

Claims

1. **Integrated Deconstruction Lead Generation System** – A computerized system for identifying and handling building deconstruction and material salvage opportunities, the system comprising: an ingestion module configured to automatically retrieve construction permit data from one or more external databases or files; a lead identification module configured to filter said permit data by predefined criteria including project valuation and keywords to detect demolition or major renovation projects[6][5]; an enrichment module configured to augment each identified project with contractor details, contact information, license status, and geolocation data[8]; a communication module integrated with a telephony and CRM platform, the communication module being programmed to initiate automated outreach to project contacts via phone calls, text messages, or emails, log outcomes of each contact attempt, and schedule follow-ups using predefined cadence rules; an inspection module including at least one camera-equipped drone and an image processing engine, wherein the inspection module is operable to capture visual data of a structure scheduled for deconstruction and automatically identify and appraise salvageable materials within that structure; a decision engine configured to analyze appraised salvage value and dynamically determine whether a donation-based salvage approach or a direct purchase approach is financially optimal for a given project; a document generation module that, responsive to the decision engine's output, produces the necessary digital paperwork including contracts, tax forms, donation receipts, proof of insurance, and liability waivers, with the capability for electronic signature; and a dashboard module providing a user interface to track lead status, outreach progress,

inspection results, decision outcomes, and to receive alerts when data feeds are stale or system actions require attention, **whereby** the system seamlessly identifies deconstruction opportunities and manages the end-to-end salvage process from initial detection through material recovery and documentation.

2. **Method for Automated Salvage of Construction Materials** – A method of processing construction project data to facilitate salvaging of building materials, the method comprising: (a) **ingesting** permit records from multiple jurisdictions by querying open data APIs and reading data files, on a continual basis, and storing said records in a central database; (b) **filtering** the ingested records to identify target projects by applying rules for permit type and estimated project valuation, including flagging records indicative of full or partial demolitions[6]; (c) **enriching** each flagged project by automatically retrieving additional data including contractor business name, license information, contact phone number, email address, and project location coordinates[8]; (d) **initiating outreach** to at least one contact associated with each enriched project via an automated calling system, logging call results and scheduling follow-up actions in a CRM timeline; (e) upon receiving interest from a project contact, **conducting a site inspection** by deploying a drone to capture images/video of the building's interior and exterior and executing a software routine that analyzes the captured data to identify salvageable fixtures and materials and estimate their fair market values; (f) **determining incentive structure** by comparing a donation scenario versus a direct-purchase scenario using the estimated values – if donation is chosen, projecting potential tax deduction and ensuring compliance steps, and if purchase is chosen, computing a cash offer amount; (g) **presenting a proposal** to the project stakeholder based on the chosen incentive structure and upon acceptance, generating necessary agreements, including either a donation transfer agreement and IRS Form 8283 for a donation, or a sale contract for a purchase, as well as insurance certificates and indemnification waivers, and transmitting them for electronic signature; (h) **coordinating salvage operations** by scheduling removal of materials, and thereafter documenting the materials recovered and finalizing any required donation receipts or payment transactions; and (i) **updating a dashboard** in real time to reflect the project's progress through outreach, inspection, agreement, and completion, including issuing an alert if any external data source required in step (a) fails or becomes outdated beyond a threshold interval, **thereby** automating the workflow of identifying and converting construction projects into material salvage opportunities with minimal manual intervention.

3. **Deconstruction Outreach Apparatus** – An apparatus comprising: a network-connected computer system with a processor and memory running a customer relationship management (CRM) application; an automated dialing device or software integrated with said CRM application; and a display interface, wherein the CRM application is programmed to receive input data identifying a construction project lead, automatically initiate a voice call to a phone number associated with said lead via the automated dialing device, present a script or prompt on the display interface for a representative during the call, and record an outcome of the call within the lead's CRM record

(including selections such as “No answer,” “Interested, appointment set,” or “Number disconnected”) [71†] , and further wherein the CRM application enforces a follow-up sequence based on the recorded outcome, such that every identified deconstruction project lead is systematically contacted and nurtured using a combination of automated dialing and guided human interaction.

