

SPECIFICATIONS FOR:



NC RESA Roof Replacement at Newday Center

PREPARED BY:



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APRIL 6, 2009

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Newaygo County Regional Educational Service Agency

Administrative offices
4747 West 48th Street
Fremont Mi. 49412
Phone: 231-924-8829

INVITATION TO BID April 6, 2009

The Board of Education of the Newaygo County Regional Educational Service Agency (NC RESA) has authorized the Administration to solicit Sealed Bids on:

Roof Replacement at Newday Center

LOCATION: 465 Clay Street
Newaygo Mi 49337

Sealed Bids must be received in the office of the NC RESA Administrative Building at 4747 West 48th Street, Fremont Michigan, 49412 on or before 2:00pm May 4th 2009. Bids must be mailed or delivered in person.

Bids must be marked "Newday Roof Replacement" on the face of the envelope and be addressed to:

**Newaygo County Regional Educational Service Agency
Ryan Ergang, Director of Operations
4747 West 48th Street
Fremont , Michigan 49412**

Bids must comply with the listed specifications. Questions on the bid may be directed to Ryan Ergang at 231-924-8825. Parties submitting bids will be notified of action taken as a result of their invitation to bid if desired.

The Board of Education reserves the right to reject any or all bids, in whole or in part, to waive any irregularities, and in general, to make the award in any manner deemed in the best interest of the district. Bids received after 2:00 pm on May 4, 2009 will be returned unopened. Bids will be publicly opened and read aloud beginning at 2:00 pm on May 4, 2009 at the NC RESA Administration Office.

INSTRUCTIONS TO BIDDERS

All bidders shall quote in conformance with the exact conditions and specifications outlined in this document.

BONDING

A bid bond in the amount of 5% of your bid **MUST** be provided with your bid. Bonds for all unsuccessful bidders will be returned upon award of the bid. A performance and labor bond may be required by the owner. Please list your cost for PLM bond separately on the bid sheet. **Do not include cost in your base bid.**

INSURANCE

The successful contractor shall provide proof of insurance to the purchasing agent as follows:

- A. Workman's compensation Insurance for all contractor's employees that work or supervise work at NC RESA.
- B. Public Liability and Property Insurance in the amount not less than \$500,000/Person, not less than \$1,000,000/Occurrence, and not less than \$1,000,000 Property Damage.

PAYMENT

Contractor shall invoice district for work when completed. Prior to acceptance, an inspection will be made by the owner's representative together with the contractor to insure that all work has been completed according to the specifications. Once owner approval is given, contractor shall invoice for work completed. The invoice will be paid within 30 days after receipt of invoice.

BID FORM

Fill in completely the attached bid form when submitting bid. Bid award will not be split between bidders.

CONTRACT FORM TO BE USED

The Agreement between the Owner and the Contractor will be AIA Document A101-1997, "Standard Form of Agreement Between the Owner and the Contractor Where the Basis of Payment is a Stipulated Sum", 1997 Edition, as bound herein.

PROJECT SCHEDULE/TIME COMPLETION

1. April 6, 2009 Invitation to bid released
2. May 4, 2009 Bids are due and will be opened at 2:00pm
3. May 12, 2009 Award of bid pending Board of Education approval
4. June 8, 2009 Available start date
5. July 24, 2009 Completion Date

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the bidder) pursuant to the familial disclosure requirement provided in the Newaygo County Regional Educational Service Agency for bids, hereby represents and warrant, except as provided below, that no familial relationships exist between the owner(s) or any employee of _____ and any member of the Board of Education of the Newaygo County Regional Educational Service Agency or the Superintendent.

List any Familial Relationships:

Bidder

Date

STATE OF MICHIGAN

COUNTY OF _____

This instrument was acknowledged before me on the _____ day of _____, 2009 by _____.

