

BELMONT MIDDLE AND HIGH SCHOOL BUILDING COMMITTEE

SEPTEMBER 11 2019

Perkins&Will

AGENDA

- **SCHEDULE** (DPI)
- **UPDATE VE TARGETS** (SKANSKA)
 - **VE Cost Summaries**
- **UPDATED EXTERIOR VE ITEMS** (PERKINS AND WILL)
- **UPDATED INTERIOR VE ITEMS** (PERKINS AND WILL)
- **SYSTEM VE ITEMS** (PERKINS AND WILL)
- **SITE AND STRUCTURE VE ITEMS** (PERKINS AND WILL)

SCHEDULE / VE ROADMAP

	9/4 (Wed PM)	9/11 (Wed AM)	9/19 (Thu PM)
EXTERIOR	○ Update \$	○ Update \$	○ Update \$
INTERIOR	● Presentation \$	○ Update \$	○ Update \$
SYSTEMS		● Presentation \$	○ Update \$
SITE / STRUCTURE		● Presentation \$	○ Update \$
PHASING AND LOGISTICS			● Presentation \$
GENERAL CONDITIONS			● Presentation \$
WRAP UP			● Presentation \$

○ Update \$

● Presentation \$
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VE COST SUMMARY

	TARGET \$	ACCEPTED \$	DISCUSSION \$	BID ALTERNATES \$
EXTERIOR	\$3.5-4.0 MILLION	\$3,823,742		
INTERIOR	\$6.5-8.0 MILLION	\$5,988,093	\$652,638	\$960,422
SYSTEMS	\$2.5-3.5 MILLION	\$1,916,238	\$84,248	\$1,845,807
SITE / STRUCTURE	\$2.0-3.0 MILLION	\$1,186,175	\$466,170	\$2,246,600
PHASING AND LOGISTICS	\$0.25-0.75 MILLION	\$730,145		
GENERAL CONDITIONS	\$1.0-1.5 MILLION	\$1,123,300		
	\$19.2 MILLION VE TARGET	\$14,767,693	\$1,203,056	\$5,052,829

UPDATED EXTERIOR VE ITEMS

1. REDUCE CW AT STAIR ENDS AND ADD BRICK/SIMPLIFY CANTILEVERED PLANES
2. CHANGE BUILDING BASE FROM FIBER CEMENT PANELS TO MASONRY
3. REMOVE OUTDOOR POND TERRACE (2ND LEVEL) AT CENTRAL DINING AREA
4. SIMPLIFY ALL CURTAINWALL (5' MODULE). MINIMIZE NUMBER OF LITES
5. REVISE VERTICAL SUNSCREEN CW AT HIGH SCHOOL DROP-OFF AREA
6. REMOVE ALL HORIZONTAL SUNSCREENS EXCEPT FOR SOUTH FACING
7. REDUCE GLAZING AREA AT CLASSROOM WINDOWS
8. REMOVE MIDDLE SCHOOL CANOPY
9. REDUCE FIRST FLOOR WINDOWS AT MUSIC / BAND FACADE (AREA B)
10. REMOVE ROOF TERRACE ON FOURTH FLOOR
11. REMOVE SKYLIGHTS
12. NO REPLACEMENT OF KALWALL AT EXISTING FIELDHOUSE
13. REDUCE CURTAIN WALL AT HIGH SCHOOL ENTRY
14. REMOVE POND TERRACE CANOPY

EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

CURRENT DESIGN



EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

VE PROPOSAL



EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

CURRENT DESIGN



EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

VE PROPOSAL



EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

CURRENT DESIGN



EXTERIOR DESIGN - HIGH SCHOOL ENTRANCE

VE PROPOSAL



EXTERIOR DESIGN - POND TERRACE FACADE

CURRENT DESIGN



EXTERIOR DESIGN - POND TERRACE FACADE

VE PROPOSAL



EXTERIOR DESIGN - POND TERRACE FACADE

CURRENT DESIGN



EXTERIOR DESIGN - POND TERRACE FACADE

VE PROPOSAL



EXTERIOR DESIGN - POND TERRACE FACADE

VE PROPOSAL



EXTERIOR DESIGN - POND TERRACE FACADE

VE PROPOSAL



EXTERIOR DESIGN - POND TERRACE FACADE

VE PROPOSAL



COST SUMMARY

EXTERIOR

VE Categories	Target Savings	ACCEPTED	DISCUSSION
		Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion
EXTERIOR	\$3.5-4M	(\$3,823,742) Above Design Assist \$1.9M	
Reduce Curtain Wall & Wing Wall at Stairs		(\$300,615)	
Change Building Base from Fiber Cement to Masonry		(\$722,562)	
Remove Horizontal Sunscreens except at South Facing		(\$328,942)	
Engineered Horizontal Sunshades (4" Frame)		(\$109,265)	
Reduce Glazing Count & Area at Classroom Windows		(\$205,617)	
Remove Middle School Canopy		(\$267,037)	
Replace MCM Trim Detail with 3/8" Plate Steel		(\$92,855)	
Remove Roof Terrace on Fourth Floor		(\$250,000)	
Preinsulated Metal Wall Panels at Mechanical Well		(\$245,479)	
Replace Exterior MC-1 Soffit Panels to Morin Rolled Panel		(\$181,441)	
Remove 2nd Floor Outdoor Pond Terrace		(\$443,997)	
No Replacement of Existing Kalwall at Field House		(\$543,848)	
Elevation Design Clarifications		(\$472,346)	
Exterior Closure Reductions		(\$239,263)	
Reduce Curtain Wall at High School Entry		(\$392,829)	
Remove Pond Terrace Canopy		(\$1,021,091)	

UPDATED INTERIOR VE ITEMS

1. CEILING

- REDUCE METAL
- SIMPLIFY BAFFLE
- LOWER SQFT COST ACT
- LOWER COST AUD. BALCONY
- LOWER COST AUD. HOUSE

2. FLOORING

- REDUCE PORCELAIN TILE (LEVEL 01)

3. LIGHTING

- REDUCE FIXTURE COSTS

4. WALL CONST. & FINISHES

- REDUCE CORRIDOR TILE HEIGHT (BID ALTERNATE)
- REDUCE WC TILE SCOPE (BID ALTERNATE)
- LOWER COST ACOUSTIC PANELING
- REDUCE ACOUSTIC WOOD PANELING

5. GLASS WALLS & RAILS

- REDUCE FULL HEIGHT GLASS
- MS STAIR TO METAL POST RAILING
- REPLACE GLASS RAILINGS WITH PERFORATED METAL PANELS OR PICKET RAIL

6. CASEWORK

- REDUCE GENERAL & SPED CLASSROOMS
- REDUCE LABS
- REDUCE ART
- CLASSROOM CASEWORK REVISION

7. FIRE CONTROL DOORS

- SIMPLIFY & REDUCE SCOPE

8. MISC. SCOPE ADJUSTMENTS

ACOUSTIC WOOD PANELS COST REDUCTION STRATEGY

REDUCE WVP-1 PANELS

LEVEL 02



- WOOD PANELS
- WVP-1 ACOUSTIC WOOD PANELS
- WVP-2 NON-ACOUSTIC WOOD PANELS

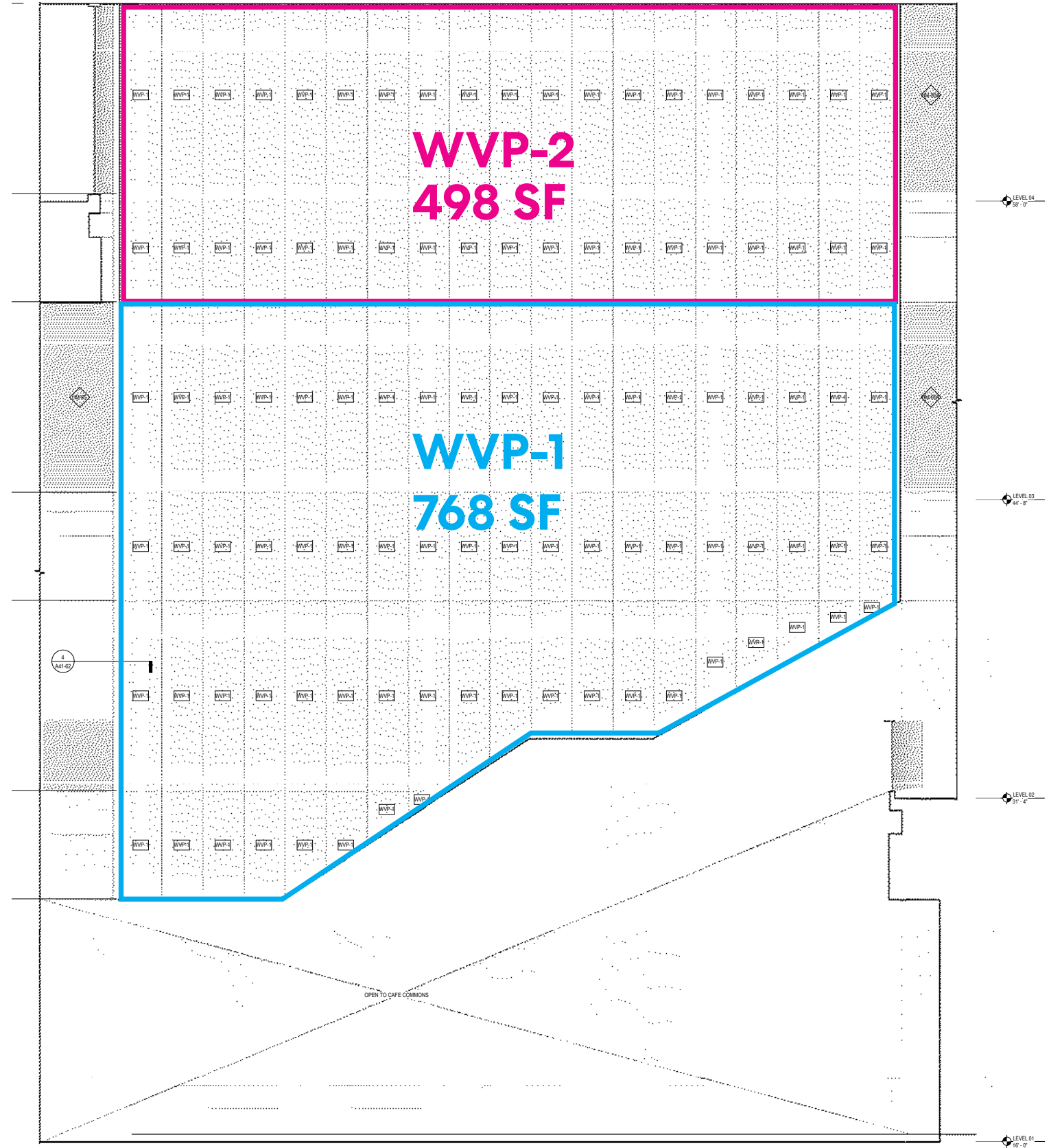
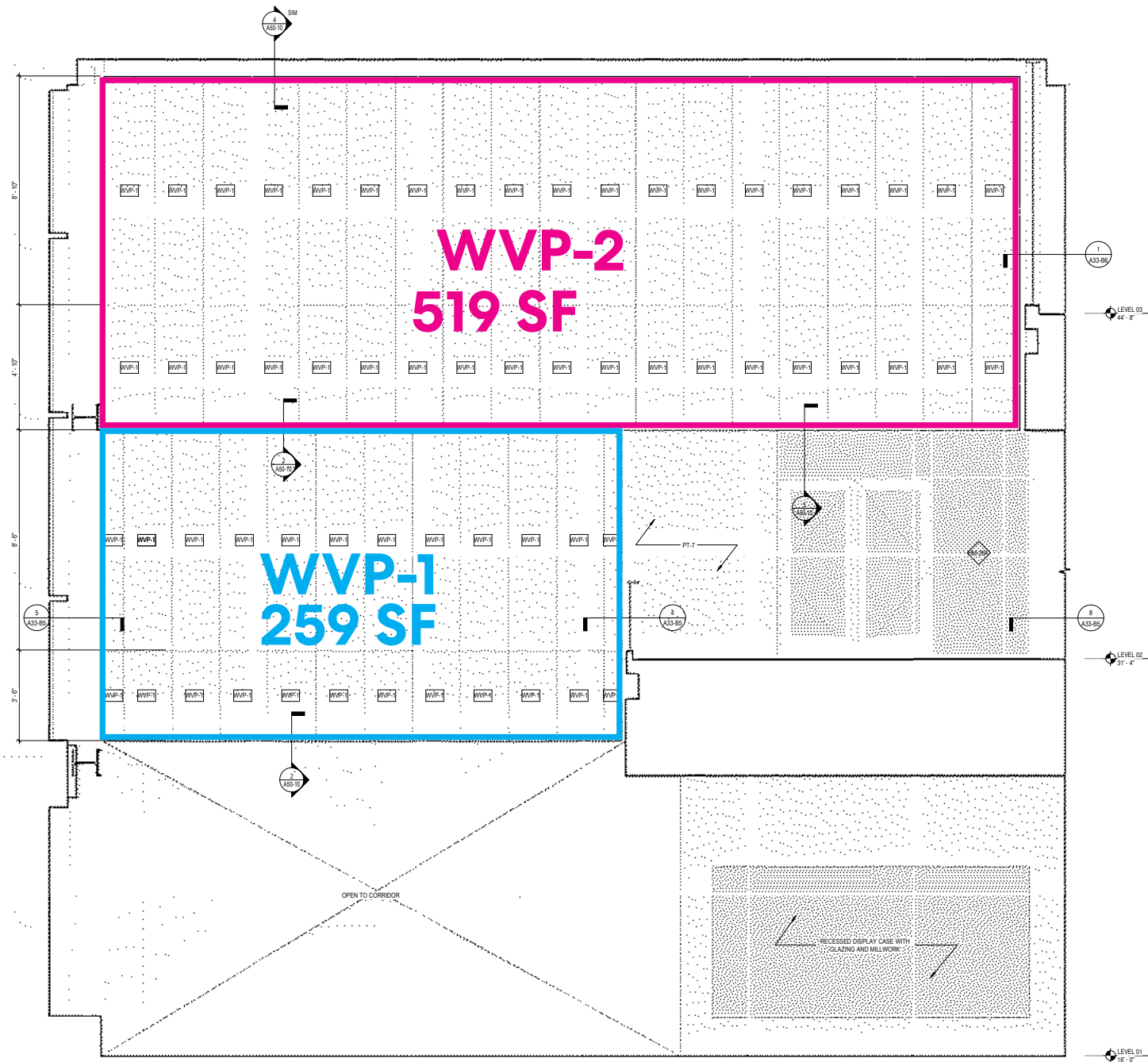
1. CHORUS ROOM
2. HIGH SCHOOL STAIR (WEST)
3. HIGH SCHOOL STAIR (EAST)
4. HIGH SCHOOL MEDIA CENTER / MAKER SPACE
5. HIGH SCHOOL MEDIA CENTER
6. HIGH SCHOOL PROJECT ROOMS
7. HIGH SCHOOL MAKER SPACE (LEVEL 3)
8. MIDDLE SCHOOL MAKER SPACE
9. MIDDLE SCHOOL MEDIA CENTER

