NOTICE AND AGENDA

HERITAGE PRESERVATION COMMISSION
WEDNESDAY
NOVEMBER 18, 2020

COUNCIL CHAMBERS
211 WEST ASPEN AVENUE
5:00 P.M.

In compliance with the Americans with Disabilities Act, if you need assistance to participate in this meeting, please contact Tammy Bishop 928-213-2611 (or 774-5281 TDD).
Notification at least 48 hours in advance will enable the City to make reasonable arrangements.

PUBLIC COMMENT PROTOCOL

To attend and speak on a public hearing item, email sdechter@flagstaffaz.gov **and request the link to join the Microsoft Teams Meeting.The public can submit comments that may be read at the dais by a staff member to the Commission liaison**sdechter@flagstaffaz.gov**.**

The meetings will continue to be live streamed on the city's website (https://www.flagstaff.az.gov/1461/Streaming-City-Council-Meetings)

1. Call to Order

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the Heritage Preservation Commission and to the general public that, at this regular meeting, the Heritage Preservation Commission may vote to go into executive session, which will not be open to the public, for legal advice and discussion with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

2. Roll Call

NOTE: One or more Commission Members may be in attendance telephonically or by other technological means.

DAVID HAYWARD,Chair
JERRY MCLAUGHLIN, Vice Chair
HARRIS ABERNATHY
EMILY DALE
JILL HOUGH
CAITLIN KELLY
CHARLES WEBBER

3. Public Comment

At this time, any member of the public may address the Commission on any subject within their jurisdiction that is not scheduled before the Commission on that day. Due to Open Meeting Laws, the Commission cannot discuss or act on items presented during this portion of the agenda. To address the Commission on an item that is on the agenda, please wait for the Chair to call for Public Comment at the time the item is heard.

4. APPROVAL OF MINUTES

Approve the Minutes of the Heritage Preservation Commission meeting of October 21, 2020

5. PUBLIC HEARING

A. SCA Paper, Cultural Resource Phase-1 Report (PZ-20-00071-03)

PROPERTY INFORMATION:

Address: 1600 E Butler
Assessor's Parcel Number: 104-07-001-c
Property Owner: 1600 E BUTLER AVE LLC
Owner Address: 15 RESERVOIR RD,WHITE PLAINS NY 10603
Applicant: Corner Stone Environmental for Phase-1 Cultural Resource Report
City Staff: Mark Reavis HPO

REQUESTED ACTION:

The applicant, the retained heritage consultant, is presenting their Phase-1 Cultural Resource Report for review by the HPC

RECOMMENDED ACTION:

The HPO recommends that the Heritage Preservation Commission (HPC) receive the report for initial review and consideration. Listen to the consultants presentation and ask all relevant questions. It is recommended by the HPO that no determination of acceptance of the report and its conclusions be made at the November meeting; and that the HPC allow full consideration of all information over the next month. Consideration of the report and any additional information will be discussed at the December meeting. Please review the HPO's staff report for addional information.

6. GENERAL BUSINESS

A. Education: What are Preservation Standards

Please review the attached document for more detail explanation of Preservation Standards.

B. Historic Facades and Signs Grant Completion

Address: 215 S Park St.

7. REPORTS

A. APPROVALS

1. 310 E Dale Ave. - Porch reconstruction

Permit Number(s): BP-20-02241
Address: 310 E Dale Ave.
Type of Approval: Porch reconstruction
Approval Date: 10/27/2020

2. Old Courthouse Demolition- Courthouse & prosecutors office.

Permit Number(s): BP-20-02281 & BP-20-02282
Address: 15 N Beaver & 107 W Aspen
Type of Approval: Demolition
Approval Date: 10/27/2020

3. K&E Realty window replacement

Permit Number(s): BP-20-02358
Address: 104 W Forest Ave
Type of Approval: Permit for window replacement - approved with conditions
Approval Date: Oct 20, 2020

4. Mill Town - ADOT Demolitions

Permit Number(s): PZ-16-00239-08
Address: 1801 S Milton
Type of Approval: Concept Plat Review
Approval Date: Oct 22, 2020

B. CONSULTATIONS

1. Lofts at Continental

Permit Number(s): PZ-20-00183
Address: 5531 E Cortland
Type of Approval: Concept plan review
Approval Date: Oct 22, 2020

2. Trathnigg unit #4 demolition

Permit Number(s): PZ-20-00190
Address: 314 N Beaver
Type of Approval: Demolition review of back #4 unit
Approval Date: 10/27/2020

3. LNN RV Storage

Permit Number(s): PZ-19-00208-01
Address: 2690 E Huntington Dr.
Type of Approval: Site Plan Review
Approval Date: Oct 22, 2020

5. Newman Center - Catholic Facility
Proposed demolition and development of new facility

Permit Number(s): PZ-19-00207-01
Address: 520 Riordan Ranch St.
Type of Approval: Concept Plan Review
Approval Date: Oct 22,2020

D. FSL San Francisco Square Senior Housing.

Permit Number(s): PA-19-00031-01
Address: 320 N Humphreys
Type of Approval: IDS review - concept plan
Approval Date: Oct 22, 2020

8. MISCELLANEOUS ITEMS TO/FROM COMMISSION MEMBERS

A. Duffie Westheimer, Executive Director, Townsite Community Land Trust:
Thank you note and invitation - Garage at 720 W Birch.

Please read the attached thank you note and invitation. If Commission members would like to accept Ms. Westheimer's invitation, they may do so in groups of less than three members, or by coordinating the date with the Commission liaison so that a quorum may be advertised.

9. ADJOURNMENT

CERTIFICATE OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Flagstaff City Hall on 11/12/20, at 3:00 p.m. This notice has been posted on the City's website and can be downloaded at www.flagstaff.az.gov.

Dated this 12 day of November, 2020.

_____
Tammy Bishop, Administrative Specialist

4.

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To:	The Honorable Mayor and Council
From:	Sara Dechter, AICP, Comprehensive Planning Manager
Date:	11/05/2020
Meeting Date:	11/18/2020

TITLE:
APPROVAL OF MINUTES

STAFF RECOMMENDED ACTION:
Approve the Minutes of the Heritage Preservation Commission meeting of October 21, 2020

Executive Summary:
Minutes of the Heritage Preservation Commission are a requirement of Arizona Revised Statutes and, additionally, provide a method of informing the public of discussions and actions being taken by the City Council

Policy Impact:

Attachments: Draft Minutes from October 21, 2020

DRAFT MINUTES

HERITAGE PRESERVATION COMMISSION
WEDNESDAY
OCTOBER 21, 2020

CITY HALL
211 WEST ASPEN AVENUE
5:00 P.M.

1. **Call to Order**

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the Heritage Preservation Commission and to the general public that, at this regular meeting, the Heritage Preservation Commission may vote to go into executive session, which will not be open to the public, for legal advice and discussion with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

Call to order at 5:01pm

2. **Roll Call**

NOTE: One or more Commission Members may be in attendance telephonically or by other technological means.

DAVID HAYWARD, Chairperson
JERRY MCLAUGHLIN, Vice-Chairperson
HARRIS ABERNATHY
EMILY DALE
JILL HOUGH
CAITLIN KELLY
CHARLES WEBBER

CITY STAFF PRESENT:
Sara Dechter, Comprehensive and Neighborhood Planning Manager
Mark Reavis, Heritage Preservation Office/Neighborhood Planne

3. **Public Comment**

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No public comments

4. **APPROVAL OF MINUTES**

Approve the Minutes of the Heritage Preservation Commission meeting of September 17, 2020

Moved by Harris Abernathy, **seconded by** Jill Hough

Vote: 6 - 0 - Unanimously

5. **PUBLIC HEARING**

A. **Whispering Winds/ Route 66 - Land Mark Overlay Zoning Map Amendment**

Address: 922 E. Route 66
Assessor's Parcel Number: 104-05-005
Property Owner: WW66. LLC,6164, Abineau Canyon Dr,Flagstaff AZ

Applicant: Jose R. Alvarado, Director of Sales, Ascend Capital Management
City Staff: Mark Reavis, HPO

Conduct Public Hearing to meet the Neighborhood Meeting requirement for a Landmark Overlay Zoning Map Amendment for the purpose of restoring the historic Route 66 sign at 922 E Route 66 (Whispering Winds Motel).

Receive public comment and review the updated sign application.

None recommended

The HPC has reviewed and approved the application for a historic sign & facade grant as a $10,000 matching grant for the full restoration of the Whispering Winds Motel Sign. The HPO has reviewed a submission by a sign company that accurately reestablishes the missing upper components of the historic sign that remains. The applicant will confirm that the project will comply with that HPO review with the sign contractor that is selected.

Public Hearing was paused between 5:08pm and 5:34pm because audio was not streaming. Meeting continued with detailed minutes at 5:34pm.

No public comment on this item.

Mark Reavis, HPO, provided a summary that this Landmark Overlay proposal is for the historic sign only. The Zoning Code requires that restoration of a historic sign that is larger than what would currently be permitted be done under a Landmark Overlay.

David Hayward expressed that it is good to see more historic hotels restored instead of torn down.

6. GENERAL BUSINESS

A. Southside Historic Context Document - Consultant Report Review & Discussion.

Heritage Preservation Commission (HPC) is to listen to the Consultant Presentation (Lynn Neil) and ask initial questions regarding the document. At this time the HPC is not asked to accept the document, but to become familiar with the Context Document. Please provide any relevant input and questions you may have and forward those to the Heritage Preservation Officer. The HPC will be asked to accept the document at the next regularly scheduled meeting after the Commission has a change to review the submitted document. Any corrections or additions will be included in a Staff Report at the next HPC meeting.

Lynn Neal presents findings of draft report.

What started out as an Update of an outdated historic context morphed into a full-blown update of the Southside properties inventory, including scrutinizing all the “back of lot” buildings on the parcels. These property types originated as rental houses, garages, sheds, etc., and most often function today as rental properties.
Lynn is still triple checking the numbers of the variously categorized properties, but as of today, here are the figures.

Total Properties Inventoried = ~358 (This is compared to 200 properties included in the 2010 Registration Form. About 300 Southside properties were evaluated during the 1992/1993 study, and several of these properties excluded from what was identified as the Southside Historic District in 2010 have been re-evaluated and included in the current Registration Form.)

Total Contributing = ~315, Total Non-contributing = 17 (1 outside the District on NAU property), Previously Listed to the NRHP elsewhere = 9, Demolished = 17

The added 158 properties is a 44% increase over those included in the 2010 Registration Form. Eighty-eight percent (n = ~315) of the total properties are Contributing, 2.5% are Previously Listed, leaving only 9.5% as Non-contributing and Demolished. This means that an estimates 88 % of the evaluated properties are likely contributing.

The increase in properties was achieved through an expansion of the District boundaries (largely to the SSE, E, and a bit to the NW), a re-evaluation of properties originally evaluated in 1992 and/or in 2009/2010, and including new properties not previously evaluated. The expansion of the period of significance date range end date from 1947 to 1968 brought in more 1950s-60s housing, commercial properties, churches, and the Murdoch Center.

Proposed boundaries are expanded to the south and take into account the area east of the Souths Beaver School and some expansion to the east as well. Properties that were evaluated previously are being re-evaluated because the context is recommending expansion of the period of significance to 1968 to include the Civil Rights era. Now all the churches in the Southside and the Murdoch Center can now be included.

Questions & Comments:

Emily Dale—She has data on 518 S Agassiz that she will provide to Lynn Neal

Sara Dechter—indicated that the City has a grant from SHPO to research the additional properties. Mark will take the new Registration Form, create the individual Building Inventory Forms for submittal to SHPO to get the Registration Form reviewed and approved.

Jill Hough—The only thing she found to be missing was the properties Map. (Lynn responded that it is forthcoming, along with a further updated Registration Form with the completed properties listing.)

David Hayward—will provide his comments via email.

Jill Hough and Emily Dale will both volunteer time to work on the evaluation and offer assistance.

Sara Dechter—indicated that the Southside Context will be re-agendized with maps and updates next month so that comments can be reviewed and discussed.

B. Discussion: Downtown, Southside, Route 66 & Neon

No HPC action at this time. Discussion only.

Mark Reavis is requesting this discussion to get feedback on the use of neon on businesses South of the current Route 66.

David Hayward noted that he believes we end up with attractive signs whether neon or not in the central sign district

Jill Hough suggested we should look for historic photographs to see if there was neon south of route 66 historically

Sara Dechter adds that the area discussed is in the Flagstaff Central Sign District but not in the Downtown Overlay. The Overlay is the source of the language related to neon and Route 66.

Sara Dechter points out that neon is allowed but it is not something that was seen historically on South San Francisco based on photographs she has seen. they may have been introduced in the late 1950s south of Route 66.

Mark Reavis would like to continue direction of bringing all neon in the Downtown Overlay to the Commission and bring all neon in the Central Sign District to the Commission.

C. Heritage Preservation Commission Education and Work Session Needs

The purpose of this discussion is for the Heritage Preservation Commission to outline specific educational opportunities to be presented by the Heritage Preservation Officer or the City Clerk at future meetings. Please provide at least educational subject for the HPO to prepare.

Mark Reavis suggested documenting the historic use of neon in the community, the next month could be Secretary of the Interior Guidelines as examples of educational topics.

David Hayward – it would be much appreciated because much of the commission is self taught. He would like a presentation on each of the historic districts and their requirements. TO, DO, Central Sign Districts

Jill Hough – they would all like to the be able to understand what you can and cannot do in different sones and what a property might find helpful.

Charlie Webber – would like more in depth discussions on how the Zoning Code and the HP guidelines work together and how we can use them together. Include Dan Symer in that presentation to offer context It's been difficulty

Jill – Charlie Weber and Emily Dale and Jill Hough are all versed in historic preservation and can also have presentations from commissions.

Mark could use more understanding of archeology. He has joined the AZSITE Committee for the State.

Charlie Weber could provide a presentation on archeology – David Hayward would like to understand more about what the Commission should know when we are reviewing a case for development what we need to know about archeological resources. Give the Commission a better idea of how resources are identified and what are the methods used so the Commission can evaluate if a CRS is adequate.

Sara Dechter asked if there are any items that the Commission would like the clerk's office to present. David would like a clarifying memo from the clerk with guidance about what should a commissioner do if they are contacted by someone about a project that is under HPC review.

7. REPORTS

A. Pre-Application Meetings (PAMs)

Permit Number(s): PZ-20-00169
Address: 306 E. Franklin Ave,
Type of Approval: PAM - Inquiry about appropriate addition to 1952 structure from single-family to duplex.

Permit Number(s): PZ-20-000172
Address: 302 W Oak,
Type of Approval: PAM- :Inquiry about demolition of historic 71 year old mortuary (retains significance) for construction of a condo project. At minimum CR letter report.

Permit Number(s): PZ-20-000171
Address: 4619 S Lake Mary Rd
Type of Approval: PAM- :Lake Mary RV Park inquiry would combine several parcels to provide a commercial campground with RV's and Park models to rent. Requested a Cultural Resource study by an archeologist be submitted with Concept Plan submittal.

Starting to work into more Pre-application meetings to get HPC mentioned more often.

David Hayward – from his experience pre-apps are pre-contract in a development project and being able to give people a heads up as early as possible is helpful. It can make a big difference to people at that point.

Jill Hough – 306 E Franklin Belonged to John J Johnson – 1st pastor of Springhill Baptist church – significance is high. Jill may have more information on the property. The date on the structure may actually be 1950 or even before.

B. Building Permit Review: returned for correction.

Permit Number(s): BP-20-01831-01
Address: 537 S O'Leary St
STAFF RECOMMENDED ACTION:- (gas explosion window damage) - Return for Corrections/HPC application required.

Permit Number(s): BP-20-01922
Address: 918 W Summit Ave
STAFF RECOMMENDED ACTION:- Lumpkin Basement ADU (new from roof truss replacement review) - 1915 home with historic integrity - Return for Corrections/HPC application required.

Permit Number(s): BP-20-01945
Address: 314 N Beaver St.
STAFF RECOMMENDED ACTION:-, Demo of non-historic Unit # 4 ADU and rebuild - Approved with Conditions of documentation of previous determination of non-contributing with documentation submitted.

Permit Number(s): BP-20-01859
Address: 303 N Verde St
STAFF RECOMMENDED ACTION:- , 1918 historic residence proposed deck expansion, submission incomplete - HPC application required.

C. Building Permits - Not requiring HPO review approval for Post WWII production housing.

Permit Number(s) & Address: Fierros BP-20-01877 3350 N Pine Dr. (1 door replaced); Marshal Windows BP-20-01898 3350 N Pine Dr. (9 windows replaced).

Approval Date: 9/11/2020

D. ADOT & Fresquez property demolitions

Permit Number(s): BP-20-02048
Address: 1801 S Milton and adjacent
Type of Approval: Demolition
Approval Date: 09/29/2020

ADOT demolition – there are some historians who are working on their own research into the property before it is demolished

E. Inter-Divison Staff (IDS) - with Heritage Review Requirements.

Review Dates of IDS - New Conceptual/Updates and Revisions/Admin Completeness/Substantive Review: 9/10/2020 - 1/24/2020

Project:SCA Paper Plant
Permit Number(s): PZ-20-00071-01 & 02
Address: 1600 Butler Ave
Type of Review(s): Concept Plan - HPO site visit & consult with HR consultant mandated a Phase 1 Cultural Resource report to be submitted with Site Plan (first review w/concept plan) former SEA Paper - CR reporting undertaken by Cornerstone Consulting.

Project: Toaster Owl Shade Structure
Permit Number(s): PZ-20-00160
Address: 12 S Mike's Pike, - Southside NR District
Type of Review(s): Toasted Owl Sun Shade Structure PZ-20-00160 12 S Mike's Pike (In Southside District, (adjacent to 56 year old structure on site) HPO determination of no adverse effect, complete process with Building Permit review.

Project: Lofts on the Mesa
Permit Number(s): PZ-20-00168
Address:1571 N Pine Cliff,
Type of Review(s)- Cultural Resource (archeological concerns) applicant notified of requirements.

Project: Sky Cottages
Permit Number(s): PZ-20-00153
Address: 2701 S Woody Mountain Rd,
Type of Review(s) Cultural Resources likely associated with McAllister Ranch and potential archeological concerns - requires site survey and Cultural Resource Report - completion of reporting within project reviews.

Project: Ellery Duplex
Permit Number(s): PZ-19-00263-01
Address: 214 E Ellery
Type of Review(s) A proposed duplex is being added to a site with an existing historic duplex in the Southside National Register District, proposed new duplex does not meet Flagstaff design requirements as well as historic compatibility (requires District compatible primary elevation submission).

8. MISCELLANEOUS ITEMS TO/FROM COMMISSION MEMBERS

Re-application of returning and recruitment of new Commissioners

Brief discussion of terms and recruitment for the Commission

The Downtown Vision should have a first draft out soon and staff will circulate it to the commission members when it is available.

9. ADJOURNMENT

Adjourn at 6:22pm

CERTIFICATE OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Flagstaff City Hall on _____, at _____ a.m./p.m. This notice has been posted on the City's website and can be downloaded at www.flagstaff.az.gov.

Dated this _____ day of _____, 2020.

_____
Sara Dechter, Comprehensive Planning Manager

Heritage Preservation Commission **5. A.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

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TITLE:

SCA Paper, Cultural Resource Phase-1 Report (PZ-20-00071-03)

PROPERTY INFORMATION:

Address: 1600 E Butler
Assessor's Parcel Number: 104-07-001-c
Property Owner: 1600 E BUTLER AVE LLC
Owner Address: 15 RESERVOIR RD,WHITE PLAINS NY 10603
Applicant: Corner Stone Environmental for Phase-1 Cultural Resource Report
City Staff: Mark Reavis HPO

REQUESTED ACTION:

The applicant, the retained heritage consultant, is presenting their Phase-1 Cultural Resource Report for review by the HPC

RECOMMENDED ACTION:

The HPO recommends that the Heritage Preservation Commission (HPC) receive the report for initial review and consideration. Listen to the consultants presentation and ask all relevant questions. It is recommended by the HPO that no determination of acceptance of the report and its conclusions be made at the November meeting; and that the HPC allow full consideration of all information over the next month. Consideration of the report and any additional information will be discussed at the December meeting. Please review the HPO's staff report for addional information.

Alternative Actions:

See Staff Report

Has There Been Previous Commission Decision on This:

None

Attachments

SCA Staff Report

Phase 1 Report for 1600 E Butler Ave

Appendix A - Phase 1 Report for 1600 E Butler Ave

Appendix B Part 1
Appendix B Part 2
Appendix B Part 3
Appendix C

SCA Paper

CITY OF FLAGSTAFF HERITAGE PRESERVATION COMMISSION
STAFF REPORT

Phase -1 Cultural Resource Review | **DATE: November 9th, 2020**
PZ-20-00071-01 | **MEETING DATE: November 18th,2020**
Address: 1600 Butler. | **REPORT BY: Mark Reavis, AICP, NCARB**

BACKGROUND

The facility most recently known as SCA Paper has an extensive history that even spans beyond the production of paper products. The site has a relationship to the railroad as well as early ranching with remnants within the complex of buildings when it started out as a slaughterhouse. The utilization of the property first as a slaughterhouse by Babbitt Brothers Trading Company and subsequently seven pulp and/or paper companies were involved with the property over time. The facility initially utilized the areas timber resources of smaller trees but ultimately was self-reliant using 100% recycled products as bulk pulp even after the timber industry shutdown. It further shined as an early example of sustainability by recycling most of its water and being supplied with treated city wastewater and discharging little. The responsiveness to changes led to successes in running a pulp mill in an arid climate.

The site was once on the outskirts of town and is now within the urban boundary and a developing business corridor. The industrial site has been purchased for development as a retail site with the phase-1 development secured for a well know business and the phase-2 tenants yet to be secured. The applications for development propose clearing the site of all existing buildings. Many of the buildings on the site have been modified over time to meet the needs of the paper manufacturing processes. The removal and salvaging of equipment reduces the ability to understand the process fully, but the flow of the manufacturing process is still apparent. The history associated with this major industry is important to preserve in a documented form.

Much of the complex has lost its historic integrity with its many modifications. There is one building though that stands alone and retains its industrial integrity even without its equipment. The main paper production building (1964-1965) is an impressive concrete frame that is expressed both on its interior and its exterior. The concrete enclosure of high-bay space has a floor area of approximately 53,000 square feet or 1.2 acres. The primary paper production building retains its industrial architectural integrity.

PREVIOUS HP DECISIONS

This property has not been previously evaluated or had related Heritage Preservation determinations.

REQUEST

This is a request to review the Phase-1 Cultural Resource Report (**PHASE 1 HISTORIC RESOURCE STUDY FOR 1600 E. BUTLER AVENUEIN FLAGSTAFF, COCONINO COUNTY, ARIZONA:** Subject Property **SCA Tissue, APNs 104-07-001C and 104-07-005M.** Prepared by **Cornerstone Environmental Consulting, LLC**

320 N. Leroux Street, Suite A**,** Flagstaff, Arizona 86001 (928) 522-4148 www.SWArchaeology.com)

The Phase-1 Report is extensive and comprehensive regarding its historic content, history of the site and its paper industry and its relationship to Flagstaffs development and its people. The Commission review will need to determine if the report is sufficient mitigation to move forward with the development of the site and the demolition of the structures. The Heritage Preservation Commission has the sole authority to approve the report with consideration of the Secretary of the Interior Standards for evaluating historic properties.

STAFF RECOMMENDATION

Staff recommends that the Heritage Preservation Commission (HPC) review the report to become familiar with its content. The HPC is to listen to the consultant's presentation of the report, a presentation that has been requested by the Heritage Preservation Officer (HPO). The HPO has also asked the consultant to inform the developer of their recommendations and of the upcoming HPC meeting. The HPC may ask the consultant any relevant questions regarding their determinations made in the report. Staff does not recommend acceptance of the report at this meeting so as to allow for a thorough review of the report, consideration of HPC questions and additional input from the applicant and/or consultant.

Staff recommends that the HPC provide additional inquires to clarify report determinations of building historic integrity and site development. The HPO recommends additional questions and considerations:

- Is the report substantial in scope and meets the Secretary of the Interior Standards?
- Is the report sufficient and appropriate mitigation, either in the execution of the project or as a separate mitigation product?
- Is the report in a form that returns the lost value of the resource to the public or supplemented in another publicly accessible form?
- Has the paper plant's concrete structure, noted as Building #3, been fully evaluated structurally and excluded from adaptive reuse?
- Should the applicant be asked to further describe and confirm the phased development of the site and what tenants have and have not been secured?

INTENT & PURPOSE

The intent of the preparation of Cultural Resource Reports is to preserve historic aspects of the community in report form with the requested demolition of a historic property. Cultural Resource Reports are intended to fully mitigate the loss of a historic property. The Secretary of the Interior's Standards are incorporated into evaluation requirements for required research and documentation purposes.

The purpose of Heritage Preservation as noted in division **10-30.30.010** is to protect and enhance the cultural, historical, and archaeological heritage of the City of Flagstaff by recognizing, preserving, enhancing, and perpetuating the use of those objects, structures, sites, and landscape features that represent distinctive elements of the City's cultural, political, architectural, and archaeological history.

Cultural resources are an important consideration in an application for development. Professionally prepared cultural resource studies are therefore a requirement of an application for development. The type and format of studies required are determined based on the particular circumstances of the property on which development is proposed. Cultural resource studies assess the significance and integrity of potential

resources, major impacts that would result from the proposed work and mitigation measures that could eliminate or offset any major impacts. This section provides detailed requirements for cultural resource studies and explains how such assessments are performed.

A. **Cultural Resource Studies.**

1. **Purpose.** To identify significant cultural resources and potential impacts of proposed development so that mitigation measures can be established for major impacts prior to development of the property.

2. **Applicability.**

a. Cultural resource studies are required for all public and private developments involving:

(5) Structures over 50 years old at the time of application.

Scope of Work

The primary considerations for this level of review.

10-30.30.050 3. **Specific Application Requirements.**

a. **Types of Studies.** Upon consultation with the Historic Preservation Officer and based on the resources that are known or likely to be present, the applicant shall provide an archeological resource study and/or a historic resource study.

b. **Preparation.** Cultural resource studies shall be prepared by professionals qualified in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (36 CFR 61 Appendix A) as currently amended and annotated by the National Park Service.

c. **Report Format.** The Historic Preservation Officer will work with the professional conducting the study to determine which one of the report formats is appropriate. *The resources present at the site did not dictate a simpler "Letter Report". At a minimum a Phase-1 Cultural Resource Study was required by the HPO.*

(2) **Phase 1 Cultural Resource Studies.** When a letter report is not appropriate, a Phase 1 Cultural Resource Study shall be prepared. A Phase 1 Cultural Resource Study shall:

(a) Identify the presence of cultural resources;

(b) Evaluate the potential for additional cultural resources being discovered;

(c) Assess the significance of identified and potential cultural resources;

(d) Assess the integrity of identified resources;

(e) Assess identified and potential impacts proposed;

(f) Provide measures to mitigate major impacts on cultural resources; and

(g) Advise whether Phase 2 or Phase 3 Cultural Resource Studies will be required.

(3) **Phase 2 Cultural Resource Studies.** A Phase 2 Cultural Resource Study is required when major impacts are proposed for a significant resource that has integrity and when no other mitigation measures are proposed that would maintain the significance and integrity of the resource. *This question*

of additional requirements has not been determined at this time and requires additional consideration by the HPC

DISCUSSION

COMMUNICATION BACKGROUND

The applicant's heritage consultant contacted the Heritage Preservation Officer (HPO) noting that they had been retained by the property owner. Within initial IDS review it was noted that at a minimum a Cultural Resource "Letter Report" was required, however, this initial assessment was modified with an HPO visit to the site with the consultant. The HPO made the determination that a Phase-1 report would be required and the results of that report after HPC review will determine further actions.

HISTORIC ERA INTEGRITY

The Heritage Preservation Officer Mark Reavis, AICP, NCARB has reviewed the property and has determined the main production building (called out as Building 3) retains strong integrity in design for a mid-century modern design. Constructed in 1964-65 the concrete building exhibits many mid-century design aspects in structural concrete and pre and post tensioning reinforcement. Mid-century modern architecture has gained recognition in historic preservation and is inclusive in advancements in early structural design processes that are significant.

The report does acknowledge that structural issues existed through the building's utilization. Deterioration of the concrete and reinforcing has been attributed to the high-humidity conditions involved in paper production. Shifting of the concrete frame to the north was addressed with the addition of 17 large and prominent X-brace steel frames installed per engineering standards in 1995. Past problems have been noted, but a structural engineers report on the building safety and condition has not been provided.

ARCHITECTURAL DISCRIPTION:
Though appreciation of mid-century design and construction may not have reached a point of 1900 era architecture the paper production building does possess modern design principles, materials and structural detailing that fully represent its time period of construction in the mid-1960s. Concrete structural components are uniquely expressed on the exterior of the building as readable features. On the interior the high-bay hall with the overhead crane features the elegantly formed concrete tapered structural columns. The craftsmanship of these formed in-place columns is impressive and are the defining features of the space. The large steel X-brace frames added in 1995 have added to the architectural structural expression of the building.

Basis of Report:

The information in this summary report was derived from the application to the Heritage Preservation Commission for the preparation of a Cultural Resource Report, the Flagstaff Zoning Code, The US Secretary of the Interior Standards for the Treatment and evaluation of Historic Resources and other Historic Preservation Resources and evaluation experience.

Evaluation of Effects

The evaluation of effect is not recommended at this time, not until after full consideration of findings by the consultant with regard of the proposal and resource report may the project be considered for

acceptance of the report finding.

OPTIONS FOR COMMISSION DECISION-MAKING:

1) The Commission could accept the conclusions of the Cultural Resource Report and require no further actions or requirements.
2) The Commission could hold off on determinations until next regularly scheduled meeting reviewing the report and information presented at the Commission meeting. (Staff Recommendation)
3) The Commission could request modifications, additional information or phases in the report and to include them as conditions of approval – or –
4) Request a Phase 2 Cultural Resource Study be prepared by the applicant.

Phase 1 Historic Resource Study for 1600 E. Butler Avenue in Flagstaff, Coconino County, Arizona

Prepared for

Reich Brothers

Prepared by

Cornerstone Environmental Consulting, LLC

October 2020

PHASE 1 HISTORIC RESOURCE STUDY FOR 1600 E. BUTLER AVENUE IN FLAGSTAFF, COCONINO COUNTY, ARIZONA

Subject Property

SCA Tissue
1600 E. Butler Avenue
Flagstaff, Arizona 86001
APNs 104-07-001C and 104-07-005M

Prepared for

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Prepared by

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CEC Report No. 20-124
October 28, 2020

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SUMMARY OF FINDINGS

Cornerstone Environmental Consulting, LLC, was commissioned by Gammage & Burnham, on behalf of Reich Brothers, to conduct a Phase 1 Historic Resource Study (HRS) for the proposed Butler Commons project pursuant to City of Flagstaff Zoning Code, Section 10-30.30.050.A. The project proponent plans to demolish all existing buildings, structures, and associated infrastructure on the parcel. The proposed project entails redevelopment of the 12.71 acres located at 1600 East Butler Avenue in the City of Flagstaff, Arizona. Development on the southernmost approximately 7 acres is planned to include a commercial/retail building, capable of supporting an anchor tenant, and a multi-tenant building capable of supporting commercial/retail, employment, restaurant, and/or service uses. The remaining approximately 5 acres in the northern portion of the parcel are planned for a future light industrial and/or business/commerce park uses.

As a result of this study, Cornerstone recommends that several buildings on the property be considered significant but that they no longer retain integrity due to extensive remodeling and repair since the beginning of the period of significance in 1954 and continuing through 2017. Cornerstone recommends that proposed work on the subject parcel be allowed to proceed with no further cultural resources or historical work.

APNs: 104-07-001C (12.22 acres) and 104-07-005M (0.49 acres)
Street Address: 1600 E. Butler Avenue
Legal Description: NE ¼ of Section 22, Township 21 North, Range 7 East
USGS 7.5' quadrangle: Flagstaff West, AZ (1983)

Construction Date: 1940s–2010s
Period of Significance: 1954–1970
Major Alterations: 1957, 1958, 1961–1965, 1976, 1991, 1999, 2001, 2003
Area of Significance:
- Engineering (NPS 2002)
  - City of Flagstaff Criterion B (NRHP Criterion A)
  - Theme: Paper Product Manufacturing
- Conservation (NPS 2002)
  - City of Flagstaff Criterion B (NRHP Criterion A)
  - Theme: Recycling
- Architecture
  - City of Flagstaff Criterion D (NRHP Criterion C)
  - Theme: Industrial Architecture

Property Type: Paper Manufacturing Facility

ACKNOWLEDGEMENTS

The authors would like to graciously thank the several individuals who were interviewed during the course of this research, including Jim Babbitt, John Girvin, Bruce Jacks, and Chris Remington. Jim provided initial information about the period of use of the Babbitt Brothers Trading Company slaughterhouse and neighboring stockyard. John and Bruce, who started working at the paper mill in 1969 and 1977, respectively, were also incredibly generous with their time and patiently explained the complexities of paper mill operations during multiple enjoyable discussions. Spending time wandering around the expanses of the empty buildings with John and Bruce was a wonderful experience and their stories breathed life into this report. The paper mill, and all the companies that were involved with it through the years, would be nothing without the people that poured their time and effort into their jobs.

Bruce Jacks (left) and John Girvin (right) in Building 3, September 3, 2020

1.0 Project Location and Description

The subject property is a large industrial paper product manufacturing complex that was last owned and operated by SCA Tissue (SCA). The parcel is not within any established historic district but contains resources whose origins are more than 50 years old. The facility consists of an amalgamation of multiple buildings on two parcels (APN 104-07-001C [12.22 acres] and 104-07-005M [0.49 acres]) in the City of Flagstaff in Coconino County, Arizona (Figures 1–6). Cornerstone Environmental Consulting, LLC (Cornerstone) was commissioned by Gammage & Burnham, on behalf of Reich Brothers, to conduct a Phase 1 Historic Resource Study (HRS) for the proposed project (PZ-20-00071-01 and PZ-20-00071-02) pursuant to Flagstaff Zoning Code, Section 10-30.30.050.A. The project area is in the NE ¼ of Section 21, Township 21 North, Range 7 East, on the Flagstaff West, AZ (2014), United States Geological Survey (USGS) 7.5-minute quadrangle.

The proposed project entails redevelopment of the 12.71 acres located at 1600 East Butler Avenue. Development on the southernmost approximately 7 acres is planned to include a commercial/retail building, capable of supporting an anchor tenant, and a multi-tenant building capable of supporting commercial/retail, employment, restaurant, and/or service uses. The remaining approximately 5 acres in the northern portion of the parcel are planned for a future light industrial and/or business/commerce park uses.

As a result of this study, Cornerstone recommends that several buildings on the property be considered significant but that they no longer retain integrity due to extensive remodeling and repair since the beginning of the period of significance in 1954 and continuing through 2017. This includes reuse of scavenged building components, including bow trusses from buildings at Camp Navajo. Cornerstone recommends that proposed work on the subject parcel be allowed to proceed with no further cultural resources or historical work.

2.0 Regulatory Context

The purpose and content of a Phase 1 HRS is outlined in the Heritage Preservation Division of the City of Flagstaff Zoning Code. As stated in the Zoning Code (30.30-10), a Phase 1 Historic Resource Study shall evaluate the significance of identified and potential historical resources, assess identified and potential impacts, provide measures to mitigate major impacts on said resources, and advise whether Phase 2 or Phase 3 Historic Resource Studies should be required.

All buildings 50 years of age or older were identified as potential historical resources and were evaluated for significance and integrity to determine if they constituted significant historical resources per the Flagstaff Zoning Code. Buildings less than 50 years of age, which did not display exceptional significance, were recorded with minimal evaluation. The determination of significance for cultural resources is defined in Flagstaff Zoning Code (30.30-13) as the following:

The criteria for determining the significance of a historic resource is based on the potential of the historic resource to contribute to our understanding of the past.

1. A resource is significant if:
    a. It is eligible as a National Historic Landmark, or for the National Register of Historic Places, or the Arizona Register of Historic Places; or
    b. It is associated with events or persons in the architectural, engineering, archeological, scientific, technological, economic, agricultural, educational, social, political, military, or cultural annals of the City, the State of Arizona, or the United States of America; or
    c. It represents the work of, or for, an important individual; or
    d. It embodies distinctive characteristics of type, period, region, artistic values or methods of construction, including being the oldest of its type or the best example of its type; or
    e. It has yielded, or may be likely to yield, information needed for scientific research, such as important archaeological resources.
2. A resource is generally not significant if:
    a. It is less than 50 years old at the time of application; or
    b. The features, materials, patterns and relationships that contributed to its significance are no longer present or no longer have integrity.
3. Requirement to Meet the Criteria, Regardless of Age: Properties that are 50 years old are not automatically significant. To be considered significant, all resources, regardless of age, must be demonstrated to meet the criteria for determining the significance of a cultural or historical resource.

Evaluation of significance and integrity and application of the National Register of Historic Places (NRHP) Criteria was conducted in accordance with the guidelines established by the U.S. Department of the Interior and National Park Service in U.S. Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation (NPS 1983), National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (NPS 2002).

3.0 METHODOLOGY

The Phase 1 HRS for the Svenska Cellulosa AB Tissue (SCA) plant entailed archival research, fieldwork, significance and integrity evaluation, and report preparation by Cornerstone Principal Investigator Josh Edwards. Cornerstone personnel conducted the research by searching historical records and visiting the

subject property on September 9, 24, 29, and 30, and October 6, 2020. Fieldwork on September 9 was completed by Josh Edwards and Jack Treichler, Josh Edwards and architect Terry Greene visited the facility together on September 24 and 29, and Mr. Greene visited the property again on September 30 and October 6 and 13. The subject buildings were visited to identify and document potential historical resources and to attempt to reconstruct the continuous and complex history of repairs, remodels, and alterations to buildings originally constructed during the period of significance. Digital photographs were taken with a number of instruments, including a Sony A7R IV 61MP full-frame mirrorless camera, to document each significant building present in the project area. A photograph log was created to describe the subject, facing, and location of each photograph.

Archival and secondary research was conducted with the goal of establishing a building construction and modification timeline and site history. Research methodology was based on the National Park Service guidance outlined in *National Register Bulletin 39: Researching a Historic Property* (NPS 1998). Locations of research materials included Northern Arizona University (NAU) Cline Library's Special Collections and Archives and Colorado Plateau Archives; public records at the Coconino County Recorder's Office and Assessor's Office; public records from the City of Flagstaff; the Arizona Memory Project collection; and various online newspaper databases.

Email and telephone interviews were conducted with James E. Babbitt of Babbitt Backcountry Outfitters by Josh Edwards on September 1, 2, and 9, 2020. Additional extensive interviews were also conducted with John Girvin and Bruce Jacks, who worked for SCA Tissue (and predecessor companies) for 46 and 43 years, respectively. These communications were numerous, occurred on site during the field visits, and in person during a two-hour formal audio-recorded interview with Bruce Jacks and John Girvin by Josh Edwards on September 9, 2020. Another lengthy telephone interview with Bruce Jacks, about individual building functions, was conducted by Josh Edwards on October 6, 2020. Plant Engineer Chris Remington was interviewed by Terry Greene and Kevin Dickinson via email and telephone on September 29 and October 8 and 13, 2020.

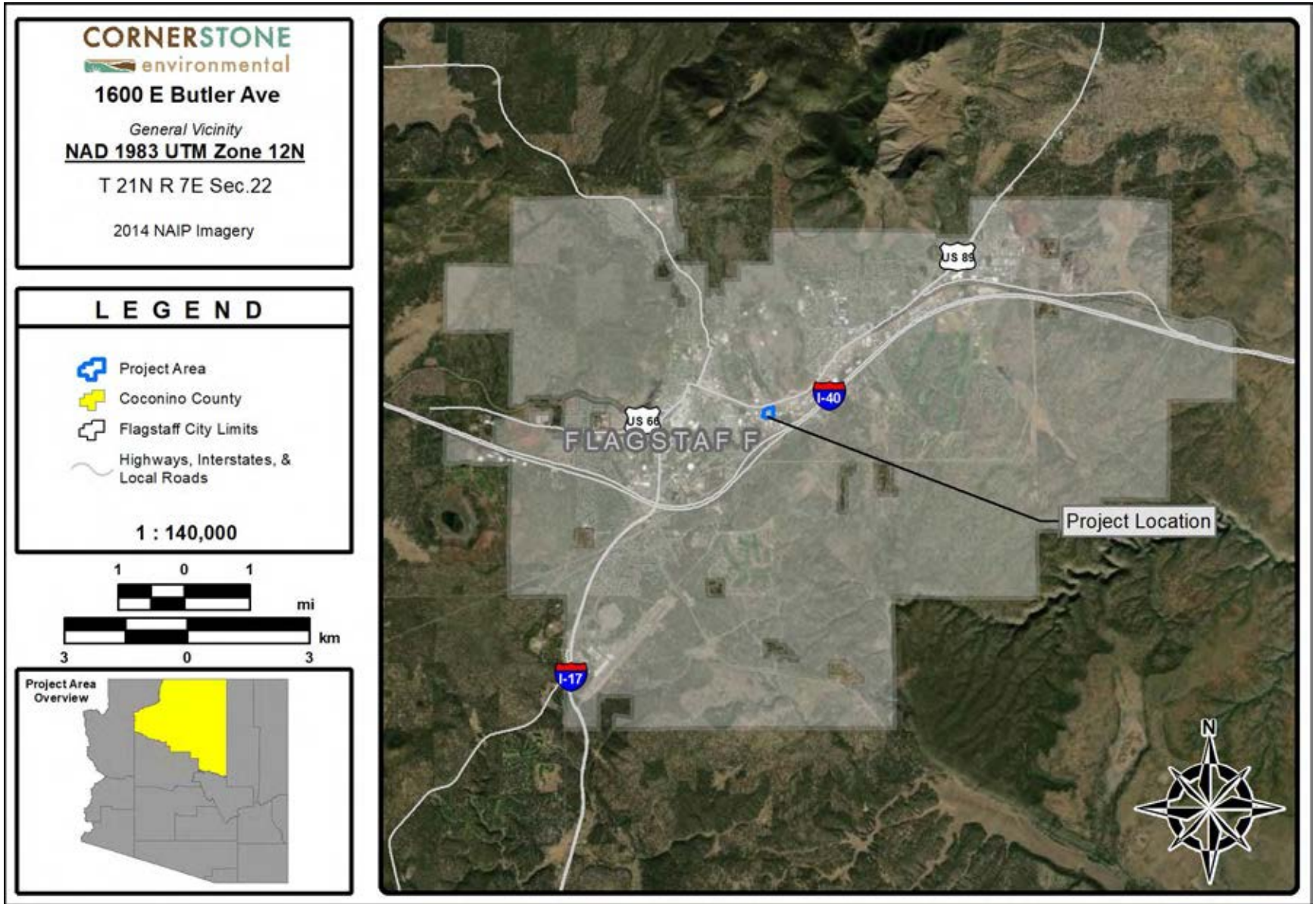


Figure 1. General project area location.

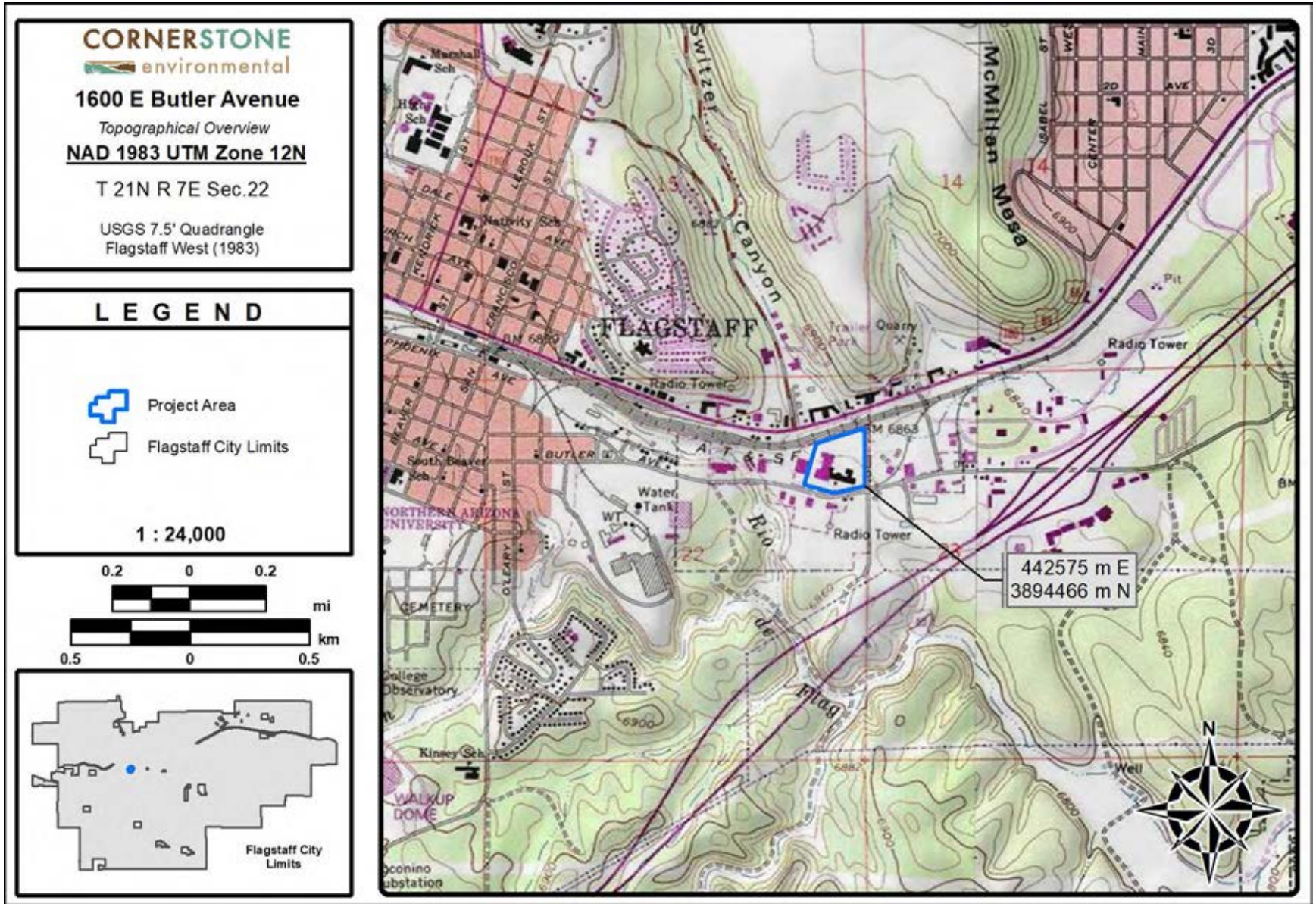


Figure 2. Project area location shown on topographic map.

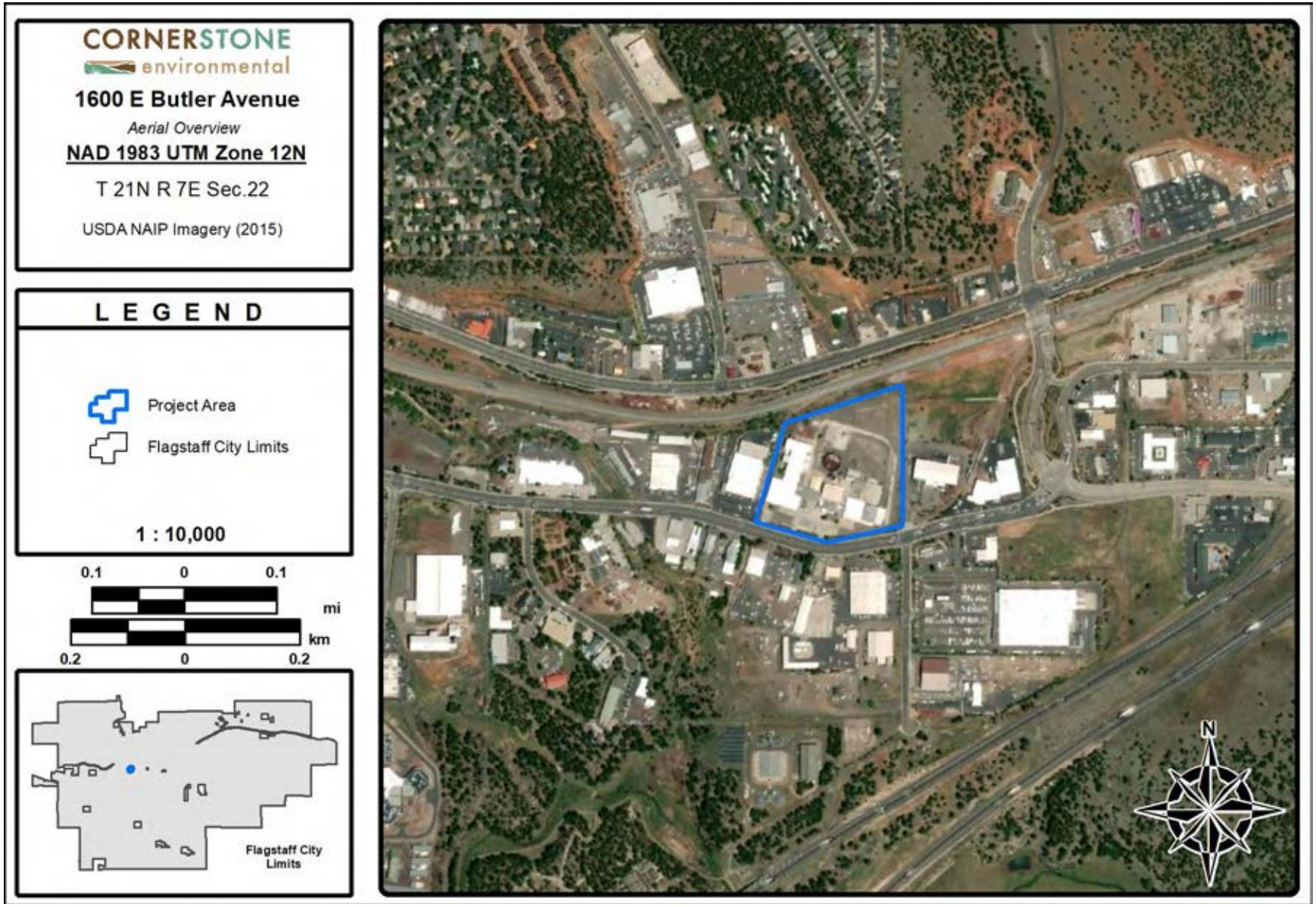


Figure 3. Study area location shown on aerial photo.

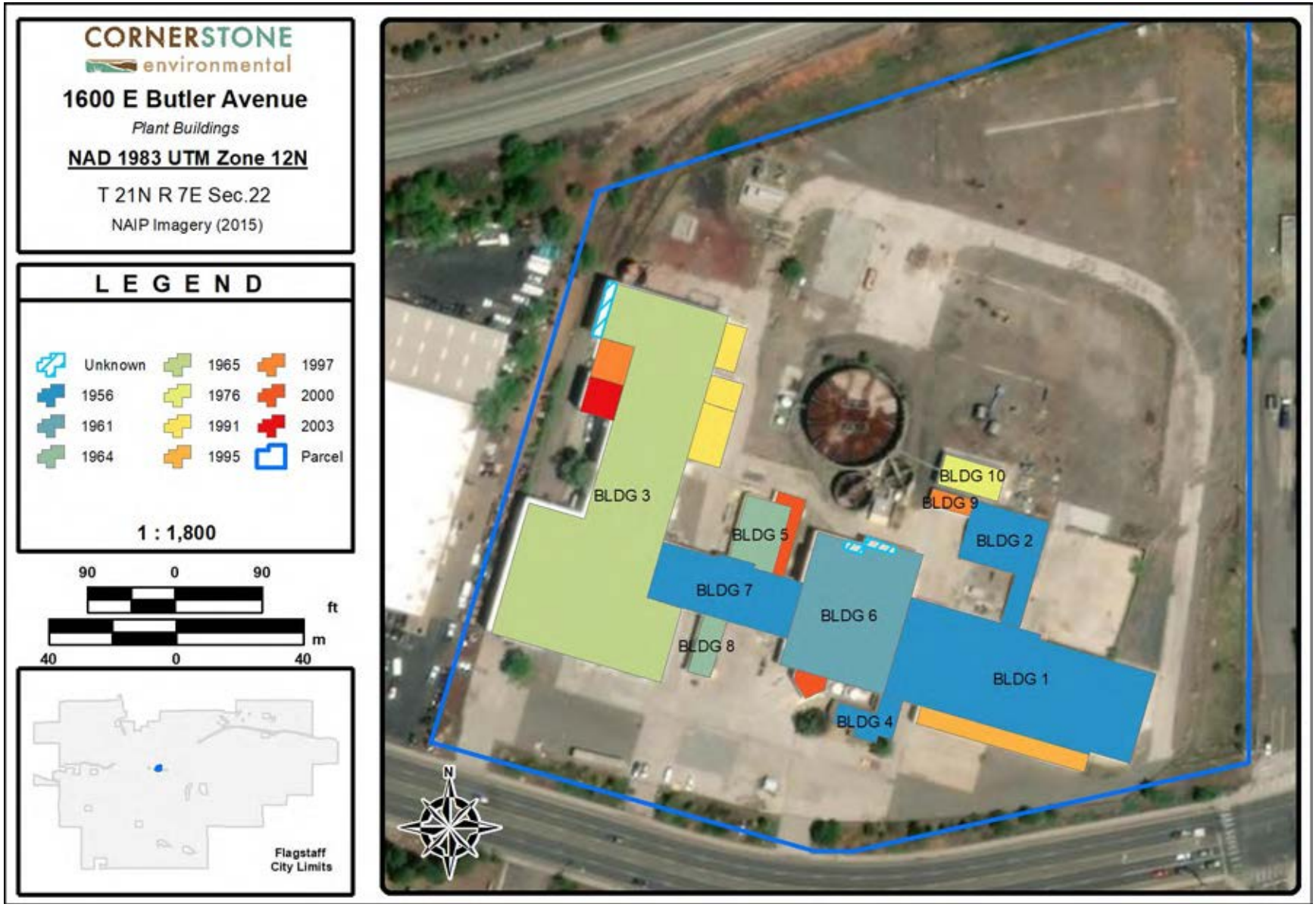


Figure 4. Aerial photo showing building numbers and initial construction dates.

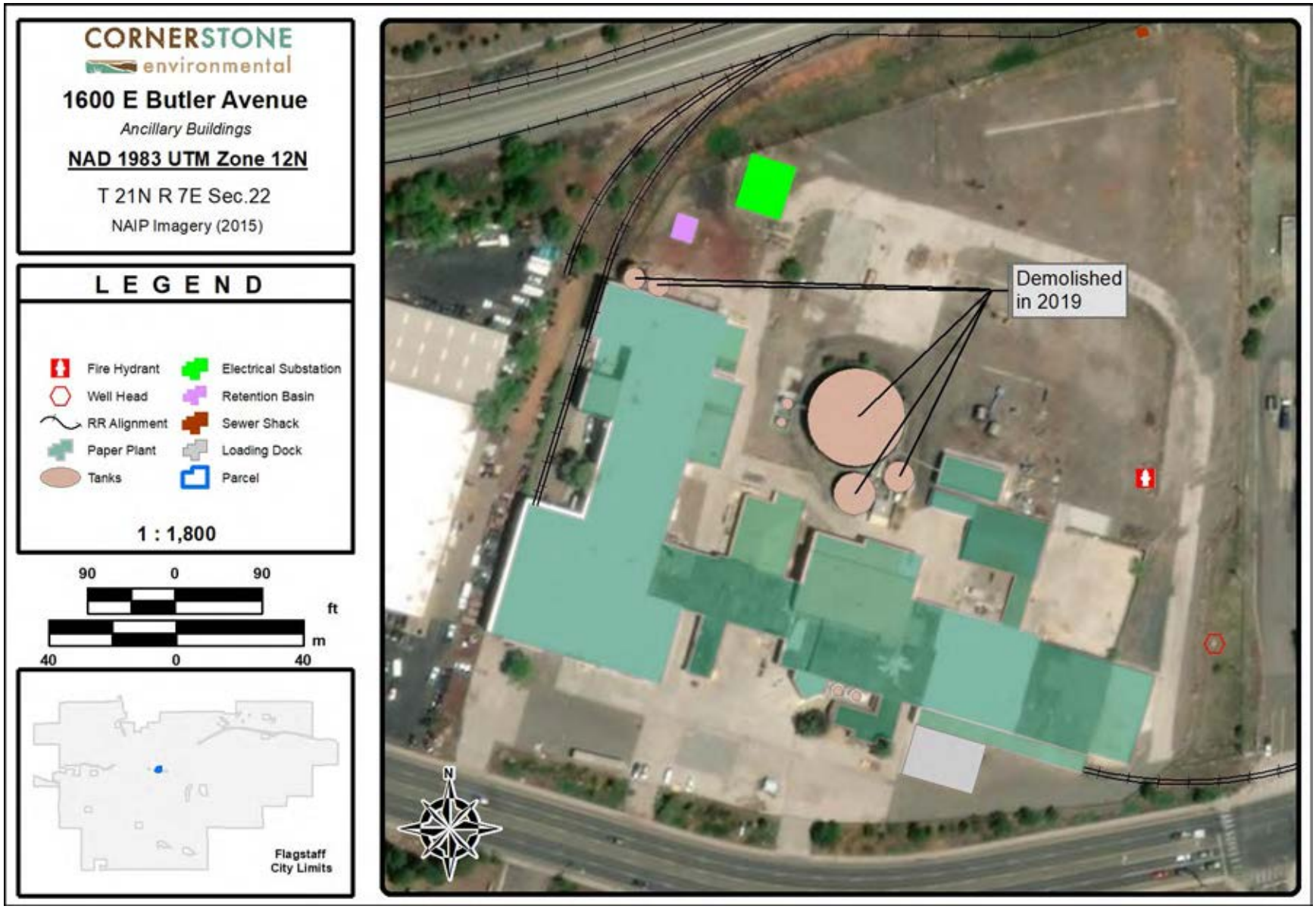


Figure 5. Aerial photo showing ancillary structures.

Figure 6. 2017 oblique aerial photo of the SCA Tissue Plant.

During all phases of research, Cornerstone personnel focused on the following questions:

- What is the early history of the property?
- How did the use of the plant transition through time?
- What products were made in the plant?
- What processes occurred at the different buildings?
- How did the ethnicity of the workforce change through time?
- What was the role of women at the plant?
- In what neighborhoods did most of the workers live?
- How was recycled water used at the plant?
- How was recycled pulp used?
- How did the delivery systems in the plant for water, pulp, and finished product function?
- What products went to the Bellemont facility for completion?
- Where did the recycled paper come from?
- How were the finished products packaged?
- How much of the finished products were sold locally in Flagstaff, Arizona, and nationally?
- How did the paper-manufacturing industry, and the SCA plant, fit into the economy of Flagstaff?

The following list details the types of documents and sources that were consulted during this study:

- Aerial photographs (1944 to the present)

    - March 7, 1954
    - 1959
    - August 31, 1964
    - August 23, 1974
- The Arizona State Museum's AZSITE database
- City of Flagstaff/Coconino County plat maps (1878, 1889, 1909, 1919/1925, and 1939)
- Coconino County deed, tax assessment, and property records
- Existing cultural/historical resource studies and historic contexts
- Flagstaff Building Timeline Collection, 1890-2000 (Hooper n.d.)
- Flagstaff City Directories (1929–1989 [some years missing from record])
- Flagstaff Telephone Directories (1930–1989 [some years missing from record])
- Bureau of Land Management General Land Office (GLO) map: 1878 GLO Survey
- Historical topographic maps:
    - San Francisco Mtns 1:250,000 (1886, 1891, 1894, 1899)
    - Flagstaff 1:125,000 (1908, 1912)
    - Flagstaff 1:250,000 (1947, 1954, 1960, 1962) area
    - Flagstaff West 1:24,000 (1962)
- Historical postcards
- Sanborn Fire Insurance Co. maps (1910, 1916, 1943, 1948, and 1956)
- National Register of Historic Places Focus database
- Newspaper archives
    - Arizona Daily Sun
    - The Coconino Sun
- Cline Library Special Collections, including oral history interviews

3.1 METHODOLOGY FOR THE ANALYSIS OF SIGNIFICANCE AND INTEGRITY

For a resource to be considered a significant cultural/historical resource for the City of Flagstaff or to be considered eligible for listing in the National Register of Historic Places (NRHP) or the Arizona Register of Historic Places (ARHP) the resource must possess both significance and integrity. Definitions of significance and integrity are found in the Flagstaff Zoning Code (30.30-13) and the NRHP Criteria for Evaluation (36 CFR § 60.4). Evaluation of significance and integrity and application of the NRHP Criteria for Evaluation was conducted in accordance with the guidelines established by the U.S. Department of the Interior and National Park Service in *U.S. Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation* (NPS 1983), *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (NPS 2002), and *National Register Bulletin 32: Guidelines for Evaluating and Documenting Properties Associated with Significant Persons* (NPS 1989).

3.1.1 SIGNIFICANCE

For a resource to be considered significant it must meet City of Flagstaff Criterion A (be at least 50 years old) and at least one other Criterion for Evaluation (B, C, D, or E; NRHP Criteria A, B, C, and D,

respectively) by being associated with an important historical context, retain historic integrity of those features necessary to convey its significance, and have been built and used within the appropriate period of significance for the identified theme (NPS 2002). The period of significance is the time period in which properties eligible for the National Register must be demonstrated to have been associated with the appropriate theme. The ARHP utilizes the same criteria and process for determining significance. For means of ease of communication, NRHP Criteria will be used throughout this report. The NRHP Criteria for Evaluation (36 CFR § 60.4) are as follows:

> *The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*
>
> *A. That are associated with events that have made a significant contribution to the broad patterns of our history; or*
> *B. That are associated with the lives of significant persons in our past; or*
> *C. That embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguished entity whose components may lack individual distinction; or*
> *D. That have yielded, or may be likely to yield, information important in prehistory or history.*

The City of Flagstaff's criteria for determining significance of cultural/historical resources are similar to that of the NRHP but are not an exact replication. The criteria are defined in Flagstaff Zoning Code (30.30-13) as the following:

> *The criteria for determining the significance of a cultural resource is based on the potential of the cultural resource to contribute to our understanding of the past.*
>
> *1. A cultural resource is significant if:*
> *a. It is eligible as a National Historic Landmark, or for the National Register of Historic Places, or the Arizona Register of Historic Places; or*
> *b. It is associated with events or persons in the architectural, engineering, archeological, scientific, technological, economic, agricultural, educational, social, political, military, or cultural annals of the City, the State of Arizona, or the United States of America; or*
> *c. It represents the work of, or for, an important individual; or*
> *d. It embodies distinctive characteristics of type, period, region, artistic values or methods of construction, including being the oldest of its type or the best example of its type; or*
> *e. It has yielded, or may be likely to yield, information needed for scientific research, such as important archaeological resources.*
> *2. A resource is generally not significant if:*
> *a. It is less than 50 years old at the time of application; or*

b. The features, materials, patterns and relationships that contributed to its significance are no longer present or no longer have integrity.

3. Requirement to Meet the Criteria, Regardless of Age: Properties that are 50 years old are not automatically significant. In order to be significant, all resources, regardless of age, must be demonstrated to meet the criteria for determining the significance of a cultural resource.

3.1.2 INTEGRITY

Integrity is defined as the ability of a property to convey its significance. The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (NPS 2002) includes the following definitions of the seven aspects of integrity:

- ***Location*** *is the place where the historic property was constructed or the place where the historic event occurred.*
- ***Design*** *is the combination of elements that create the form, plan, space, structure, and style of a property.*
- ***Setting*** *is the physical environment of a historic property.*
- ***Materials*** *are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.*
- ***Workmanship*** *is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.*
- ***Feeling*** *is a property's expression of the aesthetic or historic sense of a particular period of time.*
- ***Association*** *is the direct link between an important historic event or person and a historic property.*

Several steps are utilized to assess integrity. The first steps are to identify the character defining features, or essential physical features, that are required to demonstrate a resource's significance and to determine if these features are present and sufficiently visible to convey the resource's significance. The next step is to determine whether the resource should be compared with similar properties. This process may reveal which character defining features are necessary and is particularly important in cases where the resource is a rare surviving example (NPS 2002).

The last step is to determine which aspects of integrity are particularly relevant to the resource. A resource that retains historic integrity will likely retain most or all of the seven aspects of integrity. However, which aspects are most important to a certain resource will depend on the type of resource and under which NRHP Criteria the resource is significant. A building significant under NRHP Criteria A or B (association with significant events or persons, respectively), for example, may not need to retain as

high a degree of design, workmanship, and materials as would be required for eligibility under NRHP Criterion C (architectural value). Likewise, for a building significant under Criterion D, the retention of location, setting, feeling, and association is less important than for a building eligible under Criteria A or B (NPS 2002).

4.0 HISTORICAL OVERVIEW

This historical overview was created from multiple sources and attempts to paint a background upon which the research results can be viewed (NPS 1986). If the subject property demonstrated no association with a particular theme, that theme is not represented in this historical overview.

4.1 SETTLEMENT AND EARLY DEVELOPMENT OF FLAGSTAFF

The first attempt by immigrants to settle the Flagstaff area began when two groups of pioneers from Boston, organized as the Arizona Colonization Company, surveyed an area near Leroux Spring in 1876. Lots and blocks for a townsite were laid out but, discouraged with the poor prospects for farming or mining, those first pioneers abandoned the site within a few months.

In the summer of 1880, Atlantic & Pacific Railroad surveyors, followed by the grading subcontractors for the new line, established a camp at Antelope Spring near the base of Mars Hill (Stein 2006). The railroad line was established along the southern boundary of Section 16, just south of Antelope Spring. Although the surveyors had located their construction terminus at the spring, which was also near the crossroads of the Overland Route (Beale Road) and Fort Valley Road, they did not plan a town at that location, since a division town had been laid out at Winslow and another planned for Seligman. Nevertheless, a construction terminus boom town began to grow in 1881 when Peter J. Brannen, a merchant from Prescott, located a branch store near the spring just north of the railroad's right-of-way. Other merchants and businessmen, operating saloons, restaurants, and dry good stores, began to erect log and tent structures along the railroad line west of Brannen's store. This early commercial focal point for Flagstaff would be known in the future as "Old Town." Archaeological excavations conducted in 1976 revealed the presence of some of those initial business sites, but no standing structures remain today.

In 1881 Edward E. Ayer, a lumberman with operations in Michigan and Wisconsin, contracted with the Atlantic & Pacific Railroad to supply all the ties for the roadbed construction and the lumber for bridges. Ayer erected a sawmill, which was in operation by the summer of 1882. Noted as the largest and most modern in the Southwest, the sawmill was producing 150,000 board feet of lumber per day, two weeks before the arrival of the first train to Flagstaff in August of 1882.

The steep railroad grade up to the settlement at Antelope Spring forced the trains to stop on the flatter ground one half mile to the east, so a depot was erected at that location. Businesses began to relocate at this "New Town" in 1883. P.J. Brannen was the first to construct a stone store building on the corner of San Francisco Street and Railroad Avenue, also known as Front Street. Soon a large number of frame buildings sprang up along Railroad Avenue.

When most of Old Town burned down in a fire in 1884, the commercial center was recognized to be at the New Town location. A fire in that area in 1886 destroyed almost the entire new district, but it was largely rebuilt by early 1887 with the new buildings being built of brick or stone. Residential areas were also developing in the late 1880s north of the commercial area to about Cherry Street, and along Leroux Street, then known as Gold Avenue.

The 1890s were important in Flagstaff's economic and political history. Two banks were established by 1890, the Arizona Bank and the Bank of Flagstaff. A private electric light plant was built in 1890 and that same year the beginning of a telephone system was installed. A fire department was also organized in the 1890s. In 1891 the Territorial Legislative Assembly passed an act that created Coconino County out of a portion of Yavapai County. Flagstaff was designated as the county seat by special election.

The Town of Flagstaff was incorporated on May 26, 1894, by an order of the Coconino County Board of Supervisors. The Supervisors appointed Gohram A. Bray as mayor and J.A. Vail, J.F. Daggs, P.J. Brannen and David Babbitt as members of the Common Council. The first town elections were held in May 1895. During Julius Aubeneau's term as mayor in 1898, the town of Flagstaff held its first bond election. Voters approved the measure, which authorized $95,000 to build a town-owned water line and reservoir.

The establishment of Flagstaff as the seat of Coconino County, the town's incorporation, and the initiation of its utility systems, helped provide the impetus for Flagstaff's first major building boom. By 1900 Flagstaff had a population of slightly under 2,000 people supported by a prosperous economy founded on the lumber, sheep, and freighting industries.

4.2 The Babbitt Brothers

The Babbitt brothers came to Flagstaff from Cincinnati, Ohio in 1886 and established the CO Bar cattle ranch on lands between Flagstaff and Grand Canyon (Smith 1989). The CO Bar is one of the largest cattle ranches ever to operate in the Southwest and is active to this day (Trimble 1982). Before the family's interest in cattle ranching, Catherine Spellmire, a German immigrant, and David Babbitt, a native of

Massachusetts, were simple farmers raising their family of six children on the outskirts of Cincinnati, Ohio. Everything changed in 1868 when Catherine was widowed and left alone to raise her daughter and five sons: Elizabeth ("Lizzie," 15 years old), David ("Dave," 10 years old), George (eight years old), William ("Billy," six years old), Charles ("C.J.," three years old), and Edward (one year old; Figure 7; Smith 1989). After the father David's untimely death, Catherine packed up her family and moved them into Cincinnati where she managed the family matters until her death in 1883 (Akbarzadeh 1992).

Following the death of his sister Lizzie the same year, Dave became the head of the Babbitt household at age 10 (Smith 1989). Although he was forced into this position by unfortunate circumstances, Dave proved to be a natural leader and savvy businessman from an early age. In 1882, Dave and George at the ages of 24 and 22, respectively, opened a grocery business in Cincinnati, which would prove to be the first in a long string of business endeavors for the Babbitt family. The grocery was located across the street from the household of the Verkamp family, which included four daughters, three of whom would marry Babbitt brothers.

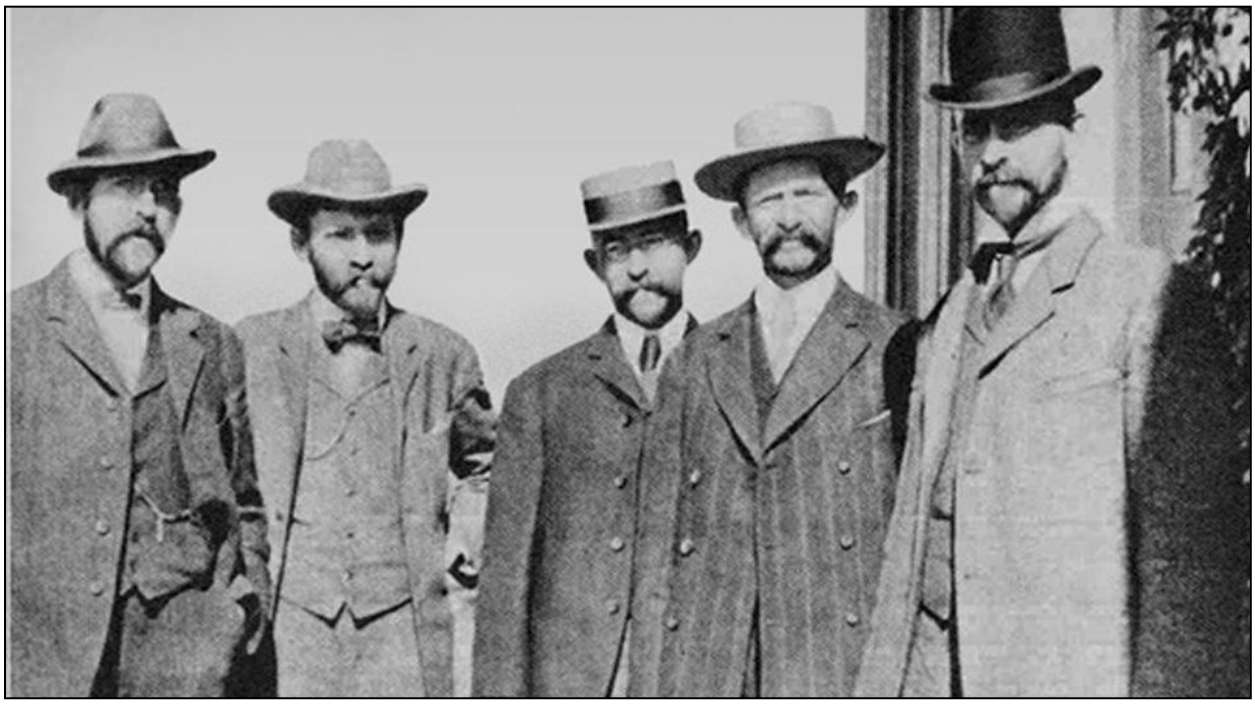


Figure 7. Photo of George, Charles, Edward, William, and David Babbitt (left to right), around 1908.

As the three younger Babbitt brothers matured, they became involved in the family business and soon began looking west. News of wide-open spaces and successes in the ranching industry in the west had made its way to Cincinnati, and in 1884 Dave took a trip to scout out new opportunities for the family. Unable to locate a suitable and affordable site in Wyoming nor in Montana, he returned to Ohio and the young Babbitts pushed hard to save up as much money as possible. Characteristically resilient, Dave and

William embarked on a second westward voyage in 1886 with a savings of $20,000 and a focus on the Southwest.

Before Dave and Billy stepped off the train in Flagstaff on April 7, 1886 they had both researched and seen firsthand much of the American West. While passing through New Mexico, the brothers found that land and stock prices were too high for their liking. Following a tip from a railroad clerk about a booming but raw little town in the Arizona Territory where the "…range is good and the scenery is wonderful" (Smith 1989:33), they departed Albuquerque and headed toward the booming town of Flagstaff. There they met many of the town's influential citizens through their acquaintance with Dr. D.J. Brannen, the physician for the Ayer Lumber Mill, the Atlantic & Pacific Railroad (A&P), and the cousin of early settler and merchant Peter J. Brannen from Prescott (Woodward 1993; Wilson-Kelly 2009).

Upon stepping off the train in the predawn alongside the A&P's hastily converted boxcar that served as the train depot, the brothers were greeted by a lifeless town in the early morning gloom. Undaunted by the discovery that a disastrous fire had devastated downtown Flagstaff just months earlier, Dave and Billy wired C.J. who arrived in Flagstaff just a couple weeks later. George stayed in Ohio just long enough to tie up the family affairs while Edward remained at school. George and Edward arrived in 1887. While the four older brothers would stay in Flagstaff for the rest of their lives, Edward returned to Ohio to study law, occasionally visiting Arizona, as Cincinnati remained his true home.

Within their first two weeks in town, Dave and Billy spent almost their entire $20,000 in savings to procure around 1,200 head of cattle, calling their new outfit the CO Bar Ranch in honor of their hometown of Cincinnati, Ohio. At this point, the Verkamp family, including George Verkamp and his daughters, once again enter the story.

The four older Babbitt brothers came west to pursue cattle ranching, which was a good and profitable industry at the time, but entrepreneurial diversification sustained the family in the long term. C.J. and Billy continued to run the ranch, while Dave and George sought other opportunities. George took a position as the bookkeeper for P.J. Brannen's general store and purchased a small confectionery and restaurant on Front Street (now Historic Route 66), eventually installing the very first soda fountain in town (Cline 1976). The Babbitt brothers who married Verkamp women received $10,000 dowries and George Verkamp contributed up to $100,000 to the endeavors of his daughters and their Babbitt husbands.

4.2.1 BABBITT BROTHERS TRADING COMPANY

As a response to a slump in cattle prices that limited the Babbitt's stock operation, Dave Babbitt opened a building materials business in a frame building on the northwest corner of San Francisco and Aspen streets (Cline 1976; Turley 1939). This site would later become the center of Babbitt operations for many years. As part of the push to diversify the family's business interests, Dave bought Ralph Cameron and John Lind's general store (Babbitt 1967). The frame building in downtown Flagstaff was then replaced by a beautiful stone building in 1888.

In 1889, George dissolved his business and the brothers created Babbitt Brothers Trading Company as a partnership (Cline 1976). The company was incorporated in 1918 and included branches in Williams, Winslow, Page, Holbrook, and Grand Canyon. The company's main interests included Indian goods trading, cattle and sheep ranching, real estate, loans, general mercantile, and freighting. The company's articles of incorporation indicate that a charter of incorporation was granted for 25 years and the various trading posts were incorporated separately. All assets and liabilities of the Babbitt Brothers Mercantile Company in Winslow were transferred to the Babbitt Brothers Trading Company in exchange for 1,245 shares of stock on October 7, 1918.