4. **System of Claim 1, Nonprofit Donation Mode** – The system of claim 1, wherein the decision engine and document generation module are configured for a **nonprofit-operated mode**, such that for each salvage project the system (i) prioritizes a donation-based approach in which building materials are donated to a charitable organization, (ii) requires obtaining a qualified third-party appraisal for donations above a predetermined value threshold (for example, \$5,000)[4], (iii) generates IRS Form 8283 with Section B filled out for the donor and coordinates signatures from the donor, appraiser, and donee organization, and (iv) produces a donation acknowledgment receipt listing all salvaged items and their fair market values for the donor’s tax records, thereby enabling end-to-end processing of noncash charitable contributions of salvaged building materials in compliance with IRS regulations.
5. **System of Claim 1, For-Profit Salvage Mode** – The system of claim 1, wherein the decision engine is configured to operate in a **for-profit salvage mode** that emphasizes direct purchase transactions, and in which the document generation module prepares purchase contracts and bills of sale in lieu of donation forms, and further wherein the system computes a cash offer for salvaged materials based on market resale values minus handling costs, presents said offer to the project owner, and upon acceptance, facilitates payment to the owner for the materials, such that the system supports salvage business operations focused on reselling materials for profit instead of generating tax benefits.
6. **System of Claim 1, Hybrid Incentive Embodiment** – The system of claim 1, wherein the system is configured to support hybrid incentive models that involve both contractors and property owners, including: providing a referral or participation reward to the contractor of record when a project results in salvaged materials (for example, a percentage of resale value or a credit that the contractor can use as a donation in their name); tracking and crediting contractors across multiple projects via the dashboard (with metrics such as total tonnage diverted or tax deductions facilitated for their clients); and enabling flexible deal structures where a portion of salvaged materials on a project are donated and another portion sold for cash, in order to maximize overall stakeholder benefit, thereby engaging contractors as active collaborators in deconstruction efforts by aligning incentives.
7. **Autonomous Drone Appraisal Method** – A method for autonomously appraising salvageable building materials using one or more drones, comprising: deploying at least one **indoor-capable drone** into a building slated for demolition, the drone being equipped with sensors to navigate confined spaces and capture detailed imagery of building contents; scanning the building’s rooms and structural elements to collect image and depth data; processing the collected data using a trained machine vision algorithm that segments the imagery to identify distinct building components (including but not limited to cabinets, doors, appliances, lighting fixtures, lumber, and plumbing fixtures)

and classifies each component by type, material, and condition; estimating a salvage value for each identified component by referencing a database of resale values for similar items (adjusted for condition and age); compiling an electronic appraisal report that itemizes the components and their estimated values, with a total potential salvage value for the building; and automatically forwarding the report to an appraisal management module or certified appraiser for validation, **wherein** the entire appraisal process is performed with minimal human input, leveraging autonomous drone navigation and artificial intelligence to generate a valuation of reusable materials inside a structure.

8. **Non-transitory Computer-Readable Medium** – A non-transitory computer-readable storage medium storing instructions which, when executed by one or more processors, cause a system to perform operations comprising: retrieving construction permit records from multiple data sources; filtering the records to detect demolition or major renovation permits meeting predefined criteria; augmenting each detected record with external data including contact information; scheduling and conducting automated outreach communications to contacts from the augmented records and logging responses; analyzing visual data captured from a project site to determine quantities and values of salvageable materials; determining whether to structure a salvage deal as a charitable donation or a purchase based on the values and stakeholder profiles; and generating electronic agreements and forms required to formalize the salvage deal including any tax documentation, thereby enabling the system to autonomously handle the identification, engagement, and conversion of construction projects into salvage operations.
9. **The method of claim 2, further comprising donation compliance** – The method of claim 2, wherein if the chosen incentive structure in step (f) is a donation to a nonprofit, the method further comprises: coordinating a qualified appraisal by transmitting the auto-generated appraisal report to a certified appraiser and receiving an appraiser-signed valuation; populating an IRS Form 8283 with details of the donated property, the appraised fair market value, and the donee organization's information; obtaining digital signatures on the Form 8283 from the appraiser and an authorized representative of the donee organization (charity); providing the partially signed Form 8283 to the donor (property owner) for inclusion in their tax return; and providing the donor with a formal acknowledgment letter from the nonprofit stating the items donated and declaring the donor received no goods or services in exchange, all in accordance with tax code requirements for noncash charitable contributions[4][10].
10. **The method of claim 2, further comprising purchase execution** – The method of claim 2, wherein if the chosen incentive structure in step (f) is a direct purchase, the method further comprises: presenting a purchase offer to the property owner detailing the items to be salvaged and the cash amount to be paid; upon acceptance, generating a sale contract specifying terms of removal and payment; obtaining the owner's signature on the contract via the digital signature process; scheduling the salvage crew for removal on an agreed date; after material removal, confirming the list of items taken and issuing payment to the owner (or credit against their invoice if the salvage is offsetting demolition cost); and documenting the completion of the transaction in the system, including marking the project as closed and storing the signed contract and proof of payment in the project's

