

CITY OF WEST CHICAGO

WHERE HISTORY & PROGRESS MEET

Approved 11/04/10

MINUTES

INFRASTRUCTURE COMMITTEE

October 7, 2010 - 7:00 P.M.

1. **Call to Order, Roll Call, and Establishment of a Quorum.** Chairman Dzierzanowski called the meeting to order at 7:03 P.M. Roll Call found Aldermen James Beifuss, Nanette Connelly, Sandra Dimas, Nicholas Dzierzanowski, Russell Radkiewicz, and John Smith present. Alderman James Smith was absent.

Also in attendance were Public Works Director Robert Flatter and Administrative Secretary Michelle Baldino.

2. **Approval of Minutes.**

A. **Infrastructure Committee Minutes of September 2, 2010.** Alderman Nanette Connelly made a motion to approve the minutes of July 1, 2010, seconded by Alderman Russell Radkiewicz. Voting Yea: Aldermen Nanette Connelly, Russell Radkiewicz, James Beifuss, Sandra Dimas, Nicholas Dzierzanowski, and John Smith. Voting Nay: 0.

3. **Public Participation / Presentations.** None.

4. **Items for Consent.** Chairman Dzierzanowski asked if any members wanted to discuss any of the following items for the Consent Agenda.

- A. **Contract Award – FY 2011 Rotary Hydrated Lime – Mississippi Lime**
- B. **Contract Award – FY 2011 Liquid Carbon Dioxide – EPCO Carbon Dioxide Products**
- C. **Contract Award – FY 2011 Liquid Sodium Hypochlorite – Rowell Chemical Corp.**
- D. **Contract Award – FY 2011 Diesel and Unleaded Fuel Delivery – Texor Petroleum Company**
- E. **Acceptance of 1171 Commerce Drive – Suburban Teamsters Development**
- F. **Release of Letter of Credit – 310-330 Charles Court – Triad Construction Services**
- G. **Revision of Section 17-202 “Class II Truck Routes Designated” of the City Code of Ordinances – Ordinance No. 10-O-0091**

There was no discussion on the Items for Consent. Alderman Sandra Dimas made a motion, seconded by Alderman John Smith to approve Consent Items A., B., C., D., E., F., and G. Voting Yea: Aldermen Sandra Dimas, John Smith, James Beifuss, Nanette Connelly, Nicholas Dzierzanowski, and Russell Radkiewicz. Voting Nay: 0.

5. **Items for Discussion.** None.

6. **Unfinished Business.** None.

7. **New Business.**

A. Mr. Flatter informed the Committee that ComEd was unable to attend this meeting to provide an update regarding Ridgeland. A representative will be present at the November Infrastructure Committee Meeting.

B. Mr. Flatter stated that during a recent water service line repair in the Prestonfield Subdivision (325 Post Oak Circle), there was a residential brick mailbox in the parkway, almost directly over the water service line. Prior to the repair work by the City, the mailbox was already leaning, possibly due to saturation from the water service line leak (see Attachment A). City personnel repaired the leak, without have to remove the structure, and restored the property, but did not straighten the mailbox (see Attachment B). The resident is now requesting that the City make repairs to the mailbox structure.

Mr. Flatter stated that there are many different types of these structures built in the City parkways that don't require a permit, and questioned Committee if there should be a policy established. (See Attachment C for an example of a masonry structure.) During plowing events, if a mailbox is damaged, City personnel will attempt to repair it before replacing it. Damaged mailboxes from plowing are replaced with a new post and standard black mailbox, averaging under \$50.00 a repair. Repairs to brick structure and masonry types of mailboxes would be at a substantial cost to the City.

During discussion, Alderman Radkiewicz asked about the current City parkway ordinance, and was informed that the existing ordinance states that there are no permanent structures allowed. He questioned the definition of a permanent structure. Alderman Beifuss said that "substantial structures" are regulated in permitting, but the question is, how is a substantial structure defined. Alderman John Smith asked if a car accidentally hit one of these structures, would the City be held liable.

The Committee agreed that this mailbox was placed at its present location at the risk of the homeowner, and the City is not obligated to spend money to make any repair. **Staffs was directed to review policies of surrounding communities and create a City policy to address all types of structures that may be placed on City parkways that would interfere with maintenance activities, etc., (fences, parkway tree bricks, boulders, plantings, brick and masonry mailboxes, etc.).**

8. **Reports from Staff.**

A. **Ash Tree Inventory.** Mr. Flatter informed the Committee that Graf Tree Care will be completing the Ash Tree inventory in all wards by the next day and there have been 1,900 located and tagged in the City's parkways. They will then move on to all City-owned properties. So far, there is evidence all over the City of Emerald Ash Borer (EAB). In Willow Creek subdivision, in a European Ash, there were layers of growth with EAB, possibly dating back to 2001. In the Prince Crossing Farms subdivision, there is 8-10 Green Ash trees affected that was most likely brought in

from nursery stock. EAB has also been found in the Industrial Drive/Downs Drive area and the Alta Vista area. A complete report, including recommendations (remedies, treatments, cost comparisons, and an action plan) will be brought back to Committee in November or December.

B. Main Street Tunnel Feasibility Study; and,

C. Main Street Tunnel Retaining Walls Design Alternative Report. Mr. Flatter handed out the two referenced reports to Committee (Attachment D) and stated that a representative from Strand Associates, Inc. will provide a presentation at the November Infrastructure Committee meeting, discussing alternatives within each report. Staff will then be seeking direction from the Committee.

D. Chairman Dzierzanowski asked if there was an update regarding the Quiet Zone. Mr. Flatter reported that Patrick Engineering has been preparing the necessary documents, but there is no significant information to report yet. He further stated that Wayne Township has not yet been contacted. Alderman Beifuss and Alderman Connelly stated that the CN is sounding their horns at all hours of the night, even when the trains are standing still.

9. Adjournment. At 7:40 P.M., Alderman Russell Radkiewicz made a motion to adjourn, seconded by Alderman James Beifuss. Motion was approved by voice vote.

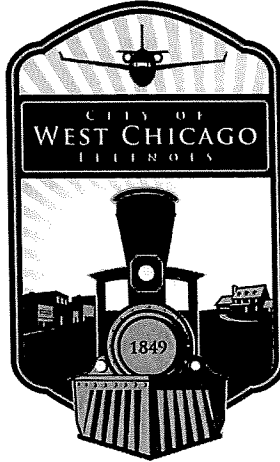
Respectfully submitted,

Michelle Baldino
Administrative Secretary







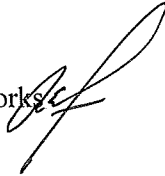
PUBLIC**WORKS**

ROBERT E. FLATTER, P.E.
DIRECTOR
(630) 293-2255
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UTILITY DIVISION	293-2255
STREET DIVISION	293-2250
WASTEWATER DIVISION	293-2261
ENGINEERING DIVISION	293-2255

MEMORANDUM

TO: Michael L. Guttman, City Administrator

FROM: Robert E. Flatter, P.E., Director of Public Works 

DATE: October 7, 2010

RE: Main Street Tunnel Retaining Wall Design Alternatives Report and Main Street Tunnel Feasibility Study – Strand Associates, Inc.