Notary Public

County, Michigan

My Commission Expires

Acting in the county of

BID FORM

(TO BE COPIED ON BIDDER'S LETTERHEAD)

TO: **Newaygo County Regional Educational Service Agency
Ryan Ergang, Director of Operations
4747 West 48th Street
Fremont, Michigan 49412**

PROJECT: **Roof Replacement at Newday Center**

LOCATION: **465 Clay Street, Newaygo, MI 49337**

DATE: **April 6, 2009**

The undersigned contractor, hereinafter called "BIDDER", having examined the site of the project and become fully informed concerning the local conditions, nature and extent of work, having examined all bidding documents and having examined the existing building proposes to furnish all services, materials and labor for construction of the above stated project, in full accordance with the Contract Documents for the sum of:

BASE BID: All labor and materials required to prep existing deck as required and provide new complete system to maintain manufactures warranty:

Total Price:..... Dollars (\$_____)

VOLUNTARY ALTERNATE BID: All labor and materials required to provide alternate project scope based on roofing manufactures recommendation to maintain portions of the existing roofing system, patch, repair and or replace as required to provide upgraded roofing system to maintain the total system warranty as outlined in the specifications.

Brief description of alternate bid Scope, including amount of area replacement:

Total Price Dollars (\$_____)

CONTRACTOR QUALIFICATION:

Roofing System Manufacturer: _____

Bid Bond: _____ Dollars (\$_____)

Performance Bond: _____ Dollars (\$_____)

The Bidder hereby agrees: (A) That this proposal shall remain in full force and affect for a period of one hundred twenty (120) days after the time of the opening of this proposal; (B) That in the event a Contract is awarded to this Bidder, he/she shall, within five (5) consecutive calendar days after notification of award, enter into a written Contract with the Owner in accordance with the accepted bid.

If awarded this Contract, the Bidder agrees to complete the work including all punch list items no later than _____ (insert date no later than the completion date indicated in this document).

Acknowledgement is hereby made of receipt of the following ADDENDA issued during the bidding period:

ADDENDUM NO. _____ Dated: _____
 ADDENDUM NO. _____ Dated: _____

In witness whereof, the Bidder has hereunto set his signature and affixed this _____ day of _____, 2009.

Company Name: _____

By: _____

Title: _____

Contractor's License No.: _____

LIST ALL SUBCONTRACTORS BELOW FOR THIS SPECIFIC PROJECT:

Trade Description	Subcontracted YES/NO	Subcontractor Company Name, Address, Minority Status:
Site Work		
Demolition		
Concrete		
Masonry		
Structural Steel		
Carpentry		
Roofing		
Doors/Windows		
Flooring		
Painting/Drywall		
HVAC		
UPS/Generator		
Electrical		
Other		

Comments or Clarifications:

----END OF BID FORM----

MECHANICALLY FASTENED SYSTEM

SECTION 1---GENERAL

INTRODUCTION

The following is the information required to install the Duro-Last Roofing System over metal roof systems. Each installation should be in compliance with the detail drawings, instructions, material descriptions, and other information stated herein.

REQUIREMENTS

1. The Duro-Last Roofing System must be installed by an authorized Duro-Last contractor.
2. The proper slipsheets must be installed between the Duro-Last membrane and the substrate.
3. A Duro-Last quality assurance specialist must inspect the Duro-Last Roofing System for compliance with the Duro-Last specifications before a commercial/industrial warranty will be issued.
4. All materials used in the installation of the Duro-Last Roofing System must be products of Duro-Last Roofing, Inc., or otherwise authorized products as defined and described in the specifications. Non-Duro-Last materials must be authorized in writing by the Duro-Last Engineering Services Department prior to being used in the Duro-Last Roofing System.
5. The Duro-Last contractor is responsible for following all applicable building, plumbing, and electrical codes.
6. Fastening for buildings that are located in high wind zones (110 mph±) and/or those equal to or greater than 40 feet (12 m) in height must be fastened 12 inches (.30m) on center maximum and have additional securement tabs spaced 28 inches (.7 m) on center. (The 10-Foot Tab System is not acceptable for installations on roofs in excess of 40 feet in height or located in high wind zones). For these and other special conditions, consult the DURO-LAST ENGINEERING SERVICES DEPARTMENT at 800-248-0280.

SECTION 2---QUALITY ASSURANCE

PRE-JOB INSPECTION

DECK ASSESSMENT

1. When re-covering a metal roof system, the authorized Duro-Last contractor or representative appointed by Duro-Last Roofing, Inc., will conduct an inspection of the proposed job site roof conditions, determine the needed fastener type and length, and note damaged areas to be repaired prior to installation of the Duro-Last Roofing System.