record, thereby ensuring a clear and auditable process for straightforward purchase-based salvage deals.

11. **Real-time Monitoring and Alert Feature** – The system of claim 1, wherein the dashboard/monitoring module includes a real-time monitoring service that periodically checks the status of data ingestion tasks and critical external integrations, and if a failure or anomaly is detected, such as no new permit data received from a source beyond a set time threshold or an API authentication error, the system automatically generates an alert message and transmits it to system administrators and displays an alert notification on the dashboard, and optionally attempts a predefined recovery action (for example, re-authenticating to the API or switching to a backup data source), thereby providing resilience and transparency in the face of data feed interruptions or system errors.
12. **System of claim 1 with multi-user collaboration** – The system of claim 1, further comprising role-based access controls and multi-user collaboration support, wherein different users (such as outreach specialists, project managers, appraisers, and nonprofit partners) can access the dashboard with permissions tailored to their role, for example, an external appraiser can be granted a secure link to view the inspection images and enter an appraised value, a nonprofit partner can log in to see and acknowledge pending donations, and an outreach specialist can manage only the leads assigned to them, such that the system facilitates coordinated actions among all parties involved in the deconstruction salvage workflow within a single integrated platform.
13. **Use Case – Sustainable Demolition Service** – A use case of the system of claim 1, wherein a city government or waste management authority deploys the system as part of a “sustainable demolition” program: the system scans all demolition permit applications in the city for the coming months, identifies structures with high reusable material content, contacts the owners or contractors offering a free deconstruction service, and manages those projects through completion, resulting in significant landfill diversion and providing owners with financial incentives (tax deductions or cost savings), all tracked and reported via the system’s analytics to demonstrate the program’s impact (e.g., number of houses deconstructed, tonnage of material salvaged, dollars of donations processed). This use exemplifies how the invention can be applied on a broad scale to improve environmental and economic outcomes in the construction industry.
14. **Use Case – Disaster Recovery Material Salvage** – A use case wherein the system is utilized after a natural disaster (such as a hurricane or flood) to identify structures that are being demolished and salvage materials for reuse: the ingestion module takes in bulk permit data or FEMA demolition notices; the system prioritizes leads in disaster-affected zones; drone inspections are deployed to hazardous or partially collapsed structures to safely assess salvageable components; and the system coordinates with nonprofits to donate recovered materials to rebuilding efforts. The claims process integration (via documentation and appraisal) ensures that property owners can still claim deductions or salvage value even in the midst of insurance claims. This use demonstrates the system’s adaptability to scenarios requiring rapid, autonomous operation and collaboration with relief organizations.

15. Computer System Implementation – A computer-implemented system, comprising: one or more servers executing the software modules of the system of claim 1; a database for storing permit records, lead information, contact logs, and project documents; and a plurality of user devices (computers, tablets, smartphones) running client interfaces connected to said servers, wherein the servers handle the automatic workflows (data ingestion, calling, analysis, document creation) and the user devices allow human users to monitor and intervene when necessary (such as conducting in-person negotiations via the app or manually adjusting an appraisal), and wherein the entire system is configured to secure sensitive data (using encryption for personal info and secure authentication for users) given that it handles personal contact data and potentially confidential project information.