At the December 3, 2009 Infrastructure Committee Meeting, Committee members discussed the Main Street Tunnel Condition Assessment Report prepared by Strand Associates, Inc., dated October 2009. At said meeting, staff was directed to proceed with two (2) contracts with Strand Associates, Inc (Strand); 1) to design and develop construction drawings and specifications for the rehabilitation of the Main Street Tunnel's main barrel section and Geneva Street ramp section, and 2) for development of conceptual alternative solutions/designs to eliminate, alter, and/or improve access to the northeast end of the Main Street Tunnel, including sections referenced as the Main Street Ramp, Tuner Court Ramp, Main Street Stairway, and Community Center.

Attached for your review, please find two (2) reports prepared by Strand for the above referenced contracts; 1) Report entitled "Main Street Tunnel Retaining Walls Design Alternatives", dated September 3, 2010, and 2) Report entitled "Main Street Tunnel Feasibility Study", dated September 3, 2010. At the November 4, 2010 Infrastructure Committee Meeting, Strand will give Committee a brief overview of each report, will discuss alternatives within each report with Committee, and staff will then seek direction from Committee.

On October 7, 2010, copies of both reports as referenced above will be given to each member of the Infrastructure Committee so that they may review each report before the November Infrastructure Committee meeting.

If you have any questions, please feel free to contact me.

REF:ref
Att-



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www.strand.com

September 3, 2010

Mr. Robert E. Flatter, P.E., Director of Public Works
City of West Chicago
1400 West Hawthorne Lane
West Chicago, IL 60185

Re: Main Street Tunnel Feasibility Study

Dear Rob,

As part of our Main Street Tunnel Condition Assessment, dated October 2009, it was recommended the northeast end of the tunnel and its access points be further evaluated. Specific items to be evaluated include: ADA compliance, aesthetics, pedestrian usage, and probable construction costs. The overall goal for the northeast end of the tunnel is to enhance aesthetics and provide a more welcoming space for the community to use. Three alternatives were developed for potential access configurations to the tunnel. Each of the alternatives presented includes a description of the proposed configuration with advantages, disadvantages, and an opinion of probable construction cost.

As these alternatives were developed, pedestrian count information gathered in the fall of 2009 and the summer of 2010 was taken into consideration when determining which access points experienced the most usage. From the information obtained during the pedestrian counts, it was observed the Turner Court Ramp and the Main Street Stairway account for 80 percent to 90 percent of the entire pedestrian usage. The remaining percentage used the Community Center Ramp. During the time observed, there was not one handicapped person who utilized the Community Center Ramp. Exhibit A shows the tabulated results of the pedestrian counts.

Alternatives

1. *Turner Court Ramp and Main Street Stairs*

This alternative provides two direct access points to the Main Street Tunnel. The first access point is a ramp, Turner Court Ramp, which connects the tunnel to the Illinois Prairie Trail near Turner Court. The second access point is a staircase, Main Street Stairs, which connects the tunnel to the existing sidewalk along Main Street. With this scenario, the existing Community Center Ramp is eliminated.



Mr. Robert E. Flatter
City of West Chicago
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September 3, 2010

Retaining walls will be required as part of this alternative. A sheet pile wall may be necessary where the proposed path is in close proximity to Turner Court to avoid interference with the roadway. A modular block wall or a decorative concrete surface attached to the sheet piling can be placed to act as the façade throughout this area. Along the south side of the ramp, the ground will be graded in order to eliminate the need for a retaining wall. A new wall will be constructed off the northwest corner of the tunnel. A modular block or a cast-in-place wall will be constructed on either side of the Main Street Stairs. Exhibit B shows the existing plan view, proposed plan views, elevation views along the ramp and stairs, and a section view.

Advantages:

- a. Proposed Turner Court Ramp is American with Disabilities Act (ADA) compliant.
- b. Main Street Stairs provide a direct line of vision into the tunnel.
- c. Removing the existing Community Center Ramp provides more green space or a plaza and enhances overall aesthetics.
- d. Handrails and landings are not required along the Turner Court Ramp.
- e. Two direct access points to tunnel account for the predominant usage.

Disadvantages:

- a. No direct ADA access to Community Center or Main Street from the tunnel. ADA access is available, but in an indirect way, which requires user to use the Turner Court Ramp to get to the Illinois Prairie Path and then to follow along the Illinois Prairie Path behind the Community Center.
- b. Existing trees will need to be removed between existing Turner Court Ramp and Turner Court.
- c. Existing light pole may need to be relocated.
- d. Additional earthwork may be necessary to maintain existing drainage patterns and to avoid introducing additional runoff into the tunnel.

Opinion of Probable Construction Cost: \$170,000

2. *Turner Court Ramp and Main Street Ramp*

This alternative provides one direct access point and one indirect access point to the Main Street Tunnel. The first access point is a ramp, Turner Court Ramp, which connects the tunnel to the Illinois Prairie Trail near Turner Court in the same fashion as Alternative 1. The second access point is a ramp, Main Street Ramp, which ties into the Turner Court Ramp approximately 50 feet from the entrance to the tunnel. The Main Street Ramp parallels Turner Court and Main Street, tying into the existing Main Street sidewalk.



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This alternative will utilize the retaining walls for the Turner Court Ramp as described in Alternative 1. This alternative also requires retaining walls for the Main Street Ramp. A sheet pile wall may be necessary where the proposed path is in close proximity to Turner Court or Main Street to avoid interference with the roadway. A modular block wall or a decorative concrete surface attached to the sheet piling can be placed to act as the façade through out this area. Along the south side of the ramp, the ground will be graded in order to reduce the height of the wall. As described in Alternative 1, a new wall will be constructed off the northwest corner of the tunnel. Exhibit C shows the existing plan view, proposed plan view, elevation views along both ramps, and a section view where the retaining wall is close to Main Street.

Advantages:

- a. Proposed Turner Court Ramp is ADA compliant.
- b. Proposed Main Street Ramp provides shorter ADA compliant ramps with access to Main Street.
- c. Removing the existing Community Center Ramp provides more green space or a plaza and enhances overall aesthetics.
- d. Provides largest contiguous area of green/open space.

Disadvantages:

- a. No direct line of vision into tunnel.
- b. Existing trees will need to be removed.
- c. Existing light poles and street light hand hole may need to be relocated.
- d. Additional earthwork may be necessary to maintain existing drainage patterns and to avoid introducing additional runoff into the tunnel.
- e. Only one access point directly to tunnel and eliminates the stairway which is dominantly used access point.
- f. Most costly alternative.

Opinion of Probable Construction Cost: \$295,000

3. *Turner Court Ramp, Main Street Ramp/Stairs, and Community Center Ramp*

This alternative provides two direct and one indirect access points to the Main Street Tunnel. The first access point is a ramp, Turner Court Ramp, which connects the tunnel to the Illinois Prairie Trail near Turner Court in the same fashion as Alternative 1. The second access point is a ramp and staircase combination, Main Street Ramp/Stairs, which begins with the ramp directly out of the tunnel and with a staircase with access to the existing sidewalk along Main Street. The third access point is a ramp from the base of the stairs to the community center and Main Street.