PULL TEST

1. Fastener pull-out tests must be conducted on the metal roofing panels and/or roof structure supports with approved fasteners to verify the integrity of the metal roofing panels and/or roof structure supports and to establish fastening pattern limits which meet Duro-Last specifications. Contact the DURO-LAST ENGINEERING SERVICES DEPARTMENT at 800-248-0280 with any questions.
2. Pull-out tests must be taken on-site by the fastener manufacturer, the Duro-Last contractor or the Duro-Last sales representative. The sections of metal roofing where integrity is most in question should be the locations for the tests. Pull-out tests must not be conducted on metal panel overlaps. Values must be documented on a roof drawing locating the test pulls and pull-out test values. The number of pull tests required will be as follows: perform a minimum of 10 pull tests for up to 50,000 sq. ft. and five additional pull tests for each additional 50,000 sq. ft. or portion thereof on each project with a minimum of 5 pull tests per roof level.
3. Areas of low pull test results will require additional pull tests. When installing the Duro-Last membrane over light gage metal with low pull-out values, a mock assembly should be installed to ensure that the fastener is drawn into the stress distribution plate without stripping (popping) out the

metal panel. In the event that the metal panel strips out, membrane fastening to the purlins may be required. Contact the DURO-LAST ENGINEERING SERVICES DEPARTMENT at 800-248-0280 with any questions.

FASTENER SELECTION

This section is to provide the basis for the decision on type of fastener and fastener spacing required for the application of the membrane on a prepared surface. Contact the DURO-LAST ENGINEERING SERVICES DEPARTMENT at 800-248-0280.

1. Light Gauge Metal Decks:
 - Duro-Last HD Fasteners (#14 Screw)
 - Duro-Last XHD Fasteners (#15 Screw)
2. Wood Truss:
 - Duro-Last HD Fasteners (#14 Screw)
3. Metal Purlins:
 - Purlin Fastener

FASTENER SPACING TABLE METAL ROOF PANEL, PURLIN, OR WOOD TRUSS

60 lbs./square foot Design Table (Field Area Only)	Pull-out Result (pounds)	Tab Spacing Inches (meters)	Fastening Spacing Inches (meters)
	600	120 (3.04m)	12" (.30m)
	450	120 (3.04m)	9" (.22m)
	300	120 (3.04m)	6" (.15m)
	450	60 (1.52m)	18" (.45m)
	375	60 (1.52m)	15" (.38m)
	300	60 (1.52m)	12" (.30m)
	225	60 (1.52m)	9" (.22m)
	150	60 (1.52m)	6" (.15m)
	210	28 (.71m)	18" (.45m)
	175	28 (.71m)	15" (.38m)
	140	28 (.71m)	12" (.30m)

90 lbs./square foot Design Table (Field Area Only)	Pull-out Result (pounds)	Tab Spacing Inches (meters)	Fastening Spacing Inches (meters)
	900	120 (3.04m)	12" (.30m)
	675	120 (3.04m)	9" (.22m)
	450	120 (3.04m)	6" (.15m)
	450	60 (1.52m)	12" (.30m)
	350	60 (1.52m)	9" (.22m)
	225	60 (1.52m)	6" (.15m)
	325	28 (.71m)	18" (.45m)
	275	28 (.71m)	15" (.38m)
	225	28 (.71m)	12" (.30m)
	175	28 (.71m)	9" (.22m)

NOTE:

1. Light Gauge Metal Decks: Fasteners must penetrate into the decking a minimum of 1 inch (25mm) from the top surface of the decking.
2. Purlin Supports: All fasteners must penetrate a minimum of 13/4 inch (44mm) from the top of the purlin when using Duro-Last purlin fasteners.
3. Wood Truss: All fasteners must penetrate a minimum of 1 inch (25mm) from the top surface of the truss with approved Duro-Last fasteners.

Membrane fastening on buildings in high wind zones and on all Factory Mutual-insured buildings require special field, perimeter, and corner fastening. The width of the perimeter area is determined by the lesser of .4 times the height to the eaves or .1 times the width of the roof area. The perimeter must never be less than 4 feet wide. Factory Mutual specified buildings require the membrane fastening to be attached to the purlin framing. Contact the Duro-Last Engineering Services Department at 800-248-0280 for additional design information.