Babbitt Brothers Trading Company was a success in the lumber and tool supply business because they purchased large amounts of product at wholesale prices and resold them for lower rates than their competitors (Turley 1939). The business model worked well, and the family forged their way into the world of merchandise. By December 31, 1888, all four eldest brothers had invested in Babbitt Brothers Trading Company. Each brother had a specific role in the company, with each role aligned to their business strength, while William continued to oversee the ranch. Over the years, the company had dealings in everything from selling merchandise – from wagons to sewing machines to groceries – with their business mainstay being livestock. Over the years, the Babbitts continued to add business lines including a bank, ice making, a funeral parlor, a drug store, and automobiles. In the 1930s, when Platt Cline arrived in Flagstaff, prevalent sayings in Flagstaff were that "…the Babbitts would provide everything you needed, 'from the basket to the casket'" and that "In northern Arizona, even the sheep say, Baa-bbitts" (Cline 1976:248).

Babbitt Brothers Trading Company continued to diversify and invest during World War II and were quick to modernize when the post-war boom hit. The company adapted its business strategy, focusing almost entirely on ranching and department stores until the 1980s, when they were forced to cut back their endeavors or continue to be in debt. In 1987, the company had to close its downtown Flagstaff department

store and those in six other northern Arizona communities. The company officially closed its doors in 2002.

While the Babbitt building in downtown Flagstaff remains as an architectural fixture of the community, it was once slated for demolition. The building's purchase by the Babbitt Foundation saved the structure, which has served as an example of adaptive reuse and successful historic preservation in the City of Flagstaff. Babbitt Brothers Trading Company had immense influence on northern Arizona. The Babbitts continue their ranching tradition, while Babbitt's Wholesale Company now operates out of the downtown building. Babbitt's Wholesale Company currently specializes in sporting goods and wholesale distribution of Pendleton blankets.

While Babbitt Brothers Trading Company found prosperity in the late nineteenth and early twentieth century, and the auto industry blossomed in the early 20th century, ranching would eventually become the family's most profitable, widespread, and enduring endeavor. At its peak, the Babbitt Ranches spanned over a million acres – from Kansas to California – and included enduring partnerships with many smaller ranches in and around Flagstaff, such as the Arizona Cattle Company with its A-1 brand, as well as the Hashknife outfit. While last of the five original Babbitt brothers died in 1956, the Babbitt Ranch tradition continues with some of the finest operations in northern Arizona, including a colt sale under the historic Hashknife brand.

The Babbitt Ranches currently raise calves with approximately 8,000 head of grass-fed, open range, Hereford cattle grazing on 700,000 acres of private, federal, and state land that include the CO Bar, Espee, and Cataract ranches. The family continues to contribute to the Flagstaff community through their emphasis on conservation and a relationship with the land that has developed out of their more than 125 years of working on, and with, the natural world. Their character, community, and what they call "Cowboy Essence" has been a significant factor in shaping Flagstaff and northern Arizona into the cultural landscape that influences residents' world views and local values.

4.3 Lumbering in the Flagstaff Area

The logging and lumber industry in the forests of northern Arizona started incrementally with small and often portable mills scattered across the area. The first known mill in the area was set up by Mormons in 1876 at Sawmill Springs (Stein 2006:5). It was the coming of the railroad in the 1880s, however, that turned the nascent trade into a regional industry. As the Atlantic & Pacific Railroad made its way across northern Arizona it became clear that the immense ponderosa pine forest surrounding the San Francisco Peaks would be a key provider of lumber resources, vital for railroad ties and bridge timber (Matheny

1975; Schuppert 1993). Flagstaff emerged as the logical epicenter of this industry, due to its central location and the presence of water at Antelope Springs. The United States granted land to the A&P along the route of the railroad and the company contracted out timber rights to lumber companies (Matheny 1975).

In 1881 the first significant company emerged to take advantage of this situation. A Chicago businessman, Edward Everett Ayer, formed the Ayer Lumber Company and hired J.A. Wakefield as mill manager, and in 1882 they built the first permanent mill in Flagstaff about a mile southwest of the new train station (Schuppert 1993:17–19). In 1884 Ayer became dissatisfied with Wakefield and replaced him with Denis M. Riordan as manager (Schuppert 1993:24–25). Denis brought on his two younger brothers Michael J. Riordan and Timothy A. Riordan. By 1887 Ayer was looking to get out of the lumber business in Flagstaff, and an arrangement was made for the Riordans to buy out the company; the Riordans reorganized it as the Arizona Lumber Company (Schuppert 1993:26).

These and future developments would occur on lands considered ancestral to indigenous groups including the Apache, Diné (Navajo), Havasupai, Hopi, and Yavapai. The White Mountain Apache were particularly instrumental in defending their land against incursion. Just weeks prior to Ayer establishing his lumber mill, an Apache leader, called Nok-e-da-klinne by historians, was captured and killed by U.S. forces. Fear of reprisal somewhat impaired Ayer's efforts. Apache resistance in the area was effectively ended at the Battle of Big Dry Wash in 1882, where 350 troops of the U.S. Army's 3rd and 6th Cavalry Regiments, under command of Captain Adna R. Chaffee, defeated about 60 White Mountain Apache warriors led by Na-tio-tish (or Non-tia-tish; Matheny 1975:59–60). The logging and lumber industry would continue in the area with no significant resistance from its original inhabitants.

Meanwhile, Colonel James W. Eddy had been struggling with acquiring financing for his ongoing construction of the Arizona Mineral Belt Railroad. By 1888 his situation was finally untenable, and Denis Riordan and other investors joined to buy up the failed railroad's locomotive engine, rolling stock, the railroad line itself, and other associated properties and assets. It was reorganized as the Central Arizona Railroad (CAR), in direct support of the Arizona Lumber Company. By fully integrating the harvest and transport of logs with their milling operations, the Riordans struck on an effective business model (Schuppert 1993:29; Stein 2006:6). Logging, railroads, and lumber mills would remain entwined in the Flagstaff area through the 1960s.

The original sawmill site established by Ayers was still the primary mill site and was now known colloquially as Milltown (later shortened to Milton), due to the various company establishments

surrounding it. The Flagstaff sawmill was also supported by various smaller branch mills. Operational redundancy was important, as sawmills were prone to fire. The CAR maintained a steady stream of logs to feed the mills, and by the end of the 1880s the Arizona Lumber Company had a near monopoly on timber rights in the San Francisco Peaks area. The Riordans renamed their business the Arizona Lumber & Timber Company (AL&T) in 1890 to reflect their growing emphasis on logging (Schuppert 1993:29–30).

In 1897 the two younger Riordan brothers took over operation of the AL&T from Denis. By this point, production at the mills had increased and the original alignment of the CAR was no longer producing enough raw timber. The brothers disassembled the track, and over the next few decades would lay and then pull a series of main and spur lines throughout the area to harvest timber and keep the mills fed (Schuppert 1993). The original alignment ran through Clark Valley, and subsequent alignments included the Rogers Lake South and North Lines, the Greenlaw North and South Lines, the Woody Ridge Line, and the Munds Park and Howard Spring Line (Stein 2006). This system proved efficient and effective and would be emulated by other companies.

The Riordans were influential not just in the logging and lumber industry but in the development of the City of Flagstaff and the greater Flagstaff area. In 1903 the Riordans provided funding for a dam across Clark Valley to form a lake to provide water for their company and the town of Flagstaff. It was named Lake Mary for Timothy Riordan's daughter, Mary Riordan (Schuppert 1993:66–67). The house Michael and Timothy built in 1904 has been preserved as the Riordan Mansion State Historic Park and is a Flagstaff tourist attraction. The Riordans' supremacy in the Flagstaff logging and lumber business would be challenged by a number of players, however, including the Greenlaw brothers, the Flagstaff Lumber Company, and the Saginaw & Manistee Lumber Company.

Beginning in 1887 and continuing through the mid-1920s, the brothers Ed and Charles Greenlaw mounted successive endeavors that challenged the AL&T. First as the Enterprise Lumber Company, then as the Coconino Lumber Company, and finally as the Greenlaw Lumber Company, the brothers would carve out a niche for themselves in the industry before being subcontracted, bought-out, or otherwise brought back in to the Riordans' corporate fold (Schuppert 1993:31–33). The Greenlaws' sawmill was just east of Flagstaff, at the current location of the Flagstaff Mall (Stein 2006:15). The CAR's Greenlaw lines were specifically built to support the Riordans' interest in this mill.

Edward T. McGonigle, a former AL&T employee, formed the Flagstaff Lumber Manufacturing Company (later shortened to Flagstaff Lumber Company) in 1909. For a time, they equaled the production of the

Riordans' operation. The company was bought by the W.M. Cady Lumber Company of McNary, Louisiana in 1924 and ceased operations around 1927 (Schuppert 1993:64–69). The company's railroad was officially named the Flagstaff and Southern but was unofficially known as the "Flim-Flam." They built several alignments including the Clark Valley to Howard Mountain Line, the Anderson Mesa Line, and the Mormon Mountain Line (Stein 2006).

The most substantial competition came from the Saginaw & Manistee Lumber Company. The Saginaw Lumber Company, out of Michigan, started operating in the area in 1893 and merged with the Manistee Lumber Company in 1899. Saginaw & Manistee operated lumber mills in Williams, Chalender, and, later, Flagstaff, and constructed several logging railroad lines including the Chalender Line, the Bellemont Line, the Garland Prairie and Hull Spring Line, and the Tusayan Line (Stein 2006). Rather than rely fully on their own railroad network (as the Riordans did with the CAR) Saginaw & Manistee tended to build lines that tied into the Santa Fe Railway (formerly the A&P; Schuppert 1993); an exception was a short primary line of their own named the Saginaw Southern Railroad (Stein 2006:27).

The industry employed a diverse workforce. From the late nineteenth century through the 1920s, much of the railroad construction crews for the AL&T and Saginaw & Manistee were Mexican or Mexican American. When the W.M. Cady Lumber Company purchased the Flagstaff Lumber Company they relocated much of their workforce from Louisiana, including many Black Americans (Montgomery et al. 2019); the company also employed many Apache and Navajo tribe members (Stein 2006:9). Predictably for the time, it was not uncommon for logging camps to be racially segregated (Stein 2019:13). The work was demanding, companies made it difficult for workers to form unions, and severe injuries were quite common (Stein 2006:12). One bright spot: keen to keep their workers fueled, most companies made sure their loggers were provided a full, hearty, and varied diet (Stein 2006:10).

Due to several factors, the early twentieth century saw the industry begin to slow down. To start with, many of the most accessible and profitable stands of timber had already been harvested. Then, following the formation of the Coconino and Kaibab National Forests around the turn of the century, the United States Department of Agriculture (USDA) began to take a larger role in forest management. From 1910 on, efforts to improve sustainability and decrease clearcutting contributed to the lowering of profitability of logging in the area (Stein 2006:11).

The early 1930s saw further turbulence. The Wall Street Crash of 1929 took several months to be felt, but broad declines in national industries resulted in most logging and milling operations ceasing in 1930. Michael Riordan died in 1930, and Timothy Riordan decided to retire in 1933. Joe Dolan, a crate and box

manufacturer out of Phoenix, bought controlling stock of the AL&T and CAR the same year and operations resumed. Dolan dissolved the CAR as a separate company, incorporating railroad operations into the AL&T, and modernized and improved the company's logging operations (Schuppert 1993:72). By 1941 Dolan wanted to get out of the logging and lumber business and Saginaw & Manistee wanted to expand; as a result, Dolan leased the AL&T to the latter company. The AL&T name was dropped, though its operations continued (Schuppert 1993:73).

The engagement of the U.S. in World War II (1941–1945) and the resulting demand for lumber resources reinvigorated the industry and had lasting effects. One of these was the rise of Southwest Lumber Mills (Southwest). In 1948 Southwest resurrected the old Flagstaff Lumber Company sawmill site. Southwest was largely built off the old holdings of the W.M. Cady Lumber Company, including a separate mill in McNary, Arizona, and had been building its capacity in the region for some time. Southwest was ambitious, acquiring Saginaw & Manistee in 1953 or 1954 (Schuppert 1933:75–76). The 1950s saw Southwest become a fully integrated forest products company as they expanded into paper products. Construction of a papermill near Snowflake, Arizona, began in 1956 (completed in 1961) and the company changed its name to Southwest Forest Industries in 1959, which reflected its purchase of corrugated container plants and a wholesale paper distributor (Arizona Daily Sun [ADS] March 27, 1976). Much of the pulpwood and wood chips for the paper mill were supplied through the logging and sawmill operations of Southwest and other operators in the Flagstaff area.

This period saw other changes in the logistics of the industry, notably the transition from railroads to trucks for transporting logs to mills. This is exemplified by the story of the Allan Lake Line (Treichler and Edwards 2020). Construction of this line was started in 1934 by the AL&T as an extension of their Munds Park and Howard Spring Line, but work stalled out. Nascent Southwest Lumber Mills acquired rights to the line in 1936. After Saginaw & Manistee gained operational control of AL&T in 1941, they shared management of the line with Southwest. Work on the Allan Lake Line resumed in 1942 (prompted largely by World War II) and the line was completed in 1946 when it reached Allan Lake Landing. Timber harvested along the line played a key role in the war effort. Few spurs were built along the line, and it was not extended past Allan Lake. This was because trucks proved more efficient in transporting logs to the railroad as logging operations pushed out. These operations were supported by the large logging camp at Happy Jack, about six miles south of Allan Lake Landing. This system continued until the last log train ran in 1966. At this point the cost of repairing and maintaining the deteriorating railroad system simply outweighed the benefit. Southwest pulled the Allan Lake Line's rails in 1967 (Stein 2006, 2019; Treichler and Edwards 2020).

Southwest successfully continued truck-based logging operations from here on out (Figure 8). During the 1970s, Southwest's sawmill could process more than 2,000 logs during its normal 16-hour day. The mill's annual capacity was more than 70 million board feet of lumber in the 1970s (ADS March 27, 1976:C10). By 1976 the company had 105 plants and facilities in 33 states and approximately 8,500 employees (ADS March 27, 1976). In 1976 alone, they dispersed more than $5 million in payroll to over 500 people directly dependent on their Flagstaff operations (ADS March 27, 1976). This included their sawmill in the city, the Happy Jack logging camp, and the headquarters for Southwest's Timber Resources Division, which was responsible for supplying sawlogs to Southwest's Arizona and New Mexico sawmills and pulpwood and wood chips to the company's paper mill in Snowflake, Arizona.

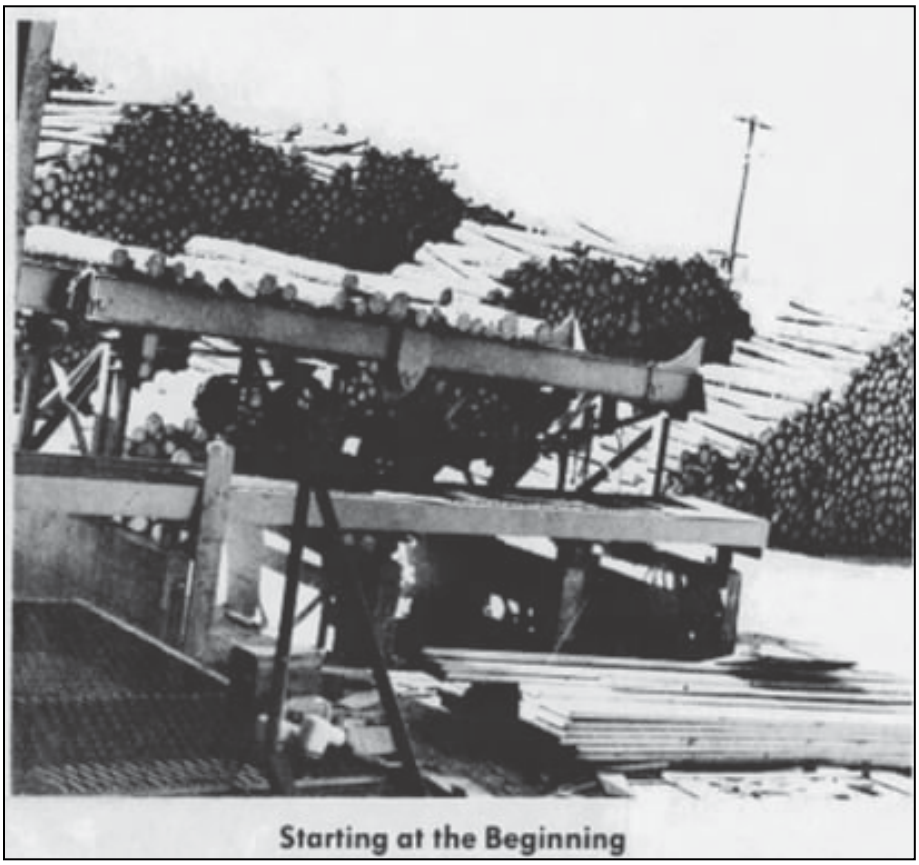


Figure 8. Photo of logs prepared for the Ponderosa Paper Mill, around 1966 (ADS June 29, 1966).

Henry Weaver was manager of Southwest's Northern Arizona Division, which included the Flagstaff sawmill and a wood treating plant in Prescott. He is quoted as saying that he expected to see "the sawmill producing close to capacity in 1976, compared to production levels of only 83 percent of capacity in 1974 and 1975" (ADS March 27, 1976:C10). Southwest closed their particleboard plant in Flagstaff in 1976,

but Weaver remained confident that the closure did not “signal a decline in the long-standing Flagstaff operations” (ADS March 27, 1976:C10).

Southwest’s commitment to the area continued into the late twentieth century, as exemplified by their 1976 construction of a $1.7 million logging camp at the site of the Last Chance Mine (which produced manganese during World War II), 10 miles south of the existing Happy Jack facility. Bob Blaser, the vice president and manager of Southwest’s Timber Resources Division, has said they planned to call the new camp Happy Jack Too and planned for it to consist of a maintenance shop for logging trucks and equipment, office space for sawlog and pulpwood logging supervisors, and modern mobile home sites (Edwards 2018). Southwest also paid employees of Jeld-Wen, Inc., who leased property at 825 and 829 E. Butler Avenue next to the Southwest sawmill (ADS March 27, 1976). According to the obituary of former Jeld-Wen employee Daniel Contreras (December 30, 1937-January 28, 2017), Jeld-Wen discontinued operations in 1996 along with Southwest’s Flagstaff sawmill (Norvel Owens Mortuary 2018).

5.0 Archival Research

Multiple resources were utilized during the course of archival research for this project (*see* Section 3.0 Methodology). Results of searching the multiple company names associated with the property using online newspaper databases resulted in over 1,500 results of varying relevance. These findings were combined with interview data and personal clippings and documents provided by John Girvin and Bruce Jacks.

5.1 Research Results

Multiple sources were searched to find changes to the study area through time (*see* Section 3.0-Methodology). Newspapers, aerial photography from USGS and private collections, historical topographical maps, General Land Office (GLO; 1878) maps, and historical plat maps of Flagstaff of the property and the surrounding areas were also reviewed. Following the use of the property as a slaughterhouse by Babbitt Brothers Trading Company, seven pulp and/or paper companies were involved with the property over time (Table 1). This section focusses on the period of significance from 1953 to 1970 and has only cursory information about the mill after 1970, except for information that would help address research questions stated in Section 3 of this report.

Table 1. Companies Through Time

Entity Name	Tenure
Babbitt Brothers Trading Company	1880s–1950s
Coconino Pulp & Paper	1953–1956
Arizona Pulp & Paper	1956–1964
Ponderosa Paper Products	1964–ca. 1989
Orchids Paper Products	1974–1995
Wisconsin Tissue	1995–1999
Georgia Pacific	1999–2001
SCA Tissue	2001–2017

Topographical maps, GLOs, and historical plat maps of Flagstaff do not show anything of interest in the parcel except for the railroad spur seen in the 1908 and 1912 1:125,000 scale maps, and the footprint of the main building in the 1962 1:24,000 scale topographical map. Figure 10 is a USGS single frame aerial photograph from March 7, 1954 that shows the beginning of the development of the Coconino Pulp & Paper plant, when it was making egg cartons from wood. Railroad tracks are seen to the north, to the east is a commercial development, to the south is a roadway, and to the west is undeveloped land.

Figure 11 is an NAU Cline Library aerial photograph from 1959 produced for the architectural firm, Blanton & Cole of Tucson, Arizona. This photo shows the increase in development of the site by Arizona Pulp & Paper, with further construction of buildings on the site and the parcel to the east. The railroad spur that is identified in the Flagstaff 1:125,000 topographical maps from 1908 (Figure 9) and 1912 can be seen extending onto the property in the southeastern corner. Further development is identified south of the roadway, with no change to the west or north. Figure 12 is a USGS single frame aerial photograph from August 31, 1964 that shows a further increase in development of the site following the tenure of Arizona Pulp & Paper, with the possible beginnings of the construction of Building 3 by Ponderosa Paper Products. The areas around the property appear unchanged from the 1954 aerial photo.

Figure 13 is a USGS single frame aerial photograph from August 23, 1974, during ownership by Orchids Paper Products, that shows the nearly full development of the property with a potential lagoon/settling pond in the northeastern portion of the property. A stormwater drainage channel can be identified to the north between the property and the railroad alignment, a large commercial/industrial facility can be seen to the east, further development and improvements are to the south, and a fully developed commercial warehouse-style building (Building 3- Paper Mill) can be seen to the west. The 1991 drawing of the study area by the Coconino County Assessor's Office was also integral to the initial development of construction dates for various plant buildings (Figure 14). Notations on the drawing indicate updates made after 1991.

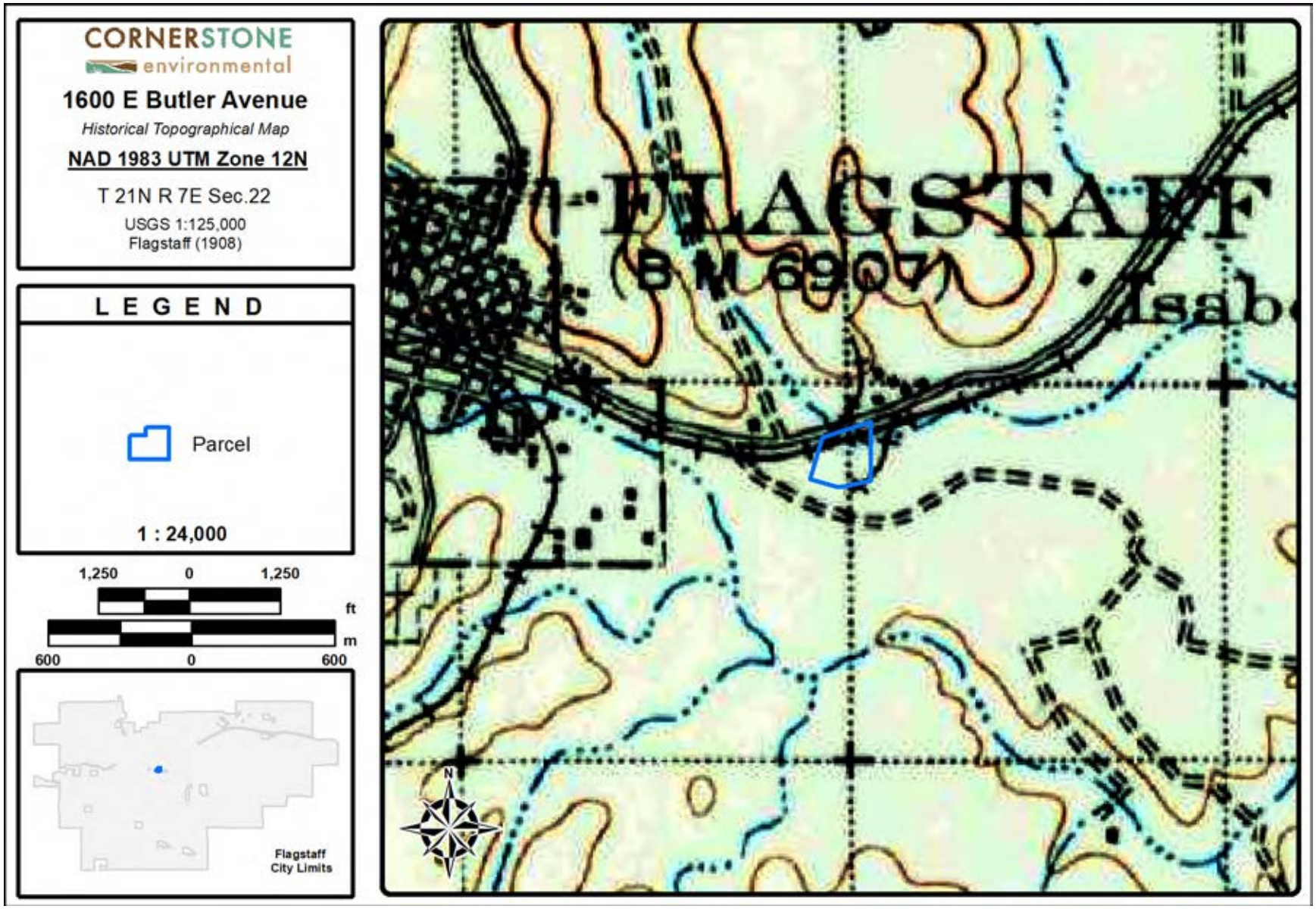


Figure 9. 1908 1:125,000 San Francisco Mountains topographic map.

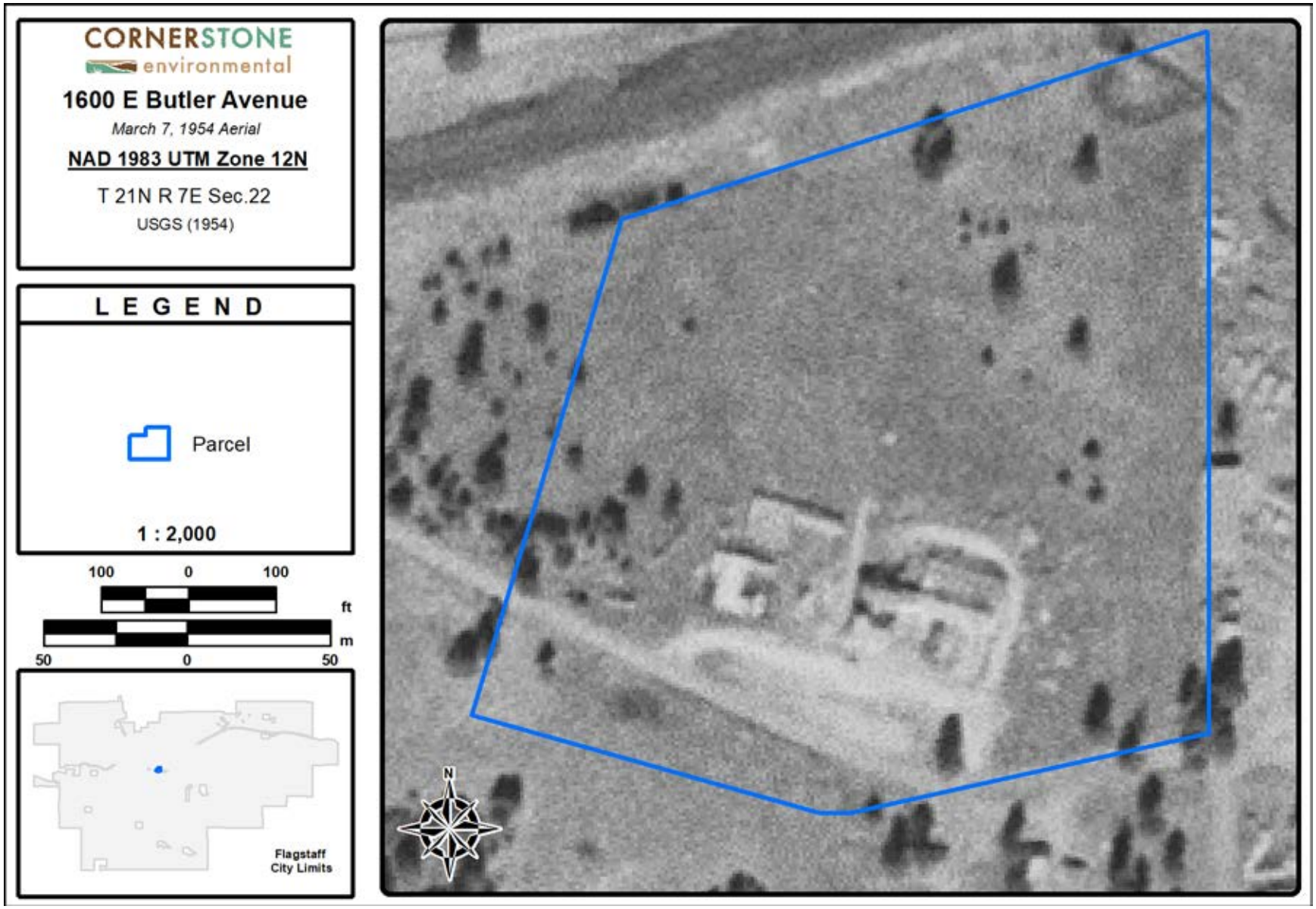


Figure 10. 1954 aerial photo.

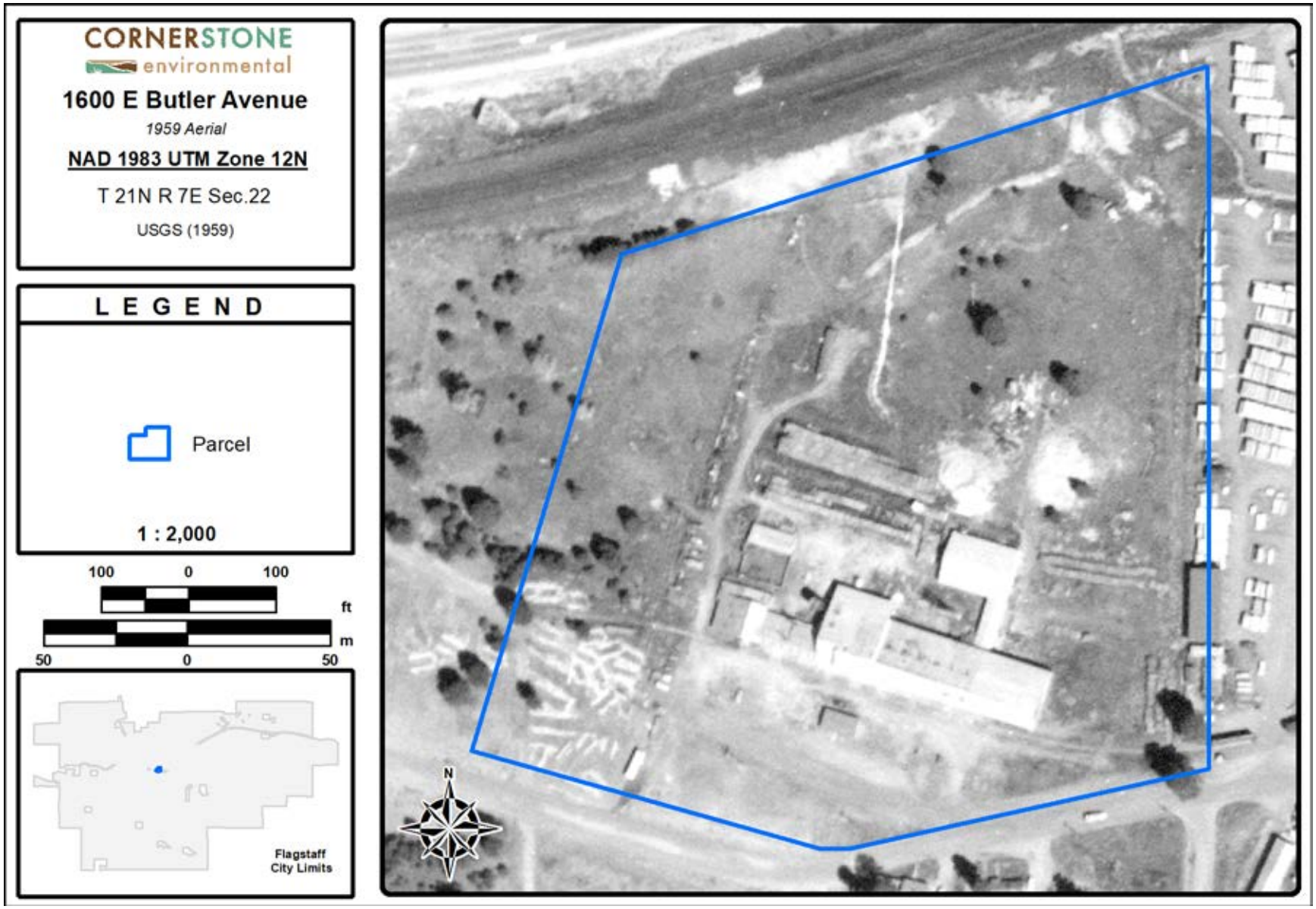


Figure 11. 1959 aerial photo.

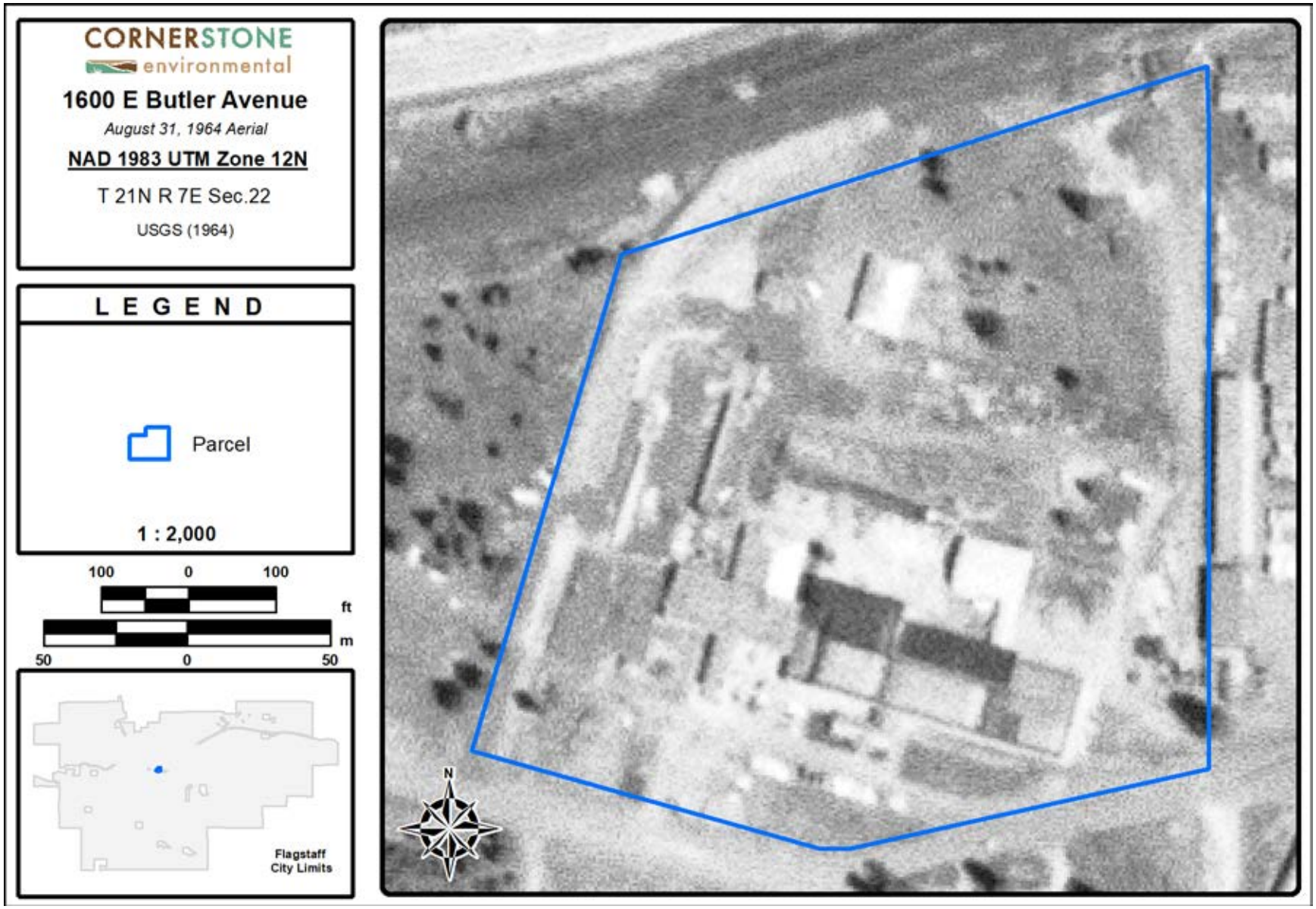


Figure 12. 1964 aerial photo.

Figure 13. 1974 aerial photo.

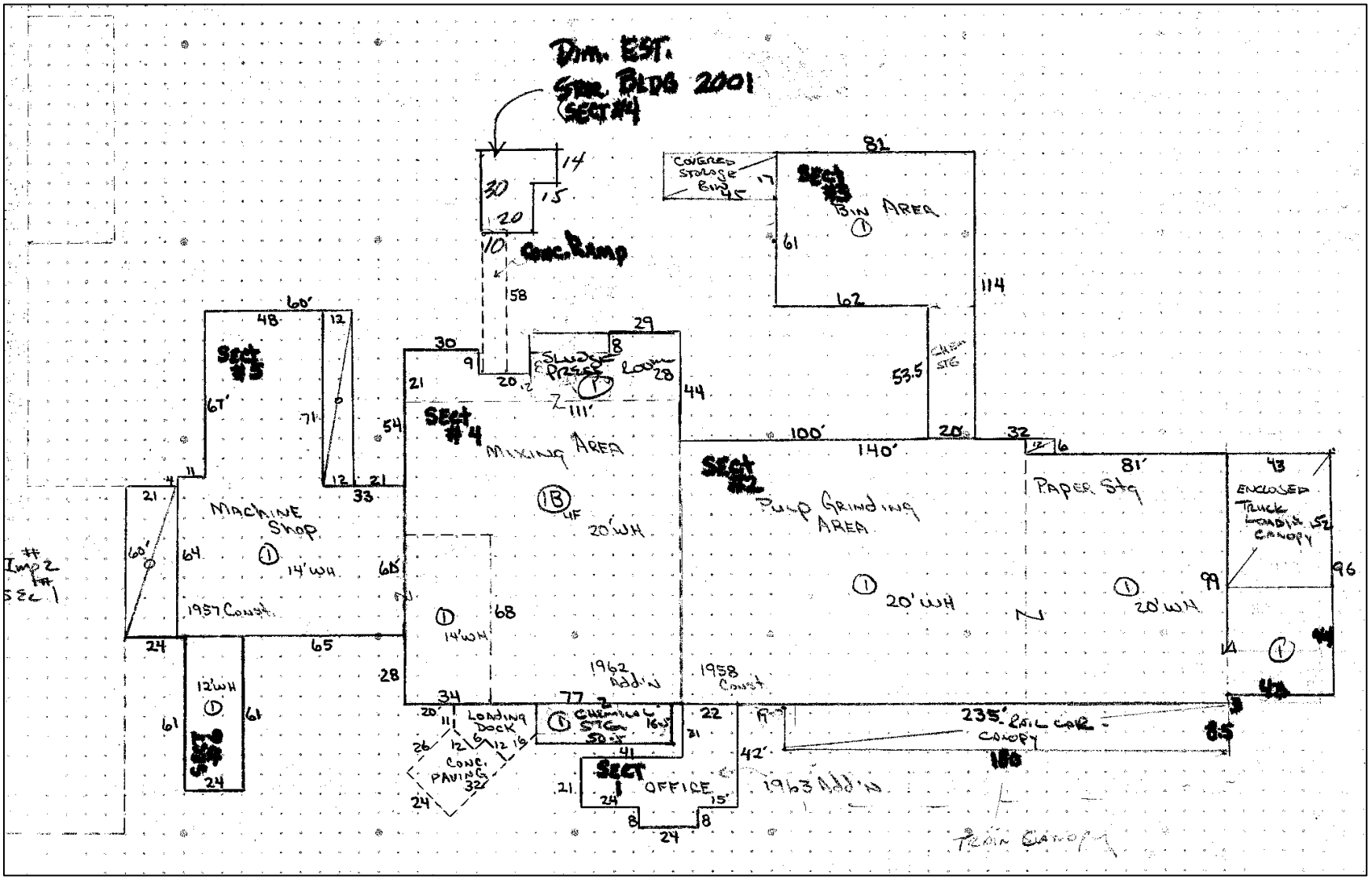


Figure 14. 1991 Coconino County Assessor's Office drawing of the study area.

5.1.1 BABBITT BROTHERS SLAUGHTERHOUSE

This research revealed a distinct paucity of archival information about the property during the time it was the location of the Babbitt Brothers Trading Company (Babbitt) slaughterhouse. James E. "Jim" Babbitt informed the authors that the property had been a slaughterhouse, with a stockyard to the east, since the late 1800s (pers. comm. to Josh Edwards, September 1, 2020). It is Mr. Babbitt's understanding that all the slaughterhouse buildings were destroyed, except for possibly a portion of one building that may be incorporated into the paper mill complex. Mr. Babbitt has searched for descendants of slaughterhouse workers to no avail, and he was unable to find any photos of the slaughterhouse. However, he did state that most of the workers were Hispanic. Current research suggests that no buildings or structures built during the time of the slaughterhouse remain.

Cattle from CO Bar Ranch were driven to the stockyard by cowboys on horseback and then kept in shipping pens prior to loading them on to railcars for transportation (Jim Babbitt, pers. comm. to Josh Edwards, September 1, 2020). Most of the cattle went to Kansas, and some went to Nebraska and Texas. It is Mr. Babbitt's understanding that the meat processed at the slaughterhouse was mostly sold locally at the Babbitt packing house on the southeast corner of Leroux and Birch Streets in downtown Flagstaff.

Early archival evidence of the stockyard is the presence of a railroad spur that is shown entering the stockyard from the east and extending to the eastern slaughterhouse property line on the 1908 USGS topographic map (*see* Figure 9). On December 28, 1911, the Babbitts asked H.G. Phillips, chief engineer of the Atchison Topeka & Santa Fe Railway Company (A.T.&S.F.), for a 550-foot extension of the line into the slaughterhouse property (Figures 15 and 16). This agreement was then finalized on February 21, 1913 by E.J. Gibson, A.T.&S.F. superintendent in Winslow. The notation on the engineering drawing of "Extension to spur to serve Babbitt Bro. Slaughter House" suggests that some meat products were also produced at the slaughterhouse and shipped out of Flagstaff via railroad.

The Babbitts expanded their land and holdings greatly after the turn of the century, and it is likely that the railroad spur extension was necessary to serve the needs of their many businesses (NPS 1983; Figures 17 and 18). A significant blow to the family occurred when George Babbitt, president of Babbitt Brothers Trading Company, died in 1920 and his seat was filled by P.J. Moran, who had been associated with the company for some time. Moran helped the company to secure loans to finance its cattle, land, and merchandising businesses. The business prospered during the seven months between January and August of 1920; the company purchased a hotel, a store, and a building and garage in Kingman, Arizona. In the early part of 1921, however, the company required an additional loan to remain liquid. A regional

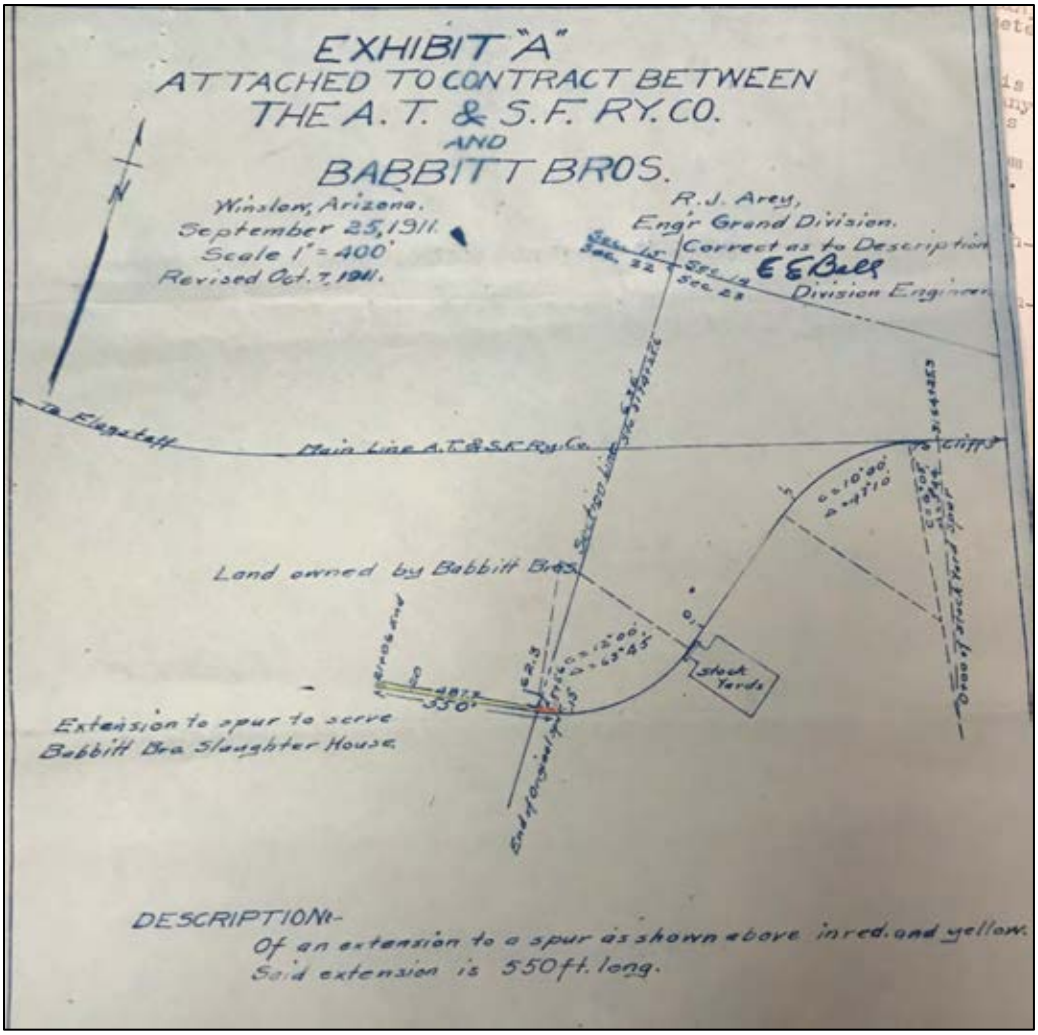
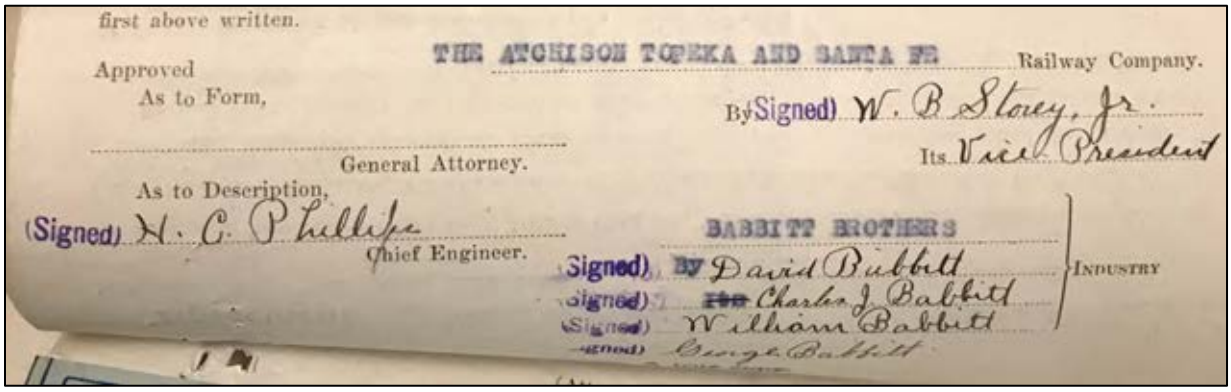


Figure 15. 1911 engineering drawing of proposed 550-foot railroad spur extension.


first above written.

Approved
As to Form,

General Attorney.

As to Description,
(Signed) H. C. Phillips
Chief Engineer.

THE ATCHISON TOPEKA AND SANTA FE Railway Company.
By (Signed) W. B. Storey, Jr.
Its Vice President

BABBITT BROTHERS
(Signed) By David Babbitt
(Signed) Charles J. Babbitt
(Signed) William Babbitt
(Signed) Bruce Babbitt
INDUSTRY

Figure 16. 1911 Babbitt Brothers Trading Company and A.T.&S.F. signatures.

business depression caused the Babbitt Brothers Trading Company financial difficulties requiring more outside capital from Hunter Dulin and Company of Los Angeles, California and from the War Finance Corporation.

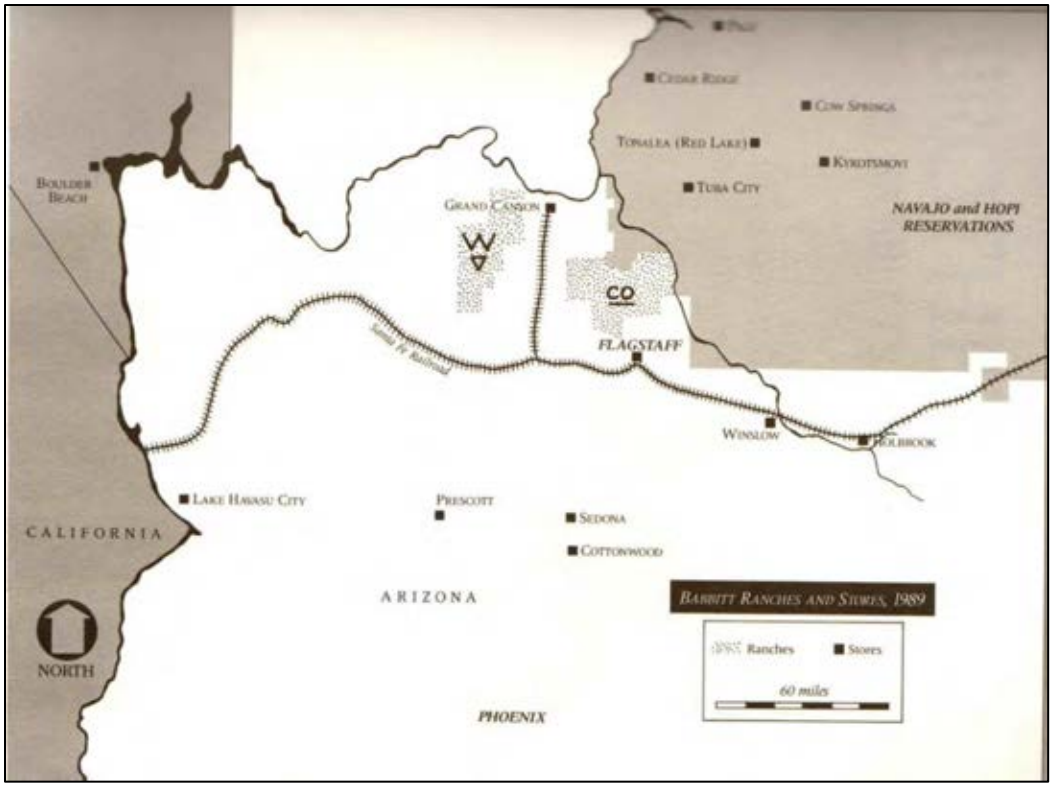


Figure 17. Extent of Babbitt Brothers Trading Company lands in 1893.

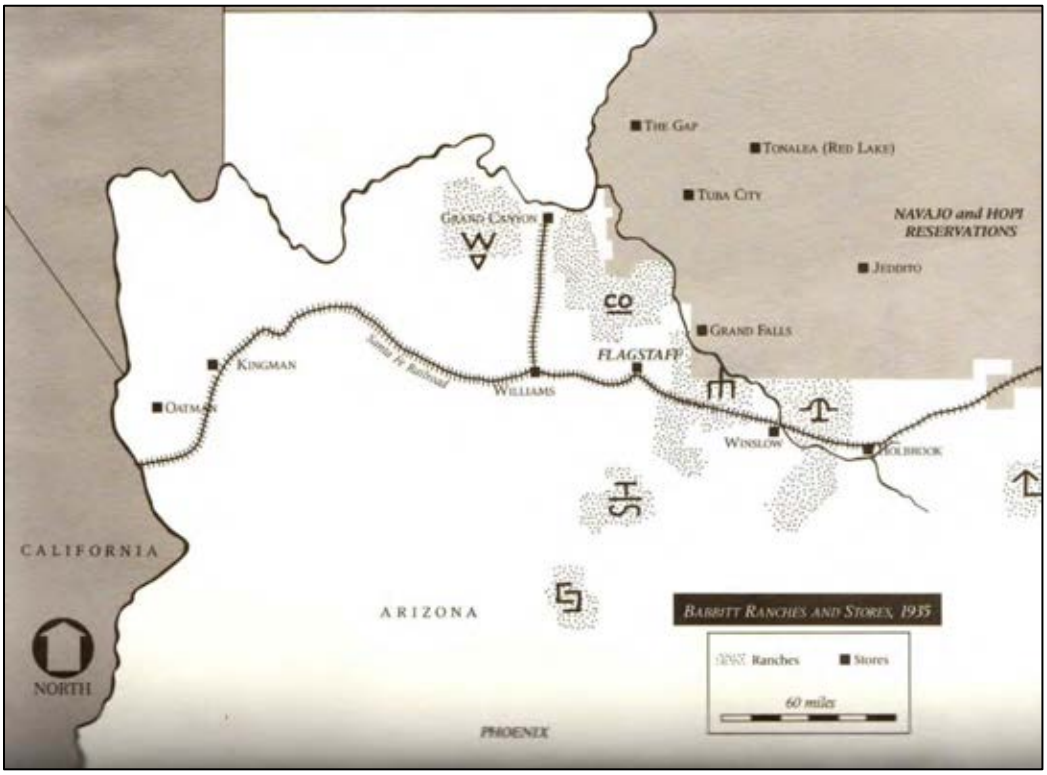


Figure 18. Extent of Babbitt Brothers Trading Company lands in 1935.

Borrowing and taking in partners with little or no capital caused debts nearly destroying the company during the post-war recession of 1922. Fortunately, their creditors were forgiving, and the company was saved by selling various family investments. The situation resulted in a creditor-elected manager, DeWitt Knox, controlling the company until 1926, all the while selling investments and property of the Babbitt Brothers Trading Company. Mr. Knox was replaced by H.V. "Vic" Watson, with support of the Babbitt brothers, as they felt Watson would not have such a hard-handed approach. Unfortunately, the selling of assets continued under Watson and many of the sheep outfits were liquidated, including the Apache Maid and Hashknife holdings. Although it is difficult to imagine today, the CO Bar and Cataract outfits were put up for sale but never sold. Hoping to free themselves from creditors during the depths of the depression era, the Babbitts applied for a loan from the Reconstruction Finance Corporation. Jimmy Babbitt's knowledge of legal proceedings helped them secure the loan in 1935 and by 1940 most of the debt had been paid off.

The crushing impact of the post-war depression was felt by Americans and the Babbitts alike. The Babbitt empire had been expanding for decades, earning them the nickname of “The Rockefellers of Arizona” (Smith 1989:171). But Dave and C.J. Babbitt were forced to take defensive measures in 1921 including ceasing expansion, closing of losing operations, and further effort to build up cash reserves. In April of 1921, the Babbitt Brothers Trading Company and their financial advisors decided on a bold new business maneuver, a mammoth bond indenture secured by all the unmortgaged Babbitt lands. This entailed pledging virtually all their ranch and urban real estate to raise the cash demanded by the crisis, including some that were jointly owned. The bond extended through 1940 and included 375,575 acres of well-watered grazing land, 4,826 acres of agricultural land, and various properties in Arizona and California.

At that time, the business ranged as far as the Imperial Valley (Laguna Ranch, Los Angeles, California) and Mexico and made $5 million annually. The resulting holding company was called Babbitt Brothers Lands, Inc. and was the “greatest single concern of its type in the Southwest” (Coconino Sun, June 24, 1921). Babbitt Brothers Land, Inc. issued $1.5 million in bonds on indentured lands believed to be worth $2,566,154, including the Flagstaff slaughterhouse.

Archival records from Cline Library indicate that on August 10, 1943 the Babbitts sold a portion of “Old Parcel No. 6 (Slaughter House)” land to A.H. and Alma Souris. Then on September 4, 1946, Paul J. Babbitt, vice president, wrote to the A.T.&S.F. that the spur track near the slaughterhouse was “badly in need of repairs due to the fact that many of the spikes are lost or loose.”

Newspaper references to the slaughterhouse are few and far between, but the railroad crossing just east of the property was referred to as "slaughterhouse crossing east of town" through the 1950s (ADS May 5, 1947 and January 19, 1953). There is also one newspaper reference to a water line break at Babbitt slaughterhouse in 1950. The article states that Flagstaff City Council "…rejected a request from the Babbitt slaughterhouse to cancel a bill covering between 500,000 and 600,000 gallons lost because of a break in a high-pressure pipe" that went undiscovered for two to three months (ADS August 15, 1950). In October of 1950 W.H. Hudgens, foreman of the Babbitt slaughterhouse, made the newspaper for being named Retail Meat Manager; Hudgens had been with the Babbitt firm for 33 years at the time (ADS October 5, 1950).

Oral interviews with SCA Resident Engineer Chris Remington suggest that the facility shipped meat to U.S. troops during World War I (pers. comm. to Terry Greene, October 9, 2020). Although this is not verified, it does seem plausible given the scale of the Babbitt's operations and the presence of the rail line into the slaughterhouse property. Mr. Remington also indicated that all slaughterhouse buildings were torn down to make way for the paper mill buildings seen in the 1956 aerial photograph in Section 7.0 of this report.

One other bit of lore that was encountered during these investigations is reference to a "blood pit" in what is now the northwest corner of the center third of Building 7 (John Girvin pers. comm. to Josh Edwards, September 9, 2020). While there was no drain in the foundation of the building in the specified location, the immediate area does show evidence of significant subsidence (the concrete slab has pulled away from support posts by as much as six inches), suggesting that there may be a sizable cavity beneath.

5.1.2 Coconino Pulp & Paper

Coconino Pulp and Paper Co. (CPP) started building Arizona's first ground-wood pulp mill at the study area in 1953. The idea was the brainchild of James M. Potter, the company's president and mill superintendent (Figure 19; Appendix A- Arizona's First Pulp Mill). Obviously an ambitious person, Mr. Potter was chairman of the industrial development committee of the Flagstaff Chamber of Commerce, on its subcommittee of Indian relations, and involved in the development of Buffalo Park into a tourist attraction (ADS February 10, 1956; John Girvin pers. comm. to Josh Edwards September 24, 2020).

Mr. Potter initially worked alongside Al Stovall, Phoenix industrialist and manganese mine developer, who was chairman of the board of directors for the company (ADS February 10, 1956). Charles Bannister, assistant superintendent, was also influential throughout the early history of the plant. Mr. Bannister's tenure and influence at the plant was significant, with multiple mentions in newspaper

Figure 19. James M. Potter (ADS December 12, 1962).

articles. He was the father of five children and married to an immigrant named Mlle. Jeanine Maria from near Paris (Figure 20; ADS September 28, 1956). The couple met in 1944 when Charles was a paratrooper during World War II and Jeanine was a student at the College Moderne de Jeune Filles at Joigny. The couple were married in Kelso, Washington, where they lived for two years before moving to Flagstaff in 1954 (ADS February 20, 1956).

Flagstaff had a population of 12,500 residents and two major sawmills (and several smaller independent operations) running in 1953, both part of Southwest Lumber Mills, Inc. CPP did not impact the sustained yield of lumber from the Coconino National Forest because they used thinning of pine, spruce, and aspen trees as their raw material (ADS August 15, 1956). By early June of 1953, CPP pulping machinery started arriving with hopes to be running year-round operations by mid-August (ADS June 3, 1953), although production did not begin until early 1954 (ADS November 30, 1953). The ADS article notes that CPP had leased the old Babbitt slaughterhouse building east of the City on a Santa Fe siding. Workers were renovating an existing building that would house the plant (possibly part of Building 1) and were planning a small addition (possibly Building 2).

The mill was expected to have a capacity of 25 tons of “wet lamp” mats (the initial preformed paper product) per day. Although the plant required 30,000 to 40,000 gallons of water per day, the use of filters would allow them to reuse approximately half of the water (ADS June 3, 1953). Upwards of 30 workers

Figure 20. Charles Bannister and his family (ADS February 20, 1956).

were expected to be employed at the mill, with additional crews in the woods. In addition to using green jack pines and small-stem wood that was unusable as saw timber, CPP used trimmings from local sawmills. Use of jack pines was said to be an aid to the production of saw timber as it will "bring about the thinning of large plots in the forest. Under selective cutting, stunted, twisted, or otherwise unsuitable prospects for saw-timber trees will be removed and only the best will remain" (ADS June 3, 1953). Cuttings were to take place in the Fort Valley experiment station area.

Two four-pocket Pascol grinders equipped with Carborundum pulpstone were in the grinding room (Appendix A- Arizona's First Pulp Mill). The pulp would then fall into a stock canal and flow to the bull screen, after which it was pumped to double Apmew pulp screens. The pulp would then go to Sandy Hill Packer flat screens. Pieces that were rejected from this process would be put into a Dilts Hydrafiner and would rejoin the rest of the stock at the Jones deckers following further screening. The pulp would then

be “lapped” on a wet machine. This entailed a pulp slurry being evenly distributed across the working width of a headbox and dewatered without any vacuum between the two moving, endless wires in three parts of the machine, ending with the press zone where water was pressed out. Following dewatering (which would generally take the water content down to 50 percent in a wet lap process) an electro-mechanical cutter would trim the lap to the desired width prior to rolling it.

In the early- to mid-1950s, logs were cut, trimmed, and debarked in the forest so that the wood was nearly ready for use when it arrived (ADS November 30, 1953). It was then cut into two-foot lengths required by the mill’s two large grinders (*see* Appendix A). A water conveyor then carried the logs to the grinders, the ground material was taken through various tanks screens and a refiner prior to being put into the “wet machine,” which formed the 32 square inch laps. The wet machine was specially designed to deal with the limited amount of water in the area, and the article states that “…every means possible is taken to conserve and re-use water wherever possible” (ADS November 30, 1953:2). The laps would be 50 percent dry when initially produced; they would then be loaded on to train cars for shipment.

Despite their best efforts, installation of equipment was still underway in April of 1954 (ADS April 7, 1954). Figure 21 shows one of two 600-horsepower electric motors being unloaded on April 5, 1954. The motors, which weighed more than 27,000 pounds each, turned the two grinders for the plant, and were purported to be the biggest electric motors yet installed in the area. The resulting “wet laps” were then shipped to customers on the west coast, including wallboard factories, where the pulp would be integrated into the final product as a paper backing (ADS April 7, 1954).

Arizona Public Service Company ran electric lines into the CPP plant in June of 1954 and by July, after several weeks of experimental operation, the pulp mill was finally running on a regular production basis (Figures 22 and 23). James Potter reported that pine stock grinding was going faster than expected and he planned to increase production of 25 tons per day by 50 percent. As of August of 1954, mill capacity was about one ton per hour of wet laps (bundled rolls of about five feet wide by one-eighth of an inch thick), which were often returned to pulp state at other paper mills, before creating the final paper product. The mill initially ran on two shifts of seven men each plus a wood crew of about 30 workers. They would stockpile pine “thinnings” (up to about six inches in diameter) onsite to be able to work through the winter. The second grinder had been installed and the second electric motor was planned for installation (ADS April 7, 1954).

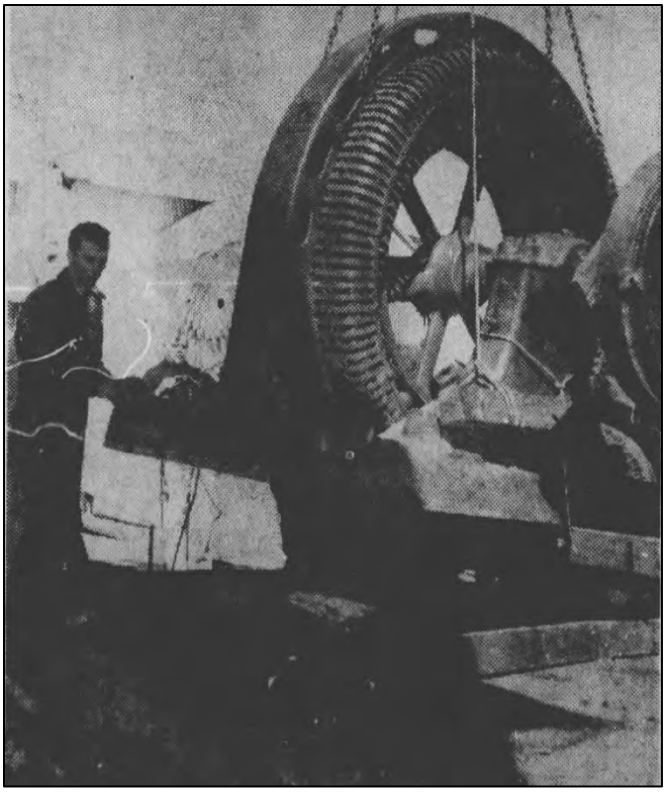


Figure 21. Electric motor being installed (ADS April 7, 1954).

By the end of 1955, the plant had indeed significantly increased output to 50 tons per day, as Mr. Potter had promised, and had big plans for another expansion to 100 tons per day in two to three years (ADS November 3, 1955 and January 20, 1956). The plan included the planned use of reclaimed sewage after installation of a planned City treatment plant. Water was used to keep grindstones clean and cool, to transport processed logs within the plant, and to slurry paper stock. Two-thousand gallons of water per ton of pulp were being used in 1955, and unlike most other paper plants in the U.S. at the time, which use chemicals to break down the wood, water at CPP was unpolluted and could be recycled in the mill or for irrigation (January 20, 1956). CPP's grinding mill also had the conservation advantage that other mills did not because chemical processing resulted in a 40–60 percent loss of pulp, whereas one ton of wood ground resulted in one ton of pulp. One ton of pulp would sell for about $85 at the time.

Staff included 80 workers, which includes the 50-person wood harvesting crew. Most of the wood was coming from the Mexican Pocket area south of Flagstaff on Highway 89A. CPP also installed additional equipment that made it possible to ship dry groundwood pulp instead of just wet laps, which saves on shipping costs due to the decreased weight (Figure 24). Products like newsprint, which at the time were composed of 85–90 percent ground wood pulp, were not created in Flagstaff due to the lack of available water (ADS November 3, 1955 and February 1, 1956). CPP's success at paper pulp manufacturing in the

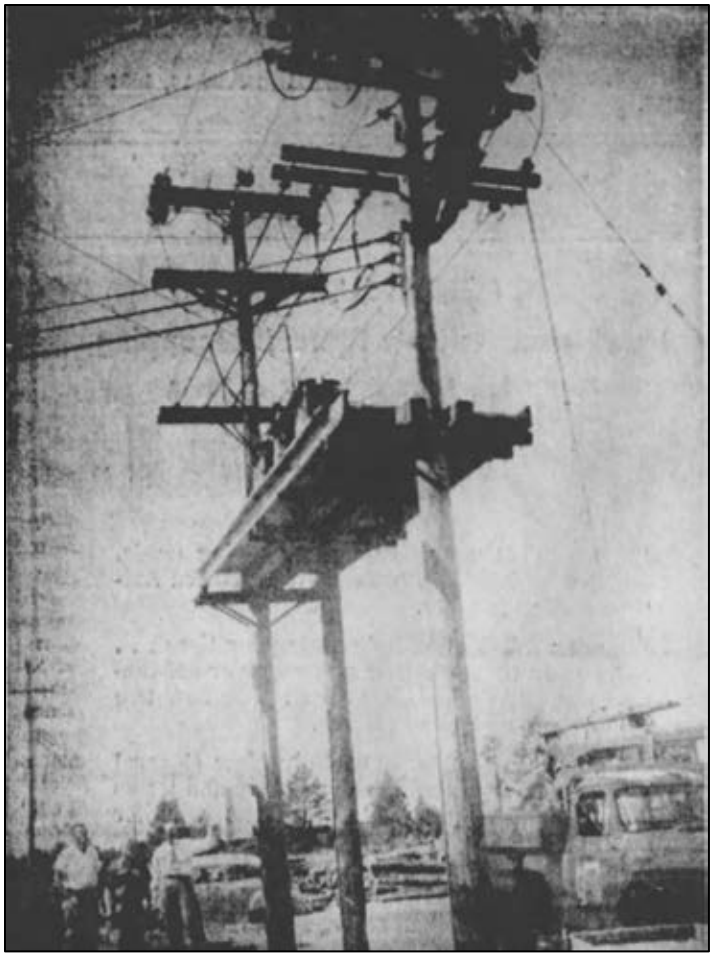


Figure 22. James M. Potter and Charles Bannister inspect newly installed APS lines running to the paper plant (ADS June 10, 1954).

American Southwest was unique and even Southwest Lumber Company was impressed by the favorable results and water conservation. Southwest considered drilling a well and investing $30 million into their own pulping mill (ADS May 18, 1956; Edwards 2018).

5.1.3 Arizona Pulp & Paper

The transition between Coconino Pulp & Paper (CPP) and Arizona Pulp & Paper (AZPP) is not exactly clear, but AZPP starts appearing in the newspaper in 1956 (ADS August 15, 1956). James M. Potter was president of CPP and was vice president and general manager of AZPP (ADS January 7, 1960). While the restructuring of the company may have brought some changes, water continued to be a constant theme for the plant. As the City's new $288,000 sewage treatment plant neared completion in the final week in November of 1956, AZPP planned to use the treated water to supplement their supply of fresh water (Figure 25; ADS November 15, 1956).

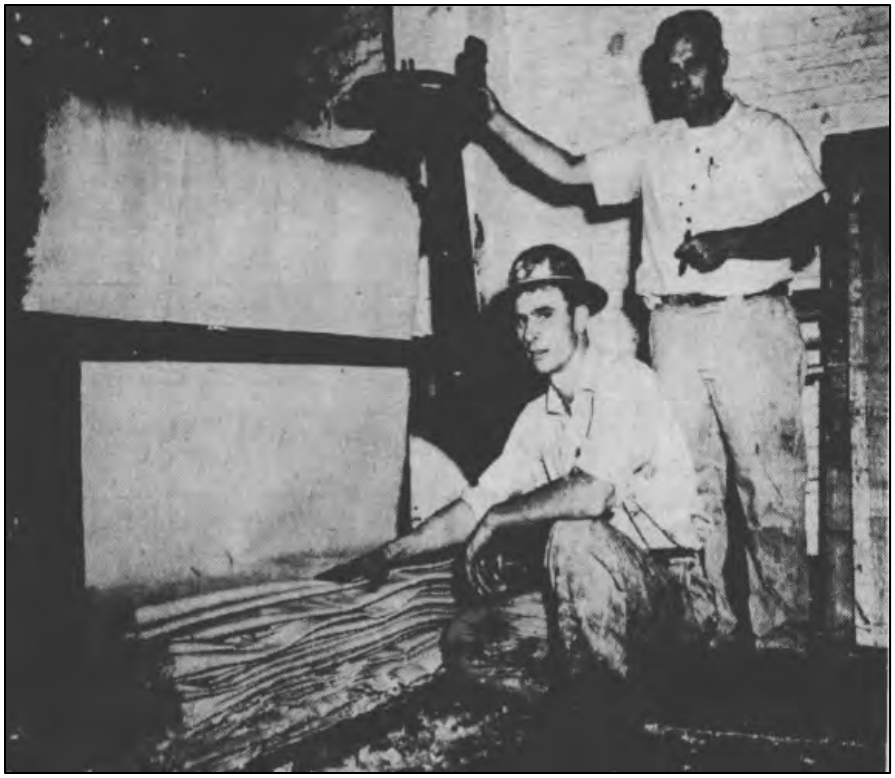
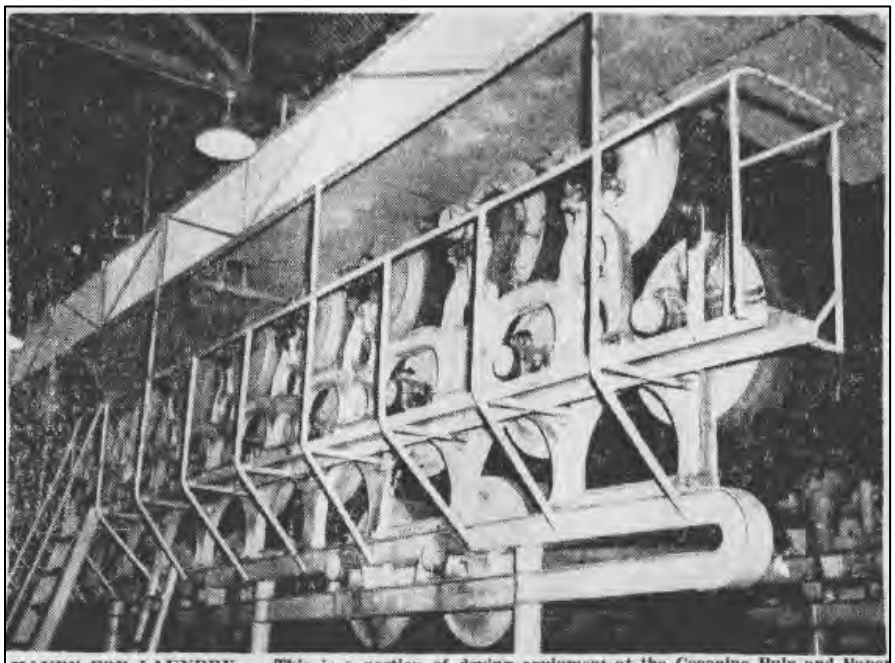


Figure 23. James M. Potter (standing) and Charles Bannister next to "wet laps" and the "wet machine" (ADS August 6, 1954).



HANDY FOR LAUNDRY — This is a portion of drying equipment at the Coconino Pulp and Paper Co. plant east of the city. Installed during the past few months, the equipment will be expanded to nearly twice its present size during an enlargement program planned for the next two to three years. Material is threaded through this series of large rollers to remove moisture. A 150-hp boiler furnishes steam for the rollers. (SUNfoto)

Figure 24. Drying equipment at the plant (ADS November 3, 1955).

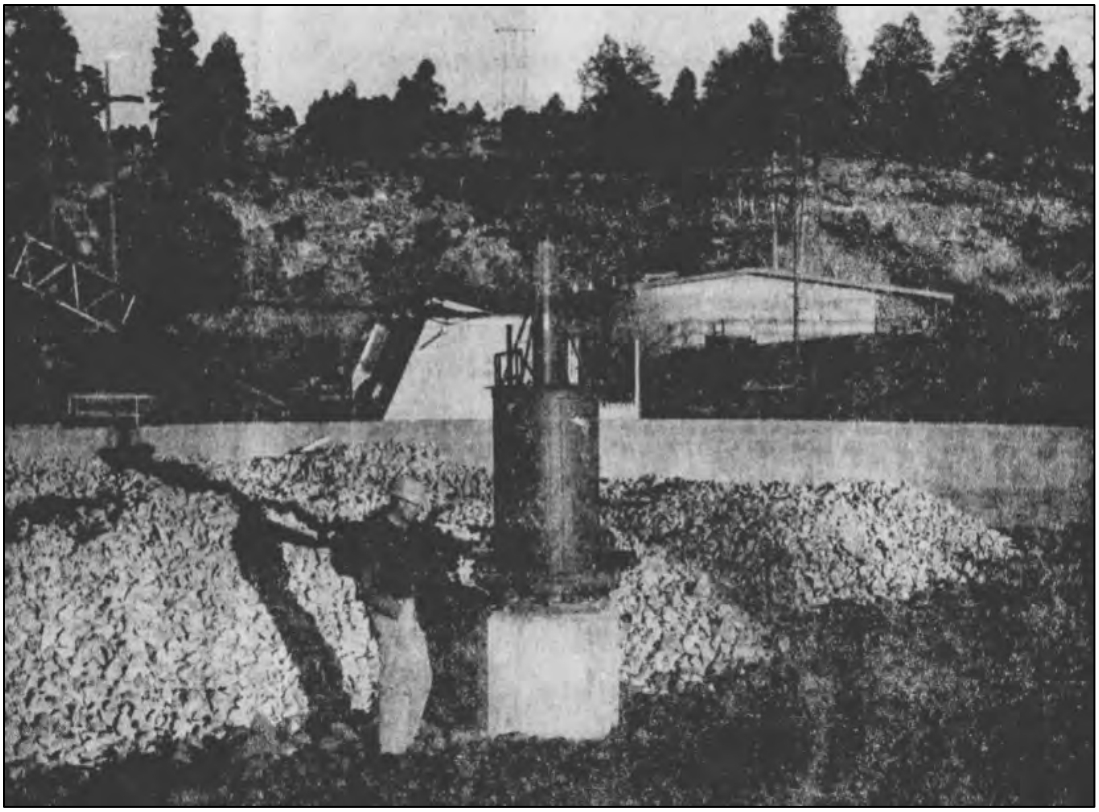


Figure 25. City treated wastewater usage filter tank (ADS November 15, 1956).