ACOUSTIC WOOD PANELS COST REDUCTION STRATEGY

REDUCE WVP-1 PANELS

3

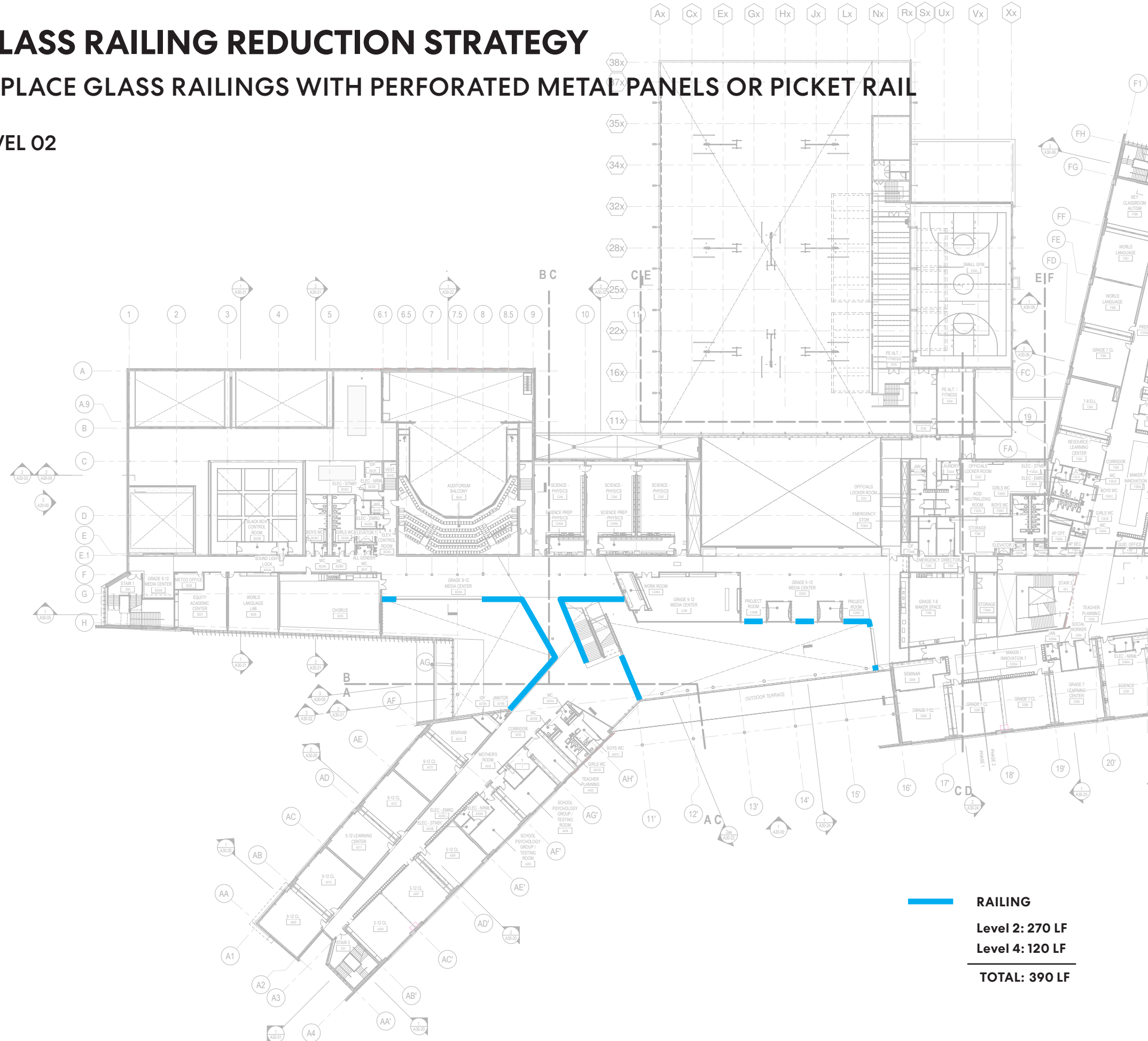
1



GLASS RAILING REDUCTION STRATEGY

REPLACE GLASS RAILINGS WITH PERFORATED METAL PANELS OR PICKET RAIL

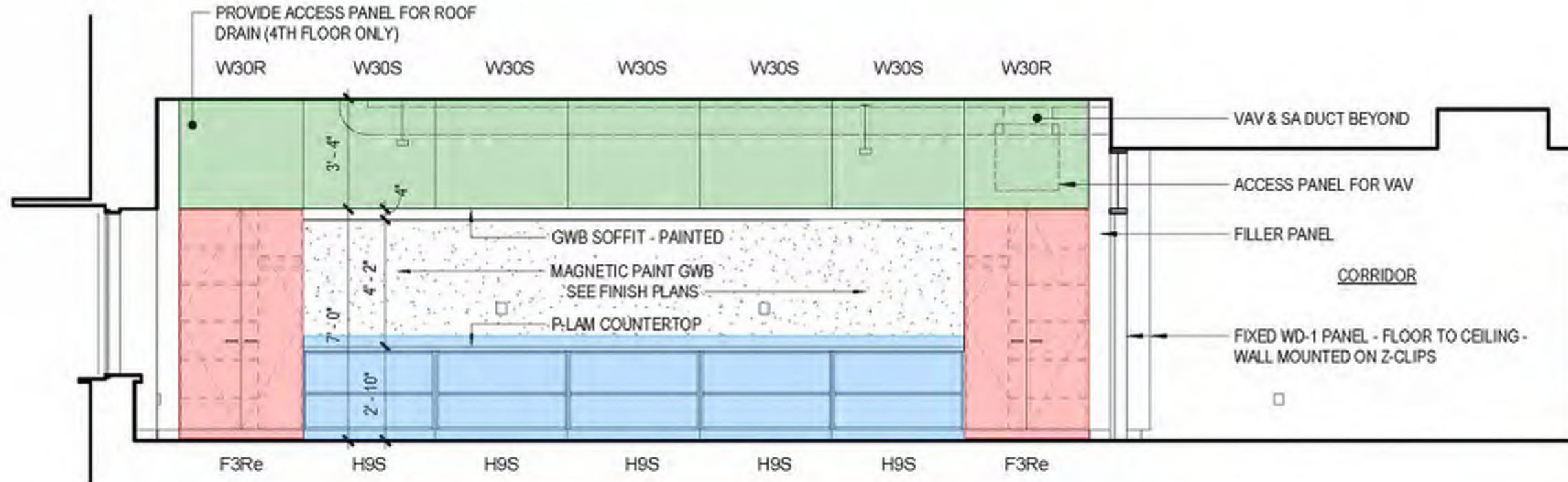
LEVEL 02



CLASSROOM CASEWORK COST REDUCTION STRATEGY

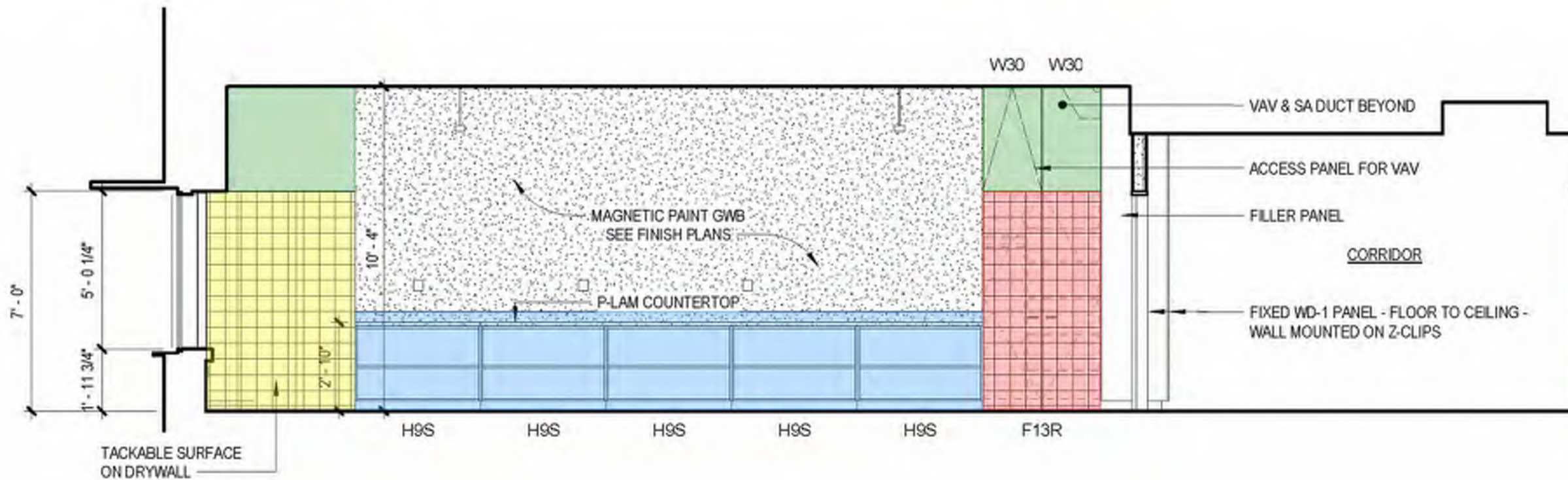
CLASSROOM CASEWORK REVISION

MSBA 60% CDS



- 92 SQUARE FEET
- 7' - 6" LINEAR FEET
- 20' - 0" LINEAR FEET

VE STRATEGY



- 28 SQUARE FEET
- 3' - 9" LINEAR FEET
- 20' - 0" LINEAR FEET
- 4' - 9" LINEAR FEET

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CLASSROOM CASEWORK COST REDUCTION STRATEGY

CD 60% PRICING SET - CLASSROOM CASEWORK



CLASSROOM CASEWORK COST REDUCTION STRATEGY

VE STRATEGY - CLASSROOM CASEWORK REVISION



COST SUMMARY

INTERIOR SUMMARY

VE Categories	Target Savings	ACCEPTED	DISCUSSION
		Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion
INTERIOR	\$6.5-8M	(\$5,988,093)	(\$652,638)
Reduce Ceiling Finishes		(\$1,396,464)	
Reduce Floor Finishes & Simplify Floor Const.		(\$279,702)	
Reduce Wall Finishes & Simplify Wall Const.		(\$1,717,116)	
Reduce Glass Walls & Rails		(\$410,173)	
Reduce Casework		(\$785,775)	
Simplify Stairs		(\$194,684)	
Reduce Equipment & Hardware		(\$429,102)	
Reduce Overhead Fire Doors & Shutters		TBD	
Eliminate all Operable Partitions in Middle School		(\$213,427)	
Reduce Hazardous Abatement Allowance		(\$561,650)	
Reduce percentage of Acoustic Wood Panels (WVP-1's)			(\$190,961)
Replace glass railings with perforated metal panel or pickets			(\$51,672)
Reduce Classroom Casework			(\$348,223)
Eliminate ACT-3 ceilings in locker rooms; paint exposed			(\$61,782)

SYSTEMS VE ITEMS

- 1. SIMPLIFY DOMESTIC WATER PRE-HEAT & STORAGE SYSTEM**
- 2. SIMPLIFY POOL HEATING SYSTEM**
- 3. RELOCATE TCHW PUMPS P-8A&B AND TCHW PUMPS P-9A&9B FROM ROOF TO MECHANICAL AND PLUMBING ROOMS ON LEVEL 1**
- 4. UTILIZE DUCTLESS CEILING CASSETTE VRF FAN COIL UNITS IN LIEU OF DUCTED AT L1 ADMIN SUITES IN MIDDLE AND HIGH SCHOOLS**
- 5. REPLACING DUCTWORK WITH DUCTSOX IN FIELDHOUSE AND SMALL GYM**

SIMPLIFY DOMESTIC WATER PRE-HEAT & STORAGE SYSTEM

DOMESTIC WATER HEATER SCHEDULE												
SYMBOL	TYPE	LOCATION	MANUFACTURER	MODEL	GALS.	RECOVERY		ELECTRICAL INPUT			TEMPERATURE SET POINT	REMARKS
						G.P.H	TEMP.	KW	VOLT	PHASE		
EWH-1	ELECTRIC	JANITORS CLOSET A105A	STATE WATER HEATER	SSE 50A 18	50	74	100*	18	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-2	ELECTRIC	MECHANICAL ROOM D101.885	PVI	410 L 300A-VE	300	410	100*	81	480	3	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-4	ELECTRIC	MECHANICAL ROOM D101.885	RHEEM	E12A-3-G	12	31	100	3	277	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-5	ELECTRIC	KITCHEN STORAGE C150D	STATE WATER HEATER	SSE 100A 24	100	6	100*	24	277	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL. ON STANDBY ELECTRICITY.
EWH-6	ELECTRIC	STORAGE F168	RHEEM	E12A-3-G	12	31	100	3	277	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-7	ELECTRIC	STORAGE F168	STATE WATER HEATER	SEV-200A	200	688	100*	90	480	3	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-8	ELECTRIC	STORAGE F168	STATE WATER HEATER									OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-9	ELECTRIC	JANITORS CLOSET E107A	STATE WATER HEATER	SEV-200A-108	200	688	100*	90	480	3	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.

 DOMESTIC WATER HEATERS THAT WILL HAVE PRE-HEATED WATER

 POTENTIAL TO ELIMINATE PRE HEAT WATER (CALCULATIONS ARE STILL BEING DONE TO DETERMINE IMPACT ON ELECTRICAL LOAD IMPACT).

SIMPLIFY DOMESTIC WATER PRE-HEAT & STORAGE SYSTEM

EWH-10	ELECTRIC	JANITORS CLOSET A214B	STATE WATER HEATER	SSE 40A 15	40	61	100*	15	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-12	ELECTRIC	F257A	STATE WATER HEATER	SEV-200-100	200	457	100*	100	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-13	ELECTRIC	F257A	STATE WATER HEATER	SEV-200-100	200	114	100*	100	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-14	ELECTRIC	JANITORS CLOSET A314B	STATE WATER HEATER	SSE 40A 15	40	61	100*	15	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.
EWH-16	ELECTRIC	JANITORS CLOSET F361E	STATE WATER HEATER	SSE 100A 24	100	6	100*	24	277	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL. ON STANDBY ELECTRICITY.
EWH-17	ELECTRIC	STORAGE ROOM D495A	STATE WATER HEATER	SSE 50A 24	50	98	100*	24	480	1	140°F	OR APPROVED EQUAL. INSTALL PER MANUFACTURES RECOMMENDATION. PROVIDE WITH EXPANSION TANK AMTROL ST-5 OR APPROVED EQUAL. FURNISH AND INSTALL CIRCULATOR PUMP AND AQUASTAT. COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL.

