A not so widely known feature of the verbatim handler in Con\TeX t is the ability to add comments in another style and MkIV even offers a bit more. Here some examples are shown.
Annotating verbatim content is done using a mechanism called escaping. For such special cases it's often best to define a specific instance.

\definetyping
  [annotatedtyping]
  [escape=/,]
  [color=darkblue,]
  [before=,]
  [after=]
\startannotatedtyping
  bla = test / bgroup /sl oeps /egroup
  | another test / bgroup /bf some more /egroup
  | somethingverylong / bgroup /it oeps /egroup
\stopannotatedtyping

bla = test oeps
  some more
  | another test
  | somethingverylong oeps

In this example the / now serves as an escape character. Of course you can also use the normal backslash but then you need to use a command to specify it.

\setuptyping
  [annotatedtyping]
  [escape=\letterbackslash]
Now we can say:

\startannotatedtyping
  bla = test \bgroup \sl oeps \egroup
  \bgroup \bf some more \egroup
  | another test \bgroup \it oeps \egroup
\stopannotatedtyping

and get:

bla = test oeps
  some more
  | another test
  | somethingverylong oeps

You can also define an end symbol:

\setuptyping
\definestartstop
[\cmt]
[\style=\textbf]\end
Here the // starts the annotation and * ends it.
\startannotatedtyping
bla = test // \textcolor{black}{\textbackslash cm{}{oeps}} * // \textcolor{black}{\textbackslash cm{}{some more}} *
| another test
| somethingverylong // \textcolor{black}{\textbackslash cm{}{oeps}} *
\stopannotatedtyping
Contrary to the first example, all text in the annotation is treated as \TeX{} input:

\begin{verbatim}
bla = test // oeps // some more | another test | somethingverylong // oeps
\end{verbatim}

You can consider using more balanced tagging, as in:
\startannotatedtyping
bla = test // \textcolor{black}{\textbackslash cm{}{oeps}} * // \textcolor{black}{\textbackslash cm{}{some more}} *
| another test
| somethingverylong // \textcolor{black}{\textbackslash cm{}{oeps}} *
\stopannotatedtyping
Watch how we limit the annotation to part of the text:
\startannotatedtyping
bla = test // \textcolor{black}{\textbf{first}} >> test
// \textcolor{black}{\textbf{second}} >> test
| test | test | somethingverylong // \textcolor{black}{\textbf{fourth}} >> test
\stopannotatedtyping
The \texttt{test} at the end of the lines is verbatim again.

\begin{verbatim}
bla = test // \textcolor{black}{\textbf{first}} >> test
// \textcolor{black}{\textbf{second}} >> test
| test | test | somethingverylong // \textcolor{black}{\textbf{fourth}} >> test
\end{verbatim}
If no end symbol is given, the end of the line is used instead:

```
\setuptyping
[annotatedtyping]
[escape={//,},
  color=darkblue]
```

Watch out: here we use `{//,}` and not just `//` (which would trigger the escaped variant).

```
\startannotatedtyping
bla = test // \black // \cmt{oeps}
      // \black // \cmt{some more}
      | test
      | somethingverylong // \black // \cmt{oeps}
\stopannotatedtyping
```

The result is:

```
bla = test // oeps
      // some more
      | test
      | somethingverylong // oeps
```

This can also be done easier by abusing the `style` option of `cmt`:

```
\definestartstop
[cmt]
[\color=black,
  style=\black // \rm\bf\space]
```

When we give:

```
\startannotatedtyping
bla = test // \cmt{oeps}
      // \cmt{some more}
      | test
      | somethingverylong // \cmt{oeps}
\stopannotatedtyping
```

We get:

```
bla = test // oeps
      // some more
      | test
      | somethingverylong // oeps
```
For cases like this, where we want to specify a somewhat detailed way to deal with a situation, we can use processors:

\defineprocessor \\
[escape] \\
[style=bold, \\
  color=black, \\
  left=(,right=)]

The previous definition of the annotation now becomes:

\setuptyping \\
[annotatedtyping] \\
[escape=escape->{//,}, \\
  color=darkblue]

This time no commands are needed in the annotation:

\startannotatedtyping \\
bla = test // first \\
  // second \\
  | test \\
  | somethingverylong // fourth \\
\stopannotatedtyping

The processor is applied to all text following the //. Spaces before the text are stripped.