AZPP used the treated wastewater that was delivered via a buried pipe to the City, and the AZPP plant was only about 1.5 miles from the new treatment facility (ADS November 15, 1956). Treated water currently enters the facility in the basement of Building 3 (Figure 26).

Aside from being an industry leader in conservation in the mid- to late-1950s by recycling water, reusing clippings from lumber mills, and utilizing treated wastewater, AZPP was also involved with on-the-job training of Navajo workers. The program was part of a relocation program through the Bureau of Indian Affairs (BIA) that began in 1952 (ADS January 22, 1957). With wood trimmings and pulp piles around the facility, the threat of fire was a constant concern. While small fires were regularly extinguished, a larger, although not serious fire, occurred on September 29, 1957 (Figure 27; ADS September 30, 1957).

Although AZPP had many successes running a pulp mill in an arid climate, AZPP was foreclosed on by its creditors on May 19, 1959 (ADS May 23, 1959). The notice in the Arizona Daily Sun lists Bankers Life and Casualty Company as the plaintiff and Arizona Pulp & Paper Co. Inc. as the defendant, along with U.S. Pipe & Supply Co., Submersible Pump Company, and Gordon Steel Manufacturing Co. The total sum of the settlement was $964,380.22 plus six percent interest. The notice also references the 50-year lease from Babbitt Brothers Trading Company to CPP recorded on April 26, 1956 and then assigned

Figure 26. Treated wastewater inlet to the paper mill.

Figure 27. Fire at the plant (ADS September 30, 1957).

to AZPP on June 23, 1956 (ADS May 23, 1959). The property is listed as including buildings, fences, spur tracks, electrical substation, tanks, water rights, and other improvements.

AZPP used wood pulp to make egg cartons (pers. comm to Josh Edwards, September 9, 2020; Appendix C). The wood was chopped into fine particles, slurried, formed into a large sheet, and chopped into smaller pieces that were then formed into egg cartons. Mr. Girvin indicated that the machine was used to produce egg cartons until at least 1966 and was in Building 3 when he started at the plant in 1969. The egg carton machine was not seen running again after that but remained on premises until it was chopped into pieces and removed around 1978.

5.1.4 PONDEROSA PAPER PRODUCTS AND LATER COMPANIES

By November of 1964 a new company, Ponderosa Paper Products, Inc. (Ponderosa) had taken over the site and was constructing a new mill. Ponderosa was a subsidiary of Bankers Life and Casualty Company out of Chicago. The new operation incorporated the old pulp processing and molding facilities, managed by James Potter (Figure 28), and would use "raw timber brought in from the forest." The new paper tissue and towel mill was managed by Donald T. Keller. The new paper mill (Building 3) under construction was designed by Guirey, Srnka and Arnold of Flagstaff and Phoenix and was to measure 62,000 square feet (Figures 29 and 30). "Using the newly developed water recovery system, the mill, which will be one of the most modern in the nation, is completely odorless and smoke free" according to Keller (ADS November 9, 1964:1, 8).

Figure 28. James Potter (left) with Harry Andrews, in Flagstaff to consult on the new mill (ADS January 25, 1963).

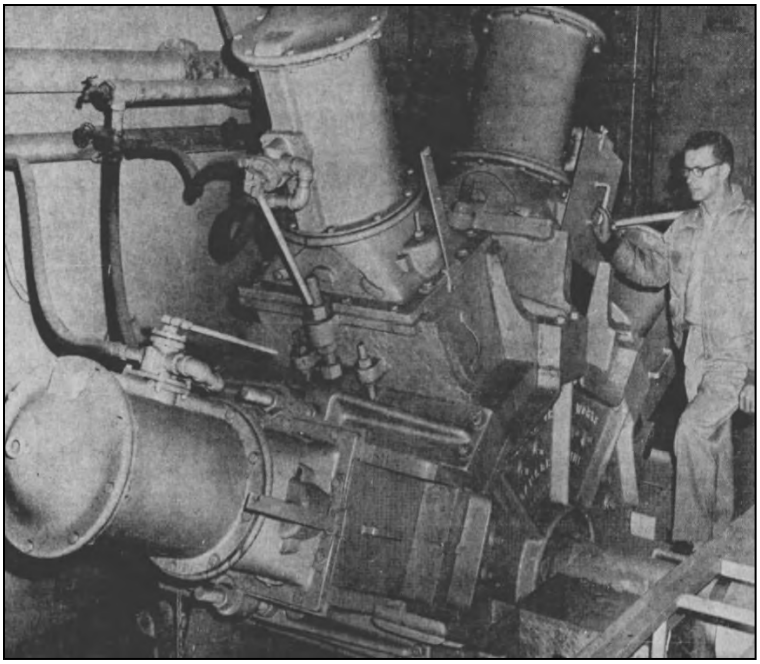


Figure 29. Wilber Bounds, in charge of quality control, with a crusher for grinding timber into wood pulp (ADS November 9, 1964).

PROGRESS REPORT — Edwin H. Weig, president of Ponderosa Paper Products and vice president of Bankers Life and Casualty, and Don T. Keller, general manager of the Flagstaff plant, look over the sign being installed in front of the main building. The new plant, currently under construction along U.S. 66, will manufacture tissue-toweling from the raw timber, and is expected to be in operation by the end of August. (SUNfoto)

Figure 30. Edwin H. Weig, president of Ponderosa, and Donald Keller, in front of new signage for the plant under construction (ADS July 31, 1965).

The new facility was anticipated to employ 250 people. It was originally expected to open in January 1965 (ADS November 9, 1964), but this was later pushed back to August (ADS July 31, 1964). In August, the Northern Arizona Board of Realtors welcomed new employees in an advertisement, noting a housing shortage in town (ADS August 4, 1965). By September, the mill was nearly complete and described as nearly set to open (Figures 31 and 32; ADS September 14, 1965).

Figure 31. Ponderosa's new paper mill, Building 3, facing west-northwest (ADS September 14, 1965).

In the 1960s, Kaibab Lumber had a lumberyard facility with a "tee-pee burner" smokestack on the parcel to the east of Ponderosa where the Babbitt stockyard used to be. The lumberyard also had a small store that sold screws, nails, and building materials (John Girvin and Bruce Jacks pers. comm. to Josh Edwards, September 9, 2020). The parcel to the west of Ponderosa was once used by Babbitt's Wholesale, which operated there until the mid-1980s, and also had its own railroad spur.

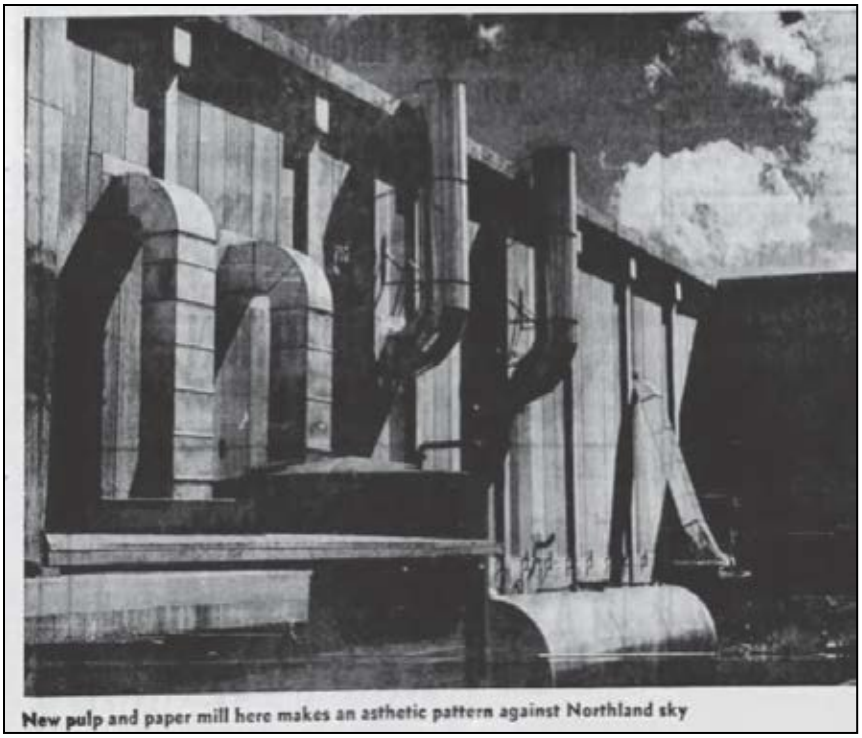


Figure 32. Ponderosa's new facilities set to open (ADS September 14, 1965).

On November 19, 1965, the Arizona Daily Sun ran a 24-page special supplement welcoming Ponderosa titled "A Salute To Flagstaff's Newest Industry: Ponderosa Paper Products / The Story of Paper: From The Forest To The Kitchen" (ADS November 19, 1965). The front page featured an aerial photograph of the property, though the headlines were dominated by news from the Battle of Ia Drang in the rapidly escalating Vietnam War (Figure 33). The supplement included numerous articles about the company and its logistics, the construction of the facility, and the pulp and papermaking process; photographs of the facility and its machinery; cartoon illustrations of the pulp and papermaking process; and advertisements from Ponderosa and other companies congratulating the company. The supplement is included in this report as Appendix B.

When Ponderosa first opened, the facility was designed to produce pulp from raw timber. Ponderosa negotiated for timber rights with the Coconino National Forest, and subsequently contracted Neill and Breslau, Inc. to harvest and deliver the logs. Sustainable harvesting practices were key to the agreement. The company promoted the paper industry's role and responsibility in improving forests. The first step in the pulp process was debarking the logs. The logs were then cut into two-foot "cants," or lengths, then ground to a pulp, and then screened and refined. The pulp was then bleached and refined to the correct consistency. The pulp would then flow onto screens, be formed into sheets, and go through a drying

World News Briefs

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CONG ENGAGE VIETNAMESE

Bed Burner Jailed

JFK Memorials Set

USGS Fact Awarded

SUN Editor Wins AFBF News Award

Pickets Block McDonnell, Cape Kennedy

Relief Force In Stiff Fight Near Cambodia

Figure 33. Aerial photo of the property (ADS November 19, 1965).

process including several rollers, before finally being wound up into a "jumbo roll." Jumbo rolls would be sold to converters to be turned into the final tissue or towel consumable, of which some would wind up on Arizona grocery shelves (ADS November 19, 1965). Later some of this converting would be done in-house.

Two railroad spurs led to the plant. The western spur going inside Building 3 was originally anticipated to be used for loading finished product as well as unloading raw materials, and the eastern spur outside Building 1 was to be used for unloading papermaking chemicals from tank cars (ADS November 19, 1965).

By 1966, both Ponderosa brand and Ponderosa-manufactured store brand paper towels were on shelves in Arizona stores (Figure 34). Jumbo rolls of toweling were also being distributed nation-wide. About 150 people were employed at this point. Excess pulp was designated to be exported to Japan and Korea and Ponderosa products would continue to be available in Arizona in the following years (ADS February 24, 1966). In addition, Ponderosa supplied paper products to the U.S. military during the Vietnam War via a

U.S. General Services Administration contract (John Girvin and Bruce Jacks, pers. comm. to Josh Edwards, September 9, 2020).

Figure 34. Advertisement for Ponderosa Paper Towels (ADS June 4, 1968).

In 1966 workers at Ponderosa went on strike to reach an agreement between the company and their union, the United Papermakers and Paperworkers Local 909, AFL-CIO. General Manager Donald Keller resigned after talks broke down (ADS April 2, 1966). Ponderosa went out of business for around a year at this time but resumed operations in 1967 (ADS April 20, 1974). At this point they only employed about 40 people, though this would fluctuate over time. There would be a few instances over the history of the plant where workers would unionize and later withdraw (John Girvin and Bruce Jacks, pers. comm. to Josh Edwards, September 9, 2020).

James Potter appears to have run a separate business out of 1600 E. Butler Ave. in the late 1960s. Potter Machine & Equipment Co. ran several advertisements in the Daily Sun (Figure 35), including for snowmobiles and surplus equipment (ADS June 24, 1967 and January 13, 1968).

Figure 35. Potter Machine & Equipment Co. advertisement (ADS June 24, 1967).

In 1967, after Ponderosa reopened, they began using less virgin fiber (raw trees) and more secondary fiber (recycled high-grade wastepaper, not newspaper). The company purchased bales of wastepaper from various suppliers. Superintendent Dave Gibson said, "Our men feel it is an important contribution, although there is not much difference in the processes using virgin and secondary fibers. Most of the time, we don't think about how we are contributing to ecology; mostly we think about doing a good job and putting out a good product" (ADS April 23, 1973:18). By early 1971 they had become "the only manufacturer of soft good paper products in the United States which produces goods from 100 per cent recycled materials" (ADS January 5, 1972:1).

Around 1974 Ponderosa began recycling newspaper by de-inking it, reprocessing it, and either using it as packing material or selling it to different clients (Figures 36 and 37). "At present about 50 to 60 per cent of our production is geared to using newspaper," Gibson said (ADS April 20, 1974:17). Much of Ponderosa's motivation toward paper recycling was likely economic, as the virgin fiber pulping process was more costly than using secondary fiber for the products they were making (John Girvin and Bruce Jacks, pers. comm. to Josh Edwards, September 9, 2020).

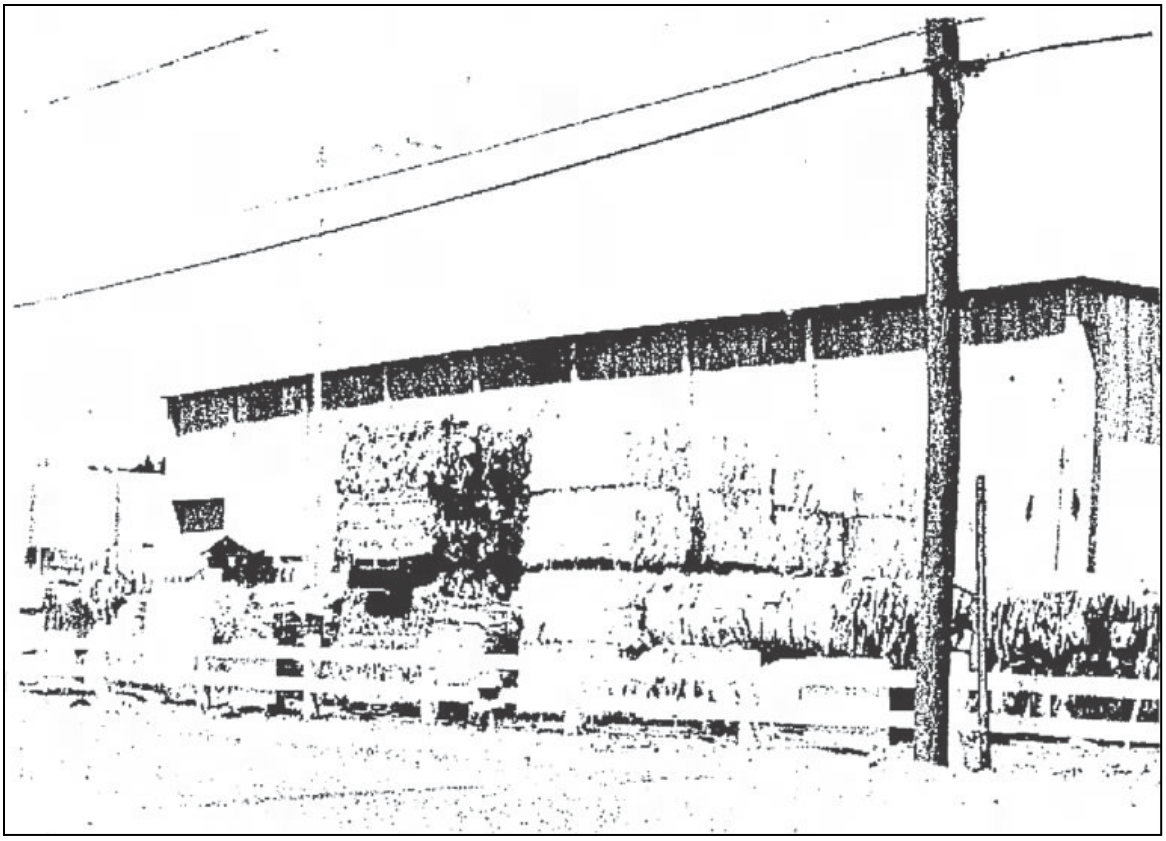


Figure 36. Bales of old newspaper ready for reuse (ADS April 20, 1974).

When Ponderosa first opened, they sought to counter concerns about pollution. Company officials noted that "the only odor associated with the local operation will be a slight smell of fresh pine wood being cut… There will be no smoke, nor other objectionable gasses emitting from the mill… Any water effluent from the mill is entirely harmless, and the Ponderosa mill expects to utilize a portion of this effluent for irrigation of its yard lawns" (ADS November 19, 1965:B9).

Ponderosa also knew that their water consumption would be high. They used a closed water system and recirculated much of their water but still required about 500,000 gallons of water per day. Before they began operations, they drilled two test wells on-premises, both of which were unsuccessful. They came to an agreement with the City of Flagstaff (City) to purchase water from the City, with a commitment to drill a well for the City near Lake Mary. They subsequently agreed to drill a second well for the City, at a location of the City's choice (ADS November 19, 1965).

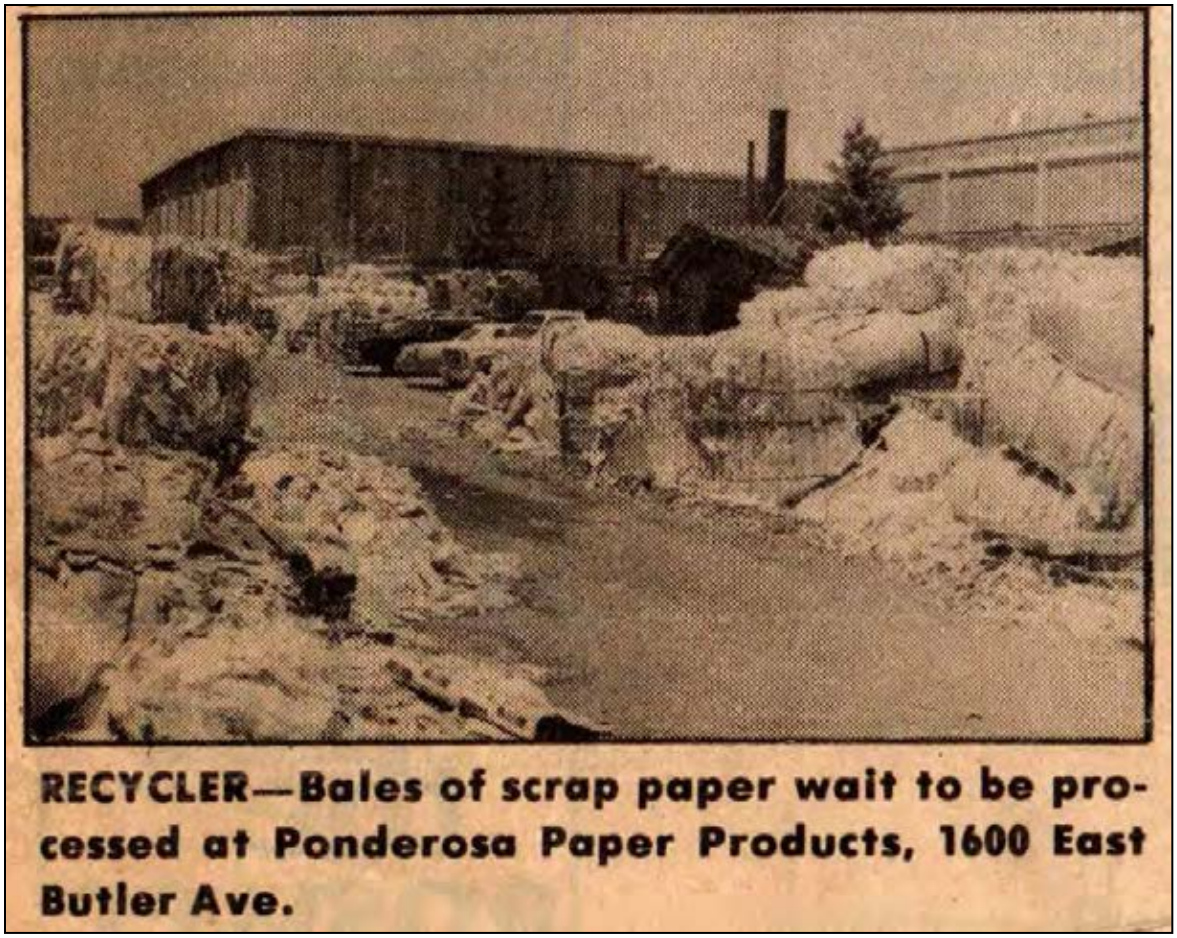


Figure 37. Bales of scrap paper ready for processing (ADS June 25, 1981).

Canyon Country Club filed suit against Ponderosa and the City in 1970. They alleged that Ponderosa was dumping chemicals, industrial waste, and other pollutants into the Rio de Flag on numerous occasions and that the City was diverting sewage into the Rio de Flag. They sought a stop order and $1,250,000 in damages (ADS August 12, 1970). In 1971 the Arizona State Health Department (Health Department) followed up on this, ordering Ponderosa to stop draining effluent into the Rio de Flag (Figure 38) and ordering the City to stop diverting sewage into the Rio de Flag. The Health Department said Ponderosa had been under agreement to stop the effluent overflow since late 1968 but had not yet taken steps toward this (ADS January 14, 1971).

Figure 38. Photo showing effluent overflow into the Rio de Flag (ADS January 14, 1971).

Later in 1971, Ponderosa awarded a $1,200 grant to John Viktora, a Northern Arizona University graduate student in chemistry, to help research and develop a water recycling program for the plant (ADS November 10, 1971). A county judge issued an injunction stopping the company from discharging effluent into the Rio de Flag in 1972 (ADS July 13, 1983). The same year, their water recycling system went online (Figure 39). The system, designed by Envirotech, Inc., was designed to end effluent discharge into the Rio de Flag as well as reduce Ponderosa's water consumption from the City from 500,000 gallons per day to about 80,000 gallons per day (ADS January 5, 1972).

Figure 39. An aerator in the City's new water recycling lagoon (ADS January 5, 1972).

Bill Misslin, a columnist for the Daily Sun, commended Ponderosa's water recycling efforts (though noting that they were under threat of being shut down), and further noted efforts to improve the plant's appearance and the company's donations to local charities as evidence of it being a "good neighbor" in the community (ADS January 6, 1972:1). The Sierra Club also lauded this, along with their paper recycling efforts (ADS January 26, 1972). Goodwill Industries thanked Ponderosa for their charitable contributions by giving them an award in 1978 (Figure 40; ADS April 28, 1978).

By 1976 about 75 people were employed at the plant (ADS March 27, 1976). Bruce Jacks and John Girvin recall that in the early days the workforce was mostly white men, with some Black Americans (pers. comm. to Josh Edwards, September 9, 2020). There were probably never more than three Black Americans working at the plant at any one time. Some of the Black Americans working at the paper mill may have started working at the sawmill in town, then come over to Ponderosa. One notable individual, Howard Williams, was a Tuskegee Airman and John Girvin testified for him so he could be recognized as such.

Figure 40. Goodwill thanking Ponderosa for their charitable contributions by giving them an award. Left: Mike Midley, Goodwill; center: Bob Russel, Ponderosa; right: Mel Tucker, Goodwill (ADS April 28, 1978).

Many people who worked at the plant were not originally from Flagstaff. There were relatively more women employees as time went on, mostly working in administrative positions. James Potter's secretary, Kay Richey (Figure 41), was vice president of Flagstaff's Business and Professional Women's Club (ADS October 10, 1964). Early on, each person had two jobs in the mill. They would spend two weeks making paper then two weeks converting paper (Bruce Jacks pers. comm. to Josh Edwards, October 6, 2020). Employees included preparation and conversion workers, electricians, mechanics, engineers, shipping and receiving, purchasers, administrative, and management staff. Both John and Bruce acted as plant superintendent at different times, John in the 1980s and Bruce in the 1990s.

The work was hot, humid, and rigorous. Bruce Jacks recalls that there was not much "ass time" for the employees and everyone pitched in to get the job done (pers. comm. to Josh Edwards, September 9, 2020). "It was hard, sweaty work," said Bruce. "There could be two to three feet of snow outside and you would be wishing you were wearing short pants inside." The heat increased as productivity increased. Some days people would think that the plant was on fire due to the amount of steam coming out of the top of the building. The large fans on the top sides of the buildings (especially Building 3) would work around the clock to evacuate the humidity created during the paper drying process (John Girvin pers. comm. to Josh Edwards, September 1, 2020).

Figure 41. Kay Richey (ADS October 10, 1964).

It was dangerous work (Figure 42), with numerous injuries including loss of fingers, hands, life, and limbs. In 1975 an employee (Cecil Fowler, aged 23) suffered burns when he fell into a pulper. He was rescued by a fellow worker (Trini Logan) and was taken to the hospital in fair condition (ADS August 28, 1975). Karl Kurt Kirsch (aged 20), a Vietnam War veteran and Ponderosa employee, died in an industrial accident the same year (ADS September 13, 1975). Clifford Wright broke his left arm in a paper machine in 1977 (ADS January 17, 1977). The same year Bobby Sholtz (aged 19) caught his shirt in machinery and injured his face (ADS June 21, 1977).

John Girvin recalls that when he first started at the plant in 1969 he made $2.82 per hour, which was better than the $1.00 per hour he made at the gas station (Ron's Shell) where he worked before that, now a used car dealership on Route 66 near the Babbitt dealership (pers. comm. to Josh Edwards, September 9, 2020).

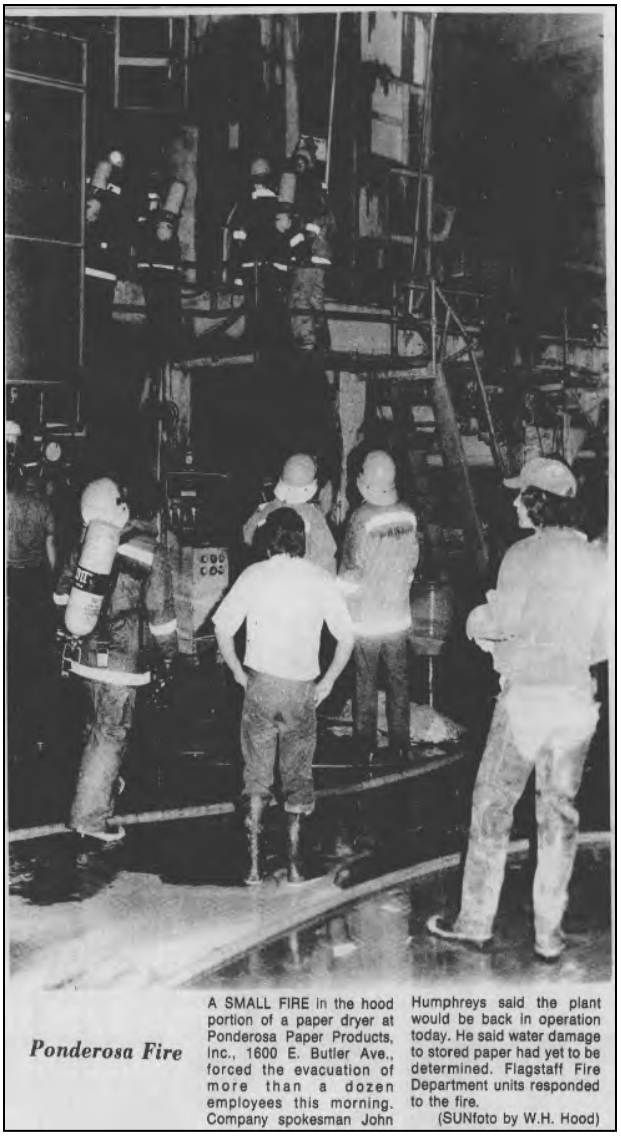


Figure 42. A fire in a paper dryer caused the plant to be evacuated (ADS April 10, 1978).

There were perks to working for the company. When they first opened, Ponderosa employees formed their own credit union (ADS November 19, 1965). They also formed several sports teams. In 1974 Ponderosa's women's volleyball team went undefeated in the Parks and Recreation Department Summer Volleyball League (Figure 43; ADS August 9, 1974). They also had women's and men's softball teams (Figures 44–46; ADS June 8, 1974). John Girvin started the men's softball team around 1973, and he and Bruce Jacks were both pitchers. Their families would come to games. At one point, Ponderosa decided not to provide uniforms, so the team tie-dyed their own. There was also a bowling team in the 1970s (John Girvin and Bruce Jacks pers. comm. to Josh Edwards, September 1, 2020).

Figure 43. Ponderosa's women's volleyball team (ADS August 9, 1974).

Figure 44. Bruce Jacks (right) of the men's softball team, late 1970s (ADS, undated photo).

Figure 45. The men's softball team, late 1970s (Bruce Jacks, personal collection).

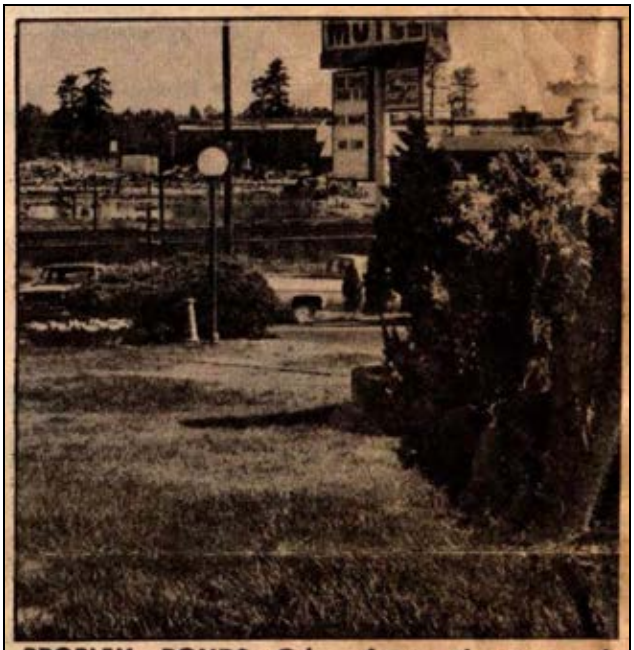
Figure 46. Bruce Jacks (center) and the men's softball team, late 1970s (Bruce Jacks, personal collection).

The Museum Club was a popular watering hole for Ponderosa employees, as it was next to the bowling alley. Gomez's Place on San Francisco and Rancho Grande (predominantly Black American) would open early at 6:00 a.m. to serve workers as they ended their shifts. Some employees used Building 1 as an archery range with failed rolls as targets. There was a strong sense of camaraderie among the workforce, with many lifelong friendships that lasted multiple generations. Bruce Jacks considered the plant employees "a band of brothers" (Bruce Jacks pers. comm. to Josh Edwards, September 1, 2020).

In 1974 Ponderosa Paper Products, Inc. formally changed its name to JJS Products, Inc. (ADS February 8, 1975), though it continued doing business under the Ponderosa name (Figure 47). It may have also come under ownership of Orchids Paper Products at this time as well, but this is not completely clear. By 1976 most of Ponderosa's product was either being sold through Orchid Paper or through a U.S. government contract (ADS March 27, 1976). In 1979 Ponderosa Paper Products, Inc. merged with Concel, Inc. (ADS January 4, 1980). By 1982 Ponderosa was owned by parent company APL Corporation (APL) out of New York. APL also owned Orchid Paper Co. in California. In 1982 Ponderosa discontinued some of its operations (the paper mill remained in operation) and transferred them to Orchid in La Palma, California (ADS July 16, 1982).

Figure 47. Advertisement for Ponderosa Paper Products (ADS February 20, 1975).

In 1980 Ponderosa ran into problems disposing of both its liquid and solid waste, and there were false rumors of the plant closing (ADS November 11, 1980). Problems with effluent, waste disposal, and odors would continue creating legal and public relations difficulties for the plant (Figures 48–50; ADS June 25, 1981; February 3, 1982; March 3, 1982; July 14, 1982; September 21,1982). APL closed Ponderosa in 1983, to mixed reactions. While the closure put 65 employees out of work, Flagstaff Mayor Paul J. Babbitt Jr. noted that people had been protesting to City Council about the plant's environmental issues since 1981, and described Ponderosa as "Flagstaff's No. 1 polluter" (ADS July 13, 1983:1).



PROBLEM PONDS—Odor from these ponds (background) have caused local motel owners to complain. The smell comes primarily from a settling pond used to settle out solids from the plant's processing water. The resultant sludge waste is hauled to the city landfill. The water is reused.

Figure 48. Settling ponds caused odor complaints (ADS June 25, 1981).

PLANT IMPROVEMENTS— Ponderosa Paper Company officials were in Flagstaff February 24. They met with city and county officials to work out pollution problems associated with the East Flagstaff paper mill. A sewage lagoon, which is the source of a periodic odor problem, is shown above.

Figure 49. Sewage lagoons also caused odor complaints (ADS February 3, 1982).

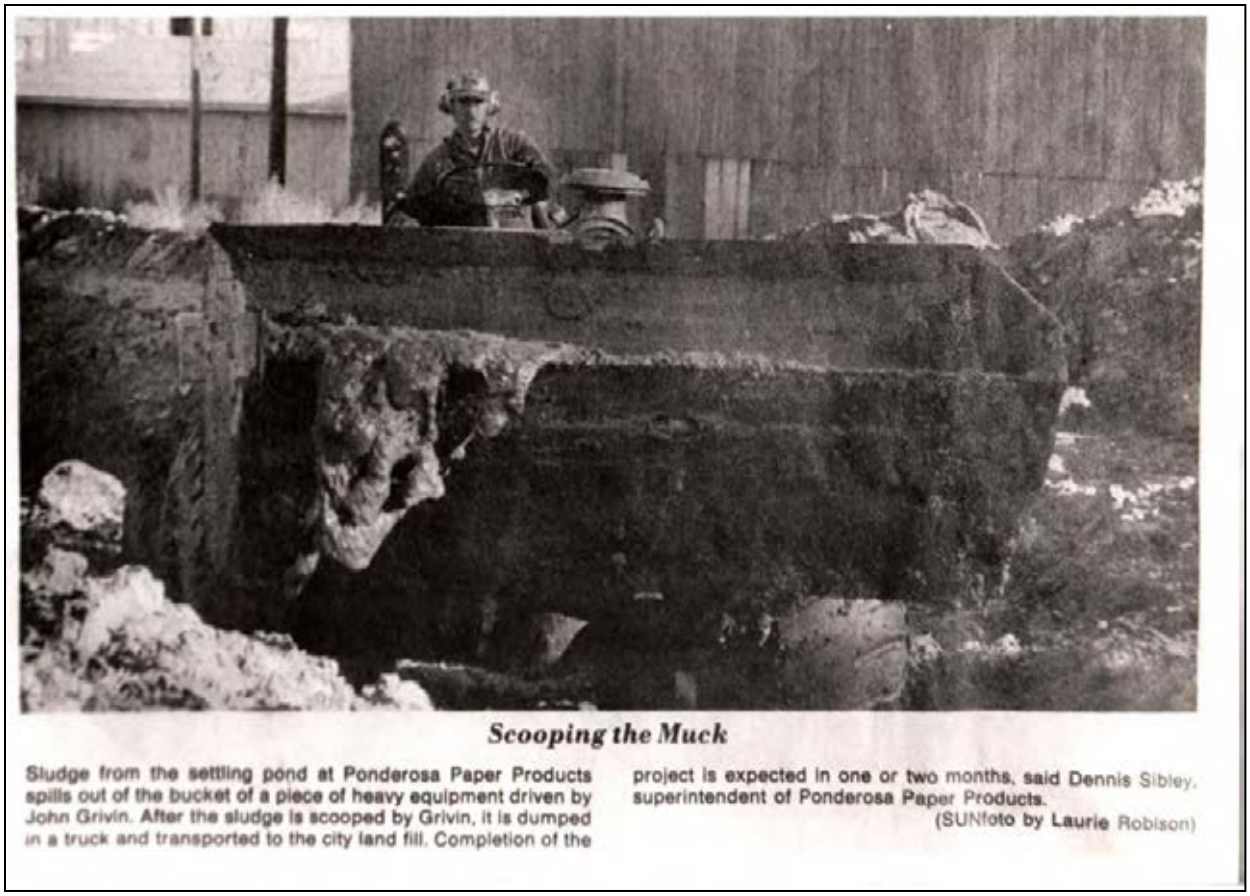
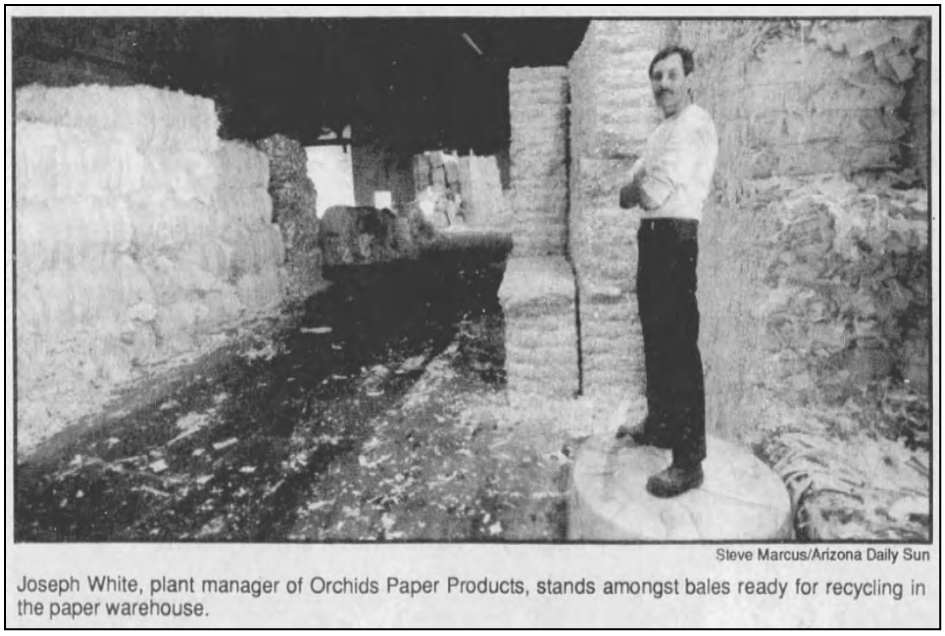


Figure 50. John Girvin scoops sludge from a settling pond (ADS, undated photo).

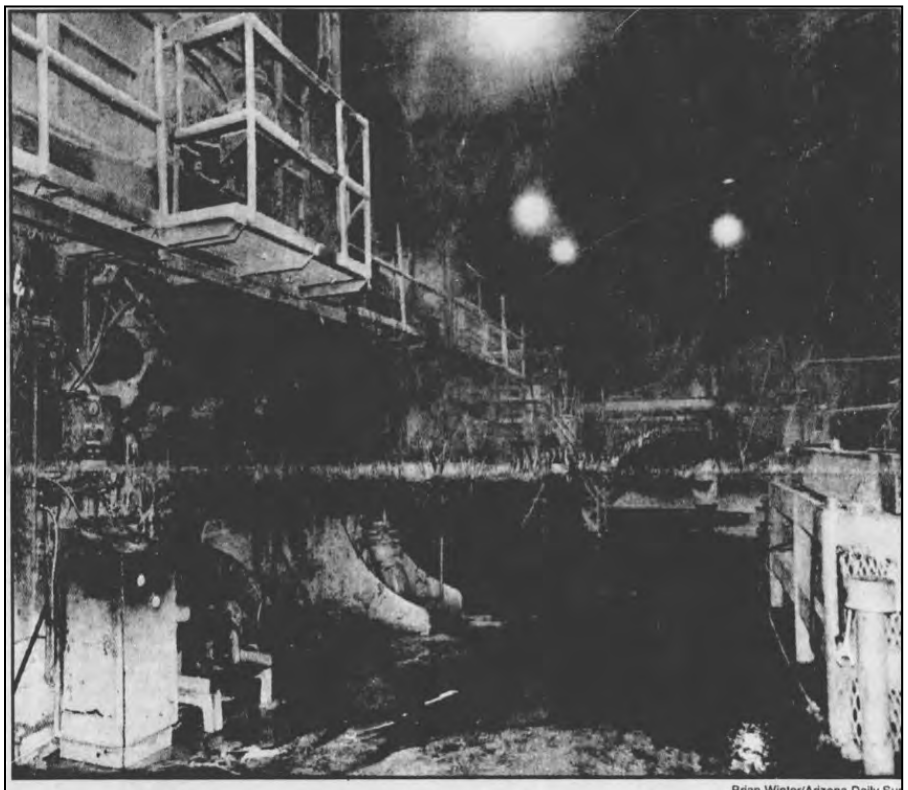
Following negotiations, and with some opposition, Ponderosa reopened a year later in 1984. Some former employees were offered their old jobs back at reduced salaries (ADS May 14, 1984). By 1989 the plant was one of six operated by Orchids Paper Products Co. (Orchids), though it still may have been known as Ponderosa; APL Corporation sold Orchids to a separate management group headed by Orville Simms Jr. in 1989 (ADS May 14, 1989; April 18, 1991). Orchids expanded/renovated the plant in 1990 and 1991 (Figures 51 and 52); the company filed for Chapter 11 bankruptcy in 1992 but continued operations and filed again in 1995 and laid off employees (ADS September 17, 1992; January 25, 1994; January 11, 1995). Part of Orchids' expansion included the purchase and installation of a second papermaking machine from Finland in 1991; prior to this there had been only one paper machine in Building 3. 1991 was also when the plant started making toilet paper for the first time (John Girvin and Bruce Jacks, pers. comm. to Josh Edwards, September 9, 2020).



Steve Marcus/Arizona Daily Sun

Joseph White, plant manager of Orchids Paper Products, stands amongst bales ready for recycling in the paper warehouse.

Figure 51. Joseph White, manager at Orchids, with paper bales for recycling (ADS December 23, 1990).



Brian Winter/Arizona Daily Sun

Workers from Orchid Paper wash down the floor and take hourly readings recently at the Flagstaff mill.

Figure 52. The paper mill under Orchids' operation (ADS January 25, 1994).

In the late 1980s a large piece of equipment called the Yankee dryer was uninstalled but kept on site as an artifact of the plant's history. The accompanying sign read, "This massive 70,000 lb. dryer was used from

1967 thru 1987 in making tissue paper, it was filled with 150 lbs of steam pressure for the purpose of drying paper. During the life of this dryer, approximately 750,000 tons of paper was made. This paper is equivalent to _5 rolls of paper towels for every person in the United States." Thereafter it was often labeled with the current operator of the plant (Figure 53).

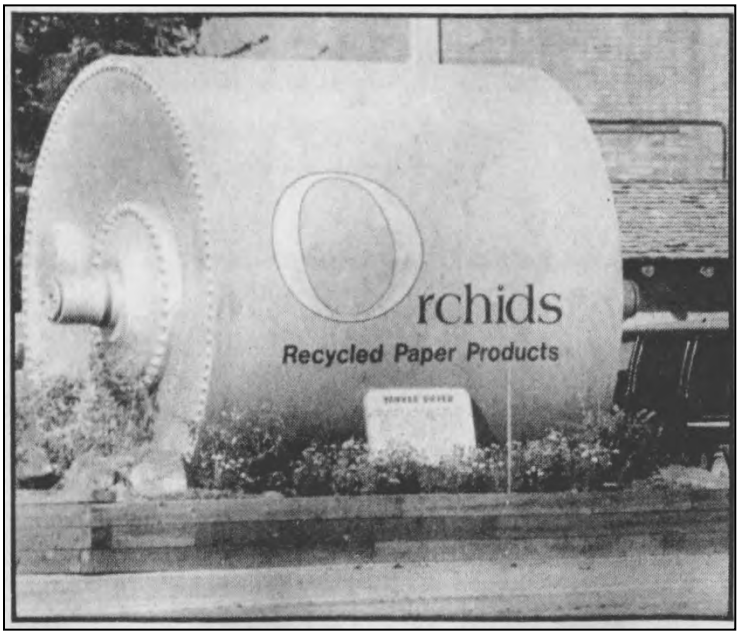


Figure 53. The Yankee dryer with Orchids' logo (ADS September 17, 1992).

The workforce diversified over time. John Girvin and Bruce Jacks recall that by the 1990s the employee composition became more Hispanic. In fact, there was a language barrier and Orchids hired English teachers for the employees. White workers were a minority at the plant from then on and Native American workers became more common after the mid-1990s, especially Navajos. While the employees lived all over town, there were many who lived in the Greenlaw and Sunnyside neighborhoods, regardless of ethnicity (John Girvin and Bruce Jacks pers. comm. to Josh Edwards, September 9, 2020).

The 1990s also saw a new emphasis on environmental conservation. This resulted in Orchids making multiple attempts to paint the paper mill in Flagstaff in a favorable light. Appendix C contains an internal document from ca. 1991 called "Saving Trees Is Our Business" by Mary Foley; a 1992 industry profile that details their recycling efforts, company history, and Flagstaff mill along with details of equipment and products produced; and a 1996 article in BioCycle: Journal of Composting & Recycling called "Good Paper Mills Make Good Neighbors."

After Orchids went bankrupt in 1995, Wisconsin Tissue bought the Flagstaff plant and rehired some employees (ADS May 3, 1995). Wisconsin Tissue made plans to renovate the Flagstaff plant and build a

new plant in Bellemont, which was completed in 1996 (Figure 54; ADS August 9, 1995; September 22, 1996). John Girvin and Bruce Jacks recall that during their considerable tenure at the plant, Wisconsin Tissue made the biggest changes and improvements to the daily lives of employees compared with any other company. When Wisconsin took over, they gave all employees a $1 per hour raise, while other companies that had been looking at purchasing the facility were considering reducing pay. Employees voted to de-unionize. The Bellemont facility employed over 200 people at one time for converting paper stock to consumer-ready products. Prior to that paper was shipped to Wisconsin or La Palma, California for conversion. There was a converting plant in one end of Building 3 prior to that (John Girvin pers. comm. to Josh Edwards, September 9, 2020).

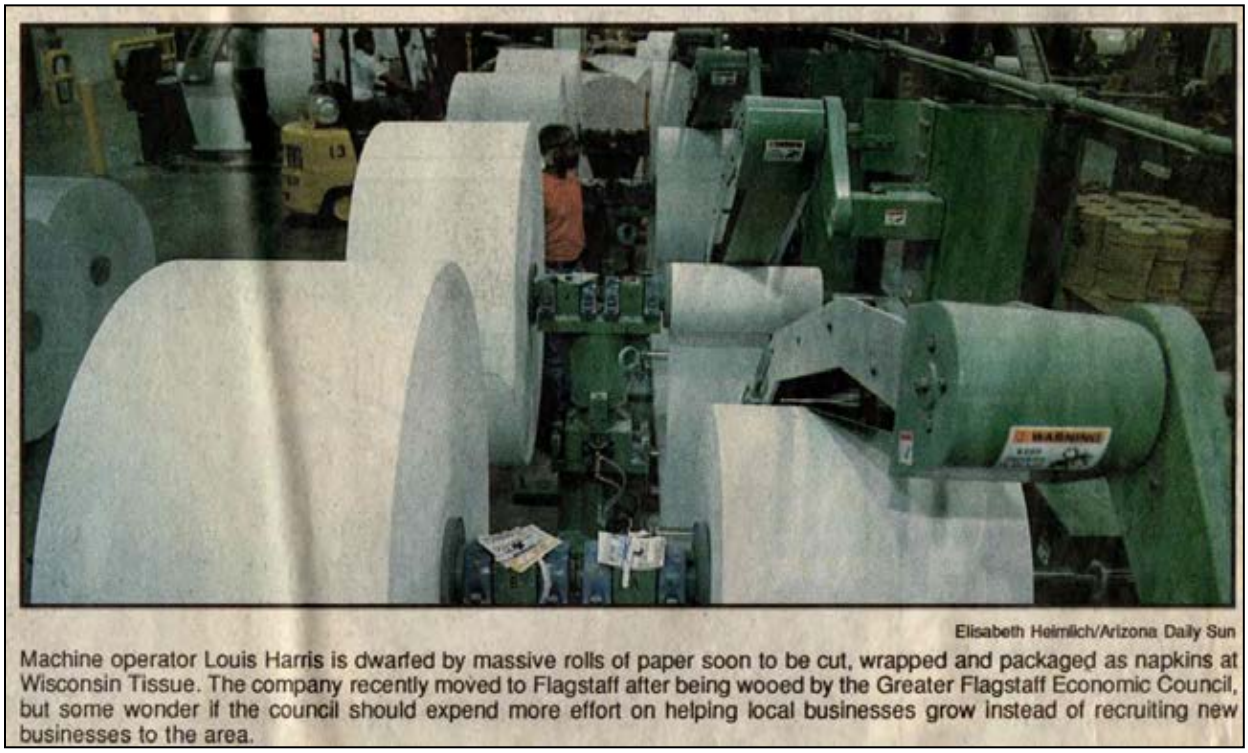


Figure 54. The paper mill under Wisconsin Tissue's operation (ADS September 22, 1996).

Georgia-Pacific Corporation merged with Wisconsin Tissue in 1999 to do business as Georgia-Pacific Tissue (Figure 55). No personnel changes were expected at the Flagstaff or Bellemont plants, which at this point employed about 250 people combined (ADS October 7, 1999).

Figure 55. The Yankee dryer with Georgia-Pacific's logo (ADS October 7, 1999).

In 2000 Georgia-Pacific made plans to sell the Flagstaff and Bellemont plants to Svenska Cellulosa AB (SCA) Tissue out of Sweden (ADS November 23, 2000). This was possibly due to federal efforts to break up a Georgia-Pacific monopoly in the industry (John Girvin and Bruce Jacks pers. comm. to Josh Edwards, September 9, 2020). SCA would continue to run the two plants until 2017 (Figures 56 and 57). The Flagstaff plant was used for making rolls of paper and the Bellemont plant was used for making finished paper products. In 2017 SCA closed and mothballed the Flagstaff plant, having acquired other papermaking facilities. The Bellemont facility remained open (ADS June 8, 2017). The 78 employees of the Flagstaff facility were notified on Wednesday, June 8, 2017 that their positions were being eliminated, and their jobs ended the next day. The employees received 60 days of severance pay (John Girvin and Bruce Jacks pers. comm. to Josh Edwards, September 9, 2020).

Figure 56. The Yankee dryer with SCA's logo (ADS June 8, 2017).

Figure 57. John Girvin worked at the mill for 46 years before retiring in 2015 (ADS July 20, 2017).

6.0 BUILDING FUNCTIONS

Building functions presented in this section generally pertain to operations after 1969, when John Girvin started working at the mill (Figures 58–61; Table 2). Resident Plant Engineer Chris Remington was especially helpful with this aspect of research. The assignment of building numbers was challenging, and the authors attempted to use contiguous foundations and roof structures to make these assignments. Given the continuous remodeling and repair of the facility, the dates generally represent the initial construction completion date of a portion of an earlier building that is incorporated into what is now present. Although there is some archival information presented above about previous building functions, most of the information in this section was gleaned from interviews with John Girvin and Bruce Jacks.

Table 2. Structure Number, Type, and Significance

Building Number	Building Name	Building Date
1	Furnish Warehouse	1956
2	Wood Barn/Storage Barn	1956
3	Paper Mill	1965
4	Main Office	1956
5	Maintenance Shop Parts Room	1964
6	Fiber Preparation and Water Clarification	1956
7	Maintenance Shop, Breezeway, and Boiler Room	1956
8	Maintenance Shop Parts Room	1997
9	Sludge Pad	1964
10	Yankee Barn	1976

Figure 58. Building numbers and initial construction dates.

Figure 59. Ancillary structures and buildings.

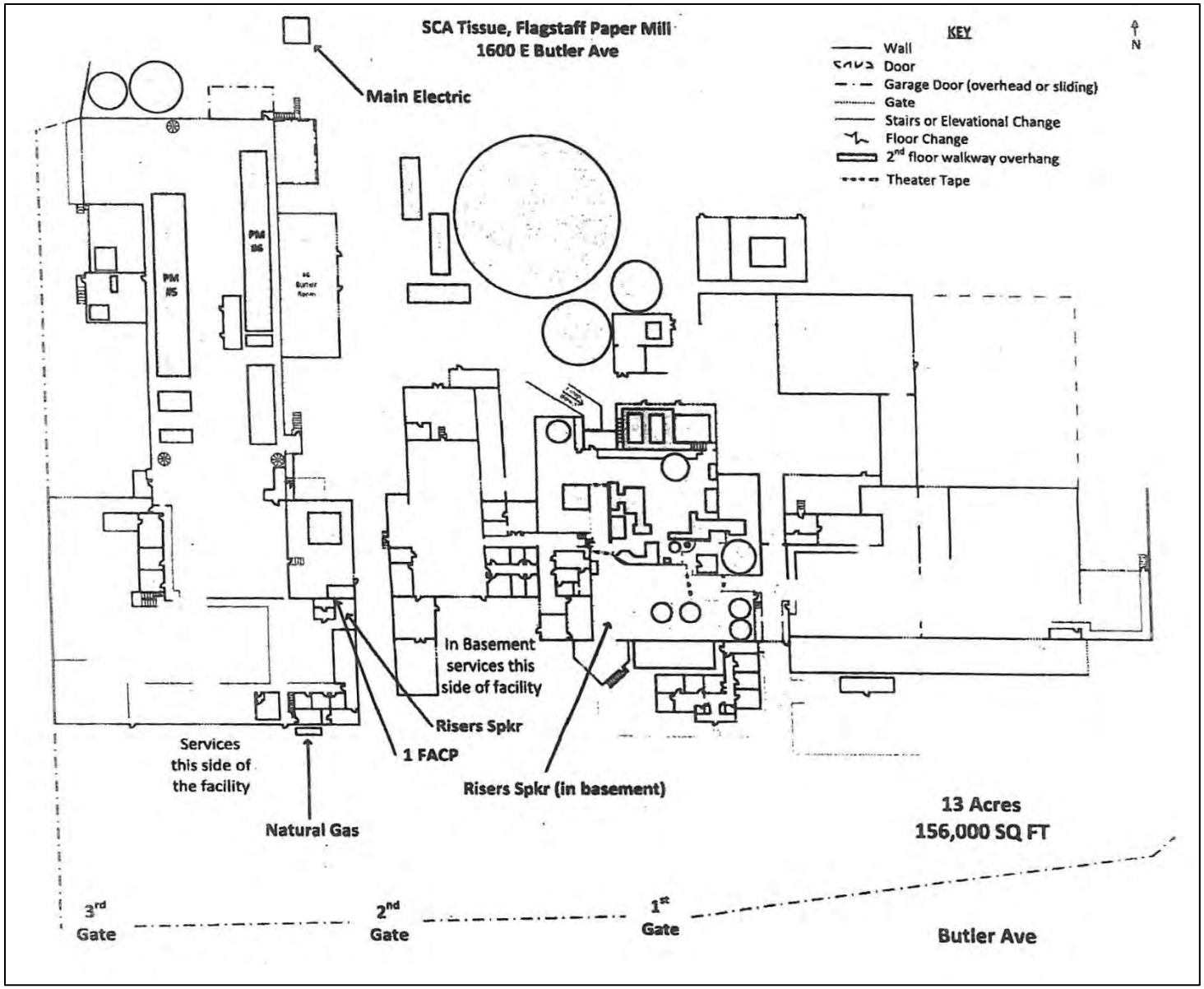


Figure 60. SCA Tissue Plant Layout.

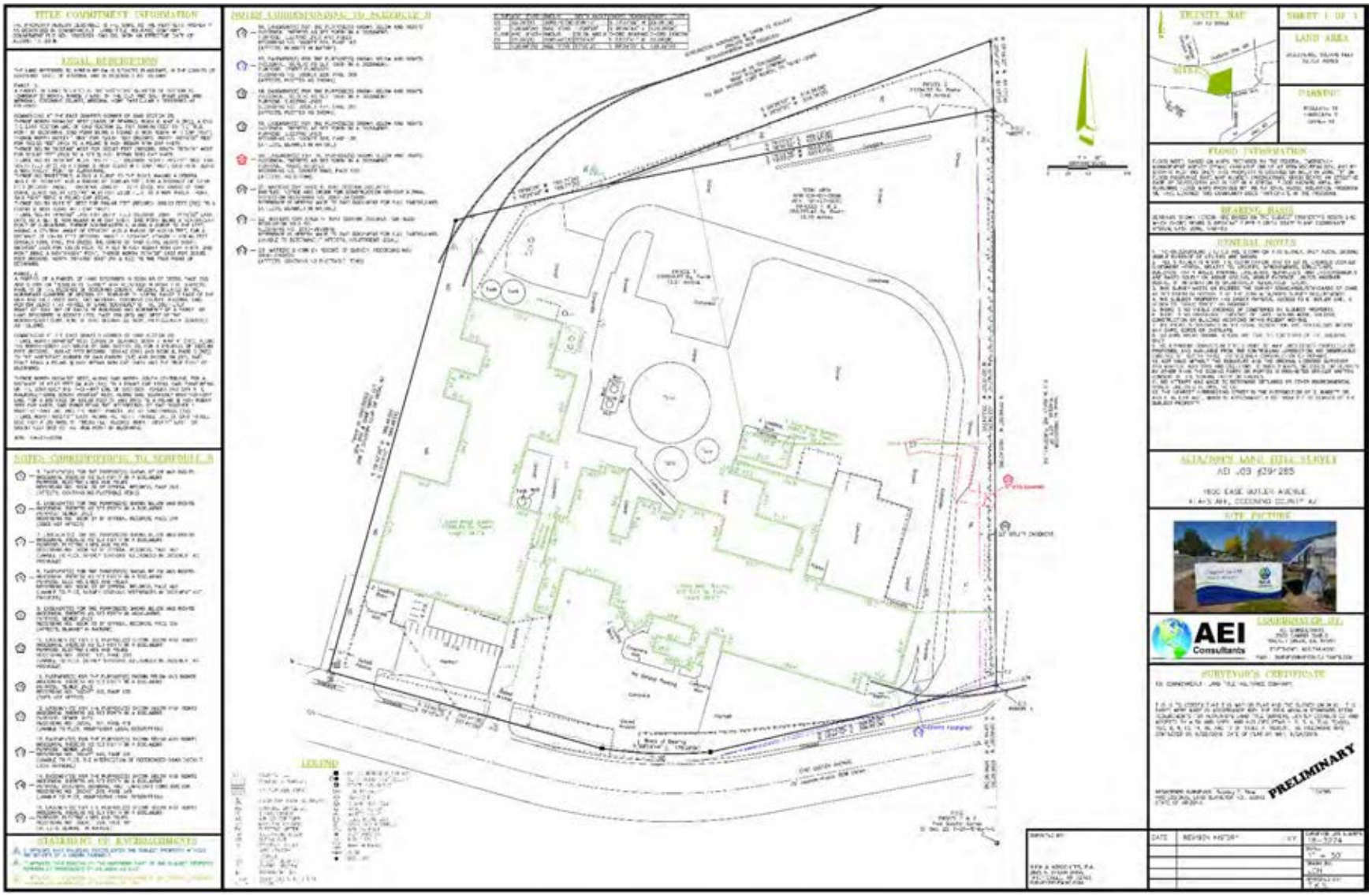


Figure 61. 2018 Preliminary property survey (PK Associates 2018).

6.1 Building 1- Furnish Warehouse

The Furnish Warehouse held bailed waste/solid paper that was going to be recycled at the mill (Figure 62). These bails of paper were called furnish and mainly arrived on trucks into the loading dock on the northeast part of the building, but also came in on the railroad spur on the southeast part of the building, mostly when the furnish was from far away (Figure 63). One railcar could hold about three truckloads of furnish and it arrived by train from across the U.S., mostly the Southwest, in the form of clippings from other manufacturing facilities like Dixie Cup, envelope manufacturers, and greeting card manufacturers (Figure 64). A small amount of newspaper was also included in the mix, but the content of this type of poor-quality paper had to be limited to maintain integrity of the resulting paper. Post-consumer waste (mostly from offices) was used to make white paper like tissues and towels. Boxes were made into brown paper, a.k.a., craft paper and brown napkins that are commonly used in restaurants.

Figure 62. Photo of Building 1, facing east-northeast.

Figure 63. Photo of covered railcar loading dock, Building 1, facing west-northwest.

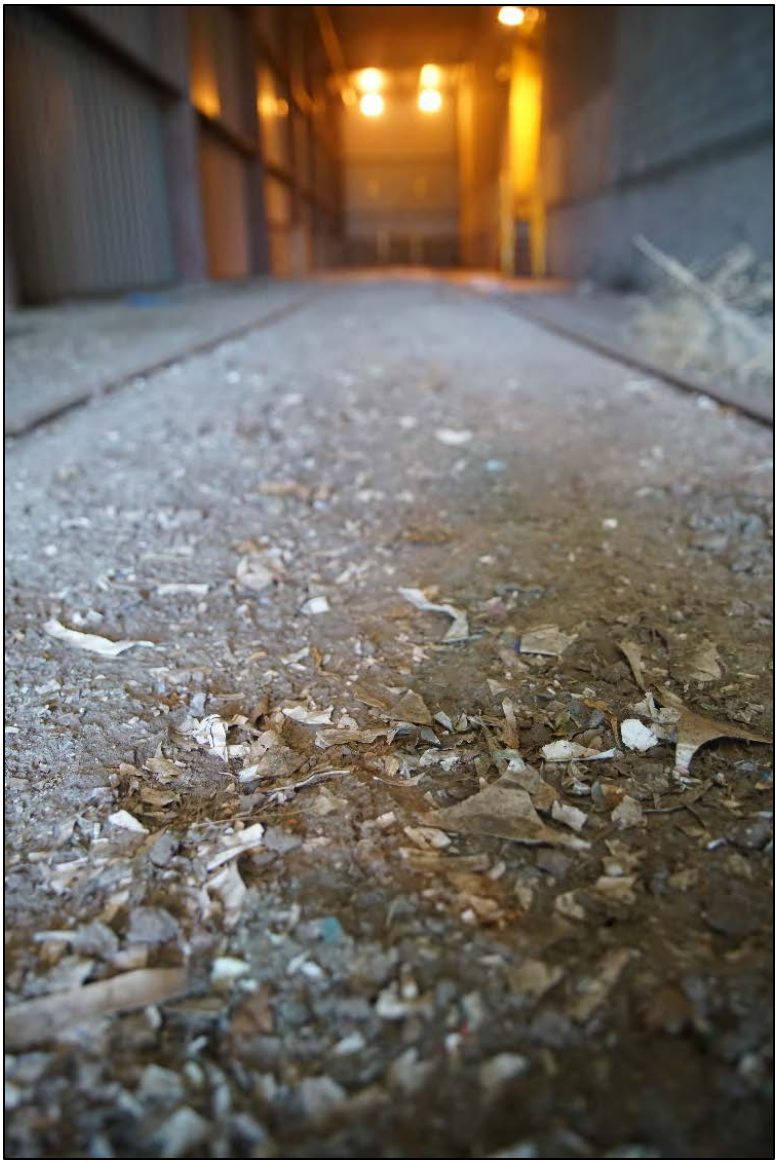


Figure 64. Photo of fragments of furnish in covered railcar loading dock, Building 1, facing west-northwest.

6.2 Building 2- Wood Barn/Storage Barn

In the early 1970s this building held extra motors and was used for general storage of large items (Figures 65–67). Prior to the 1970s this building may have been the location of log processing after they were debarked.

Figure 65. Photo of Building 2, facing west-northwest.

Figure 66. Photo of Building 2, facing east-northeast.

Figure 67. Building 2 interior, facing west-northwest.

6.3 Building 3- Paper Mill

The stock slurry was piped into the Wash Stock Tank on the north side of Building 3, which held paper stock pumped underground from Building 6. The slurry was then combined with clarified water from the Black Tank and sent to the head box and then to a paper machine. Essentially, the paper pulp was formed, dried, and made into a bulk roll form in Building 3 (Figures 68–72). It was then cut to the appropriate size for use and then shipped to the Bellemont facility, or across the country for processing into a consumer-ready product, such as paper towels and/or napkins.

Figure 68. Photo of Building 3, facing northwest.

Figure 69. Photo of Building 3, facing southwest.

Figure 70. Photo of Building 3 interior, facing north-northeast.

Figure 71. 2014 photo of Building 3 interior, facing south-southwest (photo credit Bruce Jacks).

Figure 72. 2017 photo of Bruce Jacks with the last roll of paper made in the SCA paper mill.

6.4 Building 4- Main Office

Managers, human resource staff, receptionist, and executives were in this building (Figure 73). When visitors arrived at the facility, they would sign in at the Main Office, go through safety protocol, and receive appropriate personal protective equipment. Paperwork, including forms, manuals, and drawings were also stored here.

Figure 73. Photo of Building 4, facing north-northeast.

6.5 Buildings 5 and 8- Maintenance Shop Parts Room

Building 5 held spare parts like bearings and electronic parts, belts for drives, packing material for pumps, and specialty parts (Figure 74). Building 8 used to be a blade grinding room and a core cutting room but evolved into a parts room that held spare parts like bolts and plumbing supplies (Figure 75).

Figure 74. Photo of Building 5, facing south-southwest.

Figure 75. Photo of Buildings 7 and 8, facing north-northeast.

6.6 Building 6- Fiber Preparation and Water Clarification

Building 6 was commonly referred to as the Fiber Prep Building (Figures 76–78). Here, plastic, staples, and extracts like clays and inks would be removed from the furnish. Here it would be washed, screened, and thickened into paper stock, and sludge, the waste material from this process would be taken to the City landfill and used to cover the trash or to line the trash pit. The resulting paper stock was then was diluted into a slurry that was then piped over to the Paper Mill (Building 3).

Figure 76. Photo of Building 6, facing south-southwest.

Figure 77. Photo of Building 6, facing west-northwest.

Figure 78. Photo of Building 6 interior showing fiber preparation equipment, facing southeast.

6.7 Building 7- Maintenance Shop, Breezeway, and Boiler Room

This is a complex building with several distinct sections including the Maintenance Shop, Breezeway, and Boiler Room (east to west). The maintenance shop is where the mechanics would fabricate parts, weld safety guards and parts for the machines, and repair and build equipment (*see* Figure 75). This building was also part of the Electrical and Instrumentation Department, where technical specialty electrical items were repaired like rebuilding motors. The breezeway is a drive-through area between the Maintenance Shop and Boiler Room, but under the same roof structure (Figure 79). The Boiler Room housed two boilers, one of which powered the original turbine-driven paper machine and the other smaller boiler provided hot water to the remainder of the facility.

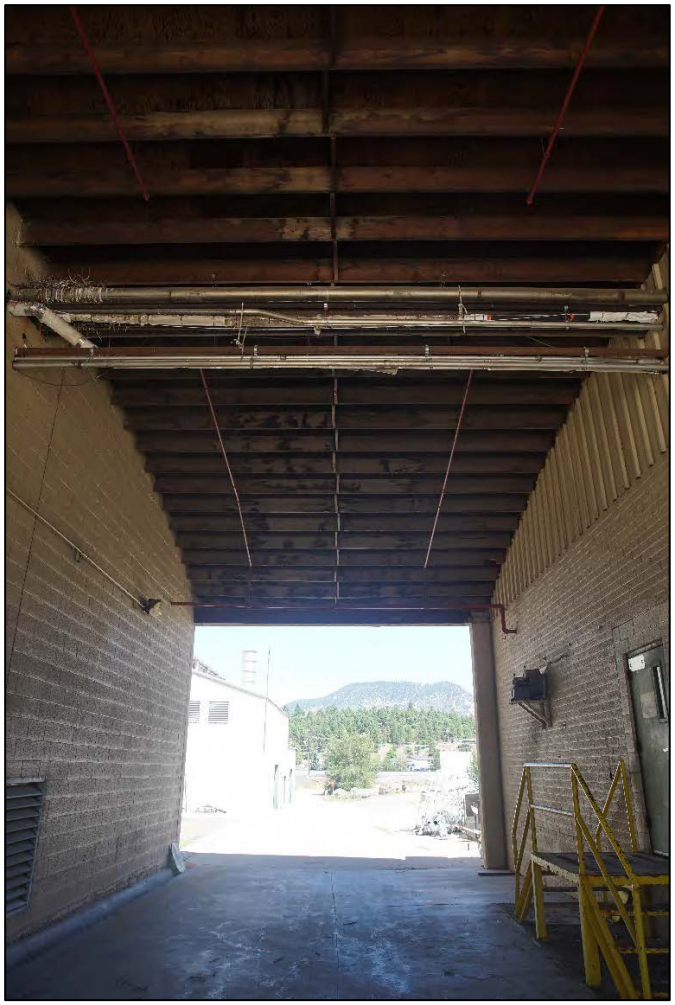


Figure 79. Building 7, Breezeway, facing north-northwest.

6.8 Buildings 9 and 10- Sludge Pad and Yankee Barn

Buildings 9 and 10 are not of historic age. Sludge was extracted from furnish in the Fiber Prep Building (Building 6) and then the sludge was kept dry in this three-sided building called the Sludge Pad (Building 10) because the heavier the sludge was the more it cost to put into the landfill. There was previously a building in this location that may have been a log debarking facility (John Girvin pers. comm to Josh Edwards, September 24, 2020; Figure 80).

Figure 80. Photo of Building 9, facing north.

An old, presumably wooden, barn used to be at the current location of the Yankee Barn (Building 10) prior to 1976 (John Girvin pers. comm to Josh Edwards, September 24, 2020). The current building held the spare Yankee Dryers that were not in use and they could be brought out in a pinch when other machines were not functioning.

6.9 Ancillary Structures and Buildings

This section describes the ancillary structures on the SCA Tissue property (*see* Figure 59). Many of the structures described herein are tanks that were demolished in 2019. Structures that have functions that are obvious due to their names receive only brief descriptions. The Acid, Ammonia, and Bleach Tanks simply contained large amounts of those fluids, which were used in the fiber preparation and paper manufacturing process. The Electrical Substation was the main point of electrical conduction and regulation for the facility. There is a Fire Hydrant on the east central portion of the property that is

embossed “Waterous” and “1989.” The Well Head, northeast of Building 1, was a critical part of the facility, as abundant water was more important to the paper-making process than nearby wood (Bruce Jack, pers. comm. to Josh Edwards October 6, 2020). This feature is the inlet for water from a well drilled near Lake Mary specifically for the paper mill. The Sewer Shack is the only building located on the smaller parcel along the railroad tracks in the north central part of the Study Area. The amount of effluent water discharged into the City’s sewer system was monitored in this building (Figure 81).

Figure 81. Photo of the Sewer Shack, facing north.

The Black Tank (on the north side of Building 3; simply named for its color) held water that was cleaned and clarified in Building 6 and then pumped underground to the tank and then used in the paper-making process in the Paper Mill (Building 3). The stock slurry from Building 6 was piped into the Wash Stock Tank on the north side of Building 3, which held paper stock pumped underground from Building 6. These two tanks were demolished in 2019 and now only circular concrete pads remain.

Once the water was extensively cleaned it would go from the bottom of the Black Tank to the Biological Oxygen Demand (BOD) Tank, which was the largest tank on the property (demolished in 2019). There, the water was treated through aeration, and by microorganisms that would digest solids in the water. The water would then go to the two small Clarifier Tanks next to the BOD Tank. The one on the east was the old clarifier tank and the one on the west was a little larger and newer. Once the water went through this process it was monitored and sampled for quality before it went to the Sewer Shack and then to the City wastewater treatment facility. Discharge was limited to 200 gallons per minute maximum, but the employees did their best to keep discharge at 175 gallons per minute or less.

7.0 Building Architecture and Construction Sequence

This section describes distinct architectural elements of each extant property and attempts to provide a reconstruction of building events (*see* Figure 58). Building dates were assigned from multiple sources, including aerial photographs, topographic maps, Coconino County Assessor's Office archival data, on-site observations, and interviews. The following architectural and structural descriptions mostly pertain to operations after 1969, when John Girvin started working at the mill, and generally follow the guidelines for Historic American Building Survey/Historic American Engineering Record/Historic American Landscapes Survey documentation established by the National Park Service (Burns 2004).

Interviews with Chris Remington, the former Resident Plant Engineer between 1975 and 2004, were extremely informative to the information presented in this section. Mr. Remington was educated in England as a mechanical engineer and immigrated to the United States in 1967. His early introduction to complex paper making equipment with Rice Barton of Worcester, Massachusetts, prepared him for his long-term employment in Flagstaff, where he also demonstrated an unusual and creative capacity for developing structural engineering solutions to significant building problems. Mr. Remington's intimate observations of the facility were critical to help reconstruct the complex repair and renovation of the plant during the years of his employment.

The property was first known as the Babbitt Brothers Trading Company slaughterhouse and meat packing facility starting in the late 1800s and transitioned to pulp and paper production in 1953. Only one historical photo thought to be of the original meat packing facilities was taken in the winter of 1954 (Figure 82). It is likely that the buildings were already being used by the Coconino Pulp & Paper Company though, as logs are shown that are ready to be turned into pulp that will then be used to make egg cartons.

Figure 82. 1954 photo of Coconino Pulp & Paper buildings, facing north (Shirley 1954).

Archival research, construction/architectural analysis, and oral interviews reveal that no structural remains from the slaughterhouse and meat packing facilities exists today, except for the eastern railroad spur, which was extended onto the property via an agreement between Atchison Topeka & Santa Fe and the Babbitt Brothers in December of 1911 (NPS 1983). This conclusion is illustrated by comparing a 1954 aerial photo of the site with the outline of the current SCA site (Figure 83). 1956 aerial photos also strongly suggest that the Babbitt Brothers Trading Company slaughterhouse and meat packing facilities were completely torn down and replaced with new buildings for the paper making process (Chris Remington pers. comm. to Terry Greene, October 8, 2020; Figures 84 and 85).

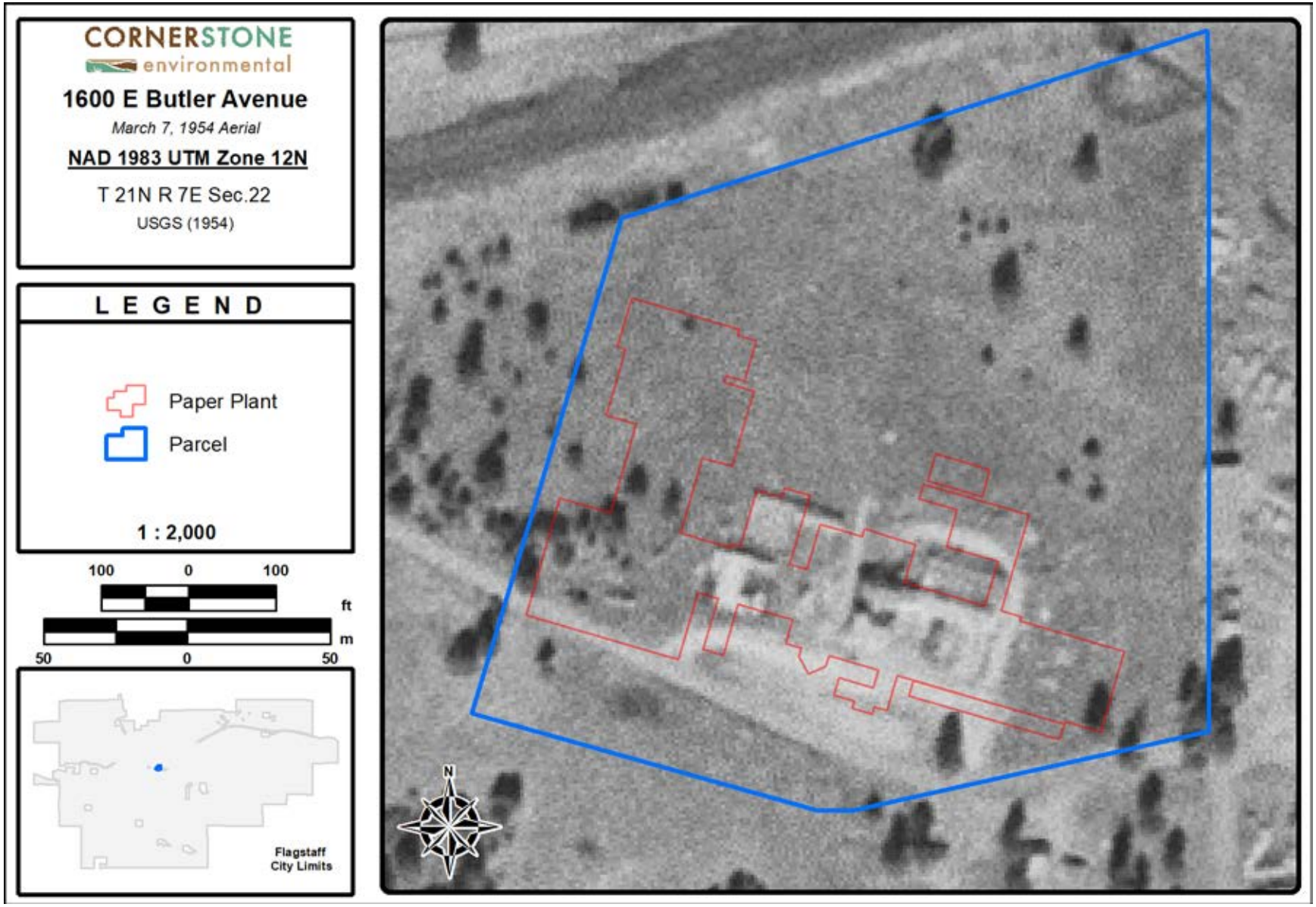


Figure 83. 1954 aerial photo with current building outlines.