Mr. Robert E. Flatter
City of West Chicago
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September 3, 2010

This alternative will utilize the retaining walls for the Turner Court Ramp as described in Alternative 1. The proposed Main Street Ramp/Stairs and the Community Center Ramp will each utilize a modular block wall on either side of the sidewalk; Sheet piling will not be necessary at these locations. As described in Alternative 1, a new wall will be constructed off the northwest corner of the tunnel. Exhibit D shows an existing plan view, proposed plan view, and elevation views along all three of the ramps.

Advantages:

- a. Proposed Turner Court Ramp, Main Street Ramp, and Community Center Ramp are all ADA compliant.
- b. Main Street Ramp/Stairs provide a line of vision into the tunnel.
- c. Proposed Main Street Ramp and Community Center Ramp provide shorter ADA compliant ramps with access to Main Street.
- d. Handrails and landings are not required along the Turner Court Ramp.
- e. Two direct access points to tunnel including a ramp to Turner Court and a stairway to Main Street, which are the two predominantly used access points.

Disadvantages:

- a. Existing trees will need to be removed.
- b. Potential utility conflicts.
- c. Additional runoff may be introduced into the tunnel.
- d. Provides least amount of green space.

Opinion of Probable Construction Cost: \$230,000

Recommendation

The recommended alternative is Alternative 1, *Turner Court Ramp and Main Street Stairs*. This alternative provides two access points to the tunnel, one that is ADA compliant and one that provides a direct line of vision into the tunnel. This alternative allows good use of green space and provides a more aesthetic view. This alternative also requires the least amount of retaining walls and, therefore, is the most economical of the three alternatives. Exhibit E provides a detailed cost breakdown for each alternative. The cost developed for the retaining walls utilized a mechanically stabilized earth (MSE) wall type with a sheet pile wall where necessary. The wall type that will be utilized during design of the preferred alternative will match the wall type that is selected for the south end of the tunnel.



Mr. Robert E. Flatter
City of West Chicago
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From discussion with the West Chicago Chamber of Commerce and Industry, during the initial Main Street Tunnel Condition Assessment, Chamber Members indicated they would support this type of community enhancement and potentially assist with funding. The cost estimates in Exhibit E includes items such as landscaping and pavers that could be implemented in stages as to not incur the entire cost at one time.

If you have any comments or questions on any of these alternatives, please feel free to call.

