

# Risk Management in Construction

## How to Avoid the Construction Industry Wheel of Misfortune

UMass Amherst  
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# About Steven J. O'Neill



- 42 years overall experience with construction industry issues
  - Former carpenter, licensed supervisor, contractor, and project manager
- 26 years full-time law practice (business, construction, technology)
  - Admitted to State & Federal Courts in MA and CT
  - Appointed to Emerging Technology Law Committee Transportation Research Board, 2006 - 2015
- Legal Experience
  - Seattle Practice 1991 - 2001
  - Construction & Surety Law at Halloran & Sage, Hartford
  - Construction & Gov. Contracts at Thelen Reid, Hartford
  - Construction & Technology Law Partner, Bowditch & Dewey, Worcester
  - Current Practice in Hartford and Springfield areas

# The Wheel of Misfortune

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# The Wheel of Misfortune Vegas Style

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# The Wheel of Misfortune Clark County Nevada

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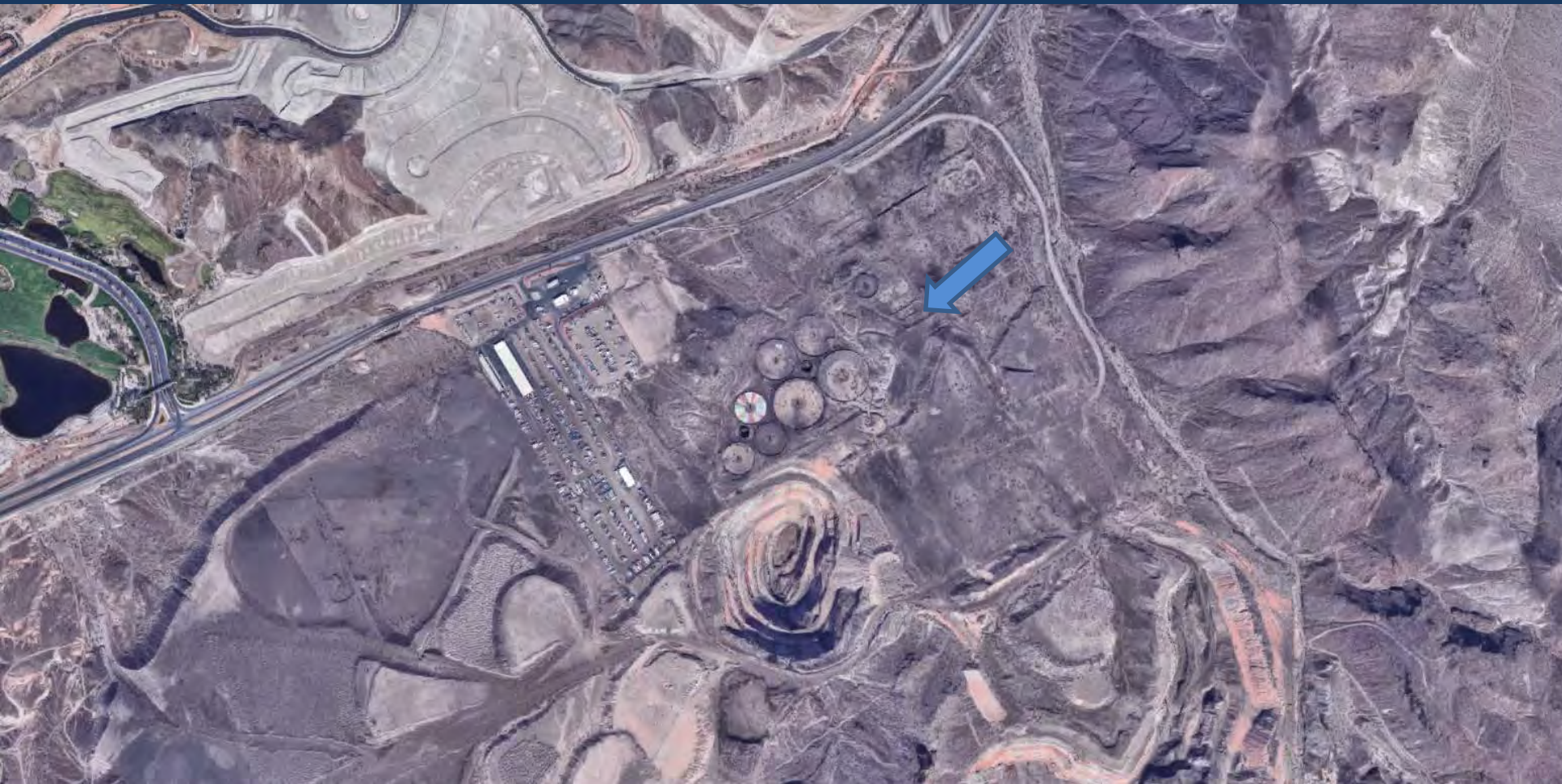