\begin{verbatim}
bla = test (first) \\
  (second) \\
  | test \\
  | somethingverylong (fourth)
\end{verbatim}

As some characters are special to \TeX, sometimes you need to escape the boundary sequence:

\defineprocessor \\
[myescape] \\
[style=\textit\textbf, \\
  color=black]

\setuptyping \\
[annotatedtyping] \\
[escape=myescape->{\textlhash\textlhash}, \\
  color=darkgreen]

\footnote{More mechanisms in Con\TeX\ MkIV will use that feature.}
All text between the double hashes and the end of the line is now treated as annotation:

\startannotatedtyping
bla = test          ## first \bf test
        ## second \sl test
    | test
    | somethingverylong    ## third \it test
\stopannotatedtyping

So we get:

\begin{verbatim}
bla = test          first \bf test
        second \sl test
    | test
    | somethingverylong third \it test
\end{verbatim}

We can beautify \TeX{} commenting as follows:

\defineprocessor [comment]
    [style=\rm, color=black, \left={\ttfamily\letterpercent\space}]
\setuptyping [annotatedtyping]
    [escape=comment->\{\letterpercent\letterpercent,}, \color=darkblue]

Here the double comments are turned into a single one and the text after it is typeset in a regular font:

\startannotatedtyping
bla = test          \% first \bf test
        \% second \sl test
    | test
    | somethingverylong \% third \it test
\stopannotatedtyping

This gives:

\begin{verbatim}
bla = test          \% first \bf test
        \% second \sl test
    | test
    | somethingverylong \% third \it test
\end{verbatim}

It is possible to define several escapes. Let’s start with the delimited variant:
\defineprocessor
[escape_a]
[style=bold,
  color=darkred,
  left=,,
  right=]]

\defineprocessor
[escape_b]
[style=bold,
  color=darkgreen,
  left=,,
  right=]]

\setuptyping
[annotatedtyping]
[escape={escape_a->[[,]]},escape_b->{[(),]}],
  color=darkblue]

We can now alternate comments:

\startannotatedtyping
bla = test    [[ first ]] test [[ first ]]
          [[ second ]] test [[ second ]]
| test      [[ fourth ]] test [[ fourth ]]
\stopannotatedtyping

When typeset this looks as follows:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>bla = test    (first) test (first)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(second) test (second)</td>
</tr>
<tr>
<td>somethingverylong (fourth) test (fourth)</td>
<td></td>
</tr>
</tbody>
</table>

The line terminated variant can also have multiple escapes.

\defineprocessor
[annotated_bf]
[style=\rm\bf,
  color=darkred]

\defineprocessor
[annotated_bs]
[style=\rm\bs,
  color=darkyellow]
\setuptyping
[annotatedtyping]
[escape={annotated_bf->\{bf,\},annotated_bs->\{bs,\}},
color=darkblue]

So this time we have two ways to enter regular \TeX\ mode:

\startannotatedtyping
bla = test !bf one \em{\textit{again}}
!bs two \em{\textit{again}}
| test
| somethingverylong !bf three \em{\textit{again}}
\stopannotatedtyping

These somewhat meaningful tags result in:

\begin{verbatim}
bla = test
| test
| somethingverylong
\end{verbatim}
source code of this document

% language=uk
% author : Hans Hagen
% copyright : PRAGMA ADE & ConTeXt Development Team
% license : Creative Commons Attribution ShareAlike 4.0 International
% reference : pragma-ade.nl | contextgarden.net | texlive (related) distributions
% origin : the ConTeXt distribution
% comment : Because this manual is distributed with TeX distributions it comes with a rather liberal license. We try to adapt these documents to upgrades in the (sub)systems that they describe. Using parts of the content otherwise can therefore conflict with existing functionality and we cannot be held responsible for that. Many of the manuals contain characteristic graphics and personal notes or examples that make no sense when used out-of-context.