Sincerely,

STRAND ASSOCIATES, INC.®

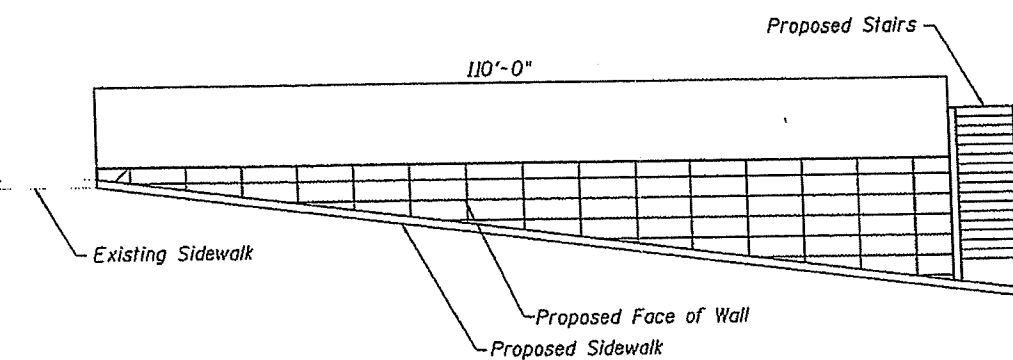
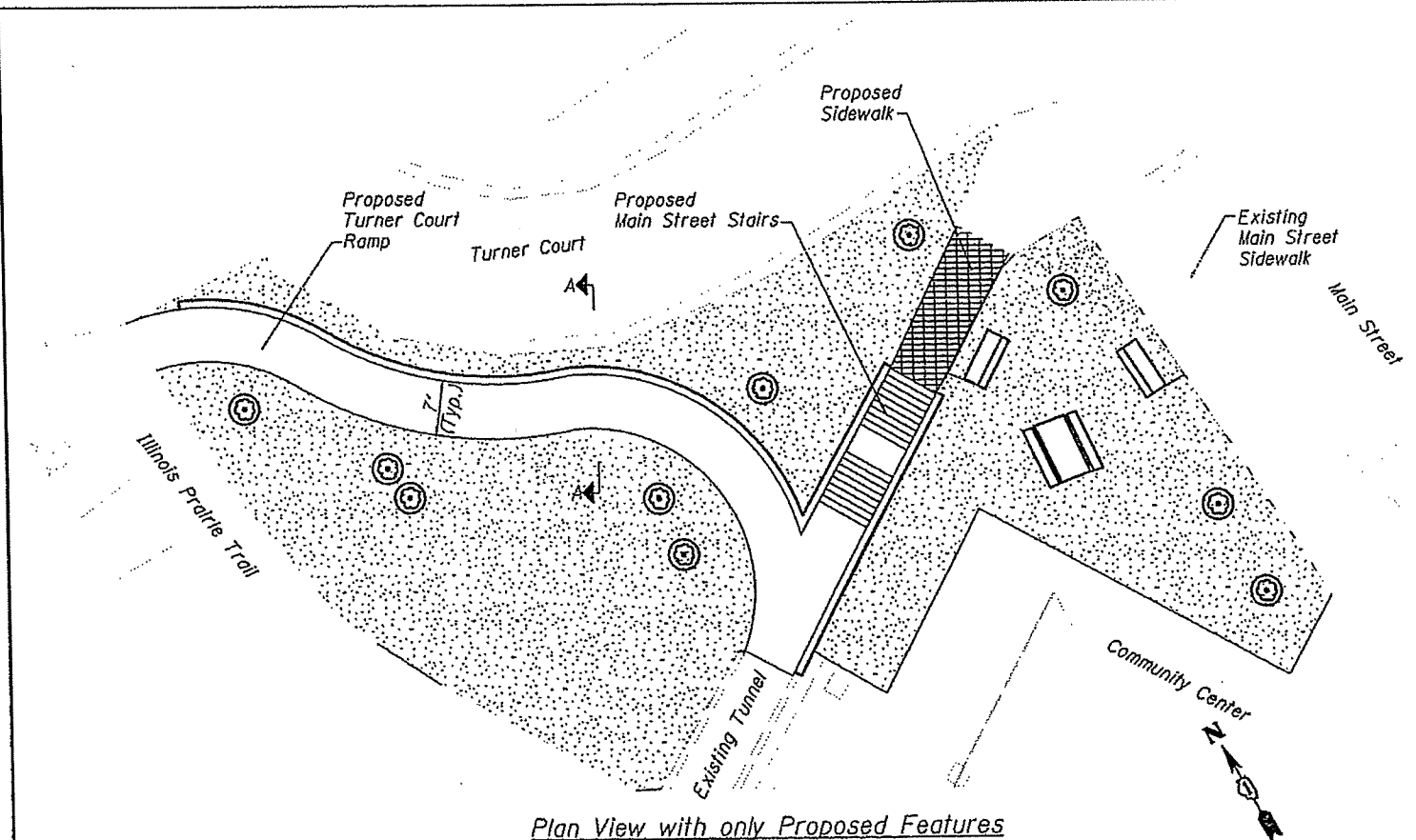
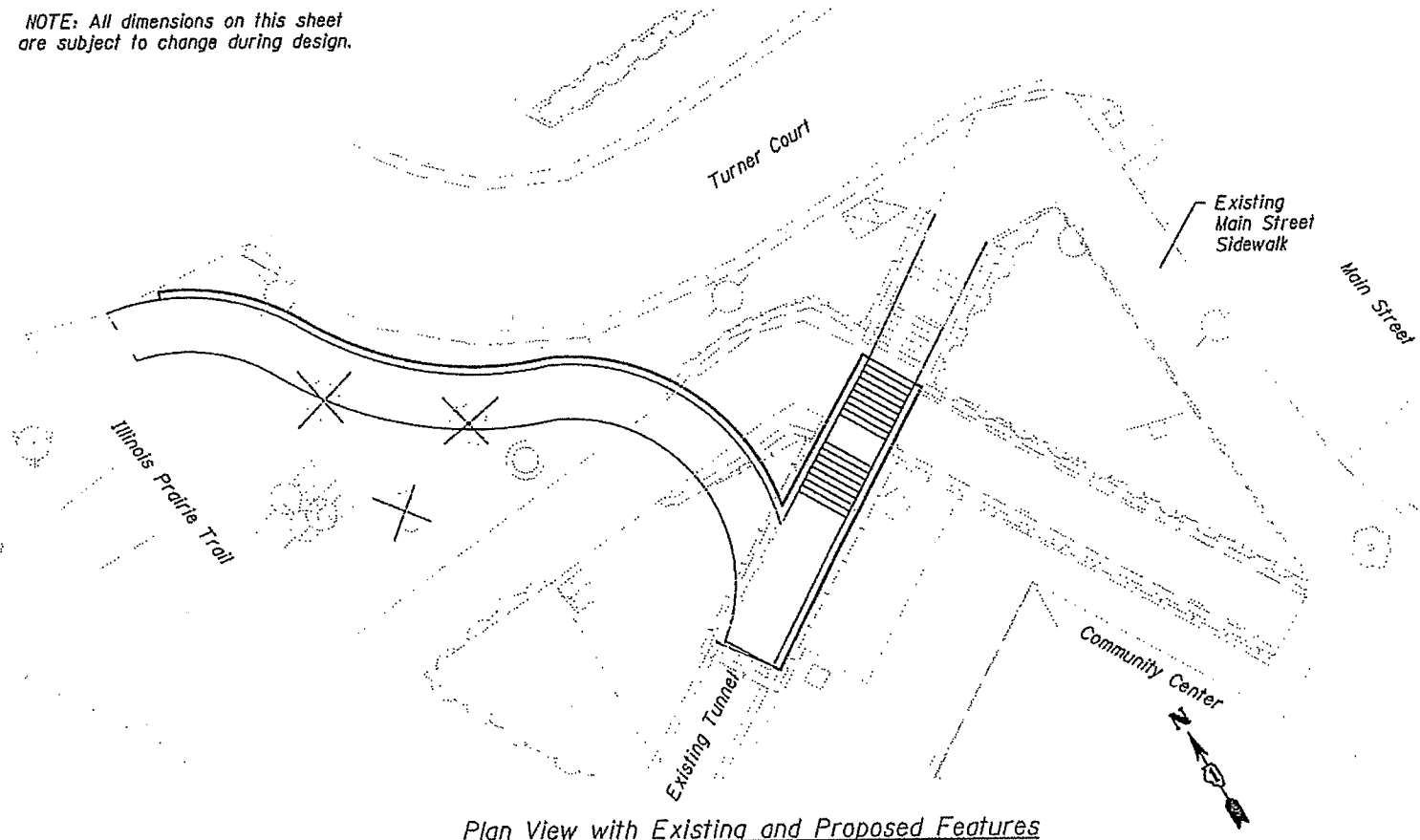
A handwritten signature in black ink, appearing to read 'Anthony J. Standish', is written over a horizontal line.

Anthony J. Standish, P.E., S.E.

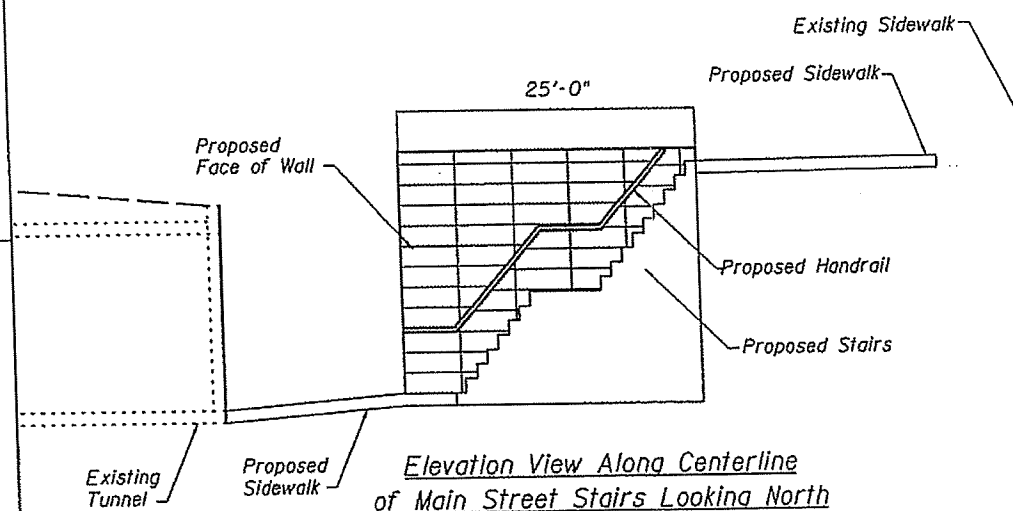
Enclosure(s)