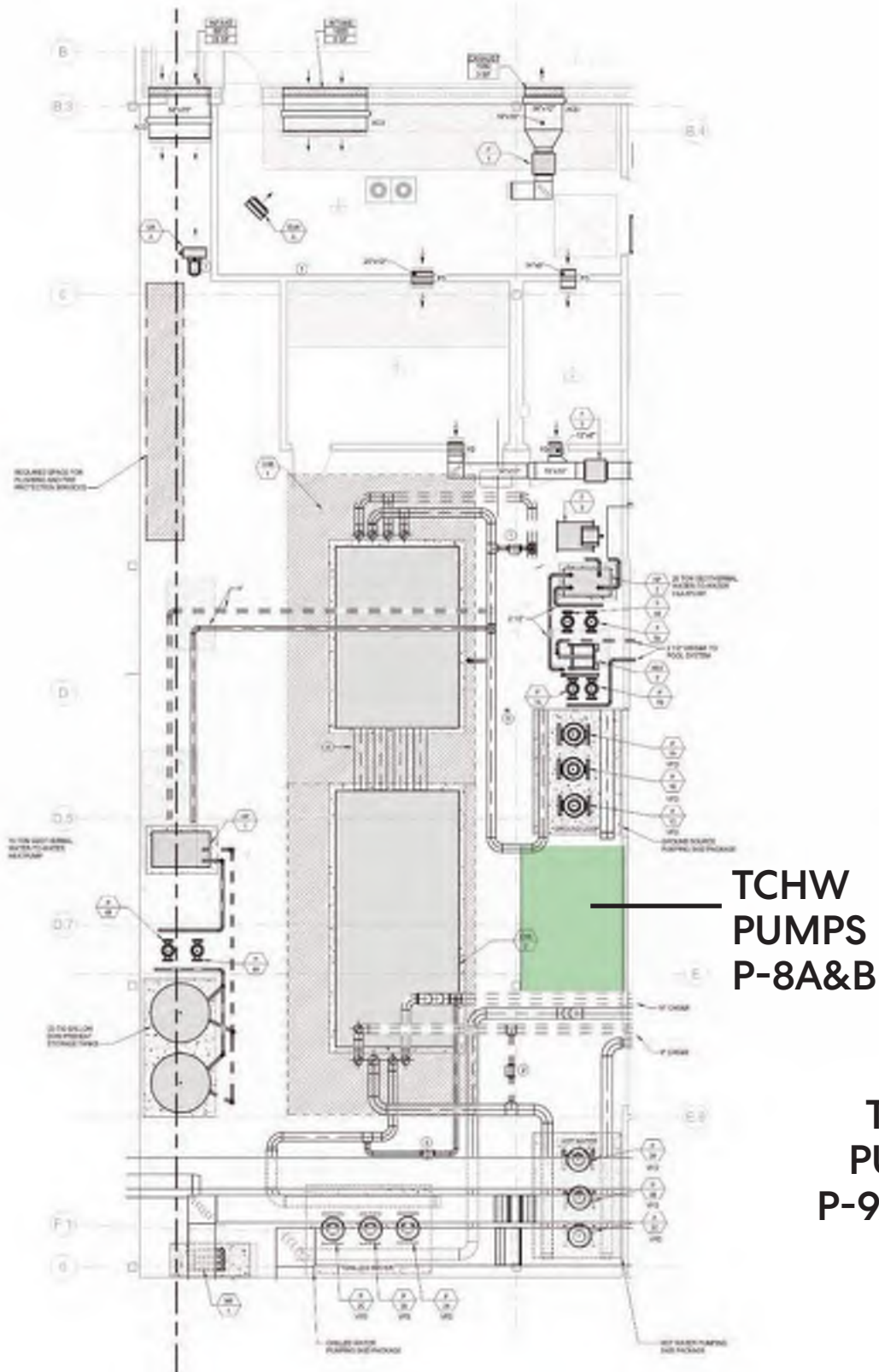
 DOMESTIC WATER HEATERS THAT WILL HAVE PRE-HEATED WATER

 POTENTIAL TO ELIMINATE PRE HEAT WATER (CALCULATIONS ARE STILL BEING DONE TO DETERMINE IMPACT ON ELECTRICAL LOAD IMPACT).

SIMPLIFY POOL HEATING SYSTEM

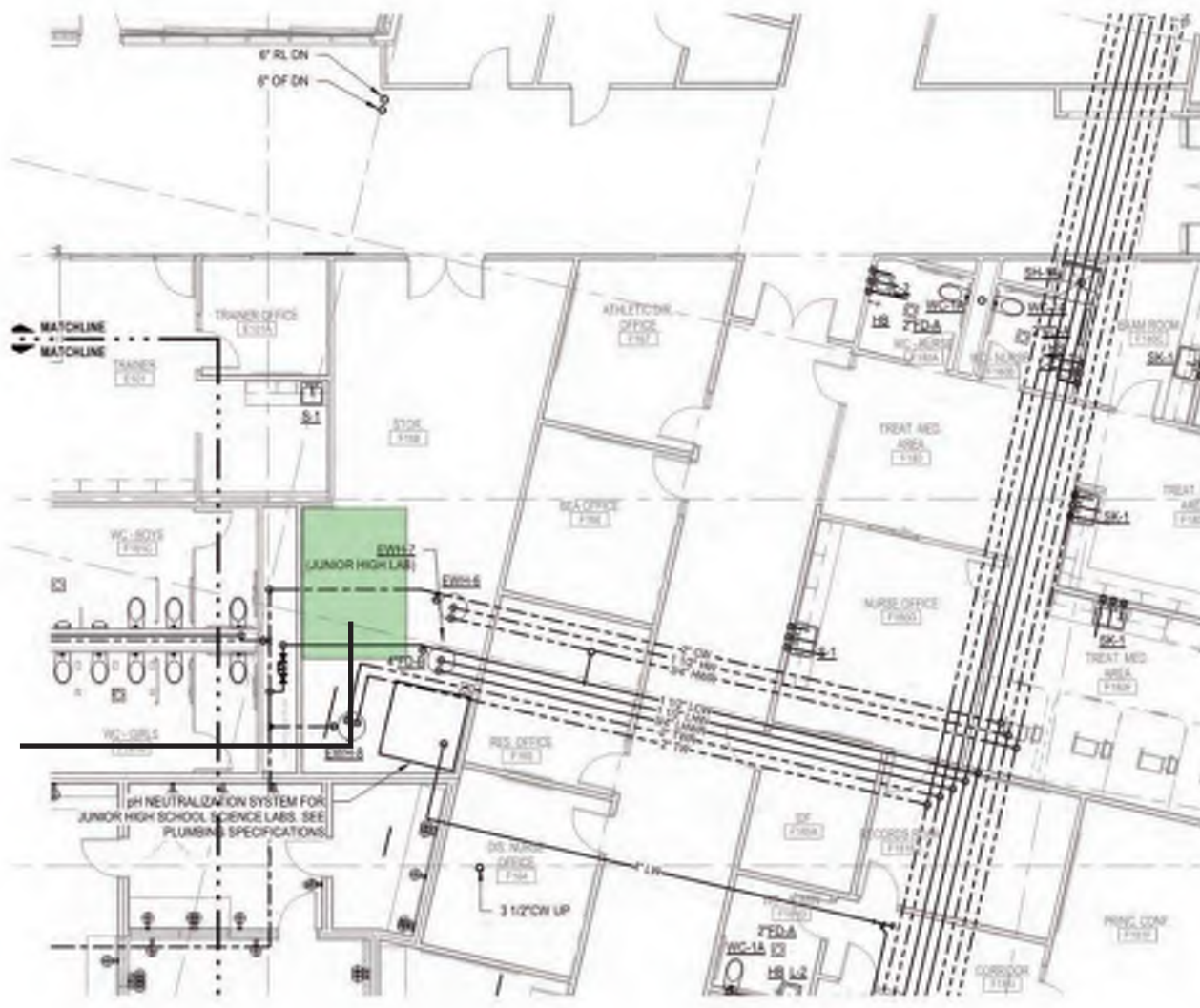
- Primary source of pool heating - no pre-heat system
- The sizing of the pool heating system (HP-2, HX-2, P-7A&7B) is based on normal heating operation. Heating during pool filling is intended to be provided by a changeover connection from the main hot water system for more rapid pool heat-up. Since the main heating system has glycol fluid, heat exchanger HX-2 and pumps P-7A & 7B must remain to separate pool water from the heating system.
- Eliminate the connection to the main heating system and just using the heat pump system for pool heat-up during filling. This will allow the elimination of HX-2 and P-7A & 7B. HP-2 remains the same.

RELOCATE TCHW PUMPS P-8A&B AND TCHW PUMPS P-9A&9B FROM ROOF TO MECHANICAL AND PLUMBING ROOMS ON LEVEL 1



TCHW PUMPS P-8A&B

TCHW PUMPS P-9A&9B



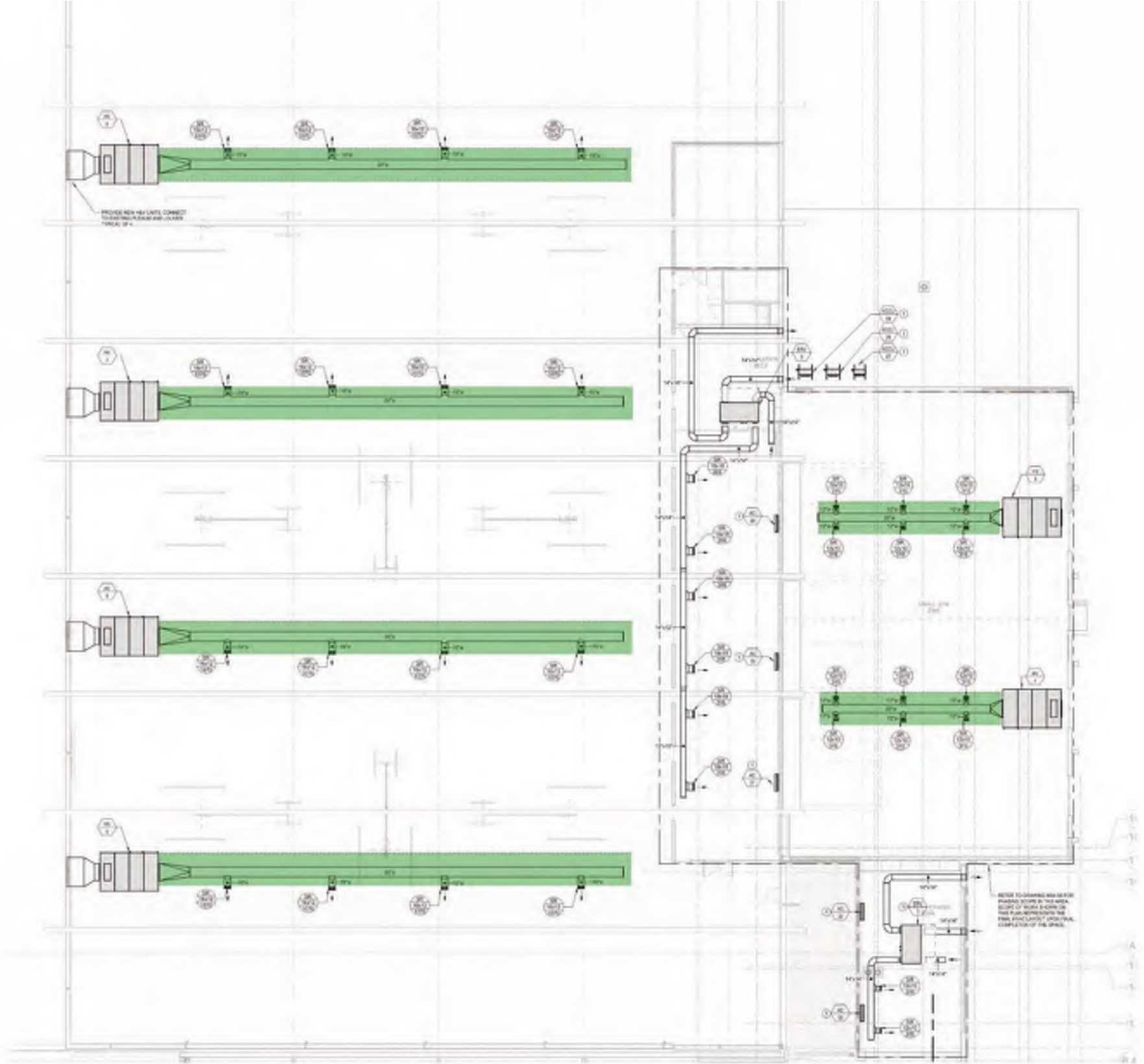
UTILIZE DUCTLESS CEILING CASSETTE VRF FAN COIL UNITS IN LIEU OF DUCTED AT LI ADMIN SUITES IN MIDDLE AND HIGH SCHOOLS

**USE SINGLE CEILING CASSETTE WITH OUTSIDE AIR DUCT.
REMOVE DUCTED FAN COIL UNIT, DUCT, AND DIFFUSERS.**

**USE (2) SINGLE CEILING CASSETTE WITH OUTSIDE AIR DUCT.
REMOVE DUCTED FAN COIL UNIT, DUCT, AND DIFFUSERS.**



REPLACING DUCT WORK WITH DUCTSOX IN FIELD HOUSE AND SMALL GYM



COST SUMMARY

SYSTEMS SUMMARY

		ACCEPTED	DISCUSSION
VE Categories	Target Savings	Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion
SYSTEM	\$2.5-3.5M	(\$1,916,238)	(\$84,248)
Mechanical		(\$66,056)	
Plumbing: Replace some overflow drains with scuppers		TBD	
Fire Protection		(\$28,083)	
Electrical		(\$104,961)	
Lighting		(\$696,513)	
AV & Tech		(\$880,211)	
Simplify Domestic Water Pre-Heat & Storage System		TBD	
Simplify Pool Heating System		(\$84,248)	
Relocate Pumps from Roof to Level 1 Mech & Plumbing Rooms		(\$39,316)	
Utilize Ductless Ceiling Cassette VRF Fan Coil Units		(\$16,850)	
Replace Ductwork with Ductsox in Field House & Small Gym			(\$84,248)