Figures 84 and 85 are two oblique aerial photographs from 1956 that show new buildings on the site nearing completion. It appears that construction of the paper plant is still underway at the time of the photos as evidenced by a crane near the building and open trenches in the foreground. Two buildings in the layout shown in Figure 84 correspond to the final layout identified in Figure 58, with the taller building near the center of the image corresponding with Building 6 and the eastern (right side of photo) building corresponding to Building 1. Both buildings are noteworthy due to their distinct gabled roofs. These buildings are the oldest continual use buildings under consideration in this report and were built between 1954 and 1956.

In 1959, the plant had been more fully built, with construction of Buildings 2, 4, 6, and 7 complete and the expansion to the east of Building 1 with the addition of another warehouse (Figure 86). The rail spur is visible along the south side of the facility, with railcars seen just to the east of the property.

By 1964, the facility expanded even more, with an increase in size of Building 6 and the construction Buildings 5, 7, and 8 (Figure 87). It is possible that Building 7 is an expansion of the construction seen in 1959, but nothing conclusive was identified. Building 4 was connected to the main plant through the addition to the rear of the building to connect this to Building 1. Likely site preparation is seen on the western edge of the parcel where Building 3 would be located, and while no building materials appear to be in place when this image was taken in August 1964, by November 1965, the building is completely finished and in use (Figure 88). This time period corresponds with Ponderosa's expansion of the facility.

The roof forms of the existing buildings appear to remain consistent from 1959 to 1964, although they appear darker in the later image, possibly due to new roofing material. It is also during this five-year period that we see an expansion of Building 1, with an increase of 20 feet to the south. This expansion triggered the reroute of the railroad spur, also moving the line 20 feet south to the current location, likely beginning at a point in the adjacent parcel to the east.

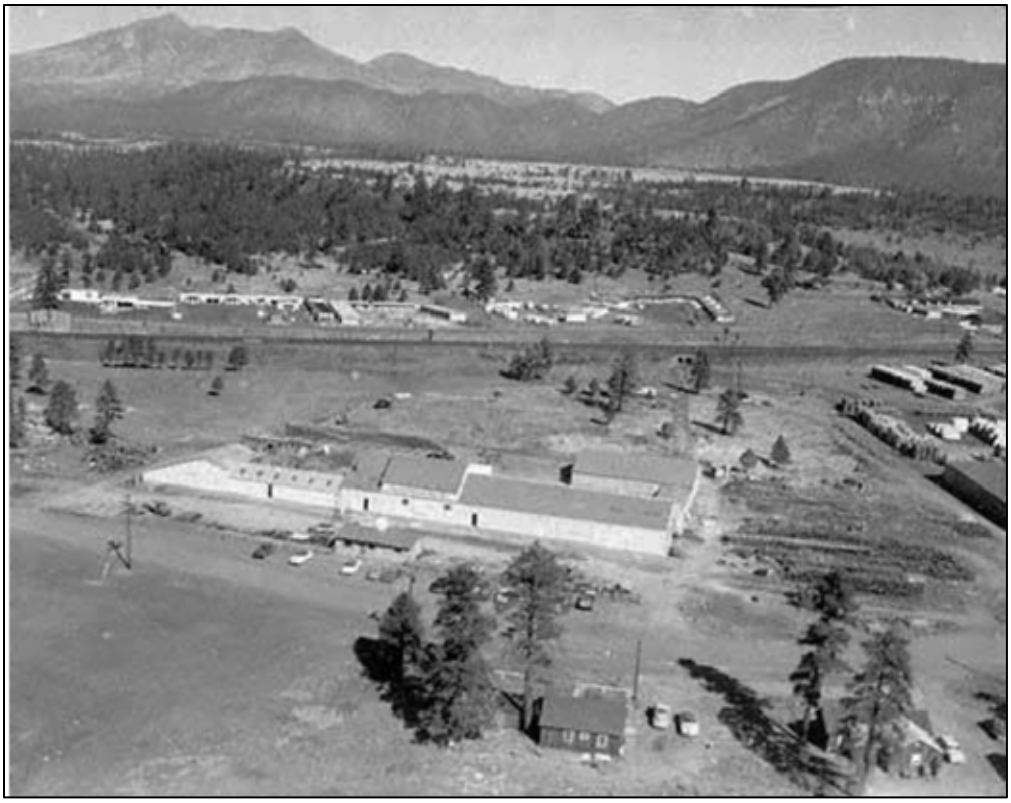


Figure 84. 1956 aerial photo of Arizona Pulp & Paper facility, facing north.

Figure 85. 1956 aerial photo of Arizona Pulp & Paper facility, facing south.

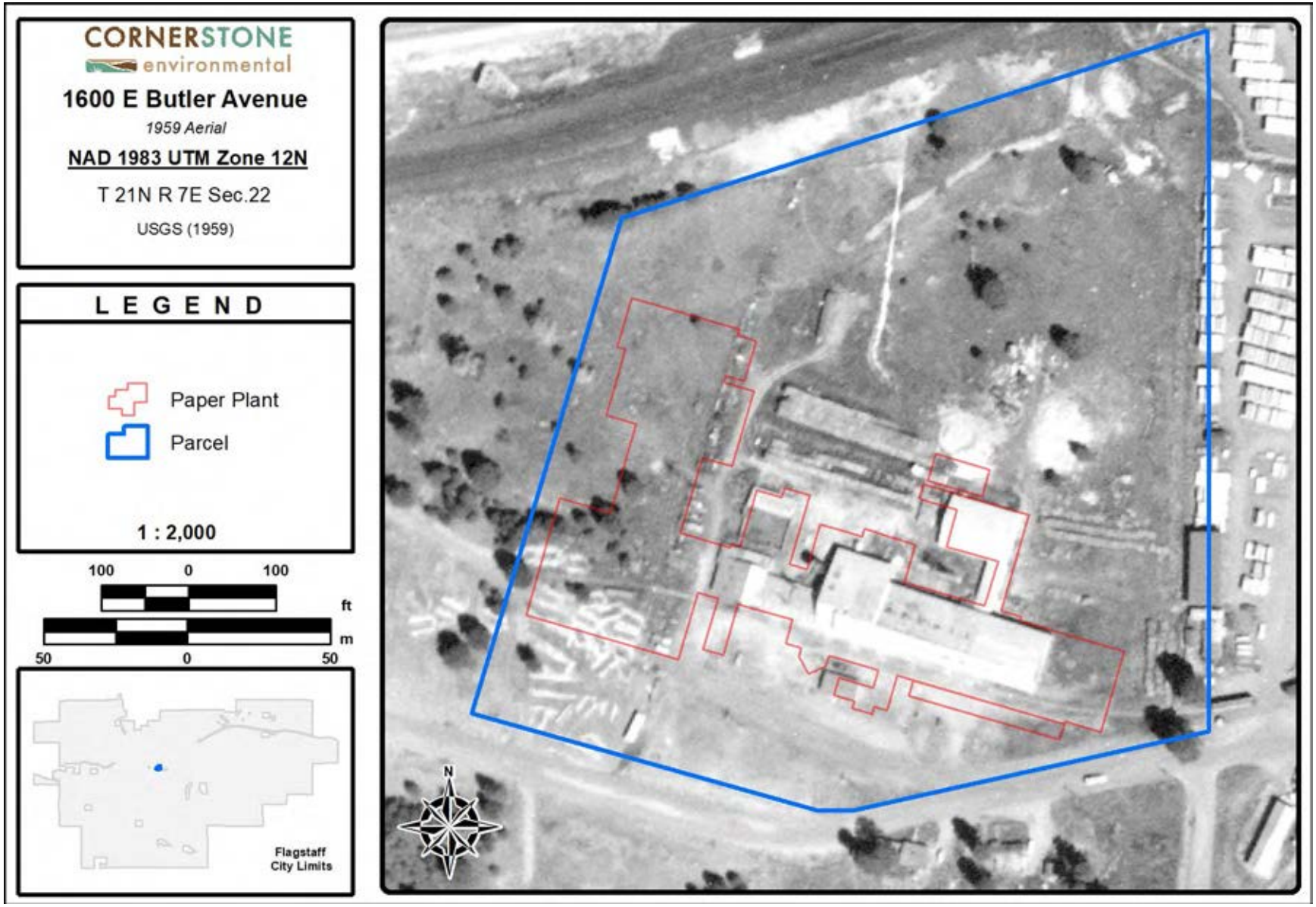


Figure 86. 1959 aerial photo aerial photo with current building outlines.

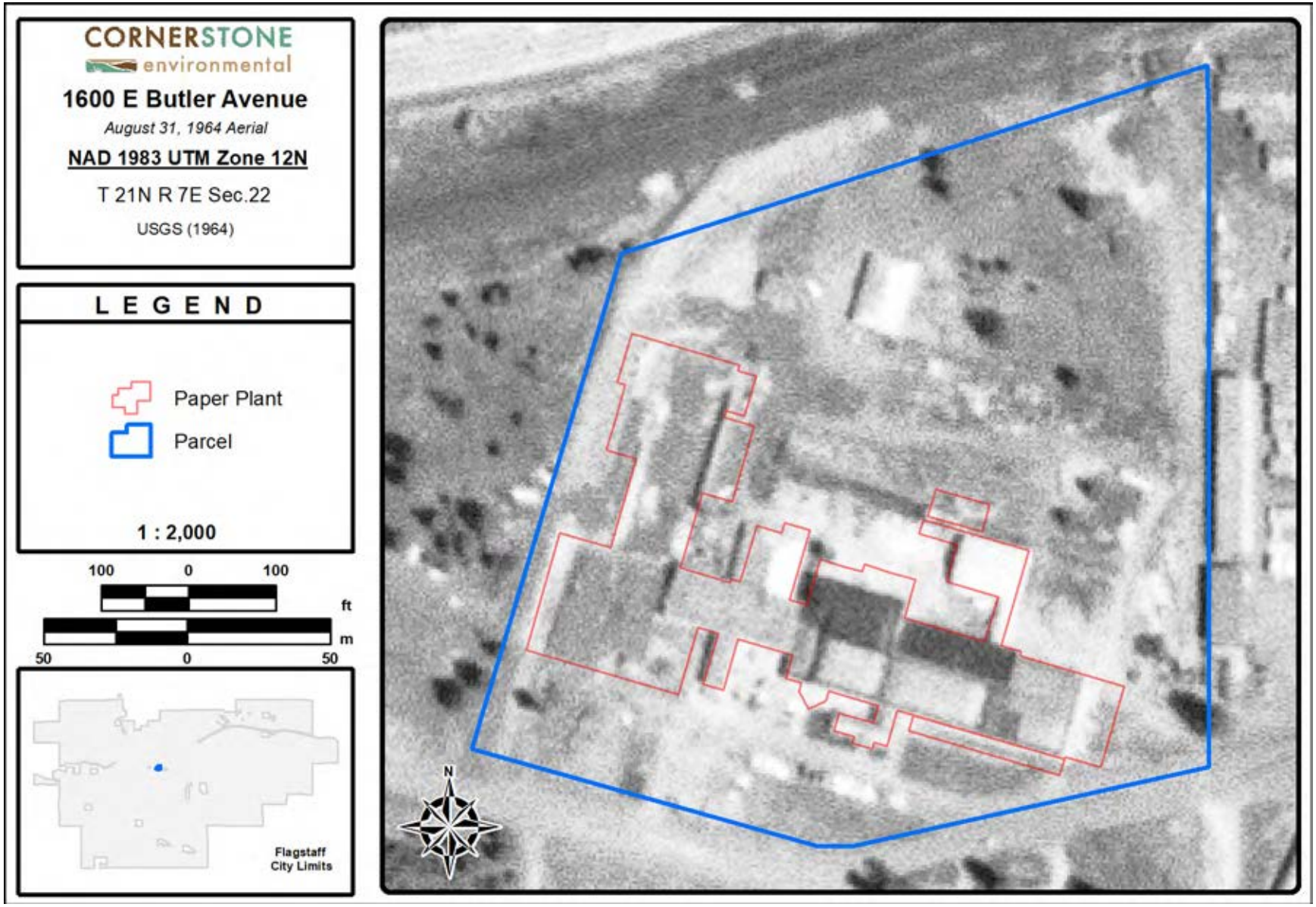
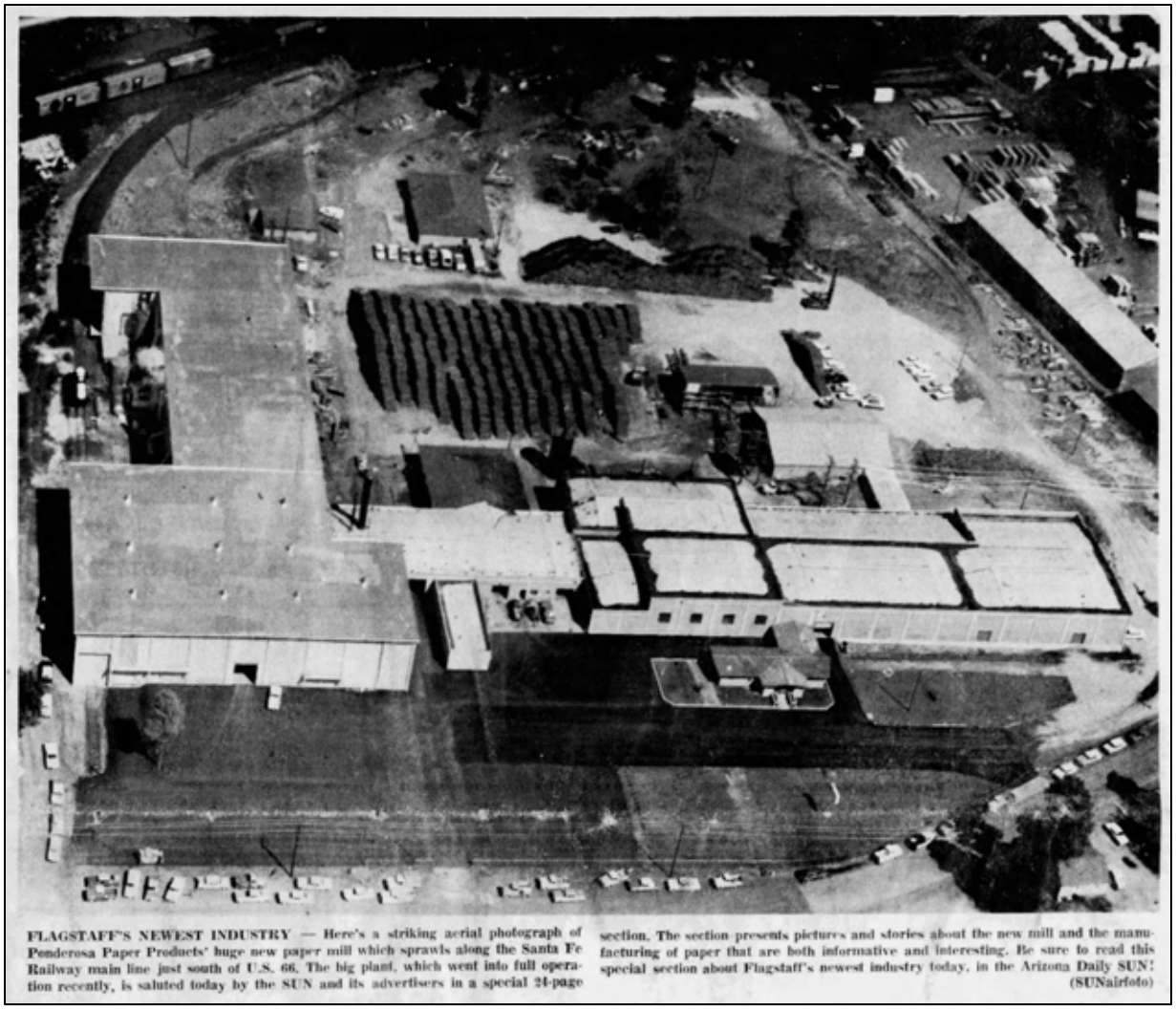


Figure 87. 1964 aerial photo aerial photo with current building outlines.



FLAGSTAFF'S NEWEST INDUSTRY — Here's a striking aerial photograph of Ponderosa Paper Products' huge new paper mill which sprawls along the Santa Fe Railway main line just south of U.S. 66. The big plant, which went into full operation recently, is saluted today by the SUN and its advertisers in a special 24-page section. The section presents pictures and stories about the new mill and the manufacturing of paper that are both informative and interesting. Be sure to read this special section about Flagstaff's newest industry today, in the Arizona Daily SUN! (SUNairfoto)

Figure 88. 1965 aerial photo of Ponderosa Paper Products new facility (ADS November 19, 1965).

When Ponderosa took over the facility, they built new roof forms over Building 1 and Building 6 (*see* Figure 88). The roof forms are barrel vaults that still exist in the warehouses of Building 1 and in part of Building 6. The barrel vaults do not appear to be in the 1964 photo, so they are presumed to have been installed between 1964 and 1965 (*see* Figures 87 and 88, respectively).

Resident Plant Engineer Chris Remington arrived on site in 1975, supervised all subsequent changes that occurred through 2004, and consulted to SCA on a part-time basis for several years after that. He indicated that the large piles of logs to the north of the plant in the 1965 aerial were cuttings from thinning operations aimed at reducing the threat of fire on the Coconino National Forest, on offer for free to whomever wanted them. Ponderosa acquired the logs and initially turned them into pulp, but due to the high demand for electricity to turn the grinding machines, the making of pulp from logs ended shortly thereafter (Chris Remington pers. comm. to Terry Greene, October 10, 2020). By 1971 they were using

all secondary (recycled) fiber. By 1974, all but two current buildings are in place (Figure 89). The exceptions are Buildings 9 and 10, the Sludge Shed and Yankee Barn.

In 2018, the Reich Brothers, the current SCA property owners, in hopes of retaining two of the buildings, hired the structural engineering consultant services of PK Associates of Scottsdale, Arizona. PK Associates provided a basic outline of the structural systems and the necessary repairs for continued use of what they called the East and West buildings (Building 1 and 3, respectively).

Figure 89. 1974 aerial photo aerial photo with current building outlines.

7.1 Building 1

PK Associates described Building 1 as "…one story totaling approximately 30,000 sf. and is adjacent to a rail spur. The building consists of 3 separate buildings with 3 different/yet similar structural systems. This building appears to have been used for material storage" (PK Associates 2018:4). It is likely that they mistakenly lumped a part of Building 6 into their report because it is framed in a similar manner to the two warehouses of Building 1.

In general terms, Building 1 consists of two warehouses and a truck bay. The western warehouse was built prior to 1956 and the eastern warehouse was built between 1956 and 1959, (*see* Figures 84, 85, and 86). The truck bay was built sometime after 1974 and the rail spur to the south of Building 1 was covered with a pre-engineered structure in 1995. The western warehouse is approximately 120 feet long by 60 feet wide, with an additional 50-foot expansion to the north for its entire length (*see* Figures 84 and 85). It has 18-inch square perimeter concrete wall columns that appear to have been cast in place with several sections of concrete masonry unit (CMU) infill exterior walls (Ramsey and Sleeper 1970:162).

The eastern warehouse is approximately 100 feet long by 60 feet wide, with an additional 45-foot expansion to the north for its entire length. It also has 18-inch square perimeter concrete columns that appear to have been cast in place with CMU infill exterior walls (Figure 96). This warehouse has a covered truck bay that was added to its eastern end, constructed of pre-engineered materials like those provided by Butler Buildings or American Steel Buildings (Figures 90 and 91). The original east end CMU wall of the eastern warehouse has a heavily reinforced opening cut into it for access to the truck bay with red steel columns supporting the newer pre-engineered truck bay enclosure (Figure 91).

The eastern and western warehouses are connected end-to-end, with a structural shear wall between them that has a large opening to allow for the passage of pedestrians and vehicles. The structural wall provides lateral resistance and was probably built when the second warehouse was added to the first warehouse (*see* Figure 12; Merritt 1982:8–64).

Figure 90. Photo of Building 1 truck bay, facing south.

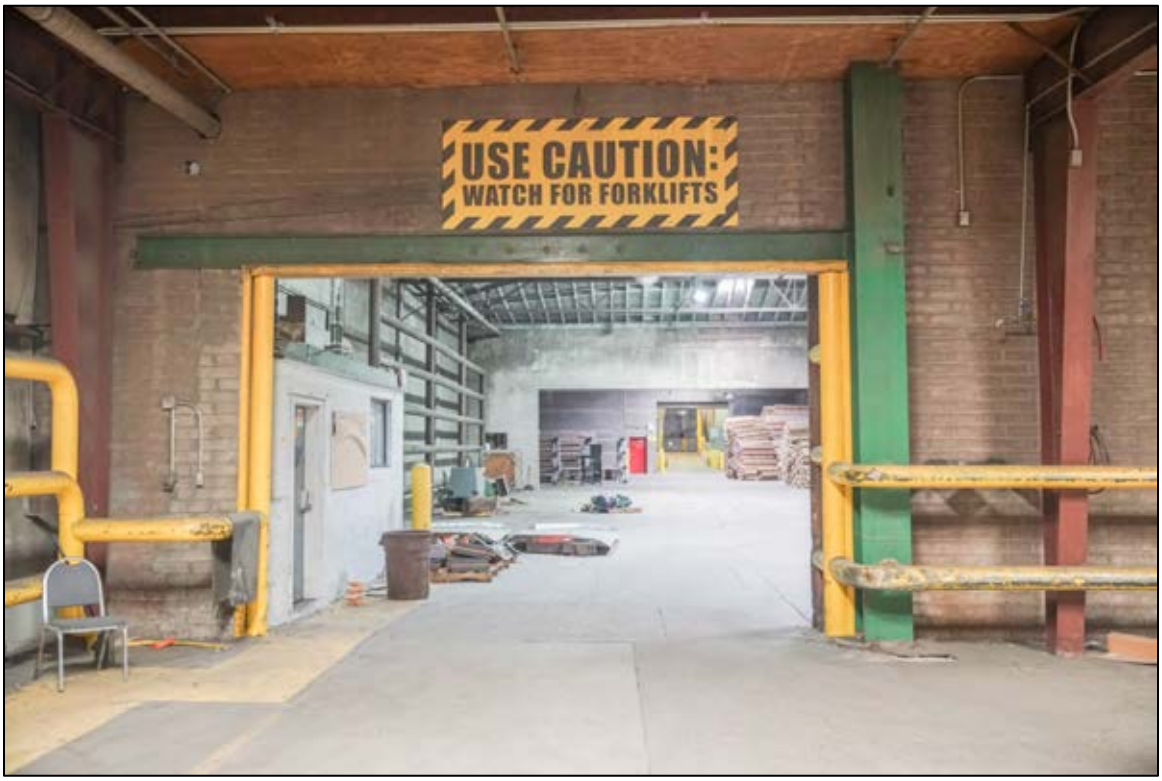


Figure 91. Photo of Building 1 interior, from truck bay, facing west-southwest.

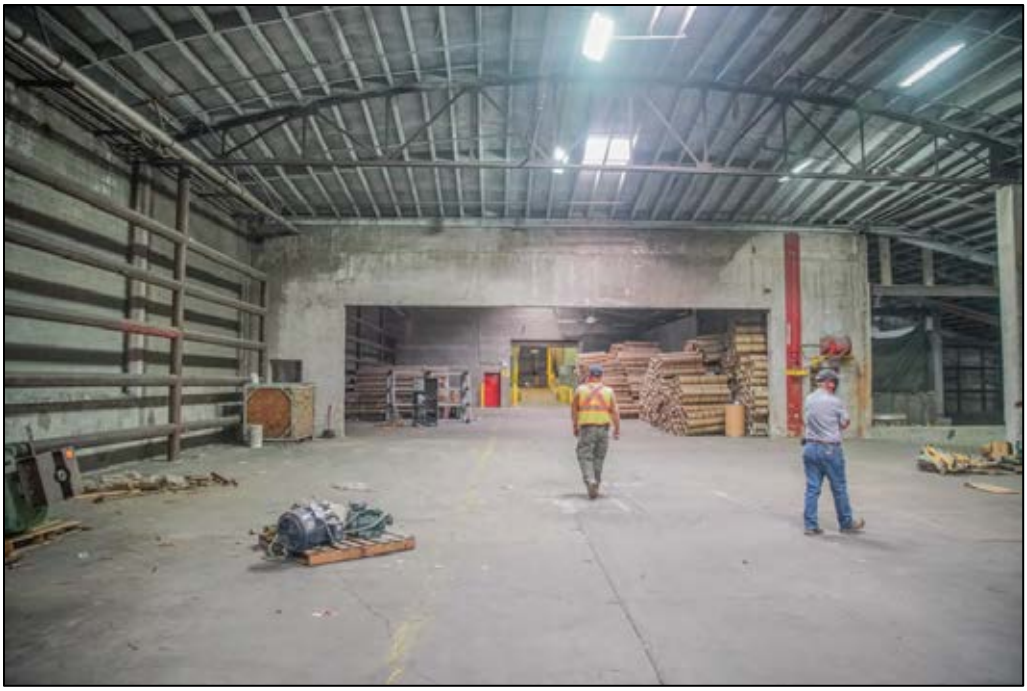


Figure 92. Photo of Building 1, eastern warehouse shear wall, facing west-northwest.

Both warehouses were originally framed with wooden trusses and had a pitched roof, but now the two warehouses are fully enclosed industrial light frame structures with open floor plans achieved by light weight steel trusses (Chris Remington pers. comm. to Terry Greene, October 8, 2020). Sometime prior to 1965, the wooden trusses were removed, and steel bow trusses were installed, creating a barrel-vaulted roof. The structural wall appears to have been cast in place but the top of the concrete portion of the wall stops short of the roof by several feet. The space between the top of the wall and the underside of the roof is filled in with CMU block (Figure 93).

Chris Remington indicated that the bow trusses were not part of the original building and that they were salvaged from aircraft hangers that were being demolished at Camp Navajo in Bellemont, west of Flagstaff. The north ends of the bow trusses appear to have been shortened and reinforced with a plate, as evidenced by the top chord and bottom chords not joining as they do on the opposite end. Since they were salvaged, they were unlikely to have been the exact length for this 60-foot span and were likely modified to ensure they terminated on the existing interior round columns, thereby allowing the Pratt truss to connect properly. A pitched shed like roof to the north of the barrel-vaulted roof was presumably built at the same time (Figure 94).

The interior reinforced round columns support the bow trusses as well as half of a Pratt truss in the eastern warehouse (Merritt 1982:5–46). The bottom chord of the bow trusses in the warehouses are about 25 or 30 feet above the floor. The top chord at the apex appears to be about six feet above the bottom

chord. All the members of the truss are constructed of steel angle and all joints appear to have been welded. The trusses span 60 feet between the columns on a north-south axis (Figure 94). The western warehouse has trusses that support the shed roof to the north, but they are crudely made of various pieces of wide flange steel and wooden timbers (Figure 95).

Figure 93. Building 1 CMU above concrete shear wall.

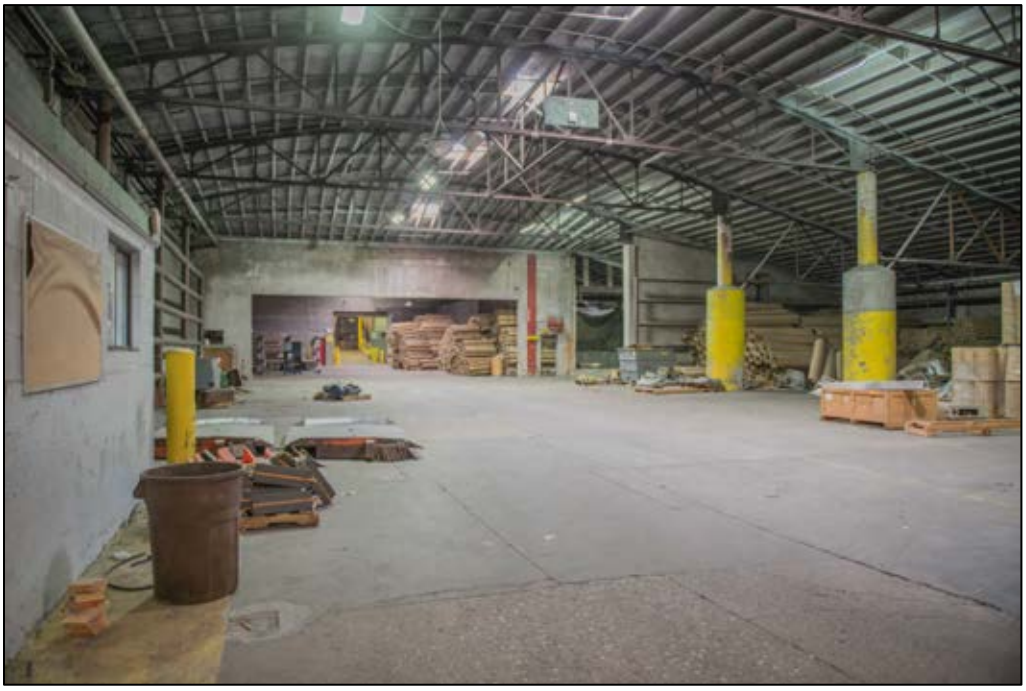


Figure 94. Building 1 warehouses, facing west-southwest.

Figure 95. Building 1 warehouse shed roof, facing north-northwest

The exterior infill walls of the two warehouses consist variously of red tinted and grey CMU blocks (Ramsey and Sleeper 1970:162). Most are of the dimensions of eight inches high by eight inches wide by 16 inches long, but several infill sections have red tinted CMU blocks that are four inches high by eight inches wide by 16 inches long (Figure 96). The red tint suggests they were made locally with a measured amount of red volcanic cinders, typical of those made in Flagstaff. The smaller dimensioned blocks are identical to those used in many of the houses on the east side of Flagstaff, constructed in the 1950s and 1960s, as well as those used in Building 4.

The warehouse structures of Building 1 appear to have plywood decking on both a single and occasionally double two-inch by 12-inch joist system at about 24 inches on center sitting on top of the bow trusses. The trusses are approximately 20-22 feet on center and are supported by concrete perimeter wall columns on the south side and round concrete free-standing columns on the north side. The plywood decking is covered by tar impregnated felt building paper with a tar and gravel protective coating.

Figure 96. Building 1 exterior, facing south-southeast.

The floors appear to be concrete slabs on grade with numerous patches, cracks, areas of differential settlement, and evidence of heavy use. Chris Remington, upon discovering one a spot in the warehouse floor that had begun to settle significantly, removed a 10-foot square to see what had caused the settlement. Beneath the slab, he discovered a void where the fill material had settled leaving the slab unsupported over a large area. The fill material he found consisted of old wooden pallets of concrete "dummy bombs" from Camp Navajo (Figures 97 and 98).

The "dummy bombs" were used for aerial bombing practice at Camp Navajo before and during World War II, but after the war, they had no use and were banded together and stacked on wooden pallets by the thousands. The owner of the paper plant, during the construction of the warehouses just before 1956, purchased a number of the pallets and dumped them with their banded dummy bombs directly into the foundations and poured the concrete slab over the top. Eventually, the wooden pallets rotted away and allowed the concrete dummy bombs to settle downwards, creating a void between them and the underside of the slab, causing slab failure (Chris Remington pers. comm. to Terry Greene, October 10, 2020). Some of the dummy bombs are still in place today, and partially set in concrete as a landscaping feature around the perimeter fence of a Flagstaff residence (Figure 97). Many still exhibit the loops used to suspend them from the wings of the bombers (Figure 98).

Figure 97. Concrete dummy bombs at a local Flagstaff residence.

Many construction elements indicate that Building 1 was rapidly and somewhat crudely built, including the use of mixed materials like larger sized CMU blocks with red tint. Figure 99 shows the typical exterior poured-in-place 18-inch square concrete column and concrete foundation wall. The south wall of Building 1 is made with square concrete columns, but some portions of the infill walls are constructed with eight-inch by eight-inch by 16-inch grey CMU blocks. The original exterior of this elevation is obscured from street view by a 1990s upgrade of ribbed sheet metal panels on girts creating a long pre-engineered shed that covers the southside rail spur (Figure 100). The rail spur is not readily seen in the 1954 aerial photo (*see* Figure 83) or in 1956 (*see* Figures 84 and 85) but it is evident in the 1959 image (*see* Figure 86).

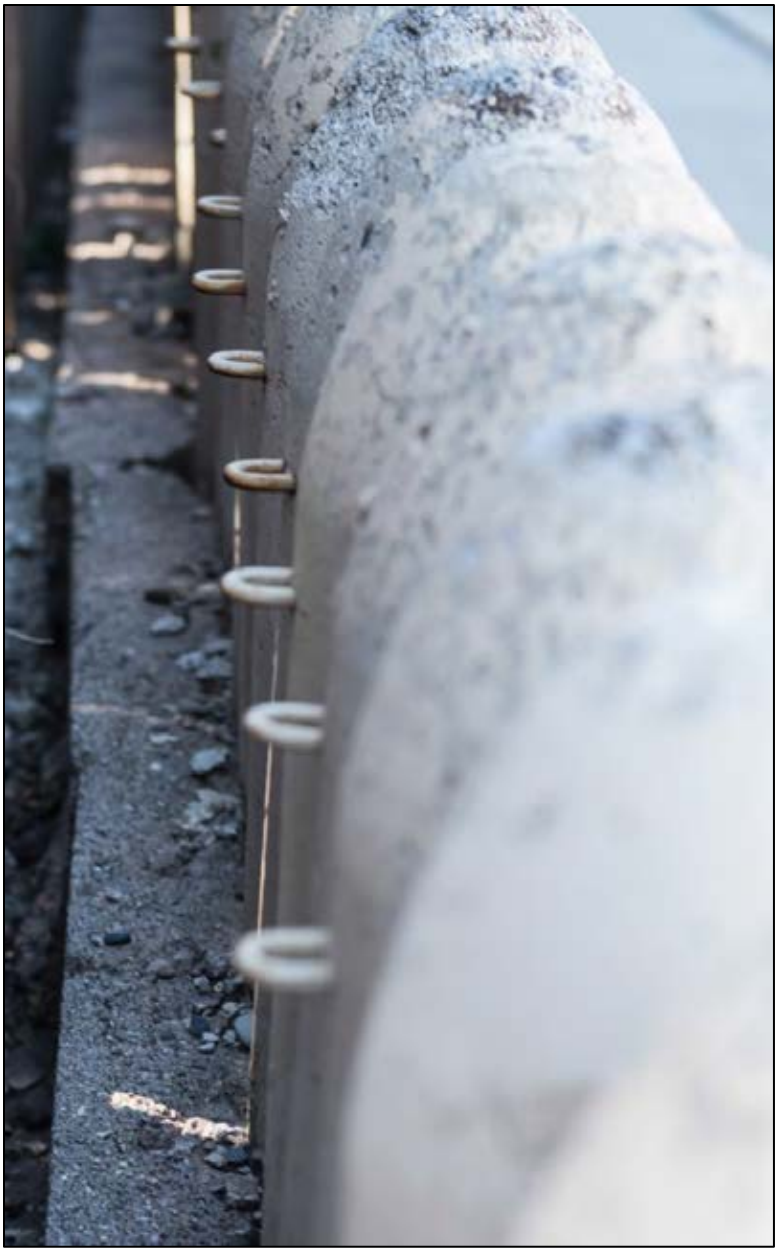


Figure 98. Concrete dummy bombs.

Figure 99. Building 1 exterior detail.

Figure 100. Building 1, southside rail spur and shed, facing east-northeast.

7.2 BUILDING 2

Building 2 is a relatively simple, tall, one-story building with a gable roof and concrete floor. It sits north of Building 1 and is connected to it by a long and narrow fully enclosed walkway. It was built prior to 1959 aerial (*see* Figure 86) and appears to have changed little since (*see* Figures 65 and 66). The floor plan is rectangular with the gable ridge running parallel to the length, on an east-west axis. The roof is supported by light timber trusses that span the width of the building, supported beneath by wooden beams and eight-inch by eight-inch wooden posts. The concrete floor has block outs with metal clips where piers and footings were poured to support the posts (Harris 1975:360).

There are two rows of posts that run from one end of the building to the other, spaced about 15 feet from each sidewall; those two rows are about 20 feet from the middle row of posts that run the length of the building just beneath the ridge beam. The spacing of the rows of posts with the beams above suggests that

the trusses, made up of short pieces of two-inch milled lumber, are too light weight for the long span and are unable to support the roof load without assistance (*see* Figure 67; Figure 101).

Figure 101. Building 2 interior, facing west-northwest.

The tops of the trusses appear to have milled two-inch lumber purlins, laid flat, about 4 feet on center that carry the corrugated metal (Figure 102). The roof is steep enough that it is unlikely that snow collects on the north facing surface. The posts are clipped and bolted to the foundation and to the beams above with short "L" angles: two bolts for each leg of the angle. The lower portions of the posts show evidence of having been hit and damaged many times by machinery moving about the space.

All four walls appear to be constructed with eight-inch by eight-inch by 16-inch red-tinted CMU. The gable end walls have CMU pilasters made from four-inch by eight-inch by 16-inch CMU blocks that appear to stop or top out at the "top plate" level (Harris 1975:361). The gable ends are constructed of two-inch milled lumber, thought to be of nominal size rather than conventional 1.5-inch-thick material (Figure 103). Additionally, the pilasters extend vertically to mid-way on either side of the roll-up door (*see* Figure 65).

Presumably, the CMU cells are filled with re-bar and concrete. No other form of lateral resistance was found. There were no openings in the walls except for a large roll up door at the gable end and one pair of standard doors that open onto the covered connecter to Building 1. The large roll up door may have been added later (*see* Figure 65).

Figure 102. Building 2 roof trusses above post and beam construction.

Figure 103. Building 2, gable end framing detail.

The connector to Building 1 has eight-inch by eight-inch by 16-inch CMU walls, but it also has a pre-engineered steel frame of columns and beams with girders, all bolted together supporting corrugated metal roof panels. The steel columns are quite short and sit on poured-in-place concrete walls that are about four feet high on each side. The connector, although about 15 feet wide, appears to be an enclosed

pedestrian walkway between the two buildings. It probably replaced an earlier wood frame enclosure (Figure 104).

Figure 104. Building 2 connector, facing south-southwest.

7.3 Building 3

According to the engineering report, this building is a single-story structure with about 53,000 square feet of space, making it the largest on site, and many of the columns, beams, wall panels, and roof deck panels are hollow-core pre-cast and pre-stressed concrete (Blew 2018:2). John Girvin and Bruce Jacks pointed out a number of extra pre-cast and pre-stressed roof deck panels that are still stacked on the concrete slab where they were formed (Figure 105; *see* Salvadori 1963:50 for an explanation of pre-stressed concrete). Their edges appear to have been designed to fit flush.

The 1964 aerial photograph does not show Building 3 completed (*see* Figure 87), but it is possible that the photograph was made early in the year, before construction was finished. Some of the columns were cast in place as shown in 1964 newspaper photographs (Figures 106 and 107).

Figure 105. Building 3 pre-stressed roof replacement panels.

It is unclear what other pre-cast elements were cast on site, however the newspaper article states that the pre-cast four foot deep, 80 feet long, 30-ton beams were the largest ever cast by Arizona Sand and Rock at that time (ADS November 9, 1964; Figure 108). Arizona Sand and Rock was formed in 1961 in Phoenix as a subsidiary to the 1891 California Portland Cement Company based in Los Angeles. They specialized in pre-stressed concrete and it is likely that all the work necessary in Building 3 was one of their first contracts in Arizona. Construction of Building 3 might have been the main reason for the formation of the subsidiary.

Although Building 3's roof would technically be described as a flat roof, a slight slope on the top chord of the beams gives the roof a slight slope (Figure 108). This encouraged rainwater and snow melt to drain to the edge parapets and was initially directed to downspouts inside the building, where the valuable water was collected and used in the pulp preparation and paper manufacturing process when the plant relied on well water on site. After many years of neglect, and when the plant had reliable City water, the rain and snowmelt was diverted to the edges and allowed to sheet flow off the roof (Chris Remington pers. comm. to Terry Greene, October 10, 2020).

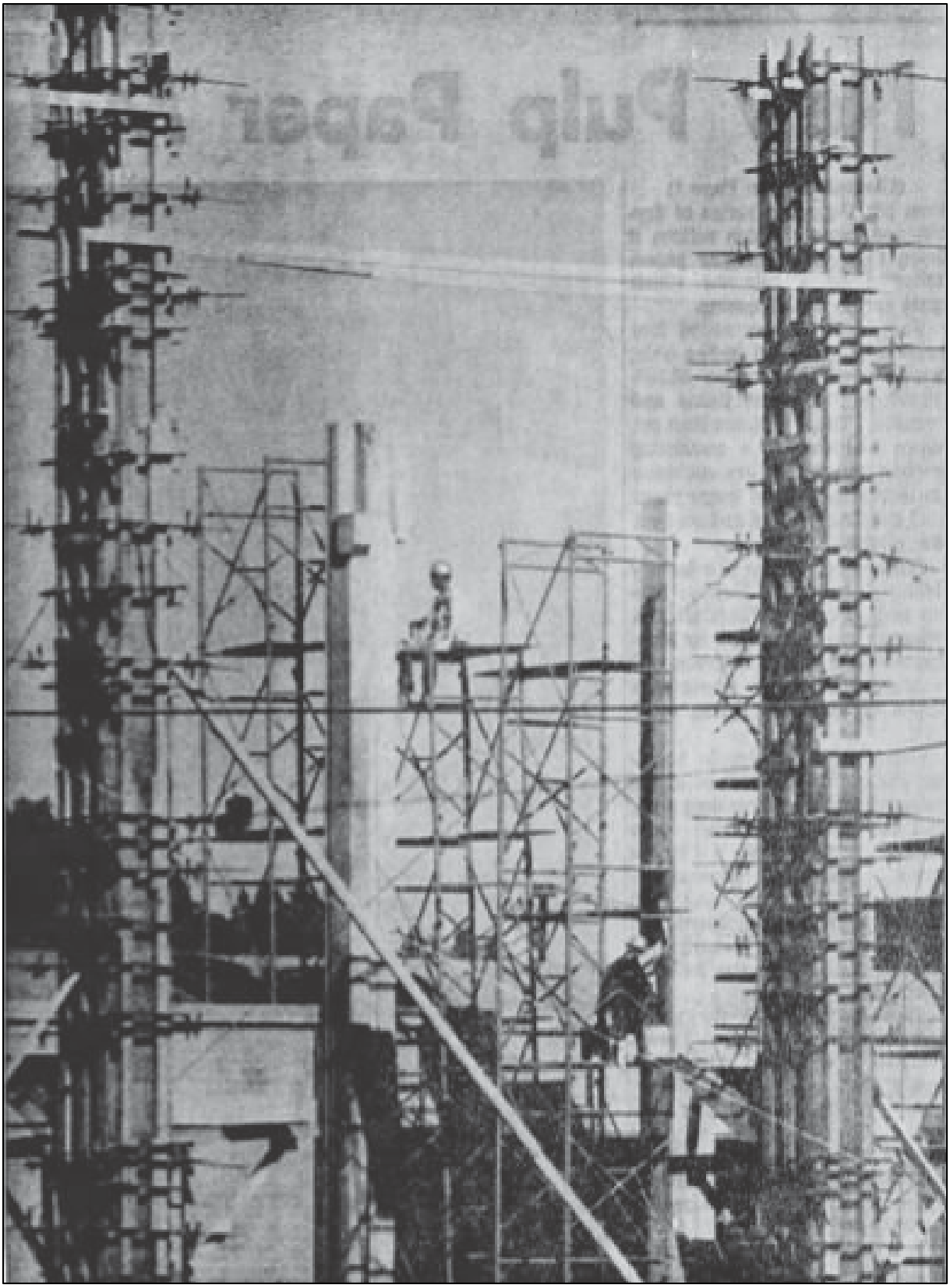


Figure 106. 1964 photo of Building 3 during construction showing south warehouse columns (ADS November 9, 1964).).

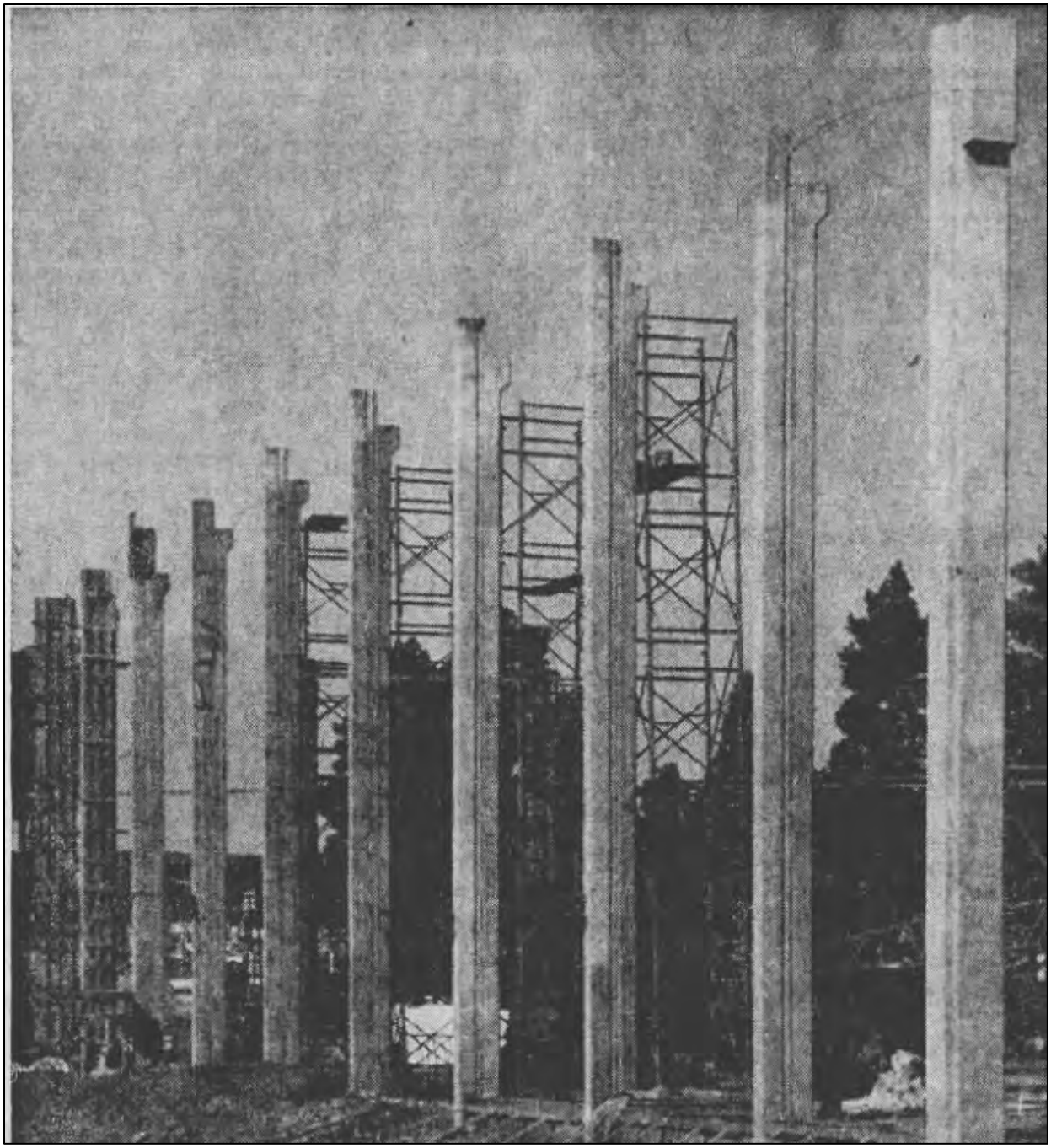
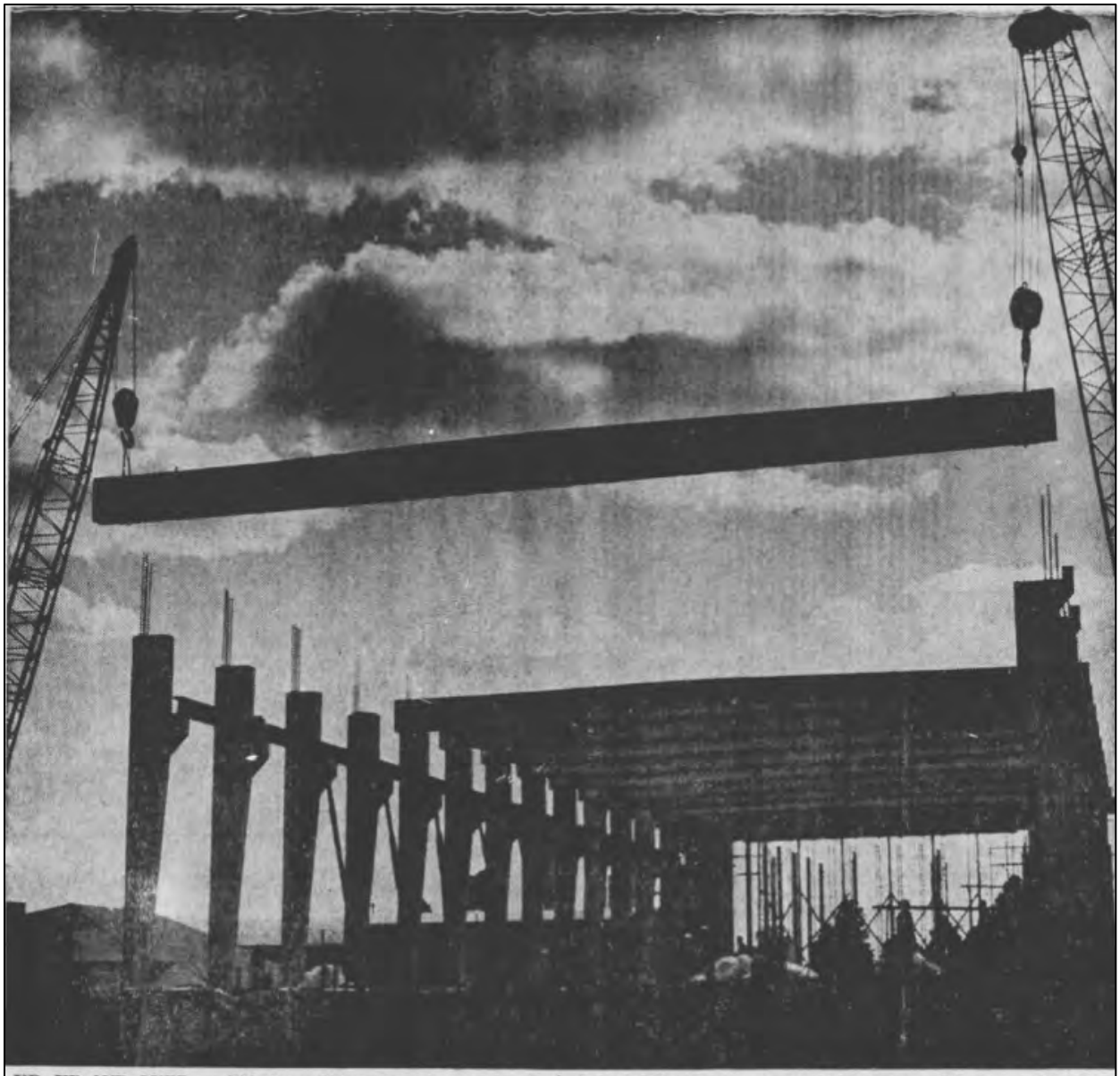


Figure 107. 1964 photo of Building 3 during construction showing south warehouse columns (ADS November 9, 1964).



UP, UP AND OVER — This huge 30-ton precast concrete girder appears suspended in mid air as it is raised into place at the Ponderosa Paper Products mill now under construction. The girder, which is 80 feet long and four feet deep, is the largest ever cast by Arizona Sand and Rock and required two special 60 and 100-ton cranes to lift it into place. The new mill, which will produce over 70 tons of finished tissue-toweling products per day, is expected to go into operation by the first of March. (SUNfoto)

Figure 108. 1964 photo of Building 3 during construction (ADS November 9, 1964).

The top of the roof was not inspected for this report, but the underside of the pre-cast roof panels revealed some water leakage, especially onto the pre-cast beams. Many of the roof panels failed within ten years of construction. The pre-stressed cables rusted through and the open cells were unable to maintain camber and then began to shed concrete from the underside onto the machinery below (Chris Remington pers. comm. to Terry Greene, October 10, 2020).

Figure 109 shows the steel wide-flange beam that was installed on the haunches of the tapered columns. The wide-flange member served not only as a lateral resistance connection for the columns, as evidenced by the square anchor plate visible in the bottom of the haunches, but also as a rail for a ten-ton bridge crane that spanned across the entire building and ran most of its length (Figure 110). The columns have a significant taper from a wide top to a narrow bottom (Figure 111). They are slender and elegant and reflect a thoughtful design effort.

Figure 109. Building 3 column haunch and crane rail.

Many years after construction, and outside of the period of significance, an employee who was on break noticed that the closest column on the far left of the photo in Figure 108 was leaning slightly to the left (John Girvin pers. comm. to Josh Edwards, September 29, 2020). Chris Remington then checked the column and several others adjacent to it, finding all to be out of plumb by as much as 10 inches as a result of frost heaving and differential settlement, suggesting that the entire structure might collapse if unattended (Salvadori 1963:26). An engineering consultant was employed to design two-story-high steel "braced frames" and they were fabricated and installed in 17 exterior locations around the building (Merritt 1982:8, 54–67). The braced frames added much needed lateral resistance and are today one of the more notable features of the building (Figures 112–114).

Figure 110. Building 3, north paper production room interior, facing north-northwest.

The braced frames were installed on Building 3 in 1995 and the engineering plans also show the existing tapered column layout at 18 feet eight inches with some variations. The overall length of Building 3 was annotated as 377 feet and its north width as 120 feet, and south width as 186 feet. The drawing also indicated that the 17 braced frames were designed in accordance with the 9th Edition of the American Institute of Steel Construction (AISC) and the 1997 Uniform Building Code, using a design wind load of 70 miles per hour. The design also complied with Seismic Zone 2B using V=0.034 x W and Z=0.075.

The wall panels were pre-cast and pre-stressed in Phoenix with about an inch of camber and grooves on their edges. They were stood on end and weather proofed with grout pumped into the grooves from the top once installed. They are held in place by a pre-cast beam at the top that spanned between the columns. (Figures 115 and 116). Within ten years of construction, several of the wall panels began to rupture on the outside surface when the interior steel tensioning cables rusted and no longer provided the necessary tension to compress the panels end-to-end. Many of the wall panels have been replaced for that reason, especially in the northern section of the building. (Chris Remington pers. comm. to Terry Greene, October 10, 2020).

Figure 111. Building 3, tapered column detail.

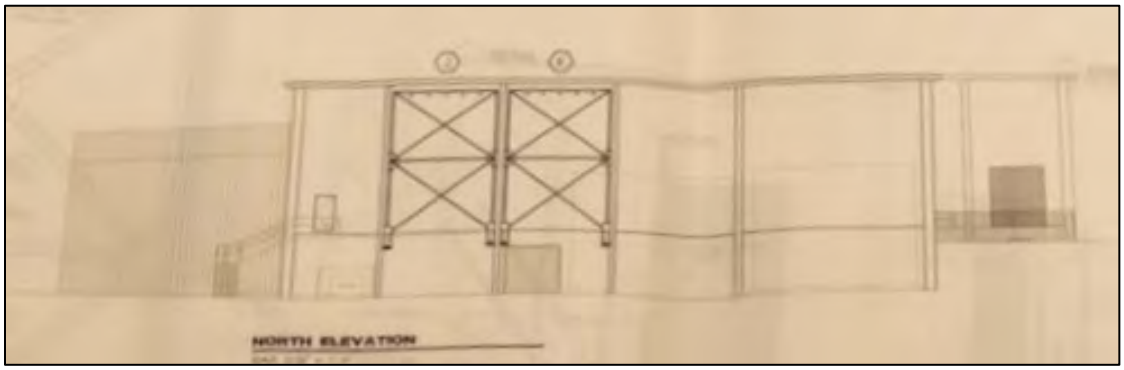


Figure 112. Building 3, 1995 engineering plans for braced frames.

Figure 113. Building 3 braced frames, facing northwest.

Building 3 has a basement under the northern portion of its concrete slab. The basement has several original and additional columns that support the slab above. There are large openings in the main floor slab for the two paper processing machines. There are only three narrow circular steel stairs to access the basement from the main level, but access to the basement can also be made through a large roll-up door at the north end because the site slopes downward from the south to the north (Figures 117 and 118).

Figure 114. Building 3, braced frames, facing north-northwest.

Figure 115. Building 3, exterior wall panels.

Figure 116. Building 3, wall panel joint detail.

Figure 117. Building 3, circular stairs to basement.

Figure 118. Building 3, north end door to basement.

7.4 Building 4

This residential style building first appears in the 1956 aerial photo (*see* Figure 84). It is a single-story building primarily constructed with four-inch by eight-inch by 16-inch CMU blocks. The plan of the building evolves into an "L" shape with the existing long leg facing south and a possibly more recent short leg connecting to Building 1 in the 1964 aerial photo (*see* Figure 87).

The main entry lobby, also new in the 1964 aerial photo, is an enclosed space formed using traditional bricks laid in running bond with tooled grout joints. The roof framing system appears to be identical to the traditional residential style found in Flagstaff, except for a portion over two large offices that displays an open beam ceiling. It is unclear if the beams are functional or decorative, but they are lower than a standard eight-foot ceiling height. The main double entry doors are framed in dark anodized aluminum with fixed glass panels on either side, exhibiting a much newer commercial look (*see* Figure 73). It is probable that the entire structure had an open beam ceiling when it was first built (Figure 119).

The outside of the building's roof system is decorated with round log sections to suggest that the entire roof is held up by logs. The logs do penetrate the exterior wall but terminate within a foot or two and do not support any weight – in fact, it is the very thin roof that is holding them in place (Figure 120).

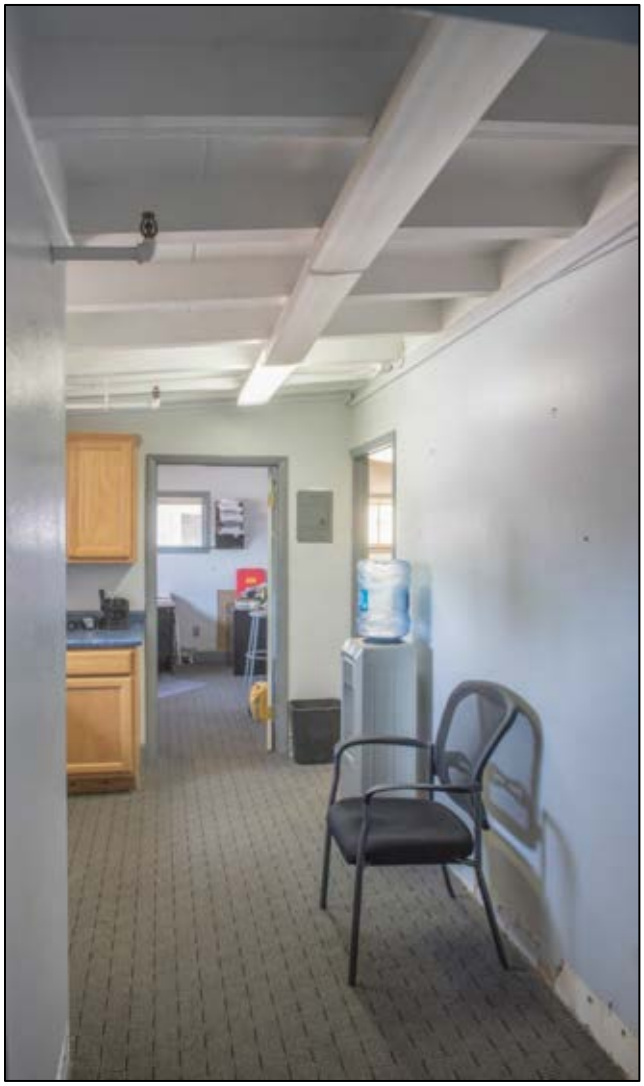


Figure 119. Building 4 interior showing open beam ceiling.

Figure 120. Building 4 roof detail.

7.5 Building 5

Building 5 is north of Building 7 and physically attached to it. In fact, Buildings 5, 7 and 8 comprised the machine shop functions for SCA and several of the preceding paper making businesses from 1964 onward. Some portion of these three buildings may be in place as early as 1959, but their current configuration shows up clearly in the 1964 aerial photo (*see* Figure 87). Building 5 is a single-story structure that is almost square. It is around 56 feet long by 54 feet wide. The floor level is several feet lower than Building 7 and one must descend a steep stair to gain access.

The roof structural system consists of a complex array of wooden trusses, three of which radiate outward from a single point and each one is technically half of a Pratt truss (Merritt 1982:5–46). Two main trusses cross over the space diagonally towards the corners; one landing on the corner and one landing short of the corner in the east wall. A third truss, attached at the common point of the first two, and bisecting them, crosses the space to the north wall. Intermediate trusses bisect all three of the main trusses at 45- and 90-degree angles, creating a "forest" of vertical and diagonal two-inch lumber. This elaborate array allowed the roof to have a hip on the north end. The ridge runs south and extends well into the barrel vault of Building 7. The roof framing system is much more complex than the small, enclosed area seems to require. In addition, three walls of Building 5 appear to be constructed of eight-inch by eight-inch by 16-inch CMU blocks. The fourth wall, also CMU, is common with Building 7 (Figure 121).

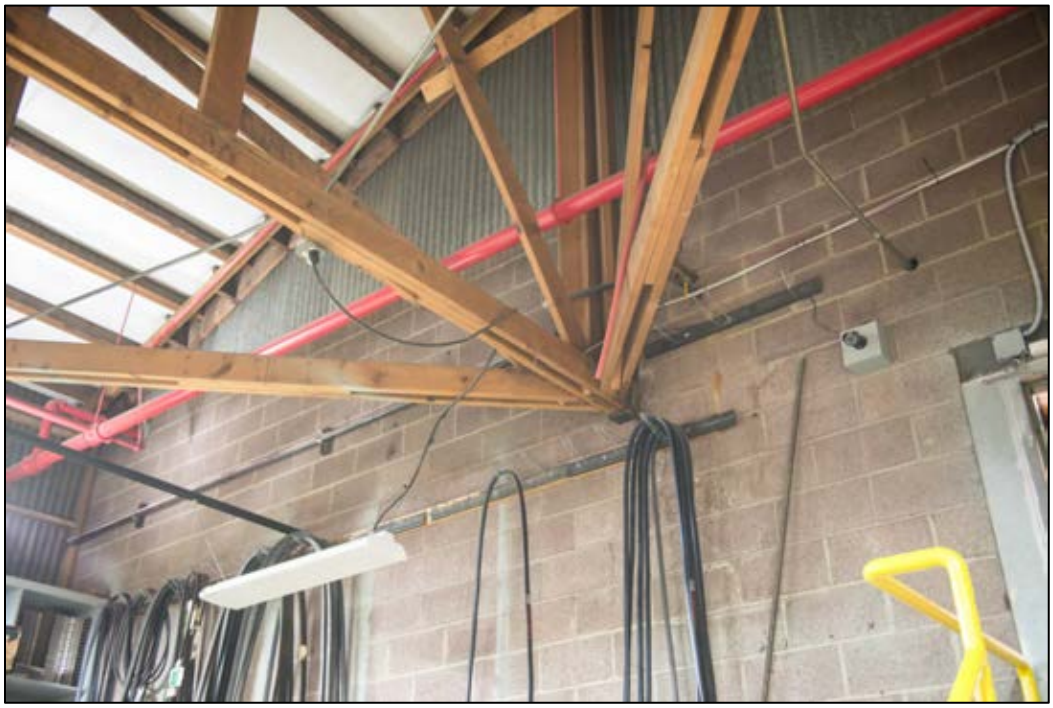


Figure 121. Building 5, interior trusses.

7.6 Building 6

Building 6 first appears in the two 1956 aerial photos (*see* Figures 84 and 85). It was first constructed to hold the equipment to turn wood chips into pulp, a process that generated heavy moisture requiring the roof structure has a steep pitch. The roof structure of Building 6 was changed to the salvaged aircraft hangar steel bow trusses that one sees today, sometime before 1965 (*see* Figure 88). Building 6 originally had two large barrel-vaulted bays, side by side, as seen in the 1965 photo, but the high moisture laden air eventually caused the northern roof structure to fail.

Chris Remington indicated that a portion of the roof collapsed when work was not underway for a few days, and while no damage to equipment or injuries to people occurred, it was necessary to replace the roof without losing even “five minutes” of production. Mr. Remington set about designing the solution that is in place today, consisting of deep galvanized steel beams that cross the length of the space and rest on columns that straddle both sides of the building. The walls consist of translucent fiberglass panels that let in light and resist deterioration caused by the high moisture content of the air (Chris Remington pers. comm. to Terry Greene, October 8 and 10, 2020). Figure 122 shows one of the galvanized steel beams being hoisted into place and bolted together, over the on-going process below.

Figure 122. Building 6, roof repair.

Figure 123 shows the resulting roof system in place after many years of use, with all the paper and pulp processing equipment removed. The footprint of the northerly portion of Building 6 today is about 116 feet long by 62 feet wide. The four long span beams appear to be about four feet deep and the distance from the concrete slab to the underside of the beams appears to be about 45 feet. The new columns on the east side supporting the long span beams can be seen in Figure 124.

The southern portion of Building 6 still has four steel bow trusses with the wooden roof in place, installed sometime before 1965 (Figure 125; *see* Figure 88). These bow trusses are also thought to have been salvaged from aircraft hangars that were being torn down at Camp Navajo (Chris Remington pers. comm. to Terry Greene, October 10, 2020). These particular trusses are different in that they have riveted joints, (Figure 125), rather than welded joints found in the warehouses of Building 1 (*see* Figure 92). It would be difficult to determine the age of the trusses, but they were likely fabricated prior to World War II.

Building 6 exhibits some of the same type of column placement and infill wall materials in the exterior walls as the warehouses in Building 1. Building 6, like Building 3, has a basement that appears to be original. The basement is a maze of concrete columns, both from the original construction as well as additional columns that were installed in later years to better support the upper level equipment. The cramped space and the low ceiling height likely provided a somewhat claustrophobic feel to those who worked there (Figure 126). One of the few remaining pieces of equipment in Building 6, used for fiber preparation, is shown in Figure 78.

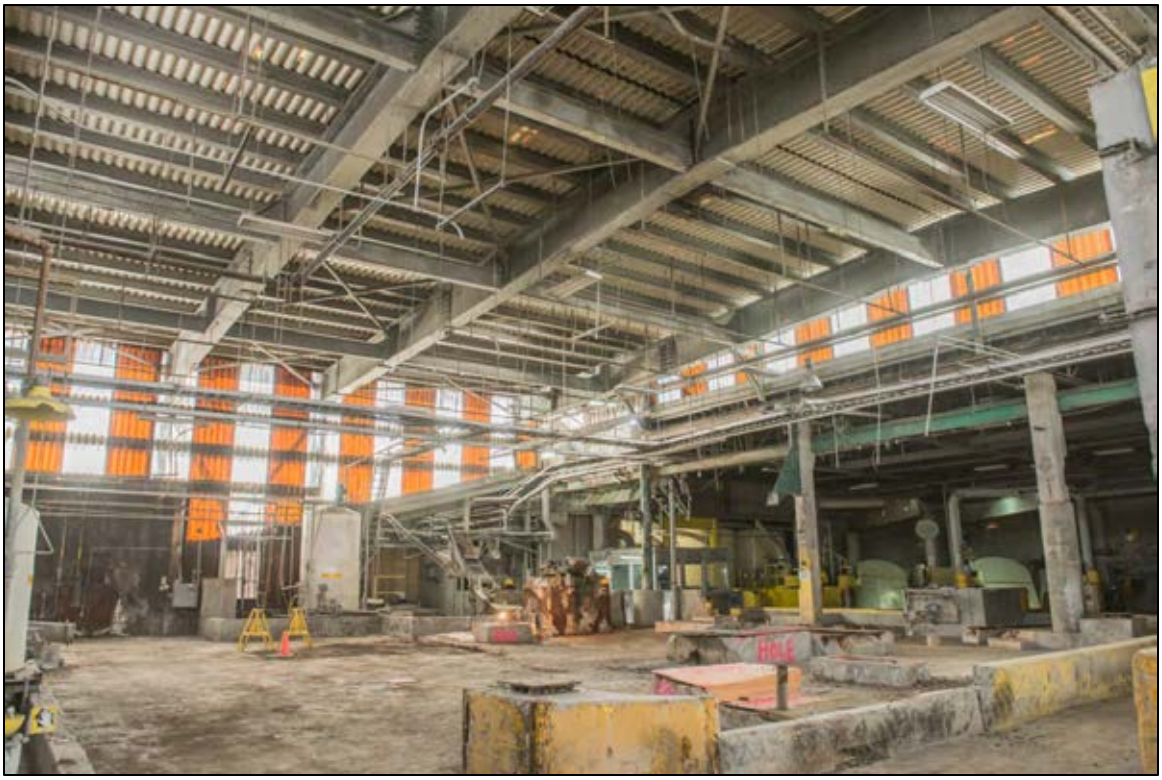


Figure 123. Building 6 interior, facing southeast.

Figure 124. Building 6, north elevation.

Figure 125. Building 6, bow truss detail.

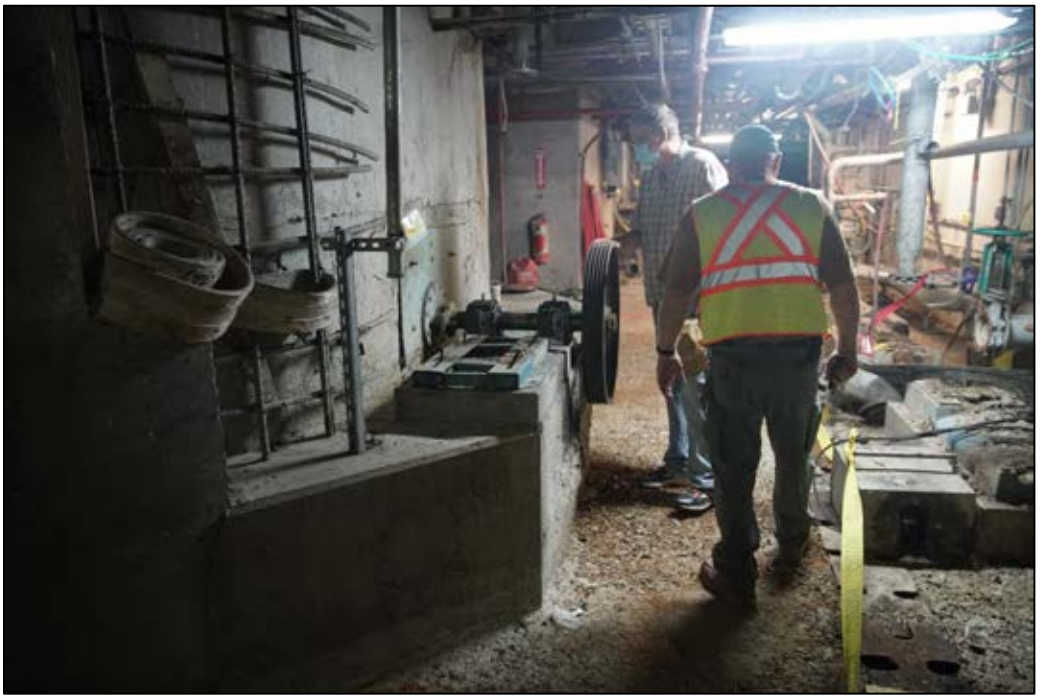


Figure 126. Building 6, basement, facing west.

7.7 Building 7

Building 7 is to the west of and attached to Building 6. This long and narrow single story building also has a shallow barrel-vaulted roof with a combination of framing systems. A portion of the roof is made up

of light weight steel long-span bow trusses, thought to have been salvaged from Camp Navajo, which are hidden by wall panels in most places (Figure 127). The mid-section of the roof appears to also be supported by a series of steel wide-flange columns and beams that do double duty by providing a rail system for an electric cable hoist than can travel horizontally on the two rails (Figure 128).

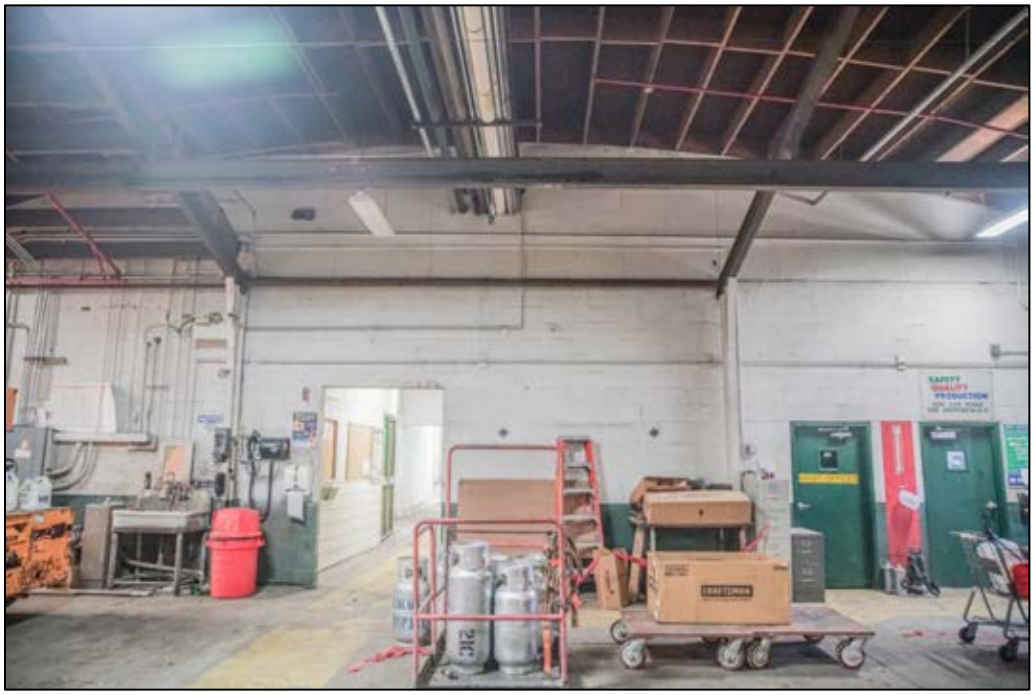


Figure 127. Building 7 interior, facing east.

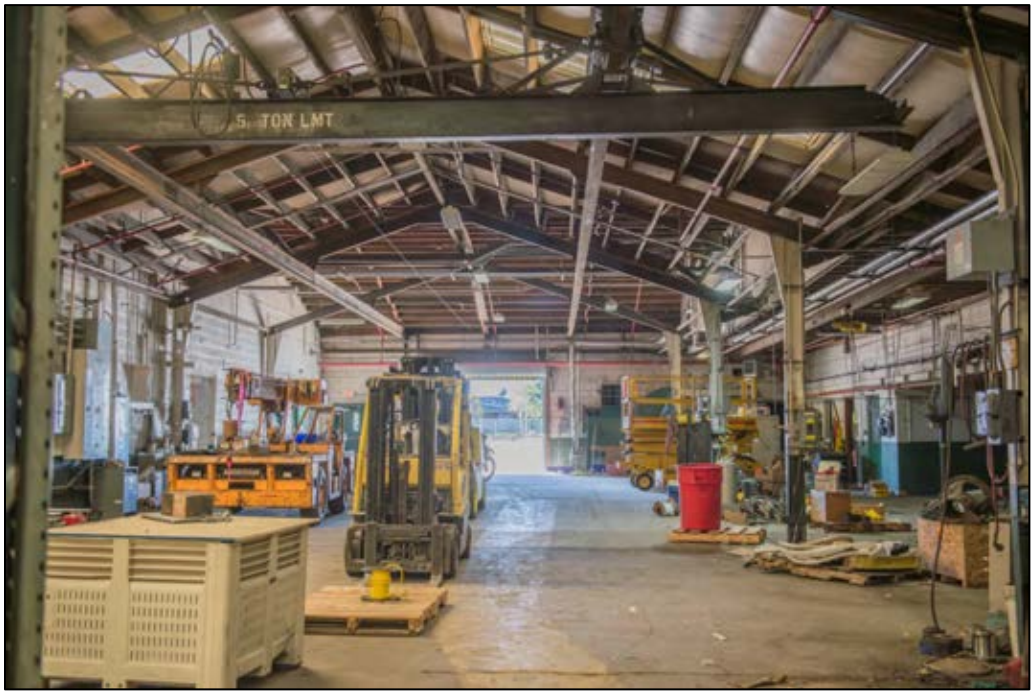


Figure 128. Building 7, facing south.