Pedestrian Count WED 7/21/10 7am-10am															
Time		7AM			8AM			9AM			10AM			TOTAL	
Unit	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons			
Northeast End															
Turner Court Ramp	1	7	0	3	1	0	2	2	1	1	5	0	23		
Main St. Stairway	34	0	0	2	0	0	1	0	0	5	0	0	42		
Community Center Ramp	1	0	0	2	3	0	1	1	0	0	0	0	8		
Southwest End															
Geneva St. Ramp	36	7	0	7	4	0	4	3	1	6	5	0	73		
TOTAL												53	19	1	73
Pedestrian Count WED 7/21/10 11am-3pm															
Time		11AM			12PM			1PM			2PM			TOTAL	
Unit	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons			
Northeast End															
Turner Court Ramp	5	4	1	1	2	0	4	1	0	7	4	0	29		
Main St. Stairway	14	0	0	8	0	0	7	0	0	6	0	0	35		
Community Center Ramp	1	4	0	1	1	0	1	1	0	1	0	0	10		
Southwest End															
Geneva St. Ramp	20	8	1	10	3	0	12	2	0	14	4	0	74		
TOTAL												56	17	1	74
Pedestrian Count WED 8/25/10 12pm-4pm															
Time		12AM			1PM			2PM			3PM			TOTAL	
Unit	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons	Pedestrians	Bicyclists	Handicap Persons			
Northeast End															
Turner Court Ramp	7	2	0	2	3	0	5	3	0	34	11	1	68		
Main St. Stairway	5	0	0	2	0	0	17	0	0	33	0	0	57		
Community Center Ramp	0	3	0	2	2	0	7	3	0	12	1	0	30		
Southwest End															
Geneva St. Ramp	12	5	0	6	5	0	29	6	0	79	12	1	155		
TOTAL												126	28	1	155

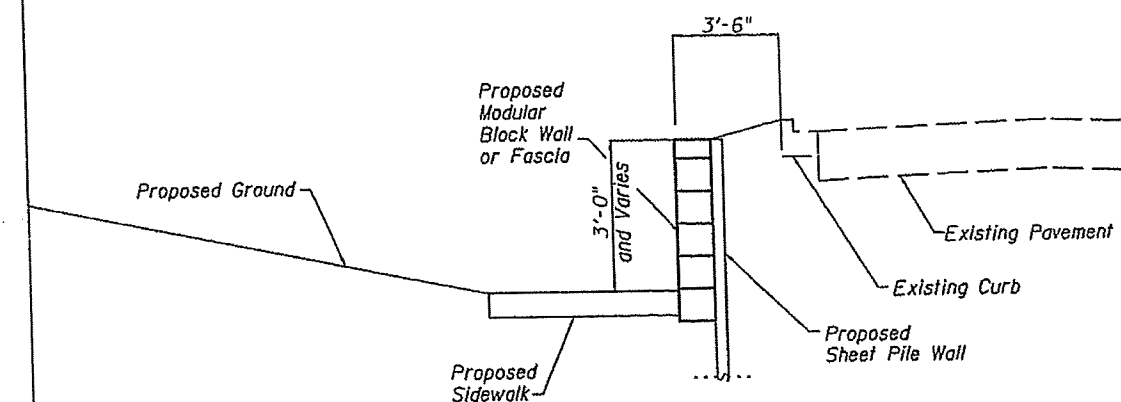
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are subject to change during design.



Elevation View Along Centerline
of Turner Court Ramp Looking North



Elevation View Along Centerline
of Main Street Stairs Looking North



Section View: A-A

[illegible]

DATE:	DES BY:	CHK BY:
RECORD DRAWING		
BY:	DATE:	CONTRACTOR:

EXHIBIT B
TURNER COURT RAMP AND MAIN STREET STAIRS
ALTERNATIVE 1

CITY OF WEST CHICAGO
WEST CHICAGO, IL

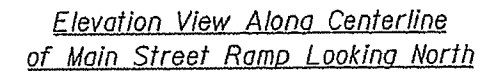
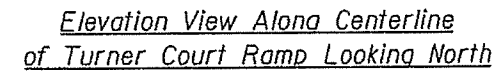
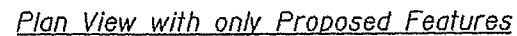
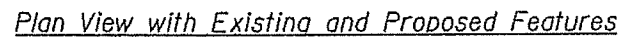


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DATE:		REVISIONS	DATE:
DIES BY:	CHK BY:		
RECORD DRAWING			
BY:			
DATE:			
CONTRACTOR:			

EXHIBIT C
TURNER COURT RAMP AND MAIN STREET RAMP
ALTERNATIVE 2
CITY OF WEST CHICAGO
WEST CHICAGO, IL



SHEET

JOB NO.

NOTE: All dimensions on this sheet are subject to change during design.

Turner Court

Existing Main Street Sidewalk

Main Street

Illinois Prairie Trail

Existing Tunnel

Community Center

N

Plan View with Existing and Proposed Features

This is a detailed plan view of a proposed trail system. The map shows a winding path that starts on the left, crosses an 'Existing Tunnel' (indicated by a dashed line), and then curves around a 'Community Center' (a large building footprint). The path continues along 'Main Street' and 'Turner Court'. A north arrow is located in the bottom right corner. The map also shows 'Existing Main Street Sidewalk' and 'Illinois Prairie Trail' (marked with 'X's). The entire drawing is enclosed in a rectangular border.

Proposed Turner Court Ramp

Turner Court

Proposed Main Street Ramp/Stairs

Proposed Community Center Ramp

Main Street

Existing Main Street Sidewalk

Proposed ADA 5' Landing (Typ.)

Community Center

Existing Tunnel

Illinois Prairie Trail

Plan View with only Proposed Features

[illegible]

Elevation View Along Centerline
of Community Center Ramp Looking North



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EXHIBIT E - PRELIMINARY COST BREAKDOWN

Alternative 1 - Turner Court Ramp and Main Street Stairs				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Retaining Walls - Turner Court Ramp (MSE)	SQ FT	350	\$40	\$14,000
Retaining Walls - Turner Court Ramp (SP)	SQ FT	375	\$50	\$18,750
Retaining Walls - Main Street Stairs (MSE)	SQ FT	375	\$40	\$15,000
Existing Structure Removal	L. SUM	1	\$30,000	\$30,000
Stairs	L. SUM	1	\$5,000	\$5,000
Path Pavement	SQ YD	110	\$50	\$5,500
Earthwork	CU YD	225	\$35	\$7,875
Handrail	FOOT	50	\$40	\$2,000
Pavers	SQ YD	20	\$80	\$1,600
Landscaping	L. SUM	1	\$25,000	\$25,000
Storm Sewer Adjustments	L. SUM	1	\$10,000	\$10,000
Utility Relocation	L. SUM	1	\$5,000	\$5,000
20% Contingency				\$27,945
Total				\$167,670

Alternative 2 - Turner Court Ramp and Main Street Ramp				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Retaining Walls - Turner Court Ramp (MSE)	SQ FT	317	\$40	\$12,680
Retaining Walls - Turner Court Ramp (SP)	SQ FT	350	\$50	\$17,500
Retaining Walls - Main Street Ramp (MSE)	SQ FT	858	\$40	\$34,320
Retaining Walls - Main Street Ramp (SP)	SQ FT	1469	\$50	\$73,450
Existing Structure Removal	L. SUM	1	\$30,000	\$30,000
Path Pavement	SQ YD	185	\$50	\$9,250
Earthwork	CU YD	275	\$35	\$9,625
Handrail	FOOT	160	\$40	\$6,400
Landscaping	L. SUM	1	\$25,000	\$25,000
Storm Sewer Adjustments	L. SUM	1	\$10,000	\$10,000
Utility Relocation	L. SUM	1	\$15,000	\$15,000
20% Contingency				\$48,645
Total				\$291,870