# The Wheel of Misfortune

## Boom Towns Like Henderson, NV

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# The Wheel of Misfortune

## Built on the outskirts of Vegas

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# The Vegas Wheel of Misfortune Now Abandoned Development

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<https://www.google.com/maps/@36.0927605,-114.9221707,155a,35y,145.69h,71.08t/data=!3m1!1e3>



# The Vegas Wheel of Misfortune

## End of the Road

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# The Construction Wheel of Misfortune

## What Could Possibly Go Wrong?

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# Thinking About Risk

## Learn how things break and rot

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# Thinking About Risk Plan Ahead

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# Thinking About Risk Attention to Detail

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# Thinking About Risk

## Scheduling: Form vs. Substance

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# Thinking About Risk

## Sometimes it actually is a church

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# Thinking About Risk Code Interpretation – Regulatory

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# Risk Identification Six Years of Litigation

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# What is Risk?

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## Basic Risk Categories

- Assets
- Income
- Legal Liability

# What is Risk?

Static or Pure Risks = **BAD**

- Fire
- Flood
- Wind
- Unsafe Employee Conditions
- Strikes
- Theft
- Pollution

Speculative Risks = **GOOD** or **BAD**

- Mergers & Acquisitions
- New Markets
- New Employees
- Investments in Equipment / Technology

Force Majeure ~ ACT of GOD



# Objectives of Risk Management

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1. Preserving an organization's assets, reputation and other value,
2. While maximizing profits / shareholder value
3. Through the management of both pure and speculative risks.

# Defining Risk Management

## Several Approaches

Approach 1	Approach 2	Approach 3
Avoidance	Avoidance	Avoidance
Control, Minimize	Mitigation	Mitigation
Assumption	Acceptance	Acceptance
Allocate to Others	Transference	Transference
Insurance		
		Contingency



Avoidance	✓ Eliminate the threat or condition or to protect the project objectives from its impact by <u>eliminating the cause</u>
Mitigation	✓ Reduce scope
Acceptance Assumption	✓ Change project plan
Transference Allocation	✓ Add resources or add time
Insurance	✓ Adopt a familiar approach instead of an innovative one
Contingency	✓ Include aggressive change order clause for forced changes
	✓ Punt - Don't take the job!

Avoidance

Mitigation

Acceptance  
Assumption

Transference  
Allocation

Insurance

Contingency

- ✓ Early action
- ✓ Reduce the probability and/or consequences of a risk event to an acceptable level of impact to
  - cost
  - scope, or
  - schedule
- ✓ Better plan, better crew, better weather, better equipment, better contract, better records, better luck, etc.



Avoidance

- ✓ Decision to deal with risks if/when they pop up
- ✓ Decision not to change project plan

Mitigation

- ✓ Reasonable when no feasible way to change the project plan to deal with anticipated risk

Acceptance  
Assumption

- ✓ May be reasonable when extensive experience with project type

Transference  
Allocation

- What can really go wrong on my 150<sup>th</sup> roofing job?

Insurance

Contingency

Avoidance

Mitigation

Acceptance  
Assumption

Transference  
Allocation

Insurance

Contingency

- ✓ Shifting the consequence of a risk to a third party with the responsibility for its management via contracts, performance bonds, warranty.
- ✓ Allocating financial, scheduling, liability and other risks to any other party is one of the fundamental goals of a contract
- ✓ Can be to owner, subcontractors, suppliers