SITE & STRUCTURE VE ITEMS

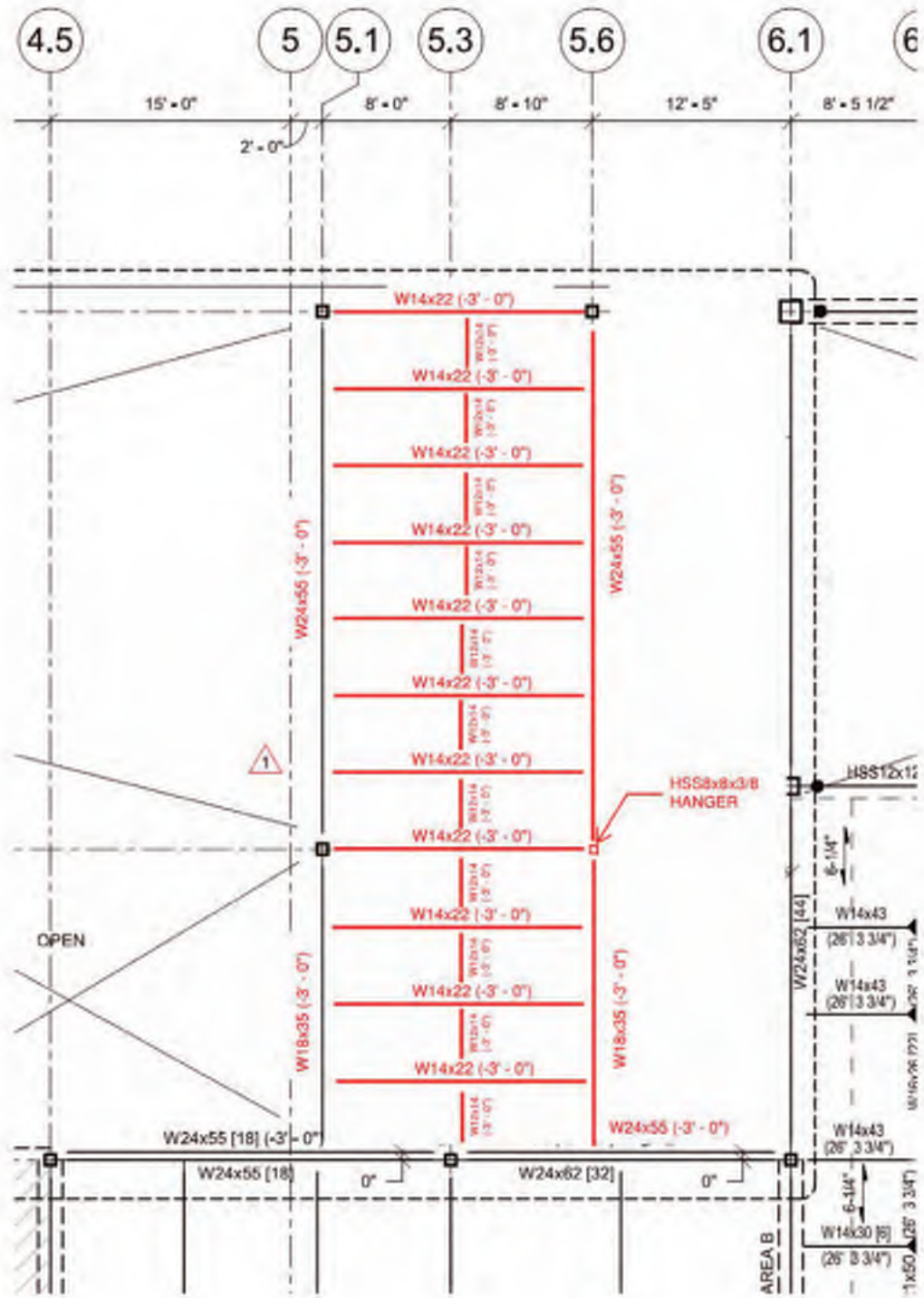
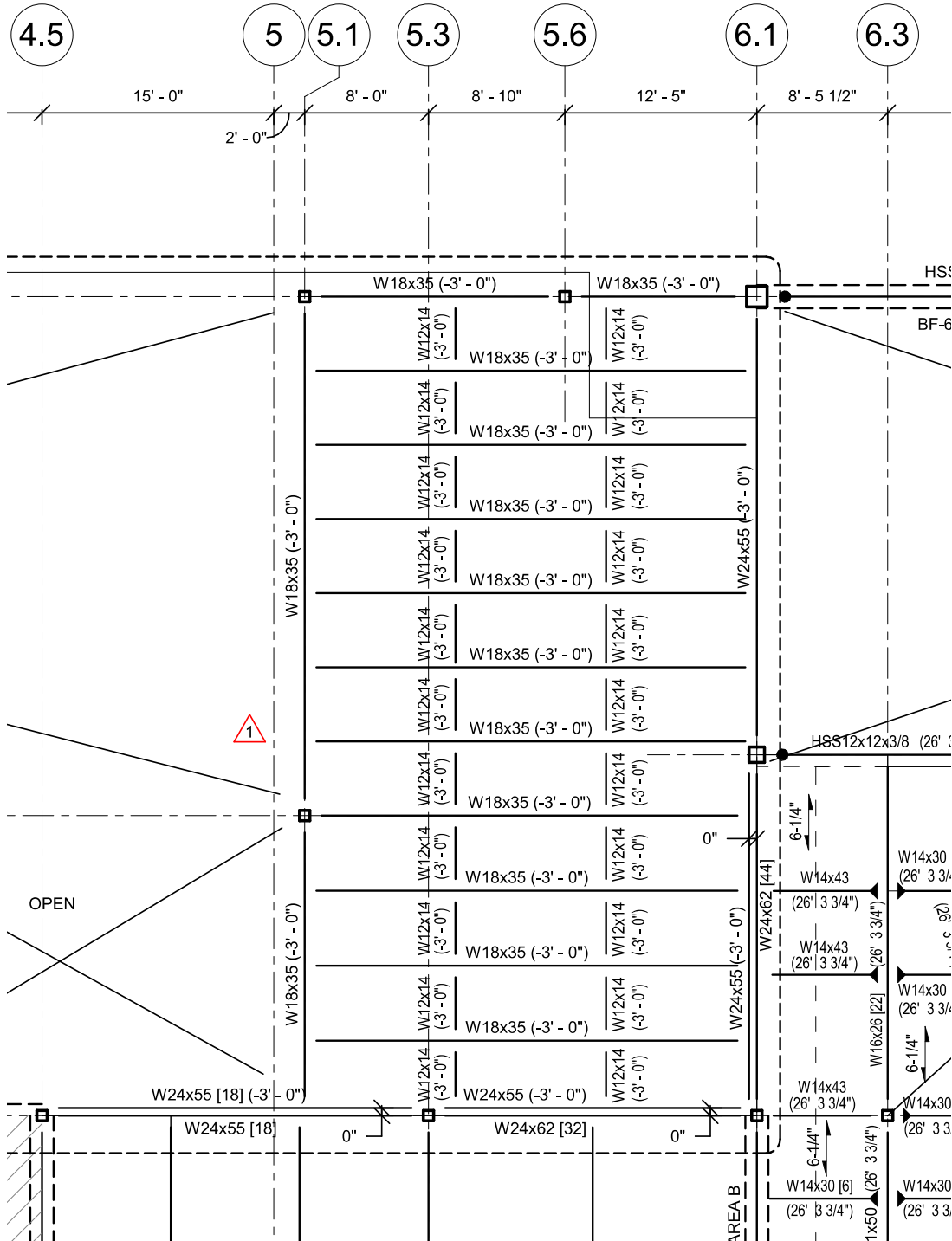
- 1. SIMPLIFY / REDUCE STRUCTURE NEEDED FOR AHU AT LEVEL 2 MECHANICAL SPACE**
- 2. REDUCE EXCESS SOIL DISPOSALS BY RAISING GRADES**
- 3. REDUCE IRRIGATION SCOPE**
- 4. PROVIDE ALUMINUM BENCHING**
- 5. REDUCE TREE COUNT (WEST OF HARRIS FIELD)**
- 6. PROVIDE STANDARD NYLON SPORTS NETTING**
- 7. REDUCE RETAINING WALLS / WALKWAY AREA AT POND TERRACE**

STRUCTURE VE STRATEGY

SIMPLIFY / REDUCE STRUCTURE NEEDED FOR AHU AT LEVEL 2 MECHANICAL SPACE

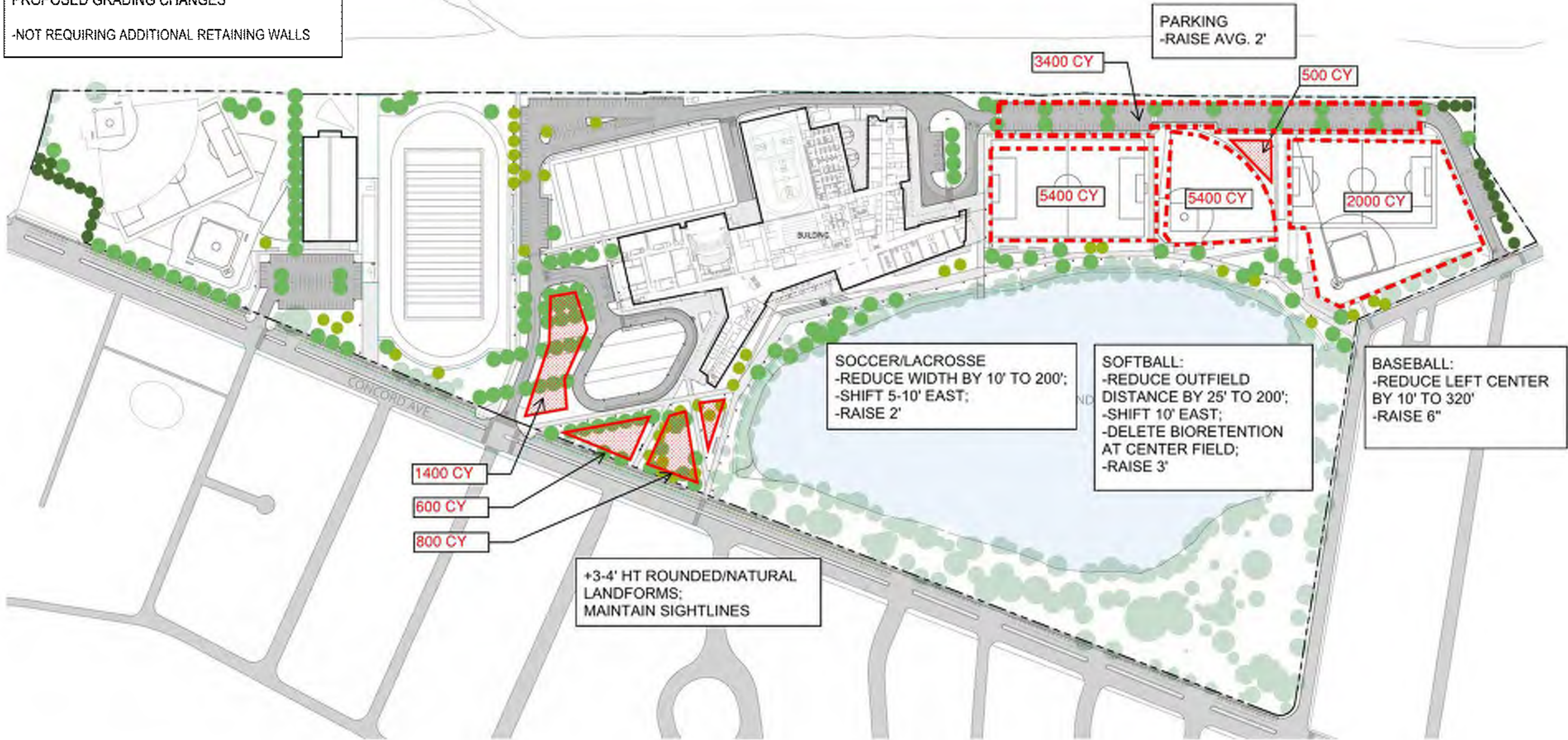
CD 60% PRICING SET

VE STRATEGY



SITE IMPROVEMENTS - REDUCE EXCESS SOIL DISPOSALS BY RAISING GRADES

PROPOSED GRADING CHANGES
 -NOT REQUIRING ADDITIONAL RETAINING WALLS

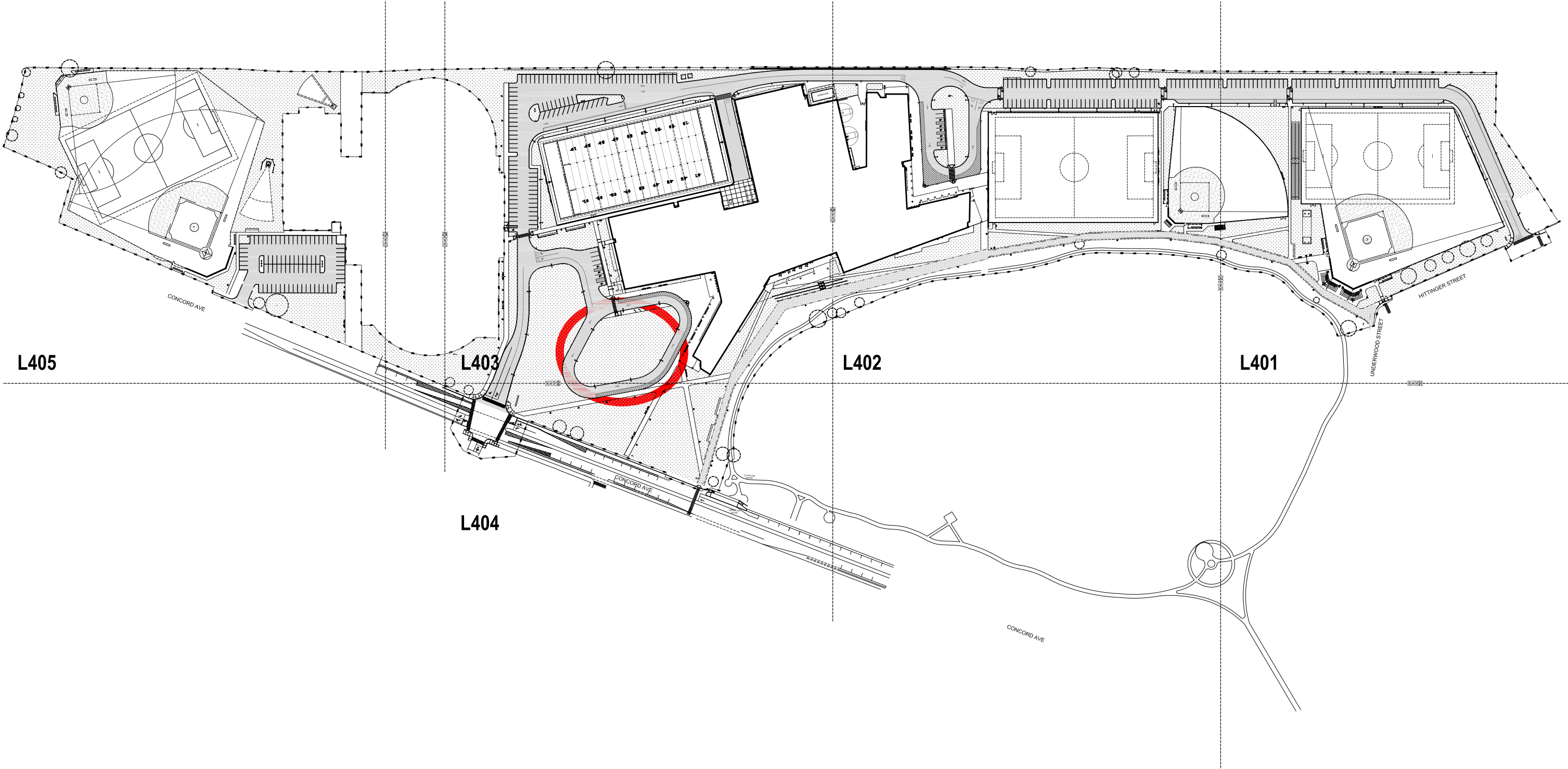


SITE IMPROVEMENTS - REDUCE EXCESS SOIL DISPOSALS BY RAISING GRADES

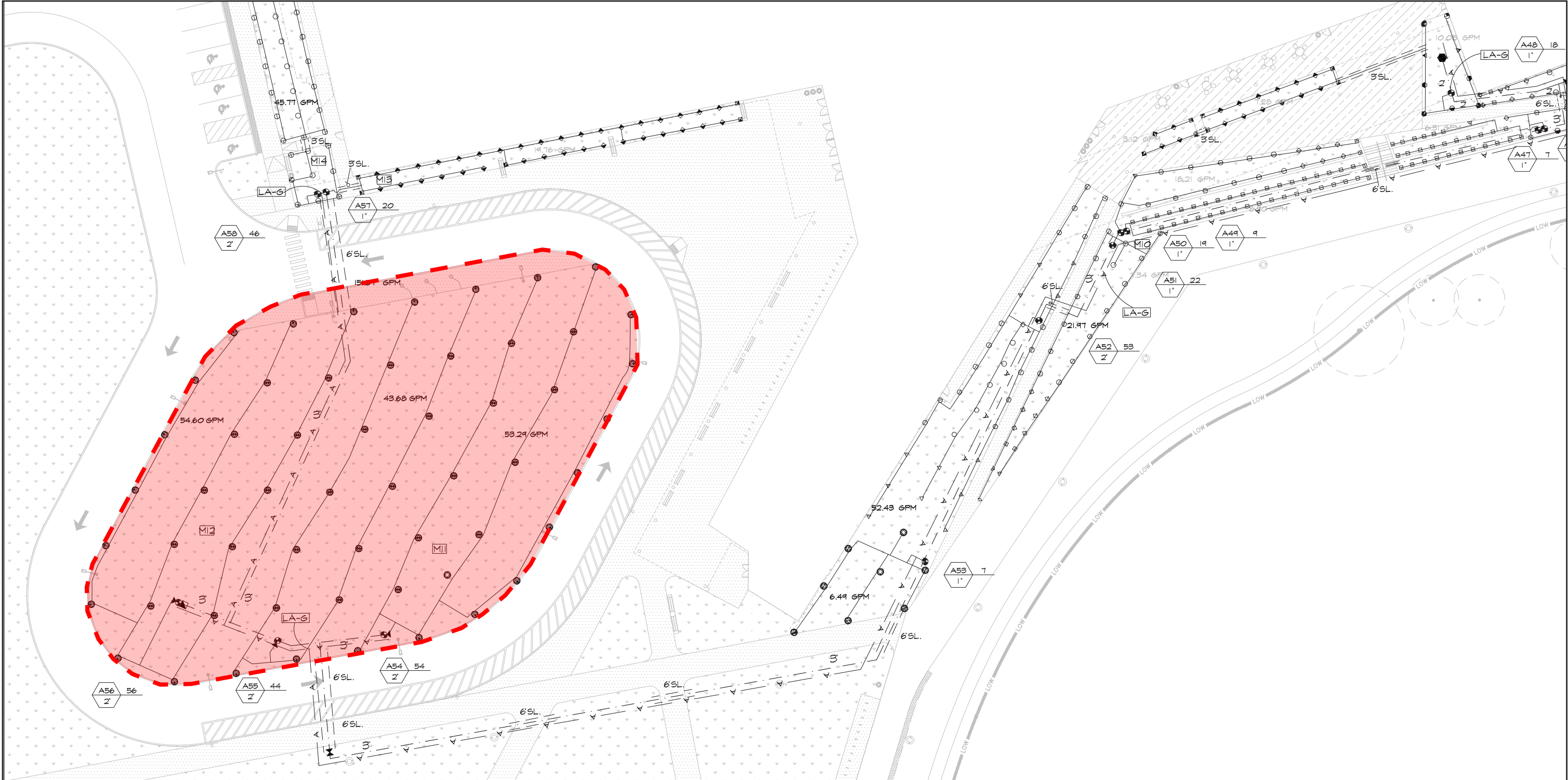
POTENTIAL GRADING CHANGES	elev change (+)	dimensional change		EXISTING	CURRENT DESIGN	9/10/2019
			CY			
PHASE 1						
LANDSCAPE BERMS AT CONCORD	UP TO 3.5'		2800			
PHASE 2						
SOCCER/LACROSSE	2'	10' NARROWER	5400	NONE	210X330	200X330
SOFTBALL	3'	15' SHORTER OUTFIELD	5400	250'	225'	200'-210'
BIORETENTION DELETE	N/A	N/A	500			
BASEBALL*	6"	10' SHORTER IN LEFT CENTER	2000	300'-320'	330'	320'
BASEBALL - OVERLAPPING SOCCER	NONE	10' NARROWER	N/A	NONE	180X300	170X300'
NORTH PARKING	2'		3400			
TOTAL			19500			