\usemodule[mag-01,abr-02]
\startbuffer
[abstract]
A not so widely known feature of the verbatim handler in \CONTEXT\ is the ability to add comments in another style and \MKIV\ even offers a bit more. Here some examples are shown.
\stopbuffer
\startdocument
\[title={Annotated Verbatim},
author=Hans Hagen,
affiliation=PRAGMA ADE,
date=July 2011,
number=1102 \MKIV]
\definetextbackground
\[example]
[frame=on, framemargin=1ex, textwidth=\textwidth, textcolor=darkblue, location=paragraph, leftoffset=1ex, topoffset=1ex, bottomoffset=1ex]
Annotating verbatim content is done using a mechanism called escaping. For such special cases it’s often best to define a specific instance.
\definetyping
\[annotatedtyping]
[escape=\, color=darkblue, before=, after=]
\stopdefinetyping
\startbuffer[define]
\define[annotatedtyping]
[escape=/, color=darkblue, before=, after=]
\stopbuffer
\example[annotatedtyping]
bla = test /bgroup /sl oeps /egroup
| another test
| somethingverylong /bgroup /it oeps /egroup
\stopannotatedtyping
\stopbuffer
source code of this document

\typebuffer[define,example][option=TEX] \getbuffer[define]
\starttextbackground[example]
  \getbuffer[example]
\stoptextbackground

In this example the \texttt{\textbackslash} now serves as an escape character. Of course you can also use the normal backslash but then you need to use a command to specify it.

\typebuffer[setup][option=TEX] \getbuffer[setup]
\startbuffer[setup]
\setuptyping[annotatedtyping]
  [escape=\texttt{\textbackslash}letterbackslash]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

Now we can say:

\typebuffer[example][option=TEX]
\startbuffer
\startannotatedtyping
  bla = test \bgroup \sl oeps \egroup
  | another test \bgroup \bf some more \egroup
  | somethingverylong \bgroup \it oeps \egroup
\stopannotatedtyping
\stopbuffer
\typebuffer[example][option=TEX]

and get:

\typebuffer[setup][option=TEX] \getbuffer[setup]
\startbuffer[setup]
\setuptyping[annotatedtyping]
  [escape={//,*}, color=darkblue]
\definesstartstop[cmt]
  [style=\rm\bf]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

Here the \texttt{\type{\textbackslash//}} starts the annotation and \texttt{\type{\textbackslash*}} ends it.

\typebuffer[example][option=TEX]
\startbuffer[example]
\startannotatedtyping
  bla = test // \black // \cmt{oeps} *
  | another test // \black // \cmt{some more} *
  | somethingverylong // \black // \cmt{oeps} *
\stopannotatedtyping
\stopbuffer
source code of this document

\typebuffer{example}[option=TEX]

Contrary to the first example, all text in the annotation is treated as \TEX\ input:

\starttextbackground{example}
\getbuffer{example}
\stoptextbackground

You can consider using more balanced tagging, as in:

\startbuffer
[setup]
\setuptyping
[annotatedtyping]
[escape={<<,>>, color=darkblue}]
\stopbuffer
\typebuffer{example}[option=TEX]

Watch how we limit the annotation to part of the text:

\startbuffer
[example]
\startannotatedtyping
bla = test << \textbf{first} >> test
| test << \textbf{second} >> test
| somethingverylong << \textbf{fourth} >> test
\stopannotatedtyping
\stopbuffer
\typebuffer{example}[option=TEX]

The \type \{test\} a the end of the lines is verbatim again.

\starttextbackground{example}
\getbuffer{example}
\stoptextbackground

If no end symbol is given, the end of the line is used instead:

\startbuffer
[setup]
\setuptyping
[annotatedtyping]
[escape={//, color=darkblue}]
\stopbuffer

\typebuffer{setup}[option=TEX] \getbuffer{setup}

Watch out: here we use \type \{///\} and not just \type /// (which would trigger the escaped variant).

\definestartstop[cmt][style=\textbf{\rm}]
\startbuffer
[example]
\startannotatedtyping
bla = test \textcolor{black}{\cmt{oeps}}\textcolor{black}{\cmt{some more}}
| test \textcolor{black}{\cmt{oeps}}
\stopannotatedtyping
source code of this document