Avoidance

Mitigation

Acceptance  
Assumption

Transference  
Allocation

Insurance

Contingency

- ✓ Get a real design & construction insurance broker on your team
- ✓ Review CGL policies with broker – know all exclusions
- ✓ Understand Builders Risk coverage
- ✓ Price Hazmat / Pollution insurance
- ✓ Business Interruption Insurance
- ✓ Know options for increasing / supplementing coverage for risky project – add premiums to price
- ✓ Coverage extension from claims-made policies to cover actual period of risk
- ✓ Umbrella Policy



Avoidance

Mitigation

Acceptance  
Assumption

Transference  
Allocation

Insurance

Contingency

- ✓ If plans are undeveloped at bid stage, add a contingency factor to the price – lump sum or line item
- ✓ Use “allowances” in cost schedule – and clearly define the terms in the contract
- ✓ Know that a “Change Order” is a legal tool to modify a contract
  - to alter the scope of work,
  - the value, and/or
  - the contract time (schedule)
- ✓ Have clauses that allow you to extend the contract time in the event of the occurrence of various classes of risk

# Risk Management Wheel of Fortune

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# Benefits of Risk Management



- Get Paid
- Avoid Disputes
- Win Disputes
- Smaller Target for Litigation
- Protect Assets
- Protect Reputation
- Stay in Business
- Lower Insurance Premiums
- Spend less time putting out fires
- Smarter, more profitable, because of eventual ROI
- Easier, unless you are *always always* lucky



# Risk Management

## Whose job is it?

Larger companies have formal risk management departments.

- Objective to avoid or minimize risk through loss prevention programs
- Formal written risk management policy template
- Risk management policy then adapted and applied to each project type
- Risk management part of contract terms
- Risk management part of insurance coverage
- Risk management policy built into training, employment manuals, jobsite policies, etc.

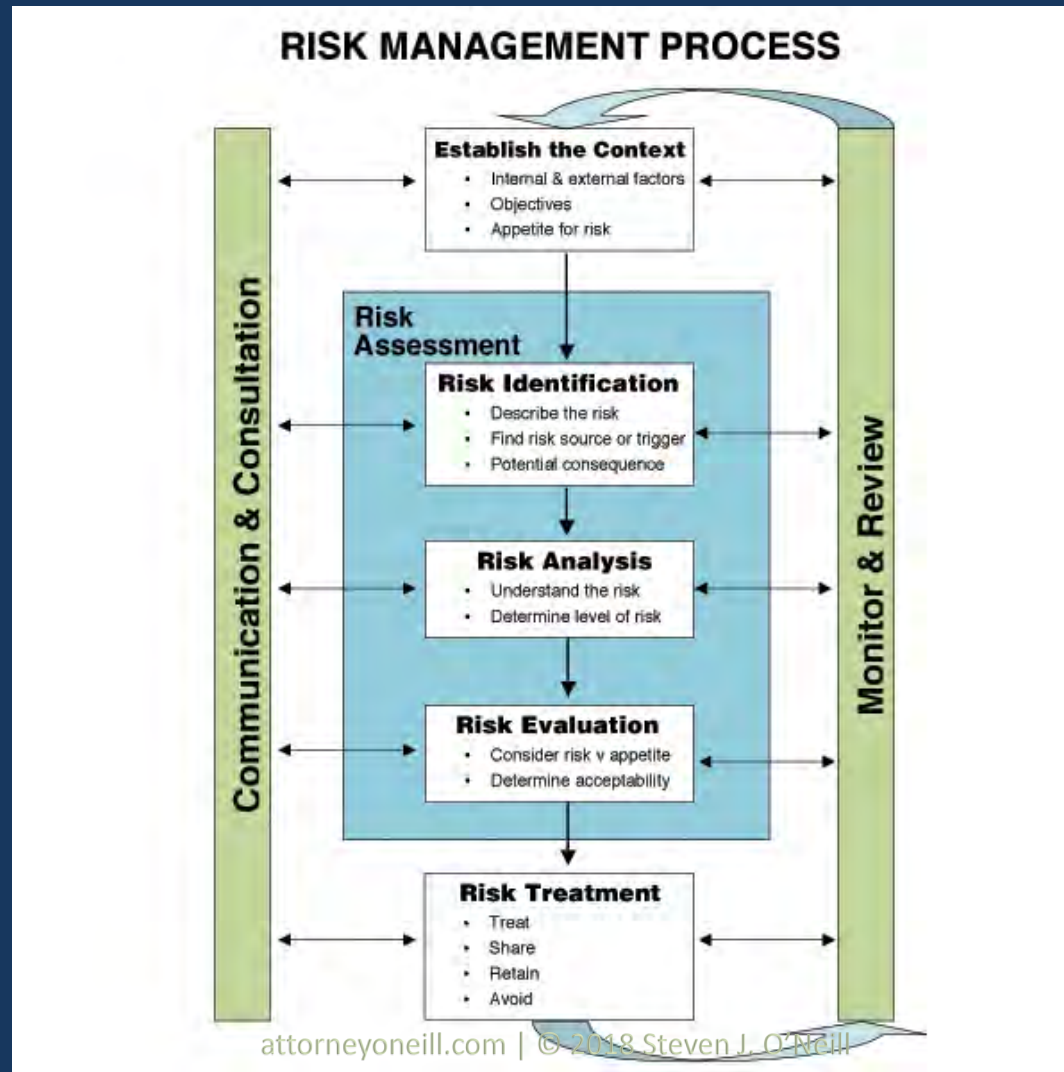
Smaller companies can make it part of job descriptions