The dimensions of the roof structure are about 150 feet long by 60 feet wide. The roof covers the machine shop, a breeze way, and several functions that were part of the processes in Building 3. The walls appear to be eight-inch by eight-inch by 16-inch CMU block. Building 5 is attached to the north side of Building 7 and its gable roof ridge with rafters that extend well into the barrel-vaulted roof in such a way as to suggest they were built together (Figure 129). The image in the 1964 aerial photograph (*see* Figure 87), suggests this as well. Another good view of their interconnectedness can be seen in the Figure 88.

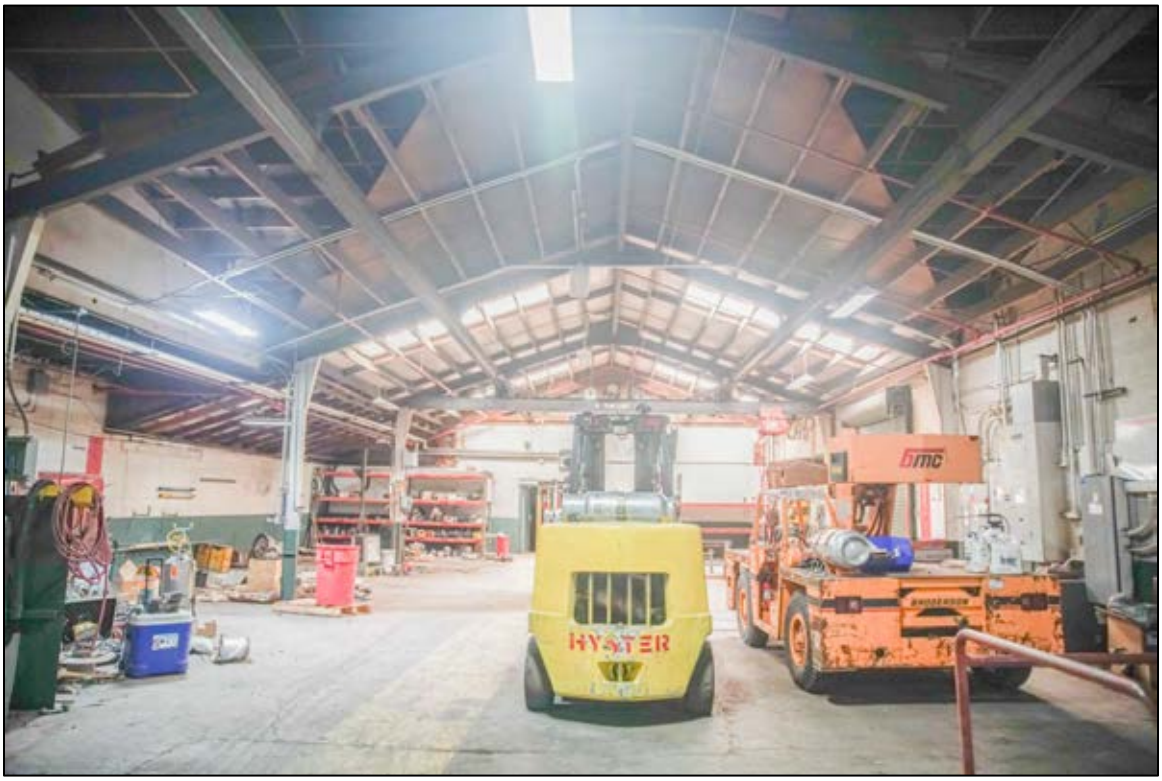


Figure 129. Building 7 interior, facing north toward Building 5.

7.8 Building 8

Building 8 is single-story shed building extending south from Building 7. It has one enclosed bay that can be accessed from inside Building 7, and a second bay that can be accessed from both Building 7 and through a roll-up exterior garage-type door. A third bay has no door and is only open to the outside (Figures 130 and 131). The simple shed roof, hidden behind a level sheet metal parapet, is made up of two-inch by ten-inch lumber rafters that rest on a top plate attached to an eight-inch by eight-inch by 16-inch CMU wall (Figure 132). The corrugated sheet metal panels have been nailed directly to the rafters.

Figure 130. Building 8, facing south-southwest.

Figure 131. Building 8, facing west.

Figure 132. Building 8 interior bays.

7.9 Building 9

This modern building is a narrow and long structure with three walls and a shed roof. It was constructed to allow discarded wet material from paper processing to be stored outside under cover until it had dried enough to be hauled away. The lower part of the three walls consist of concrete about two inches thick and six feet high. Attached to the top of the concrete walls are a series of steel columns that support girts for ribbed metal sheeting and a corrugated sheet metal roof. The concrete slab area protected by the shed roof is about 20 feet wide and about 45 feet long. The roof is about 15 feet high (*see* Figure 80).

7.10 Building 10

Building 10 is a 1970s pre-engineered structure with a partial barrel-vaulted roof with ribbed sheet metal siding with three large vehicle bays and one small one. Building 10 is north of Building 9 and free standing (Figure 133).

Figure 133. Building 10, facing west.

8.0 EVALUATION OF SIGNIFICANCE AND INTEGRITY

The history of the study area begins in the late 1800s with its use as the Babbitt Brothers Trading Company slaughterhouse. This study suggests that no buildings or structures from that time still exist, and if they do their pieces and/or components are incorporated into the pulp and paper mills beginning in 1953. Therefore, the period of significance for the subject property starts with the construction of the Coconino Pulp & Paper mill in 1953 and continues until 50 years before the date of this report, which is 1970.

8.1 SIGNIFICANCE

A cultural resource can be significant at a local level under the City of Flagstaff Zoning Code, at a state level eligible for listing in the ARHP, and/or at the national level eligible for listing in the NRHP (*see* Section 3.1). To be considered significant, a resource must be associated with an important historical context. At a local level, the criteria for determining significance are established in the Flagstaff Zoning Code (30.30-13). The NRHP Criteria for Evaluation (36 CFR § 60.4) are used to evaluate resources for the ARHP and NRHP.

Three areas of significance were chosen to evaluate the subject property: Engineering (City of Flagstaff Criterion B; NRHP Criterion A); Conservation (City of Flagstaff Criterion B; NRHP Criterion A); and Architecture (City of Flagstaff Criterion D; NRHP Criterion C). The associated themes of paper product manufacturing, recycling, and industrial architecture, respectively, were chosen because of their direct

relevance of the pulp/paper mill to activities at and importance to the City of Flagstaff (NPS 2002). However, the paper manufacturing facility could also be evaluated in the areas of significance of Commerce, Community Planning and Development, Economics, and Industry, given the extent of influence of the facility on Flagstaff's economic and social development. Cornerstone recommends that all buildings at the subject property built during the period be considered significant per findings presented in Section 5.

8.2 INTEGRITY

Integrity is defined as the ability of a property to convey its significance. Seven aspects are used to evaluate integrity: location, setting, design, materials, workmanship, feeling and association. To retain historic integrity, a property will usually possess most, if not all, of the aspects of integrity (NPS 2002). In order to evaluate the integrity of a property, it must be determined which of these seven aspects are most important to a property's significance. Once these important aspects are identified for a property, integrity is evaluated based on the aspects cited above and how those aspects relate to the property's overall significance. NPS (2002) establishes four steps in assessing the overall integrity for a property:

- define the essential physical features that must be present for a property to represent its significance;
- determine whether those essential physical features are visible enough to convey significance;
- determine whether the property needs to be compared with similar properties; and
- determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being evaluated and if those aspects of integrity are present.

All properties change over time, and it is not necessary for a property to retain all of its historical physical characteristics in order to retain integrity and express its significance within an important historic context. However, the property must retain the essential features that enable it to convey its historic identity (NPS 2002). In order to be considered an essential physical feature, a physical characteristic must define *why* a property is significant, conveying a historic property's association with applicable NRHP/City of Flagstaff Criteria and Areas of Significance (NPS 2002). Secondly, an essential physical feature must define *when* a property is significant, expressing a historic property's association with its Period of Significance. Without these historic character-defining features, a property cannot be identified within its historic context.

Buildings can be considered significant and eligible for listing in the NRHP under Criterion A (City Criterion B; association with events that have made a significant contribution to the broad patterns of our

history) in the areas of Engineering and Conservation, or under NRHP Criterion C (City Criterion D; architectural or engineering design significance) if they are a good example of an architectural type or style in its design, materials, and workmanship as it appeared during the period of significance. Based on the guidelines for assessing integrity for historic properties provided in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (NPS 2002:45), most aspects of integrity are weak or lost for all of the buildings at the subject property due to exterior changes and renovations.

For purposes of this historical assessment, each aspect of integrity will be described in four levels of retention: strong, diminished, weak, and lost (Table 3):

Table 3. Aspects of Integrity

Aspect of Integrity	Level of Retention
Location	Strong
Design	Weak
Setting	Lost
Materials	Lost
Workmanship	Lost
Feeling	Weak
Association	Lost

Location. The first aspect of integrity is *location*. Location is the place where a property was constructed. In order to retain this aspect, a historic property must be in the same place in which it was built; the relationship between a property and its historic associations is typically destroyed if a property is moved (NPS 2002).

The subject property, originally constructed as a commercial pulp and paper mill, is in its original location of construction. As the relationship between the property and its historic location is maintained, the property retains a ***strong*** degree of location.

Design. Another aspect of integrity is that of *design*, which refers to the physical elements of a historic property "that create its form, plan, space, structure, and style" (NPS 2002:44). Design captures the historical functions and aesthetics of a property that were the result of human decisions and choices when the property was first conceptualized. The organization of interior spaces, the proportion and scale of the exterior, the shape and form of a property, ornamentation (i.e., textures, colors, type, style, and arrangement), and materials are all related to design (NPS 2002).

The subject property retains ***weak*** integrity of design due to changes to the layout of interior spaces; changes to transportation infrastructure including the location and existence of rail spurs and truck bays;

replacement of windows and doors; addition of siding, roofing, and exterior structural elements (outside of the period of significance) to the exterior of most buildings constructed during the period of significance; and the addition of buildings, covered areas, major roof framing elements, and entire parts of buildings outside of the period of significance (*see* Section 7 for details). However, the general layout of the buildings, massing, and scale are similar to the end of the period of significance from 1965–1970.

Setting. The location of a property is complemented by its *setting*, which is another aspect of integrity. Setting is the actual physical environment of a historic property, and it includes many characteristics of a particular property's surroundings. Setting refers to the character of a property within its environment. Although it is much more abstract than location (a property's specific place), setting is important in demonstrating how, not just where, a property fits within a larger landscape (NPS 2002).

The setting surrounding the subject property has changed substantially over the decades and the aspect of integrity of setting has since been ***lost***. The surrounding area is now developed with commercial buildings, instead of industrial. Butler Avenue has been widened and significantly improved outside of the period of significance, the neighboring parcel to the west has been developed into a motorsports dealership, a beverage distribution facility is where Kaibab Lumber was to the east, and a Taco Bell and Sam's Club can be seen from the property.

Materials and Workmanship. *Materials* is an aspect of integrity that addresses the physical elements that were used during a particular period of time and in a particular way to create a historic property. The materials used to construct a property reveal availability, style preferences, technologies, and traditions. A property must retain the key exterior materials dating from the period of significance for that property in order to have integrity in this aspect (NPS 2002).

Closely related to materials is *workmanship*, which may be applied to a property as a whole or its individual components. Workmanship can be expressed in vernacular methods of construction, not just elaborate ornamental detailing or finishes, and is the "physical evidence of the crafts of a particular culture or people during any given period in history or prehistory" (NPS 2002:45).

The subject property has ***lost*** aspects of materials and workmanship largely due to major renovations and alterations completed outside of the period of significance. This includes adding prefabricated metal siding to Buildings 1 and 3, a large loading bay to the east end of Building 1, a large addition to the north side of Building 6 (and a covered area to its south side), new roofing materials on nearly all buildings, demolition of all settling ponds in the center of the property, covered work/loading areas to Buildings 1

and 6, multiple exterior additions to Building 3, and exterior structural elements to Building 3 (*see* Section 7).

Feeling. Another aspect of integrity is *feeling*, which is defined as a historic property's expression of a particular time. As a whole, integrity of feeling is a property's ability through its physical features to convey its historic character (NPS 2002). Often, feeling is the result of several aspects of integrity that, when taken together, relate a property's place within a historical framework and period of significance. One measure of feeling is if someone working at the mill during its period of significance would recognize the property if they were there today.

Changes to the setting, as discussed above, have greatly impacted the feeling of a mid-1950s and 1960s pulp/paper mill in an industrial area of town. However, the property still looks industrial and retains some "personality" of a paper mill, it just looks very different from how it did during the period of significance. Those having worked at the mill would likely recognize the property, in spite of modifications to its exterior and surroundings. Therefore, the property still conveys some sense of an industrial paper mill and retains a ***weak*** aspect of feeling.

Association. The last aspect of integrity is *association*. Association is the direct connection between a historic property and an important historic event or person. A property retains integrity of association if it is in the place where the event occurred and is "sufficiently intact to convey that relationship to an observer" (NPS 2002:45). Much like integrity of feeling, integrity of association is the ability to convey historic character through physical features.

While documented in the archival record, association also requires the presence of physical features to convey that relationship to an observer (NPS 2002). Association is the direct connection between either an important historic event or person and a historic property. As the discussion above illustrates, most aspects of integrity are weak or lost. Therefore, the subject property's association with its use as a pulp/paper mill during the period of significance has been ***lost*** due mostly to the addition of siding, major additions to buildings, and exterior structural elements outside of the period of significance (*see* Section 7 for details).

9.0 SUMMARY AND RECOMMENDATIONS

This study is like no other that the authors have undertaken. The SCA Tissue facility looks like simple, modern, commercial warehouses when driving down Butler Avenue. But the expanses within the multiple buildings in the complex, with their rusty beams from the constant humidity of a paper mill, spoke to an

ingenuity and personal work ethic from days passed. Because of the complex, massive, and pieced together nature of the facility, this study entailed multiple field visits to the subject property. In addition, the importance of the paper mill to Flagstaff's economy and community resulted in a plethora of newspaper articles and a massive amount of archival data of varying relevance. These data were supplemented by several oral interviews that breathed life back into the now stagnant and empty buildings. The authors attempted to compile the data in a way that not only assesses the significance and integrity of the pulp/paper mill, but also tells the story of a very important property and industry that affected Flagstaff and its residents in both economic and personal ways.

The property evolved over time, from its origin as the Babbitt Brothers Trading Company slaughterhouse in the late 1800s, with a completely new use as the Coconino Pulp & Paper pulping mill starting in 1953, eventually being a paper recycling and production facility under Ponderosa Paper Products. The ability of the mill and its employees to adapt to the changing needs of the community, and societal views toward conservation of resources, necessitated constant changes to equipment and buildings that resulted in major effects to the facility that continued beyond the period of significance.

Although the vast majority of machines were removed and sold prior to the beginning of this study, the adaptive use of industrial architecture through time can still be seen in the remaining buildings. And while additions and renovations by several companies have resulted in an industrial facility that does not retain sufficient integrity to express its significance with a historic context, this does not detract from the history and memories of the mill and its employees. As a result of this study, Cornerstone recommends that proposed work on the subject property (APN 104-07-001C [12.22 acres] and 104-07-005M [0.49 acres]) be allowed to proceed with no further cultural resources work.

10.0 PREPARERS' QUALIFICATIONS

Joshua S. Edwards, M.S., RPA (Preparer)

Mr. Edwards is an archaeologist and historic preservation specialist who meets the Secretary of the Interior's Professional Qualification Standards in History and Archaeology. He has a Bachelor of Arts degree in Anthropology from the University of Arizona and a Master of Science degree in Quaternary Sciences from Northern Arizona University. He obtained specialized interdisciplinary academic training in soil geomorphology, fluvial systems studies, arid lands processes, paleoenvironmental reconstruction, and faunal analysis, and has over two decades of experience with archaeology and history of the American Southwest. This includes archaeological survey, testing, and data recovery at prehistoric and historic sites throughout Arizona and western New Mexico, and projects in California, Nevada, Colorado,

Wyoming, and Texas. This experience is augmented by international experience in Mexico, Germany, and Peru.

Mr. Edwards has worked in the field of Cultural Resource Management for twenty-eight years and as a historic preservation professional for the past seven years. He served as a Heritage Preservation Commissioner for the City of Flagstaff for two years and has exhaustive experience conducting National Register of Historic Places significance and eligibility studies for historical resources throughout the American Southwest.

Terry W. Greene, M.A. (Architect)

Mr. Greene is a retired California licensed architect (C-14061) and a practicing architectural photographer, specializing in historic preservation projects primarily in Arizona and Montana. He has both a bachelor's and a master's degree in Architecture from Montana State University, and over 35 years of architectural design and construction management experience in both private and public sector work.

Mr. Greene, as City Architect in San Jose California and Cupertino California oversaw the construction of the San Jose Convention Center, the design of the San Jose Arena, the San Jose Airport Master Plan, the design and construction of libraries, fire stations, community buildings, bike trails, historic structure preservation, historic district formation, creek and habitat restoration, as well as the award-winning Mary Avenue Pedestrian Bridge. Mr. Greene was also a project manager with Bechtel International and worked on projects in Hong Kong, the Philippines, Dubai, and Wales. As a volunteer with the Columbia University chapter of Engineers without Borders, Mr. Greene supervised the construction of a pedestrian bridge designed to accommodate a fully loaded camel in a remote region of Morocco.

Mr. Greene has been a traditional black and white photographer for more than fifty years, using formats from 35mm to 8x10 and creates HABS-compliant photographs. He is currently using black and white film and digital color images to update historic sites for the Kaibab National Forest and the Montana State Historic Preservation Office.

Jack W. Treichler, B.A. (Researcher)

Mr. Treichler is an archaeologist and historian with over six years of experience in the Southwest and Great Basin regions. He has worked with numerous historical properties related to aviation, homesteading, mining, timber extraction, ranching, the Civilian Conservation Corps (CCC), railroad construction, and other infrastructure development. This has involved field documentation of historical properties, archival research into these properties and the themes surrounding them, and analysis of their significance and integrity for purposes of inclusion in the National Register of Historic Places. Mr.

Treichler received a Bachelor of Arts degree in Archaeology from Dickinson College, with a minor in Classical Studies. Academically he has a broad background in anthropology, geology, and art history, with a focus on classical archaeology and languages—specifically ancient Greek and its written precursor Linear B and progressing to its modern spoken form. His training includes laboratory processing of artifacts, geographic information systems (GIS), and field experience at the citadel and lower town of bronze-age Mycenae.

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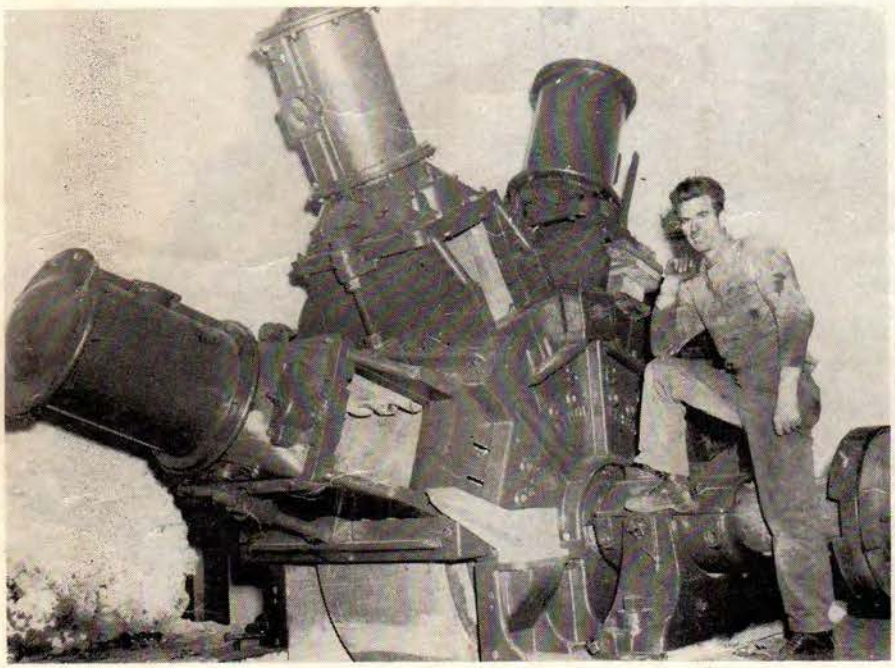
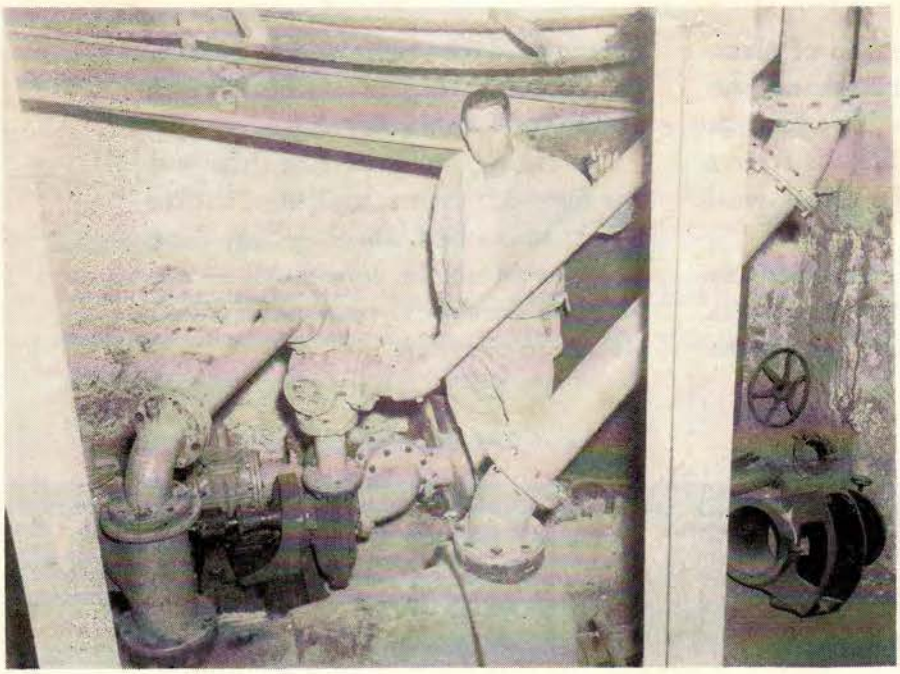
APPENDIX A- ARIZONA'S FIRST PAPER MILL

Arizona's First Pulp Mill

by
Robert Shirley





Arizona is usually thought of as a desert state but its high north central plateau region also boasts the biggest unbroken stand of western yellow pine in the country. Mingling with the pines are big groves of quaking aspen, spruce and fir at higher elevations.

It is in this area that the first groundwood pulp mill in the far southwest is being erected by the Coconino Pulp and Paper Co., headed by James M. Potter as president and mill superintendent, and Al Stovall, Phoenix, Ariz., industrialist and manganese mine developer, chairman of the board of directors.

The mill is at Flagstaff, county seat of Coconino county, from which the firm draws its name. Flagstaff, at 7,000 foot elevation, is a community of 12,500 on the main east-west line of the Santa Fe railway. It has been a center of the state's lumbering industry since the late 1870s, when it was founded.

At the present time the community has two major sawmills, both a part of the Flagstaff division of Southwest Lumber Mills, Inc., along with several smaller independent operations. The mills draw most of their timber from the two million acre Coconino National Forest, which has its headquarters at Flagstaff. The major portion of the forest is operated under the federal sustained yield unit act with the major part of the annual timber cut going to the two principal mills and the smaller mills sharing the remainder.

Coconino Pulp and Paper's operations are not involved in the sustained yield unit's timber cut limitations, as its raw material will be thinnings of pine and

AT TOP—One of the two Pascol pocket grinders.

AT BOTTOM—James M. Potter at the Dilts Hydrafiner.

LOOK WHAT BIRD JONSSON SCREENS TAKE OUT!

This particular collection of glass, metal, rubber, rocks, cellophane, wet strength paper and what have you was taken out of Jonsson Screen rejects in a mill making interior wall boards.

Another mill puts 90 tons per day of excessively dirty stock through a Jonsson Screen and tells us that the Screen paid for itself the first month, out of the saving in machine wires and felts.

For taking out junk like this, and for removing knots, knuckles, cockle burrs, uncooked fibres — anything you *don't* want in your stock — the Jonsson Screen is your one best bet. Ask us to prove it.

BIRD MACHINE COMPANY

SOUTH WALPOLE • MASSACHUSETTS

spruce and aspen. Forest officials have hailed the advent of the mill as making better saw timber possible because of the thinning operations.

Personnel

In addition to Messrs. Stovall and Potter, the company's executive includes A. R. Burton, secretary-treasurer; and Eugene T. Wesolowski and L. H. Robertson, vice-presidents and directors. All currently issued stock is held by officers and directors of the firm.

Key operating personnel of the mill will include Charles Bannister, assistant superintendent; Harold Pugh, chief chemist; T. L. Woolbright, master mechanic; and Milton P. Press, machine operator. All operational personnel, including Mr. Potter, have had wide experience in pulp manufacture and have come to the new mill from as widely separated points as New England, Michigan, and the Pacific Northwest areas.

Wood

Initial capacity of the mill will be 25 tons of wet laps per day, for which about 25 cords of wood will be required. Logs will be cut, trimmed, and debarked in the woods, with portable debarking machines being used, so that when wood arrives at the mill it will be almost ready for use.

Brought to the mill in trucks, the wood will first be stacked in the yard and will later be taken into the wood room, where it will be cut into two-foot lengths. In the wood room, the wood will be placed in a flume for delivery to the grinder room.

Mill Equipment

Two four-pocket Pascol grinders, equipped with Carborundum pulpstones, have been installed in the grinding room.

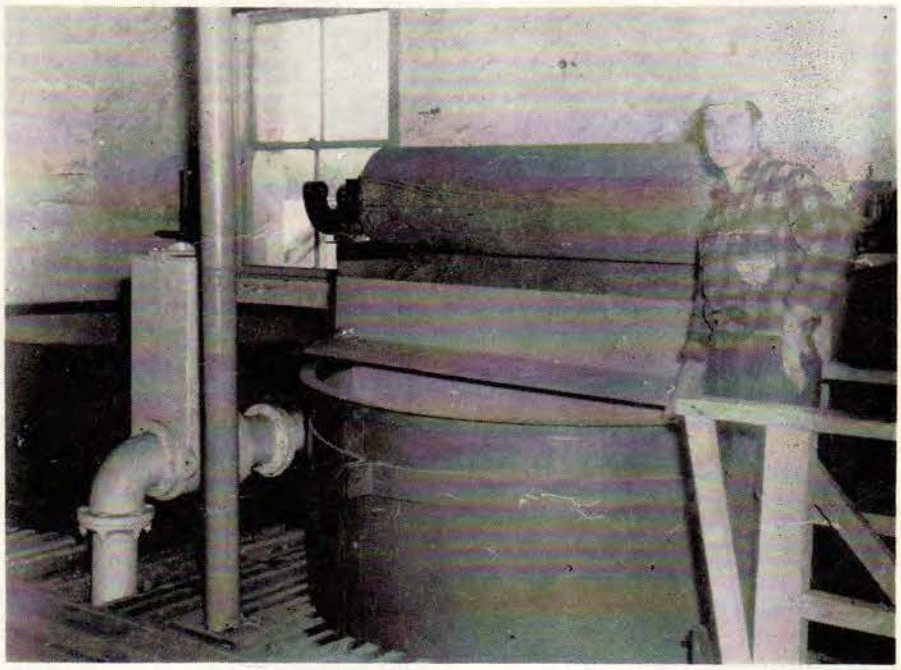
The pulp from hte grinders falls into a stock canal and flows to the bull screen, after which it is pumped to double Apmew pulp screens. Pulp from the Apmew screens goes to Sandy Hill Packer flat screens. Rejects go to a Dilts Hydrafiner, and after screening rejoins the accepted stock at the Jones deckers.

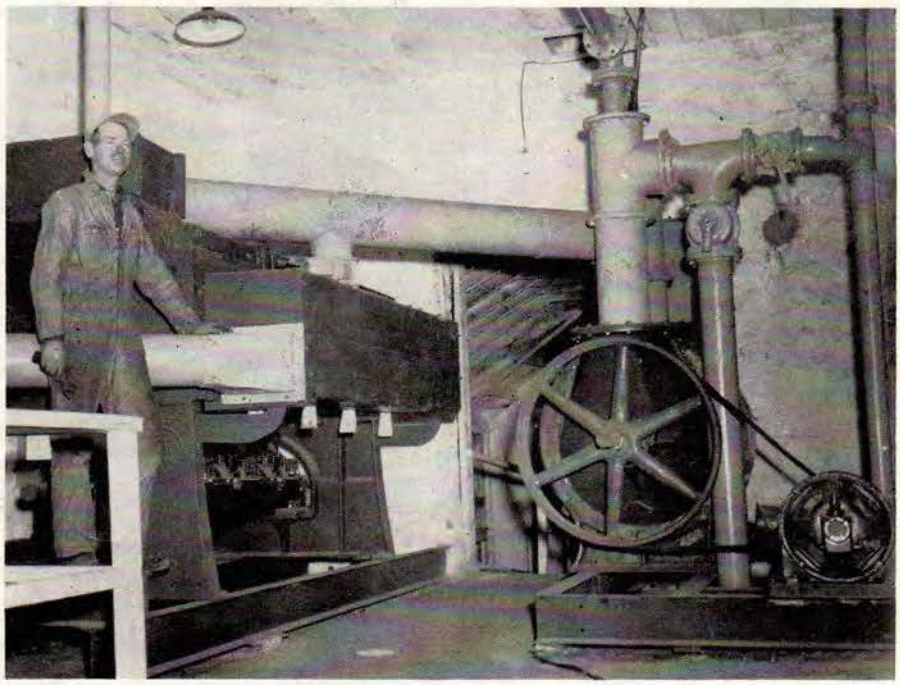
The pulp is then lapped on a wet machine. Plans call for the laps to be bundled and shipped to southwest area paper mills, mostly on the West Coast. At the paper mills, the laps are 50 per cent air dry by the time they leave Flagstaff.

"Coconino Pulp and Paper's operations are not involved in the sustained yield units timber cut limitations, as its raw material will be thinnings of pine and spruce and aspen. Forest officials have hailed the advent of the mill as making better saw timber possible because of the thinning operation."

Because the mill is in an area with an extremely limited water supply, the mill's wet machine is of special design engineered so as to require the least amount of water possible. The only water supply available is regular Flagstaff city water.

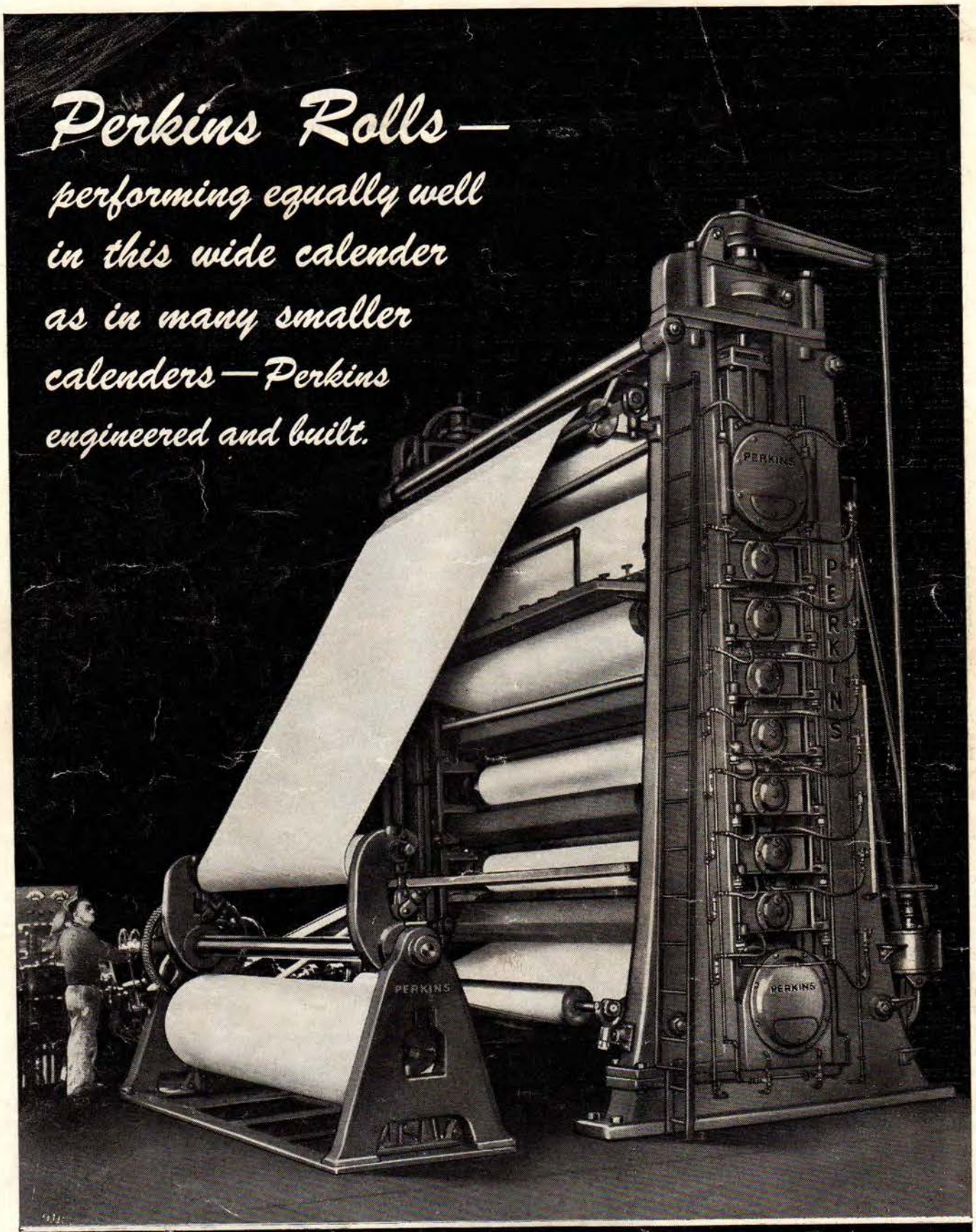
Work on the mill began in the spring of 1953, with first production scheduled for early in 1954.





AT TOP—Harold Pugh at Jones Decker.

AT BOTTOM—Milton P. Press at the Screens.



B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

APPENDIX B- THE STORY OF PAPER

SECTION
A
November 1965

A SALUTE TO FLAGSTAFF'S
NEWEST INDUSTRY

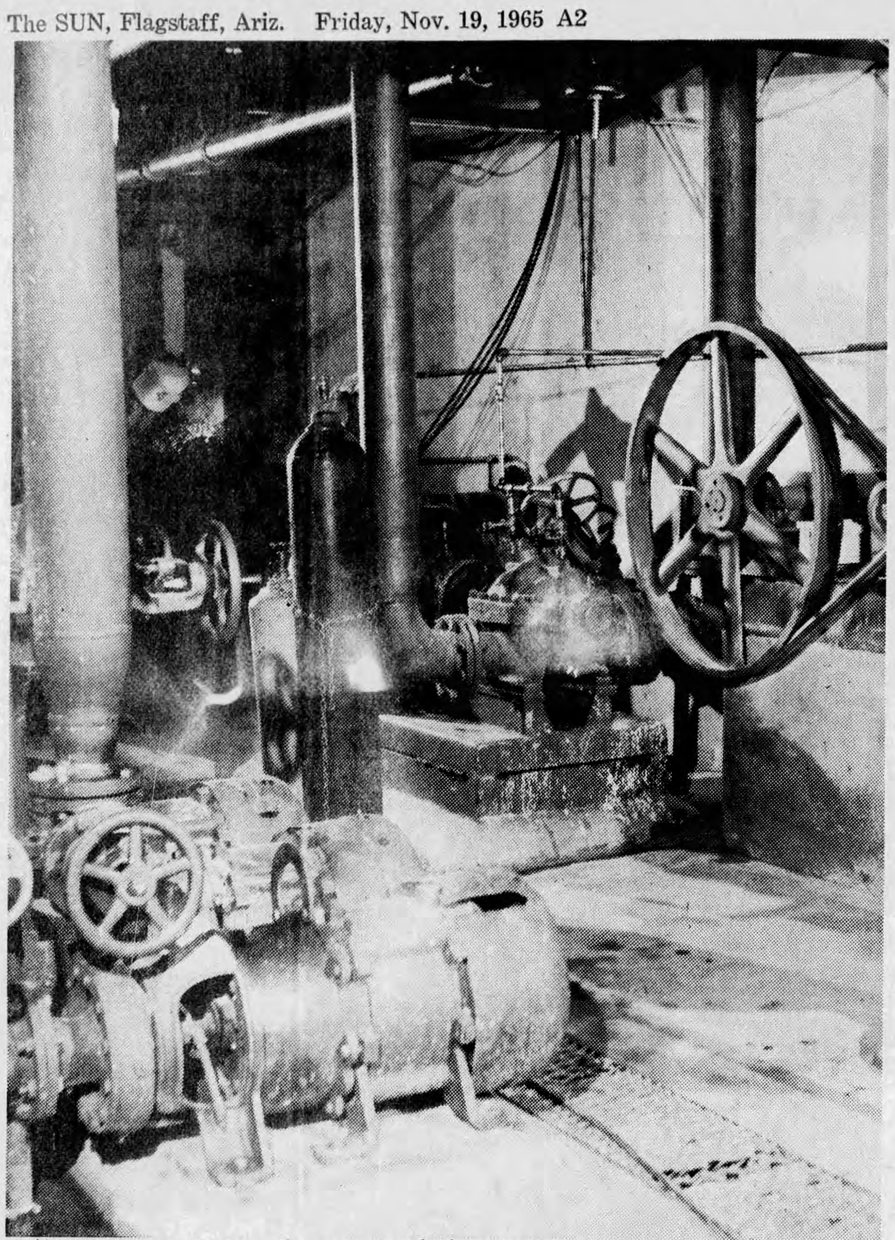
PONDEROSA PAPER PRODUCTS

THE STORY OF PAPER

FROM THE FOREST TO THE KITCHEN

Wes Arnot checks the tensile strength of a strip of paper as part of the constant quality control of each roll of paper manufactured at Ponderosa.

Arizona Daily Sun



An intricate system of pumps and pipes moves the wood pulp along the line to each of the six different screening processes.

The actual manufacture of paper begins with the initial dewatering process at the far end of the paper machine and ends with the completed web of paper emerging from the final set of driers at the near end.

Flagstaff Paper Mill to Use 100 Cords a Day

Ponderosa Woods Operation Began With Forest Service

Ponderosa Paper Products began negotiations with the U.S. Forest Service to buy pulpwood from the vast Coconino National Forest and complete arrangements were worked out with the Flagstaff office and the regional headquarters in Albuquerque.

Following the successful negotiations, Ponderosa contracted the wood harvesting portion of the operation to Neill and Breslau, Inc., to cut and deliver the wood to the plant site in Flagstaff.

The initial sale was for 2,000 cords with negotiations in the process for an additional pulpwood sale of 30,000 cords and plans for other sales in the future.

Ponderosa is bound through their forest contract to leave the areas disturbed by any logging operations to re-seed and to maintain the roads into the area in which the wood is being harvested.

In other words, the roads must be left in approximately the same condition that they were before harvesting of the pulpwood. Along this same conservation theme, all wood is selectively cut under the direction of the U.S. Forest Service.

At all times that wood is being harvested, Ponderosa will have a supervisor on location.

That man's primary duty is to oversee the operation for the express purpose of fire prevention.

Neill and Breslau harvests and hauls wood to Ponderosa's Flagstaff wood yard via trucks.

It is planned to keep a pulpwood inventory of approximately 5,000 cords at the mill site as the giant firm gets into full operation.

Wood will also probably be stockpiled against the winter months when the logging firm will be unable to get into the woods to cut.

Approximately 100 cords a day will be put through mill when it gets into full operation.

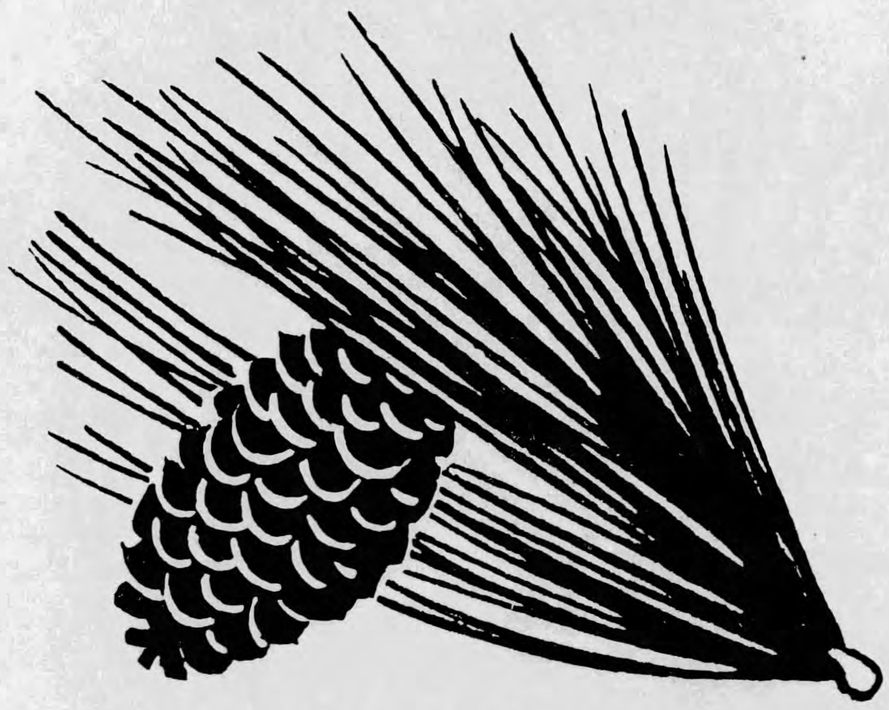
These logs must be 7½-8 foot long and of a 10 inch diameter.

One In 10 To Buy Car

New York—A study for the automotive industry reports that 9.5 per cent of American households plan to buy a new car this year.

Cooperation between the various architectural and engineering firms resulted in the erection of the new Ponderosa plant.

PONDEROSA PAPER PRODUCTS, INC.



"CHIPS OFF THE SAME BLOCK"

Our congratulations to Ponderosa Paper Products Company as the newest ..member ..of ..Arizona's great forest industry.

We know the "chips will really fly" in the production of the many quality paper products soon to come from your modern plant.

To us, Ponderosa pine chips have a real meaning too. They are the backbone of the pulp we use to ..make ..newsprint ..and ..kraft linerboard. They are, in effect, "chips off the same block" — from high-altitude timber, recognized the world over for their excellent fiber strength and high quality.

We welcome you as another Northern Arizona industry, helping to provide jobs and tax support for greater progress.
Good luck!

Southwest Forest Industries

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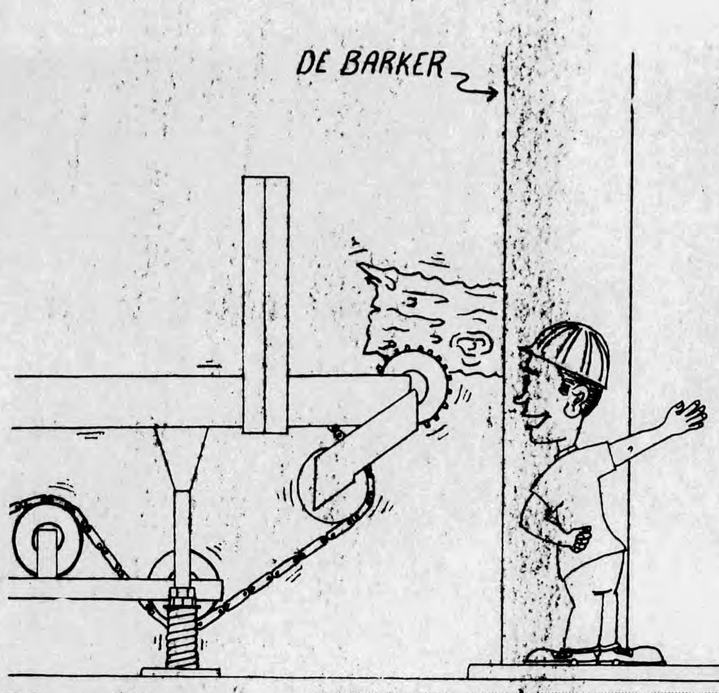
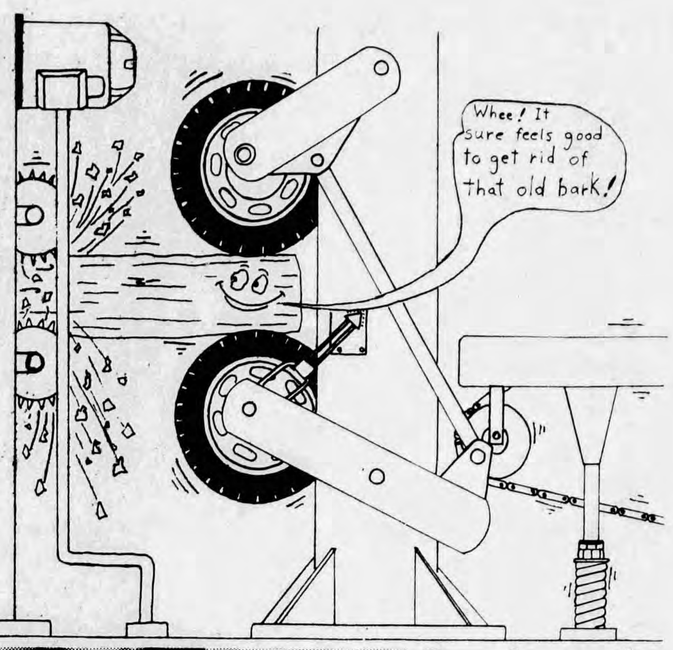
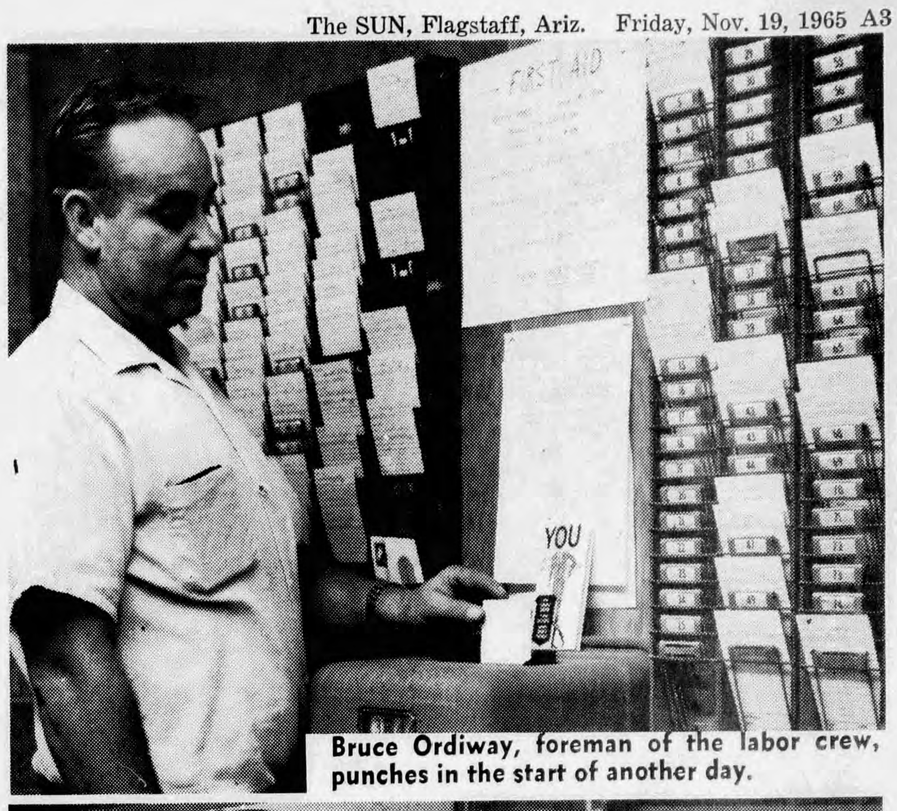






Bruce Ordiway, foreman of the labor crew, punches in the start of another day.

Plant Wiring Supplied by Flagstaff Firm

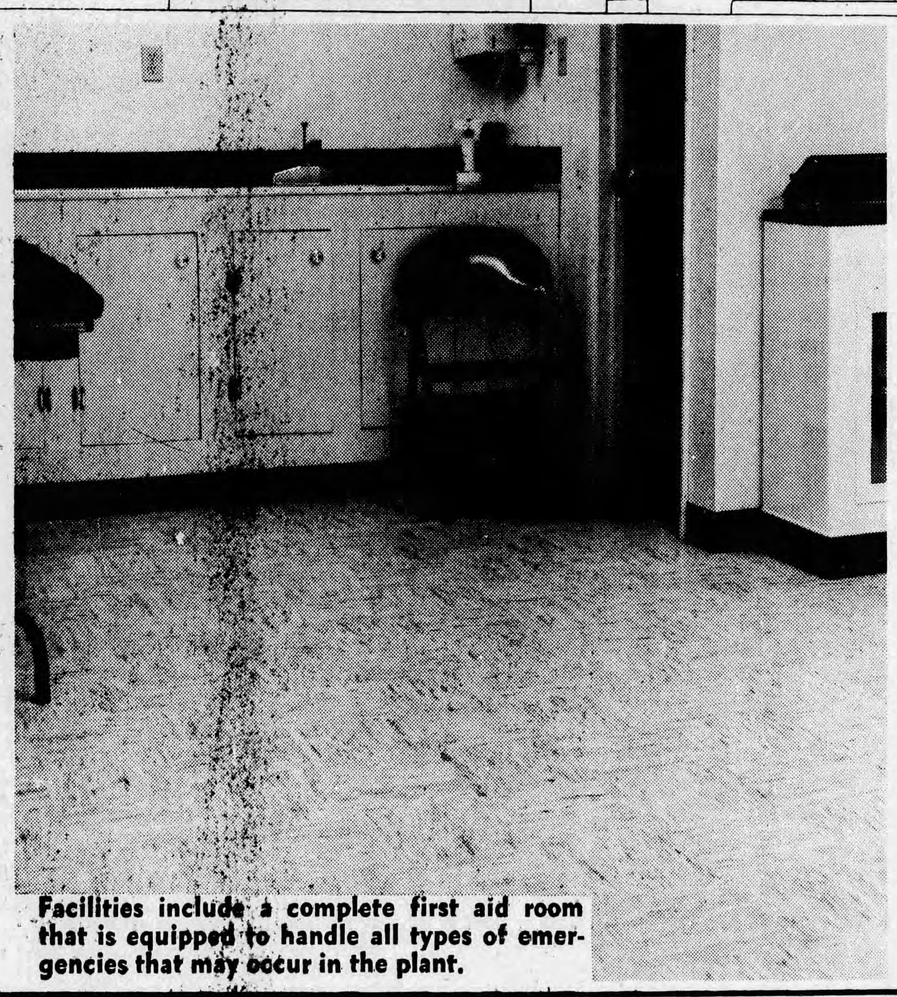
The miles of electrical wiring at Ponderosa Paper Products in Flagstaff was performed by Reliable Electric Co., of Phoenix.

Reliable provided Ponderosa with an electrical capacity of over seven million watts. The smallest motor in the plant is less than a hundreth of a horsepower and the largest is rated at 1,000 horsepower.

The wiring called for hundreds of electrical controls, from the smallest silicon diode to huge complex motor controls, according to Reliable sources.

The plant has numerous push buttons to control, start, stop, forward, reverse, up-down, fast-slow, jog, mix, tell time, indicate temperatures, speed up, proportion, dry, blow, roll, cutoff, lift up, heat and cool.

Material needs had to be coordinated to meet the ever moving progress of work and they came into Flagstaff by rail, truck car, bus and even special deliveries by Reliable Electric's own twin-engine airplane.



Facilities include a complete first aid room that is equipped to handle all types of emergencies that may occur in the plant.

Ponderosa's Incorporation Came in 1964

Ponderosa Paper Products was incorporated in 1964. The products to be produced are toilet tissue, toweling and napkin stock.

The first step was to construct a tissue machine to make tissue grades of paper. At the same time, the old plant was being rebuild to handle pulp wood products of sufficient quantities to operate the new paper machine.

A new barker was added, with new Cowan screens, for screening pulp and the grinder room rebuilt. The old portion of the mill has a potential of a small pulp machine and an experimental pulp moulding machine with the possibility of production on both in the near future.

Ponderosa Paper is owned by Bankers Life and Casualty Company of Chicago. E. H. Weig is president of Ponderosa. Norbert Geniusz is treasurer.

Gary Floch is the chief accountant in the Flagstaff office and is assisted by Wayne Whittum.

Operations will include complete perpetual inventory control, cost analysis, and financial statements prepared monthly.

Maintenance worker uses an arc welder to repair a part of one of the huge pulp grinders.

Our Congratulations to

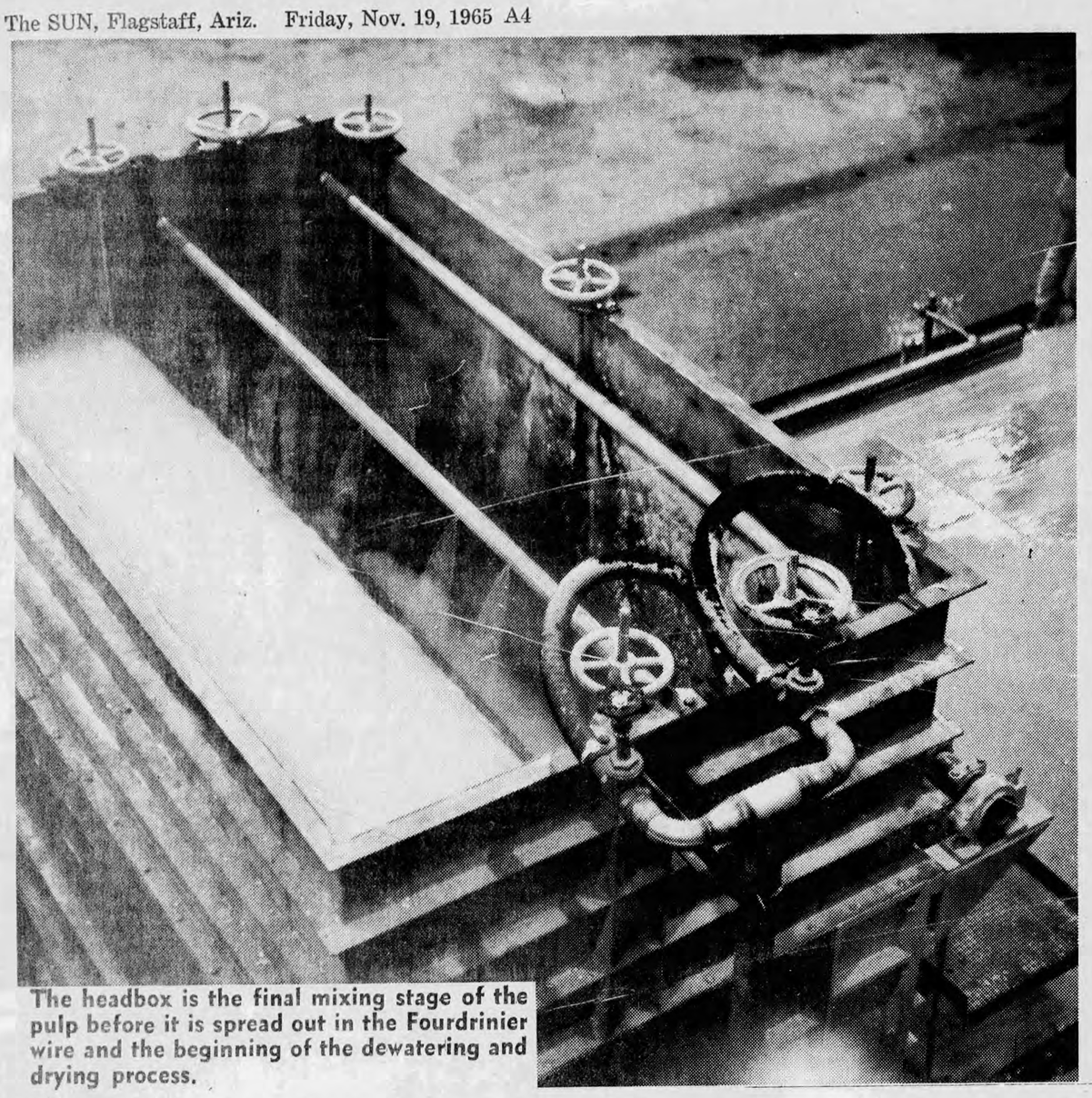
PONDEROSA PAPER PRODUCTS

on the start-up of your new mill

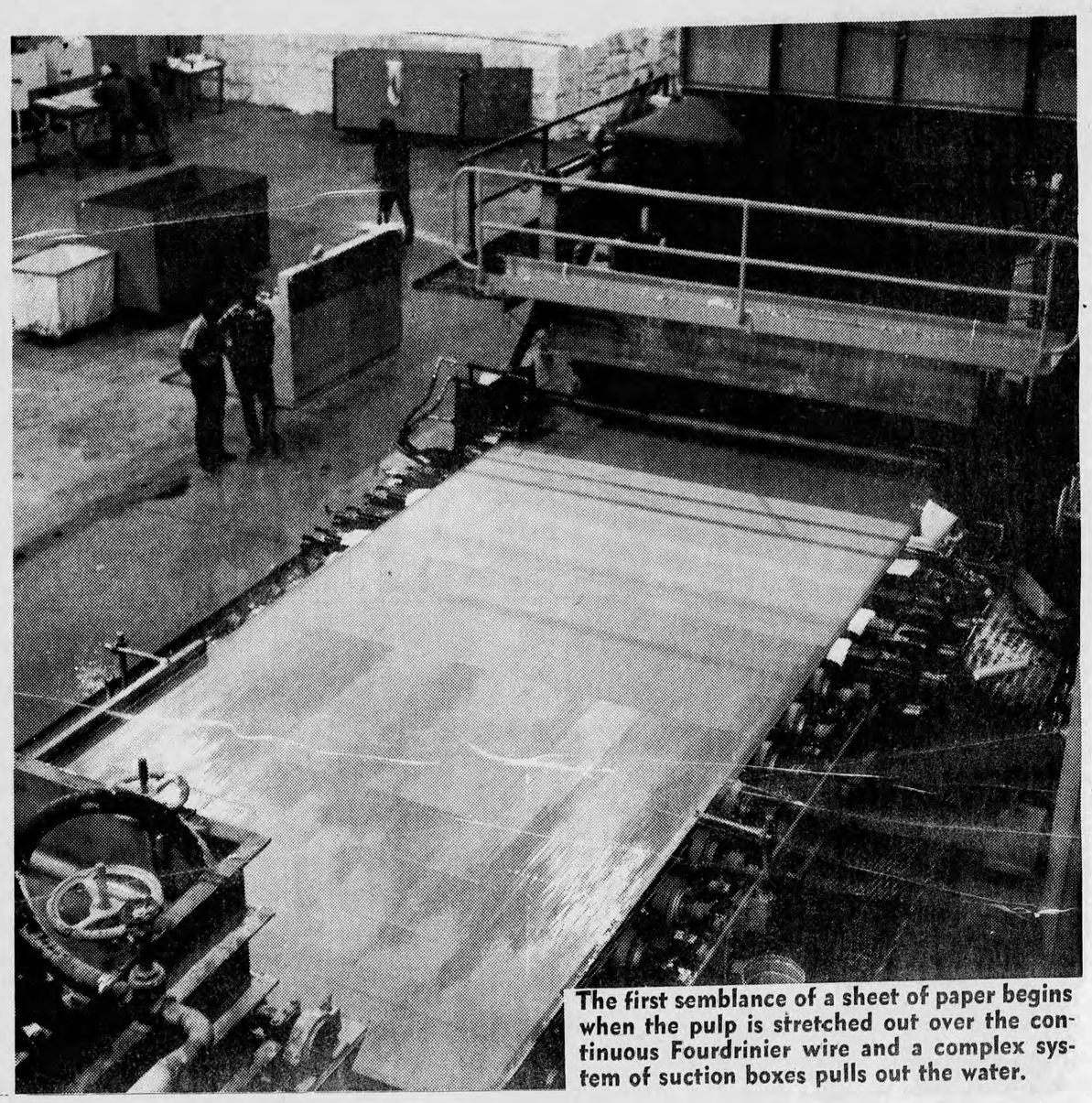
BULKLEY DUNTON PULP CO. INC.

295 Madison Ave. New York 17, New York

ALSO OFFICES AT KALAMAZOO, SAN FRANCISCO, STOCKHOLM, ZURICH



The headbox is the final mixing stage of the pulp before it is spread out in the Fourdrinier wire and the beginning of the dewatering and drying process.



The first semblance of a sheet of paper begins when the pulp is stretched out over the continuous Fourdrinier wire and a complex system of suction boxes pulls out the water.

Chartered During September

Ponderosa Credit Union Major Aid to Employes

A few months ago, some employes of Ponderosa Paper Products, Inc. met and applied for a federal charter. The members signing the original charter included Donald T. Keller, James E. Bounds, Wilbur D. Henry, Gary R. Floch, Andrew J. Bastine, L. Wayne Whittum, Joe L. Richardson, David M. Berry, and Charles Bannister.

The charter was granted, and on Sept. 7, 1965, an organizational meeting was held. At this meeting, officers were elected to serve until January, 1966.

The following were elected:

Board of Directors; Wilbur D. Henry, president; Claud E. Clifton, vice-president; Gary R. Floch, treasurer; Jerry Jones secretary; and Charles Bannister, educational director.

Supervisory committee; L. Wayne Whittum, Glen Rork and Eugene Russell.

Credit committee; Edward Ordiway, chairman; Kay Pemberton, secretary; and Elgie Harrison.

All labor and time for the credit union is donated by the members themselves, and this includes the officers.

The board of directors are responsible for setting savings and loans policies, under the auspices of the Bureau of Federal Credit Unions. The credit committee is responsible for approving all loans to members, and the supervisory committee is responsible for all auditing.

In addition, Ponderosa Federal Credit Union is affiliated with 140 other credit unions in Arizona and 25,000 throughout the United States.

"The wise use of money is all the value there is in having it," wrote Benjamin Franklin many years before the birth of credit unions. Credit unions are built on this philosophy. They pool the small savings of many members, thus creating and mobilizing enough capital to make wise use of the money in provident and productive loans to members.

Credit unions have made an enviable record. They have helped millions of people save money — money which would not have been saved without the convenience and willingness of credit unions to encourage and accept small regular savings. In addition, hundreds of millions of dollars are saved annually by the wise use of credit.

What is unique or different about credit union loans?

In the first place, the credit union is different from organizations formed primarily to make a profit for a few stockholders. All credit union members are shareholders. They own the credit union.

Only credit union members can borrow from the credit union. Because of this, each borrower is borrowing from an organization he owns. Thus each credit union borrower is a debtor, as well as part owner.

Ponderosa Federal Credit Union is affiliated with Ponderosa Paper Products, Inc., because it is mutually beneficial to both management and to the members of the credit union. This field of membership is defined as the employes of Ponderosa and their immediate families.

Employes approve of credit unions, because it is easy to save through payroll deductions. Also, being at the plant, it is easy to contact the credit unions officials for loans. In case of emergencies, loans can be made immediately, without the inconvenience of making out financial statements.

Credit is more easily established among the members own peers by reason of close relationship between common jobs.

Also, personalized counseling is available through the members credit union.

Over two-thirds of all credit unions serve employes groups. Management overwhelmingly supports credit unions because of the many benefits derived by company and workers alike.

Among these are:

Garnishments, loan requests, and pay advances drop sharply after a credit union begins operations in a plant. Workers who have financial difficulties are referred to the credit union. This saves management time, money, and headaches.

— Credit unions are good for employe relations. Surveys show that workers rate the credit union above other benefits.

— Financial worries rank high as causes of accidents, absenteeism, poor work, personnel directors report. A credit union helps employes solve their financial problems. They can borrow what they need without loss of dignity or self-respect.

— Serving as volunteer directors in the credit union gives employes first-hand experience and insight into business problems that make them more valuable employes.

— Employes take personal responsibility for their own financial affairs. Management doesn't have to get involved with a man's personal problems when the credit union handles them. Since the credit union is a separate corporationowned and operated entirely by the employes, the company has no legal or financial responsibility for it.

C. E. Bannister Top Mechanic

Ponderosa Paper Products' master mechanic chores are being filled by Charles E. Bannister, a Wisconsin man in the paper business since 1953.

Born Sept. 6, 1924, at Delta, Wis., he is married and he and his wife Jeanine have six children. They include Charles Jr., 17; Patricia, 16; Pancho, 15; michelle, 13; Linda, 11; and Patrick, 8.

He began his paper industry career with Pacific Paperboard, Longview, Wash., then joined the U.S. Army when he was 18 and served in Italy, France, Belgium and Germany in the 517 Parachute Infantry.

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

Congratulations

and best wishes to

PONDEROSA PAPER PRODUCTS, INC.

from your supplier of

ASTEN DRYER FELTS

ASTEN-HILL MFG. CO.

Philadelphia, Pa., Walterboro, S.C., Salem, Ore.

ASTEN-HILL LIMITED
Valleyfield, Quebec

ASTEN DO BRASIL S/A
Sao Paulo, Brazil

V. ASTEN & CIE.
Eupen, Belgium

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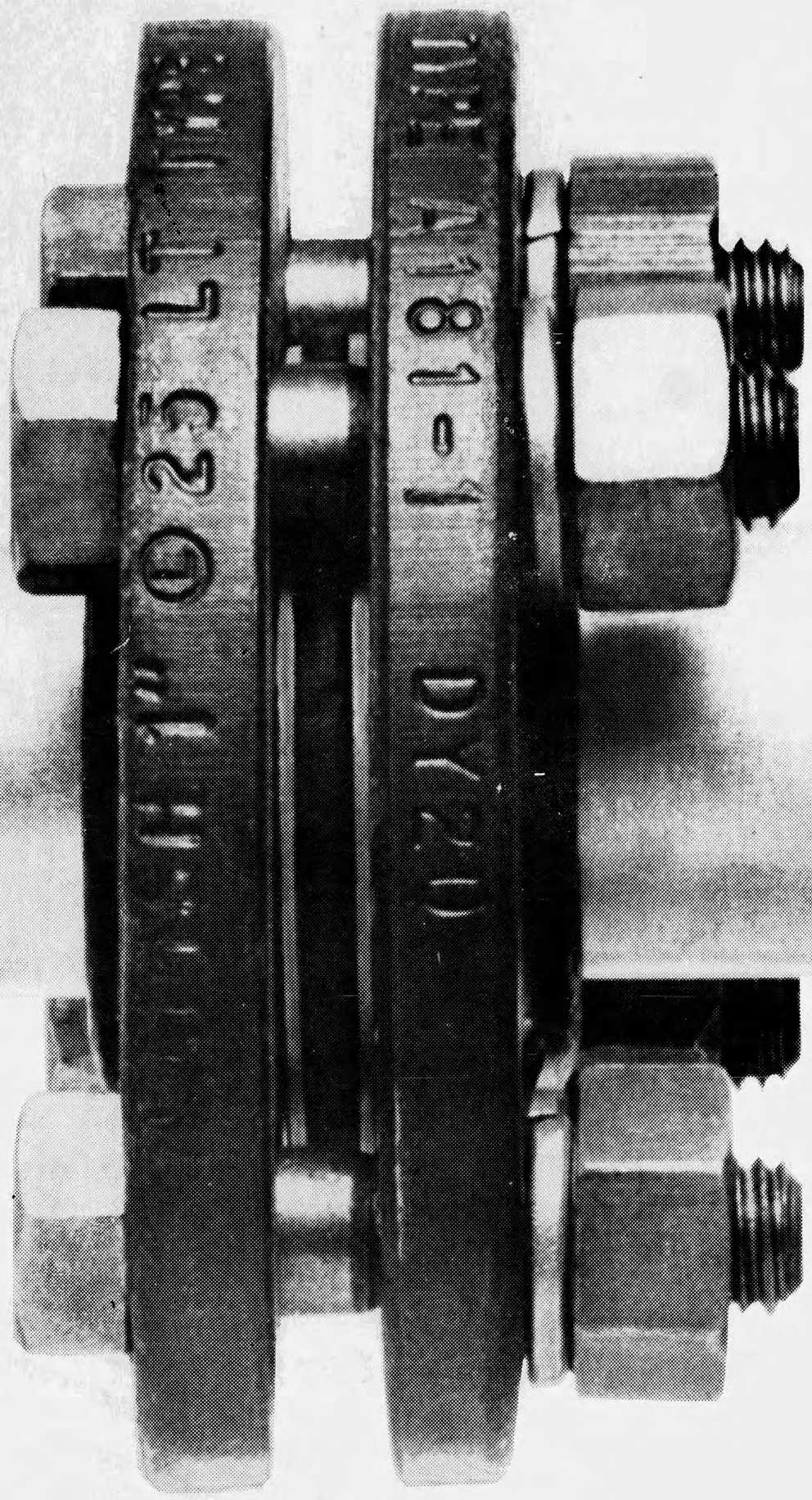


Look how easy FMC's BECCA hydrogen peroxide makes pulp bleaching for Ponderosa

Just turn the valve at the other end of this pipe and there you have it. A simple, continuous fee of H^2O^2. Pre-mixed and diluted to the proper strength for effective bleaching.

With FMC's all-liquid hydrogen peroxide system Ponderosa just needed a storage tank, piping, pumps and related equipment. Result? More uniform pulp. Equipment savings. Elimination of storage and handling problems.

What else can we tell you except that FMC provides a complete H^2O^2 storage system for plants. And that Arizona is beautiful. And that we're proud to have played a part in the construction of this fine plant. Congratulations Ponderosa Paper Products, Inc.

FMC CORPORATION
INORGANIC CHEMICALS DIVISION
633 THIRD AVENUE, NEW YORK, N. Y. 10017

fmc CORPORATION

Ponderosa Sales Move In Many Ways

The Sales department of Ponderosa Paper Products in Flagstaff has involved itself in many directions.

In the beginning sales will be pointed toward what is termed jumbo rolls.

Jumbo rolls will run approximately 50 to 57 inches in diameter and in widths ranging from as narrow as 18 inches up to 80 inches.

Jumbo rolls are sold to converters, who in turn convert the roll from its jumbo size into sizes of toweling and toilet tissue found on your grocers' shelves. Jumbo rolls are not only sold to domestic converters, but also to converters in foreign markets.

Another phase of sales will come from Ponderosa's own converting plant. Such converting will include household toweling and toilet tissue under the Ponderosa label. This product will be distributed throughout Arizona to grocery stores by the L. G. Allen Brokerage firm of Phoenix.

Immediate products will include:

Two rolls in one package, single and two ply toilet tissue;

Four rolls in one package, single and two ply toilet tissue;

Two rolls in one package, single ply 120 count rolls of toweling;

Two rolls in one package, single ply 200 count jumbo rolls of toweling;

One single roll package, single ply 200 count jumbo rolls of toweling.

Still another phase of the sales program involves doing private labeling for large grocery chains. All the products under this category would be completely finished in the Ponderosa converting department and then shipped directly to the company or chain store for whom it was converted.

In addition to all the above, machinery has been installed to convert a folded towel.

This folded towel will be used for industrial toweling which will be sold through paper merchants as well as janitorial supply houses.

Along with the folded industrial towel an industrial windshield towel will also be produced. This windshield towel will be an impregnated sheet that will automatically, along with a few drops of water, clean your windshield, leaving it filmless and sparkling clear.

After selling all the jumbo rolls and converted products, the sales department still has the sales for groundwood pulp to worry about. Groundwood pulp sales will be more or less determined by how much of this pulp is utilized by the tissue machine.

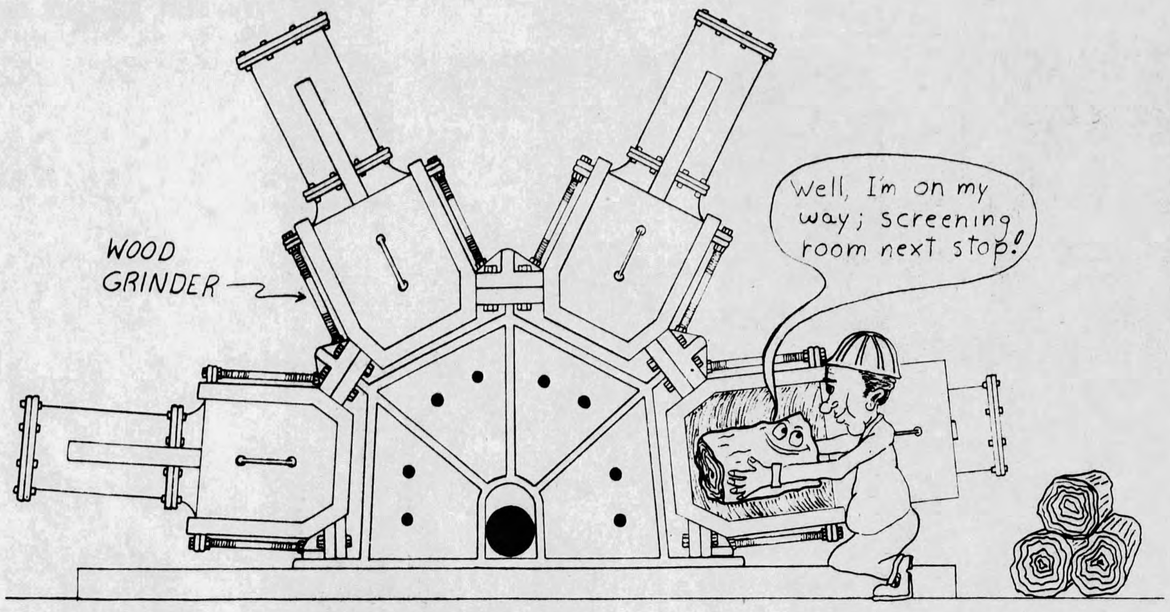
Whatever pulp is not used up in the manufacture of toweling and tissue, will be baled into 500 pound bales and offered to both domestic and foreign users of groundwood pulp.

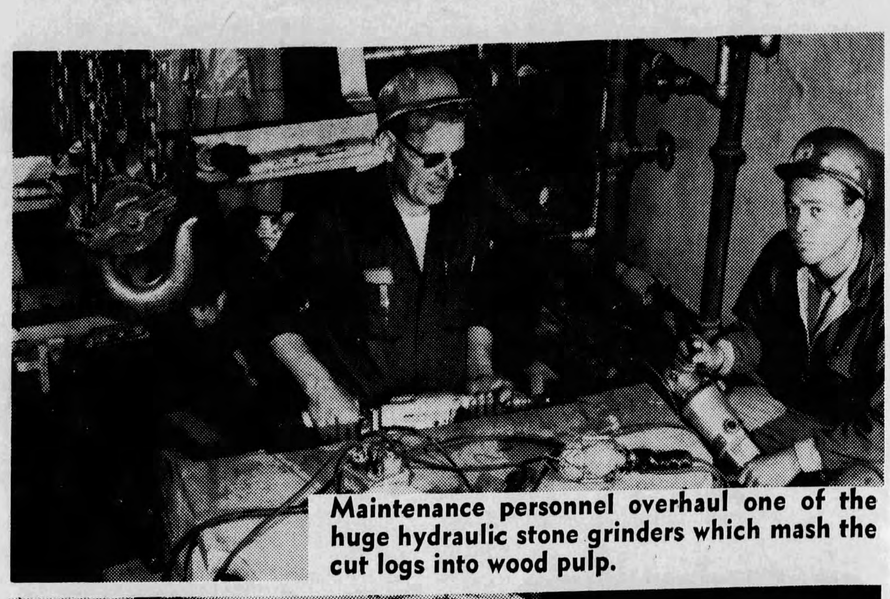
It appears that when the sales department finishes selling all the various products either directly or indirectly derived from making toweling and tissue, there certainly won't be any part of the tree left to sell, nor was any of it wasted.

Shipments of all products from the mill will be primarily by rail, although some will go via truck, on jumbo rolls since the majority of th current jumbo rolls sales are in the Los Angeles, Calif. area.

Los Angeles is also the port of shipping for all export sales.

It is anticipated that there will be quite a bit of truck shipments to grocery chains throughout Arizona.





Maintenance personnel overhaul one of the huge hydraulic stone grinders which mash the cut logs into wood pulp.