SECTION 3---IMPLEMENTATION

SUBSTRATE PREPARATION

1. RE-COVER

2. The metal roof panel must be clean, smooth, free of sharp edges and loose foreign material. Damaged areas and other factors affecting the installation of the Duro-Last Roofing System must be repaired prior to the installation of the membrane.
3. A metal roof panel must be separated from the Duro-Last membrane by at least a 1/2-inch (13 mm) hardboard (gypsum, plywood, or oriented strand board) or 1 inch (25 mm) rigid insulation.

INSTALLATION

WOOD NAILER

1. Wood nailers must be #2 Grade lumber or better, and must be fastened to the metal roof panel, wall or existing secured nailer in such a manner that they resist 180 lbs. (2,643N/M) of force per linear foot of nailer in any direction. Fasteners used to attach wood nailers must be spaced no greater than

12 inches (.31 m) apart. Wood nailers are required at the roof perimeter edge when 1/2 inch (13 mm) of insulation or greater is added. The top of the nailers must be flush with the top of the insulation. Wood nailers are not required at a change of plane such as the intersection between a parapet wall and the metal panels.

INSULATION SELECTION AND INSTALLATION

1. Flute filler material must consist of expanded polystyrene, extruded polystyrene or polyisocyanurate insulation. Flute filler must be mechanically-attached to hold in place. Duro-Last fasteners and Duro-Last plates are required for attachment of all flute filler products.
2. Insulation/recover board must be neatly fitted to the roof deck and its penetrations. 4' x 8' boards must have five fasteners/distribution plates. The insulation/recovery board must be the minimum thickness required by Duro-Last to span any gaps between the flute filler and the center of the rib. No gap between insulation/recovery boards should exceed 1/4-inch (6 mm) in width. No more insulation/recovery board will be installed than can be covered with membrane and completed before the end of the day's work or before the onset of inclement weather. Duro-Last fasteners and Duro-Last plates as well as approved fastening patterns are required for attachment of all insulation/recovery board. Contact the DURO-LAST ENGINEERING SERVICES DEPARTMENT at 800-248-0280 with any questions.
3. High density wood fiber board is acceptable on metal building recovers when the building slope is 1 inch vertical for every 12 inches horizontal or greater. High density wood fiber will not be accepted as flute filler.
4. The minimum compression characteristics of insulation products as determined by ASTM D-1621 must be as follows:
 - Polyisocyanurate products: 20-lbs/in² (137.8 kPa)
 - Extruded polystyrene products: 25-lbs/in² (172.3 kPa)
 - Expanded polystyrene products: 18-lbs/in² (124.1 kPa) and 1.5-lb/ft³ (24 Kg/m³) density (certified) and a minimum 1-inch (25 mm) thick.
 - Expanded polystyrene products covered with or laminated to a hardboard facer: 12-lbs/in² (82.7 kPa) and 1.25-lbs/ft³ (20 Kg/m³) density and a minimum of 1-inch (25 mm) thick.
 - High density wood fiber products: 20-lbs/in² (137.8 kPa) and 18-lbs/ft³ (288 Kg/m³) density and a minimum of 1/2-inch (25 mm) thick.
 - Gypsum products: 500-lbs/in² (3445 kPa) and a minimum 1/4-inch (6.4 mm) thick.

MEMBRANE INSTALLATION

1. The prefabricated roof section is positioned on the deck to expose the first securement tab. The securement tab is mechanically fastened to the deck and/or roof structure supports with approved fasteners, and stress distribution plates (see Fastener Selection in this section). The roof section is then unrolled and pulled taut to remove any wrinkles thus exposing the second securement tab. This process is repeated until the entire roof section has been mechanically attached to the metal roof system and/or roof structure supports, including all Mechanically-Attached Metal Building Specifications securement tabs and all edges. The next section of roofing membrane is then positioned to provide a minimum 6 inch (.15 m) overlap. The above processes are repeated until the substrate is completely covered.
2. The Poly-Plate must be positioned entirely on the fastening tab with the edge of the 2 inch (50mm) Poly-Plate installed even with the outside edge of the fastening tab
3. Securement tabs must be spaced a maximum of 120 inches (1.52m) on center when fastening membrane on buildings with maximum height of 40 feet (12 m).