- Use Checklists

## Process Steps:

1. Identification of Risk
2. Analysis of Risk
3. Evaluation of each Risk
4. Selection of appropriate means to deal with each Risk;  
and
5. Monitoring Results (Improvement)

# Risk Management Process - 2





# Risk Management Process - 3

## Risk Analysis & Evaluation Matrix

Likelihood of residual risk	Almost Certain 5	5 Supplementary Issue	10 Issue	15 Unacceptable	20 Unacceptable	25 Unacceptable
	Probable 4	4 Acceptable	8 Supplementary Issue	12 Issue	16 Unacceptable	20 Unacceptable
	Possible 3	3 Acceptable	6 Supplementary Issue	9 Issue	12 Issue	15 Unacceptable
	Unlikely 2	2 Acceptable	4 Acceptable	6 Supplementary Issue	8 Supplementary Issue	10 Issue
	Rare 1	1 Acceptable	2 Acceptable	3 Acceptable	4 Acceptable	5 Issue
		Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Consequence						

# NARI CRPM 2013

## The 6 Certification Domains

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- A. Project Planning
- B. Communications
- C. Project Cost Management
- D. Quality Assurance
- E. Risk Management
- F. Recordkeeping

1. Reviewing the existing job conditions to assess how deviations from what was known at contracting may affect project completion and performance
2. Analyzing how the work contracted to be done will affect the overall project with respect to safety, efficiency, meeting or exceeding code, and passing inspections
3. Construction-specific risks such as LRRP, Asbestos, Mold, and "work safe" guidelines
4. Monitoring the financial performance of the project and how it affects the business' stability, success, and profitability
5. Identifying potential risks and incorporating plans to monitor or mitigate them into the overall project plans
6. Identifying and managing unexpected situations that may have been missed in the estimating process



7. Making the entire project team aware of potential risks and actions they need to take, especially on the jobsite, to manage and mitigate risks
8. Conducting appropriate and timely risk assessments and identifying when and how to bring in specialists such as a risk assessment professional and/or industrial hygienist
9. Monitoring and reporting on changes in the risks and when/if a potential risk occurs on the project

# NARI Certified Remodeling Project Manager Program (CRPM)



## REFERENCES:

- Residential Construction Management: Managing According to the Project Lifecycle, Joseph A. Griffin, PMP. J. Ross Publishing. 2010. ISBN: 978-1-60427-022-8
- A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Fourth Edition Project Management Institute (PMI). 2008. ISBN: 978-1-93389-051-7

# Legal Approaches to Risk Management



# Contracts – 1

## What Contracts Can Do



- Contracts can allocate, avoid, limit, quantify, transfer, disclaim or otherwise manage risk
- Aside from a handful of mandatory statutory or boilerplate provisions, anything not illegal or against public policy can be in a contract
- Court's (or arbitrator's) role is to interpret and enforce terms and expectations of parties to contract
- Contract's goal can be to push away as much risk as possible, so you can focus on the core objective of delivering quality work
- The clearer and more detailed the contract, the less likely a dispute will arise, the less likely that the dispute will need an attorney's services, the more likely that it can be worked out

# Contracts – 2

## Choice of Contract

- Contracts of Adhesion in Public Construction
- AIA, ConsensusDocs or Home-Grown?
- One size does not fit all
- Consider modifying a *standard form contract* to suit your project
- AIA can be modified
  - Architects understand it
  - Judges and arbitrators understand it
  - Courts everywhere have written opinions as to what specific clauses mean
- More certainty = less risk.