Mill worker feeds the cut logs into the hydraulic stone grinder that mashes the cut logs into the raw wood pulp.

Brings in Salesmen, Employs 150-200

Firm Boosts Flag Economies

In an industry of this type, Ponderosa Paper Products will have many salesmen calling upon them. Just to mention a few of the products from outside sources could include chemicals, wires, felts, pulp, box, poly, equipment, office supplies, spare parts, and many, many more.

The salesmen that call on Ponderosa usually spend the night in Flagstaff in one of the many motels as well as dining in one of the restaurants and refueling their automobiles for their return trip. This naturally will put a few new dollars into the hands of Flagstaff merchants—this money stays in Flagstaff.

Ponderosa will employ 150-200 men on a 365-day basis. This factor is a very good situation for the community of Flagstaff. All of the people Ponderosa employs will naturally have to have housing and will purchase their daily requirements from a local business establishment.

It is estimated that the average salary will range as high as $500 per month and spending $400 of that $500 per month, that this will put approximately $70,000 a month into circulation in the Flagstaff area.

This type of industry is certainly a real boon to the Flagstaff community since it is based on a year-round, continuous operation, as opposed to a seasonal type of industry.

Growth at Ponderosa is certainly anticipated.

Floor space for a second paper machine was included in the original building design. Knockout concrete floor panels were installed so that the second paper machine could be installed without erecting a new building or having to dismantle the present structure.

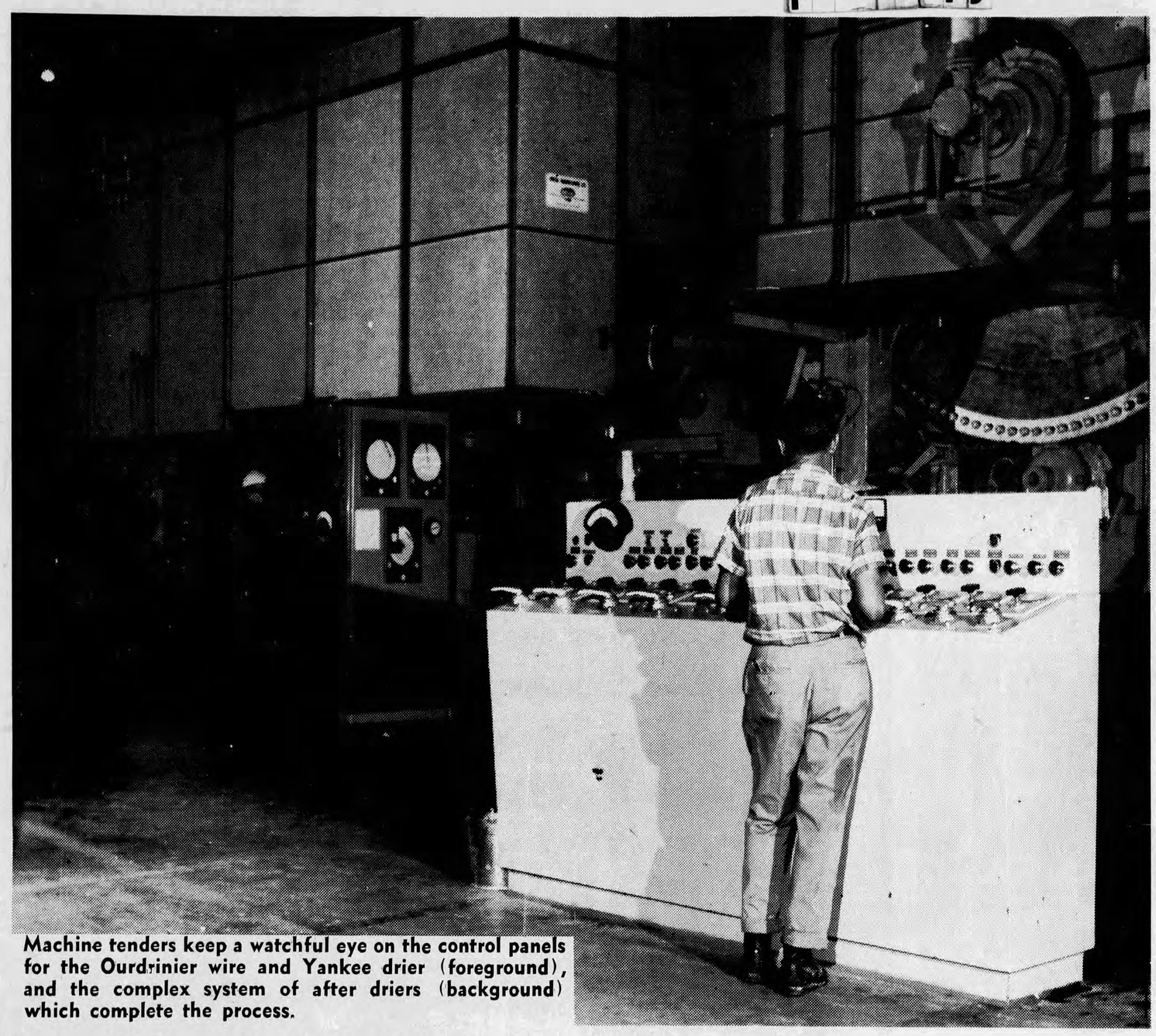
As soon as it is feasible, negotiations for the second paper machine will commence which will bring approximately 50 new employees and their families to Flagstaff.

To: Ponderosa
From: The pines of East Texas

Our best to you -- today and through years of growth in your new plant.

EAST TEXAS PULP AND PAPER COMPANY
SILSBEE, TEXAS

poor copy



Machine tenders keep a watchful eye on the control panels for the Ourdrinier wire and Yankee drier (foreground), and the complex system of after driers (background) which complete the process.

Automated Soderhamn Ring Debarker

Knives Strip Logs of Their Bark

First in the process of converting pulpwood to paper at Ponderosa Paper Products, Inc., is a giant rasp-like affair labeled a "debarker".

The debarker, located adjacent to the mill's wood lot, does just as it's name implies—takes the bark off the logs.

In Ponderosa's case, the debarker is an automated Soderhamn Ring Debarker, manufactured in Sweden.

The pulpwood is removed from storage by the use of a fork lift truck and transferred to a "live" infeed deck and is then transported to an infeed conveyor, then to the debarker.

After the wood has been debarked, it is conveyed on an outfeed conveyor to an outfeed "live" log deck. The pulpwood logs—which are eight feet long—are then transferred to the cut off saw table where they are sawed into two-foot cants or lengths.

These logs which escape the debarker's knives and come through with some bark still on them, will be diverted to a holding area, where after enough supply piles up, they will be again run through the debarking operation and continue on through the paper-making processes.

These cants are then transferred to a conveyor and then into the [illegible] soak tank [illegible] the purpose of driving off as much volatiles as possible.

At a later date in Ponderosa's operation, the bark ripped off by the debarker's knives will be made into a mulch and marketed. It may also be used as a fuel.

From the wood soak tank, the wood is discharged onto a 30 inch wide belt conveyor that runs along the wood grinder aisle. The wood cants are then loaded into the pockets of the wood grinder and are reduced to an unbleached groundwood pulp.

Upon leaving the grinders, the pulp is screened through a bull screen for purposes of removing splinters of wood and other foreign materials. The pulp is then screened over a high speed centrifugal screen for the purpose of further cleaning.

The reject material from both the bull screen and the centrifugal screen is then pumped over a thickening device for the purpose of removing the water contained in this pulp for further use, and this rejected material is then run through a mechanical refiner wherein it is reduced to groundwood pulp. This is for screened through a bull screen for purposes of removing splinters of wood and other foreign materials. The pulp is the purpose of utilization of entire debarked log.

The accepted stock from the Cowan screen, at about .5 percent consistency is then pumped through a three-stage, centricleaner system, where any further dirt or small wood sheaves are removed.

The groundwood pulp is ready for bleaching in the tissue mill.

Bath, Maine, Holds Shipbuilding Firsts

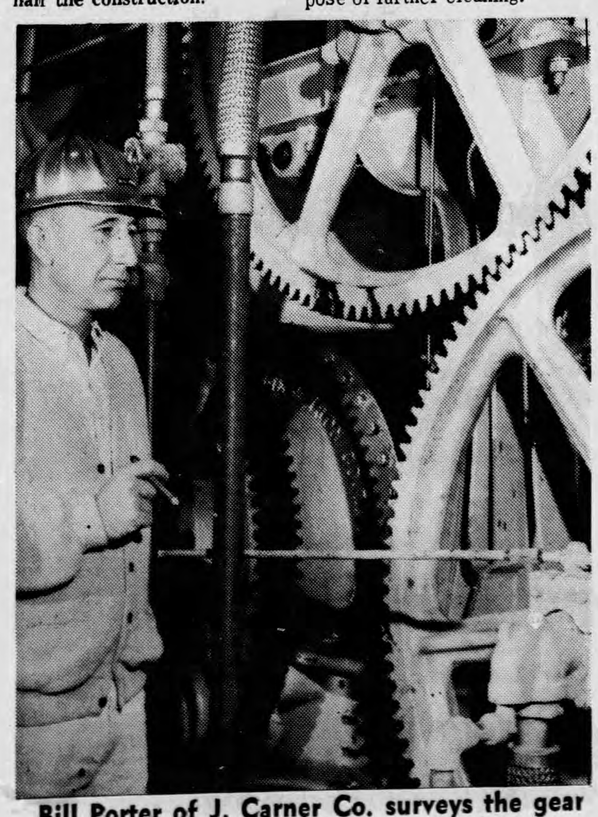
Bath, Maine — Bath has many firsts in shipbuilding, including the Henry B. Hyde, classic example of the [illegible] East half-clipper; the Roano[illegible] largest successful four-ma[illegible] wooden bark built in America; the first and last American-built wooden ships; the only American-built four-masted steel barks; and the six-masted schooner Wyoming, largest wooden vessel of any type to fly the American Flag at sea.

Dam's Potential Great

Phnom Penh, Cambodia—A United Nations study of the water power potential of the Indochina Peninsula estimates that a Mekong River dam, if built on a certain Cambodian site, could multiply this nation's power output 15 times.

Homes Added Since War

London—British contractors have built more than 4.5 million of the kingdom's 17 million houses and apartments since World War II. Public authorities paid for more than half the construction.



Bill Porter of J. Carner Co. surveys the gear mechanism that drives the drying drums.

..CONGRATULATIONS

PONDEROSA PAPER PRODUCTS

IN ARIZONA IT'S

REPUBLIC SUPPLY COMPANY

FOR ALL YOUR PIPING NEEDS

PIPES VALVES FITTINGS

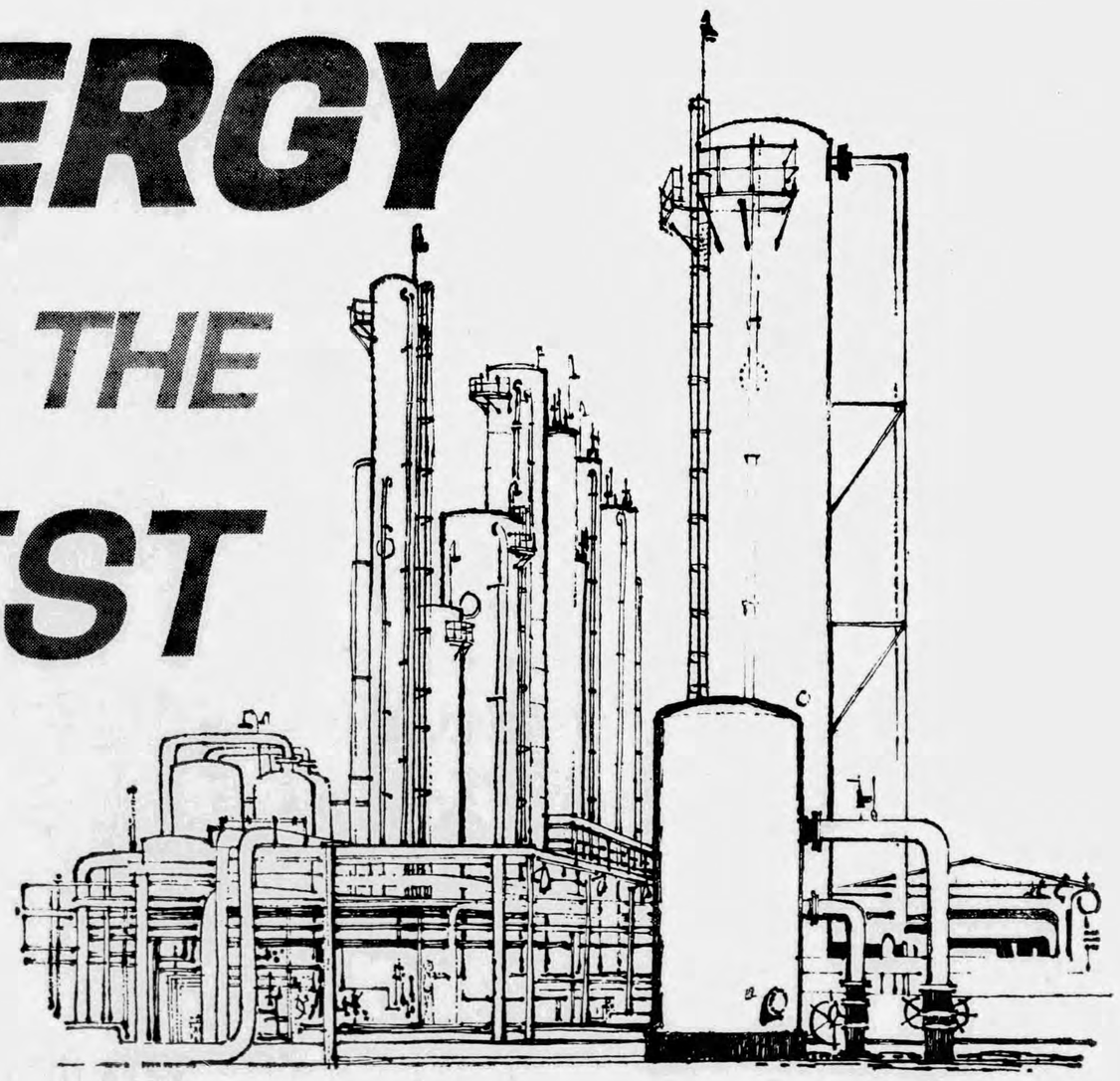
Carbon Steel Stainless Steel

Plastic

Copper and Brass

We are happy to have played a part in construction of your new plant and the further growth of Northern Arizona.

ENERGY FOR THE WEST



EL PASO NATURAL GAS COMPANY

Automatic Systems Watch Processes

Honeywell-Built Controls Guide Ponderosa Paper

Automatic control systems built by Honeywell Inc. will help operators guide the papermaking processes of Ponderosa Paper Products, Inc., new Flagstaff mill which went "on stream" this month.

The startup will represent the coordinated efforts of instrumentation specialists working out of three widely separated offices—Seattle, Phoenix and Los Angeles—and two eastern manufacturing plants.

Working closely with Parkinson, Crosby and Works of Seattle, Wash., consultants on the new mill, application engineers of Honeywell's Seattle office helped both consultant and customer engineers select exactly the right combination of precision instruments and pneumatically controlled valves designed to automatically regulate the flow and quality of raw materials through the mill.

In the meantime, sales engineers in the Phoenix office provided engineering backup and liaison between the Flagstaff construction site, the Seattle consultant's offices, and Honeywell's factories.

The company's Los Angeles office devised the final control system engineering.

Honeywell panel engineers then fabricated the control panels which give mill operators a complete view of process conditions during papermaking operations.

The panels were then shipped to the job site and installed under the technical direction of the Phoenix representative.

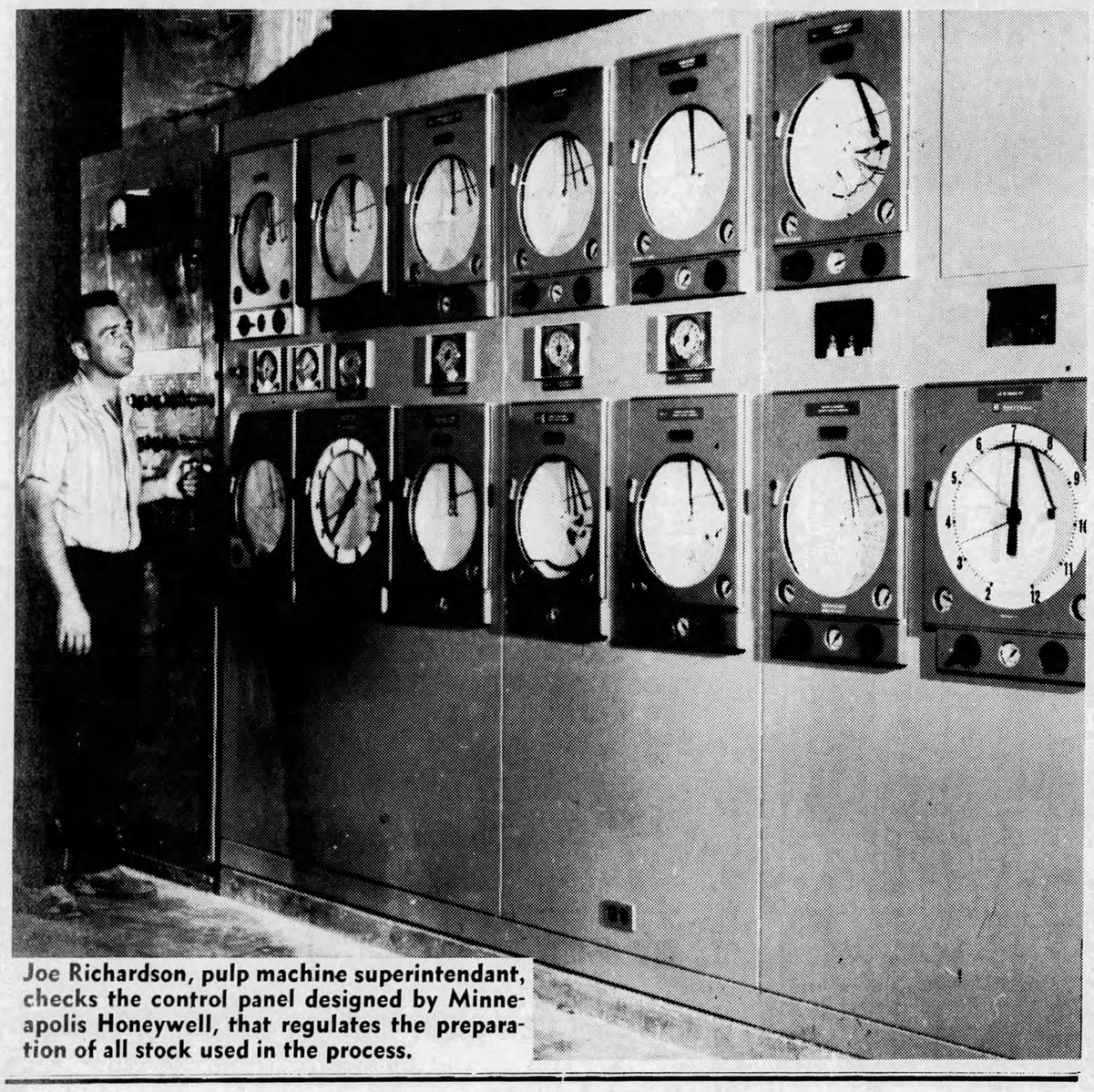
Some of the control systems regulate the flow of pulp through huge pipelines to various pulp storage chests.

The consistency of the pulp mixture is carefully measured and controlled by other systems, while additional automatic systems regulate the temperature of the dryers on the paper machine and the pressure of the steam feeding the big machine itself.

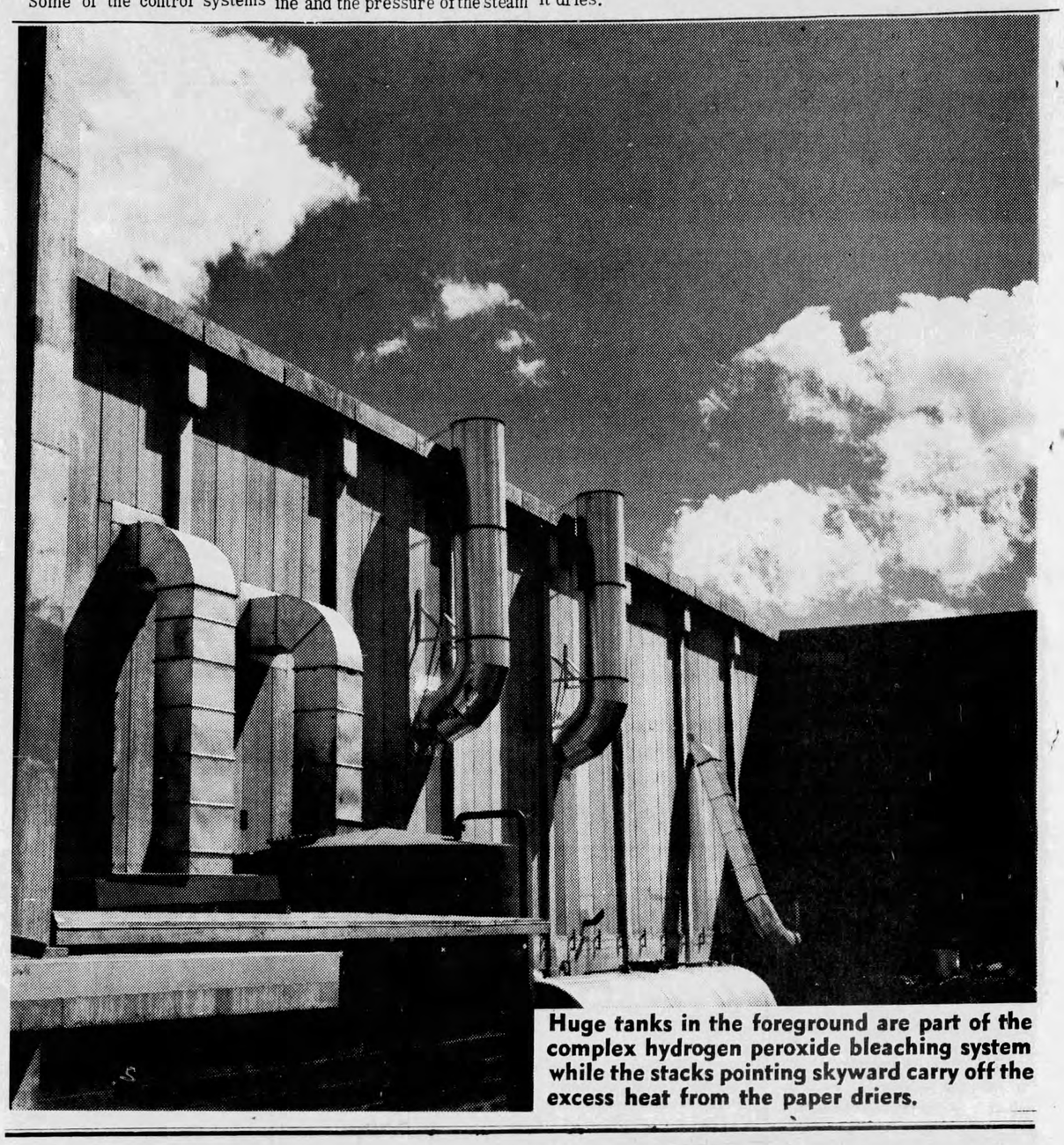
A "pH" system automatically measures and controls the acidity of the paper stock solution.

Accurate "pH" control makes sure that white paper stays white, since too much acid in the stock can turn the paper yellow when it dries.

The final step in Honeywell's phase of the project will occur when service technicians from the Phoenix office assist Ponderosa engineers and operators in starting up the complex machinery and systems of the mill to get it into the business of making high quality paper products.



Joe Richardson, pulp machine superintendant, checks the control panel designed by Minneapolis Honeywell, that regulates the preparation of all stock used in the process.



Huge tanks in the foreground are part of the complex hydrogen peroxide bleaching system while the stacks pointing skyward carry off the excess heat from the paper driers.

Heartiest

Congratulations to

PONDEROSA PAPER PRODUCTS, INC.

we salute you on the start up of your production facilities

ALBANY FELT COMPANY
ALBANY, N.Y.
ST. STEPHENS, S.C.

Dedicated to Paper Industry Progress

Congratulations to our good friends Ponderosa Paper Products on their new venture, with best wishes for long and continued success.

HERCULES POWDER COMPANY
INCORPORATED

Paper Chemicals Division
Sales Offices In
Portland San Francisco

Ponderosa Uses Stainless Steel Tanks, Pipe

Pulp Thickened, Bleached, Thinned

Groundwood pulp at Ponderosa Paper Products is stored in a lined stock chest and when demanded, is pumped from this chest, through gleaming stainless steel pipe to the tissue mill at approximately .5 percent consistency.

From this point on, the pulp stock will flow through nothing but stainless steel pipe and equipment, the purpose being to keep the pulp as clean as possible.

When the pulp arrives in the tissue mill, it is thickened up by means of a "decker"; to approximately seven percent consistency and is stored in an unbleached groundwood stock chest.

The unbleached groundwood is now pumped to the top of a 36 foot bleach tower through a water extractor where it is thickened to approximately 20 percent consistency, and is discharged through a chemi-mixer where the bleaching solution, in this case 48 percent hydrogen periozide, is added.

The pulp stock is now discharged into the fiberglass lined bleach tower where it is retained for approximately five hours to undergo bleaching.

At the bottom of the bleach tower is a series of mining nozzles, the purpose here being to dilute the pulp stock at this stage to a pumpable state, namely three percent consistency. From the hydrogen periozide bleach tower, the stock is pumped to a second stage bleaching, where it is mixed with zinc hydrosulphite, and retained for approximately 15 minutes to give the pulp its final brightness.

The pulp is then stored in a bleached groundwood chest.

While the foregoing is occurring, baled solid bleached chemical pulp, either sodium sulphate or sodium sulphite, purchased from chemical pulp mills, is being repulped into a slush form.

The purpose of this chemical pulp is to mix varying percentages of this long fibre pulp to give strength, and other properties to the final sheet of paper being manufactured. This pulp is stored in an unrefined chemical pulp chest.

Depending on the grade of paper being manufactured, the given percentages of groundwood pulp and chemical pulp are automatically metered into a blending chest. This refining is for the purpose of producing strength and softness properties.

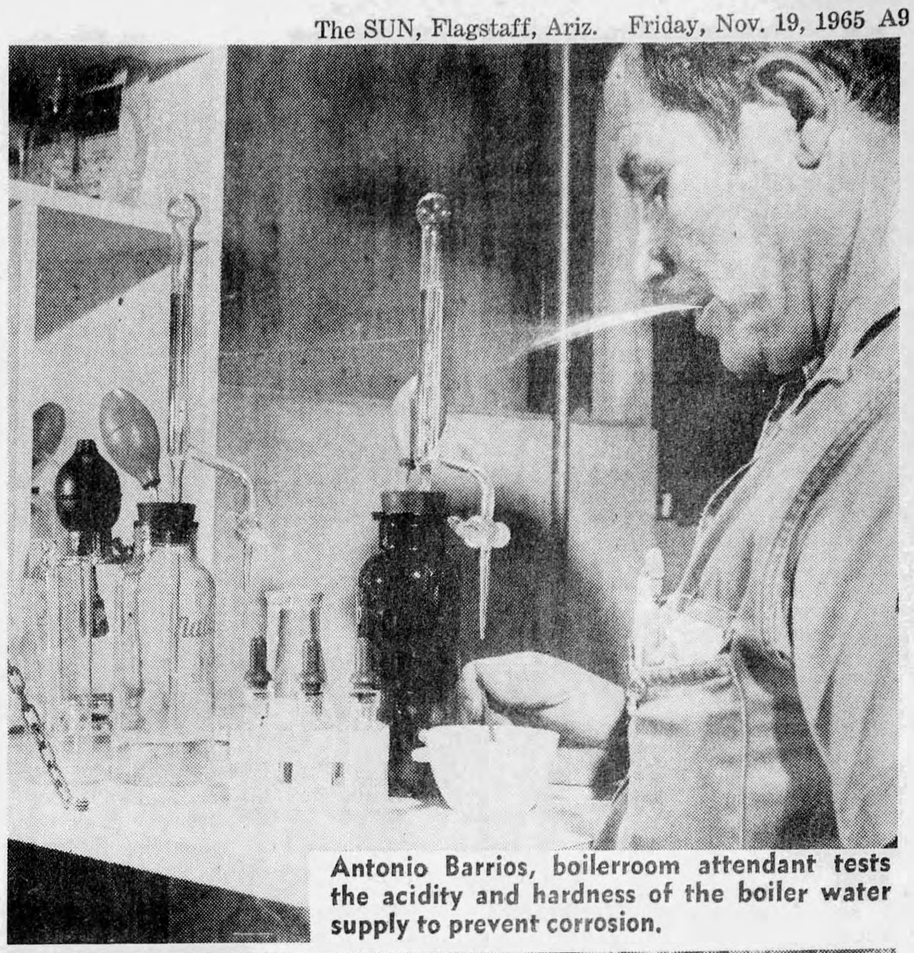
The pulp mixture is then pumped into a machine storage chest.

From the machine chest, the pulp mixture is pumped through additional refining equipment and while this is occurring various colors and other additives are added for producing wet strength and softness.

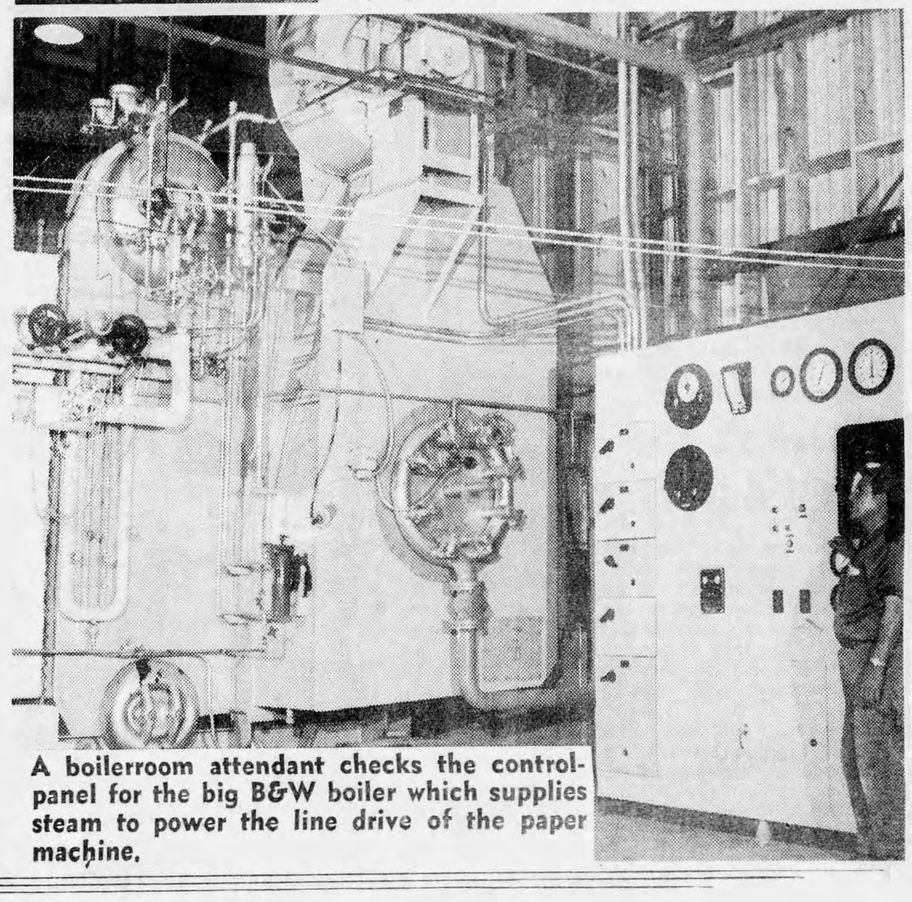
On the way to the machine, the pulp stock mixture is pumped through a selectifier screen to eliminate any foreign material that may be present, and is discharged into the paper machine headbox.

When the pulp stock enters the headbox, it is at a consistency of about .3 percent and is regulated onto the Fourdrinier wire.

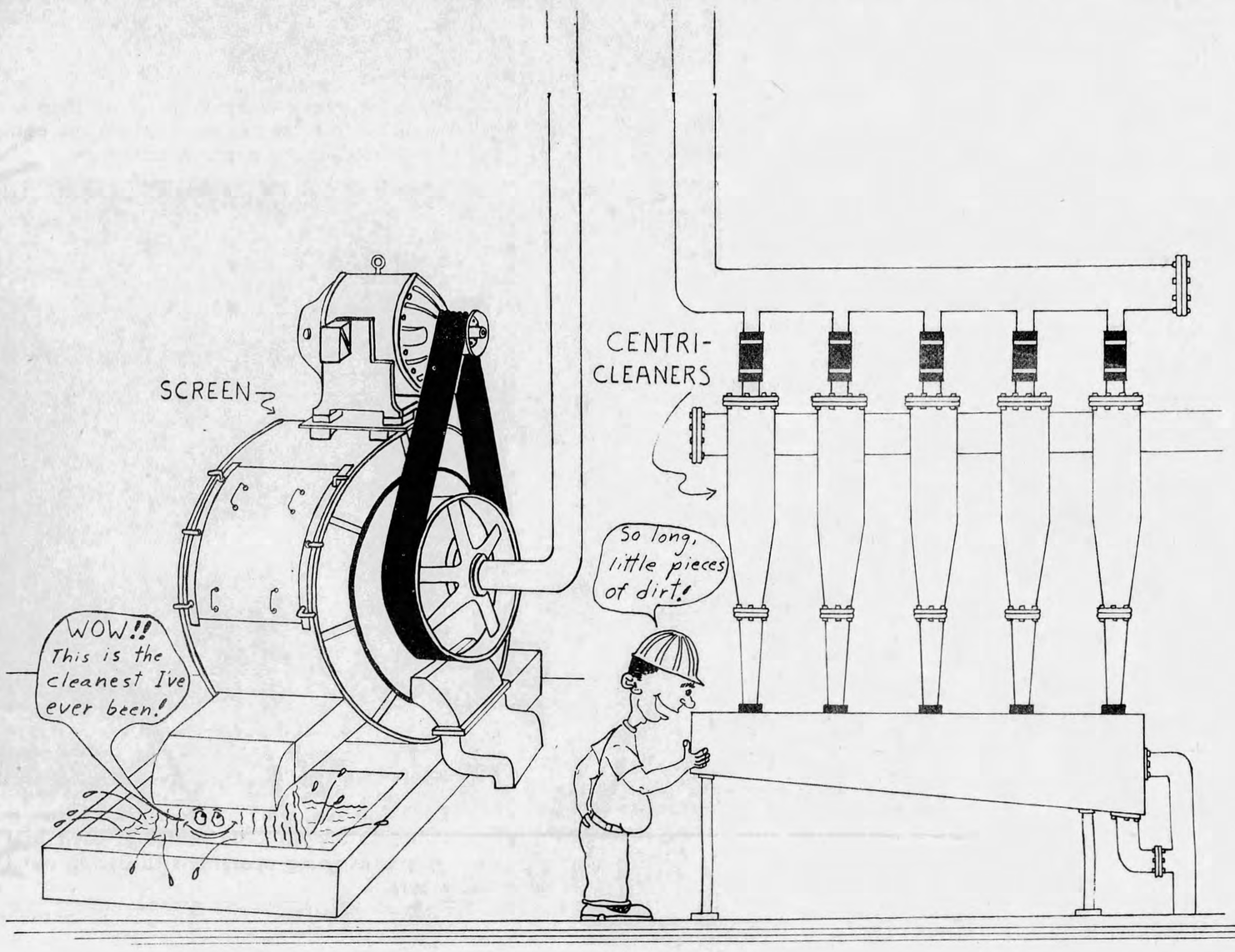
The amount of stock and water flowing onto this endless woven wire depends on the particular grade of paper being manufactured and the speed of the paper machine, in Ponderosa's case, 800 to 1,500 feet per minute.



Antonio Barrios, boilerroom attendant tests the acidity and hardness of the boiler water supply to prevent corrosion.



A boilerroom attendant checks the control-panel for the big B&W boiler which supplies steam to power the line drive of the paper machine.



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Engineering, Research, Development, and Marketing for the Forest Products Industries

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CONGRATULATES

PONDEROSA PAPER PRODUCTS

ON START-UP

WE ARE PLEASED TO HAVE BEEN OF ASSISTANCE ON PROCESS ENGINEERING

Denver Firm Supplied Motors Here

One of the largest new and rebuilt electrical equipment dealers in the west supplying the electric motors and controls for the Ponderosa Paper Products, Inc., is the Weaver Electric Company of Denver, Colo.

Weaver Electric occupies three acres and is located in open space country away from the city. Officials of the firm placed their 50 by 200 foot building in the center of the acreage with the rebuilt and surplus equipment, some 12,000 items in all, arranged in neat rows outside and parallel to the building.

The manner in which both interior and exterior storage is maintained enables Weaver to give fast service and delivery, cutting down handling time.

The entire yard area is paved with asphalt. Two warehousemen-yardmen operate a 4-ton capacity Clark lift truck and a 1-ton tow motor. When a piece of equipment is too heavy for the truck, a motor crane is put into use.

The 14-man firm, founded in 1910, does business in the sale of new motors and related equipment, rebuilt equipment, and motor repair work.

The business is conducted on a nationwide basis. Jack Bowe, sales manager and owner Larry Pizer travel extensively to loacte and purchase new and surplus merchandise.

Two additional acres of land are adjacent to the present developed area, ready to be used for expansion when needed.

Where To Get Legal Advice

Washington — The U.S. Welfare Department's Office of Aging has prepared a 25-cent booklet on getting the legal advice retired persons are likely to need in pension affairs, business dealing, living arrangements and making a will.

The 37-page booklet (No. 800) is availble through the Government Printing Office, Superintendent of Documents, Washington 20402.

A complex system of conveyor belts is used to transport the cut logs from the flume to the grinding room for mashing into pulp.

Huge wood-lined flumes, with a conveyor belt running along the center will float the cut logs into the system of conveyor belts.

Architects, Engineers Are Gratified

"It is gratifying to have been a part of the united effort which resulted in the addition of a major industry and another stabilizing influence in the overall economy of Flagstaff.

"The owners of Ponderosa Paper Products have erected a plant which should continue to grow and prosper as Flagstaff's economy develops," said the engineering and architectural firms that planned and worked on the giant new industry.

The architects are Guirey, Srnka and Arnold of Flagstaff and Phoenix and the engineering firm is Foltz, Hamlyn and Adam of Phoenix.

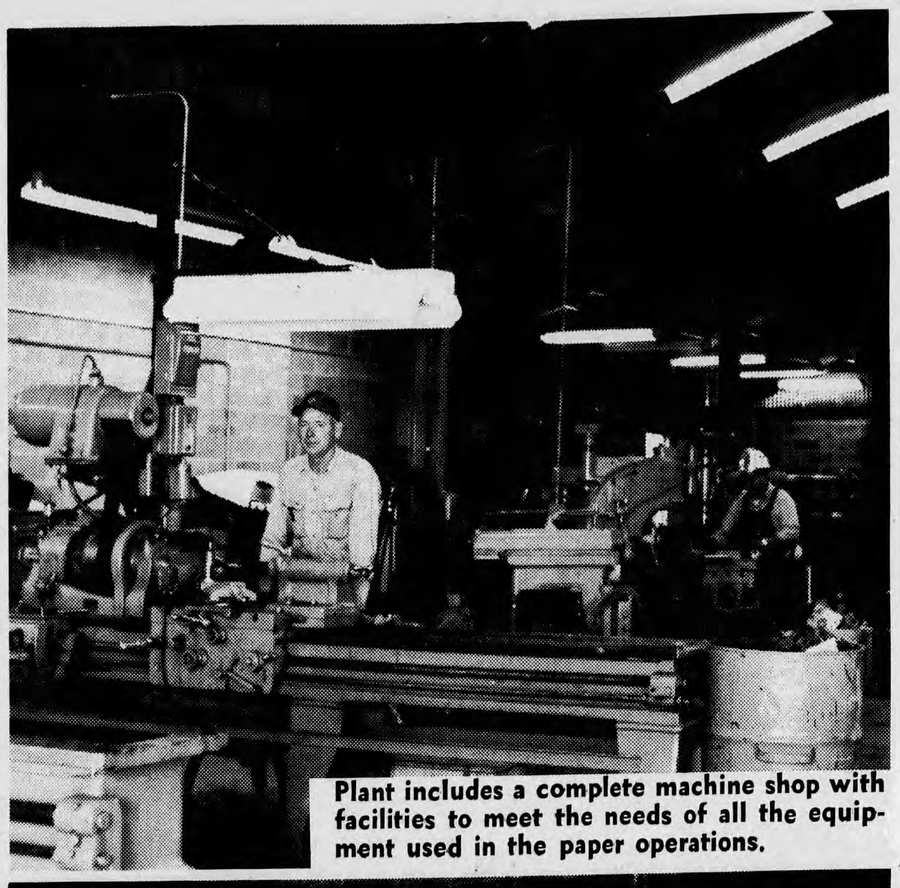
The major structure which houses the paper-making machinery could not have been erected in accord with the accelerated construction schedule had it not been for an exceptional amount of close cooperation and teamwork between the owner, architect, structural and mechanical engineers and the general contractor.

The decision to use reinforced concrete for structural framing, walls and roof decks was primarily due to the nature of this material that it is corrosion resistant, relatively maintenance free and also economical. In order that a relatively large volume of space could be enclosed in a minimum amount of time, concrete structural elements were designed to be precast rather than "poured-in-place".

The precast and prestressed hollow core concrete slabs, which have been used for the roof deck and walls, have been labelled "Spancrete" by their manufacturer, Arizona Sand & Rock of Phoenix. Having exterior walls of "Spancrete" places this building in a category of being the first in Arizona to have this material installed in a vertical position.

In order to eliminate unnecessary obstacles, the manufacturing area was designed to be free of interior columns.

With one paper - making machine installed under the initial program, provision has been made for incorporation of an adjacent, second machine at some future date.



Plant includes a complete machine shop with facilities to meet the needs of all the equipment used in the paper operations.

Ed Bokelmen, working on a huge lathe, machines a Jordan Core, which is used in the pulp processing operations to flatten out the fibers.

SODERHAMN MACHINE MANUFACTURING COMPANY

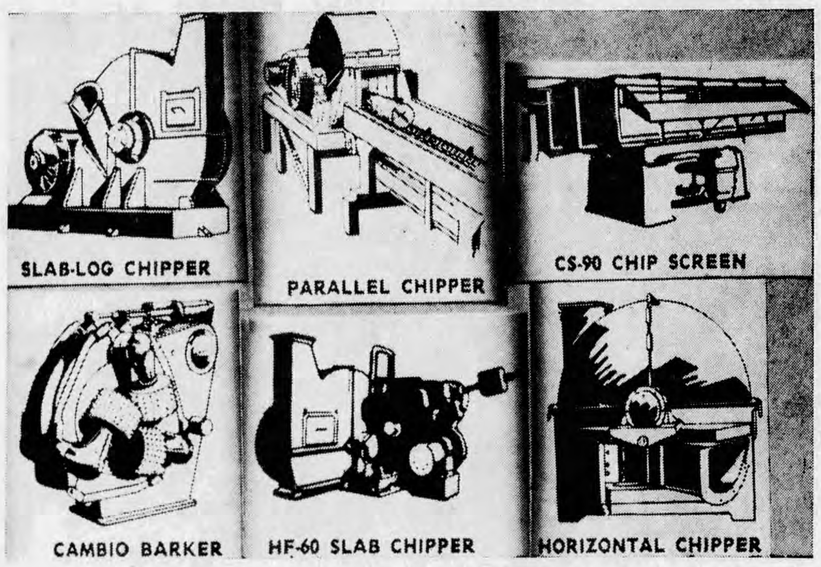
Manufacturer of Barkers, Chippers and Screens

PO Box 19358, Portland Oregon 97219 Area Code 503 639 3134

GOOD LUCK

From Both Of Us To

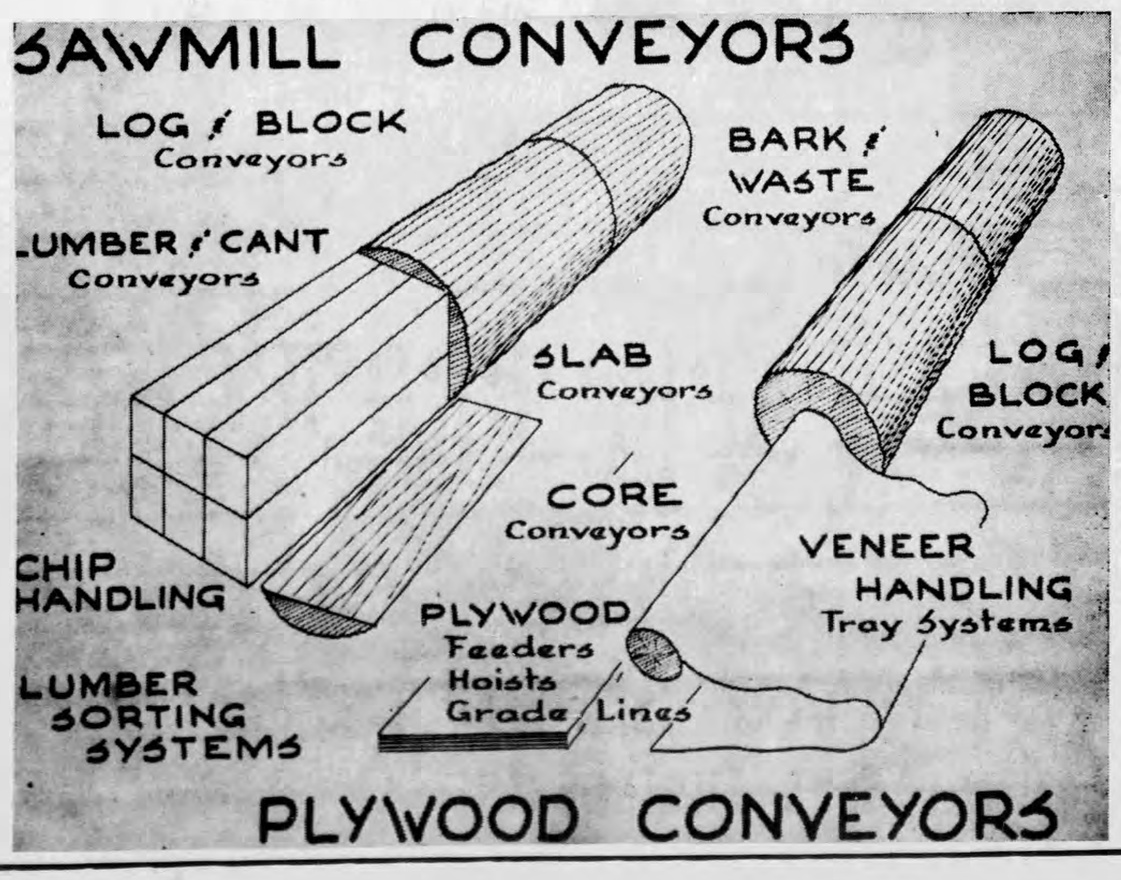
Ponderosa Paper Products



CARGATE COMPANY

Manufacturer of Sawmill and Plywood Conveyors

2304 Lloyd Center Portland, Oregon 9-7232 Area Code 503-288-6104



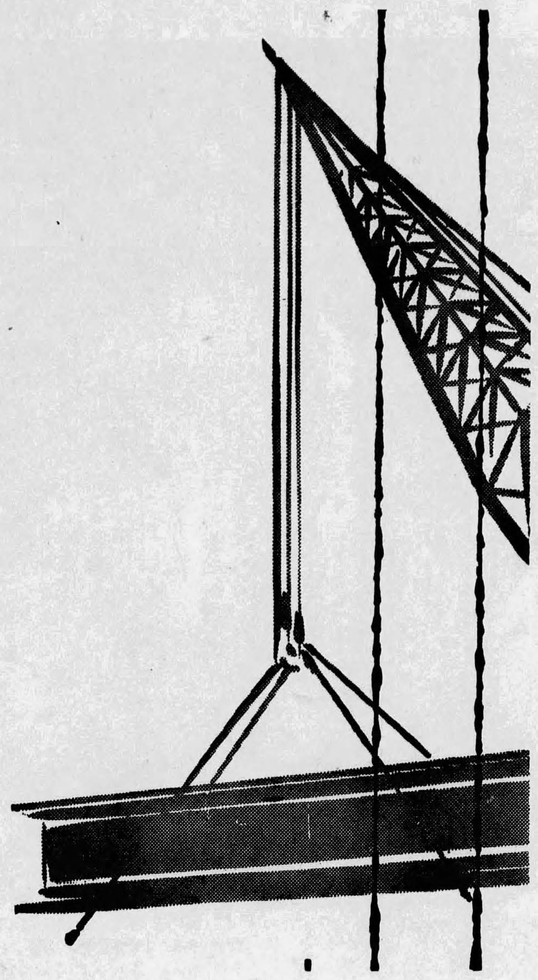
BEST OF LUCK AND CONTINUED SUCCESS TO PONDEROSA PAPER PRODUCTS

and all the employees

APPLETON WIRE WORKS

CORPORATION

PLANTS IN APPLETON, WISCONSIN and MONTGOMERY, ALA.



WHEREVER YOU FIND THE SIGNS OF PROGRESS...

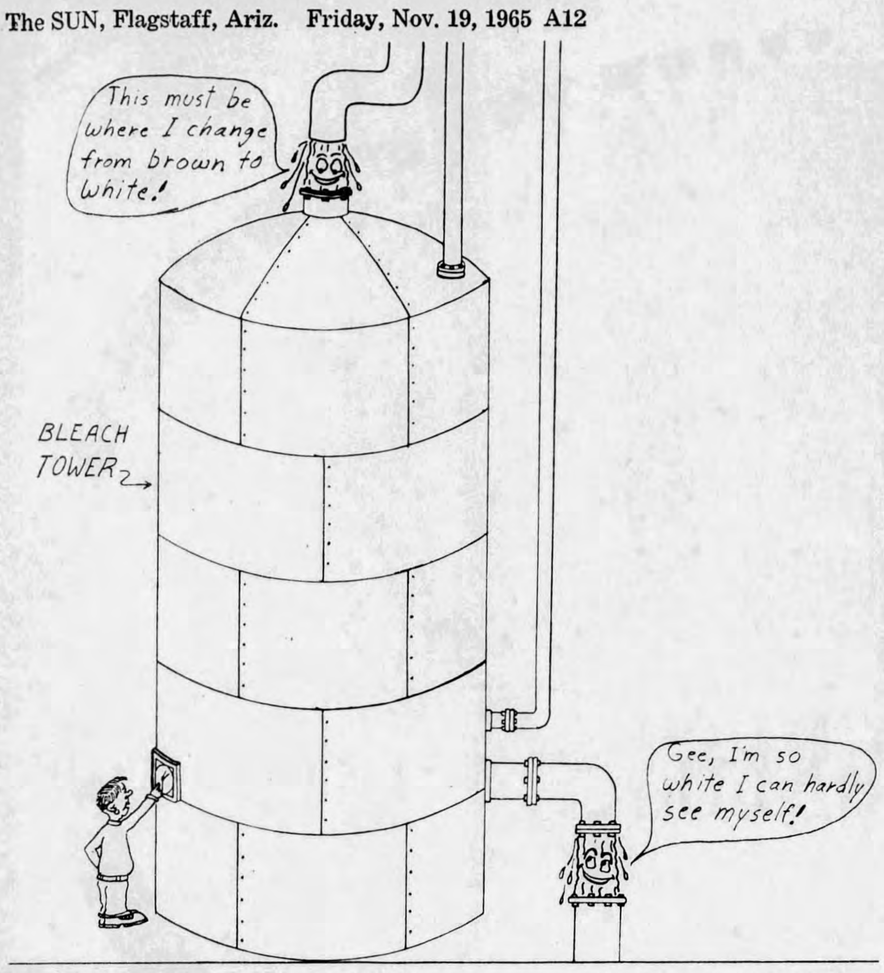
YOU'LL FIND THIS SIGN TOO...

MANHATTAN - DICKMANN
CONSTRUCTION COMPANY
General Contractors
P. O. BOX 7458 - 320 EAST CAMELBACK ROAD
PHOENIX 11, ARIZONA

WE ARE PROUD TO HAVE PLAYED
A PART IN FLAGSTAFF'S PROGRESS
WITH THE COMPLETION OF .....

PONDEROSA PAPER PRODUCTS

AND A CONTINUING ROLE IN FLAGSTAFF'S
PROGRESS AS PRIME CONTRACTOR FOR BOTH
THE HIGH RISE DORMITORY AND THE LIBRARY
AT ARIZONA STATE COLLEGE IN FLAGSTAFF



Built by Manhattan-Dickman

Ponderosa Home Big

Manhatten-Dickmann was the general contractor behind erection of the giant Ponderosa Paper Products plant in Flagstaff.

The length of the newly completed building midway between Flagstaff and East Flag, is 380 feet and from the basement floor to the roof it measures 47 feet.

The total amount of poured concrete amounted to 4,300 cubic yards, according to Les Clayton, supervisor on the job here.

The basement of the huge building measures 18,000 square feet as does the machine floor just above that.

The pulp converting and storage areas cover an additional 21,000 square feet to bring the total to 57,000 square feet.

Manhatten-Dickmann began the job in July of 1964 and expect to have their finishing touches done of the massive structure by the end of 1965. The firm is based in Phoenix.

Much of the other work such as the miles of piping and electrical wiring was contracted out by Manhatten-Dickmann to other firms.

The building also contains it's own railroad spur which runs through one end of the building, according to Clayton. This feature permits loading and unloading of finished products and the various raw materials used by the firm in their extensive paper making processes.

Woolen, Worsted Output Reduced

New York — U.S. manufacturers reduced their output of finished woolens and worsteds last year by something like 14 million linear yards. The 1964 output was 270 million yards; in 1963 it was 284 million. In 1962, the record year, 310 million yards were produced.

Moscow 'Yankees' Had Smoke Screen

Frankfurt—In 1846, a German scholar reports, Russia sent a secret expedition to explore a no-man's-land between Russia and China. All the crew of the brig Konstantin that sailed the Amur River smoked Virginia tobacco so the Chinese would take them for Americans.

Tour Forman W. A. Phillips Born in East

W.A. Phillips will operate in the capacity of tour foreman at the huge Ponderosa Paper Products firm here.

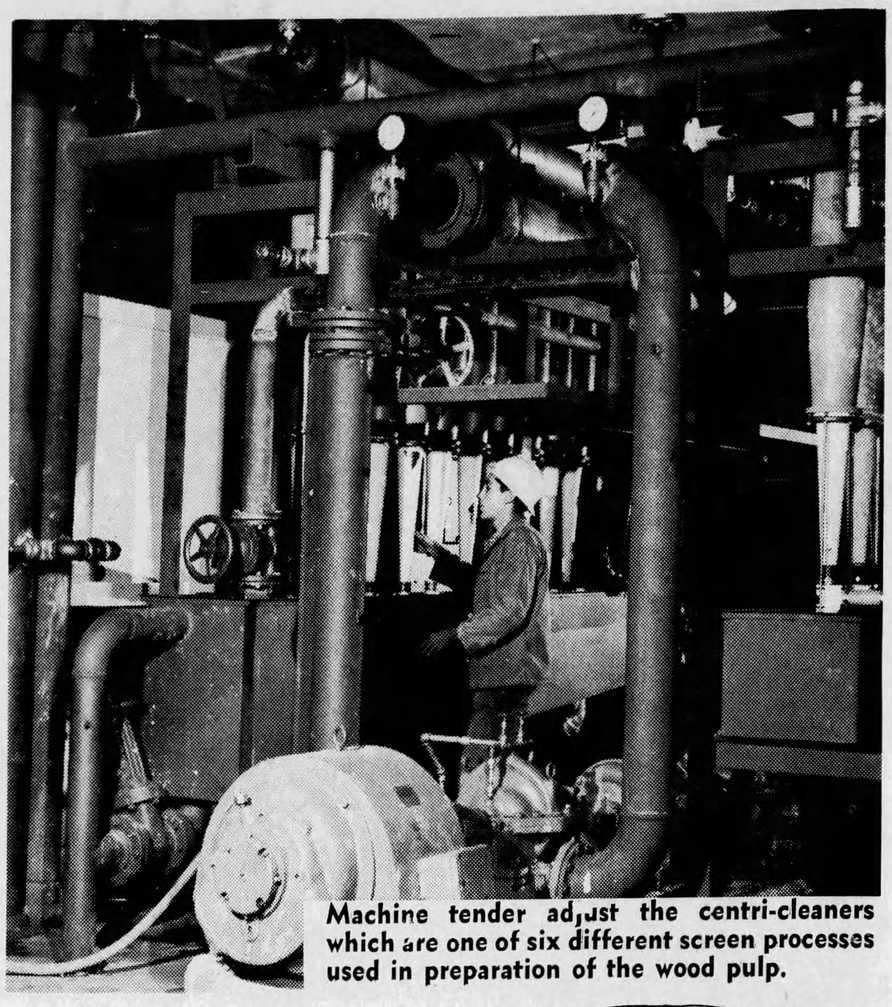
International Correspondence School courses in pulp and paper making launched Phillips in the paper field. He was graduated from Chester High School in Chester, Pa., and was born in nearby Philadelphia March 21, 1913.

After high school Phillips worked for Scott Paper Co., then Camp Manufacturing in Franklin, Va. At the latter he started as a back tender and left as Assistant Paper Mill Superintendent.

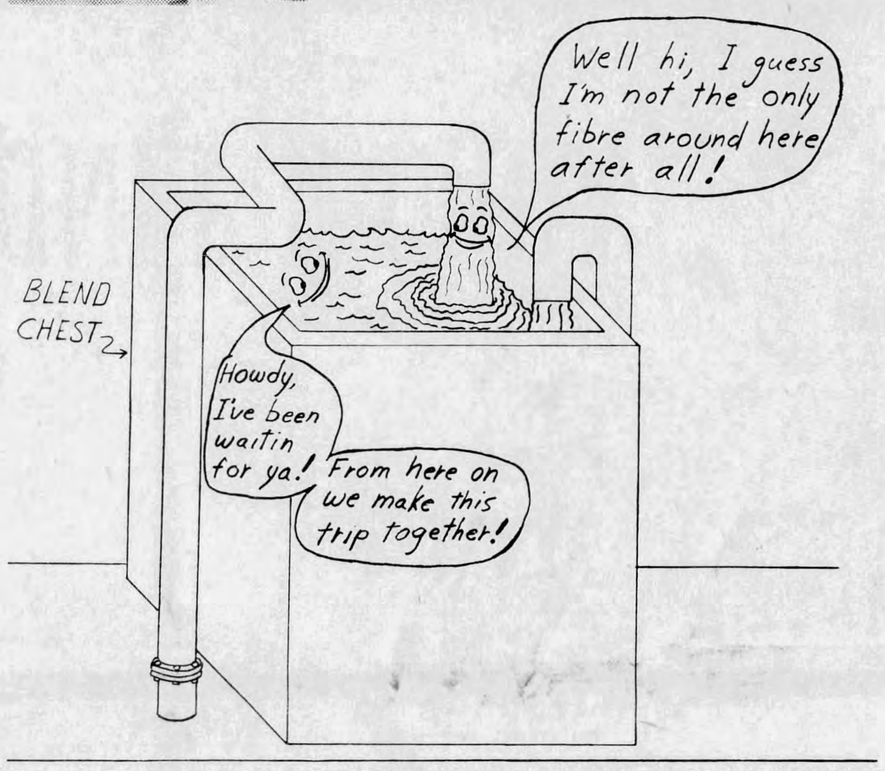
From Hudson he went to Columbia Paper Co., Vancouver, Wash., where he was mill superintendent. Following that he accepted a position with Publishers Paper Co., in Oregon City, Ore., and came to Ponderosa June 15, 1965.

He is married and his and his wife Flora's two sons are also employed at Ponderosa.

As a tour foreman, Phillips is responsible for the operation of the paper machine, quality and production on his shift.



Machine tender adjust the centri-cleaners which are one of six different screen processes used in preparation of the wood pulp.



Enjoyment of Future Generations

Paper Makers Cultivate, Improve Nation's Forests

Wood built America. The cabins, the fences and bridges and barns, the railroad crossties, the riverboats, the fires that warmed and brightened the nights, even the very tools that our forefathers used to surge across the forests blanketing the new world were hewn from wood.

As Man swept westward, ever extending his frontiers, forests were cleared, farms stretched toward the horizon and great cities grew where once there had been trees. The sound of ax against tree was the sound of a nation being born.

In the drive to create a nation, America cut as it went. Wood was everywhere. There was neither time nor inclination to replenish this seemingly endless natural resource. But eventually the settlers came to the Pacific, and the new republic paused to reflect.

A second look at the growing timber industry led farsighted men to an important conclusion: even though there was still an abundance to timber, the need for more was mounting—especially in the ever-expanding paper industry. There would have to be a constant source of new trees.

Today, even though it comes as a surprise to most people, more trees are being grown in this country than are being used. Efficient and scientifically managed programs are protecting our existing forest lands and replanting or reseeding those which have been harvested.

Paper men began to think in terms of forest management as early as the turn of the century, to view trees as a crop to be harvested and carefully replanted. Scientific forest research indicated that the dense, static forests of early America actually grew very little new wood each year. It showed that much faster growth could be attained by the cutting away of old timber, permitting sunlight to reach the seedlings and enabling the natural forest cycle to operate more freely. Out of this research developed a program of modern forestry management.

Today we have a healthy balance between wood supply and demand in this country through a scientific program of careful cutting and replacement. Beyond the total replacement of trees, however, millions of dollars of private capital are being invested in research to unlock the secrets of the tree, to—in affect—develop a science of growing super trees, trees with improved fiber characteristics which will grow taller, faster and straighter. Such development begins in the forest with the location and selection of superior trees and continues through a fascinating process of grafting branch tips from these outstanding trees onto established root stocks. The grafted trees are matured in seed orchards and themselves cross-pollinated to produce an even stronger generation of trees.

Great emphasis is being placed on new, efficient methods of growing trees and manging timberlands.

Giant-toothed drum choppers chew up roots and forest undergrowth to prepare land for the planting of seedlings.

Two-man machine planters plant up to 1,000 seedlings an hour. Seeding by plane, and more recently by helicopter, is becoming common practice. Multi-purpose, mobile machines clear land and grade access roads. High-powered chain saws have replaced the ax.

A self-propelled, self-contained tree harvester—operated by one man—can delimb, top, and sever a 60-foot tree in less than a minute. The giant machine then bunches or stacks the "sticks" and moves on to a new stand. Another machine collects and moves them to a central collecting point where they are cut into pulpwood lengths ready for the mill.

The paper industry is helping to maintain America's forest bounty in many ways. It annually invests thousands of man-days to provide forestry consulting services and aid to tree farm programs that include the distribution of seedlings to hundreds of thousands of other private tree farmers. The industry is in the forefront of the battle against natural enemies of woodlands—fire. insects, disease—that destroy more wood in an average year than is consumed by all of the country's wood pulp mills.

Research in the control of diseases and insects never ceases. A nationwide pest control program has been undertaken through the cooperative efforts of the government and the forest products industry. Along with state and federal governments, the pulp and paper industry has helped spot fire towers throughout major forest areas, with fire-fighting crews on the alert during the most dangerous months.

More than 96 percent of the lands owned by the forest industries are open to hunting, fishing and other outdoor activities. As a matter of fact, many of these areas would be unavailable to the American public if it were not for the forest roads built by the industry.

There is more to sound forest management than just to provide a source of raw materials; recreation facilities are considered, as is the wildlife which abounds in the forests.

Paper industry forests are alive with activity, providing for the needs of the great modern mills and the shining laboratories which have been developed to meet our nation's demands for paper products.

The construction of roads and drainage systems, the thinning of old stands to let in sunlight to promote faster growth, the marking of trees to be left as seed producers, the planting of seedlings—these are all a part of the pulp and paper industry, as much a part as the cutting and harvesting of trees for pulp.

America's woodlands are filled with the sounds of a nation growing.

Jameson
MACHINE SUPPLY inc.

We are happy to have been of service as power transmission specialists to

PONDEROSA PAPER PRODUCTS

Plant: Lewiston, Idaho

Quality Fourdrinier Wires
since 1904

CONGRATULATIONS

We wish you a successful future and will do our utmost to warrant your continuing confidence.

THE Lindsay WIRE WEAVING COMPANY

Represented by George P. Wennes, Jr.
Oswego, Oregon

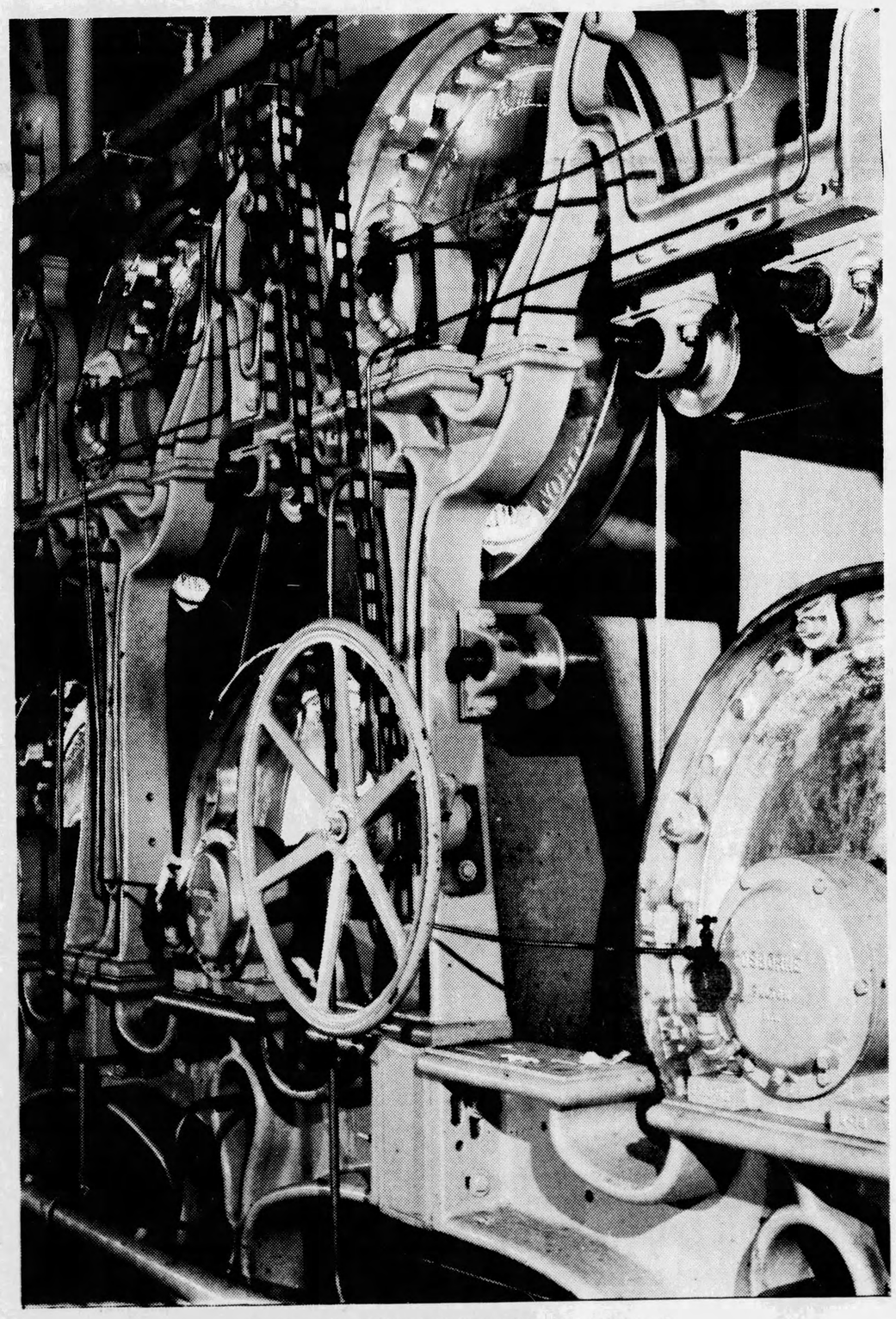
SECTION
B
November 1965

A SALUTE TO FLAGSTAFF'S
NEWEST INDUSTRY

PONDEROSA PAPER PRODUCTS

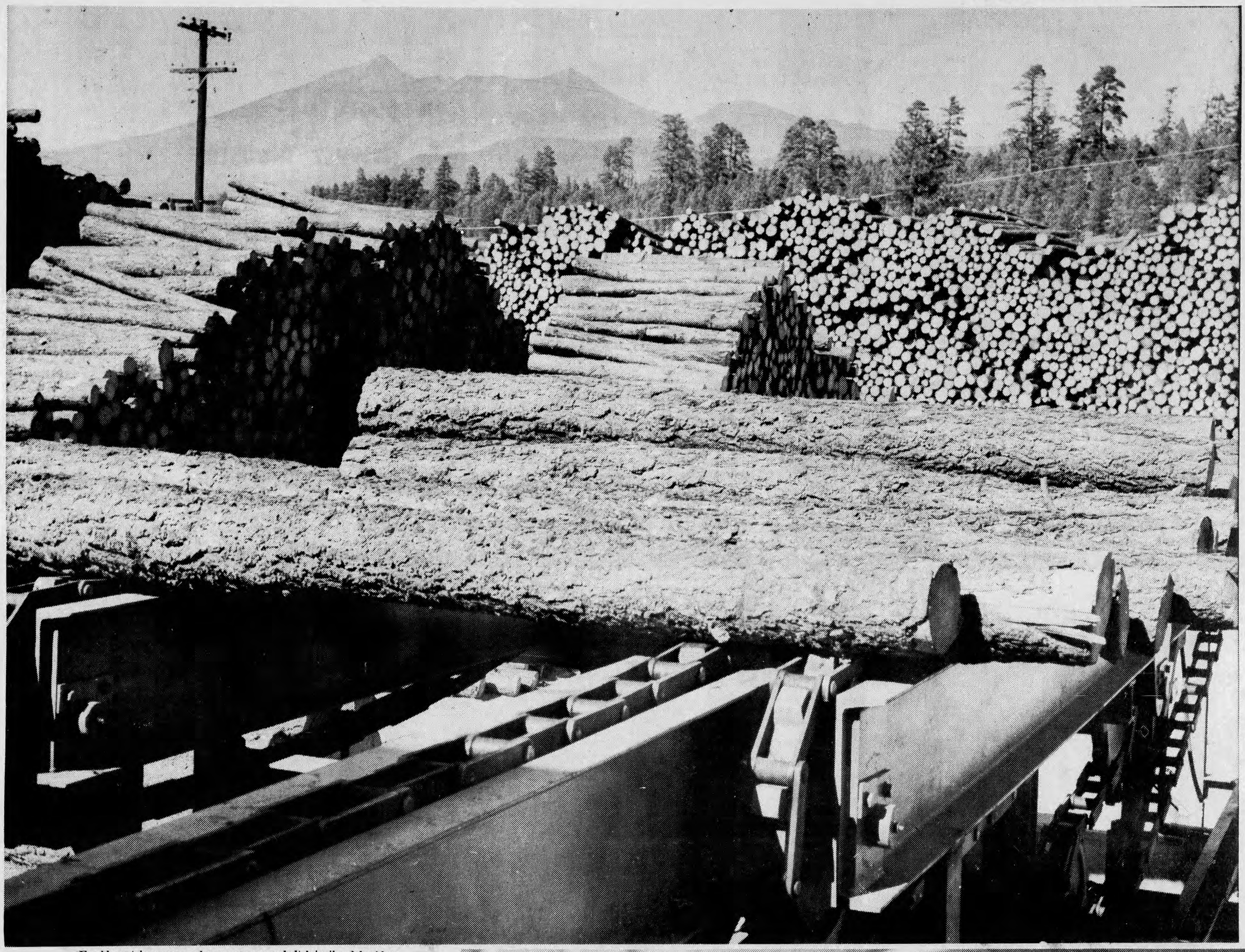
THE STORY OF PAPER

FROM THE FOREST TO THE KITCHEN



Gears, chains, drives and drums form the pattern of machinery in motion on one of the huge driers in the final process of making paper at Ponderosa.

Arizona Daily Sun



Freshly cut logs move along a conveyor belt into the debarking machine where they will be stripped and moved to the cutting tables. In the background huge stacks of logs spread across the log yards where the pulp wood is stored for use during the winter months. All logs were cut by Neill and Breslau from the surrounding areas in the Coconino Forest.

CONGRATULATIONS

PONDEROSA PAPER PRODUCTS, INC.

We of PBSW Office Products Co. congratulate and welcome Ponderosa Paper Products, Inc. to the productive economy of the Flagstaff area.

It was our pleasure to have been chosen to equip the new offices of the Ponderosa Paper Products with desks, chairs, files, typewriters and drafting equipment.

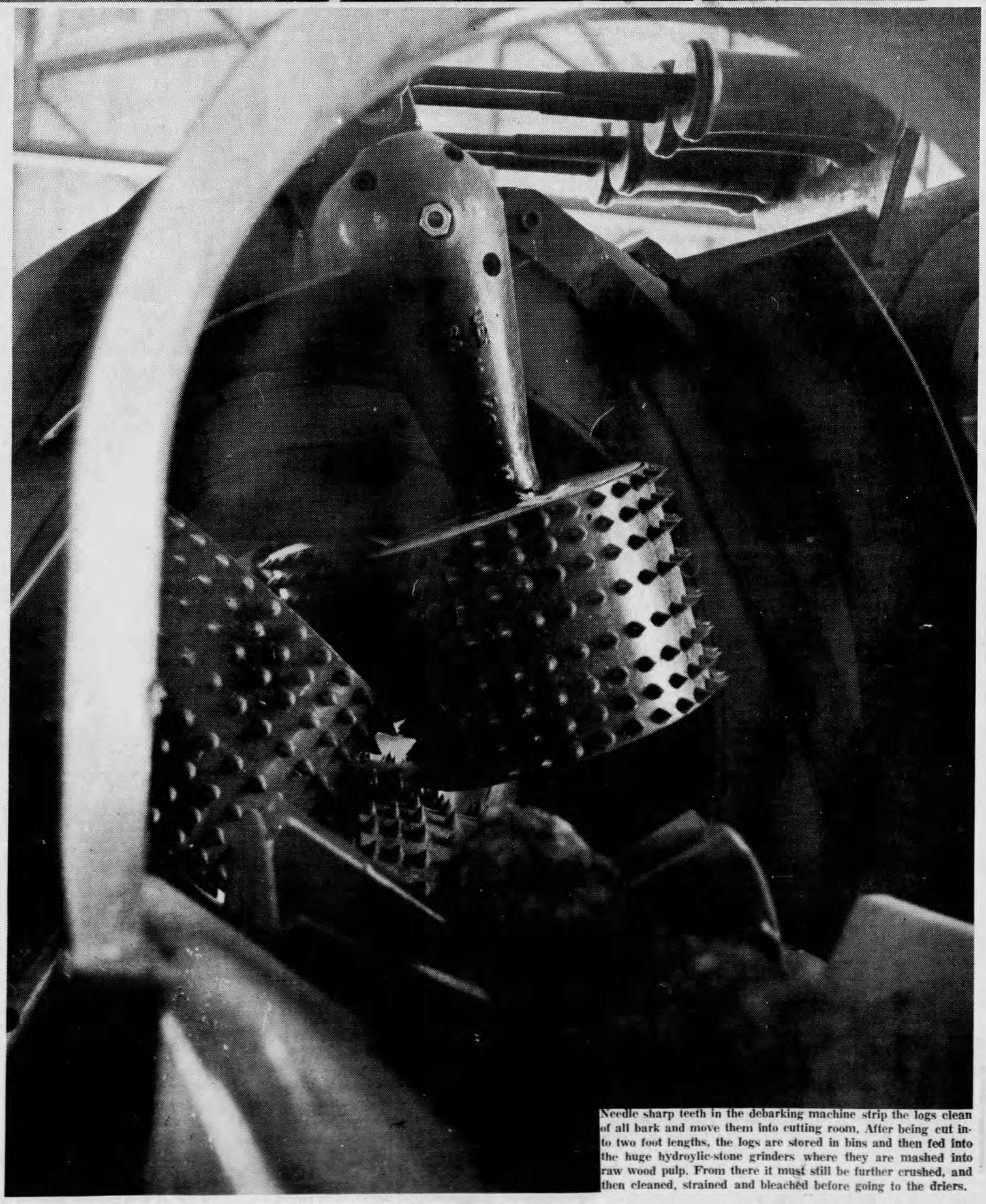
PBSW

OFFICE PRODUCTS COMPANY

"Complete Office Outfitters for No. Arizona"

Across From City Hall — Downtown Flagstaff

PHONE 774-6607



Needle sharp teeth in the debarking machine strip the logs clean of all bark and move them into cutting room. After being cut into two foot lengths, the logs are stored in bins and then fed into the huge hydroylic-stone grinders where they are mashed into raw wood pulp. From there it must still be further crushed, and then cleaned, strained and bleached before going to the driers.