Alternative 3 - Turner Court Ramp, Main Street Ramp/Stairs and Community Center Ramp				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Retaining Walls - Turner Court Ramp (MSE)	SQ FT	317	\$30	\$9,510
Retaining Walls - Turner Court Ramp (SP)	SQ FT	350	\$50	\$17,500
Retaining Walls - Main Street Ramp/Stairs (MSE)	SQ FT	875	\$30	\$26,250
Retaining Walls - Community Center Ramp (MSE)	SQ FT	1020	\$30	\$30,600
Existing Structure Removal	L. SUM	1	\$30,000	\$30,000
Stairs	L. SUM	1	\$5,000	\$5,000
Path Pavement	SQ YD	170	\$50	\$8,500
Earthwork	CU YD	400	\$35	\$14,000
Handrail	FOOT	200	\$40	\$8,000
Landscaping	L. SUM	1	\$25,000	\$25,000
Storm Sewer Adjustments	L. SUM	1	\$10,000	\$10,000
Utility Relocation	L. SUM	1	\$5,000	\$5,000
20% Contingency				\$37,872
Total				\$227,232



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September 3, 2010

Mr. Robert E. Flatter, P.E., Director of Public Works
City of West Chicago
1400 West Hawthorne Lane
West Chicago, IL 60185

Re: Main Street Tunnel Retaining Walls Design Alternatives

Dear Rob,

As part of our Main Street Tunnel Condition Assessment, dated October 2009, it was recommended that the retaining walls and railing be replaced at the southwest end of the tunnel. We are pleased to provide you three design alternatives including our recommended alternative for the retaining walls. Each of the alternatives for the new retaining walls will include advantages, disadvantages, an opinion of probable construction cost, and a picture of the wall type.

There are several common items between each of the alternatives. These items include removal of the existing walls and pavement, a new railing along the top of the wall, a handrail along the inside face of the walls, repair of existing tunnel headwall, curb placement in the parking lot against the west wall and new pavement exiting the tunnel.

The existing walkway will be replaced. The proposed walkway will maintain a constant American with Disabilities Act (ADA) compliant slope from the end of the tunnel to the existing Geneva Street sidewalk. To meet ADA criteria, the sloped walkway and retaining walls will need to be approximately 90 feet longer than the existing ramp and walls. Currently, the right-of-way is at the back of each wall and does not provide adequate space for the construction of new walls. Temporary easements will be necessary to account for construction activities. Additional right-of-way may also be required depending on wall type selected and proposed walkway width.

Surrounding items will be affected with the proposed construction operations. The dumpster enclosure in the parking lot of the apartment complex will be disturbed, the apartment complex will lose a few parking spaces during construction, and the shed to the east of the walkway will need to be relocated. The cost for the above items is included in the opinion of probable construction cost.

Alternatives

1 Mechanically Stabilized Earth (MSE)/Modular Block Wall

This option consists of removing the existing cast-in-place wall and replacing it with a modular block wall. The wall will have a reinforcing geogrid extending back into the soil. Utilizing a modular block wall is very common in this type of application and is easy to construct, relatively inexpensive, and aesthetically pleasing. It may be possible to reduce the construction cost for this alternative if the proposed walls are built on or above the existing foundations. This option can be further investigated if this wall type is selected.

a. Advantages:

- (1) Aesthetically pleasing.
- (2) Many options/appearances to choose from.
- (3) Less excavation when compared to a cast-in-place wall.
- (4) Minimal impacts to adjacent property.
- (5) Low construction cost.
- (6) Appearance can closely match the other side of the tunnel.
- (7) Can be constructed without special equipment.

b. Disadvantages:

- (1) Requires right-of-way even if walkway is narrowed.
- (2) Over time, wall can shift unequally due to freeze/thaw cycles.
- (3) Difficult to attach handrail.

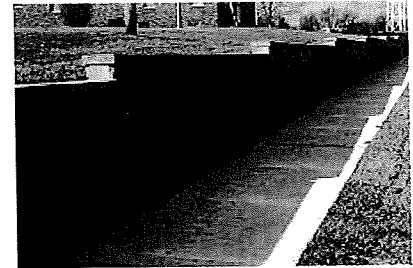
c. Opinion of Probable Construction Cost: \$165,000



Modular block wall along
sloped path



Modular block wall with rustic
finish



Hand-placed modular block
wall

2 *Permanent Sheet Piling*

This option consists of removing the existing cast-in-place wall and replacing it with a driven steel sheet pile wall. Aesthetics could be enhanced by attaching a cast-in-place fascia with form liner to the sheet pile wall. To construct this wall the entire existing structure will have to be removed.

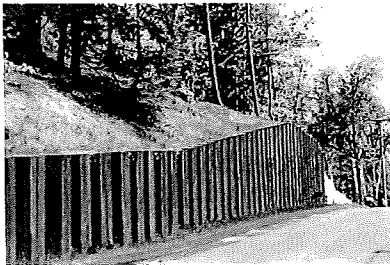
a. Advantages:

- (1) No additional excavation required. (The process of removing the existing structure will account for all excavation.)
- (2) Smallest construction footprint, could provide existing walkway width without additional right-of-way.
- (3) Durable and long lasting.
- (4) Handrail easy to connect to added façade.
- (5) Could potentially be constructed without excavation if existing wall does not have a heel.

b. Disadvantages:

- (1) Unattractive look, unless Capital Improvements Plan facing is used.
- (2) Higher cost than MSE/block wall.
- (3) Appearance does not match existing walls on north side.
- (4) Special equipment needed.

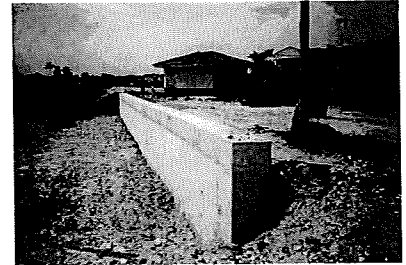
c. Opinion of Probable Construction Cost: \$225,000 (approximately an additional \$15,000 for cast-in-place facing)



Sheet pile wall



Sheet pile wall construction



Sheet pile wall with facade

3 *Cantilevered Concrete*

This option consists of an in-kind replacement. The existing wall will be removed and replaced with a new cast-in-place cantilevered concrete wall. The entire existing structure will have to be removed to construct the new cantilevered wall.

a. *Advantages:*

- (1) Custom form liner could be used to add texture or patterns to the wall. (Similar to the cast-in-place fascia on the sheet pile wall.)
- (2) Very durable and long lasting.
- (3) Handrail and fencing easy to connect.