# Contracts – 3

## Interpretation

- Intent of the Parties
- Course of Dealing; Waiver
- Notice of Claim
- Courts interpret contracts sometimes using the concept of “Omitted Cases.”
  - This means that if your contract omits discussing part of the contractual relationship (e.g., allocation of risk), then the court will try to essentially guess what the parties intended based on common law, course of dealing and other concepts developed to construe (interpret) the contract.
- Huge (Huuuge?) risk that undiscussed terms will be decided against you



# Contracts – 4

## Subcontracts

- Understand Legal Concept of “Flow Down”
- Understand Legal Concept of “Incorporated by Reference”
- Require insurance to stay in force during performance
- Indemnification clause
- Alternative to formal Subcontract: Jobsite Rules incorporated into subcontract by reference. Rules can address:
  - clean up
  - acceptance of work in place
  - coordination of trades
  - security, theft, etc.

# Contracts – 5

## Other

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- Limit and exclude warranties
- Termination provisions
  - Risk of being first party to “materially breach”
  - T for Default
  - T for Convenience
- Know thyself – be realistic about strengths and weaknesses
- Know who you are dealing with

- Adequate safety programs including training and implementation of safe practices
- OSHA can levy large civil and criminal penalties for willful violations
- Who controls site?
- Subcontractor liability?
- Slip & Fall: visitors, customers, children, subs, invitees, trespassers
- Owner occupied project
- Tort Patrol

- Independent contractor vs. employee status
- Discrimination
- At-will employment but with employment manual
- Training in Risk Management
- Many more . . .



- Get a real design & construction insurance pro on your team
- Review CGL policies with broker – know all exclusions
- Understand Builders Risk coverage
- Price Hazmat / Pollution insurance
- Business Interruption Insurance
- Know options for increasing / supplementing coverage for risky project – add premiums to price
- Coverage extension from claims-made policies to cover actual period of risk
- Umbrella Coverage

- Operate under one or more entities: LLC, corporation, etc.
- Observe corporate formalities
- Only sign in your organizational capacity: *Joe Doe, Pres., My LLC*
- Do not commingle assets between personal and business
- Try not to give full personal guarantees
- Record a homestead exemption
- Set up trusts for assets
- Have an estate plan
- Put assets in other entities or spouse/children
- Document loans to your business
- File tax returns
- Know how to use bankruptcy laws – Insider preferences

- Data tells you where you are making or losing money by job or job type
- Use technology
- Get help
  - CPA for planning
  - Get consultant to help set up office and paperwork systems

# Recordkeeping

## *“Build a Record You’ll be Proud Of”*

- Make a record that will help in a dispute. Records should:
  - Be factual
  - Be specific
  - Be accurate
  - Be as contemporaneous as possible (e.g., dictate to voicemail)
  - Explain who, what, when, where, & how
  - Not overstate facts or positions
  - Not be emotional
- Tax records
- Payroll records
- Undocumented labor
- Employment posters
- Enforcement is often through audit



- Is important to owner, prime, lender, sureties, etc.
- Is in the contract, whether you see it or not
- Start with a simple bar or Gantt Chart
- Keep it simple
- Keep it updated
- Communicate it to all stakeholders
- Plan ahead to stay on schedule
- Who is your backup?
- Recordkeeping & Communications should validate changes in case of dispute

- Employee steals customer lead list from iPad
- Loss of laptop computer
- Hacked or virused computer – you can't get invoices out
- Computer breaks – backup copies don't work
- Credit card use requires PCI Compliance on some level
- If MA customers or employees – you must have a WISP
  - Written Information Security Program

- Fireproof safe
- Off-site computer backup – actually tested
- Business interruption insurance
- Disability insurance

- BIM – Who owns the risk?
- Computer software
  - Estimating software malfunction
  - Energy modeling software assumptions
- Green Building Performance Warranties
- Value Engineering
- Commissioning
- Dispute Resolution
  - Do you really want to bet your entire business on one arbitrator?



# Risk Identification

## Weakest Link

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