SALUTING FLAGSTAFF'S NEWEST INDUSTRY

HARNESS
A
MILLION POUNDS OF
STEAM
PER DAY

PIPE
A
HALF MILLION POUNDS
OF
PULP

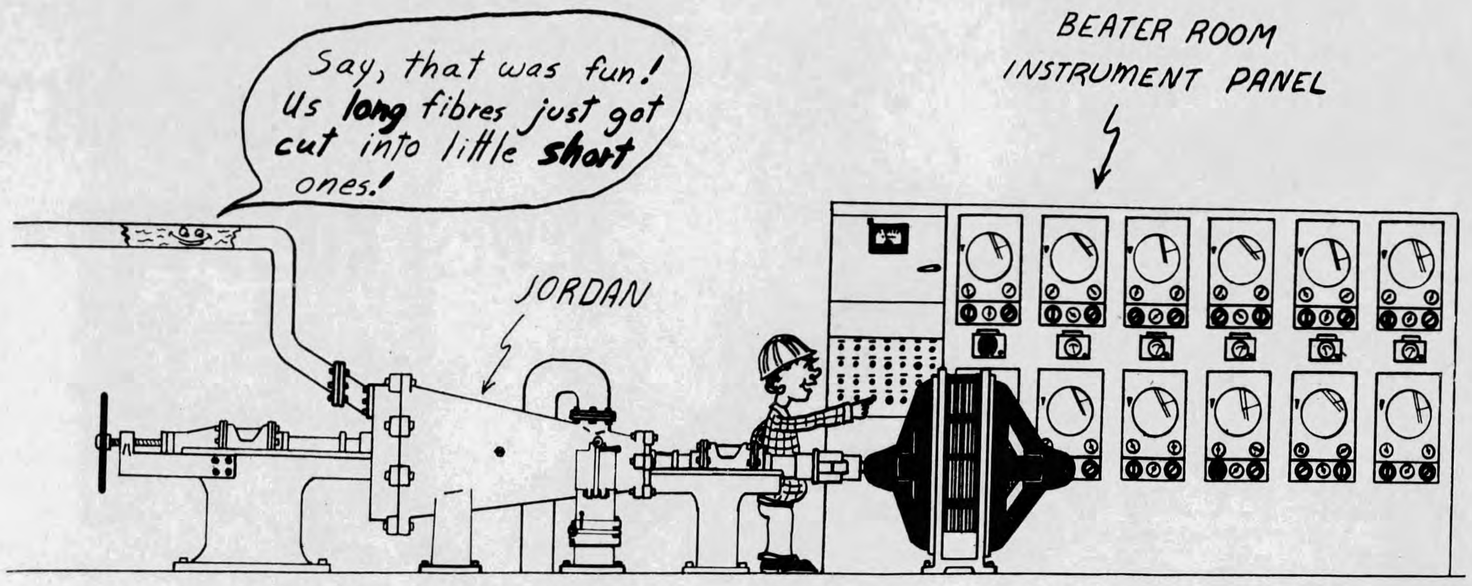
Prescription for Paper!

PLACE
6 Million Pounds
OF
MACHINERY
CONNECT STEAM
AND PULP LINES

AND YOU HAVE
PONDEROSA
PAPER
PRODUCTS

WE ARE PROUD TO HAVE PERFORMED THESE
SERVICES FOR PONDEROSA PAPER PRODUCTS

J CARNER CO.
MECHANICAL CONTRACTORS
17210 S. MAIN ST. GARDENA, CALIF.



Converts Pulp Into Final Product

Paper Machine Final Ponderosa Step

Pulp stock begins to form into paper on the giant paper machine at Ponderosa Paper Products in Flagstaff and at first looks like water.

The pulp stock and water mixture flows onto the endless wire from the bottom of the head box through an opening, called the "slice".

As this mixture travels along the wire the fibers are knitted together, forming the sheet of paper, and at the same time water is being drained through the wire into the wire pit.

The formed sheet then travels across a series of suction boxes, where more water is removed from the sheet. After the sheet reaches the end of the traveling wire, it is picked up by a woolen felt, (which supports the sheet since it is not strong enough to support itself) and travels over a suction press, which removes additional water and smooths the sheet out.

This press consists of a bottom roll which is equipped with a suction box and a top rubber covered roll. This press is pneumatically loaded, and the pressure is approximately 200 pounds per lineal inch.

Upon leaving the suction press, the sheet travels over a 12-foot diameter Yankee dryer which contains steam at 75-pound pressure and a temperature of 320 degrees. At this point, the sheet is dried sufficiently so that it will support its weight, and a large oscillating knife called a "creping doctor," removes the sheet from the face of the dryer.

The sheet then travels through twenty-one four inch diameter after dryers for final drying of the paper sheet. The sheet then travels through a series of rolls, called a calendar stack (this can be compared with an iron), and gets its final finish.

The sheet is then wound up on a pope reel into rolls 122 inch wide and 60 inch in diameter.

These jumbo rolls are taken to a winder, at which time they are rewound into rolls of suitable widths and diameter for converting equipment.

The processed paper is then ready to be cut and set for shipment to the many outlets of Ponderosa.

The building itself in Flagstaff has a railroad spur coming right inside to facilitate loading completed products out of the weather and of course, unloading any raw materials the same way.

Also included is an outside spur-siding of the Santa Fe Railway and Ponderosa takes delivery of various chemicals to be used in paper making from tank cars.

Shipping and receiving is also done by truck and a special dock facilitates this part of the process at the giant Flagstaff mill.

Quality Control, Scheduling, Production

W. D. Henry Ponderosa Technical Head

Wilbur D. (Bill) Henry has the exacting job of technical supervisor-staff technical assistant to the general manager at Ponderosa Paper Products, Inc.

At Ponderosa, Henry will have the specific responsibilities of quality control, scheduling production and technical assistance to production personnel.

He came to Ponderosa from Lewiston, Idaho, where he was employed at Potlatch Forests, Inc., in their staff technical department for the past two years and in the research and development department for 10 years prior to that.

Immediately prior to coming to Ponderosa, he was instrumental in the startup of the Clearwater Tissue Mill, a Potlatch Forest Industries subsidiary.

Henry was born in Sparks, Nevada, and lived most of his life in Lewiston. He saw service during World War II and had four years of college at Washington State University, Pullman, Wash.

He was a member of several activities in Lewiston including the presidency of the Potlatch Federal Credit Union, a member of the City Planning Commission and chairman of the City Zoning Committee. He was also president of the Lewis-Clark Racing Association.

In Flagstaff, Henry is a member of the Technical Association of Pulp and Paper Industries, the Elks Lodge and the Flagstaff Chamber of Commerce.

He and his wife Mary have three boys, Tom, 11; Paul, 9; and Mike 6.

Saskatchewan Mines To Spur Potash Ranking

New York — Before the development in Saskatchewan of new mining techniques, authoritative forecasts put the United States first and Canada second in 1970 output of potassium oxide—an important ingredient in fertilizer production.

Now there's a chance Canada will be the world's leading producer of potash by then. The other major producers are Russia, West Germany, East Germany and France.

Athens Landmark Adds Cable Cars

Athens — Cable-car service from the street level to the top of Lycabettus Hill, a 1,000-foot Athens landmark, has just opened. Under construction two years, the railway runs in a tunnel beneath the surface so as not to mar the symmetry of the hill. It provides 15 to 20 trips an hour in cars carrying 30 passengers each. The round-trip fare is equivalent to 12 cents.

Albania Fails To Keep Trade In Balance

Munich, Germany — Albania's efforts to balance its international trade are hampered by the fact that 54 per cent of its dealings are in raw materials, according to a Radio Free Europe analysis.

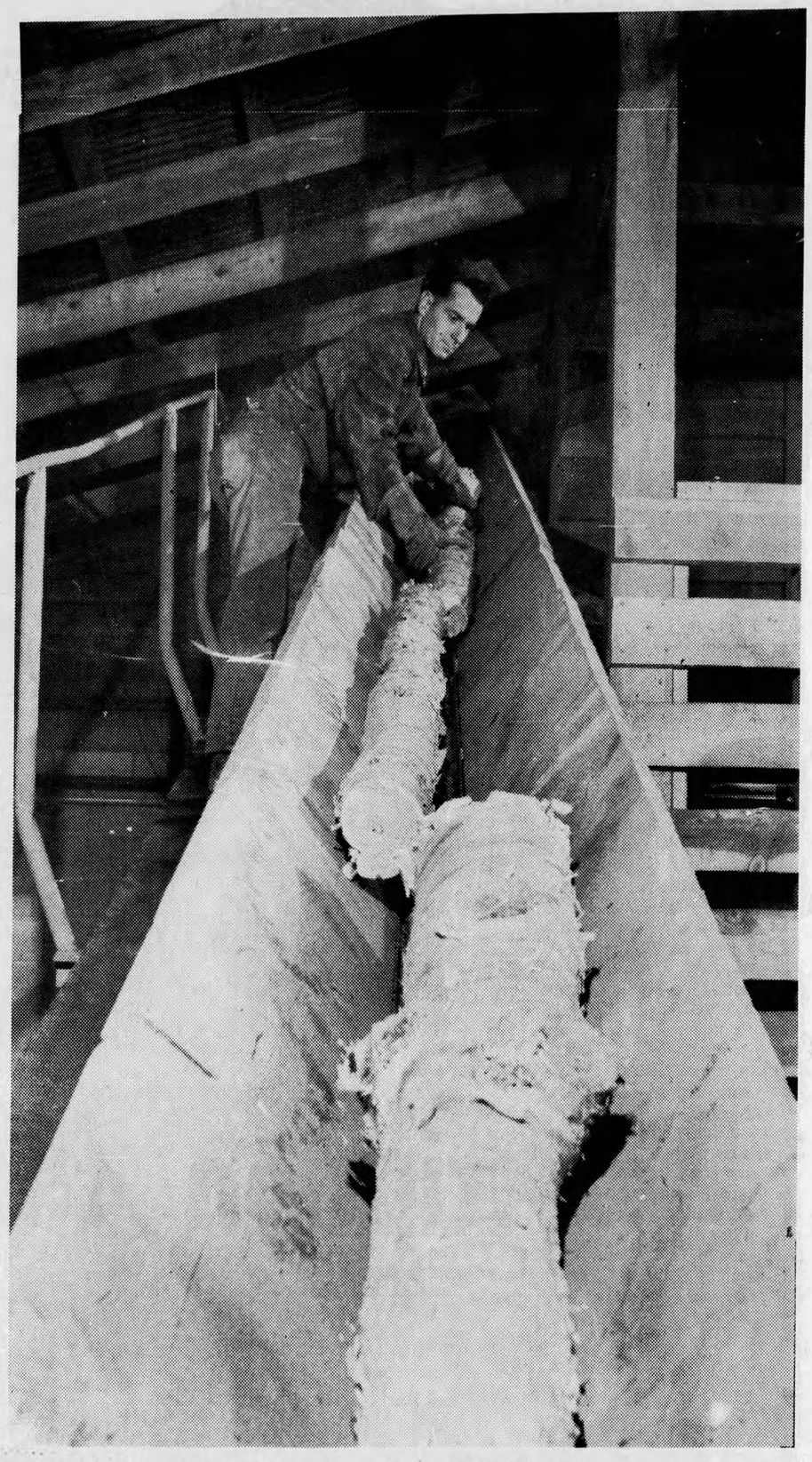
The Communist nation exports chrome ores at a profit; it is the world's fifth-ranking source. But lack of a strong finished-goods economy and its debts to Red China keep Albania poor.

Columbus' Kin Writes History

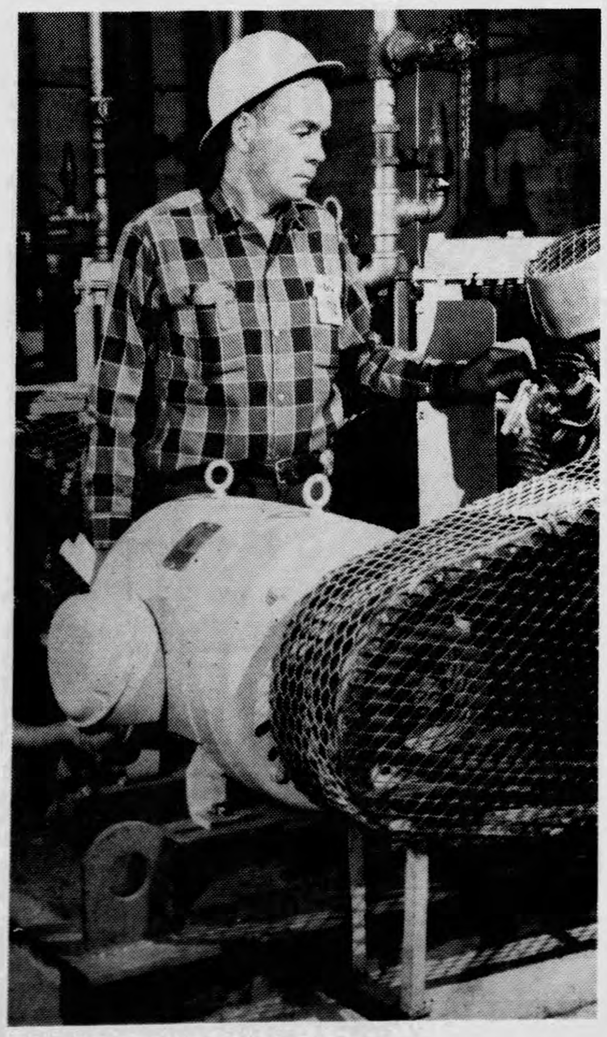
Madrid — Don Cristobal Colon y Carvajal, 17th Duke of Veragua and Marquis of Jamaica as well as descendant of and heir to Christopher Columbus, is writing a history of Jamaica. The island belonged for more than a century to the Dukes of Veragua.

The present-day Cristobal Colon was inspired to write the book by an abundance of documents piled up in his family's study. His history starts with Columbus' second voyage and ends with the capture of the island by the English in the 18th century.

The author served in the Spanish navy for 22 years and sailed in a dozen ships.



A wood room attendant checks over the uncut logs on the way to storage bins where they will be kept for later use.



Maintenance superintendent Clarence Poeling, inspects one of the compressor units in the boiler rooms that supply steam to power the paper driers.

Congratulations

TO

PONDEROSA PAPER PRODUCTS INC.

On Your New Plant!

WE ARE PROUD TO HAVE HAD A PART IN SUPPLYING THE WIRING FOR YOUR NEW PLANT!

Industrial Wiring Motor and Transformer Rewinding

RELIABLE ELECTRIC CO.

2530 WEST McDOWELL ROAD PHOENIX, ARIZONA

WISCONSIN WIRE WORKS

MANUFACTURERS OF

Fourdrinier Wires

Extends a sincere 'Thank You' to . . .

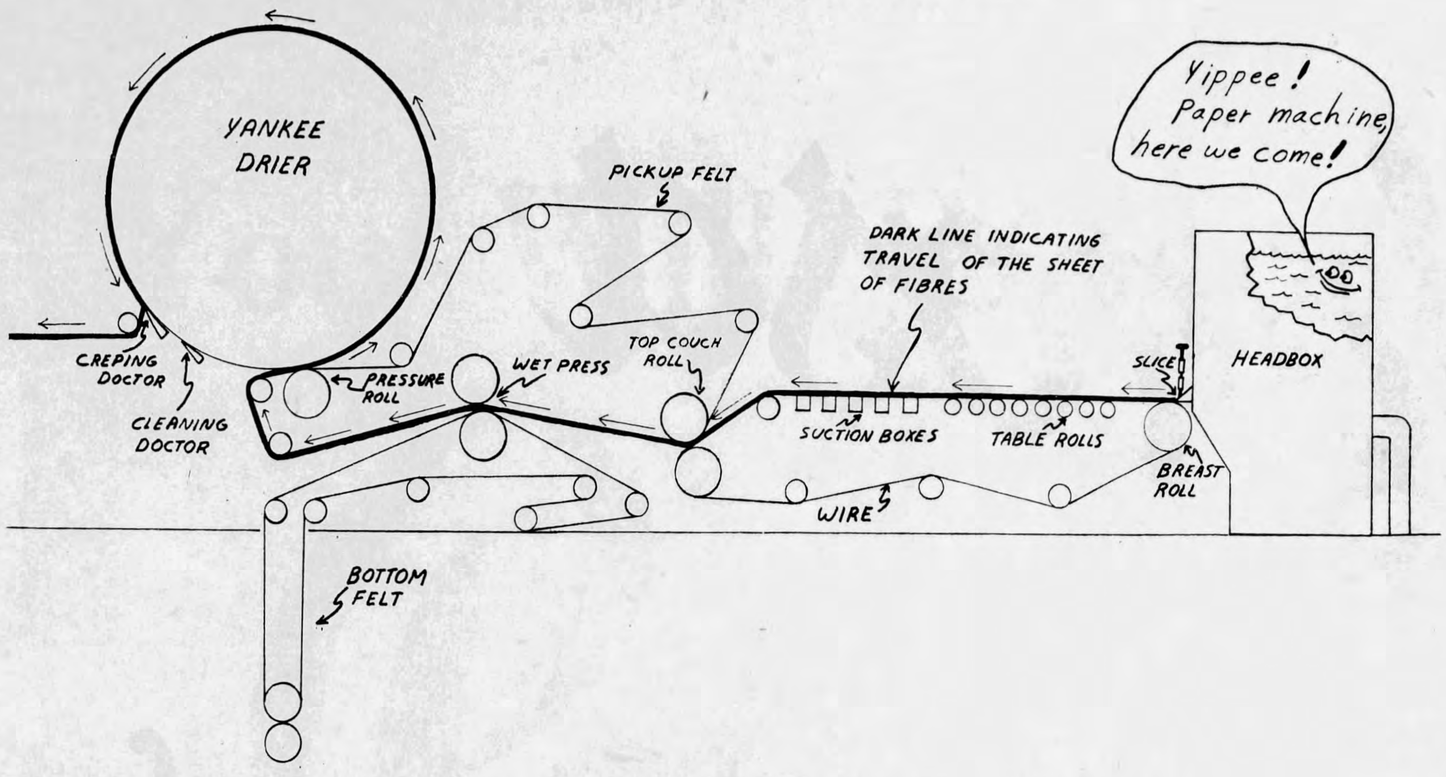
PONDEROSA PAPER PRODUCTS

. . . in allowing us to be of service in your new mill

Plants In

Appleton, Wisconsin Vancouver, Washington

Serving the Paper Industry Since 1900



Clarence Poeling and Dave Berry check the cutting tables where saws cut the debarked logs into two foot lengths. This is the final step before the logs are sent to the grinders where the actual manufacture of the wood pulp begins.

Provided by California Firm

Stainless Steel Marks Ponderosa Paper

Just about everything that moves in the pulp line at Ponderosa Paper Products in Flagstaff flows through gleaming stainless steel pipe work.

That piping — several miles of it all totaled up — and the storage tanks at the huge paper-making firm here, was supplied by the J. Carner Co., a California firm.

Carner's Flagstaff operation — one of two in Arizona at the present time — was headed up by Willis Porter, a Glenwood Springs, Colo., native. He directed some 100 men employed in various crafts in installing the stainless steel equipment in the Ponderosa plant, also.

Carner provided piping ranging in size from one-quarter-inch through 10-inch. About 40 percent of this, Porter said, is stainless steel. Several miles of steam piping is also included in the Ponderosa plant, also.

Several storage tanks are of stainless steel. These have aluminum piping in some cases for hydrogen peroxide use and Porter noted that one of the tanks is lined with fiberglass.

Carner worked as a subcontractor to builders Manhattan-Dickmann and in addition to the piping, set all machinery in the new plant.

At the same time the firm is doing extensive work on the Spreckles Sugar plant near Chandler.

The plumbing and heating system at the Los Angeles International Airport Hotel is their work and they have worked on a number of missile sites at Vandenberg Air Force Base, Calif.

The firm's home office is located in Gardena, Calif., and is headed by John Carner . It has been in business for seven years.

At present on jobs throughout the country and include work at Cape Kennedy. In the missile line they have recently completed work with North American Aviation on part of the Saturn 2 to test that launch vehicle. They also offer any type of engineering on high pressure work.

At Ponderosa in Flagstaff

Richardson Paper Mill Supervisor

Operation of the giant paper machine at Ponderosa Paper Mill in Flagstaff will be the prime responsibility of Joe L. Richardson, recently arrived here brom Boise, Idaho.

As paper mill superintendent in Flagstaff, Richardson is responsible for the operation of the paper machine, quality, production and cost. He will also be in charge of the three tour or shift foremen.

Richardson was born July 31, 1931 at Vancouver, Wash., and he and his wife Darlene have four children including Brenda, 13; Mike 12; Joelene, 11; and Keith, 8. He was educated at Vancouver High School.

At 14 years of age, Richardson began working for the Washington State Forest Department during the summers in the conservation department. He worked there until he was 18, and then on a suggestion, began his career in the paper industry. there until he was 18, and then on a suggestion, began his career in the paper industry.

From March, 1950 to Nov., 1956, he worked for Crown Zellerbach in Camas, Wash., as a backtender on a tissue machine.

In July, 1963, Richardson was employed by Clearwater Tissue mills, again as a machine tender and also to help train the machine crew. During this time he was active in safety as a delegate to the safety convention four out of seven years in California. In April of 1964, he went to Boise Cascade Co., to train men for their new Kraft machine.

CONGRATULATIONS

PONDEROSA PAPER PRODUCTS

On Your Opening!

WE WERE HAPPY TO SUPPLY THE VALVES, FITTINGS, PIPE AND GAUGES FOR YOUR NEW PLANT!

CRANE® NORTHLAND SUPPLY CO.

22 South San Francisco 774- 6648 — Flagstaff

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We are happy to have been of service in the construction of your new plant and in helping the industrial and economic growth of Flagstaff

"SERVING ALL OF NORTHERN ARIZONA"

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ESTABLISHED 1889

LUMBER DEPARTMENT
Complete Lines of:
Paint • Hardware • Lumber
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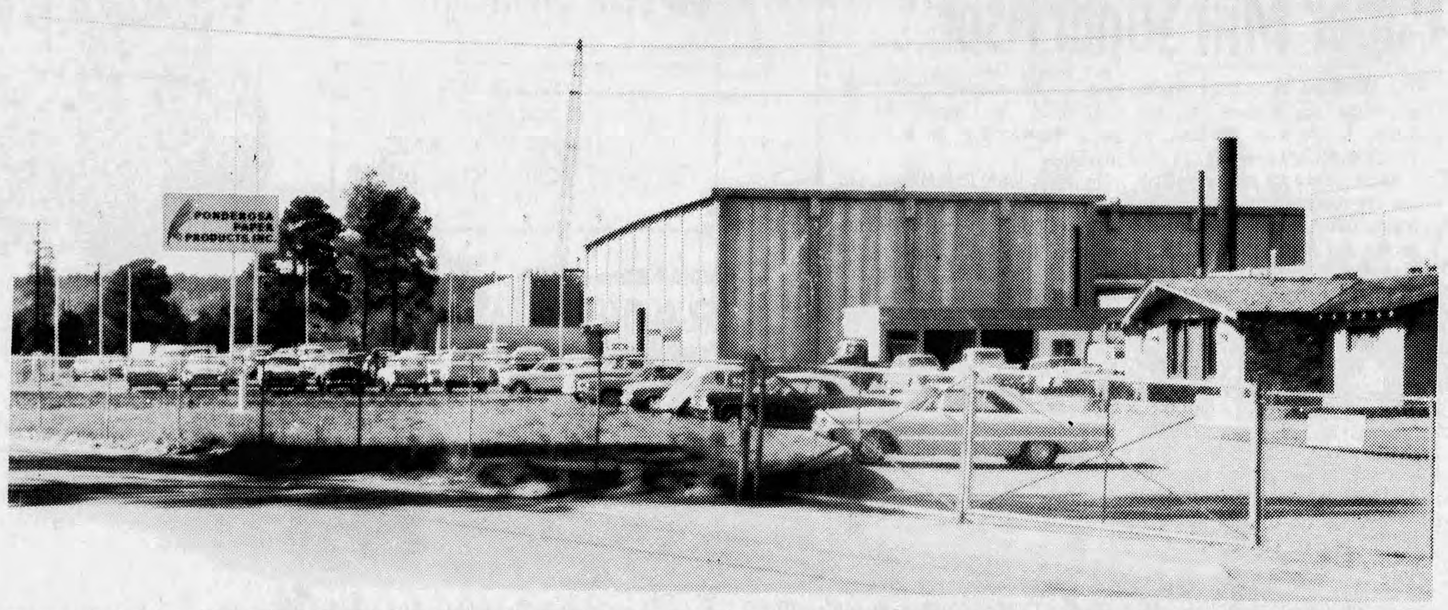
Ponderosa

Welcomes the Opportunity of... Being Flagstaff's Newest Industry

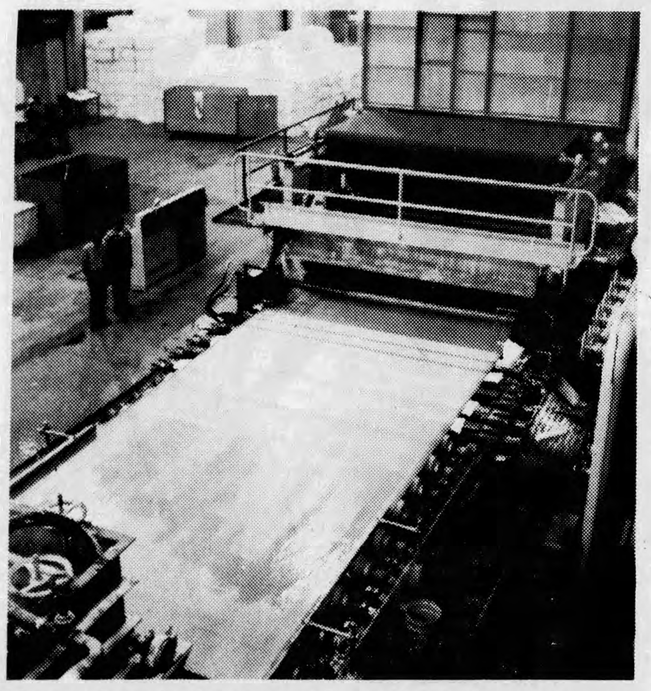


Front of the new Ponderosa Paper Products plant, located on Butler Avenue in the Flagstaff industrial park complex just south of Santa Fe Avenue.

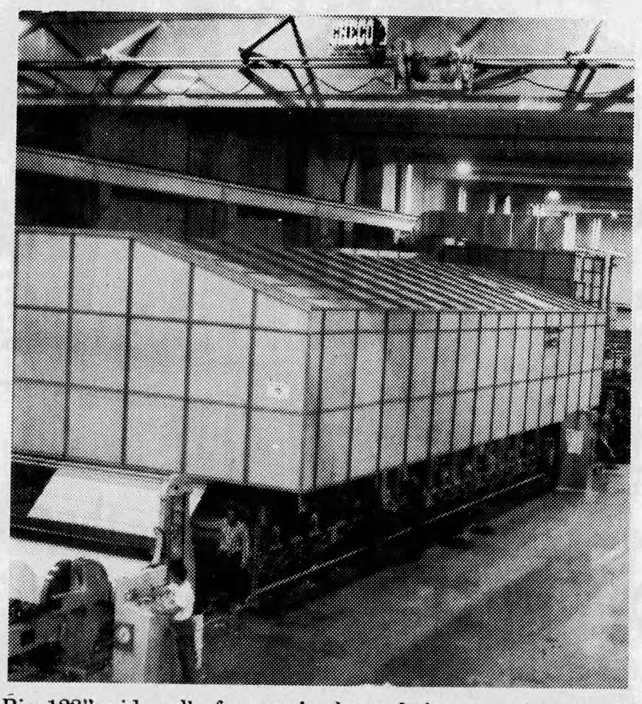
Americas Newest and Finest Paper Mill

Here in the heart of the ponderosa pine country you will find one of America's newest and most modern paper mills. Giant machines which produce over 20,000 tons of paper products a year . . . mile after mile of paper toweling, tissue and napkin stock. Here, too, you will find an industry that is a part of the growing Flagstaff scene.

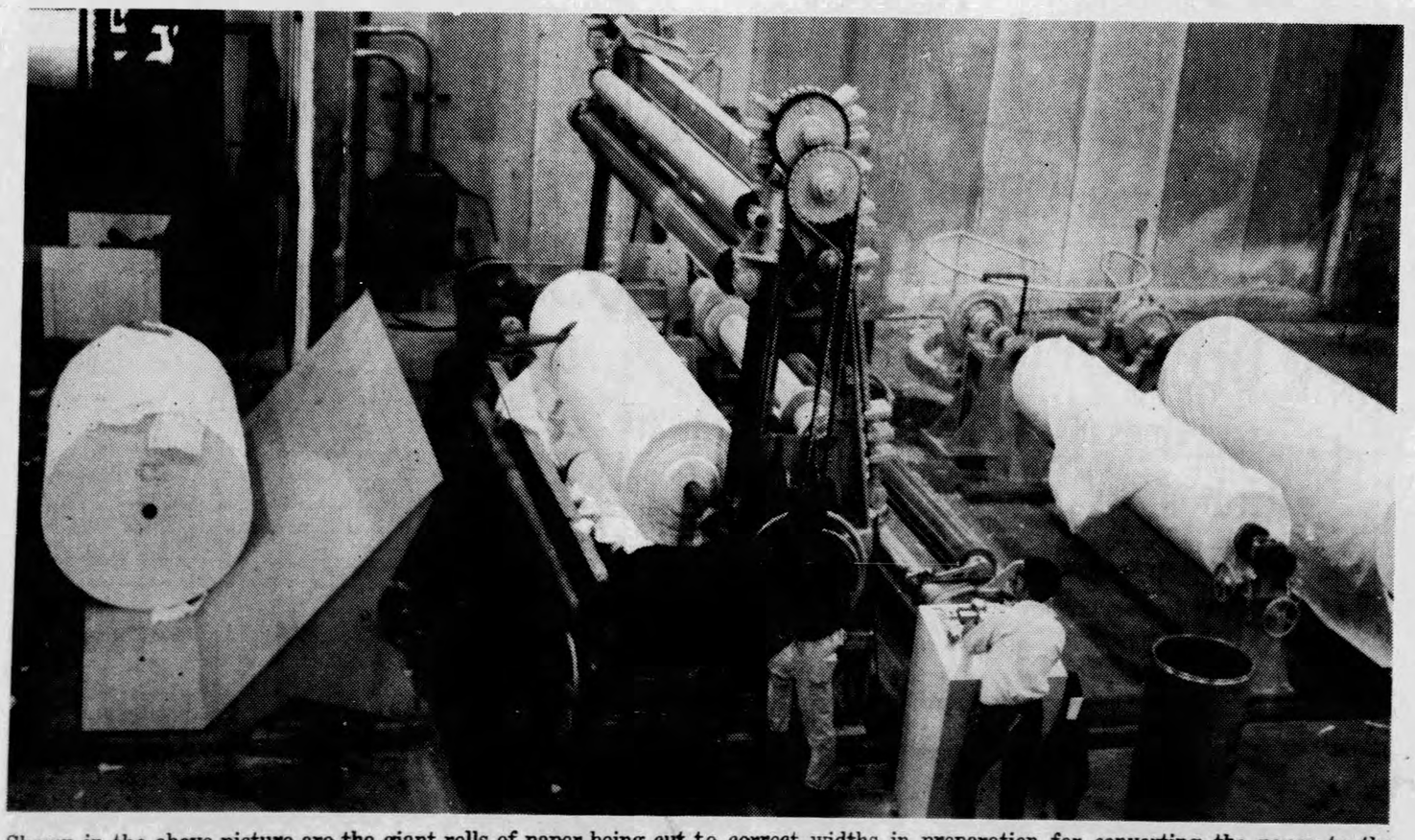
Watch for information regarding specal tours that will be available through Flagstaff's newest paper mill.



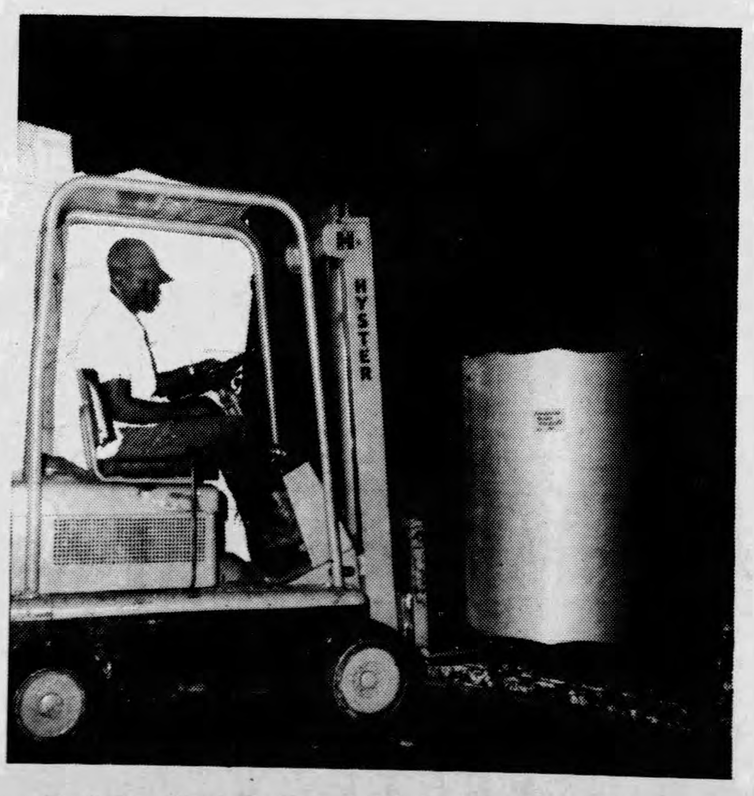
Shown above is the paper pulp as it travels across a continuous 70 foot wire where the initial forming of the sheet of paper takes place.



Big 122" wide roll of paper is shown being wound on a roll, 60 inches in diameter. This process takes place after the paper has passed through 24 dryers.



Shown in the above picture are the giant rolls of paper being cut to correct widths in preparation for converting the paper to the final product.



Ponderosa Paper Products being loaded into cars to be shipped to converter plants throughout the United States.

You Will Welcome Ponderosa Tissues and Towels To Your Home

Soft as the Whisper of the Pines

Look for colorful Ponderosa Paper Products in your favorite stores.

Look for the colorfully wrapped packages that say "Ponderosa — Soft as the Whisper of the Pines."

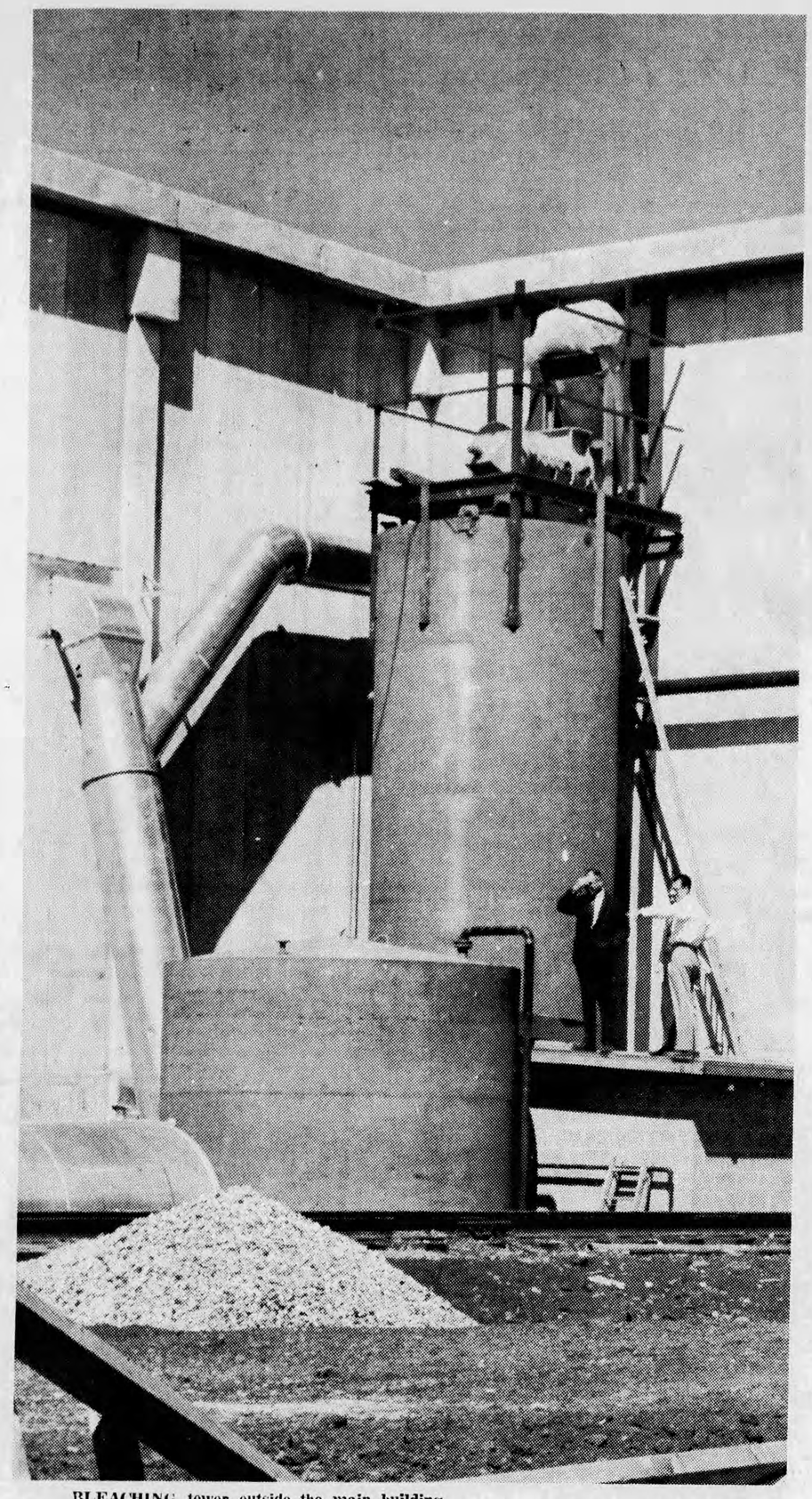
Mountain woods, mountain waters and mountain air combine in a magic formula to bring you toilet tissues of luxury softness and towels with extra strength and absorbence to keep them strong even when wet.

Both towels and tissues come in an array of attractive decorator colors.

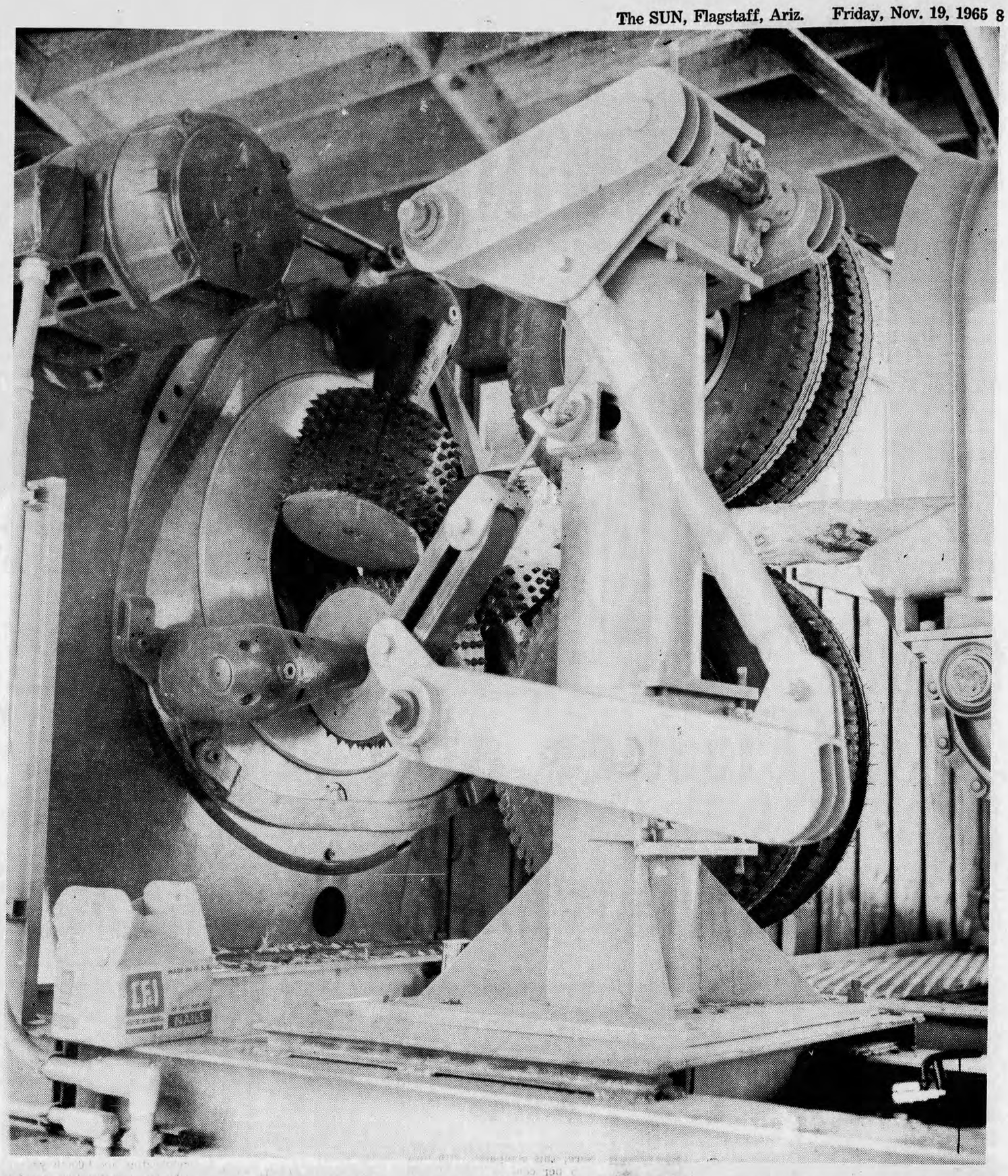
Fresh from the Mills at Flagstaff

Ponderosa papers do not lose their fine qualities in shipment or storage. They come to your bath and kitchen FRESH from the mill here in Flagstaff.

See them at your store. Try them in your home. Your whole family will approve Ponderosa Paper Products.



BLEACHING tower outside the main building bleaches the ground wood white before it moves through the various coloring and dyeing processes.



The debarking process which strips the logs clean of all bark is the first of many sages in the manufacturing of a completed roll of paper. A huge supply of logs, cut from the Coconino National Forest, has been stored for use during the winter months.

Women Teachers Older

Washington—The typical American woman schoolteacher is 44 years old; her male counterpart, according to census figures, is 37.

Donald T. Keller Heads Up Giant Ponderosa Operation

Banker's Life and Casualty Co., retained Donald T. Keller on March 1, 1964 to head up their new Arizona operation — Ponderosa Paper Products Co., as general manager.

Keller comes into the key Flagstaff position with some 35 years of experience in papermaking and related areas.

Married, he and his wife Marjorie have two children, Gail, 20 and Daniel, 12.

Keller was born Jan. 13, 1914 at Florence, S.C., and completed his formal education at Louisiana State University, Baton Rouge.

Then from 1930 to 1934 he served in the U.S. Merchant Marine Service, securing a marine engineer's license.

He began his paper career in 1934 with the International Paper Co., Panama City, Fla.; Georgetown, S.C.; and Springhill, La. He was with this firm until 1939. From 1940-42, he was an engineer on the west coast for Boiler and Machinery Insurance Co.

He entered the U.S. Naval Reserve as a lieutenant in 1942 and when he came out in 1945 he was a commander.

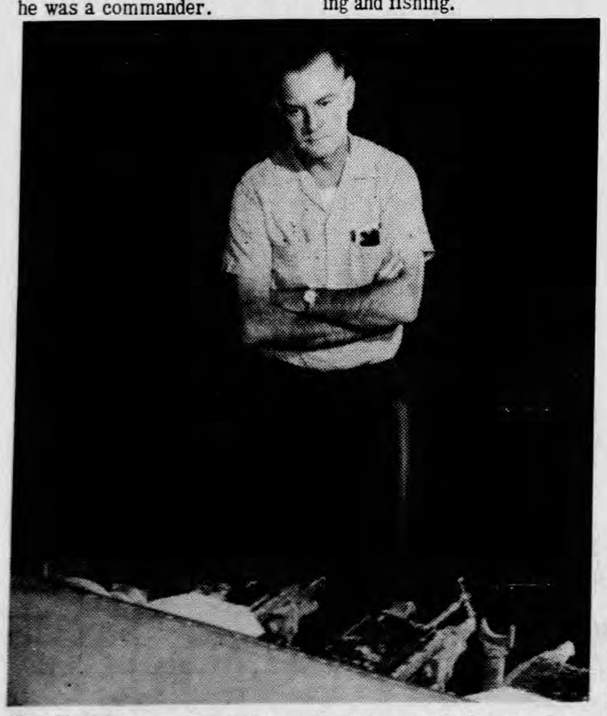
In 1947 he was plant engineer with St. Helens Pulp and Paper Co., at St. Helens, Ore.

In January, 1951, Keller transferred to Potlatch Forests, Inc., as assistant general superintendent of pulp and paper and also served as resident engineer on that firm's 1952-53 construction program.

In 1955 he was placed in charge of pulp mill production as assistant general superintendent and in February 1959 promoted to assistant manager. Then in May of that year he became general production manager, a position he retained until February, 1963.

Following the Potlatch position, Keller went with Parsons and Whittemore Inc., New York and was assigned to an Argentine Project, where the firm was erecting a 100 - ton - a - day bleached craft mill. He and his family lived in Buenos Aires for a year.

Keller's professional activities include membership in the Technical Association of Pulp and Paper Industries and in the Paper Industry Management Association. His hobbies are hunting and fishing.



Don T. Keller, general manager, inspects a newly formed sheet of paper on the Fourdrinier Wire.

THE CHEVRON ABOVE ALL MEANS "SERVICE"

CONGRATULATIONS

To

Don Keller & Associates

Of The

PONDEROSA PAPER PRODUCTS CO.

On the Opening of Your New Plant Here In Flagstaff

WEBBER BROTHERS OIL COMPANY

Standard Oil Distributors

Since: 1942

O. E. WEBBER — G. M. WEBBER

Elmer Hubbard, Jr., Mgr.

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CONGRATULATIONS to PONDEROSA PAPER PRODUCTS

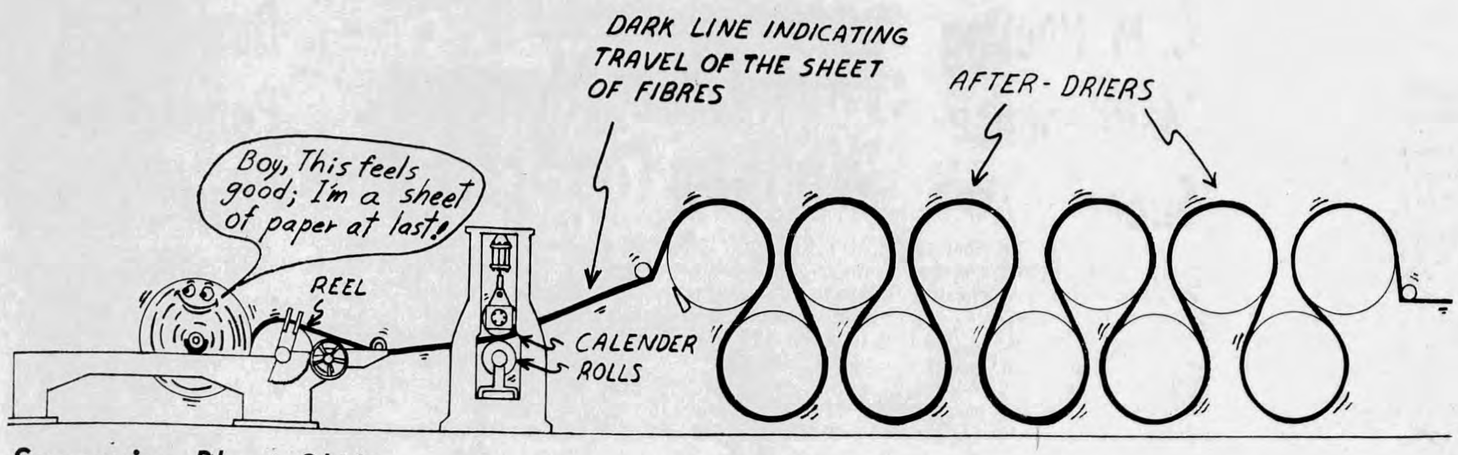
on the completion of your fine paper products facility in Flagstaff

•

We are pleased to have supplied SPECIALTY VALVES during construction

HILTON PRODUCTS

Seattle, Washington



Supervise Plant Shifts

Harrison, Woods 'Tour' Foremen

Elgie H. Harrison is another of the tour foremen at Ponderosa Paper Products, Inc., newest Flagstaff industry.

Born Sept. 14, 1935, Harrison was educated at Brentwood Union High School, Brentwood, Calif., and began his paper industry career in 1953 as a fourth hand for the Fibreboard Paper Products Corp., Antioch, Calif.

He moved to Crown Zellerback in Antioch in 1957 as a machine tender in the tissue department where he remained until Jan., 1964.

From February 1964 to June 1965 he was a winderman at International Paper Co., Gardiner, Ore. He accepted a tour foreman position this year with Ponderosa.

Harrison was raised in an area where the biggest industry was paper, and terms it natural that he gravitated into that industry. The excellent opportunity presented by Ponderosa drew him to Flagstaff.

His hobbies include water skiing, golf, bowling and reading.

As Ponderosa tour foreman, he is responsible for the operation of the giant paper machine and the quality and paper production for his shift.

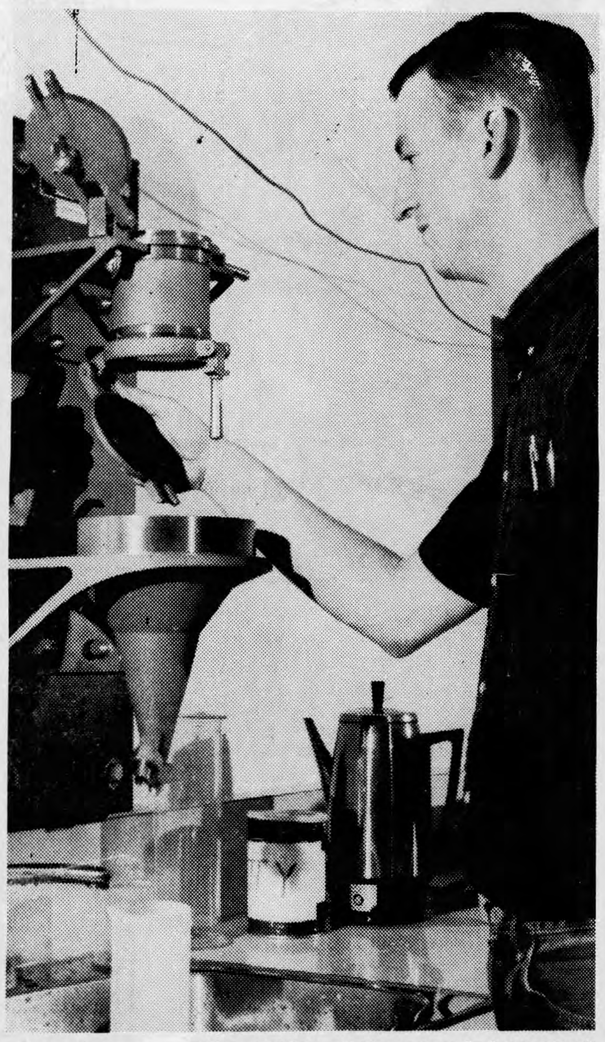
Ponderosa Paper Products' Tour Foreman W. A. (Slim) Woods was born March 2, 1914 at Jonesboro, La., and received his education through Louisiana Tech, Lasalle Extension of the University of Chicago and Penn State University Extension.

Woods lists his beginning in the paper industry with St. Regis Paper Co., as a machine tender.

In 1955 he went to work at the D.M. Bare Paper Co., Roaring Springs, Pa., as paper mill superintendent. From 1958 to 1961, he worked with Marathon Southern Corp., at Butler, Ala., as tour foreman and remained there until he came to Ponderosa on June 15, 1965.

Woods liked the idea of the size of Ponderosa and welcomed the opportunity to grow with the company. He also likes the location of Flagstaff.

As tour foreman, Woods is responsible for the operation of the huge paper machine, the quality and the production of the paper on his shift.



Leonard Loper, quality technician, checks a sample from one of the paper rolls off the machine.

That's Ponderosa Paper Mill

No Polution, Very Little Odor!

In answer to considerable speculation regarding air polution and odor from the new Ponderosa Paper Products plant in Flagstaff, company officials noted today that the only odor associated with the local operation will be a slight smell of fresh pine wood being cut, similar to any pine lumber operation in the immediate Northland vicinity.

There will be no smoke, nor other objectionable gases emitting from the mill, only a small amount of water vapor from the paper machine exhaust hood which dissipates itself in approximately 15 feet.

Any water effluent from the mill is entirely harmless, and the Ponderosa mill expects to utilize a portion of this effluent for irrigation of its yard lawns.

There are no toxic or harmful materials used in Ponderosa's operation.

As a matter of fact, by the time this article appears in the Daily SUN, the City of Flagstaff will most probably have experience a period of the mill's operation.

In order to drive the paper machine, it is equipped with a 400 horsepower steam turbine, directly coupled into a line shaft, which in turn is belted to various sections of the paper machine. To supply steam, at 250 pounds per square inch pressure, the plant is equipped with a modern steam plant. This consists of a 45,000 pound per hour boiler, supplied by Babcock and Wilcox Co., and generates at 250 pounds pressure. This steam is supplied to the steam turbine, with the turbine exhaust at 75 pounds pressure, and this exhaust steam is used to supply the necessary requirements for the paper machine dryers, supplemented by a steam pressure reducing station. The condensate from the dryers is discharged into a flash tank. Then it is pumped to the boiler room, where it enters a direct water heater.

Besides the boiler, which is completely automatic, and the deaerater, other equipment in the boiler room consists of a water softener, three air compressors, and a continuous blow down heat recovery system.

More Travel For Fun

New York—Of the reasons for travel given by persons leaving and arriving in the United States, pleasure is by far the most frequently mentioned. Last year 64 per cent of the Americans who went to Europe listed pleasure; this compared with only 47.5 per cent in 1957. Almost 75 per cent of the foreigners visiting the United States in 1964 came here for pleasure; in 1957 less than 60 per cent listed pleasure.

Children Skip Breakfast, Study Finds

Iowa City, Iowa—A study of more than 2,000 schoolchildren by medical researchers here found nutritional levels too low. Many of the youngsters avoided breakfast and ate no citrus fruits at all.

At lunchtime—except for those taking part in school programs—the fare was carbonated drinks, French fries and sweets. The typical dinner featured meat, potatoes and milk, but not enough vegetables and salads.

Religious Images Kept

Munich — A Russian sociologist recently visited 152 workers' homes in the Soviet Union, Radio Free Europe says. He reportedly found religious ikons in 64 of the apartments.

Abbey Is 1,000

Mont St. Michel, France — The historic abbey here is celebrating its 1,000th year in 1965-66. Construction actually began in the Eighth century, but the construction that stands today began in the winter of 965-966.

Arizona State College Grad General Managers Secretary

Kay A. Pemberton is secretary to Donald Keller, Ponderosa Paper Products general manager.

Mrs. Pemberton was born April 3, 1942 in Binghamton, N.Y. and was graduated from Benson Union (Ariz.) High School and later from Arizona State College with a B.S. in Education in 1965.

Work experience for Mrs. Pemberton began at the J&M Grocery in Benson for eight years and with Saga Food Service on the ASC campus part time for four years.

After graduation, Mrs. Pemberton sought employment with Ponderosa "because the prospect of being on the ground floor with a company intrigued me and possibilities for advancement were greater." She joined Ponderosa March 2, 1965.

She is a member of Kappa Delta Pi, national education honorary and Secretary of Business and Professional Women. Her hobbies include swimming, bowling and reading.

Feeding Their Young

Birds feed their young in different ways. Some carry insects or fruits in their bills and drop the food into outstretched mouths; some swallow the food and later cough it up; hummingbirds inject their youngsters with nectar by using their tubular tongues; cormorants and pelicans open their mouths and let their young feed themselves.

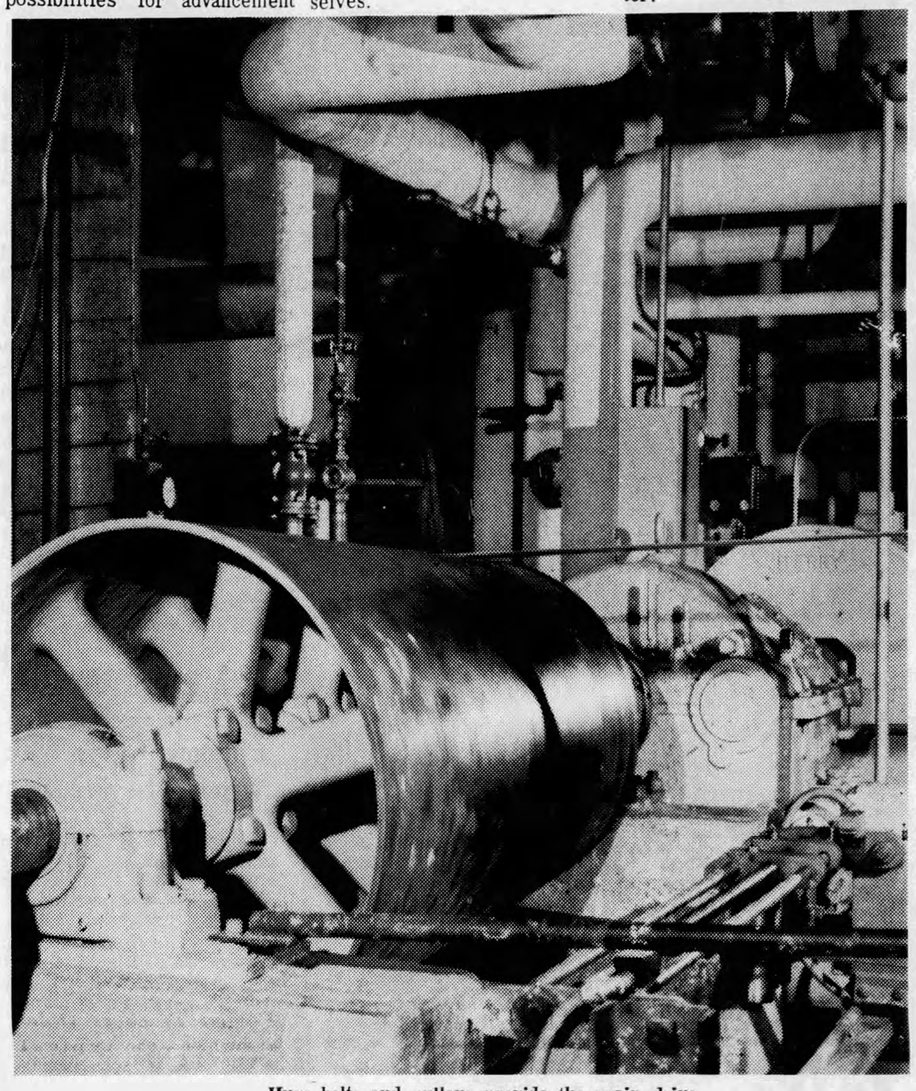
Glenn Starin Top Pipefitter

Glenn (Shorty) Starin, a journeyman pipefitter, is pipe lead man at Ponderosa Paper Products, Flagstaff's newest industry.

A native of Battle Lake, Minn., Starin is married and he and his wife Betty have five children. They include Sydney, 17; Shelley, 15; Clayton, 13; Kameron, 11; and Shawn, 4.

He was educated at Battle Lake High School, and was in the Mechanics Training Progam Mechanics Training Program in Lewiston, Idaho. He also served in the U.S. Navy. He was born Dec. 14, 1927.

He was employed from July 1952 to July 1963 as a journeyman at Potlatch Forest, Inc., in Lewiston. Following that he went to work until May 1964 for Rayonier of Canada in Woodfibre, B.C., again as a pipefitter.



Huge belts and pulleys provide the main drive from the driers powered by steam from the boiler room and a complex system of turbines.

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To Extend Our
Congratulations
AND WELCOME YOU TO FLAGSTAFF . . . .
BEST WISHES
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Congratulations on your contribution to Arizona's economic progress and our best wishes for your future growth
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ON COMPLETION OF THEIR NEW INDUSTRY IN FLAGSTAFF
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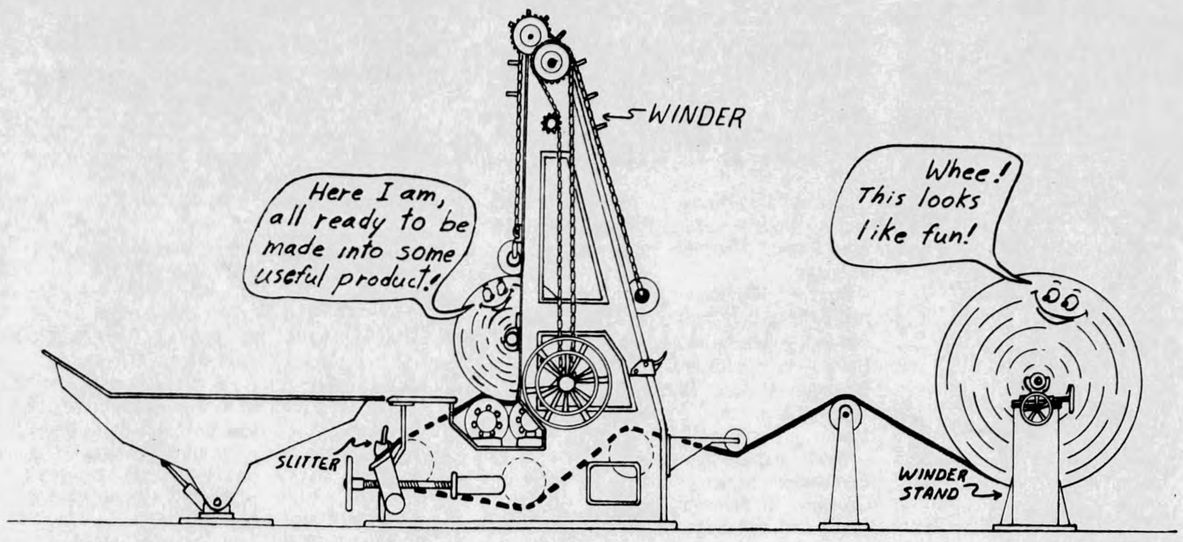


Plant Will Use 5000,000 Gallons Per Day

Ponderosa Paper's Water Requirements Are High

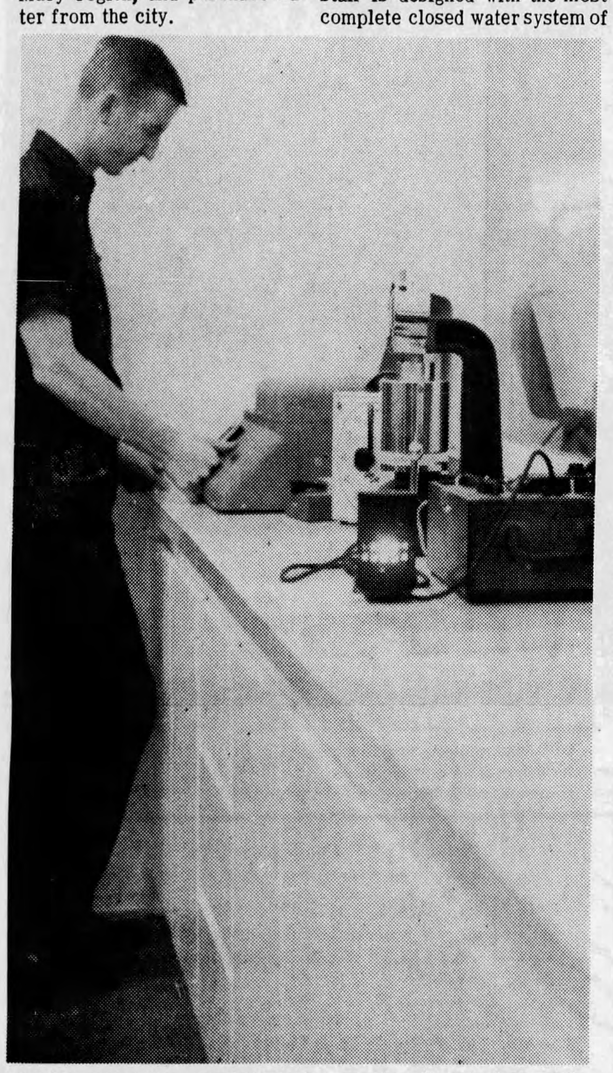
The water requirements of the Ponderosa Paper Products will be approximately 500,000-plus gallons-per-day.

In developing a source of water supply, Ponderosa has drilled two wells on their own property, both of which were more or less dissappointments. Ponderosa then entered an agreement with the City of Flagstaff to drill a well for the city in the Lake Mary region, and purchase water from the city.

In order to assure an adequate supply of water for its operation, Ponderosa has since agreed to drill an additional well, at a location of the city's choice, for the City of Flagstaff. This well will be drilled at the city's option approximately one year after operation of the paper mill is underway.

It should be pointed out that this new paper mill in Flagstaff is designed with the most complete closed water system of any paper mill in the country, and most of the water requirements is to replace that water which is lost through evaporation in drying the paper sheet and through normal leakage and losses.

Because of this closed white water system, the mill recirculates approximately 8,500,000 gallons of water per day. Ponderosa expects their fresh water to make up to be between 200 to 350 gallons per minute, however, because of the newness of the closed white water system, from operating experience will, by necessity, determine the mill's actual fresh water requirements.



Quality technicians carefully test a sample of paper from each roll as it comes off the driers.

Charles M. Press Shop Leadman

Ponderosa Paper Products, Inc., employs Charles M. Press in the capacity of shop leadman.

Press was born Nov. 13, 1915 in Cawker City, Kan., and received his education at Concordia (Kan.) High School. He is married and his wife's name is Pauline.

From 1948 to 1951, Press was production foreman at the Arizona Fiber Board Co., in Phoenix. Following that and until 1953, he worked for Goodyear Aircraft in Goodyear, Ariz.

From 1953 until he came to work for Ponderosa here, Press worked for Arizona Pulp and Paper Co., as production and shop supervisor.

Chiggers Leave Welts Where They've Dined

Elizabeth, N.J. — Pest control authorities say the chigger season will be open in much of the South, Midwest and East until the first frost. The tiny "red bugs" feed on animal and human tissue. Digestive juices they inject produce reddish welts, itching and swelling.

Carving Out A Market

New York — A trade source expects 7 million electric knives to be sold this year.

C. M. Poeling Maintenance Super

The duties of maintenance superintendent at Ponderosa Paper Products will be performed by Clarence M. Poeling.

Poeling, born May 3, 1914 at Clay Center, Kan., and his wife Polly have five children, including Harvey, 28; Linda, 21; Paulett, 16; Steve, 15; and Patrick, 10.

Poeling has worked in paper mills since the end of World War II and before that helped to build an atomic plant for E. I. Dupont in Hamford, Wash.

With J. A. Parks, he helped build mills at Everett and Longview, Wash., and Springfield, Ore. He then went to Lewiston, Idaho, assisted in building the Potlatch Forests, Inc., mill and stayed on there with Donald T. Keller as maintenance foreman.

Poeling began work at Ponderosa Sept. 13, 1965.

Here his main duties consist of overseeing both the construction phases and the wood yard, along with repairing mill parts as they break down.

Besides his previous close association with Keller, now manager of the huge Ponderosa works here, Poeling was anxious to return to Arizona.

He has lived here before in the Safford area where he worked for Phelps Dodge and later in Morenci.

At Ponderosa Paper Products:

Floch Office Manager, Whittum Top Accountant

Gary R. Floch is the office manager at Ponderosa Paper Products in Flagstaff.

Floch was born April 4, 1937 in Lewiston, Idaho, where he attended grade school.

He was graduated from Asotin, Wash., High School in 1955 as salutatorian and attended Washington State University from 1955 through 1958 studying general college subjects.

Floch answered the draft call in 1959 and was inducted into the U.S. Army. He became company clerk of an engineer company and was ordered to Berlin. He was honorably discharged in March, 1962.

Following his service stint, Floch was employed as office manager for Smith Frozen Foods, Lewiston and in Aug., 1963 accepted a position as senior accountant with Clearwater Tissue Mills, Inc., Lewiston. Clearwater manufactures toilet tissue, facial tissue and toweling.

There Floch aided in setting up cost accounting systems, office forms and various other procedures.

Floch, single, was employed by Ponderosa in Jan., 1965. His hobbies include water skiing, hunting, fishing and music.

Many of the complex chores of accounting will be handled by L. Wayne Whittum, a 10 year resident of Flagstaff, at Ponderosa Paper Products here.

Whittum is a native of Iowa and was born Aug. 10, 1905 at Stuart. He is married and he and his wife Ruth have two married children, Mrs. Norma Marsh and Stanley Whittum.

Whittum was educated at Stuart High School in Iowa and later took LaSalle Extension Course for his accounting education.

The Whittum's moved to Flagstaff from Prescott in 1955 to Co., as an accountant.

After that firm's shutdown, Whittum worked for Pepsi Cola Bottling Co., Flagstaff, Steves Brothers Construction Co., as a salesman and also for Northern Arizona Realty Co.

In Sept. 1964, he accepted employment with Ponderosa as an accountant. His main hobbies are fishing and bowling.

160,000 Suffer Shingles

Washington — The Public Health Service estimates that 160,000 Americans suffer painful shingles each year. The disease, Herpes zoster, is caused by a virus.

Helsinki is the capital of Finland.

David Berry Ponderosa Plant Engineer

The position of Plant Engineer at Ponderosa Paper Products in Flagstaff has been filled by David M. Berry, a native of McKeesport, Pa.

Berry, his wife Ruth and children Susan, 3½, and Ralph, 1½, come to Flagstaff and Ponderosa from Lewiston, Idaho.

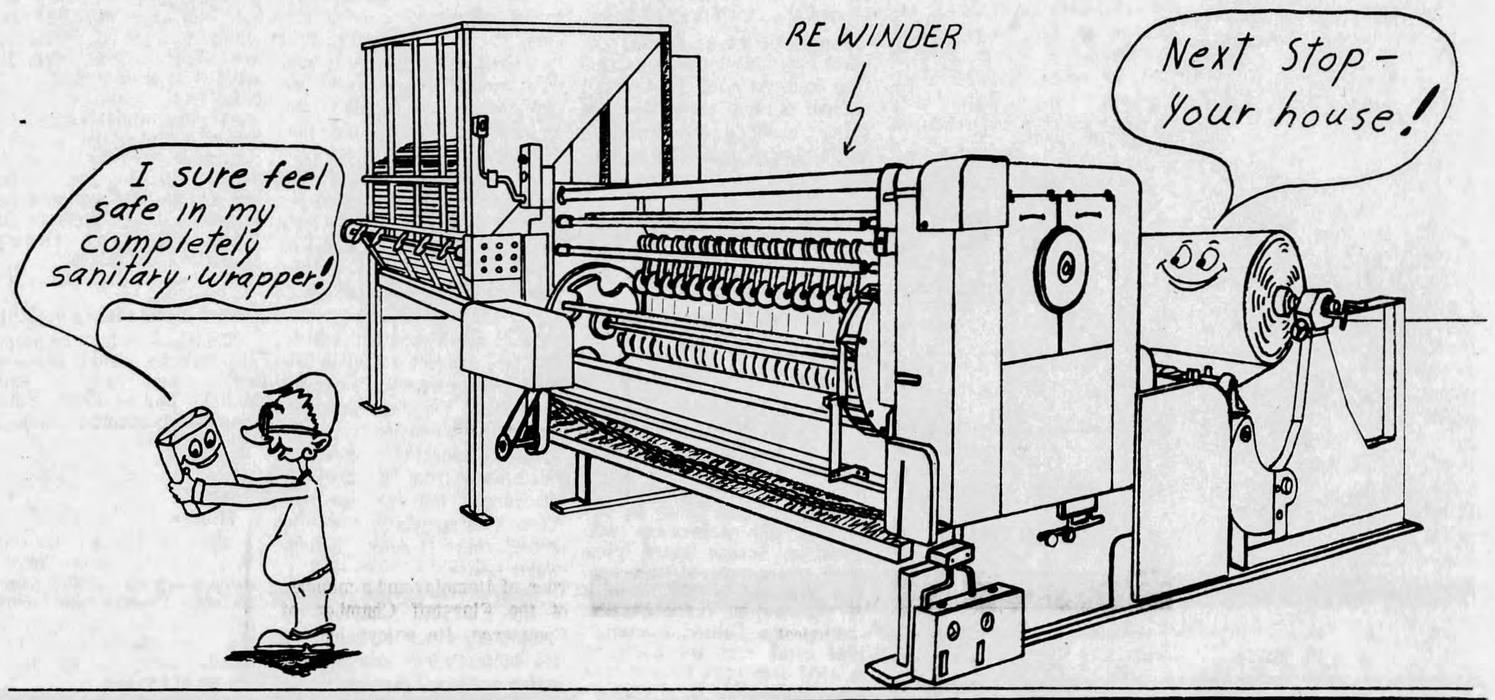
In Lewiston, he was staff engineer for Potlatch Forests, Inc., from 1959 until 1965.

Prior to employment with Potlatch, Berry worked from 1956-59 in the field of exploration geology, working with copper, zinc, silver and uranium. This included consulting and various mineral mining jobs.

Born Nov. 26, 1925, he received his education at Lafayette College, and graduated from the University of Pittsburgh with a Bachelor of Science in geological engineering. Further training came from International Correspondence Schools in the field of Pulp and Paper Engineering.

Berry also served in the U.S. Air Force and was honorably discharged as a corporal.

Berry indicated that one of his reasons for coming to Ponderosa was Flagstaff's climate where he will be able to enjoy one of his hobbies which is skiing. He also enjoys collecting minerals and swimming.



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Your Only Home Owned and Operated Office Supply Store in Flagstaff

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Of Denver

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Weaver is the West's largest supplier of new and rebuilt electric motors and equipment — all at the lowest prices in America!

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"The Arthur T. Harris Company, Factory Representative, in Seattle, Washington, suppliers of Darling valves and Falk gear drives in your plant, extends to you our most sincere wishes and congratulations. We appreciate the opportunity we have had to participate in your endeavors."

ARTHUR T. HARRIS CO.

FACTORY REPRESENTATIVE

1500 Westlake North
Seattle, Washington

A. J. Bastine Ponderosa's Sales Manager

Heading up the sales program at Ponderosa Paper Products in Flagstaff is Andrew J. Bastine who comes to the job with 10 years worth of credentials.

Bastine has been sales manager at Ponderosa since Nov., 1965 and his responsibilities fall into four general catagories. Those include:

--All sales of paper for both converted products and jumbo rolls.

--All by-products from the manufacture of paper such as chips, bark, dust and 2 x4 studding.

-- Creating advertising and promotional material regarding converted products; also responsible for all newspaper and trade magazine releases.

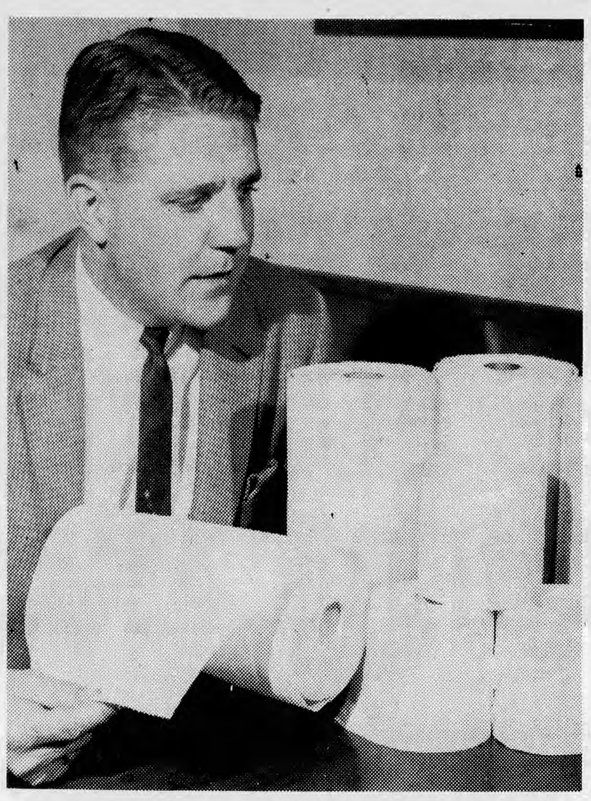
--Public relations for the company as official representative to local service clubs.