*a shorter baseball outfield allows the north parking area to be raised

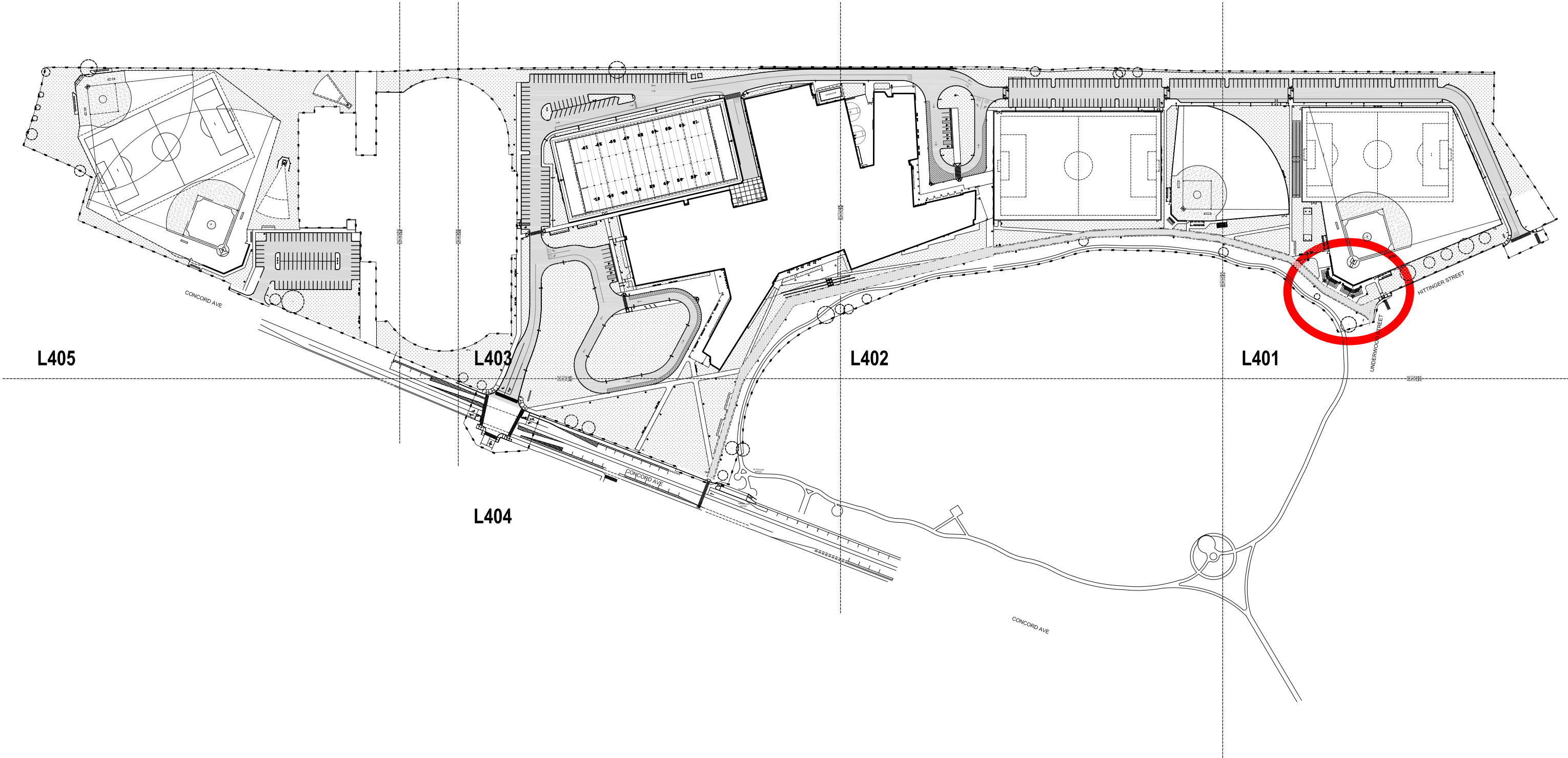
SITE IMPROVEMENTS - REDUCE IRRIGATION SCOPE



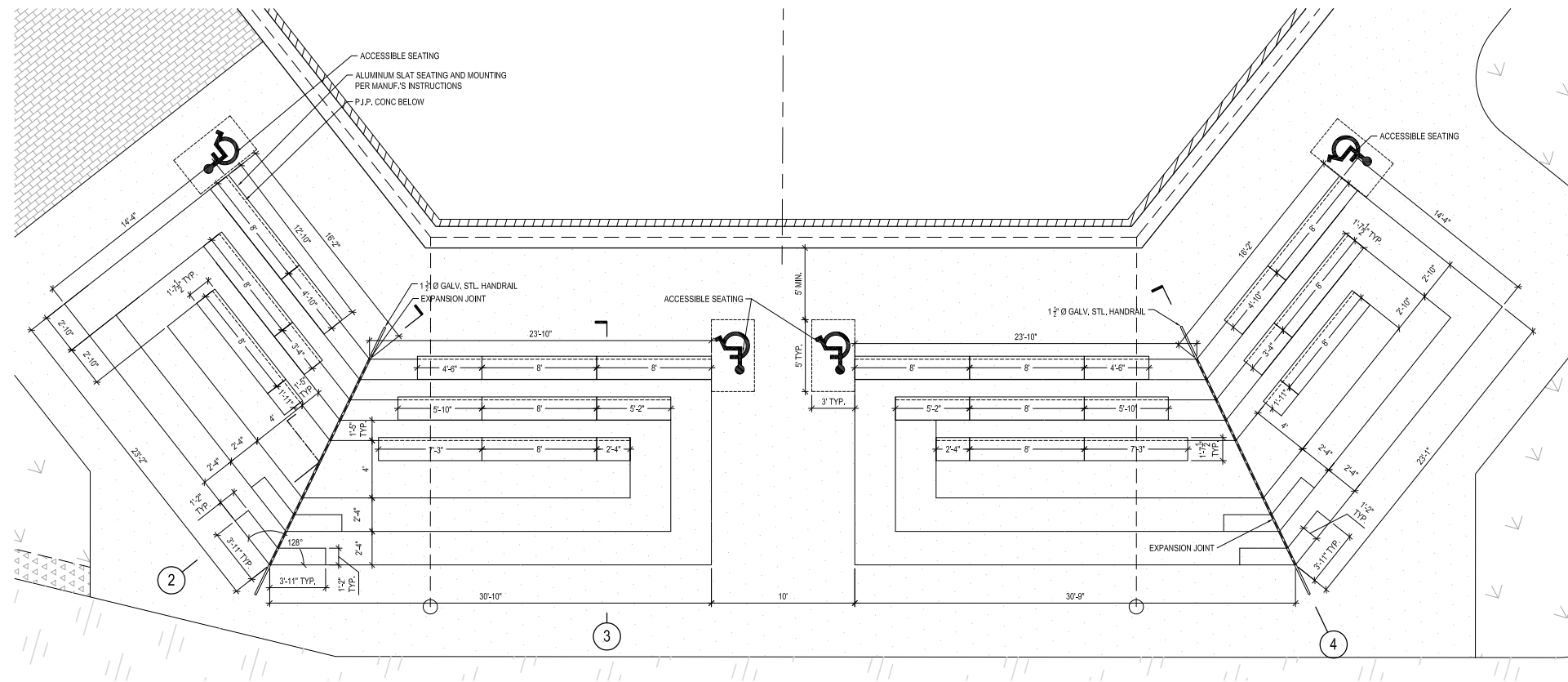
SITE IMPROVEMENTS - REDUCE IRRIGATION SCOPE



