

BUILDING SYSTEMS ANALYSIS



**■ RECOMMENDATIONS & MAINTENANCE
COST ESTIMATES BY COMPONENT**



SUMMARY SHEET

Estimated Construction Costs by Year

	0 - 1 Year	2 - 5 Years	5 - 10 Years
1. Northern NH Correctional Facility for Men	\$197,500	\$90,000	
2. Lakes Region Facility	\$12,374,800	\$4,125,000	\$350,000
3. New Hampshire State Prison for Men	\$2,962,500	\$1,015,000	\$365,000
Transportation/Training Building		\$5,000	
Maintenance Shops	\$22,000	\$1,500	
Prison Farm - Hay Barn	\$124,500	\$107,500	
Retail Shop	\$500	\$92,500	
4. New Hampshire State Prison for Women	\$54,500	\$567,500	\$170,000
5. Transitional Housing Unit for Men	\$12,000	\$164,000	\$30,000
6. North End House for Men	\$6,000	\$140,500	
7. Calumet House	\$14,500	\$420,000	
8. Shea Farm for Women	\$8,500	\$283,000	\$10,000
Total Estimated Construction Costs	\$15,777,300	\$7,011,500	\$925,000



**NORTHERN NH CORRECTIONAL
 FACILITY FOR MEN
 BERLIN, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Add redundant boiler
- Air conditioning for visitation
- Additional makeup air for generators

Plumbing:

- Extend gas piping to new boiler

Electrical:

- For HVAC Modifications
- Add lighting occupancy sensors

	0-1 Year	2-5 Years	5-10 Years
	\$175,000		
		\$50,000	
		\$15,000	
	\$2,500		
	\$20,000	\$10,000	
		\$15,000	

Total Estimated Construction Costs

\$197,500

\$90,000

\$0



**LAKES REGION FACILITY
 LACONIA, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace underground steam and condensate piping
- VFD on boiler feed pumps
- Boiler replacement
- New HVAC system in each building:
 - Spaulding
 - Admin
 - Blood
 - Murphy Wing
 - Quinby
 - King
 - Toll
 - Rice
 - Speare
 - Powell
 - Keyes
 - Laundry

Plumbing:

- Replace plumbing fixtures
- Replace domestic water piping in each building
- Add backflow preventers
- Replace hot water generators
- Replace waste piping under buildings
- Replace sprinkler systems and add to areas not covered

Electrical:

- New Electrical system in each building (Power, lighting, fire alarm, low voltage systems):
 - Spaulding
 - Admin
 - Blood
 - Murphy Wing
 - Quinby
 - King
 - Toll
 - Rice
 - Speare
 - Powell
 - Keyes
 - Laundry

	0-1 Year	2-5 Years	5-10 Years
	\$4,000,000		
	\$15,000		
		\$200,000	\$350,000
	\$290,000		
	\$280,000		
	\$525,000		
	\$165,000		
	\$760,000		
	\$255,000		
	\$1,250,000		
	\$175,000		
	\$175,000		
	\$405,000		
	\$375,000		
	\$130,000		
		\$675,000	
		\$800,000	
		\$90,000	
		\$360,000	
		\$1,000,000	
		\$1,000,000	
	\$216,000		
	\$238,000		
	\$392,800		
	\$120,000		
	\$570,000		
	\$190,000		
	\$925,000		
	\$130,000		
	\$125,000		
	\$325,000		
	\$280,000		
	\$63,000		

Total Estimated Construction Costs

\$12,374,800 \$4,125,000 \$350,000



**NEW HAMPSHIRE STATE PRISON FOR MEN
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace underground steam and condensate piping
- Repipe R&D areas
- Replace A/B and C/D Air Handlers
- Replace Autoshop Building HVAC
- Replace Autobody Building HVAC
- Replace inside canteen area equipment
- Replace admin area systems
- Replace VAV boxes in main building
- HEPA Filtration for isolation cells
- Vehicle exhaust in auto shop
- Replace 3rd floor industries A/C
- Replace split system in SHU electrical room
- Replace SHU split system
- Replace cooling tower
- Replace H building A/C system
- Replace air compressors for ATC

Plumbing:

- Replace ceramic tile showers with stainless steel units
- Repipe R&D area
- Replace "B" Building domestic piping
- Replace underground domestic hot and cold water feeds to Medium North and South buildings
- Replace fixtures in admin and mental health
- Replace kitchen waste piping
- Replace admin waste piping
- Add backflow preventers in buildings

Electrical:

- Replace panels in shop areas
- Replace older panels
- Electrical for HVAC
- Replace old Generators
- Replace older T-12 Lighting
- Add Lighting Control
- Initial Panel Maintenance

	0-1 Year	2-5 Years	5-10 Years
	\$2,000,000		
	\$150,000		
		\$20,000	
		\$100,000	
			\$150,000
		\$25,000	
	\$500,000		
		\$50,000	
	\$20,000		
		\$15,000	
	\$5,000		
	\$7,500		
			\$15,000
		\$15,000	
		\$15,000	
		\$50,000	
		\$100,000	
	\$25,000		
			\$50,000
	\$10,000		
	\$10,000		
	\$15,000		
	\$50,000		
			\$75,000
	\$10,000		
	\$50,000	\$100,000	\$50,000
	\$100,000	\$75,000	\$25,000
		\$250,000	
		\$150,000	
		\$50,000	
	\$10,000		

Total Estimated Construction Cost

\$2,962,500 \$1,015,000 \$365,000



TRANSPORTATION/TRAINING BUILDING CONCORD, NEW HAMPSHIRE

Estimated Construction Costs By Year

HVAC:

No recommendations

Plumbing:

Add sprinkler coverage

Electrical:

No recommendations

	0-1 Year	2-5 Years	5-10 Years
		\$5,000	
Total Estimated Construction Costs	\$0	\$5,000	\$0



**MAINTENANCE SHOPS
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace unit heaters
- Replace thermostats and wiring

Plumbing:

- Insulate domestic water piping
- Replace air compressor

Electrical:

- Electrical for HVAC
- Add lighting fixtures to canteen area

	0-1 Year	2-5 Years	5-10 Years
	\$4,500		
		\$1,000	
		\$500	
	\$5,000		
	\$7,500		
	\$5,000		
Total Estimated Construction Costs	\$22,000	\$1,500	\$0



**PRISON FARM - HAY BARN
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace unit heaters
- Replace HVAC equipment with outside

Plumbing:

- Insulate domestic water piping
- Connect sanitary to municipal system
- Replace drains and oil interceptor
- Install dike around fuel oil tank
- Replace plumbing fixtures
- Add Sprinkler System

Electrical:

- Replace power panels & wiring
- Replace lighting & egress lighting
- Add fire alarm system

	0-1 Year	2-5 Years	5-10 Years
		\$7,500	
		\$20,000	
	\$1,000		
	\$50,000		
		\$10,000	
	\$3,500		
	\$5,000		
		\$35,000	
		\$35,000	
	\$25,000		
	\$40,000		
Total Estimated Construction Costs	\$124,500	\$107,500	\$0



**RETAIL SHOP
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

No recommendations

Plumbing:

Insulate water piping
 Connect to municipal sewer
 Add sprinkler system

Electrical:

Electrical for sprinkler
 Upgrade lighting

	0-1 Year	2-5 Years	5-10 Years
	\$500		
		\$50,000	
		\$30,000	
		\$5,000	
		\$7,500	
Total Estimated Construction Costs	\$500	\$92,500	\$0



**NEW HAMPSHIRE STATE PRISON
 FOR WOMEN
 GOFFSTOWN, NEW HAMPSHIRE**

Estimated Construction Costs By Year

	0-1 Year	2-5 Years	5-10 Years
HVAC:			
Replace heat exchangers		\$50,000	
Replace piping insulation		\$15,000	
Replace base-mounted pumps		\$30,000	
Replace A tier air handler			\$20,000
Replace main mechanical room air handler	\$20,000		
Replace air conditioning equipment			\$150,000
Replace ATC system		\$100,000	
Plumbing:			
Replace lavatory faucets	\$1,500		
Replace piping/valving around PRV	\$3,000		
Replace domestic water piping		\$80,000	
Replace hot water generator	\$30,000		
Replace waste piping in mechanical room		\$5,000	
Extend sprinkler coverage		\$2,500	
Electrical:			
Replace switchboard & refeed panels		\$125,000	
Replace old style GE panels		\$50,000	
Replace generator		\$35,000	
Replace existing lighting		\$75,000	
Total Estimated Construction Costs	\$54,500	\$567,500	\$170,000



**TRANSITIONAL HOUSING UNIT FOR MEN
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

Replace split systems

Plumbing:

Replace shower enclosures

Replace waste piping in shower area

Replace dry sprinkler piping

Electrical:

Replace lighting

Replace panels and building wiring

New Fire Alarm

	0-1 Year	2-5 Years	5-10 Years
			\$30,000
	\$12,000		
		\$15,000	
		\$25,000	
		\$24,000	
		\$75,000	
		\$25,000	
Total Estimated Construction Costs	\$12,000	\$164,000	\$30,000



**NORTH END HOUSE FOR MEN
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace air handling unit
- Add boiler

Plumbing:

- Replace fixtures
- Add containment dike

Electrical:

- Replace panels and old wiring
- Replace lighting
- Replace Fire Alarm

	0-1 Year	2-5 Years	5-10 Years
	\$2,500		
		\$7,500	
		\$40,000	
	\$3,500		
		\$48,000	
		\$20,000	
		\$25,000	
Total Estimated Construction Costs	\$6,000	\$140,500	\$0



**CALUMET HOUSE
 MANCHESTER, NEW HAMPSHIRE**

Estimated Construction Costs Year

HVAC:

- Insulate piping
- Replace terminal equipment
- Replace bathroom fans
- Install damper in combustion air duct

Plumbing:

- Replace plumbing fixtures
- Replace waste piping

Electrical:

- Replace service and panels
- Replace lighting & occupancy sensors
- Replace branch wiring and add recept
- Replace fire alarm system

	0-1 Year	2-5 Years	5-10 Years
	\$7,500		
		\$130,000	
	\$5,000		
	\$2,000		
		\$50,000	
		\$50,000	
		\$40,000	
		\$40,000	
		\$80,000	
		\$30,000	

Total Estimated Construction Costs

\$14,500 \$420,000 \$0



**SHEA FARM FOR WOMEN
 CONCORD, NEW HAMPSHIRE**

Estimated Construction Costs By Year

HVAC:

- Replace hot water system
- Replace bathroom exhaust system

Plumbing:

- Replace fixtures
- Replace domestic water piping
- Replace grease interceptor
- Install fuel oil containment dike

Electrical:

- Upgrade service for added load
- Replace branch circuit wiring
- Add receptacle circuits
- Replace lighting fixtures
- Add egress battery packs
- Fire alarm system upgrades

	0-1 Year	2-5 Years	5-10 Years
		\$140,000	
	\$5,000		
		\$25,000	
		\$45,000	
		\$5,000	
	\$3,500		
			\$10,000
		\$15,000	
		\$28,000	
		\$10,000	
		\$10,000	
		\$5,000	
Total Estimated Construction Costs	\$8,500	\$283,000	\$10,000