Bastine was educated at Lewis and Clark College, Portland, Ore., receiving a bachelor of science degree in business administration. He was president of the graduating class of 1954 there. He is a member and past president of Delta Tau Rho, social fraternity, and a member of Alpha Kappa Psi, national businessmen's fraternity.

Bastine first was employed by the U.S.National Bank, Portland, where he participated in the senior training program and worked in various departments. From there he went into auto sales and on to Alumni and Personal Placement Director and Assistant to the Director of Admissions at Lewis and Clark from March 1956 to March 1959.

After this he was employed by Georgia-Pacific Corp., Portland, in public relations, sales, and finally as Sales-Service Manager.

He is 35, married and he and he wife have four children. He is a member of the Flagstaff Kiwanis Club, Chamber of Commerce and a past toastmaster. His hobbies include all outside sports, reading, woodworking and photography.



Jack Bastine, sales manager, illustrates the various products now manufactured at the Flagstaff plant.

Purchasing agent Jim Bounds and technical superintendent Wilbur Henry check the insignia on a jumbo roll.

J. E. Bounds Purchaser For Ponderosa

J.E.Bounds, Ponderosa Paper Products' purchasing agent, brings nearly 40 years experience in the paper industry to Flagstaff.

He was born Aug 4, 1907 in Purvis, Miss., and has one year of college at Hattiesburg, Miss. He and his wife Margie have four children.

From 1926 to 1936 he was with International Paper, Co. Bastrop, La., Mobil, Ala., and Panama City, Fla., beginning his career in the chemical laboratory. He was then transferred to pulp mill operations and production.

From there, Bounds worked for Union Bag and Paper Co., in Savannah, Ga., as night pulp mill superintendent from 1936-37. From there he went to Crossett Paper Mills, Crossett, Ark., from 1937 to 1938 as assistant pulp mill superintendent.

In 1938 he was assistant pulp mill superintendent at the St. Joe Paper Co., Port St. Joe, Fla., and in 1940 was promoted to pulp mill superintendent there. A 1946-47 stint found him as assistant pulp superintendent for Marathon Paper, Corp., Marathon Ontario and in 1948 he began with the Rayonier Paper Co., Fernandia Beach, Fla.

In 1954 he contracted with San Rafel Paper Co., Mexico City, as resident engineer to assist in the initial start up of a 60-ton-per-day kraft sulphate pulp mill.

Bounds joined Potlatch Forests, Inc., Lewiston, Idaho, as assistant pulp mill superintendent in 1955 and was promoted to superintendent in 1956. He remained with Potlatch until early 1962.

A position of start-up engineer with Parsons and Whittemore, New, N.U., came next from 1962 -65, on overseas pulp and paper projects. He remained in that position until accepting the position of purchasing agent for Ponderosa Paper Products.

Bounds is a York Rite Mason, member of the Elks, Council Member of the Lewis-Clark Order of Demolay and a member of the Flagstaff Chamber of Commerce. He enjoys hunting and fishing as his main hobbies.

Color room attendant Brad Walker checks the color preparation tanks where the coloring that is used to dye the paper various different colors is carefully prepared and tested.

Congratulations . . .

Ponderosa Paper Products on Your New Industry in the Flagstaff Area . . . Best Wishes for the Future.

ARIZONA EQUIPMENT SALES

600 West Grant • Phoenix, Arizona

Congratulations . . .

To

PONDEROSA PAPER PRODUCTS, INC.

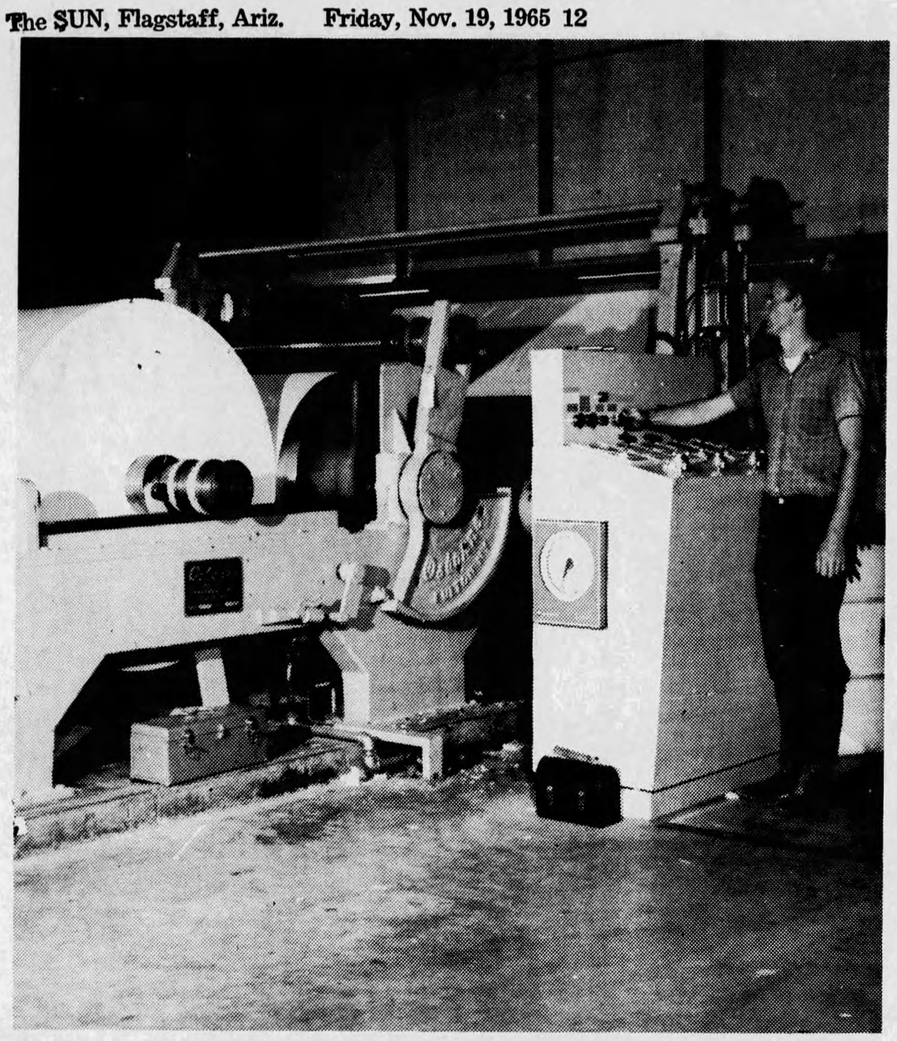
On the Completion of Your New Plant

We at GORDON STEEL are proud to have participated in the construction of this new asset to the economic growth of Flagstaff, and warmly welcome you to our community.

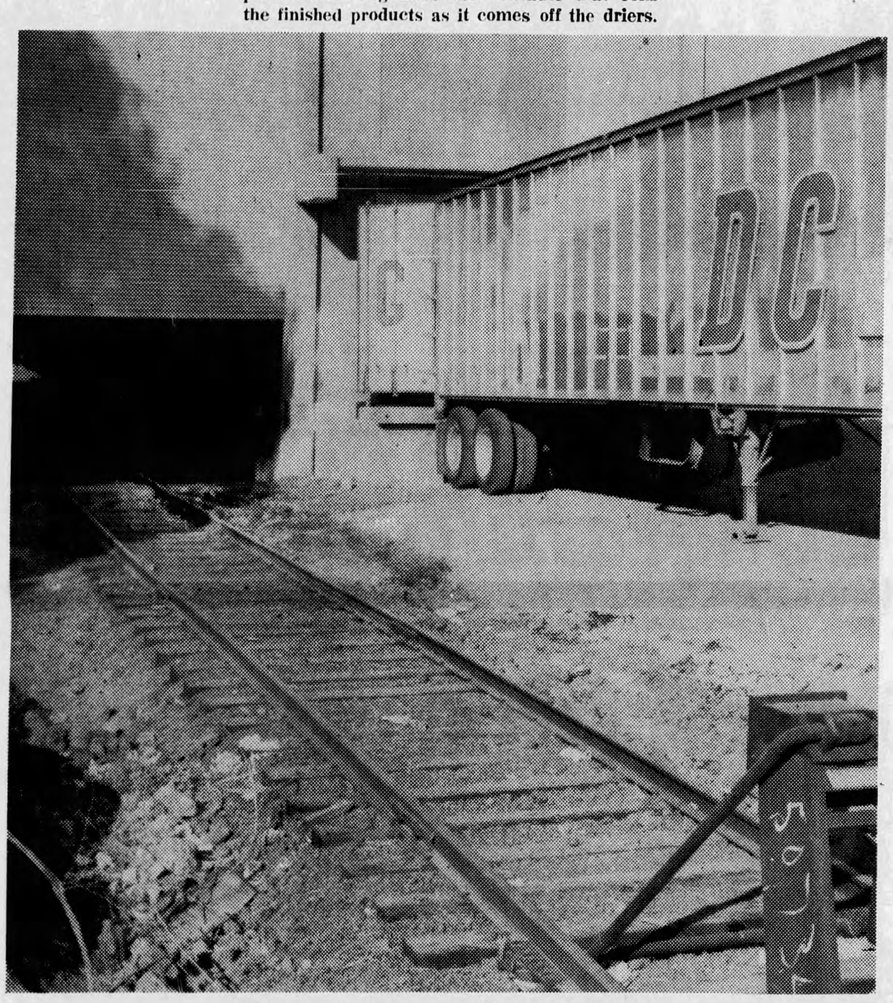
"BEST WISHES"

GORDON STEEL MANUFACTURING COMPANY

FLAGSTAFF, ARIZONA



Back tender Robert Ottson operates the control panel which regulates the rewinder that rolls the finished products as it comes off the driers.



Both rail and truck are used to carry the completed products to the wholesalers from where they are distributed to the local grocery store.

CONGRATULATIONS

PONDEROSA PAPER PRODUCTS, INC.

On the Opening of Your New Plant

We of SEMON Industrial sincerely wish you the "Best of Luck" in the years to come, and welcome you to the beautiful city of Flagstaff and Northern Arizona. We were proud to have played a part in your opening

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B&W Inc. Salutes

Ponderosa Paper Products Company

WATER must come first, else there can be no industrial or cultural growth. Making sure that water wells produce to the maximum of their capability is B & W's business. We are proud of the part that we played in helping Ponderosa Paper Products Company to assure a reliable supply of good water for its great new plant in Flagstaff. B & W Gravel Compaction installation was used in Ponderosa's new well. B & W Gravel Compaction was perfected to meet the extreme demands of oil production. The same B & W methods have proved outstandingly successful in water production – particularly where sand is a major problem.

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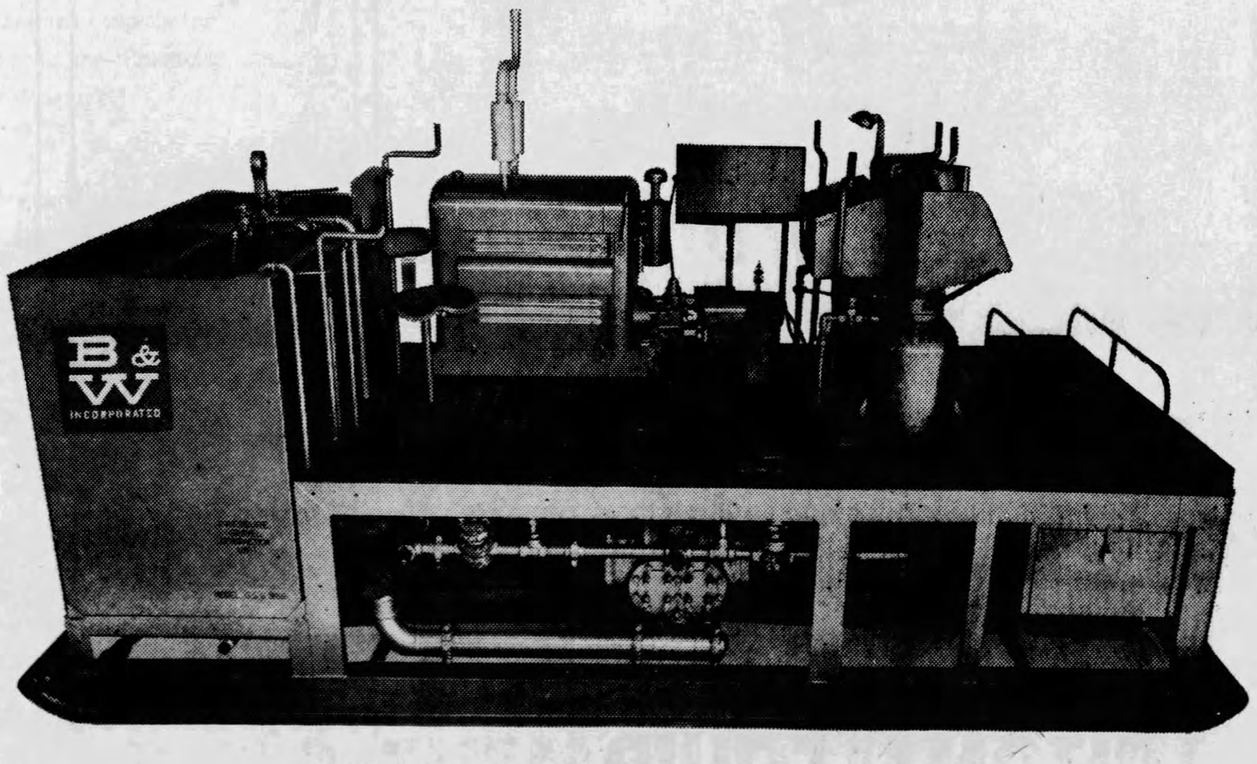


B & W Pressure Gravel Compaction Skid Model G S 6-956

APPENDIX C- ORCHIDS PAPER PRODUCTS MATERIALS

SAVING TREES IS OUR BUSINESS

by

Mary Foley
Material Handling Supervisor
Orchids Paper Products Flagstaff, Arizona Mill

Introduction

Orchids Paper Products Flagstaff, Arizona Mill is a manufacturer of tissue products. We make paper towel, napkin, facial and bath tissue. We use 100% recycled fiber in all our products. We purchase over 3,000 tons of scrap paper each month. This paper would be disposed of in a land fill as solid waste if it were not remanufactured in some way. There are many different grades of waste paper and many different uses for each grade. In this article we will focus on the types of waste papers used by Orchids - Flagstaff in manufacturing tissue products.

We purchase both pre-consumer industrial waste and post-consumer office waste. The majority of our orders are placed with scrap paper brokers who locate materials suitable for our application. Paper brokers are our best sources of industrial waste. We also purchase truck load and less than truck quantities of post consumer waste from local and Phoenix based recyclers. Our industrial waste is comprised of lightly printed food board, heavily printed food board, poly coated food board, poly cup stock, milk carton and our own waste from production. Our post-consumer waste consists of sorted colored ledger, sorted white ledger and non ground wood, non laser printed computer print out paper.

We use standards developed by the Paper Stock Institute, A Division of Institute of Scrap Recycling Industries, Inc., to govern our transactions with paper brokers and the recycling programs we deal with directly. These guidelines spell out the responsibilities of both the buyer and the seller. They describe common practices in the event of a weight discrepancy or a wet load. Grade definitions for many types of waste paper are also provided with criteria for acceptance of unsuitable and unusable materials. Recycled fiber is only as valuable as the quality of the sorting used to remove foreign materials. Exhibit I provides a breakdown of unsuitable and unusable materials for each grade of paper Orchids - Flagstaff purchases. Exhibit II consists of the Paper Stock Institute's guidelines for domestic scrap paper transactions.

Community Programs

Many communities are now either considering setting up recyling programs or are expanding already existing programs. The types of recyclable paper most readily available in these areas are post-consumer office wastes. These grades are known as sorted colored ledger, sorted white ledger and computer print out (CPO). A number of economic, regulatory and environmental factors will affect the size of this market and the pricing of post-consumer grades.

The prices of colored ledger and white ledger are determined by their fiber yield, the quality of the removal of prohibitive materials, the amount available for sale, and the number of buyers willing to purchase these grades. The fiber yeild of ledger paper is roughly 85%. In other words, 85% of the paper can be turned into fiber suitable for making recycled tissue paper. The remaining 15% is clay filler and other contaminants which are disposed of as organic sludge.

The care taken to remove unsuitable or unusable materials from post-consumer waste is critical to the resale value of the end product. Any buyer may refuse to purchase or may demand pricing reductions on loads that are poorly sorted. These actions on the part of the purchaser are supported in the guidelines provided by the Paper Stock Institute.

As more and more people become aware of environmental issues and choose to express their concerns by taking their office waste to recycling centers, the supply of post-consumer paper waste will continue to grow. Forecasts for growth within the recycled paper industry show a modest increase of 7 to 8% in production levels from 1991 to 1992. (Pulp and Paper, August 1991). We are already seeing downward pressure on prices in the post-consumer ledger market as supply exceeds demand. Over the next eighteen months, we expect the downward pricing trend to continue. As paper manufacturers respond to increased public concern over the environment, the demand for post-consumer waste paper will grow. This adjustment will take some time, but once major producers of paper are able to incorporate recycled fiber into their processes, the demand will increase and prices should rise again.

Another factor affecting the pricing of post-consumer office waste is the difficulty many recycled paper manufacturers experience in removing laser print and photocopier inks from ledgers and CPO. Traditionally, inks have consisted of a colored pigment loosely bound on the surface of the paper. This ink is relatively easy to remove with the washer and flotation cell technology currently

available in the recycled paper industry. However, the modern inks used in photocopies and laser print are fine pellets of ink fixed by heat to fuse to the surface of the paper. The best in present deinking technology is only able to remove about 60% of these ink pellets. This dispersion rate is within acceptable limits for tissue manufacturing, but is not suitable for the making of fine grade recycled writing papers. (Tappi Journal, Feburary, 1991) Until technology advances to the point that these inks can be readily removed, the pricing of post-consumer ledger and laser print CPO will remain low.

We purchase CPO only from local suppliers. The pricing of non groundwood, non laser print CPO is much higher than that of sorted ledger papers, but the yields and the processing challenges presented by CPO are roughly equivalent to those found in ledgers. For our purposes, CPO is not an economical source of recycled fiber. Non laser print CPO commands a higher market price because it is used predominantly in the manufacture of fine quality recycled writing papers.

Orchids Paper Products Flagstaff, Arizona Mill purchases small quantities of sorted colored ledger, sorted white ledger and non ground wood, non laser print CPO from Northern Arizona University and Northland Recycling in Flagstaff. We will consider purchasing similar materials from communities throughout Northern Arizona provided that the sorting of the material meets our standards as outlined in Exhibit I. We also require that the material be delivered in a form that makes unloading and storage easy for us. We receive between 150 and 200 tons of scrap paper a day. While we are willing to deal with less than truck load shipments, we must have ample advance notice to set up a delivery time. Please be aware that even baled paper tends to have some loose ends. Loads on flat bed trucks can cause other environmental problems, like littering. Please take steps to contain any waste paper that may come loose or blow away during transit and unloading.

Other Environmental Issues - Water Conservation and Water Quality

Wherever paper products are being made, water is usually consumed and contaminated in large quantities. Most paper plants are located on rivers for this reason. The mill in Flagstaff uses approximately one tenth of the water consumed in comparable mills throughout the country. This is because we recycle our water six to eight times before releasing it back into the sewer system.

Orchids - Flagstaff has also invested in a waste water treatment plant. This treatment plant allows us to return unpolluted water to the City of Flagstaff. The quality of the water released to the sewer is as clean or cleaner than

the water taken in. We are very proud of the recycled paper making operation in Flagstaff. Not only are we doing our part to protect the environment, we are also running a profitable business venture that contributes to quality of life in this community.

End Notes

"Grade Profile, Production Forecasts", Pulp and Paper, August, 1991.

"New Trends in Deinking Technology - Removing Difficult Inks from Wastepaper", Wayne F. Carr, Tappi Journal, Feburary, 1991.

Exhibit I

Lightly Printed Food Board

Consists of baled cuttings and sheets of treated and untreated sulphite and sulphate food boards. Must be free of wax, poly coatings, adhesives and heavy or non water soluable inks.

Heavily Printed Food Board

Consists of baled cuttings and sheets of treated and untreated sulphite and sulphate food boards. Must be free of wax, poly coatings, adhesives and non water soluable inks.

Poly Coated Food Board

Consists of baled cuttings and sheets of treated and untreated poly coated sulphite and sulphate food boards. Must be free of wax, adhesives and non water soluable inks.

Poly Cup Stock

Consists of baled cuttings and sheets of treated and untreated poly coated sulphite and sulphate cup stock. Must be free of wax, adhesives and non water soluable inks.

Milk Carton

Consists of baled cuttings and sheets of treated and untreated sulphite and sulphate milk carton stock. Must be free of wax, adhesives and non water soluable inks.

Sorted Colored Ledger

Consists of baled printed or unprinted sheets, shavings and cuttings of colored sulphite or sulphate ledger, bond, writing and other papers of similar fiber and filler content. Must be free of treated, coated, padded or heavily printed stock.

Sorted White Ledger

Consists of baled printed or unprinted sheets, shavings and cuttings of white sulphite or sulphate ledger, bond, writing and other papers of similar fiber and filler content. Must be free of treated, coated, padded or heavily

printed stock.

Non Ground Wood CPO

Consists of baled computer printout paper, white, green bar or blue bar. Must be free of treated, coated, padded, laser or heavily printed stock.

Unacceptable Materials in any grade

Carbon Paper
NCR Paper (no more than 5% of load)
Laser Print (no more than 5% of load)
Manilla File Folders
Cardboard
Newspaper
Magazines or magazine stock
Pressure sensitive tape
Pressure sensitive labels
Telephone Books
Unopened Envelopes
Non paper substances

ORCHIDS PAPER PRODUCTS

RESOURCE CONSERVATION

It takes 17 living trees to make 1 ton of tissue paper out of virgin pulp.

When we are running at full capacity we produce an average of 100 tons of tissue paper per day.

At this rate of production we save 1,700 trees each day. We also keep 125 tons of solid waste out of landfills each day.

When operating at full capacity we consume approximately 280,000 gallons of fresh water per day.

This rate of water usage is less than 10% of the water consumed in mills producing an average of 100 tons of tissue each day.

We have a waste water pre-treatment plant on our property to ensure that we release clean, contaminant free water to the City of Flagstaff's waste water treatment plant.

PRODUCT INFORMATION

We produce four types of tissue products: Paper Towel, Napkin, Facial Tissue and Bath Tissue.

We make two types of paper here: A recycled product made with chlorine bleach and a recycled land-fill safe product made with a non-chlorine bleach.

Our chlorine product sells under the name "Colortex".

Our non-chlorine bleach product sells under the name "START".

We turn our recycled paper into familiar grocery store products in Converting Mills.

Our converting mills are located in La Palma, California; Pryor, Oklahoma; and Cartersville, Georgia.

We also have a recycled paper mill in Pryor, Oklahoma.

The "START" brand name stands for "SAVE TOMORROW - APPLY RECYCLING TODAY".

INDUSTRY PROFILE: ORCHID PAPER PRODUCTS

It takes 17 living trees to make one ton of tissue paper out of virgin pulp. Orchid Paper Products is a manufacturer of tissue products made from 100% recycled fiber. When their plant in Flagstaff, Arizona, is running at full capacity, they produce 100 tons of tissue paper a day. At this rate of production they save 1700 trees and keep 125 tons of solid waste out of landfills each day.

Wherever paper products are being made, water is consumed and contaminated in large quantities. For this reason, most paper plants are located on rivers. The Orchid mill in Flagstaff uses approximately one-tenth of the water consumed in comparable mills throughout the country, because they recycle their water 6-8 times before releasing it back into the sewer system.

Orchid-Flagstaff has also invested in a wastewater treatment plant. This treatment plant allows them to return unpolluted water to the city of Flagstaff. ~~According to company officials, the quality of the water regularly released to the sewer is cleaner or clearer than the water they take in.~~

Orchid produces familiar grocery store items like paper towels, napkins, facial and bath tissue. In converting mills, they produce two types of tissue: a recycled product made with chlorine bleach and a recycled landfill-safe product made with a non-chlorine bleach. Their chlorine product sells under the name "ColorTex," and their non-chlorine product sells under the same "START" (Save Tomorrow - - Apply Recycling Today).

Each month, Orchid purchases over 3000 tons of scrap paper which would otherwise be disposed of in landfills as solid waste. This scrap paper is either pre-consumer industrial waste (about 70% of the total purchased) or post-consumer office waste (about 30% of the total purchased).

Scrap paper brokers are their best source of industrial waste, which includes lightly printed food board, heavily printed food board, poly-coated food board, poly-cup stock, and milk cartons. Small quantities of post-consumer waste (sorted

colored ledger paper, sorted white ledger paper, non-laser printed computer paper, and non-ground wood) are purchased from Northern Arizona University, Northland Recycling in Flagstaff, and from some recyclers in Phoenix.

Many communities are now either considering setting up recycling programs or are expanding already existing programs. In these areas, the types of recyclable paper most readily available are post-consumer office wastes--the grades known as sorted colored ledger, sorted white ledger, and computer print-out. A number of economic, regulatory and environmental factors affect the size of this market and the pricing of post-consumer grades of waste paper.

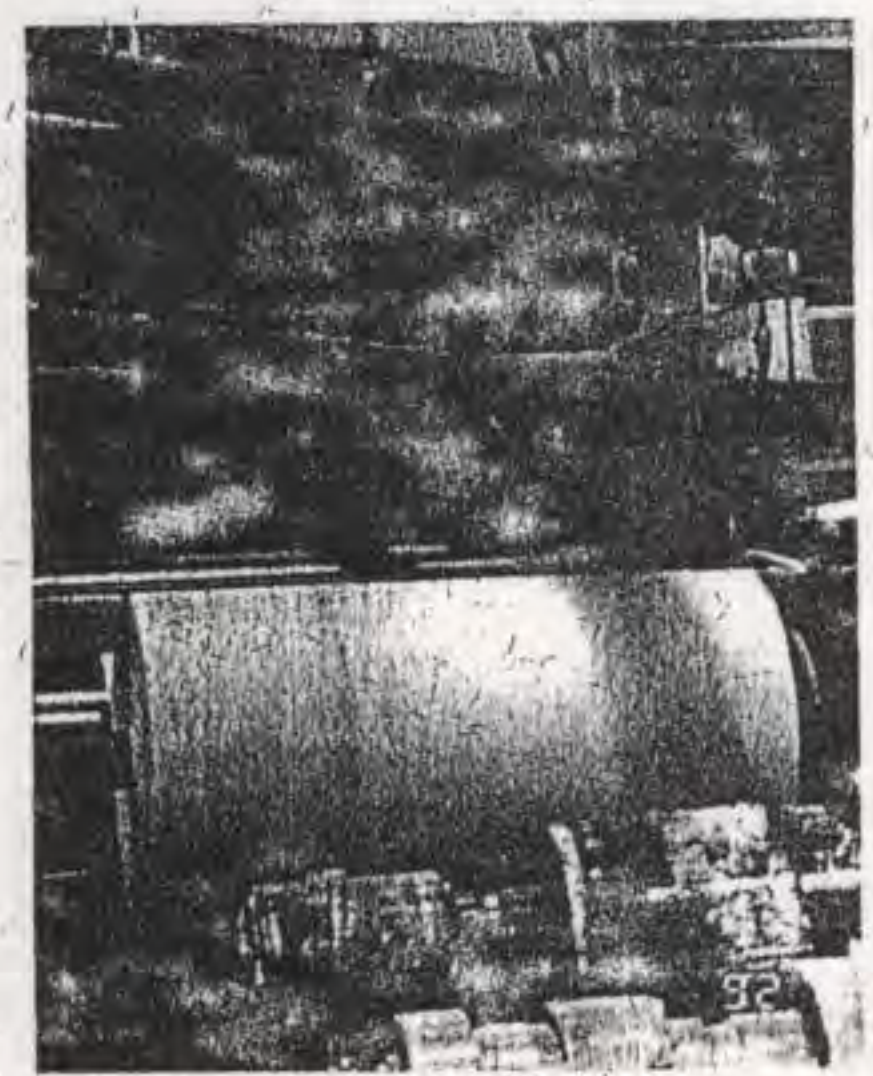
For example, the prices of colored ledger and white ledger waste paper are determined by their

fiber yield, the quality of the removal of prohibitive materials, the amount available for sale, and the number of buyers willing to purchase these grades. The fiber yield of ledger paper is roughly 85%. In other words, 85% of the paper can be turned into fiber suitable for making recycled tissue paper; the remaining 15% is clay filler and other contaminants, which are disposed of as organic sludge.

The care taken to remove unsuitable or unusable materials from post-consumer waste is critical to the resale value of the end product. Under the guidelines of the Paper Stock Institute, any buyer may refuse to purchase or may demand pricing reductions on loads that are poorly sorted.

As more and more people become aware of environmental issues and choose to express their concerns by taking their office waste to recycling centers, the supply of post-consumer waste paper will continue to grow. Forecasts for growth within the recycled paper industry show a modest increase of 7-8% in production levels from 1991 to 1992.

We are already seeing downward pressure on prices in the post-consumer ledger market as supply exceeds demand. Over the next 18 months, this downward pricing trend is expected to continue. As paper manufacturers respond to increased public concern over the environment, the demand for post-consumer waste paper will grow. This adjustment will take some time, but once major producers of paper are able to incorporate recycled fiber into their processes, the demand will increase and prices should rise again.



Another factor affecting the price of post-consumer office waste is the difficulty many recycled paper manufacturers experience in removing laser print and photocopier inks from the paper. Traditionally, inks have consisted of a colored pigment loosely bound on the surface of the paper. This ink is relatively easy to remove with the washer and flotation cell technology currently available in the recycled paper industry.

However, the modern inks used in photocopies and laser print are fine pellets of ink fused to the surface of the paper by heat. At present, the best de-inking technology is only able to remove about 60% of these ink pellets. This dispersion rate is within acceptable limits for tissue manufacturing, but is not suitable for the making of fine grade recycled writing paper. Until technology advances to the point that these inks can be readily removed, the price of post-consumer ledger and laser printed computer waste paper will remain low.

Orchid purchases computer print-out (CPO) only from local suppliers. The pricing of non-groundwood, non-laser CPO is much higher than that of sorted ledger papers, but the yields and the processing challenges presented by CPO are roughly equivalent to those found in ledgers. For their purposes, CPO is not an economical source of recycled fiber. Non-laser printed CPO commands a higher market price because it is used predominantly in the manufacture of fine quality recycled writing paper.

Orchid is very proud of their recycled paper-making operation in Flagstaff. Not only are they doing their part to protect the environment, but they are also running a profitable business venture that contributes to the quality of life in the Flagstaff community.

Portions of this article are extracted directly from Mary Foley's article "Saving Trees Is Our Business." Foley is the Material Handling Supervisor at Orchid Paper's Flagstaff mill.

ORCHIDS PAPER

Flagstaff Facility

- History (Pre Orchids)
  - Old slaughterhouse site
  - Mill construction 1962 - 64
    - Jim Potter
    - 'Arizona Pulp and Paper'
  - Initial Equipment
    - Osborn wet crepe tissue machine
    - Egg carton machine
    - Groundwood mill
  - Bankrupt in 1965
    - Bankers Life took control
  - Stopped egg cartons in 1968
    - Groundwood shutdown
    - No more dimmed lights in Flagstaff
- Orchids History
  - Purchased in 1974
  - Produced GSA Tissue
    - Installed towel winder
    - Installed napkin machines
  - Virgin and deinked pulp
    - Effluent discharged to Rio de Flag
    - Solids impounded in basins
    - Nuisance odors from basins
  - Mill closed in July 1983
    - Environmental problems
      - Discharge to river
      - Basins
    - Basins cleaned
    - Annexed into city
      - Tied to city treatment facilities

- Mill reopened July 1984
    - Towel winder to California
    - No deinking
- Deinking installed 1987
    - Poly coated SBS
    - Increased water 50 gpm to 95 gpm
- Papermachine upgrade 1987
    - Yankee Dryer
    - Headbox
    - New / shortened afterdryers
    - Press section replacement
    - Speed to 2000 ft/min
- Company taken private 1989
- Mill expansion 1990 -91
    - New papermachine
        - Purchased in Finland
        - Beloit 1962
        - Converted to single felt
        - ABB/Reliance/Aerothermic/Toshiba
        - Construction start 6/6/90
        - Startup 5/12/91
    - Rewinder
        - Purchased with machine
    - Deinking upgrade
        - Washers
        - Screens
        - Cleaners
        - Floatation units
        - Belt press
    - Power distribution upgrade
    - Converting additions
        - Hard roll towels/BT
        - Multifold napkins
    - Water flow increase
        - From 95 gpm to 200 gpm

- Water/water treatment
  - Water purchased from city
  - 200 gpm monthly average
  - Pretreatment plant
    - Activated sludge
    - Limits
      - 720# / day BOD
      - 840# / day TSS
    - Performance
      - 240# BOD 95%
      - 150# TSS 90%
  - Flow to city treatment plant

- Internal water system
  - All fresh water to machines
  - Seperate savealls for each machine
  - Excess machine water to floatation clarifier
    - Clarified water to deinking
  - Deinking floatation clarifier
    - 180 gpm to treatment
    - Remainder recycled to deinking
  - Two belt presses
    - Solids to city landfill

- [redacted]

- Utilities
  - Boiler 40M #/hr
  - 85% condensate recovery
  - APS 100% electricity

- People
  - 9 management
  - 88 hourly
  - 2 clerical

MILL DETAILS
Flagstaff

- PAPERMACHINE #1
  - 124" trim
  - Speed 1700 - 2000 ft/min
  - Basis weight 12# - 30#
  - Products
    - Napkin
    - Towel
  - 12 afterdryers
  - ABB weight & moisture control
  - Solid breast roll/two felt

- Papermachine #2
  - 130" trim
  - Speed 1500 - 3500 ft/min
  - Basis weight 8.8# - 22#
  - Products
    - Bathroom Tissue
    - Towel
    - Napkin
    - Facial
  - ABB weight & moisture control
  - Reliance digital drives
  - Aerothermic 600 C hood
  - Toshiba DCS
  - Single felt - 2 suction pressure rolls
  - Open breast roll

- Deinking
  - 140 tons/day
  - Pulping/screening/floatation deinking/washing
  - Poly/heavy print SBS; sorted ledger

- Shipping / Recieving
  - Santa Fe Railroad
  - 200 tons storage parent rolls
  - 1400 tons furnish storage
  - 9 fork / clamp trucks
  - 90+% paper shipped as parent rolls
  - 4 truck docks
- Union
  - Teamsters

Business Developments

NEW JOBS, NEW INVESTMENTS

GOOD PAPER MILLS MAKE GOOD NEIGHBORS

The newest recycled paper mill in the West utilizes 40,000 tons of waste paper to produce 30,000 tons of tissue products each year — with the lowest water usage per ton in the industry.

Greg Fisher

FLAGSTAFF, Arizona is nestled at the base of the snow covered San Francisco Peaks, located 60 miles south of the Grand Canyon on the 7,000 foot Colorado Plateau. This popular university and ski town of 50,000 residents is the picturesque home of the new western regional headquarters of Wisconsin Tissue Mills, a subsidiary of the Chesapeake Corporation. Wisconsin Tissue has been producing recycled products including napkins, paper towels and toilet tissue since 1927. The company had outgrown its Menasha, Wisconsin headquarters, and was searching for a location that could serve its growing western customer base.

The company toured sites in California, Nevada and Arizona before settling on two sites in Flagstaff. Wisconsin Tissue bought and renovated a 30-year-old paper mill (which had closed in January, 1995), and purchased 25 acres along Interstate 40 to construct a new converting facility. A 250,000 square foot converting facility, under construction 12 miles west of Flagstaff, also has begun operations. Workers at the converting plant cut, fold and box "parent rolls" of recycled tissue for shipment to restaurant and institutional customers throughout the West. When fully operational, the two Flagstaff facilities will employ 150 local residents, helping to sustain and revitalize the historic mountain community's dwindling industrial base, once dominated by railroading and forestry.

Convincing Flagstaff residents, many of whom are avid environmentalists, that a paper mill was good for their community was no easy task. Wisconsin Tissue's Ed Carlstrom, with 35 years in the paper business, was appointed vice president of Western Regional Operations. "Unfortunately, the previous operation left Flagstaff with a bad taste for paper mills, and we are working hard to change this perception," explains Carlstrom. The company invested nearly $20 million to purchase and renovate the old Flagstaff mill, which utilizes 40,000 tons of waste paper to produce 30,000 tons of tissue products each year. Upon taking ownership of the Flagstaff facility last summer, Wisconsin Tissue rehired 70 percent of the original mill employees, adding a healthy pay boost in the process.

The flotation tank and other systems at the Flagstaff site enable the company to use 70 percent less water than most recycled paper mills.

One of Wisconsin Tissue's immediate tasks was to make good on a promise by the previous owners to landscape the property, which is now ringed by native Ponderosa pine trees. The company then went to work replacing aging equipment and upgrading the workplace to OSHA standards. Environmental upgrades had to be made at a cost of nearly $1 million. Railings, stairways, fire and safety devices were added throughout the facility. A new employee locker room complete with showers was built, along with a new training and conference room.

UNUSUAL MIX OF RECYCLED FEEDSTOCK

The papermaking process begins with an unusual mix of recycled feedstock. The current mix of waste paper includes a blend of

CREATING NEW JOBS IN SUSTAINABLE INDUSTRIES

OVER the past 18 months, more than 400 new recycling jobs and $250 million in recycling-oriented capital investment have come to Arizona as a result of "savvy marketeering" and aggressive state incentive programs. "Wisconsin Tissue is exactly the type of company we are looking to locate in Arizona," says Greg Fisher of the Arizona Department of Commerce. "Westerners have a strong connection to the land, and we in states like Arizona are in a natural position to attract the new breed of sustainable industries that will be healthy and alive well into the next century." Fisher directs a statewide program funded through a combination of landfill user fees and grants designed to expand recycling industry growth in Arizona. The processes used by companies like Wisconsin Mills are projected to divert nearly one million tons of waste from Arizona landfills and generate savings of approximately $16 million each year in landfill avoidance costs.

North Star Steel is completing work on a steel minimill in Kingman that will employ 70 area residents and annually will convert 500,000 tons of scrap steel into steel ingot. Also, Stone Container of Snowflake is undergoing a conversion of its operations to utilize only recycled paper. While no net new jobs will be created, the conversion process eventually will boost Stone Container's utilization of waste paper by nearly 400 percent. Among the smaller projects assisted by the Commerce Department program, Sharico Enterprises will recycle nearly 30,000 tons per year of construction waste and debris, including metal, wood waste, cardboard and drywall.

Benefits available to qualified businesses include state tax credits on the installed cost of recycling equipment, and other tax incentives for the location of large recycling manufacturing operations in Arizona. In addition, nine Arizona recycling companies that were expanding received grants last year totaling $400,000. — J.G.

Paper receiving room shows typical feedstock.

preconsumer polycoated paper and leftover window envelope stock, as well as some higher grades of mixed waste paper. Companywide, over 30 percent of the feedstock is postconsumer.

Flagstaff, despite its alpine setting and ample snowfall, is located in an arid region named "Sinagua" or "waterless" by 16th Century Spanish pioneers. Polypropelene, clay and ash are removed through a series of pulping, deinking, and washing systems utilizing 70 percent less water than a typical recycled paper mill. The Flagstaff mill recycles approximately 90 percent of its water, using only 300,000 gallons of water per day, which is probably the lowest water usage per ton of paper found in the industry. Leftover clay and ash from Wisconsin Tissue's operations will be used as daily cover in the city landfill.

> The Flagstaff mill recycles approximately 90 percent of its water, using only 300,000 gallons of water per day.

No bleaching is done in the Flagstaff papermaking process, yet the brightness of the finished product exceeds that of paper produced in the company's Menasha, Wisconsin mill. "At first, we thought it was the mountain water that made our Flagstaff paper so bright," Carlstrom jokes. The Flagstaff mill's pulping equipment is extremely suited to a bright polycoated feedstock. Furthermore, in Arizona and the Southwest, recycled feedstock is generally brighter than that found on the East Coast. ■

Greg Fisher is recycling market developer with the Arizona Department of Commerce in Phoenix.

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6. A.

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To:	The Honorable Mayor and Council
From:	Mark Reavis, Heritage Preservation Officer and Neighborhood Planner
Date:	09/30/2020
Meeting Date:	11/18/2020

TITLE:

Education: What are Preservation Standards

STAFF RECOMMENDED ACTION:

Please review the attached document for more detail explanation of Preservation Standards.

Executive Summary:

DEFINITION: Standards are used as a measure, norm, or model in comparative evaluations.

The Federal Government utilizes the approach of clearly stated "Standards" for evaluating effects to historic properties and guiding preservation decisions, these "Standards" are the US Secretary of the Interior Standards for the Treatment of Historic Properties. Recent design review efforts have uncovered the need for a better understanding of Federal Treatment Standards as well as noting that the Federal Standards have been updated and are generally more inclusive of mid-century design. Federal design standards are referenced and applicable in the Townsite design review document, but it is important to know the specific treatment standard that is most applicable to a neighborhood design review. The treatment that is most often utilized for local design review is "Rehabilitation". Rehabilitation is the most versatile of the four "Treatments" and is applicable because when applying for a permit people are asking to modify and/or rehabilitate their historic structure. Rehabilitation allows for necessary changes to a historic structure and can even be utilized for a significant new use of a building commonly referred to as adaptive re-use. Rehabilitation allows for modern necessities while protecting what is important historically.

Policy Impact:

Improved procedures for design review.

Attachments: SOI Standards

Education: What are Preservation Standards

Prepared by Mark Reavis, Flagstaff Heritage Preservation Officer

DEFINITION: Standards are used as a measure, norm, or model in comparative evaluations.

The Federal Government utilizes Standards when evaluating changes to historic properties. The tried and tested document is the US Secretary of the Interior's (SOI) Standards for the Treatment of Historic Properties. The Standards are one to two sentences in a list of 6 to 10 Standards. There are 4 Treatments: Preservation, Rehabilitation, Restoration and Reconstruction. Each of these treatments address a particular type of historic property. Preservation retains, stabilizes and protects, Restoration brings a building back to a specific period of time, and Reconstruction builds a missing structure. *For example, the Standards for Reconstruction applies only to accurate reconstruction of an important site, such as a historic fort.* Certain historic properties of significance may choose to follow a particular treatment, but Rehabilitation is most commonly used. Preservation, Restoration and Reconstruction can be referenced as a "treatment" within a rehabilitation project for a better understanding, but it is not what is specifically applicable. Though it is important to know that the there are other treatments and their applicable Standards and Guidelines, they are not often utilized in evaluating impacts to historic resources in local design review or for the Federal Historic Tax Credit incentive.

The treatment Standard that is most applicable to most situations is Rehabilitation. Rehabilitation is also the most versatile of the Standards and is intended to allow for new adaptive reuse of a historic structure while retaining the important historic aspects of a structure. Rehabilitation is also the Standard that is utilized for the 20% Federal Investment Tax Credit program. The tax credit intends to spur investment in historic properties and extend their useful life. Rehabilitation is also the Standard that is applied to the review of a historic property that is proposing a change, upgrade or an addition. The US Secretary of the Interior Standards for Rehabilitation follow:

US Secretary of the Interior Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Why use Standards?

A Standard allows an action or selected result to be looked at in a way to see if the action taken meets up to a certain expectation or measure. A Standard allows an architect for example to choose a unique placement of a material that is then compared with the Standard (all applicable Standards) to see if it is following those Standards. With standards you look at the larger impacts that for example may impact a neighborhood context down to smaller impacts to the property next door. Standards can balance out impacts, allow for creative solutions under those considerations contained within those Standards. This is much different than providing an exception that tends to provide a blanket excuse to design decisions. The operable word with a stated Standard is "will" which does require a determination. Using a Standard tends to eliminate conflicts, absolute rules when used can force inappropriate design decisions.

Guidelines: Accompanying the SOI Rehabilitation Standards are guidelines. This guidance takes the form of treatment actions "Recommended" and "Not Recommended". Guidelines are developed to help apply the Standards to a specific type of component of a historic resource. The Guidelines are intended as an aid to assist in applying the Standards to varying types and styles of historic buildings. They are not meant to give case-specific advice or address exceptions or unusual conditions. Actions can be proposed and then compared to the applicable Standards. This approach may sometimes seem to not give a specific answer, but that is the point, each historic property is unique so the approach to its treatment is custom and unique. Evaluation of a property with Standards is looking at the design as a whole, balancing out what is historically important for compatibility and what can be modified within the Rehabilitation Standards. Intent is also not voiced; the Standards and Guidelines are clearly stated for use. The SOI Standards have limited use of example photos, they are used mostly for interest and opening the minds-eye, not as a "what is required" example.

Conclusion: The US Secretary of the Interior's (SOI) Standards for the Treatment of Historic Properties is not a building code. The SOI Standards is also not a collection of appropriate design examples. The SOI Standards are not specific and do not give you an immediate answer. The standards pose a significant question and it is up to the person to address that question appropriately. The Standards are supplemented with additional recommendations in the form of guidelines, which again is general advice. A specific design decision is made by the architect and or applicant and that decision is tested against each specific listed standard. The utilization of SOI Standards does take a different kind of mind set as well as a greater understanding of historic preservation principles.

Heritage Preservation Commission **6. B.**

Meeting Date: 11/18/2020

From: Sara Dechter, AICP, Comprehensive Planning Manager

TITLE:

Historic Facades and Signs Grant Completion

PROPERTY INFO

Address: 215 S Park St.

Information:

215 S Park St. is the historic home of Manuel and Ynecita Chavez historically and was purchased by the Robinson family in the 1980s. In 2017, the property owner applied for a grant from the City to replace the roof. Halfway through the job, the contractor walked away, leaving the building exposed during a heavy monsoon season leading to damage throughout the building. The property owner sent a letter saying they were sad but could not finish the work and were selling the property with the expectation it would be demolished and the City could reallocate the grant.

That could have been the end of the story. However, the new property owner, Walker Chancellor of Hope Construction, examined the building and wanted to take another look at preserving it. He found some historic photos and came back to the City to see if he could reapply for the grant. The Heritage Preservation Commission had never given a grant to a property after the previous project failed, but the property owner had a proven track record and showed that he could complete the work. The grant was reallocated in 2019 and renovations began.

Chancellor not only replaced the roof and restored the stucco, which was the material on the building in the early twentieth century, but found one room of the building was built entirely of railroad ties. He left them exposed on the interior to show the innovation and history of the building and the neighborhood.

This is a great example of how the tools of the City's Heritage Preservation program and the skills of builders, the Heritage Preservation Office and support of the Heritage Preservation Commission can save a building; so it is a sustainable asset to its neighborhood and Flagstaff's history. Big kudos to everyone for their persistence.

Attachments

Bathroom photo

Dining Room photo

Exterior 1 photo
Exterior 2 photo
Kitchen photo
Living Room photo

TOBY © RON BURNS

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Heritage Preservation Commission **7. A. 1.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

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TITLE:

310 E Dale Ave. - Porch reconstruction

PROPERTY INFO

Permit Number(s): BP-20-02241
Address: 310 E Dale Ave.
Type of Approval: Porch reconstruction
Approval Date: 10/27/2020

Findings:

Approved with conditions noting requirements for reconstruction. Plans indicate accurate reconstruction.

Heritage Preservation Commission **7. A. 2.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

Old Courthouse Demolition- Courthouse & prosecutors office.

PROPERTY INFO

Permit Number(s): BP-20-02281 & BP-20-02282
Address: 15 N Beaver & 107 W Aspen
Type of Approval: Demolition
Approval Date: 10/27/2020

Findings:

Previously reviewed and approved for demoliton.

Heritage Preservation Commission **7. A. 3.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

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TITLE:

K&E Realty window replacement

PROPERTY INFO

Permit Number(s): BP-20-02358
Address: 104 W Forest Ave
Type of Approval: Permit for window replacement - approved with conditions
Approval Date: Oct 20, 2020

Findings:

Approved with conditions for preservation of primary fenestration noting mid-century corner turn window configuration.

Heritage Preservation Commission **7. A. 4.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

Mill Town - ADOT Demolitions

PROPERTY INFO

Permit Number(s): PZ-16-00239-08
Address: 1801 S Milton
Type of Approval: Concept Plat Review
Approval Date: Oct 22, 2020

Findings:

Project previously reviewed for compliance.
Extensive demolition of exiting ADOT faculties and Fresquez home demolished. Local historians have collected information and photographs of Fresquez home, HPO has request recordation of mid-century home.

Heritage Preservation Commission **7. B. 1.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

Lofts at Continental

PROPERTY INFO

Permit Number(s): PZ-20-00183
Address: 5531 E Cortland
Type of Approval: Concept plan review
Approval Date: Oct 22, 2020

Findings:

A proposed 142-unit apartment complex on 10.57 acres of undeveloped land.
Project requires a Cultural Resource Survey.

Heritage Preservation Commission **7. B. 2.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

Trathnigg unit #4 demolition

PROPERTY INFO

Permit Number(s): PZ-20-00190
Address: 314 N Beaver
Type of Approval: Demolition review of back #4 unit
Approval Date: 10/27/2020

Findings:

Applicant has indicated that Unit #4 (on alley) of 50 + years of age was determined to be non-contributing to the various structures located on the property at 314 N Beaver. Submission narrative letter indicates heritage review of non-contributing clearance, documentation was not submitted. HPO is awaiting documentation and has notified applicant in review.

Heritage Preservation Commission **7. B. 3.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

LNN RV Storage

PROPERTY INFO

Permit Number(s): PZ-19-00208-01
Address: 2690 E Huntington Dr.
Type of Approval: Site Plan Review
Approval Date: Oct 22, 2020

Findings:

Applicant notes that Phase-1 ESA by WTI is sufficient for historic resources identified. HPO does not concur with this, environmental assessments differ from cultural resource surveys. A small segment of the site was developed for a radio station (1970-2005) and was demolished. The majority of the site remained undeveloped. Additional survey is required, applicant notified.

Heritage Preservation Commission **7. B. 5.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

Newman Center - Catholic Facility
Proposed demolition and development of new facility

PROPERTY INFO

Permit Number(s): PZ-19-00207-01
Address: 520 Riordan Ranch St.
Type of Approval: Concept Plan Review
Approval Date: Oct 22,2020

Findings:

The project proposes to demolish the 71 year old Newman Center and replace with a new facility. The propose replacement is has a more church like appearance integrated into its multi-use aspects as a student related facility.
The mid-century design of the Newman Center needs to be documented at a minimum with a Cultural Resource "Letter Report".

Heritage Preservation Commission **7. D.**

Meeting Date: 11/18/2020

From: Mark Reavis, Heritage Preservation Officer and Neighborhood Planner

---

TITLE:

FSL San Francisco Square Senior Housing.

PROPERTY INFO

Permit Number(s): PA-19-00031-01
Address: 320 N Humphreys
Type of Approval: IDS review - concept plan
Approval Date: Oct 22, 2020

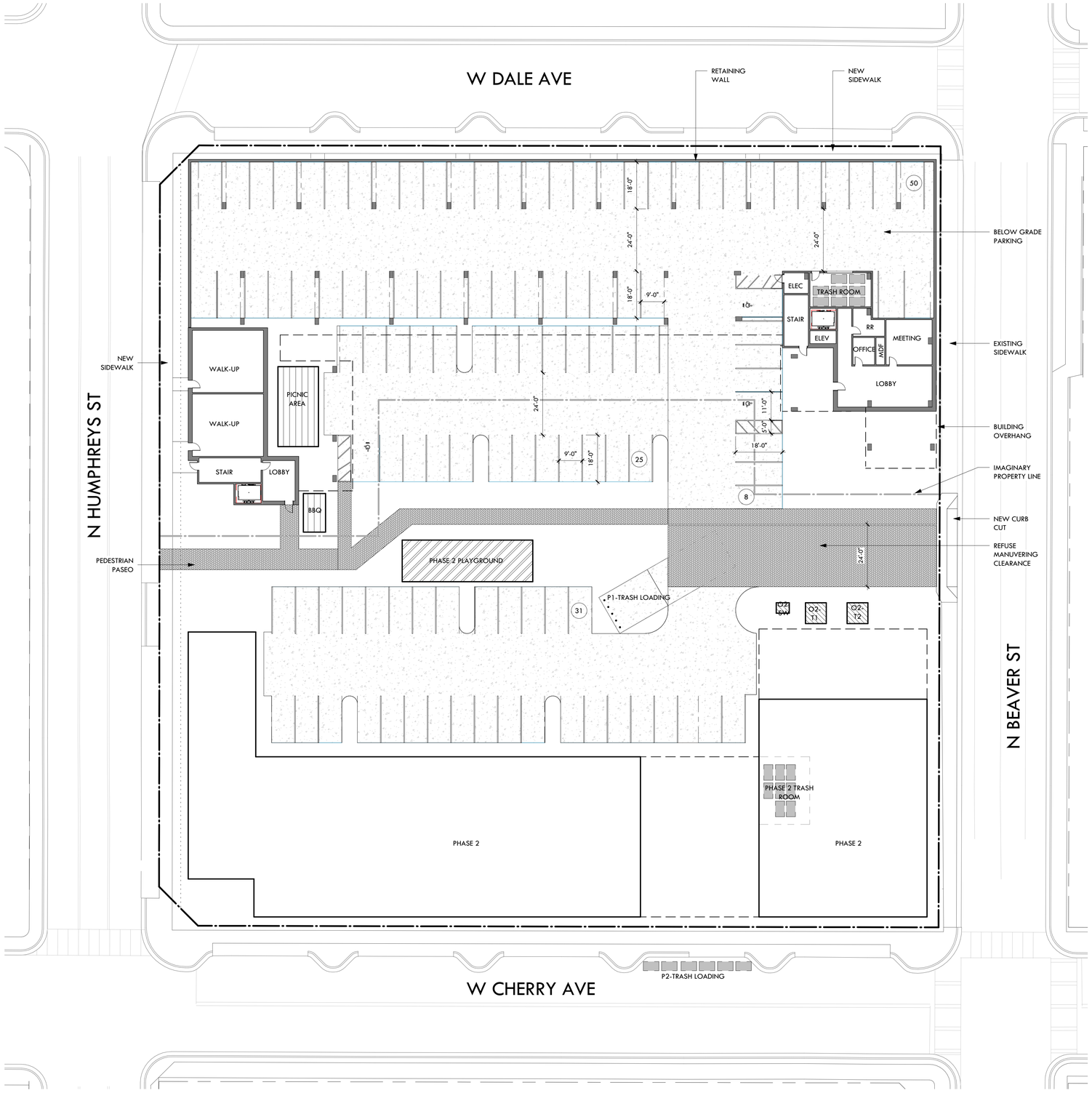
Findings:

Prior review noted historic structures of 50 + years for both school and Babbitt home. School will be provided with a phase-1 Cultural Resource Report. The project does not intent to avoid the Babbitt home with its Phase-one building placement. A phase-2 Cultural resource report with the homes documentation is planned to be prepared and presented at the December 2020 meeting of the Heritage Preservation Commission (HPC), November 24th is the deadline submission date for the December 16th HPC meeting.

This property is located outside the Downtown Overlay.

Attachments

Senior Housing FSL



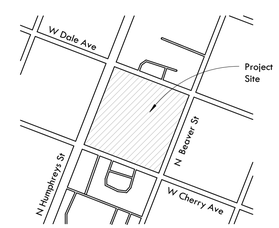
1 01 - Schematic Plan
1" = 20'-0"

PROJECT INFORMATION

DEVELOPMENT NAME:	SAN FRANCISCO SQUARE
SITE ADDRESS:	320 N. HUMPHREYS FLAGSTAFF, AZ 86001
ASSESSOR'S PARCEL NUMBER (APN):	101-13-008A
PROPERTY OWNER'S NAME AND CONTACT INFORMATION:	FSL | STEVE HASTINGS 1201 E. THOMAS RD. PHOENIX, AZ 85014 SHASTINGS@FSL.ORG 480.241.1155
PREPARER'S NAME AND CONTACT INFORMATION:	PEAK ENGINEERING | JULIE LEID 110 N. AGASSIZ STREET FLAGSTAFF, AZ 86001 JULIE@PEAKEGR.COM 928.814.8208
SITE ACREAGE - TOTAL:	2.06 NET ACRES 2.81 GROSS ACRES
ACREAGE - P1:	0.83 NET ACRES 1.20 GROSS ACRES
BUILDING FOOTPRINT - P1:	25,250 SF
LOT COVERAGE - P1:	69%
PROPOSED BUILDING AREA - P1:	~85,000 GSF
NUMBER OF DWELLING UNITS:	70 UNITS - PHASE 1 ~76 UNITS - PHASE 2 146 UNITS TOTAL
MATERIALS MANAGEMENT REQUIREMENTS - P1:	3 CY PER 20 UNITS 70 UNITS / 20 UNITS = 4 x 3 CY 12 CY - TRASH AND RECYCLING EACH
PROVIDED REFUSE - P1:	12 CY - TRASH AND RECYCLING EACH

Concept Plan Sheet Index

Sheet Number	Sheet Name
II.2 Concept Plan	
Z0.11	Conceptual First Floor
Z0.12	Conceptual Second Floor
C1.0	Existing Conditions & Demolition
C2.0	Civil Improvements
II.3 Concept(Preliminary) Landscape Plan	
L1	Concept Landscape Plan
II.5 Site Analysis	
Z0.13	Site Analysis



VICINITY MAP

ARTHITECTURAL RESOURCE TEAM

1055 e indian school rd
phoenix, az 85014
602-307-5399 | v

www.art-team.com

Foundation for Senior Living
San Francisco Square
320 N. Humphreys St.
Flagstaff, AZ 86001

Concept Plan Submittal

Revision Schedule

No.	Date	Description

ART PROJECT NO. 20030
DATE 10.13.2020
DRAWN BY CS
CHECKED BY DMc

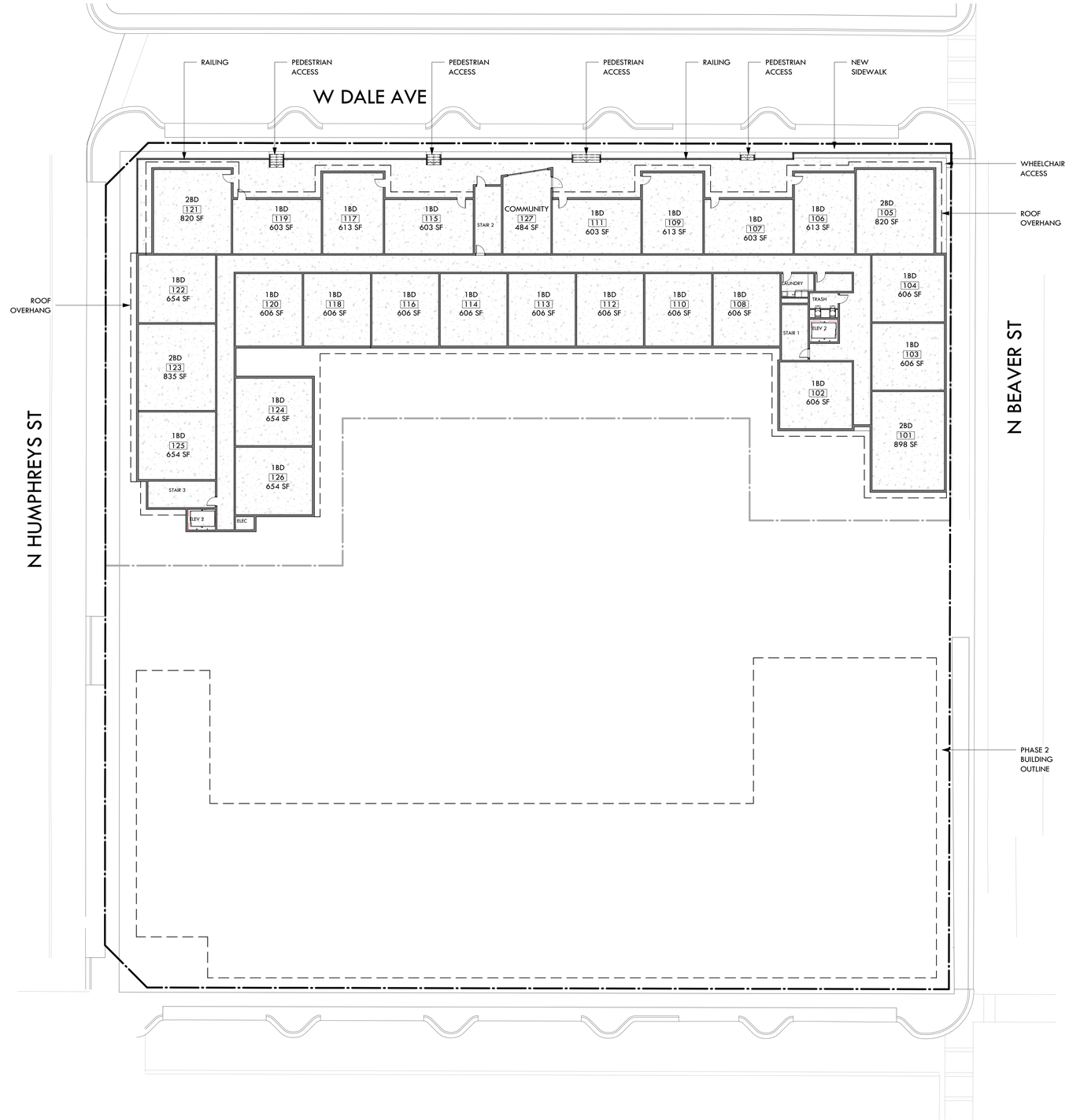
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF ARCHITECTURAL RESOURCE TEAM, INC. THIS DRAWING MAY NOT BE REPRODUCED, OR REPRODUCTIONS HEREOF USED, WITHOUT WRITTEN PERMISSION

PRELIMINARY NOT FOR CONSTRUCTION

DRAWING TITLE
Conceptual First Floor

DRAWING No.
Z0.11

PLEASE RECYCLE
IF THIS IS NOT 24"X36", IT IS A REDUCED PRINT - SCALE ACCORDINGLY
10/12/2020 5:34:56 PM



1 02 - Schematic Plan
1" = 20'-0"

PLEASE RECYCLE

IF THIS IS NOT 24"X36", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

10/12/2020 5:34:57 PM

ARCHITECTURAL RESOURCE TEAM

1055 e indian school rd
phoenix, az 85014
602-307-5399 | v

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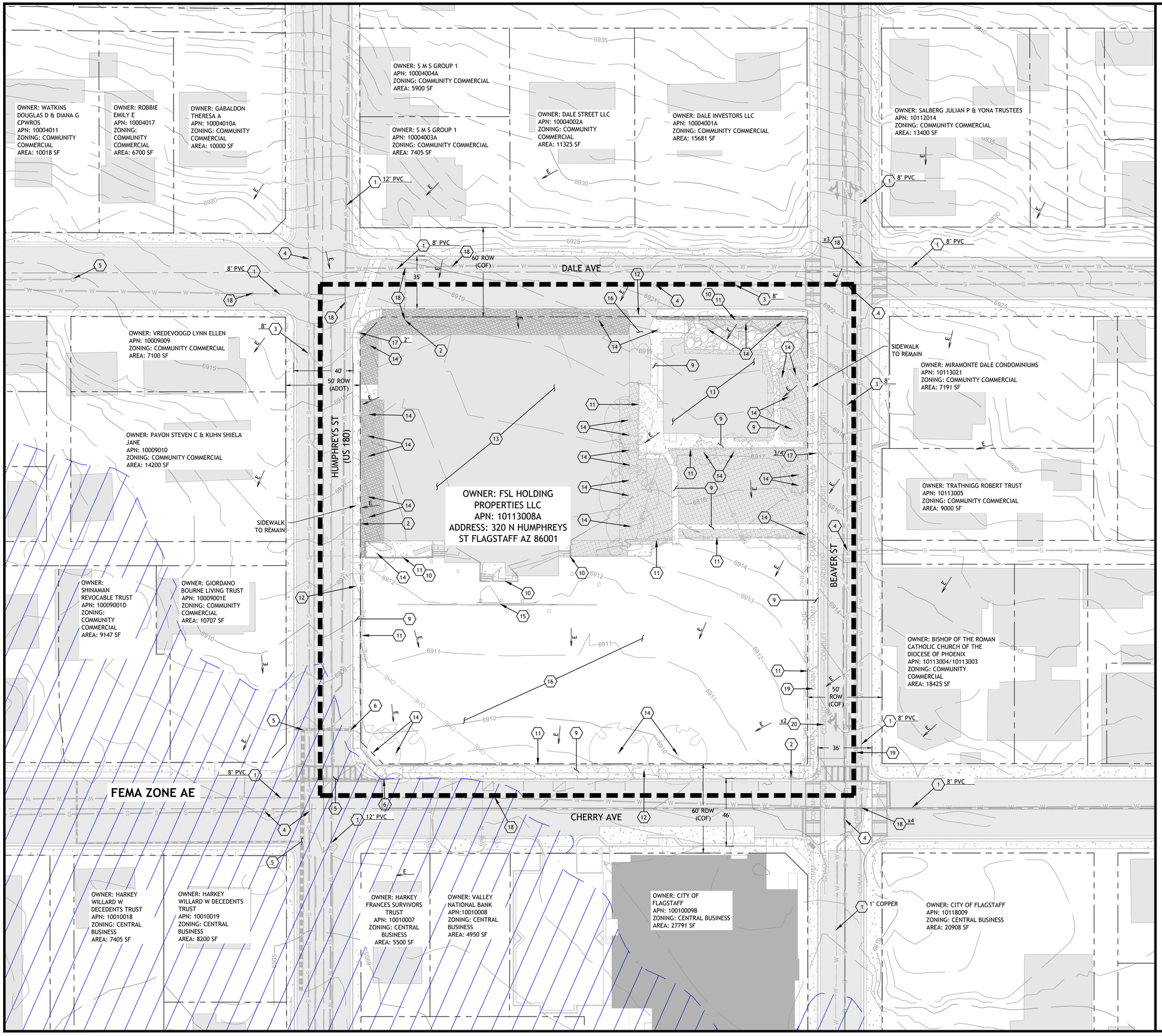
PRELIMINARY NOT FOR CONSTRUCTION

DRAWING TITLE
Conceptual Second Floor

DRAWING No.
Z0.12



KEYNOTES (X)

1 Waterline (Appoximate location per GIS data)
2 Hydrant
3 Sewer line (Size per GIS data)
4 Sewer Manhole
5 Storm drain
6 Catch basin
7 Gas line
8 Gas meter
9 Sidewalk
10 Wall
11 Fence
12 Driveway
13 Building to be removed
14 Tree/Shrub to be removed
15 Vertical Curb
16 Asphalt
17 Water Meter
18 Water Valve
19 Comm Line
20 Conduit Line

TOTAL SITE AREA:

±2.1 ACRES

FEMA 100 YR FLOODPLAIN:

ZONE X (MINIMAL FLOOD HAZARD)

LEGEND

	Existing	Proposed
Contour	-7000-	-7000-
Right-of-way		
Property Line		
Easement		
FEMA Limits		
Building (Remove)		
Water line	W	8" W
Sewer line	S	8" S
Electric	OHE E	E
Comm line	COMM	COMM
Gas line	G	G
Trench limits		
Stormdrain		
GIS Stormdrain	SD	
Fence		
Fire hydrant		
Water valve		
Water meter		WM
Tree/Shrub		
Electric cabinet		
Sewer manhole	S	S
Sewer cleanout	CO	CO
Gas appurtenance	G	
Light pole		
Bollard		
Asphalt		
Concrete		
Pavers		
FEMA Zone AE		
Existing Flow Pattern	E	
Proposed Flow Pattern	P	

CONCEPT PLAN

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

DATE	DESCRIPTION	REVISION

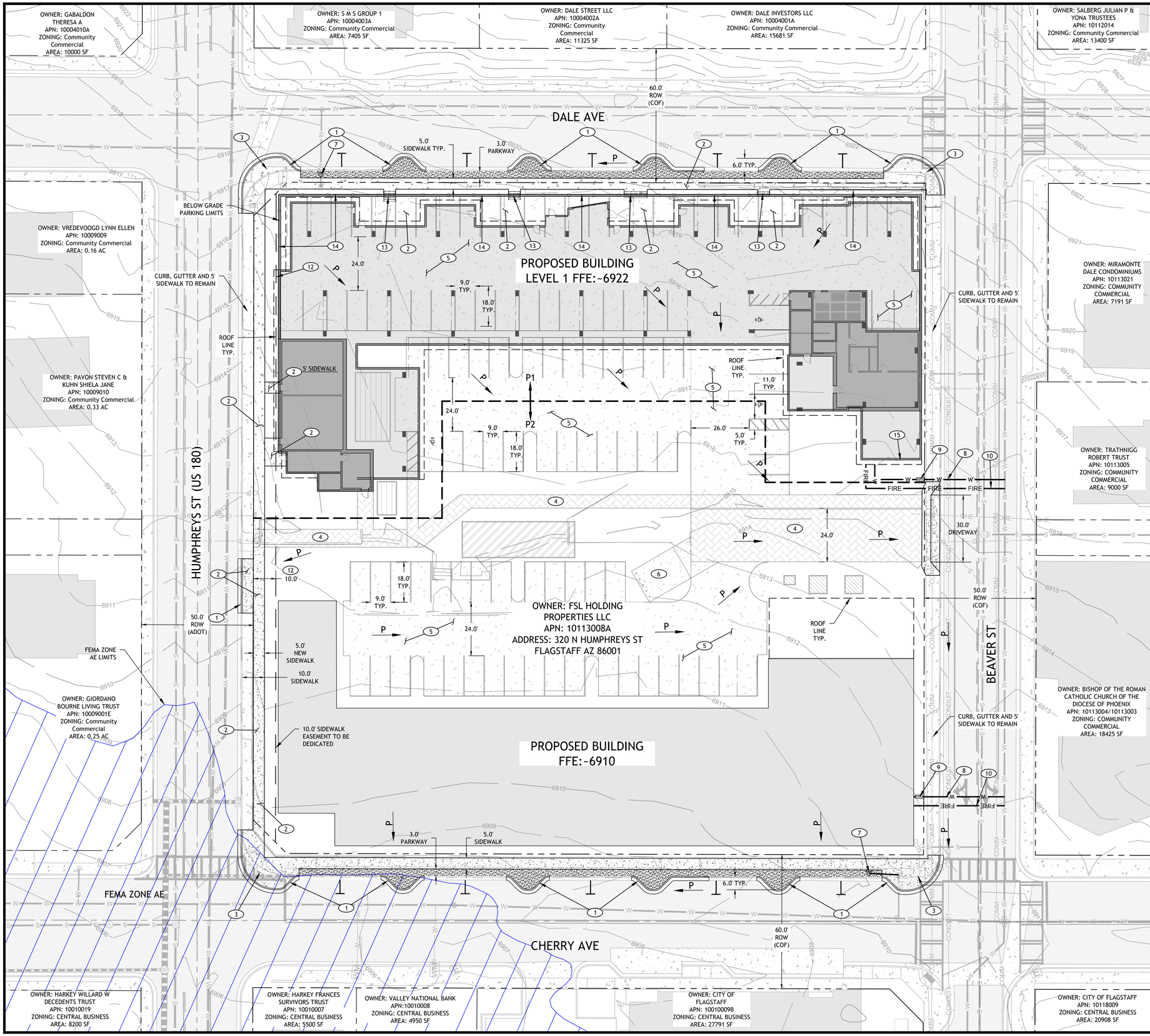
Peak ENGINEERING, INC.
Connecting Place to People
110 N. Agassiz St.
Flagstaff, AZ 86001
(928) 774-4046

preliminary Not For Construction

CITY OF FLAGSTAFF
FOUNDATION FOR SENIOR LIVING
HUMPHREYS DEVELOPMENT
EXISTING CONDITIONS & DEMOLITION
COF PROJECT NO.

JOB NO:20FSL01
BY:MRB/CBW
DATE: OCTOBER 2020
CHECKED:SAH/JOL #

C1.0



KEYNOTES (X)

1. Curb & Gutter
2. Sidewalk
3. ADA Ramp
4. Paver Walkway/Driveway
5. Concrete Parking area
6. Trash Enclosure
7. Relocate Fire Hydrant
8. Water Service
9. Reduced Pressure Backflow Assembly
10. Fire Service
11. Sewer Service
12. Sidewalk Easement Dedication
13. Stairs
14. Safety Railing
15. Remote FDC

LEVEL 1 BUILDING AREA

UPPER LEVEL BUILDING AREA

P → PROPOSED FLOW ARROW

GROSS ACREAGE:
±2.06 ACRES

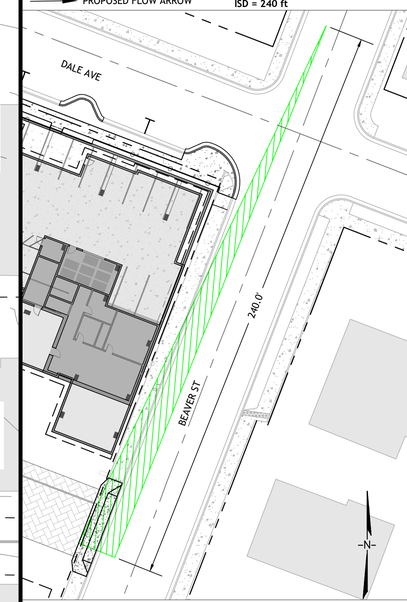
EXISTING IMPERVIOUS AREA:
75,777 SF

PROPOSED IMPERVIOUS AREA:
75,493 SF

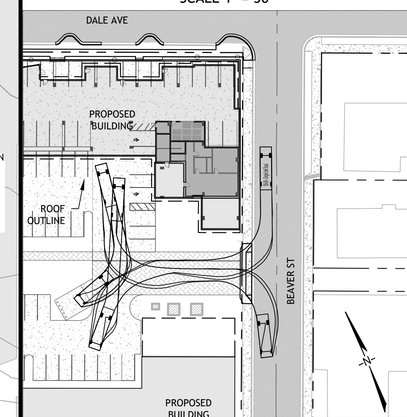
NET IMPERVIOUS AREA:
-284 SF

STORMWATER MANAGEMENT:
There is a reduction of on-site impervious area therefore stormwater detention is not required.

INTERSECTION SIGHT DISTANCE
Per AASHTO A Policy on Geometric Design of Highways and Streets Section EQ 9-1 & Tables 9-7 & 9-8.
ISD(ft) = 1.47*V(major) * T(g)
Vmajor(Beaver St) = 25 MPH
T(g) = 6.5 per Table 9-7
ISD=1.47*25*6.5= 238.88 ft
ISD = 240 ft



SIGHT TRIANGLE - CASE B2
SCALE 1" = 30'



SU30 TURNING MOVEMENT
SCALE 1" = 50'

GRAPHIC SCALE 1" = 20'
20 0 20 40 60

CONCEPT PLAN

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

REVISION	DESCRIPTION	DATE

Peak ENGINEERING, INC.
Connecting Place to People
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Flagstaff, AZ 86001
(928) 774-4046

Preliminary Not For Construction

CITY OF FLAGSTAFF
FOUNDATION FOR SENIOR LIVING
HUMPHREYS DEVELOPMENT
CIVIL IMPROVEMENTS

COF PROJECT NO.

JOB NO:20FSL01 | BY:MRB/CBW
DATE: OCTOBER 2020 | CHECKED:SAH/JOL

C2.0

P:\20FSL\20FSL01 - Humphreys-Beaver Sr Living\04 CAD\20FSL01-CIVIL IMPROVEMENTS.dwg, 10/12/2020 1:59:27 PM, DWG To PDF-PEAK2017 no layers.pc3, 1:1

8. A.

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To:	The Honorable Mayor and Council
From:	Mark Reavis, Heritage Preservation Officer and Neighborhood Planner
Date:	11/05/2020
Meeting Date:	11/18/2020

TITLE:

Duffie Westheimer, Executive Director, Townsite Community Land Trust:
Thank you note and invitation - Garage at 720 W Birch.

STAFF RECOMMENDED ACTION:

Please read the attached thank you note and invitation. If Commission members would like to accept Ms. Westheimer's invitation, they may do so in groups of less than three members, or by coordinating the date with the Commission liaison so that a quorum may be advertised.

Executive Summary:

This invitation is in regards to the stabilization and preservation of a unique garage that utilized the Historic Facade and Sign Grant program. Project is complete, inspected and payment of grant funding received.

Policy Impact:

None

Attachments: Duffie TS

3 November 2020

Dear Heritage Preservation
Commission Members,

Thank you for the grant
toward stabilizing - and so
preserving - the masonry
garage at our 720 W. Birch Ave.
project.

I am happy to tour any of
you through the project.

Best regards,

Duffie Westheimer
Executive Director, Townsite
Community Land Trust
ph. 928-268-2909 or info@townsiteclt.org