SITE IMPROVEMENTS - PROVIDE ALUMINUM BENCHING

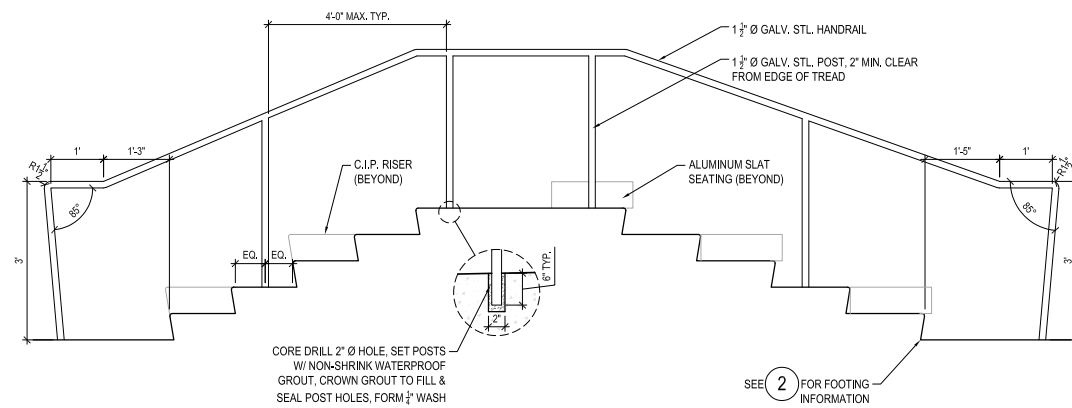


SITE IMPROVEMENTS - PROVIDE ALUMINUM BENCHING

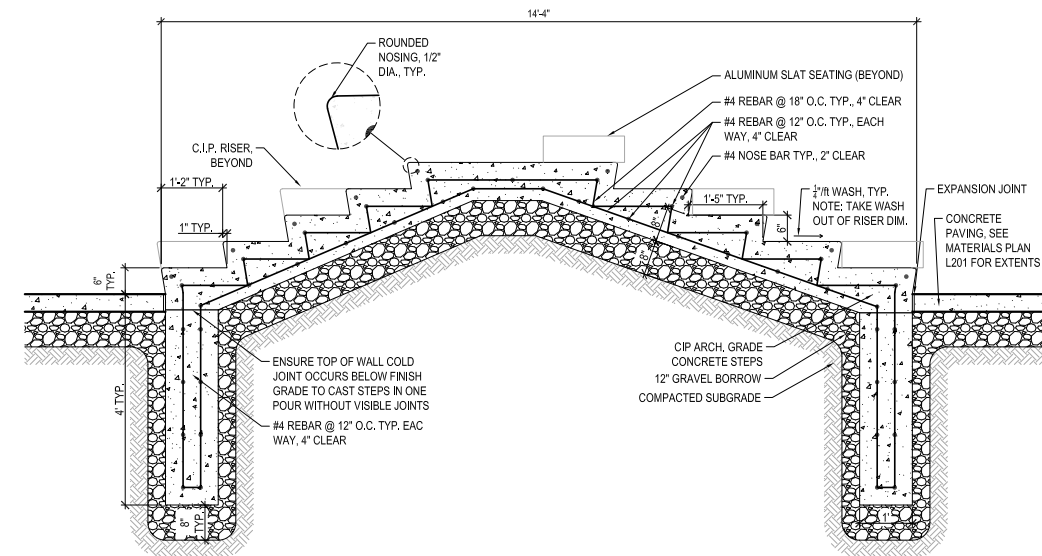


1 BASEBALL SEATING ENLARGEMENT PLAN
SCALE: 1/4" = 1'-0"

CURRENT DESIGN



4 BASEBALL SEATING SECTION @ HANDRAIL
SCALE: 3/4" = 1'-0"



2 BASEBALL SEATING SECTION @ STAIRS
SCALE: 3/4" = 1'-0"

SITE IMPROVEMENTS - PROVIDE ALUMINUM BENCHING

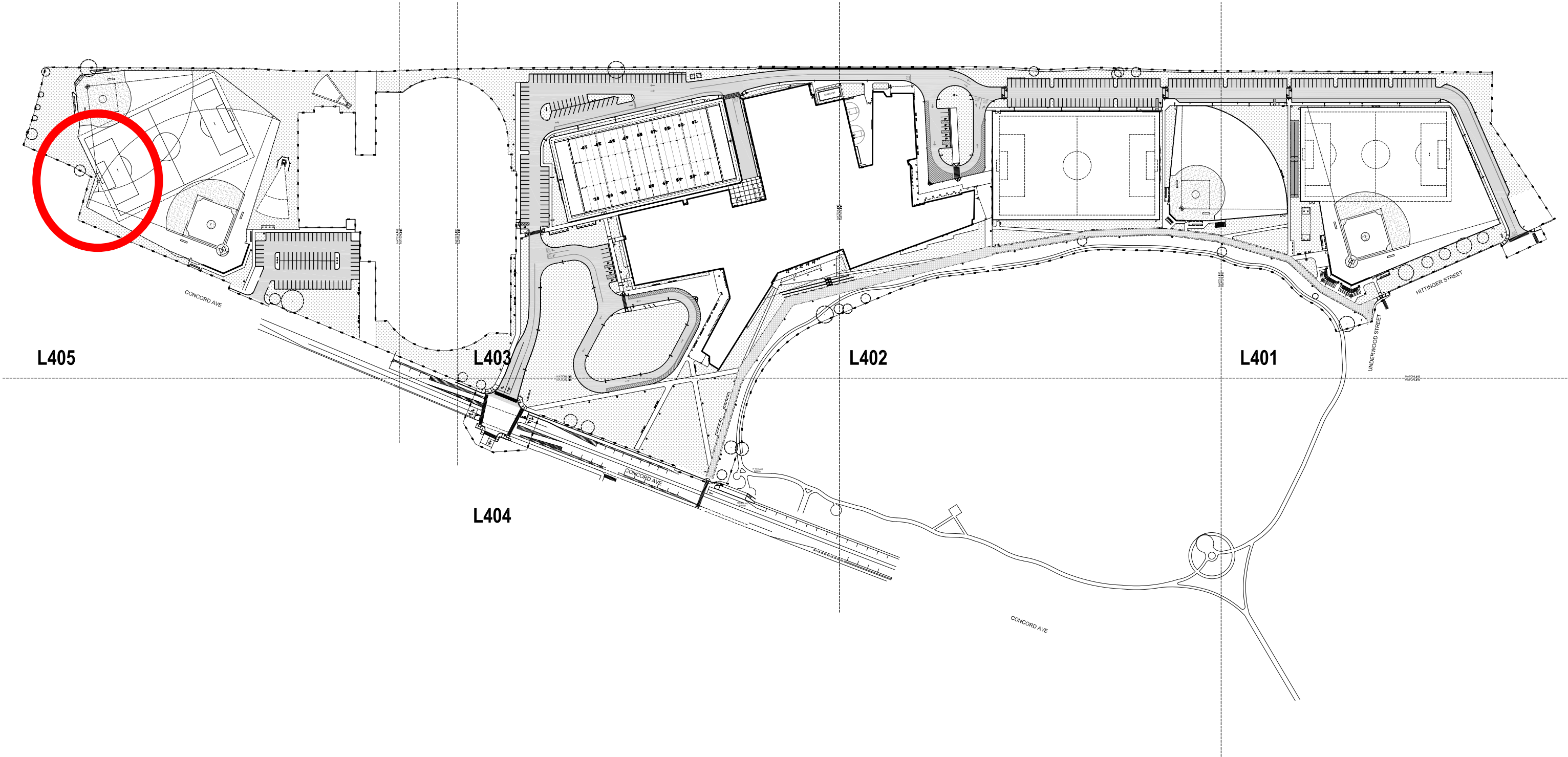


CURRENT DESIGN

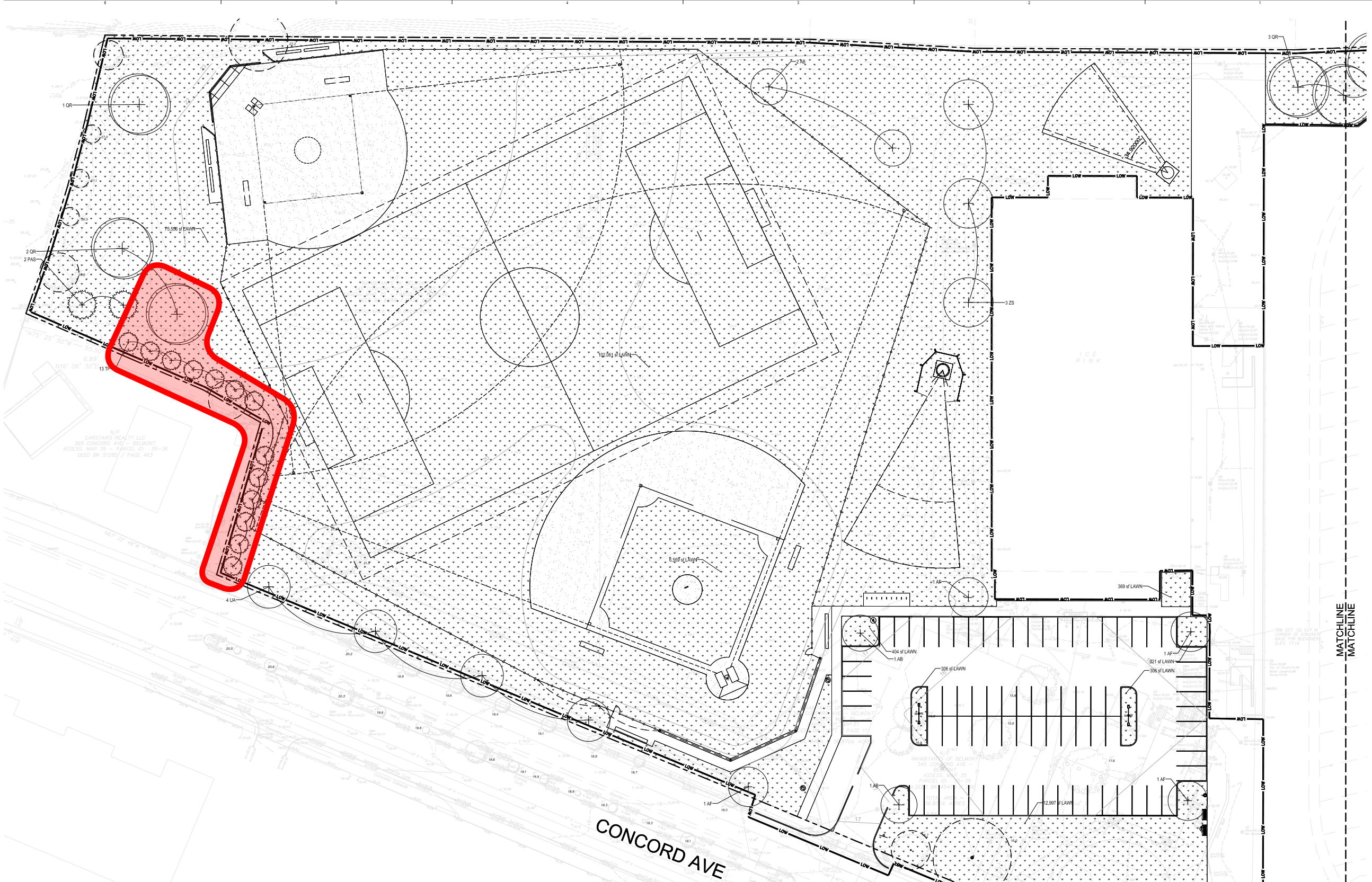


VE PROPOSAL

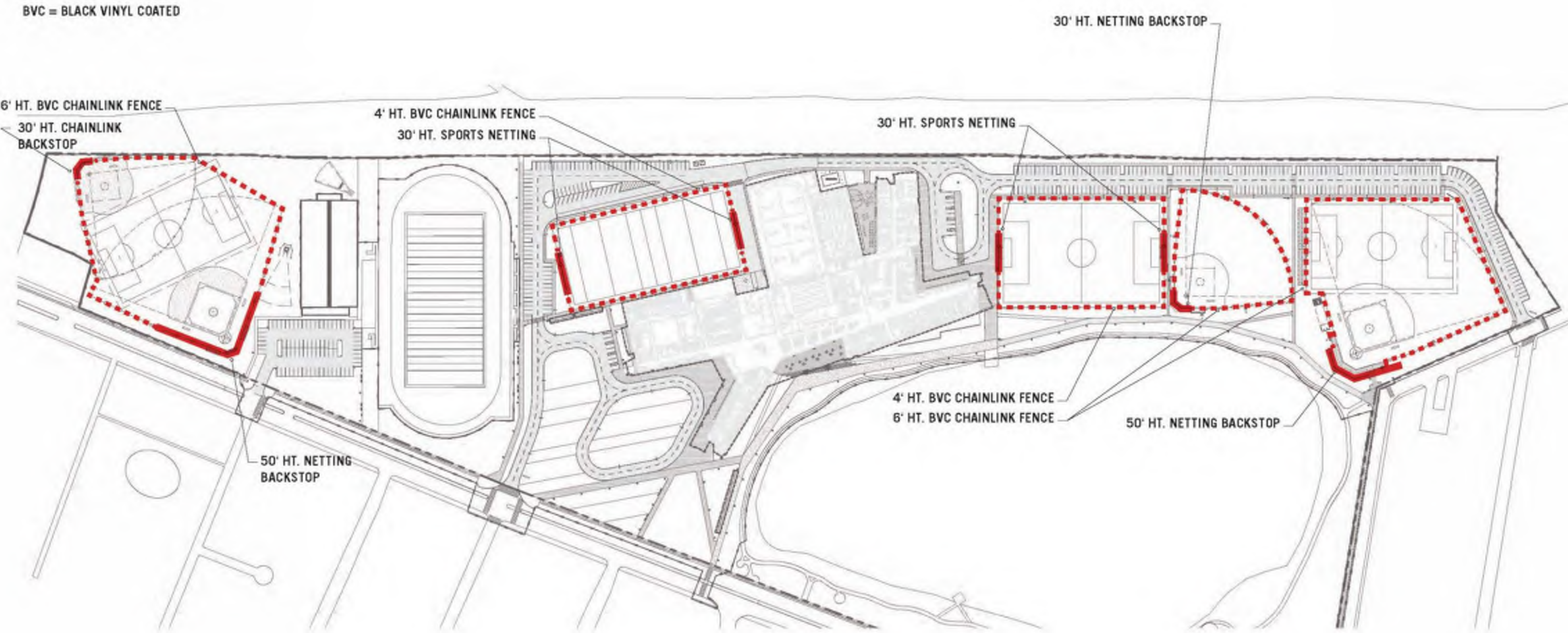
SITE IMPROVEMENTS - REDUCE TREE COUNT (WEST OF HARRIS FIELD)



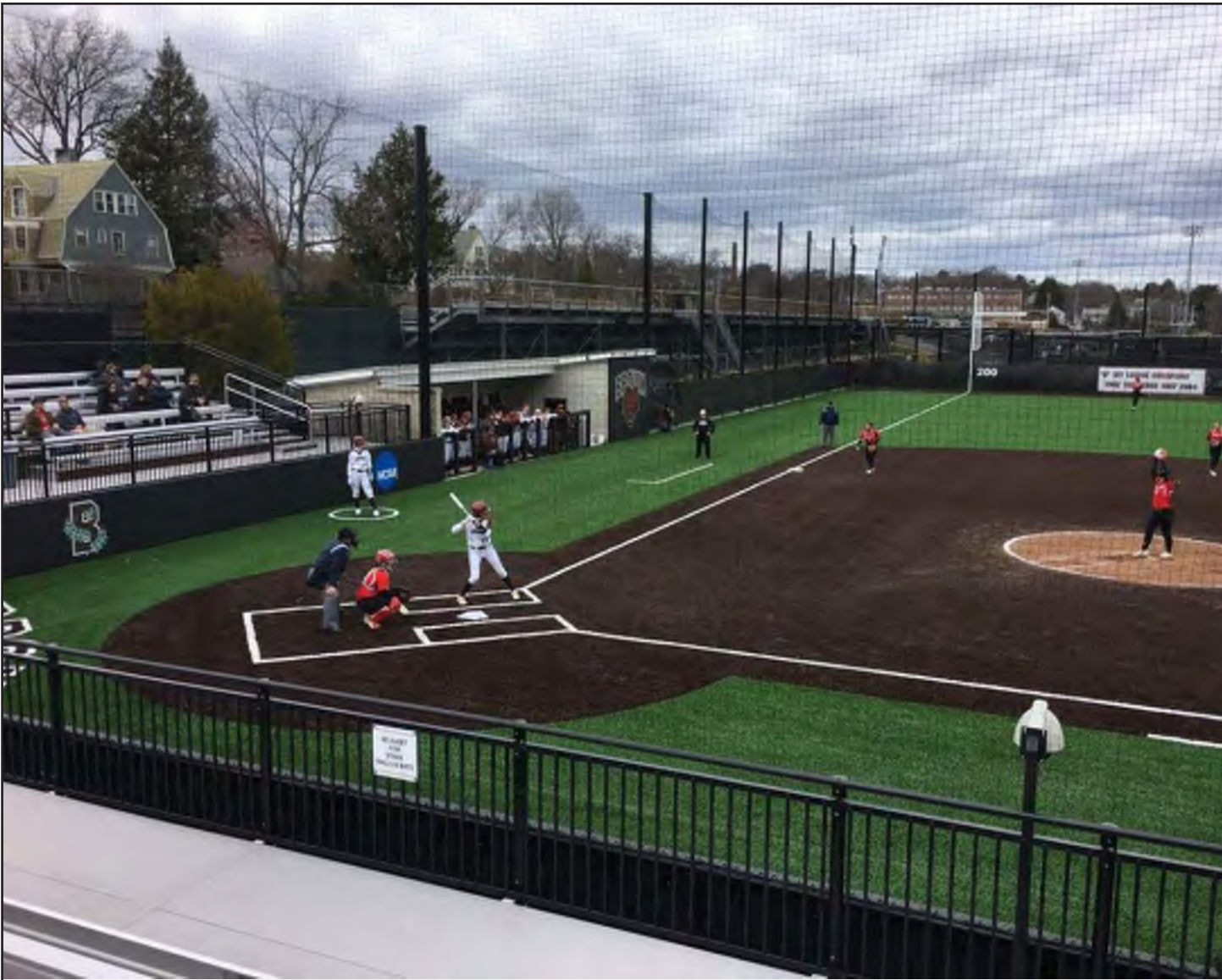
SITE IMPROVEMENTS - REDUCE TREE COUNT (WEST OF HARRIS FIELD)