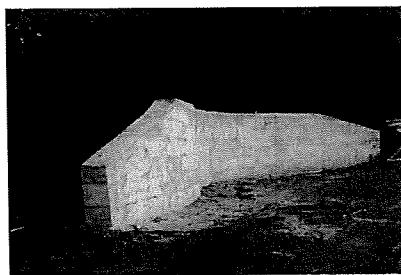
b. *Disadvantages:*

- (1) Highest construction cost.
- (2) Most impact to adjacent property. Requires additional right-of-way even if walkway is narrowed.
- (3) Does not match walls on north side.
- (4) Large amounts of excavation.
- (5) Longest construction time.

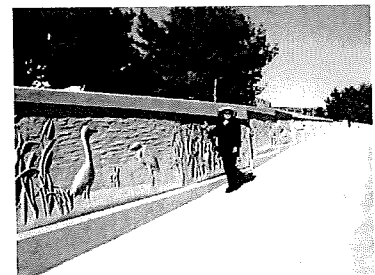
c. *Opinion of Probable Construction Cost: \$370,000 (approximately an additional \$5,000 for aesthetic enhanced form liner)*



Cantilevered concrete wall



Cantilevered concrete wall
under construction



Decorative cantilevered
concrete wall



Mr. Robert E. Flatter
City of West Chicago
Page 5
September 3, 2010

Recommendation

The recommended alternative is the Mechanically Stabilized Earth (MSE)/Modular Block Wall. MSE/modular block walls, similar to those on the northwest ramp are an attractive and cost-effective option. Exhibit A shows the plan view, elevation view, and section view for each alternative.

Exhibit B provides a detailed cost breakdown for each alternative. Note the initial cost presented in the Main Street Tunnel Condition Assessment, dated October 2009, was developed under the assumption that the walls and the walkway would be replaced in-kind. During this preliminary phase of design it was determined, with guidance from the City, to proceed with replacement of the walkway and retaining walls in a fashion that would comply with current ADA standards. The additional length of the walls and walkway necessary to meet these requirements are the main items that resulted in an increase in the probable construction cost from that presented in the Main Street Tunnel Condition Assessment.

If you have any comments or questions on any of the alternatives, please feel free to call.

Sincerely,

STRAND ASSOCIATES, INC.®

A handwritten signature in black ink, appearing to read 'Anthony J. Standish', is written over the printed name.

Anthony J. Standish, P.E., S.E.

Enclosure(s)

EXHIBIT B - COST BREAKDOWN

Alternative 1: MSE/ Modular Block Wall				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
MSE Wall	SQ FT	1400	\$40	\$56,000
Structure Excavation	CU YD	225	\$30	\$6,750
Parking Lot Pavement Removal	SQ YD	114	\$15	\$1,710
Parking Lot Pavement	SQ YD	114	\$75	\$8,550
Restoration	L SUM	1	\$5,000	\$5,000
Total of Common Items				\$56,375

20% Contingency

\$26,877

Total

\$161,262

Note: Earth removed in Structure Removal will not be paid twice

Alternative 3: Cantilever Concrete Wall				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Concrete Structures	CU YD	195	\$800	\$156,000
Reinforcement Bars	POUND	26500	\$2	\$53,000
Structure Excavation	CU YD	618	\$30	\$18,540
Parking Lot Pavement Removal	SQ YD	175	\$15	\$2,625
Parking Lot Pavement	SQ YD	175	\$75	\$13,125
Restoration	L SUM	1	\$5,000	\$5,000
Total of Common Items				\$56,375

20% Contingency

\$60,933

Total

\$365,598

Note: Earth removed in Structure Removal will not be paid twice

Alternative 2: Permanent Sheet Pile Wall				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Steel Sheet Pile	SQ FT	2150	\$40	\$86,000
Reinforcement Bars	POUND	4050	\$2	\$8,100
Concrete Structures	CU YD	30	\$800	\$24,000
Parking Lot Pavement Removal	SQ YD	65	\$15	\$975
Parking Lot Pavement	SQ YD	65	\$75	\$4,875
Restoration	L SUM	1	\$5,000	\$5,000
Total of Common Items				\$56,375

20% Contingency

\$37,065

Total

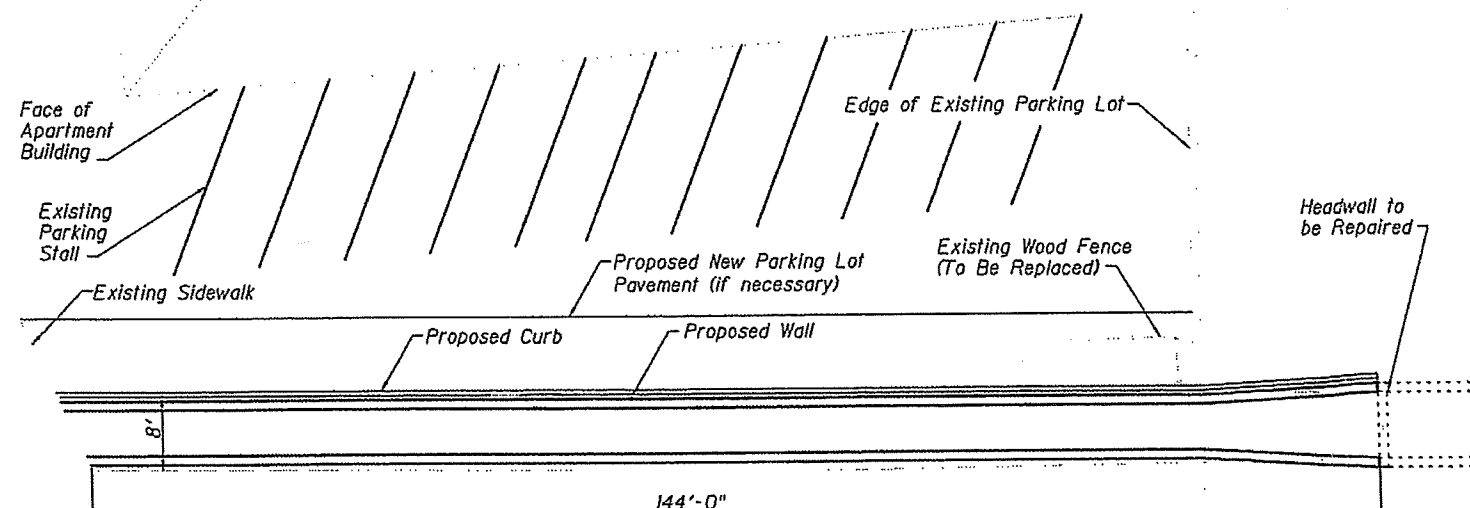
\$222,390

Common Items				
Pay Item	Unit	Quantity	Unit Cost	Total Cost
Hand Rail	FOOT	170	\$50	\$8,500
Rail on Wall	FOOT	300	\$40	\$12,000
Walkway Pavement	SQ YD	83	\$50	\$4,150
Structure Removal	LSUM	1	\$25,000	\$25,000
Fence In Parking Lot	FOOT	60	\$10	\$600
Shed Relocation	EACH	1	\$1,000	\$1,000
Headwall Repair	LSUM	1	\$2,000	\$2,000
Concrete Curb	FOOT	125	\$25	\$3,125