\stopbuffer
\typebuffer[example][option=TEX]
The result is:
\starttextbackground[example]
   \getbuffer[example]
\stoptextbackground
This can also be done easier by abusing the \type{style} option of \type{cmt}:
\startbuffer
\setup[setup]
\define[setup][startstop]
   [cmt][color=black, style=black //\rm\bf\space]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]
When we give:
\startbuffer
\setup[example]
\setup[annotatedtyping]
bla = test // \cmt{oeps}
    // \cmt{some more}
    | test
    | somethingverylong // \cmt{oeps}
\stopannotatedtyping
\stopbuffer
\typebuffer[example][option=TEX]
We get:
\startbuffer
\setup[example]
\getbuffer[example]
\stopbackground
\stopbuffer
For cases like this, where we want to specify a somewhat detailed way to deal
with a situation, we can use processors: \footnote{More mechanisms in \CONTEXT\ \MKIV\ will use that feature.}
\startbuffer
\setup[setup]
\define[processor]
   [escape][style=bold, color=black, left=\(,right=\)]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]
The previous definition of the annotation now becomes:
\startbuffer
\setup[setup]
\setup[typing]
   [annotatedtyping][escape=\cmt{}}]
   [escape=escape-\cmt{}}]
   [color=darkblue]
\stopbuffer
source code of this document

\typebuffer{setup}[option=TEX] \getbuffer{setup}

This time no commands are needed in the annotation:

\startbuffer{example}
\startannotatedtyping
bla = test            // first
                // second
| test
| somethingverylong // fourth
\stopannotatedtyping
\stopbuffer

\typebuffer[example][option=TEX]

The processor is applied to all text following the \type. Spaces before the text are stripped.

\starttextbackground{example}
\getbuffer{example}
\stoptextbackground

As some characters are special to \TEX, sometimes you need to escape the boundary sequence:

\startbuffer{setup}
\defineprocessor
   {myescape}
   {style=\rm\bf, color=black}
\setuptyping
   {annotatedtyping}
   {escape=myescape->{\letterhash\letterhash}, color=darkgreen}
\stopbuffer

\typebuffer[setup][option=TEX] \getbuffer{setup}

All text between the double hashes and the end of the line is now treated as annotation:

\startbuffer{example}
\startannotatedtyping
bla = test            ## first \bf test
                ## second \it test
| test
| somethingverylong ## third \it test
\stopannotatedtyping
\stopbuffer

\typebuffer[example][option=TEX]

So we get:

\starttextbackground{example}
\getbuffer{example}
\stoptextbackground

We can beautify \TEX commenting as follows:

\startbuffer{setup}
source code of this document

\defineprocessor
  [comment]
  [style=\rm, 
    color=black,
    left=\ttt{\letterpercent\space}]
\setuptyping
  [annotatedtyping]
  [escape=comment->\letterpercent,]
  [color=darkblue]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

Here the double comments are turned into a single one and the text after it is
typeset in a regular font:

\startbuffer
\example
\startannotatedtyping
bla = test
  \% first \bf test
  \% second \sl test
  | test
  | somethingverylong \% third \it test
\stopannotatedtyping
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

This gives:

\starttextbackground
\example
\getbuffer[example]
\stoptextbackground

It is possible to define several escapes. Let’s start with the delimited variant:

\startbuffer[example]
\startannotatedtyping
\defineprocessor
  [escape_a]
  [style=bold,
    color=darkred,
    left=(),
    right=)]
\defineprocessor
  [escape_b]
  [style=bold,
    color=darkgreen,
    left=(),
    right=)]
\setuptyping
  [annotatedtyping]
  [escape=escape_a->[[]],escape_b->[(),]],
  [color=darkblue]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

We can now alternate comments:
source code of this document

\startbuffer[example]
\startannotatedtyping
bla = test [[ first ]] test (( first ))
  | test
  | somethingverylong [[ fourth ]] test (( fourth ))
\stopannotatedtyping
\stopbuffer
\typebuffer[example][option=TEX]

When typeset this looks as follows:
\starttextbackground[example]
\getbuffer[example]
\stoptextbackground

The line terminated variant can also have multiple escapes.
\startbuffer[setup]
\defineprocessor[annotated_bf]
[style=\rm\bf,
color=darkred]
\defineprocessor[annotated_bs]
[style=\rm\bs,
color=darkyellow]
\setuptyping[annotatedtyping]
[escape={annotated_bf->{!bf,},annotated_bs->{!bs,}},
color=darkblue]
\stopbuffer
\typebuffer[setup][option=TEX] \getbuffer[setup]

So this time we have two ways to enter regular TEX mode:
\startbuffer[example]
\startannotatedtyping
bla = test !bf one \em again
  | test
  | somethingverylong !bf three \em again
\stopannotatedtyping
\stopbuffer
\typebuffer[example][option=TEX]

These somewhat meaningful tags result in:
\starttextbackground[example]
\getbuffer[example]
\stoptextbackground
\stopdocument