SITE IMPROVEMENTS - PROVIDE STANDARD NYLON SPORTS NETTING



SITE IMPROVEMENTS - PROVIDE STANDARD NYLON SPORTS NETTING

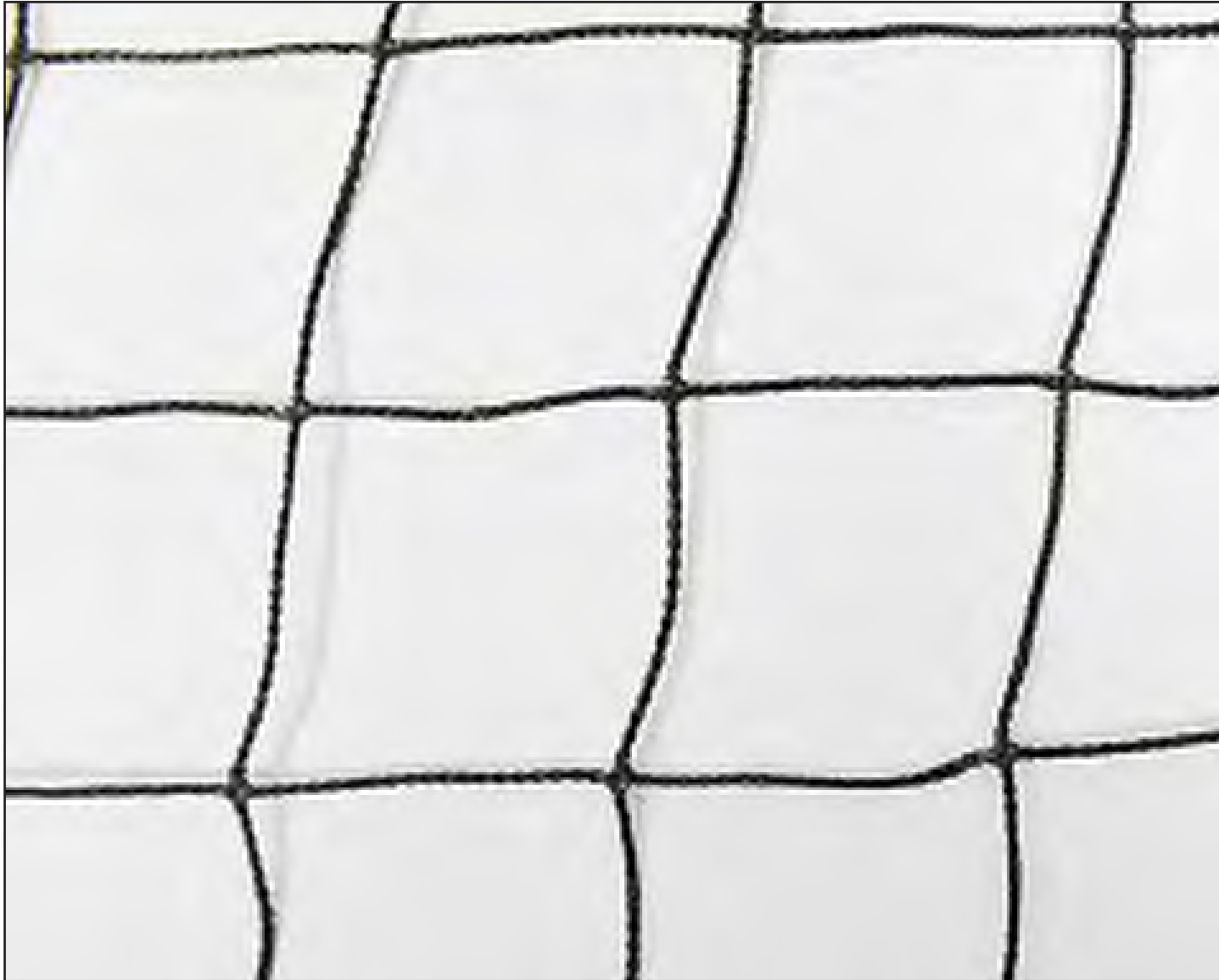


CURRENT DESIGN - KNOTLESS DYNEEMA

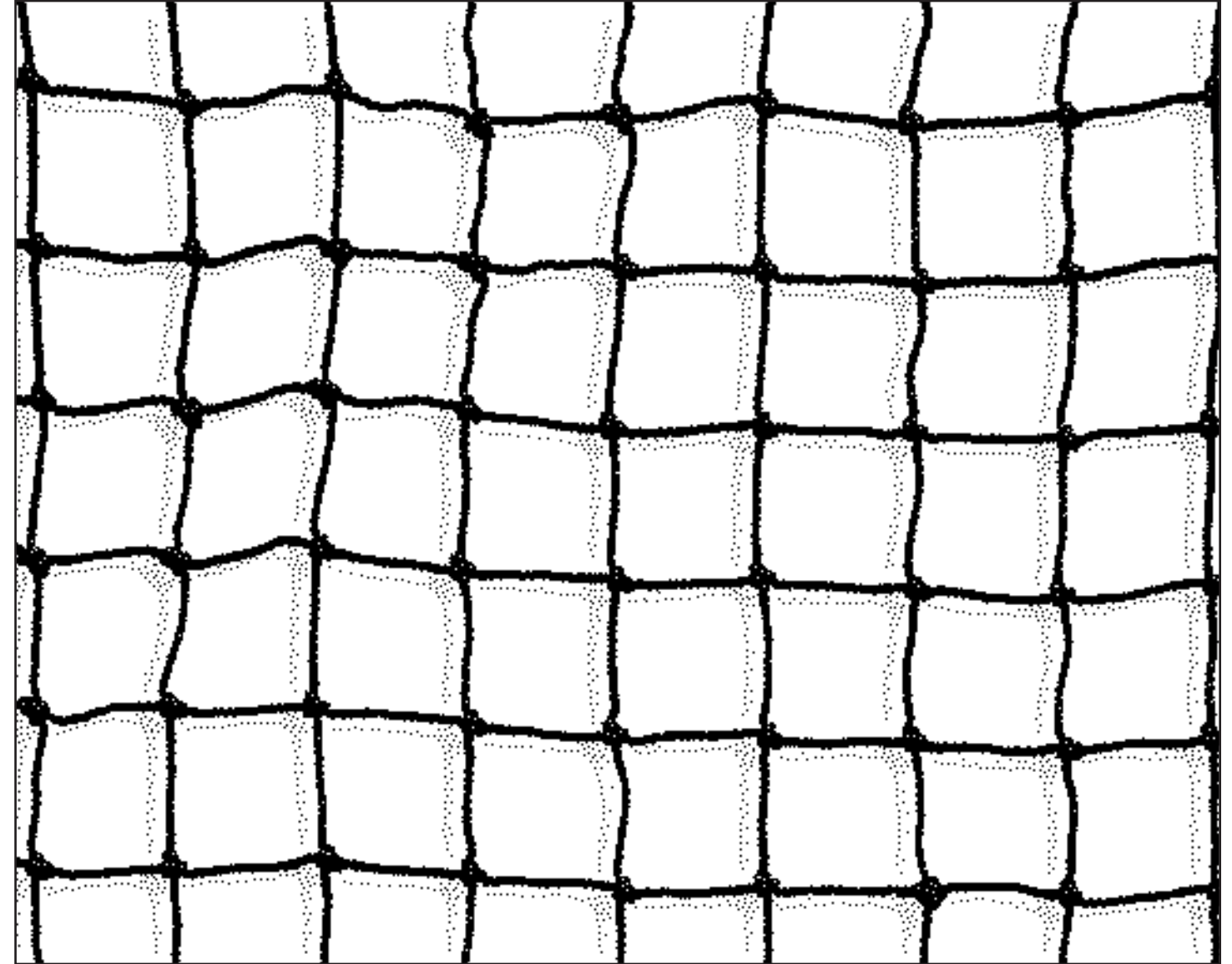


VE PROPOSAL - KNOTTED

SITE IMPROVEMENTS - PROVIDE STANDARD NYLON SPORTS NETTING

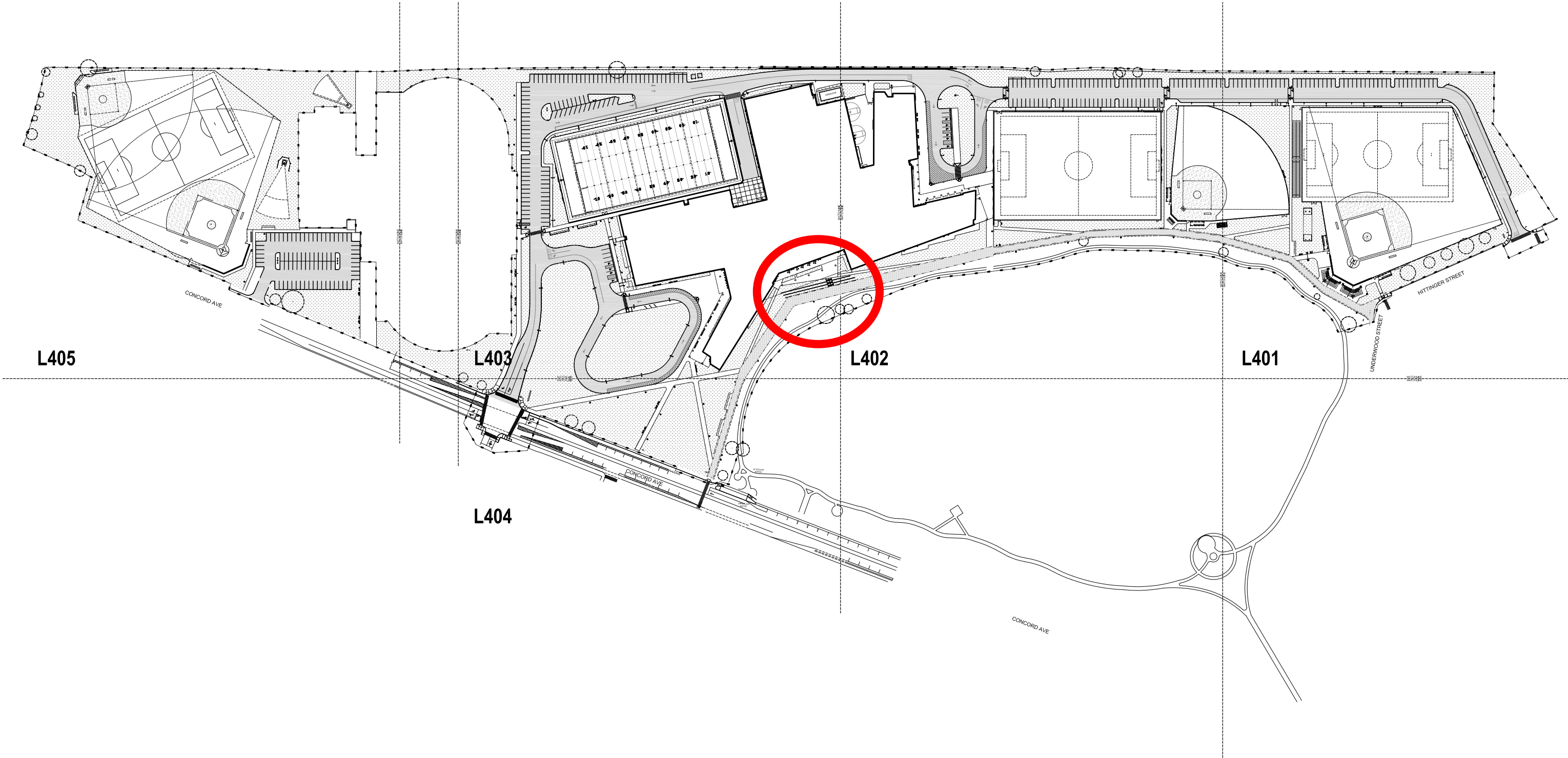


CURRENT DESIGN - KNOTLESS DYNEEMA

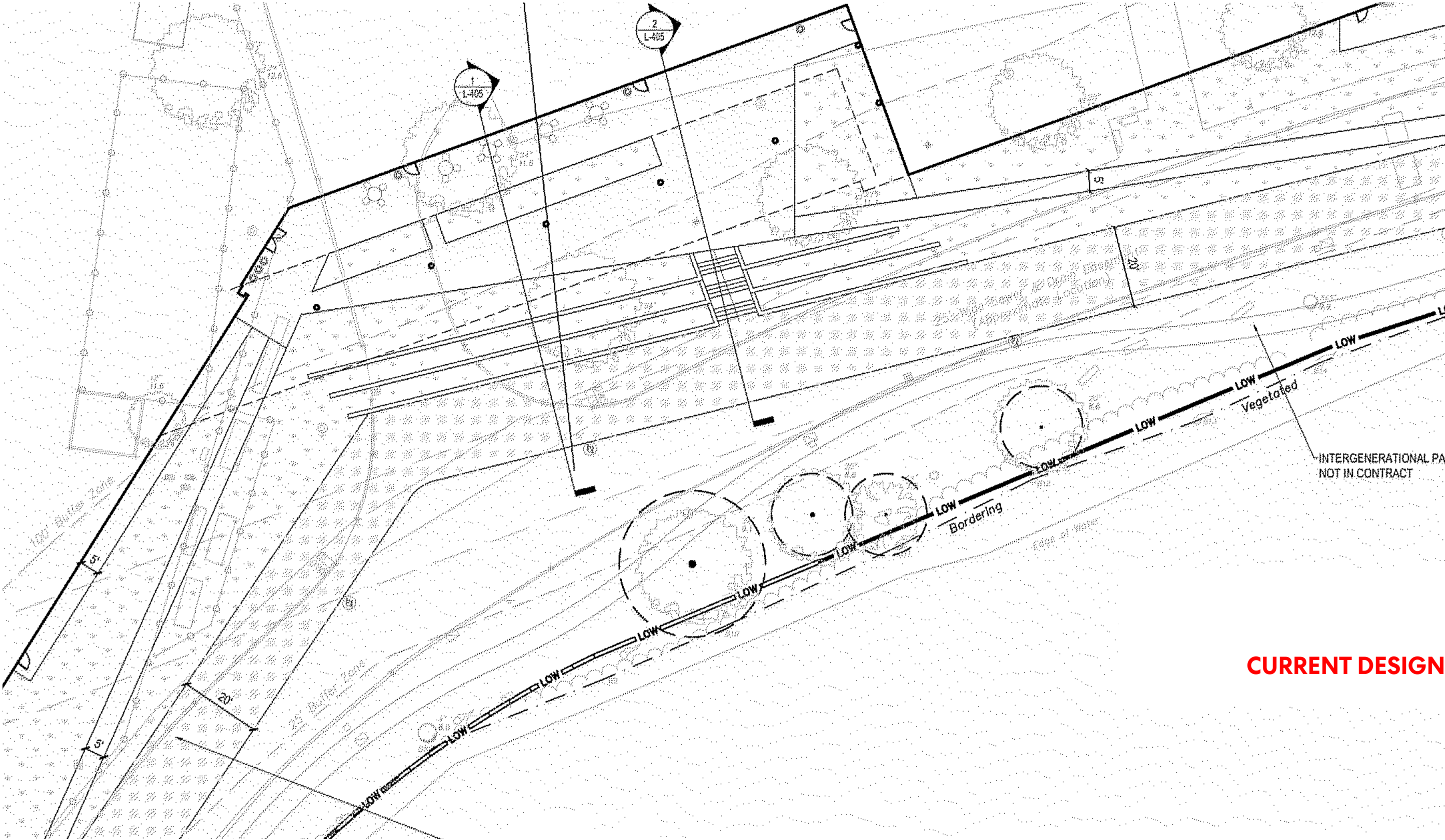


VE PROPOSAL - KNOTTED

SITE IMPROVEMENTS - REDUCE RETAINING WALLS / WALKWAY AREA AT POND TERRACE

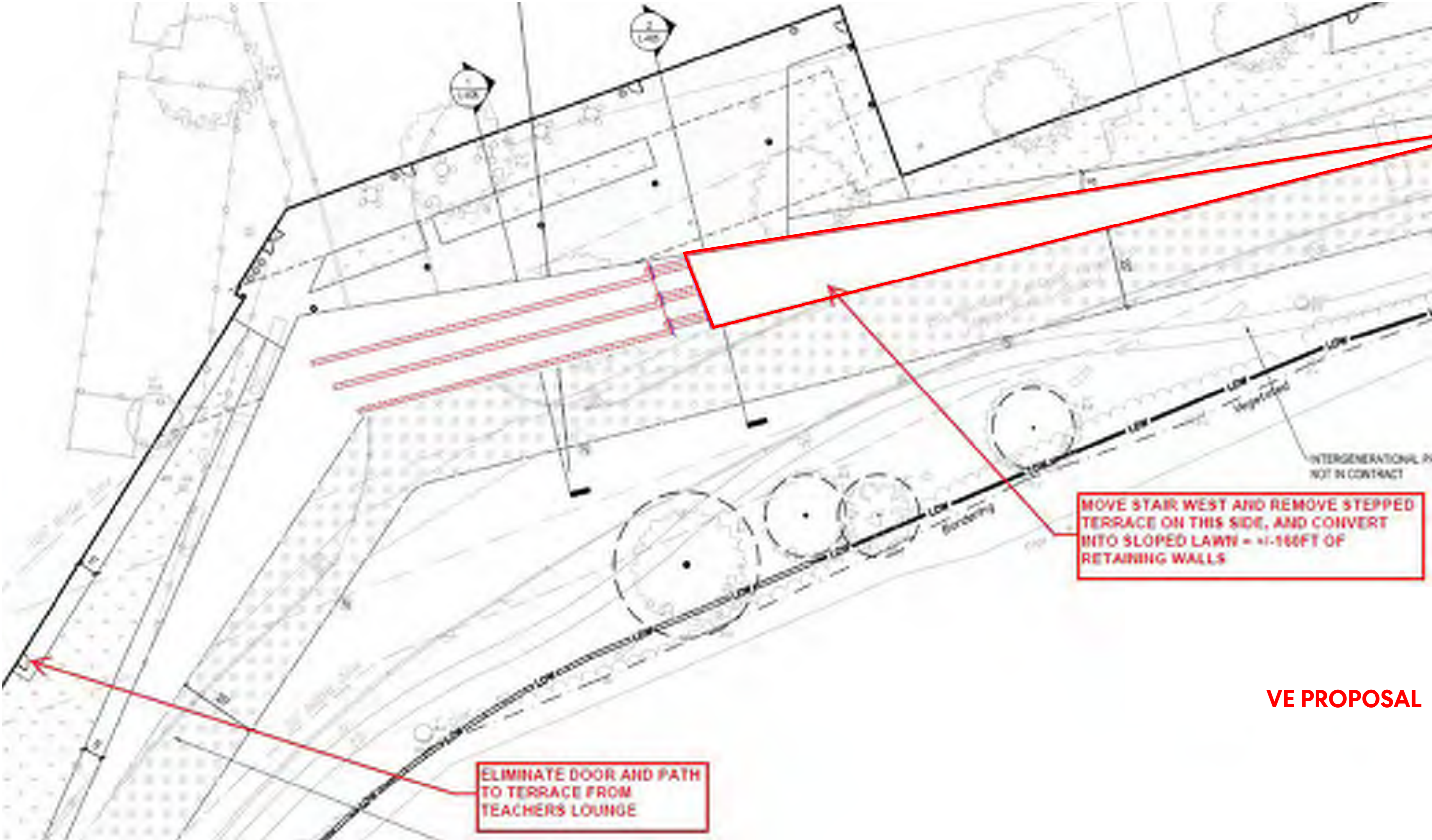


SITE IMPROVEMENTS - REDUCE RETAINING WALLS / WALKWAY AREA AT POND TERRACE



CURRENT DESIGN

SITE IMPROVEMENTS - REDUCE RETAINING WALLS / WALKWAY AREA AT POND TERRACE



VE PROPOSAL

COST SUMMARY

SITE & STRUCTURE SUMMARY

VE Categories	Target Savings	ACCEPTED	DISCUSSION
		Accepted Value Engineering Items	Proposed Savings POSSIBLE Needs more discussion
SITE / STRUCTURE	\$2-3M	(\$1,186,175)	(\$466,170)
Confirm Strip Material is RSC-1 Reduce Unit Cost		(\$310,000)	
Reduce Tree Caliber Size from 4" to 3"		(\$168,495)	
Reduce Retaining Walls at Pond Terrace and Delete Walkway		(\$84,248)	
Reduce Intumescent Paint and Number of Columns		TBD	
Eiminate 5" Exterior Slabs at Arcade		(\$61,782)	
Reduce Level 2 Area B Mechanical Space Structural Framing		TBD	
Reduce Excess Soil Disposals by Raising Grades		(\$561,650)	
Reduce Irrigation Front Drop-Off Area			(\$33,699)
Provide Aluminum Benches in lieu of Concrete at Baseball			(\$61,782)
Reduce Trees West of Harris by 20%		(\$168,495)	
Provide Standard Nylon Neeting vs. Dynema Netting			(\$33,699)
Reduce asphalt paving thickness from 4" to 3"			(\$78,631)
Replace 100% granite curbs w. asphalt			(\$258,359)

