disposal facilities shall be in compliance with all applicable Federal, State in which disposal facility is located, regional, and local laws, rules, regulations or other entities having jurisdiction at the disposal facility.

B. Disposal of construction debris containing asbestos, lead, or other hazardous materials: In addition to the disposal requirements specified herein, comply with all Federal, State in which disposal facility is located, regional, and local laws, rules, and regulations regarding the disposal of construction debris containing asbestos, lead, or other hazardous materials. Applicable

regional and local laws, rules, and regulations shall be those of the governmental or quasi-governmental agencies, or other entities having jurisdiction at the disposal facility.

End of Section 01115