PERIMETER MEMBRANE INSTALLATION

1. The first tab on all perimeter roof section(s), parallel with the roof edge or parapet wall must be between 24 and 36 inches (.6 m and .9 m) from the edge of wall. The 10-Foot Tab System will require an additional 5-foot tab as well. (See the 10-Foot Mechanically Attached Specifications)

HOT AIR WELDING

1. Position the membrane so as to allow an overlap of the top membrane onto the bottom membrane a minimum of 6 inches. Ensure the welding area is clean and free of foreign material.
2. Weld the top membrane to the bottom membrane using a hand-held welder or an automatic welding machine, and silicone roller. A minimum 1½-inch (38 mm) wide continuous weld is required.
3. All field welded seams should be inspected with a tack claw and all deficiencies repaired.

FLASHINGS

1. See “Mechanically-Attached Details Section” for installation references.

TWO-WAY AIR VENT

1. Two-Way Air Vents must be installed at a rate of one vent for every 1,000 square feet of deck membrane. The Two-Way Air Vents must be evenly spaced across the roof area and centered between rows of fastening tabs. See “Mechanically-Attached Details Section” for installation references.

ROOF DRAIN

1. All existing roofing materials must be removed from drain bowl and clamping ring. After the Duro-Last membrane is properly installed onto the bowl and the clamping ring set in place, all bolts securing the ring must be installed to provide constant, even compression on the sealant. If bolts are broken or missing, replacements must be installed.

EXPANSION JOINT

1. See “Mechanically-Attached Details Section” for installation references.

PITCH PAN

1. See “Mechanically-Attached Details Section” for installation references.

WALKWAY PAD

1. Duro-Last Roof Trak II Walkway Pad is recommended at all roof access points, service units and high traffic areas. Building owners who choose not to purchase the Roof Trak II Walkway Pad increase their risk of potential third party damage to the Duro-Last Roofing System.

CAUTIONS AND WARNINGS

1. Duro-Last Roofing, Inc. will not be responsible for damage that may occur as a result of the dew point falling within a roof deck subassembly or building.
2. Asphalt-based products are incompatible with the Duro-Last roofing membrane. Should the Duro-Last membrane become soiled with roofing asphalt, the affected membrane must be cleaned (removing all stains and residue) immediately using approved cleaners and procedures. If the asphalt cannot be properly cleaned from the membrane, the affected membrane must be removed and new membrane installed, or the affected area must be overlaid with an approved slipsheet and new membrane.

3. EPS insulation cannot be used over coal tar pitch or asphalt without a slipsheet. Duro-Last fan-fold underlayments are approved for direct application over aged coal tar pitch or asphalt roofs.
4. The Duro-Last membrane must not be in contact with substrates that maintain or exceed temperatures of 120°F including all insulated chimney pipes and combustible fuel pipes. See "Mechanically-Attached Details Section" for installation references.
5. Duro-Last Roofing, Inc. does not approve the practice of roofing over existing systems that contain excess moisture. Excess moisture is water observed by taking core cuts, seeing standing water in the core or having water flowing into the cut, or squeezing the core sample, and getting water droplets.
6. All Polystyrene insulation (Styrofoam, Formular, Dow, EPS, etc. - blue, white, gray, green, or pink) must have an approved nonstyrene facer or a 3-mil polyethylene slipsheet covering when installed in contact with existing or new PVC membranes. Polyethylene or polypropylene facers are acceptable only after testing, and approval by Duro-Last for compatibility.
7. When installing the Duro-Last membrane over light gage metal with low pull-out values, a mock assembly should be installed to ensure that the fastener is drawn into the stress distribution plate without stripping (popping) out the metal panel. In the event that the metal panel strips out, membrane fastening to the purlins may be required.
8. Perlite and/or mineral fiberboards are not acceptable substrates for the Duro-Last membrane.
9. Phenolic foam is not an approved insulation in new construction or re-roofing applications. The Duro-Last Roofing System may not under any circumstance be installed over phenolic foam.
10. If asbestos is encountered, the building owner must be notified at once. The owner is solely responsible for determining the proper course of action.
11. A Duro-Last roof should not be installed over areas of roof if one or more of the following conditions exist:
 - a. The building structure is not structurally sound and will not hold the weight of the completed system.
 - b. It is not possible to find an approved fastener that will properly hold in the substrate.
 - c. Roofs are subject to hot embers, slag or burning debris.
 - d. Incompatible chemicals exhausted directly onto the roof or may come in contact with the roof in liquid form. (See Chemical Resistance in the General Section)
 - e. Steam in excess of 120°F is exhausted directly onto the roof.