COST SUMMARY

PHASING, LOGISTICS, & GENERAL CONDITIONS SUMMARY

VE Categories	Target Savings	ACCEPTED Accepted Value Engineering Items	DISCUSSION Proposed Savings POSSIBLE Needs more discussion
PHASING & LOGISTICS	\$.25-.75M	(\$730,145)	
Reduce MEP Phase scope		(\$280,825)	
Eliminate any ceiling work above pool not feasible w. boom lift		(\$393,155)	
Provide common scaffolding ilo trade carry individ. lifts		(\$56,165)	
GENERAL CONDITIONS	\$1.-1.5M	(\$1,123,300)	
Target reduction to be reviewed w. detailed staffing plan		(\$1,123,300)	

BID ALTERNATES

1. INTERIORS

- **REDUCE BATHROOM WALL TILE TO ONLY WET WALLS**
- **REDUCE CORRIDOR TILE HEIGHT TO 4'-6"**
- **ELIMINATE ALL OPERABLE PARTITIONS IN HIGH SCHOOL**

2. SYSTEMS

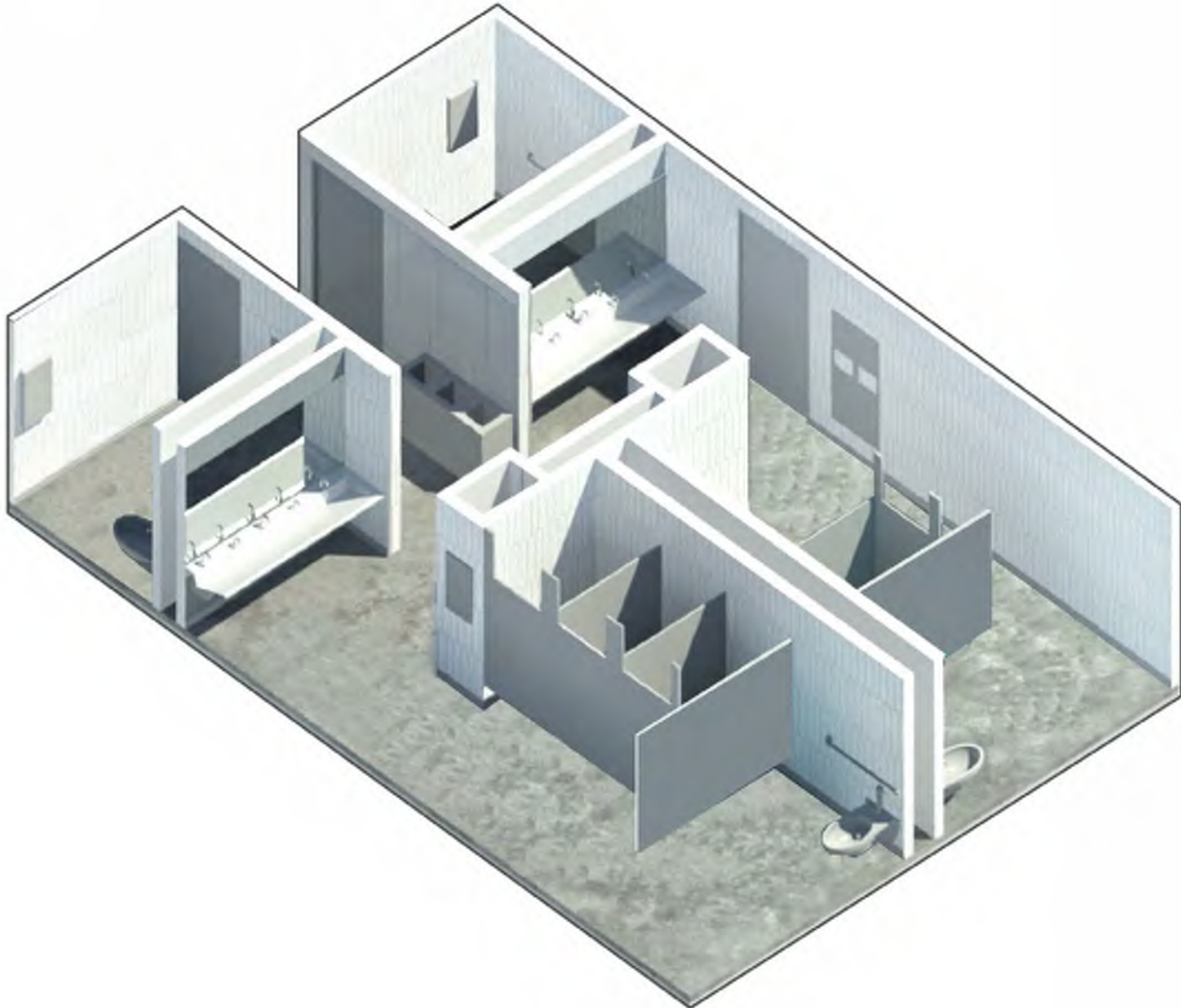
- **MOVE THEATRICAL LIGHTING FIXTURES TO FF&E**
- **REDUCE PV PANEL SYSTEM BY 50%**

3. SITE

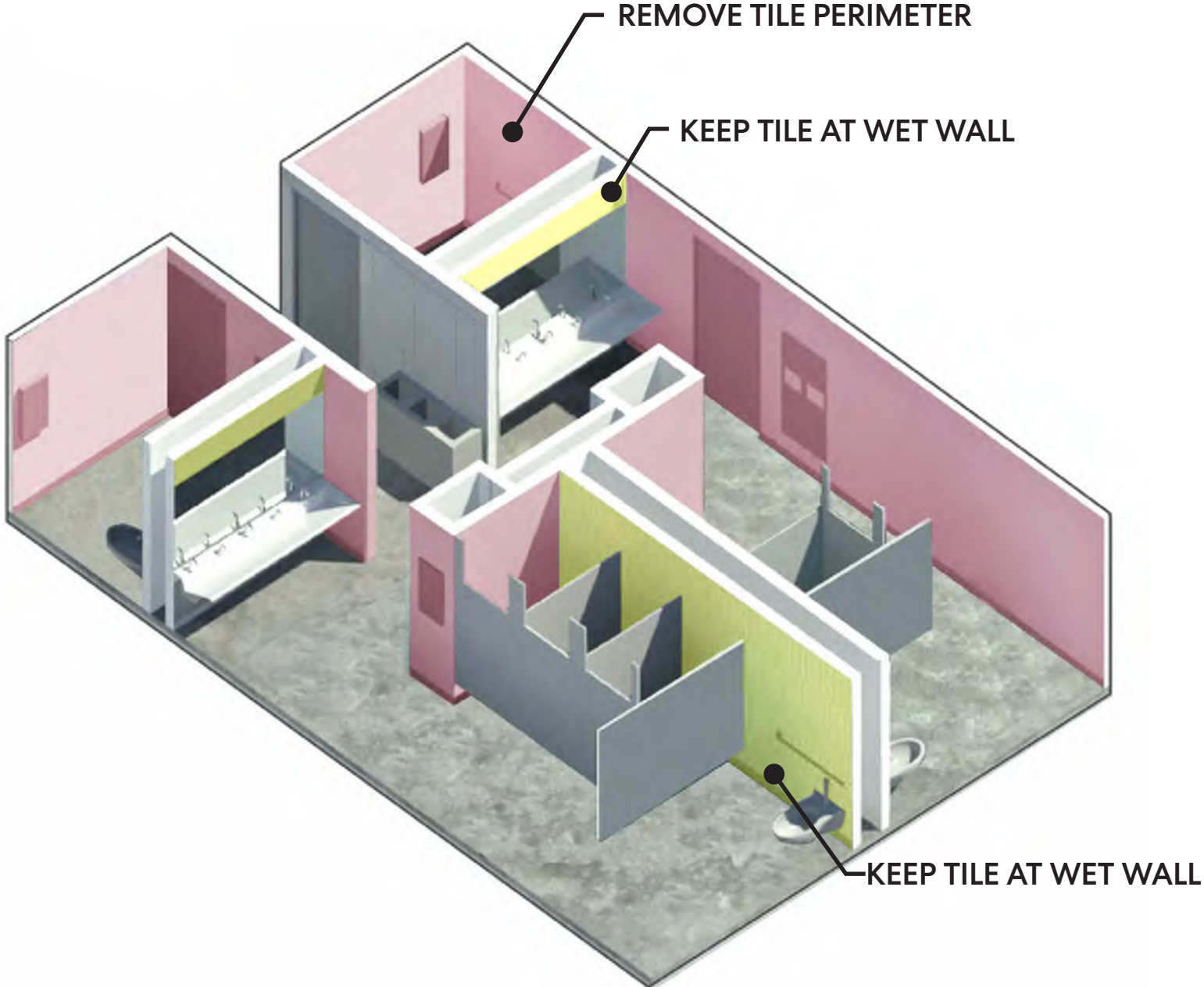
- **PROVIDE GRASS RUGBY FIELD IN LIEU OF TURF**
- **PROVIDE PART OF PHASE 3 AS (WEST FIELDS) AN ADD ALTERNATE**

BID ALTERNATES - INTERIORS

TILE COST REDUCTION STRATEGY



60% PRICING SET



VE STRATEGY

BID ALTERNATES - INTERIORS

CORRIDOR COST REDUCTION STRATEGY - CORRIDOR TILE AT 7 FEET HIGH

TACK BOARD ONLY AT CLASSROOM ENTRY



BID ALTERNATES - INTERIORS

CORRIDOR COST REDUCTION STRATEGY - REDUCE CORRIDOR TILE HEIGHT TO 4'-6" FEET



BID ALTERNATES

INTERIORS

VE Categories	Target Savings	ACCEPTED Accepted Value Engineering Items	DISCUSSION Proposed Savings POSSIBLE Needs more discussion	BID ALTERNATES Proposed Alternates
INTERIOR	\$6.5-8M	(\$5,988,093)	(\$652,638)	(\$960,422)
Reduce Ceiling Finishes		(\$1,396,464)		
Reduce Floor Finishes & Simplify Floor Const.		(\$279,702)		
Reduce Wall Finishes & Simplify Wall Const.		(\$1,717,116)		
Reduce Glass Walls & Rails		(\$410,173)		
Reduce Casework		(\$785,775)		
Simplify Stairs		(\$194,684)		
Reduce Equipment & Hardware		(\$429,102)		
Reduce Overhead Fire Doors & Shutters		TBD		
Eliminate all Operable Partitions in Middle School		(\$213,427)		
Reduce Hazardous Abatement Allowance		(\$561,650)		
Reduce percentage of Acoustic Wood Panels (WVP-1's)			(\$190,961)	
Replace glass railings with perforated metal panel or pickets			(\$51,672)	
Reduce Classroom Casework			(\$348,223)	
Eliminate ACT-3 ceilings in locker rooms; paint exposed			(\$61,782)	
Reduce Bathroom Wall Tile to only Wet Walls				(\$432,471)
Reduce Corridor Tile Height to 4'-6" high				(\$449,320)
Eliminate all Operable Partitions in High School				(\$78,631)

BID ALTERNATES

SYSTEMS

VE Categories	Target Savings	ACCEPTED Accepted Value Engineering Items	DISCUSSION Proposed Savings POSSIBLE Needs more discussion	BID ALTERNATES Proposed Alternates
SYSTEM	\$2.5-3.5M	(\$1,916,238)	(\$84,248)	(\$1,845,807)
Mechanical		(\$66,056)		
Plumbing: Replace some overflow drains with scuppers		TBD		
Fire Protection		(\$28,083)		
Electrical		(\$104,961)		
Lighting		(\$696,513)		
AV & Tech		(\$880,211)		
Simplify Domestic Water Pre-Heat & Storage System		TBD		
Simplify Pool Heating System		(\$84,248)		
Relocate Pumps from Roof to Level 1 Mech & Plumbing Rooms		(\$39,316)		
Utilize Ductless Ceiling Cassette VRF Fan Coil Units		(\$16,850)		
Replace Ductwork with Ductsox in Field House & Small Gym			(\$84,248)	
Move Theatrical Lighting Fixtures to FF&E				(\$385,517)
Reduce PV Panel System by 50%				(\$1,460,290)

BID ALTERNATES

SITE & STRUCTURE

VE Categories	Target Savings	ACCEPTED Accepted Value Engineering Items	DISCUSSION Proposed Savings POSSIBLE Needs more discussion	BID ALTERNATES Proposed Alternates
SITE / STRUCTURE	\$2-3M	(\$1,186,175)	(\$466,170)	(\$2,246,600)
Confirm Strip Material is RSC-1 Reduce Unit Cost		(\$310,000)		
Reduce Tree Caliber Size from 4" to 3"		(\$168,495)		
Reduce Retaining Walls at Pond Terrace and Delete Walkway		(\$84,248)		
Reduce Intumescent Paint and Number of Columns		TBD		
Eiminate 5" Exterior Slabs at Arcade		(\$61,782)		
Reduce Level 2 Area B Mechanical Space Structural Framing		TBD		
Reduce Excess Soil Disposals by Raising Grades		(\$561,650)		
Reduce Irrigation Front Drop-Off Area			(\$33,699)	
Provide Aluminum Benches in lieu of Concrete at Baseball			(\$61,782)	
Reduce Trees West of Harris by 20%		(\$168,495)		
Provide Standard Nylon Neeting vs. Dynema Netting			(\$33,699)	
Reduce asphalt paving thickness from 4" to 3"			(\$78,631)	
Replace 100% granite curbs w. asphalt			(\$258,359)	
Provide Grass Rugby Field in lieu of Turf				(\$673,980)
Provide part of Phase 3 (West Fields) as an add-alternate				(\$1,572,620)