20% Contingency

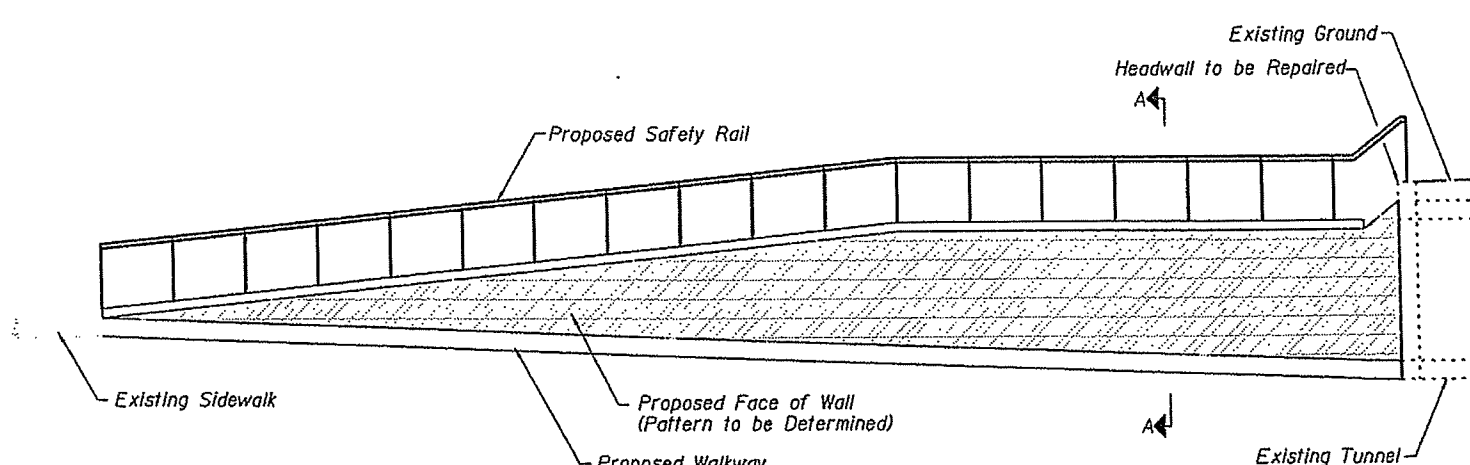
\$56,375

Total



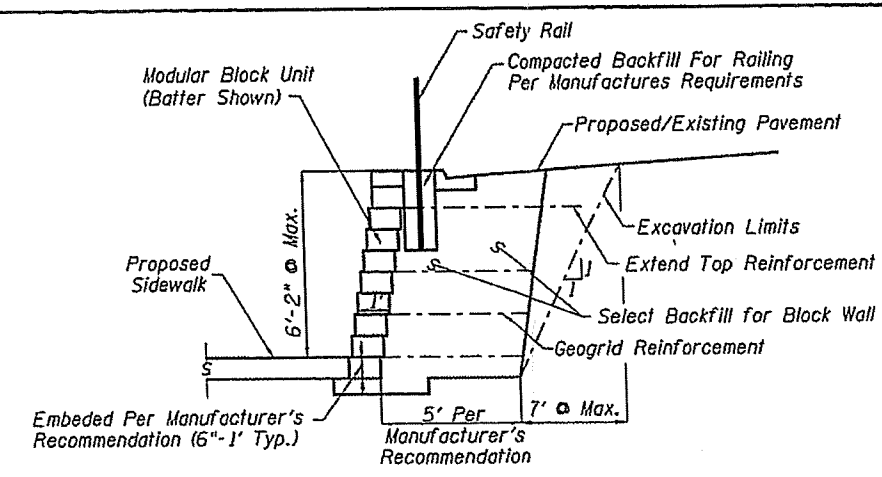
Plan View

NOTE: All Dimensions to be Refined in Final Design



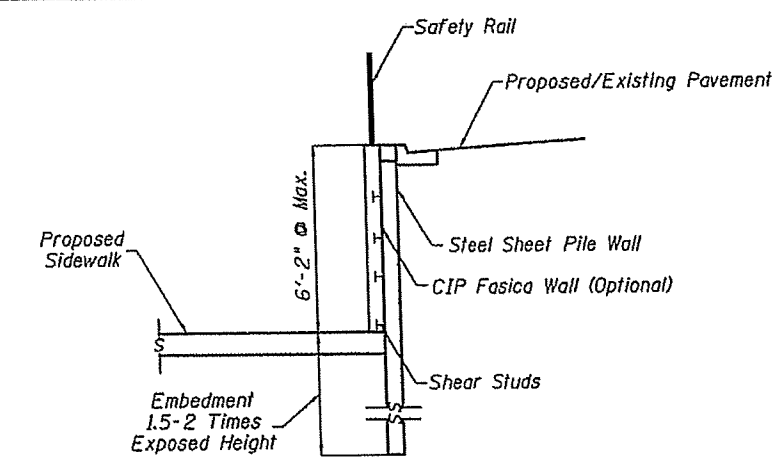
Elevation View

NOTE: All Dimensions to be Refined in Final Design



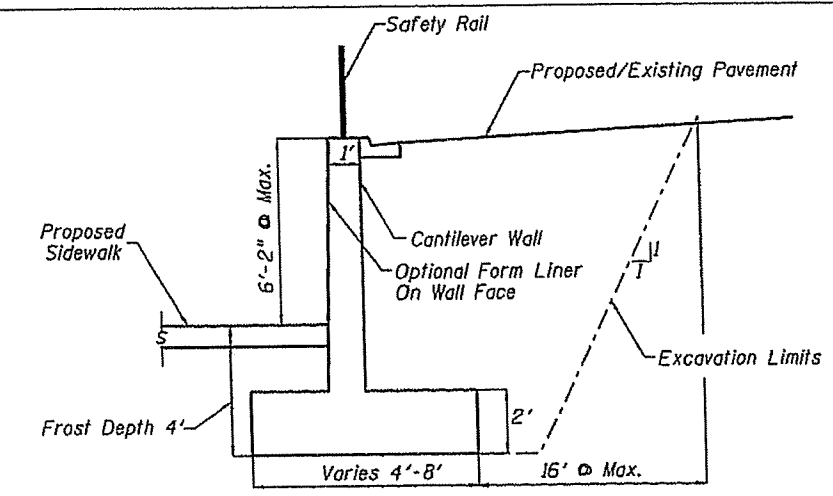
Alternative 1: MSE Wall
Section View A-A

NOTE: All Dimensions to be Refined in Final Design



Alternative 2: Sheet Piling
Section View A-A

NOTE: All Dimensions to be Refined in Final Design



Alternative 3: Cantilever Wall
Section View A-A

NOTE: All Dimensions to be Refined in Final Design

DATE:	DES. BY:	CHK. BY:	RECORD DRAWING
NO.	BY:	DATE:	CONTRACTOR:

RETAINING WALL ALTERNATIVES

CITY OF WEST CHICAGO
WEST CHICAGO, IL



SHEET

JOB NO.